Ecology of Alkaline Hot Springs:

Measuring Diversity and Structure of Chemosynthetic Communities

BY

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THESIS

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This thesis is dedicated to my parents and my brother who have supported me every step of the way. They've stood by me and believed in me even when I doubted myself. Without their love and support, I wouldn't be where I am today.

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LIST OF ABBREVIATIONS

BSA	Bovine Serum Albumin
DIC	Dissolved Inorganic Carbon
DNA	Deoxyribonucleic Acid
D.O.	Dissolved Oxygen
DOC	Dissolved Organic Carbon
GOPA	Greater Obsidian Pool Area
MLS	Mitch's Last Stand
OTU	Operational Taxonomic Unit
PCR	Polymerase Chain Reaction
PD	Phylogenetic Diversity
RDP	Ribosomal Database Project
QIIME	Quantitative Insights into Microbial Ecology
rRNA	Ribosomal Ribonucleic Acid
SBC	Streamer Biofilm Community
UPGMA	Unweighted Pair Group Method with Arithmetic mean
USGS	United States Geological Survey

SUMMARY

Numerous studies have been conducted in hot springs throughout Yellowstone National Park, investigating the diversity of sediment, streamer biofilm, and microbial mat communities throughout various hot springs. Few studies have been conducted at Bat Pool, the hot spring that is the focus of this thesis. Bat Pool, an alkaline hot spring, is geochemically similar to other chemosynthetic hot springs which have been more extensively studied throughout the years and provide a basis of comparison for the results of this study. This study examines the small-scale diversity of both the sediment and biofilm communities, as well as diversity at intermediate scales along the outflow channel of the hot spring, and across different basins of the park where other geochemically similar hot springs have been studied. The taxonomic diversity between sediment and SBC samples was investigated by taking samples from within a 30 x 50 cm sampling grid and along two outflow channels. Accompanying geochemical data included a full range of spectrophotometry measurements along with major ions, trace elements, and DIC/DOC. In addition, *in situ* temperature and conductivity arrays were placed within the grid location. Biodiversity was analyzed by selecting a representative number of samples from within the grid and along the outflow channel. DNA was extracted and sequenced using 454 pyrotag sequencing or the Illumina HiSeq platform. Analysis was conducted using the software package QIIME (Quantitative Insights Into Microbial Ecology) which afforded taxonomic abundance along with alpha and beta diversity indices.

At small spatial scales, within the Bat Pool sampling grid, there is little variation in Archaea, regardless of sample type or sequencing method. Most taxa identified belong to the Thermoproteales or Desulfurococcales within the class Thermoprotei. There is a

great deal of observed variation in Bacteria, regardless of sample type or sequencing method. Position in sampling grid did not correlate with community variation. This diversity cannot be explained by environmental pressures afforded by fluid chemistry, unless it is smaller-scale variation in DOC.

At intermediate spatial scales, along the outflow channel of Bat Pool, no particular pattern is observed in archaeal community structure regardless of sample type, but within the the bacterial community there are clear downstream trends, with taxa switching to those that prefer slightly cooler temperatures downstream.

At large, multi-basin, scales there does not seem to be an obvious pattern in community structure that is basin-specific. Further, there is substantial variation in these SBCs relative to those at Bat Pool. Overall there is greater diversity in the bacterial communities than the archaeal communities and sediment and SBC communities differ from each other.

This study emphasizes the importance of sample location and how much variation there can be in taxonomic diversity at scales as small as even 5 cm. Many studies conducted within Yellowstone have taken a single sample as representative of the hot spring community, which this study shows is not necessarily the case, even within a Bat Pool, a hot spring where the temperature and geochemical variations within the grid sampling area do not vary substantially.

I. INTRODUCTION

A. Overview

This thesis explores microbial diversity on various geographic scales in Yellowstone National Park. In order to provide historical context for the work presented here, I provide a summary of relevant previous work in this field area, over the last 110 years. Many of these studies focus on exploring the biodiversity of the hot springs as well as investigating how changes in the geochemistry or temperature along the hot spring outflow channel can influence the microbial community composition. Various studies have been conducted in chemosynthetic hot springs throughout Yellowstone; however, few studies have investigated small-scale biodiversity of these environments. My study aims to fill in our gaps of knowledge, particularly what we know about small-scale diversity of chemosynthetic hot spring communities. Here, I provide a detailed picture of the sediment and streamer biofilm communities within Bat Pool, a hot spring that has only been the focus of a few previous studies, by determining the diversity at small (5 x 5 cm) and intermediate (~10 m) scales as well as comparing the findings to other similar hot springs across the park, providing a multi-basin biodiversity analysis. This introduction will also discuss various concepts that are used to describe diversity within ecological studies and investigates how those may be applied to hot spring communities.

B. A Brief History of Geobiology in Yellowstone

Yellowstone National Park, founded in 1872, is the nation's first national park, consisting of approximately 10,000 thermal features, making it appealing to researchers throughout the world with regards to the varying geochemistry and geobiology. Some of

the first researchers in Yellowstone included William Albert Setchell (1903) who sought to understand the upper temperature limits of life in hot springs, E.T. Allen and Arthur L. Day who extensively explored and catalogued the features present within the park in their 1935 publication, and Thomas D. Brock who conducted extensive field and laboratory work from 1965-1975 (Setchell, 1903; Allen & Day, 1935; Brock, 1978). Thomas Brock and his colleagues discovered that organisms can survive at near-boiling temperatures (Brock, 1967a), which paved the way for future work in hydrothermal areas, particularly Yellowstone National Park.

Following the work of Brock & colleagues, research in the park became more extensive and encompassed a greater variety of research interests. Initial ecological studies of hot springs in Yellowstone National Park were exploratory investigations focused on determining the diversity of the microbial communities present within the hot spring and gleaning as much information about those microorganisms as possible. The following studies provide a basis for the extent of archaeal and bacterial diversity to expect to find within both sediment and SBC communities in the various hot springs throughout the park. During the 1990's, two hot springs were extensively studied, one focused on the sediment microbial community and one focused on the streamer microbial community: Obsidian Pool (also referred to as "Jim's Black Pool") in the Mud Volcano area of the park and Octopus Spring in the White Creek area of the park, respectively. Obsidian Pool, a neutral hot spring at that time, provided useful information about the archaeal and bacterial diversity present within the hot spring and provided a basis for what type of microorganisms to expect to find throughout the park (Barns et al., 1994; Barns et al., 1996; Hugenholtz et al., 1998). Barns et al., 1996 expanded on previous

work and sought to understand the evolutionary history of the 17 novel archaeal sequences from the Barns et al., 1994 study in addition to the 19 novel archaeal sequences from the 1996 study. Some sequences were closely related to low temperature marine Archaea while other sequences were associated with Crenarchaeota but branched more deeply than previously cultivated organisms, and still others branched so deeply as to be part of a newly proposed kingdom, "Korarchaeota" between the branching of Euryarchaeota and Crenarchaeota. Hugenholtz et al., 1998 focused on the bacterial community present within Obsidian Pool, found that 70% of the distinct bacterial sequences that were found were closely related to 14 bacterial divisions that had previously been established, while the remaining 30%, represented by 38 sequences, comprised 12 novel bacterial divisions. Obsidian Pool was declared "the most diverse ecosystem on Earth" at the time, as more bacterial and archaeal phyla were identified in one cm^3 of sediment than phyla in any other habitat - it is now known that this is a typical state for hydrothermal ecosystems and indeed many "extreme" environments. The dominant organisms found within this study, *Aquificales*, a hydrogen oxidizer, and *Thermodesulfovibrio* and *Thermodesulfobacterium*, sulfate reducers, reflect the geochemical composition of the hot spring (high in sulfur and reduced iron), and suggests lithotrophy through hydrogen oxidation and sulfate reduction as the dominant metabolism present in the hot spring.

Octopus Spring, an alkaline hot spring previously studied by Brock & colleagues (1978), contained a pink streamer biofilm community (SBC) present within the hot spring, which was the focus of studies within this hot spring (Reysenbach et al., 1994; Huber et al., 1998). Reysenbach et al., 1994 identified three bacterial phylogenetic types:

EM 3-associated with *Thermotogales*, EM 17 and EM 19-associated with *Aquificales*. Huber et al., 1998 isolated a novel bacterium from the pink SBCs at Octopus Spring, *Thermocrinis ruber*, which represents a new genus within *Aquificales*. These initial studies provided background information as to the extent of archaeal and bacterial diversity to expect within the various hot springs throughout the park in both sediment and SBC samples.

Research interests continued to expand to include studies that investigated the microbial community of the entire outflow channel of the hot spring. These studies took into consideration the thermal gradient of the outflow channel as well as hot springs that demonstrated a change in environment from chemosynthetic to photosynthetic. Hall et al., 2008 studied Coffee Pots Hot Spring an acidic hot spring in the Mirror Plateau vicinity of the park, investigating the diversity and distribution of microorganisms along the outflow channel, in order to determine the changes in the streamer biofilm community composition due to the thermal gradient of the outflow channel. This study also investigated the metabolic genes present at the various sampling locations along the outflow channel and discussed the most energetically favorable metabolisms. Havig et al., 2011, Meyer-Dombard et al., 2011, Loiacono et al., 2012, Swingley et al., 2012, and Schubotz et al., 2013 (in press) all conducted downstream studies in Sentinel Meadows in the Lower Geyser Basin vicinity of the park. These studies investigated the change in the sediment, biofilm, and microbial mat community compositions as well as gene expression in relation to the location along the outflow channel (the chemosynthetic zone, the transition zone, or the photosynthetic zone), and stable isotope compositions of biomass. Havig et al., 2011 and Swingley et al., 2012 conducted studies at 'Bison Pool'

focusing on the streamer biofilm community (SBC) composition and the microbial mat composition. Swingley et al., 2012 observed dramatic shifts in microbial communities and metabolic function with changes in energy availability and environmental conditions. The chemotrophic sites were dominated by Aquificae and a Thermoproteales relative, known sulfur oxidizers and sulfate reducers, respectively. Meyer-Dombard et al., 2011 conducted studies at 'Bison Pool', 'Mitch's Last Stand', Mound Spring, and Queen's Laundry, defining an ecotone at the transition zone between the chemosynthetic and photosynthetic portions of the outflow channel. Aquificales dominated the SBC and non-SBC sites, while Thermotogales-like organisms were found strictly in SBC locations. These studies, particularly Meyer-Dombard et al., 2011, Havig et al., 2011, and Swingley et al., 2012, provide useful information on the microbial communities and potential metabolic functions that one would expect to find in Bat Pool. Streamer biofilms have been found not only in a variety of hot springs in Yellowstone, but also in hot springs throughout the world in locations such as Iceland (Takacs et al., 2001; Skirnisdottir et al., 2000) and Japan (Yamamoto et al., 1998).

Small-scale studies were conducted in the park, particularly with respect to photosynthetic mat samples such as those conducted by David Ward & others (1998), which sought to understand the changes in the microbial community throughout the mat. This particular study focused on the microbial mat community at Octopus Spring, which expanded on the earlier research that had been done at this hot spring (Brock, 1978; Reysenbach et al., 1994; Huber et al., 1998). Ward et al., 1998 sought to understand the microbial community ecology of the photosynthetic mat community, encouraging the discussion of ecology concepts on a microbial scale. Ward et al., 2006 investigated the

microbial mat community of Mushroom Spring, an alkaline hot spring in the White Creek thermal area, both downstream, to observe the changes in community population with temperature variation, and vertically within the mat, to observe the changes in the microbial community within the mat structure itself, as the light and chemical conditions vary with depth. The study incorporated evolutionary ecology theory based modeling to determine if the theory correlated with the observed distribution of microorganisms present within the hot spring samples. The distribution patterns strongly correlated to the predictions of the theory. The study also demonstrated the range of diversification present at small spatial scales.

Few studies have focused on diversity at small scales within chemosynthetic zones. Limited data have been published thus far for Bat Pool, the hot spring that is the subject of this study. Data that have been published thus far are geochemical data from two USGS Reports from 1974-1975 and 1996-1998 (Ball et al., 1998, 2001), which will be discussed in Section II: Site Description. The focus of my research project is to report on small-scale biodiversity of sediment and biofilm communities within a confined area of Bat Pool, and to compare and contrast these communities to other sediment and biofilm communities from previous studies, with other sediment and biofilm communities within the same system, and with biofilm communities in other similar geothermal basins in the park. This work will help us understand variation in microbial diversity over small spatial scales in geochemically diverse environments. This study was implemented by constructing a 30 x 50 cm sampling grid and sampling every other 5 x 5 cm square for a total of 30 sediment samples and 5 SBC samples during the first sampling season (July 2011). The following summer, the scope of the project expanded

to include sediment and biofilm samples down the outflow channel, in addition to another set of grid samples. This allowed for both a small scale and an intermediate scale investigation of the biodiversity present within Bat Pool. Due to recent advances of highthroughput sequencing, this project was able to be conducted with much greater sampling depth than would previously have been possible using Sanger sequencing. One of the major goals for this study is to encourage researchers to consider whether a single sediment or biofilm sample that is taken constitutes a representative sample of the microbial community of the entire hot spring. Finally, this study also aims to incorporate biogeography concepts such as species area relationships to hot spring systems, something which has not been extensively applied in the past.

C. Microbial Ecology and Biogeography

This section discusses various ecological studies pertaining to biodiversity and outlines concepts that are used in ecology to describe diversity, which may be applicable to hot spring communities and discusses the potential problems that may arise.

1. Concepts in Describing Diversity and Ecology of Microorganisms

Macroecology studies have investigated the interactions of organisms over time on a wide variety of scales, for instance, how diversity changes with varying spatial scales. Relationships with area are key in ecological metrics. The species-area curve concept is one of the many concepts that aims at determining spatial patterns and asserts that with a larger sampling area, more species will be found (Rosenzweig, 1995). To a lesser extent, researchers studying microbial diversity have sought to understand whether the same principles of macroecology pertain to the smaller spatial scales of microorganism habitats (i.e. Martiny et al., 2006; Fierer,

2008). For the purpose of this study microbial diversity refers to bacterial and archaeal taxa. Various studies have investigated the relationship of species distribution and space (Green et al., 2004; Horner-Devine et al., 2004; Nemergut et al., 2010, and others) and will be further discussed here. Before discussing these studies in detail, ecologic diversity concepts will first be reviewed.

Gamma diversity, or total diversity, is measured by two components: alpha diversity and beta diversity. Alpha diversity is a measure of species richness and can be measured using various metrics; beta diversity is "the extent of differentiation of communities along habitat gradients" (Whittaker, 1972) and can be measured using various presence-absence methods (Wilson & Schmida, 1984). Ramette (2007) reviews different multivariate analyses that can be used to determine beta diversity in microbial ecology. Jost (2006) discusses various measures of alpha diversity such as species richness, Shannon entropy, and Simpson concentration. Smith & Wilson (1996) discuss various means of calculating evenness indices. There are additional means of measuring alpha diversity such as the Chao1 index which estimates species richness and rarefaction curves which allow observed richness to be compared among samples that have unequal sequencing depths (Hughes et al., 2001). For the purpose of this thesis, alpha and beta diversity were analyzed using the software package QIIME (Quantitative Insights into Microbial Ecology). Section III. Methods will go into more detail on the alpha and beta diversity metrics, which were used in this study.

2. Studies Investigating Spatial Patterns in Microbial Ecology

The following studies employ sampling techniques similar to that which will

be used in this thesis to investigate small-scale biodiversity. Green et al., 2004 investigated microbial eukaryote turnover on small and large scales and how this changed over geographical distance and changes in vegetation, collecting samples in a nested fashion from scales of 1 m up to 100 km across four geographically distinct regions. This report illustrated that an increase in geographical distance corresponded to a significant decrease in the Sorensen similarity index, indicating that organisms farther away were less similar. By looking at the slope of the distance-decay curve, one is able to determine the degree of OTU richness over sampling area, or a taxa-area relationship, which can then be projected to larger scales, such as continental landmasses. In addition, the turnover patterns that were illuminated in Green et al., 2004 can be used as projections for taxa-area relationships on a continental scale. Horner-Devine et al., 2004 examined the taxa-area relationship for Bacteria from scales of centimeters to hundreds of meters, by taking sediment cores within a nested grid sampling regime in a New England salt marsh. Using the distance decay approach, this study was able to determine a taxa-area exponent value, z, as was done in Green et al., 2004. As expected, Horner-Devine et al. (2004) found that bacterial communities geographically closer together tended to be more similar in composition than those at greater geographic distances. Reported z-values were a great deal lower than those reported for other organisms such as plants, birds, fungi, etc., suggesting that bacteria may have a lower turnover rate than other organisms. The comparison of z-values across microbial taxa and macrofauna can be seen in Figure 2 of Horner-Devine et al, 2004. The taxa-area relationship established in this study appears to be driven by environmental conditions rather than geographic distance as shown by

partial Mantel tests.

The following studies explore the influence of geographic distance on the distribution of microorganisms across small and large scales, providing insight of what to expect when conducting the research for this thesis. Nemergut et al., 2010 investigated the distribution of individual bacterial taxa over various phylogenetic levels in a variety of habitats with the objective of exploring the distribution of Bacteria and what natural variables contribute to this distribution. The study concluded that habitat type contributed to a significant portion of the variation seen within the distribution of Bacteria, along with the conclusion that abundant organisms tend to be more widely distributed and occur in multiple habitats. Takacs-Vesbach et al., 2008 conducted a biogeography study of thermophiles (high-temperature preferring organisms) within Yellowstone National Park, investigating the mechanisms behind geographically isolated populations of microorganisms. The study looked into the influences of geographic distance as well as hot spring geochemistry, ultimately determining a historic signal for the isolated populations of *Sulfurihydrogenibium* within the park, outlined by the volcanic calderas. Whitaker et al., 2003 investigated the distribution of the archaeaon *Sulfolobus* across five different geographic regions: Kamchatka Peninsula in Eastern Russia (Mutnovsky Volcano and Uzon Caldera/Geyser Valley), Lassen Volcanic National Park, Yellowstone National Park, and western Iceland to determine whether ecological selection or geographic barriers were responsible for the distribution. The study shows that the *Sulfolobus* strains cluster based on geographic region rather than by hot spring geochemistry, indicating that barriers of geographic isolation are responsible for the

population structure of *Sulfolobus*. The study found that when geographic distance was removed, there was "no significant correlation between genetic distance and absolute difference in hot spring pH or temperature in pairwise comparisons between strains" despite certain sampling regions such as Lassen National Park and Kamchatka having similar host rocks and presumably similar bulk geochemistry; rather Lassen National Park samples were genetically more similar to Yellowstone National Park samples. These studies emphasize the importance of geographic distance and its effect on the distribution of microorganisms across small and large scales, providing a background and starting point for the research in this thesis.

In this thesis, I further explore whether macroecology concepts are applicable to microorganisms on small and large spatial scales, specifically in hydrothermal systems. The concepts of species-area curves and taxa-area relationships can be explored, as the sampling regime for this project consisted of sampling at regular intervals within a 30 x 50 cm grid as well as sampling along the outflow system of the hot spring. In addition, I have also analyzed data from similar systems within Yellowstone National Park, providing a diversity comparison at a multi-basin scale. In this regard, diversity can be studied at both small and large spatial scales and it can be determined if there are spatial patterns associated with the diversity of the hot spring, for both sediment samples and biofilm samples. Hot spring ecosystems are not ideal habitats to employ typical species-area curves and taxa-area relationships. The complexity and dynamic nature of the systems present novel niches on the sub-cm scale, and while sequencing technology and expenses are improving, it is still impossible to extract DNA at scales that are likely most relevant to describe microbial

ecology. However, hot spring ecosystems provide an opportunity to gain insight into the spatial patterns of diversity at small scales (cm), intermediate scales encompassing approximately 10 m of outflow channel, and larger multi-basin scales.

D. Concluding Remarks

Numerous studies have been conducted in hot springs throughout Yellowstone National Park, investigating the diversity of sediment, streamer biofilm, and microbial mat communities throughout various hot springs. Very few studies have been conducted at Bat Pool, the hot spring that is the focus of this thesis. Bat Pool is geochemically similar to other chemosynthetic hot springs such as Octopus Spring and 'Bison Pool'- which have been more extensively studied throughout the years and provide a basis of comparison for the results of this study. Most small-scale studies conducted in Yellowstone have focused on microbial mat community diversity whereas this study examines the small-scale diversity of both the sediment and biofilm communities, as well as diversity at intermediate scales along the outflow channel of the hot spring, and across different basins of the park where other geochemically similar hot springs have been studied. Various ecological approaches such as species richness and evenness will be applied to this study to further investigate the diversity of the hot spring community.

II. SITE DESCRIPTION

Yellowstone National Park, situated on a volcanic plateau, has been volcanically active for the past 2.2 million years, with three main caldera-forming episodes 2.1, 1.3, and 0.6 million years ago. The hot springs of the park can be classified as either vapor-dominated systems, rich in CO_2 and H_2S (also classified as acid-sulfate systems), or water-dominated systems, rich in chloride and associated with siliceous sinter (Fournier, 2005). Bat Pool, an alkaline hot spring, is classified as a water-dominated system.

Bat Pool is a hot spring in the Geyser Creek area of the park, located near Artist's Paintpots, in the Gibbon Geyser Basin. The location of Geyser Creek within Yellowstone National Park can be found in Figure 1 along with an inset, which provides a topographic map of the area from Ball et al., 2001 with the location of Bat Pool highlighted. This area is heavily wooded and has a substantial number of hot springs in the vicinity. Allen and Day (1935) described the Geyser Creek vicinity as the following, "Large, sinter-lined, alkaline springs carry most of the water" and "Temperatures are generally high, a number exceeding 90°C". They go into further detail, describing a hot spring, which resembles Bat Pool, "In this little area there are half a dozen large alkaline springs, heavily lined and bordered with silica. Among these the most notable is a beautiful large pool of perfectly clear water in a constant state of violent ebullition (90°C)". Various images of Bat Pool and the surrounding area can be found in Figure 2. The limited data published thus far on Bat Pool are from two USGS Reports from 1974-1975 and 1996-1998, both of which provide historical context for the hot spring (Ball et al., 1998, 2001). The geochemical data from the water analyses from these two reports can be found in Table I.

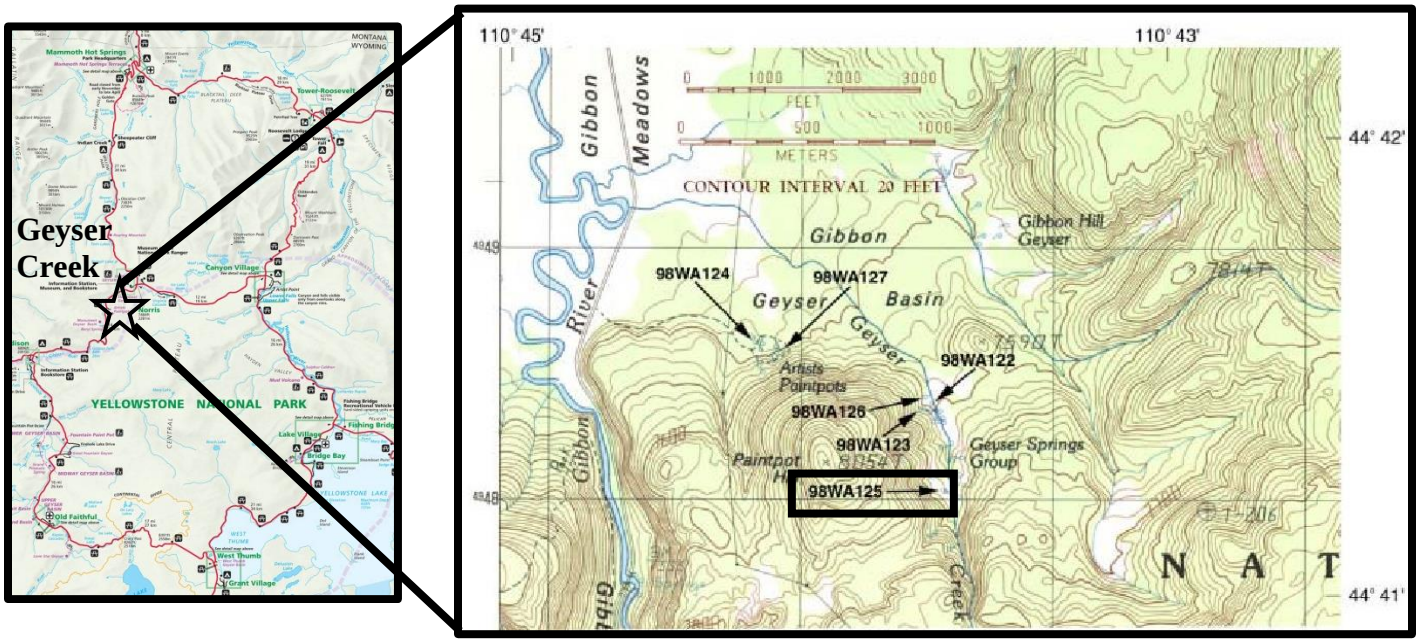


Figure 1. Map of Yellowstone National Park with Geyser Creek area indicated by a black star. (Source: National Park Service). The inset highlights the location of Bat Pool on a topographic map from the U.S. Geological Survey (Ball et al., 2001).

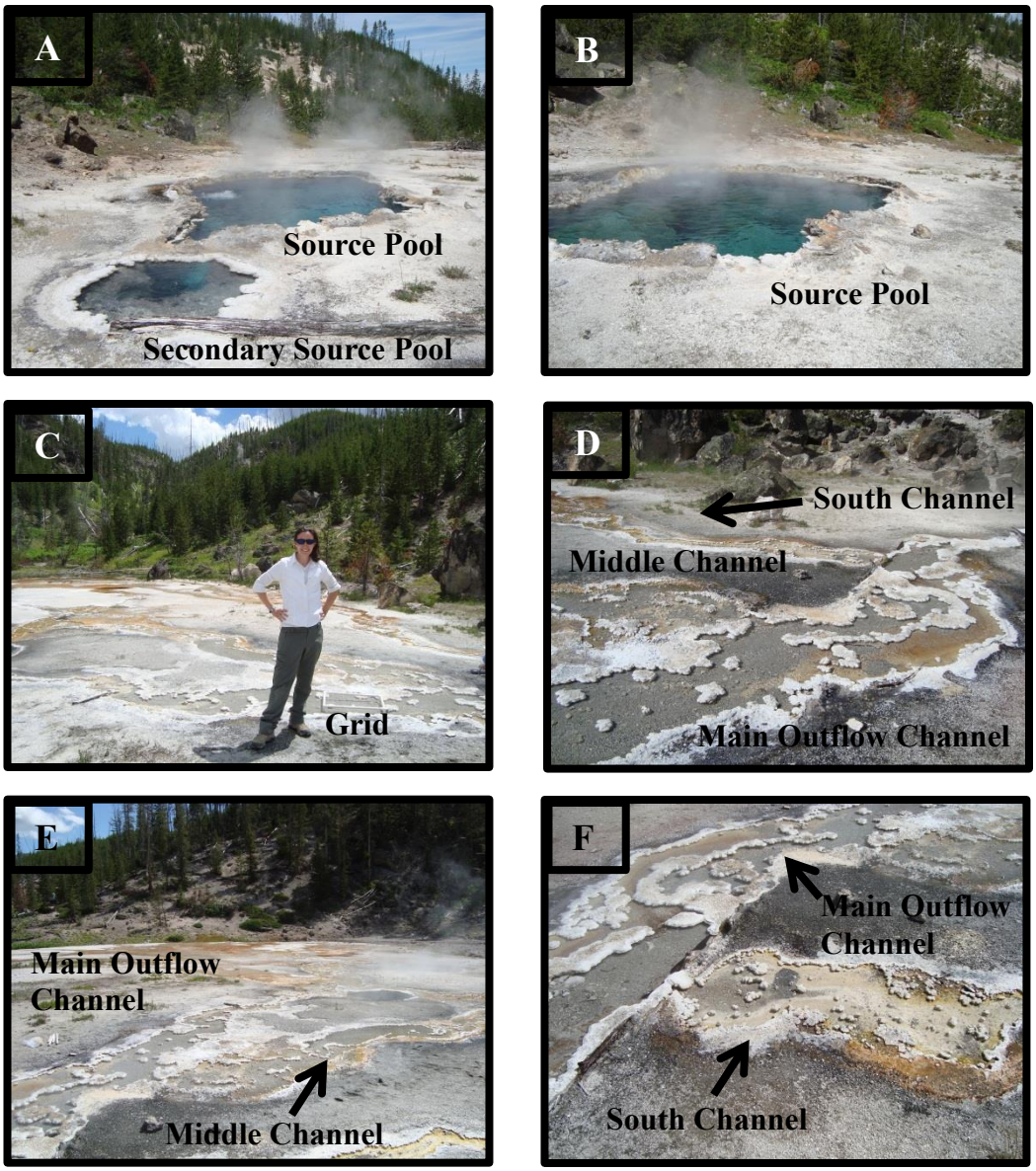


Figure 2. Various images of Bat Pool and the surrounding vicinity. A) The source pool and the secondary source pool, illustrating the surrounding vegetation. B) A close up of the source pool and the nearby vegetation. C) Location of the grid along the main outflow channel, as well as the foreground. D) The south and middle channels diverging from the northernmost (main) outflow channel. E) Looking downstream from the secondary source pool, the main outflow channel is on the left and the middle channel branch is on the right. F) The south channel diverging from the main outflow channel, slightly downstream from the secondary source pool.

TABLE I
PREVIOUSLY REPORTED BAT POOL WATER ANALYSES RESULTS

USGS Open File Report 98-182 (Ball et al., 1998)		USGS Open File Report 01-49 (Ball et al., 2001)
Sample Code Number	75WA142a/b	98WA125
Date Collected	8/12/1975	9/16/1998
Temperature (°C)	95.5	93.8
Density (g/mL) at 20°C	N/A	0.99929
pH	8.1	
pH, field / lab / acidity	N/A	8.16 / 9.02 / ---
pH, revised	N/A	8.16
Specific Conductance (µS/cm)	2380	N/A
Specific Conductance (µS/cm) field / lab	N/A	2180 / 2270
Eh (Volts)	-0.166	-0.231
Dissolved Oxygen (mg/L)	---	---
Constituent (mg/L)		
Ca^{+2}	0.414	0.45
Mg^{+2}	<0.02	<0.0001
Sr^{+2}	<0.001	<0.001
Ba^{+2}	<0.005	0.001
Na^{+}	519	510
K^{+}	26.8	25
Li^{+}	3.27	3.1
SO_4^{-2}	113	130
S_2O_3	N/A	0.8
H_2S	0.007	0.66
Carbonate/total alkalinity (as HCO_3)	*362/449	N/A
Alkalinity (as HCO_3)	N/A	337
Acidity (mM) total / free H^{+}	N/A	---
F^{-}	23.9	22
Cl^{-}	448	420
Br^{-}	N/A	1.4
NH_4^{+}	N/A	---
SiO_2	180	240
B	5.90	5.1
Al	0.204	0.6
Fe (total)	0.012	0.065
Fe (II)	0.005	0.057
Mn	<0.01	<0.001
Cu	<0.003	<0.001

Zn	<0.02	<0.001
Cd	<0.01	<0.001
Cr	N/A	<0.002
Co	N/A	<0.001
Ni	<0.004	<0.02
Pb	<0.02	<0.0001
Be	N/A	<0.0001
V	N/A	<0.001
Se (total)	N/A	<0.0003
As (total)	N/A	1.9
As (III)	2.53	1.5
As (V)	---	N/A
As (III+V)	2.53	N/A
Cs	0.460	N/A
Rb	0.490	N/A
PO_4	0.020	N/A
Sb	---	N/A
Sum Cations (meq/L)	23.4/23.3	22.9
Sum Anions (meq/L)	21.8/23.2	20.9
Charge Imbalance (percent)	6.9/0.6	9.1
δ^2H^{**}	N/A	-141
$\delta^{18}O^{**}$	N/A	-15.6
$\delta^{34}S^{**}$	N/A	---

*First alkalinity value is carbonate species only (HCO_3^- , CO_3^{2-}). Second alkalinity value is total alkalinity (uncorrected for noncarbonate species)
**^2H, ^{18}O in permil relative to VSMOW; ^{34}S in permil relative to CDT
--- indicates not measured or not analyzed
N/A indicates that this information was not provided in the report

Bat Pool consists of a main source pool, which feeds into a smaller adjacent source pool (Figure 2A). From the adjacent secondary source pool, there is a main outflow channel (the northernmost channel), which branches off into two other secondary outflow channels; the south channel occurs almost directly downstream from the adjacent source pool and the middle channel, occurs about 5 m downstream from the secondary source pool off of the main outflow channel (Figure 2D-F, 3). For the purpose of this study, the main outflow channel was the focus of the sampling efforts. The location of the primary sampling area was about 6 m downstream

from the secondary source pool, within the main outflow channel. Field work for this project was conducted at Bat Pool in July 2011 and July 2012.

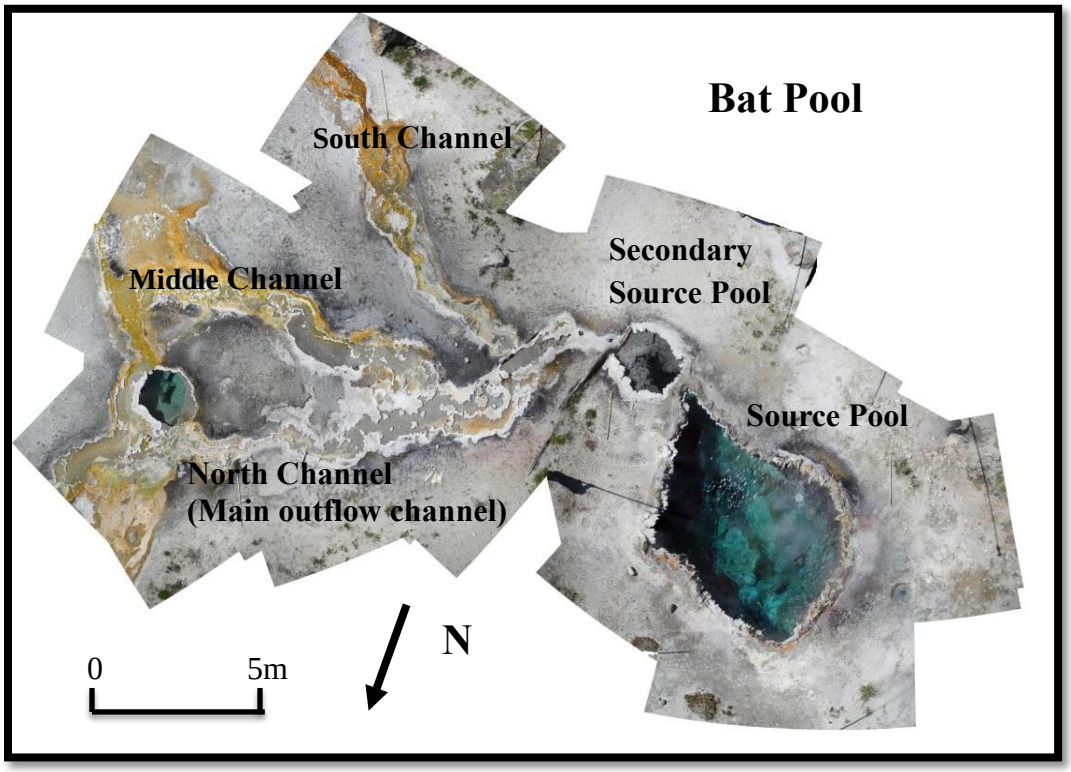


Figure 3. A photomosaic of images of Bat Pool, illustrating the location of the source pool, the secondary source pool, and the three outflow channels: north, middle, and south. [Photomosaic provided by Prof. Andrew Dombard (UIC).]

During the 2011 and 2012 field seasons, both sediment and SBC samples were collected at Bat Pool. The abundance of SBCs present along the outflow channel during the 2012 field season is plainly visible in Figure 4. The lack of uniformity in color and morphology of the SBCs along the outflow channel can be seen in this figure as well; Figure 4D shows a part of the outflow channel with both orange and pink/tan streamers, in close proximity to one another. Majority of the SBC samples resemble the inset of Figure 5B and are filamentous and fluffy in texture. Figure 5 displays the grid sampling area, the main sampling scheme for this study, for

both July 2011 and July 2012. The texture of the sediment present within the grid sampling area as well as the change in SBC density within the grid sampling area from the 2011 field season to the 2012 field season can be seen in this figure. There was a noticeable increase in the SBC population from July 2011 to July 2012, as seen within the grid as well as along the outflow channel (see Figure 5).

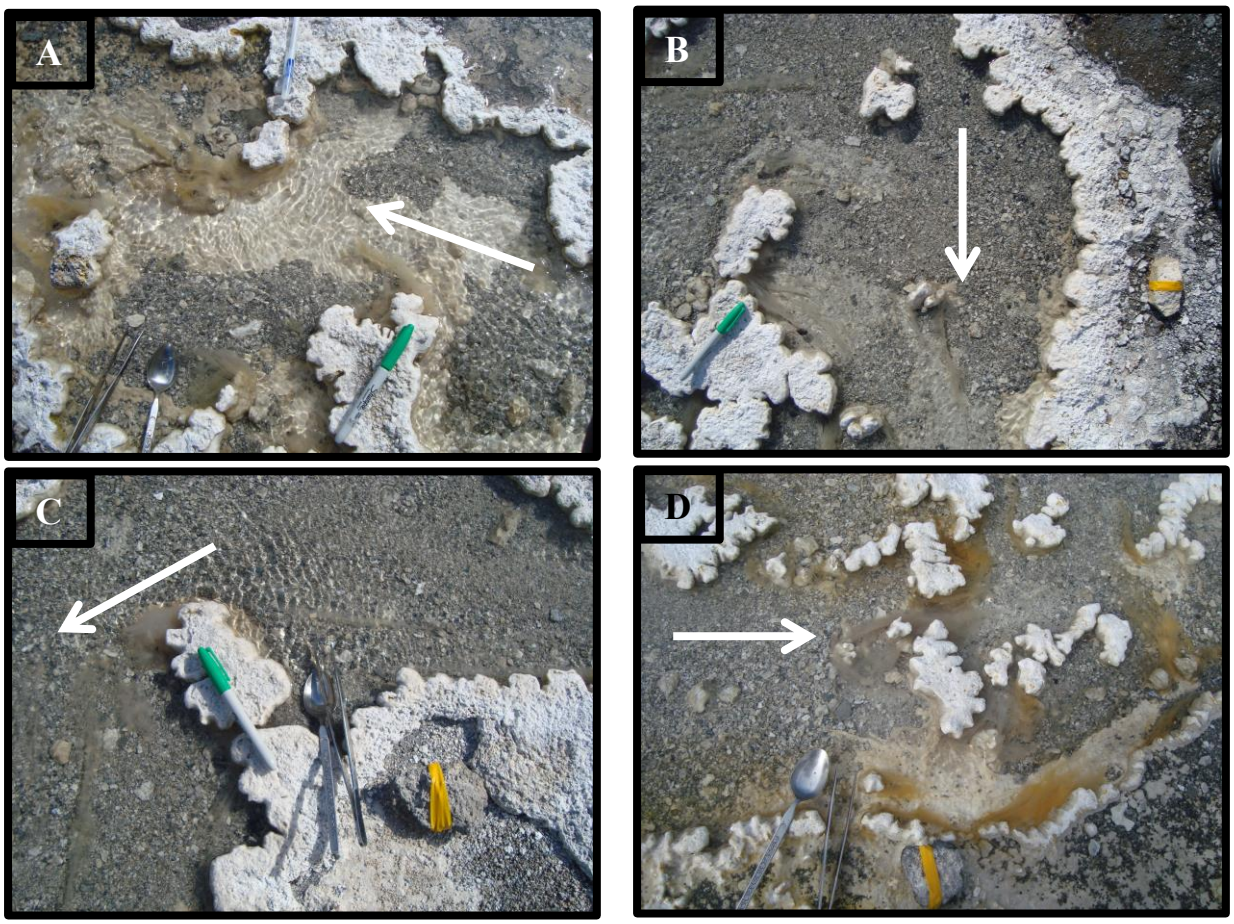


Figure 4. Examples of streamers along the main outflow channel (A-C) and the middle outflow channel (D). All images are from the 2012 field season. The positions of the sampling locations along the outflow channel are illustrated in Section III. Methods. White arrows indicate the flow direction and scale is indicated by a marker (13.5 cm), a pen (15 cm), a sampling spoon, sampling tweezers (21 cm), or a combination of those items. A) Sampling location K10, the farthest location sampled from the source. B) Sampling location K9, upstream from K10, downstream of the sampling grid. C) Sampling location K8, upstream from K9, slightly downstream from the sampling grid. D) Sampling location K12, which is located in the middle channel.

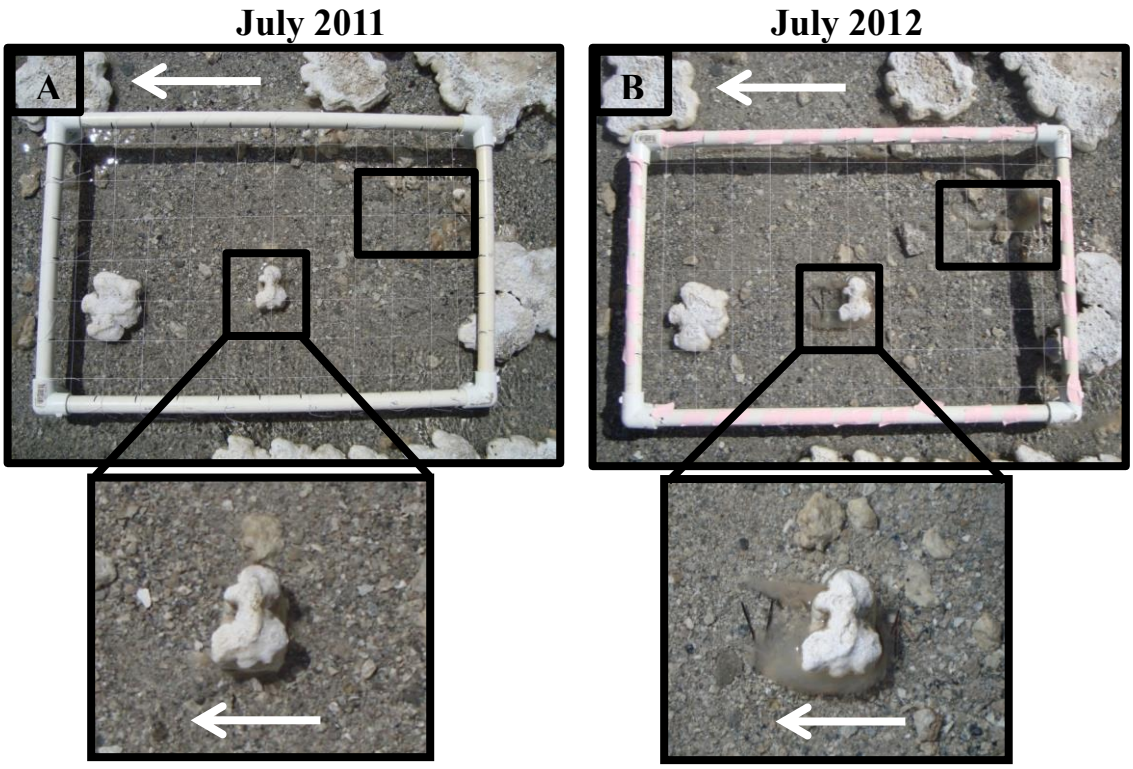


Figure 5. A comparison of the 2011 (A) and the 2012 (B) sampling grids. The black rectangles highlight the same areas in both the 2011 and 2012 sampling grids, demonstrating that the 2012 sampling grid has a greater abundance of SBCs. The sampling grid is located within the main outflow channel (north channel). The exact location is illustrated in Section III. Methods. The flow direction is from right to left as indicated by the white arrows; the source pool is located to the right of the grid. Each grid square represents a 5 cm x 5 cm area. The silica sinter in the insets is ~5 cm in height.

The purpose of the sampling grid was to provide a consistent means of locating individual points within the outflow channel, and to allow unbiased sampling of a small-scale area. These small-scale samples are compared with intermediate scale sampling within the Bat Pool ecosystem as well as larger scale analyses in the broader Yellowstone National Park system. Figure 6 indicates the locations of the seven different hot springs that were investigated for the large-scale (multi-basin) portion of this study.

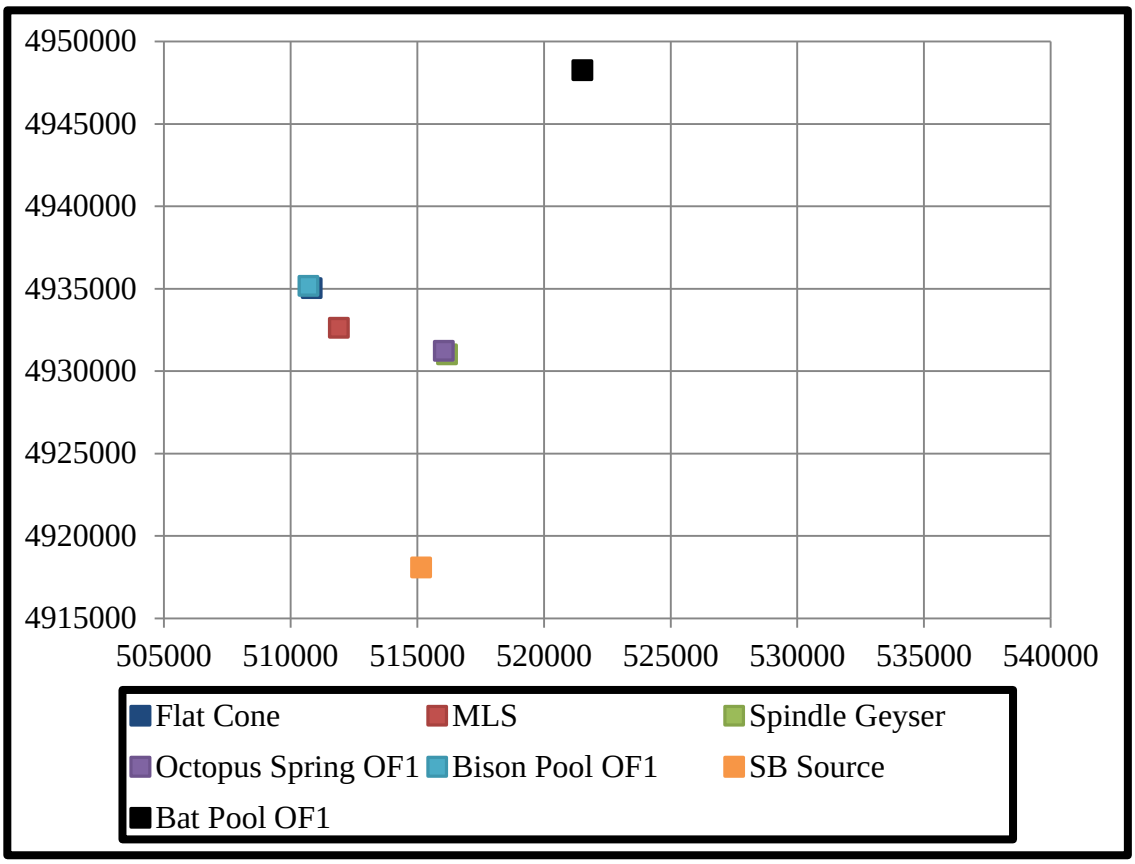


Figure 6. Latitude and Longitude coordinates for the various Multi-Basin sample locations, including Bat Pool, the focus of this study.

III. METHODS

A. Sampling Scheme

1. Biological Sampling

Biological samples were collected using a sampling scheme which consisted of a 30 x 50 cm sampling grid divided into sixty 5 x 5 cm squares. Grid samples were collected from the northernmost fork of the outflow course; hereby referred to as the main outflow channel of Bat Pool, about 6 m downstream from the secondary source pool, as illustrated in Figure 7. Biological samples collected consisted of sediment samples and streamer biofilm community (SBC) samples. Sediment samples were collected using the above described grid sampling regime and are denoted by KMW#, while biofilm samples were taken from within the boundaries of the 5 x 5 cm square surrounding them and are denoted by KMWS#. For simplicity, the KMW is left off of the sample ID in Figure 7. There were a limited number of biofilms present within the grid, and 4-5 biofilm samples were collected per sampling season. In addition to the grid samples, biofilm and sediment samples were taken at intervals down the main outflow channel and the middle outflow channel represented by STL for the 2011 sampling season and K# for the 2012 sampling season. Sediment and biofilm samples were collected using sterile sampling implements, placed in sterile Whirl-Pak bags and then placed on dry ice while in the field, and finally stored at -20°C within hours of sampling (e.g., Meyer-Dombard et al., 2011). As illustrated in Figure 7, some locations were sampled in both 2011 and 2012, indicated by a comma between the two numbers. A summary of the biological samples collected in 2011 and 2012 can be found in Table II. The sampling locations of K1 and K2 are highlighted in Figure 8.

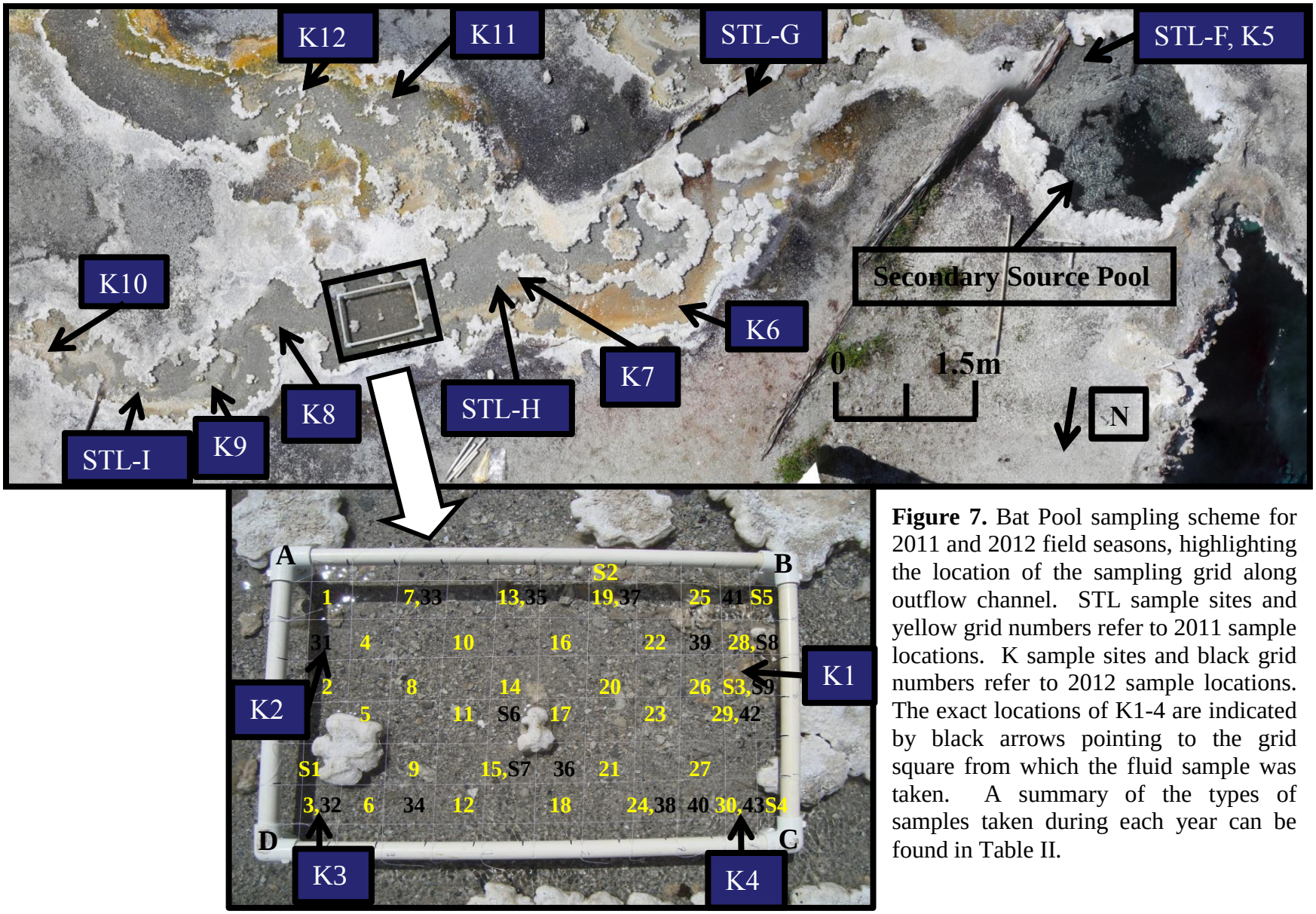


Figure 7. Bat Pool sampling scheme for 2011 and 2012 field seasons, highlighting the location of the sampling grid along outflow channel. STL sample sites and yellow grid numbers refer to 2011 sample locations. K sample sites and black grid numbers refer to 2012 sample locations. The exact locations of K1-4 are indicated by black arrows pointing to the grid square from which the fluid sample was taken. A summary of the types of samples taken during each year can be found in Table II.

Table II
BAT POOL BIOLOGICAL SAMPLES COLLECTED

	# of Sediment Samples	Sediment Sample ID	# of Biofilm Samples	Biofilm Sample ID
Bat Pool Grid [2011]	30	1-30	5	S1-S5
Bat Pool Outflow Channel [2011]	4	STL-F–I	4	STL-F–I
Bat Pool Grid [2012]	13	31-43	4	S6-S9
Bat Pool Outflow Channel [2012]	6	K7-12	6	K7-12

Figure 8: Illustration of sampling locations K1 and K2.

2. Geochemical Sampling

The location of all the geochemical samples collected can be seen in Figure 7 while a summary of all the on-site measurements and fluid samples taken can be found in Table III. Temperature was measured in July 2011 at the corners of the grid (A-D, Figure 7) to note variations within the sampling area (Cole Parmer Oakton Water-

resistant pocket thermometer, Probe 8 in L x 0.14 in OD). In July 2012, *in situ* temperature and conductivity arrays were placed at three different locations within the sampling area: two within the grid and one farther downstream from the grid by Jon Oiler (Arizona State University) using previously described methods (Oiler, 2013). The exact location of the temperature and conductivity arrays within the sampling area can be found in Section IV. Results, Part A: Geochemical Results along with plots that illustrate the temperature fluctuations with time. Dissolved oxygen and sulfide measurements by spectrophotometry were performed on location along the outflow channel at the STL locations in 2011, K7-12 in 2012, and within the sampling grid at K1-4 with a portable spectrophotometer (HACH model 2700). Nitrate, ammonium, silica, and ferrous iron were measured by spectrophotometry at the four corners of the sampling grid (K1-4), with samples taken simultaneously by multiple people. Fluid samples were taken from the secondary source pool in July 2011 (STL-F) and July 2012 (K5) to determine major ions, trace elements, dissolved inorganic carbon (DIC), and dissolved organic carbon (DOC) according to the protocol outlined in Shock et al., 2005. Additional fluid samples were taken within the grid in 2012 at two points: a point closest to the source (K1) and a point downstream from the source (K2) as illustrated in Figure 8, to determine if there were any dramatic differences in water chemistry on smaller spatial scales.

Conductivity and pH measurements were also taken at each of the sampling sites using hand-held meters (YSI 30 and WTW Model pH330i respectively). All geochemical data collected *in situ* along with the temperature and conductivity arrays can be found in Section IV. Results, Part A: Geochemical Results. Additional

geochemical analyses were conducted by our collaborators at Arizona State University: major ions and trace elements were analyzed by ion chromatography and inductively coupled plasma mass spectrometry (Arizona State University) as previously described (Meyer-Dombard et al., 2005; Shock et al., 2010).

TABLE III
BAT POOL GEOCHEMICAL SAMPLES COLLECTED

	D.O., Sulfide, Temperature, pH, and Conductivity	**Fluid (Major Ions)**
Bat Pool Grid [2011]		
Bat Pool Outflow Channel [2011]	STL-F–I	STL-F
Bat Pool Grid [2012]	K1-4	K1, K2
Bat Pool Outflow Channel [2012]	K6-12	K5

B. Microbiological Processing

1. DNA Extraction

DNA extraction from the sediment and biofilm samples was performed in the laboratory using the FastDNA Spin Kit for Soil protocol (MP Biomedicals) which is a bead beating method of DNA extraction. Solutions and concentrations are proprietary material, however in general this protocol follows a typical chemical cell-lysis protocol with an added mechanical lysis by bead beating. This method has been slightly adapted, which has proven successful with other Yellowstone National Park hydrothermal samples (Meyer-Dombard et al., 2005, 2011; Loiacono et al., 2012). To start, 500 mg of sediment or biofilm sample was added to a Lysing Matrix (bead) tube. Then, 978 µL Sodium Phosphate Buffer was added to the Lysing Matrix, followed by an addition of 122 µL MT Buffer. Next, the sample and reagents were homogenized using a bead mill

(FastPrep Instrument), at 2500 rpm for 120 seconds. Following this step, the sample was centrifuged at 14,000 rcf for 5 minutes in order to pellet the debris, using an Eppendorf Centrifuge (model 5424). Subsequently, the supernatant was transferred to a sterile 2.0 ml microcentrifuge tube and 250 μL Protein Precipitation Solution was added to the tube and was mixed by shaking the tube by hand 10 times. Next, the sample was centrifuged at 14,000 rcf for 10 minutes to pellet the precipitate and the supernatant was transferred to a sterile 15 mL Falcon tube. The Binding Matrix was resuspended using a Fisher Scientific vortex mixer and 1000 μL was added to the supernatant in a sterile 15 mL Falcon tube. To bind the DNA, the Falcon tube was inverted by hand for 2 minutes. Then, the tube was placed in a rack for 10 minutes to allow the silica matrix to settle. Following this step, 600 μL of supernatant was removed and discarded. The Binding Matrix was then resuspended in the remaining supernatant and 600 μL was transferred to a SPIN Filter and centrifuged at 14,000 rcf for 1 minute. The catch tube was emptied and 600 μL of the supernatant and Binding Matrix mixture was added to the SPIN Filter and centrifuged at 14,000 rcf for 1 minute. Again, the catch tube was emptied and the remaining mixture of supernatant and Binding Matrix was added to the SPIN Filter and centrifuged under the same conditions. Upon emptying the catch tube a final time, 500 μL of prepared SEWS-M [containing ethanol] was added to the SPIN Filter and the pellet was gently resuspended using the pipet tip. The SPIN Filter was centrifuged at 14,000 rcf for 1 minute and the catch tube was emptied and replaced. Without adding more liquid, the SPIN Filter was centrifuged a second time at 14,000 rcf for 2 minutes to “dry” the matrix. The catch tube was then discarded and replaced with a new, sterile catch tube. The SPIN Filter was then air dried for 5 minutes at room

temperature, under a fume hood. Finally, the Binding Matrix was gently resuspended in 50 µL DES (DNase/Pyrogen-Free Water). In order to increase yields, the SPIN Filter was incubated for 5 minutes at 55ºC in a heat block. The SPIN Filter was then centrifuged at 14,000 rcf for 1 minute to bring the eluted DNA into the sterile catch tube. The SPIN filter was discarded and the DNA was stored at -20ºC until used.

2. <u>Polymerase Chain Reaction (PCR)</u>

Following DNA extraction, PCR was performed to amplify the 16S rRNA gene using the primer pairs 27F-1492R (targeting Bacteria) and 21F-1391R (targeting Archaea) (Meyer-Dombard et al., 2005, 2011) to verify that DNA was of sufficient quality and quantity for amplification and sequencing. A Bio-Rad C1000 Thermal Cycler was used to conduct PCR reactions. Thermal Cycler conditions for 27F-1492R consisted of preheating at 95°C for 5 minutes; 35 cycles at 95°C for 1 minute, 52°C for 1 minute, and 72°C for 1 minute; and extension at 72°C for 5 minutes. Thermal Cycler conditions for 21F-1391R consisted of preheating at 95°C for 5 minutes; 30 cycles at 95°C for 0.5 minutes, 55°C for 0.5 minutes, and 72°C for 1.5 minutes; and extension at 72°C for 15 minutes. The PCR reaction mixture consisted of 13.75 µL H_2O, 1.8 µL 25 mM $MgCl_2$, 2.0 µL 10× AmpliTaq Gold reaction buffer, 0.5 µL forward primer, 0.5 µL reverse primer [2 pmol/µL primer concentration], 0.2 µL dNTP mix, and 0.25 µL 5 U/µL AmpliTaq Gold (Applied Biosystems). Subsequently, 1 µL of DNA was then added to this reaction mixture for a total volume of 20 µL. If there was difficulty in DNA amplification, alterations were made to this reaction mixture, such as adding 0.5 µL of BSA, adding 2 µL of DNA to the reaction mixture, or adding 0.5 µL BSA and 2 µL of DNA to the reaction mixture. With these alterations, the water volume was adjusted in

each case so that the total volume was 20 µL. Occasionally PCR reactions were conducted using a DreamTaq PCR Master Mix (Thermo Scientific). The reaction mixture for using DreamTaq was 10 µL of DreamTaq, 0.5 µL forward primer, 0.5 µL reverse primer, and 8 µL H_2O. The amount of water added depended on the use of BSA and whether 1 or 2 µL of DNA was added to the reaction mixture. In all cases, to ensure that the DNA was successfully extracted and amplified, PCR products were run on a 1.5% agarose gel. DNA that passed this quality check was subjected to 454 amplicon pyrotag sequencing or amplicon sequencing on the Illumina HiSeq platform.

Some samples had to be purified before sequencing. This was done using the QIAquick PCR Purification Kit (QIAGEN). Again, contents of the kit's solutions are proprietary, however this is a basic "salt ethanol" precipitation method using a cellulose column to catch DNA as it's cleaned. To start, 24 mL of ethanol was added to the Buffer PE before its first use. Next, 75 µL Buffer PB and 15 µL of PCR reaction mixture were mixed. The sample was then applied to the QIAquick column to bind the DNA and was centrifuged for 1 minute. The flow-through was discarded and 750 µL Buffer PE was added to the column to wash, and was centrifuged for 1 minute. Again the flow-through was discarded. To remove the residual wash buffer, the column was centrifuged again for 1 minute. The column was then placed in a clean microcentrifuge tube, 50 µL Buffer EB was added to the column to elute the DNA, and the column was centrifuged for 1 minute. All centrifugation steps were carried out at 14,000 rcf.

C. Sequencing

The samples highlighted in Figure 9 and Figure 10 illustrate the grid and outflow channel samples that were used for 16S rRNA sequencing. For the July 2011 samples, the variable

regions V3 and V6 (Archaea and Bacteria, respectively) of the 16S rRNA gene were sequenced by the Research and Testing Laboratory (Lubbock, TX) as previously described (Dowd et al., 2008) using the archaeal primers 344F (5'-ACGGGGYGCAGCAGGCGCGA-3') and 915R (5'-GTGCTCCCCCGCCAATTCCT-3') and the bacterial primers 1100F (5'-YAACGAGCGCAACCC-3') and 1492R (5'-GGGTTACCTTGTTACGACTT-3'). A 454 Genome Sequencer FLX System was used to amplify the pyrotag libraries. Pyrosequencing allowed for a substantial number of sequences to be returned, varying between 1,142 and 78,888 sequences (a.k.a. "reads") per sample. Once the raw data were received, the sequences were trimmed so that the same region of each sequence was being compared. A synthesis of all of the steps used in the initial processing of the sequence data can be found in Table IV.

TABLE IV
INITIAL PYROTAG SEQUENCING DATA PROCESSING

Step 1:	Use Mothur to extract the sequence data from the sff file (provided by sequencing facility) and to cut out low quality data. [Mothur version 1.31.2; http://www.mothur.org/]
Step 2:	Import the fasta file Mothur output into Microsoft Excel.
Step 3:	Determine the length of the sequence by typing "=len" into the formula bar and in the brackets highlighting the cell which you wish to determine the length of.
Step 4:	Sort the sequence length from smallest to largest. Remove any sequences <325 bases.
Step 5:	In the formula bar, type in "=mid[(click on the column with the sequences in it)],25,300) which will cut out the sequences from 25-300. This is done to cut out the primer or tag at the beginning of the sequence and to ensure that all of the sequences are now the same length.
Step 6:	Open the file in Microsoft Word and search for "^t" and replace all with "^p". Save this as a text file. Now this file is ready for data processing using the RDP Pyrosequencing Pipeline or QIIME.

Due to the cost of 454 pyrotag sequencing and the high volume of samples that needed to be sequenced for this project, the July 2012 samples were sequenced by amplicon sequencing on the Illumina HiSeq platform at the DNA sequencing core facility at Argonne National

Laboratory. This sequencing platform used bacterial/archaeal universal primers 515F and 806R to sequence these regions of the 16S rRNA gene, and followed the methods employed at the Earth Microbiome Project (http://www.earthmicrobiome.org/emp-standard-protocols/16s/), based on the methods previously described in Carporaso et al., 2010, 2012. Illumina is another high-throughput sequencing method that is more cost effective and more efficient than 454 pyrotag sequencing (Glenn, 2011). Lou et al., 2012 conducted a study that directly compared Illumina sequencing to Roche 454 and found the two sequencing methods to be comparable despite differences in read length and different protocols; "derived assemblies overlapped in ~90% of their total sequences and *in situ* abundances of genes and genotypes (estimated based on sequence coverage) correlated highly between the two platforms (R^2>0.9)". The sequencing method for each sample can be found in Table V. In total, 29 samples were sent for Illumina sequencing. The resulting sequences ranged in length from 189-259 bases. Four samples had particularly low read counts (31-128 sequences), indicating that those samples did not successfully amplify. The read count for the remaining 25 samples ranged from 21,053 to 46,961 sequences.

Table V
SAMPLES SEQUENCED

Pyrotag Sequencing	Nov. 21, 2011 April 25, 2012	Sediment: KMW1, KMW2, KMW3, KMW4, KMW13, KMW14, KMW18, KMW19, KMW26, KMW30	
		SBC: KMWS2, KMWS4, KMWS5	
Illumina	March 8, 2013	**Grid**	Sediment: KMW31, KMW32*, KMW37, KMW42
			SBC: KMWS7, KMWS8, KMWS9*
		Outflow channel	Sediment: K8, K9, K10*, K11, K12
			SBC: K7, K8*, K9, K10, K12
		Archaeal primers **	Sediment: KMW32 (1:10, 1:100)
			SBC: KMWS9 (1:10, 1:100)
		2011 Samples	Sediment: KMW3, KMW4, KMW19
			SBC: KMWS5

*Samples were sequenced in duplicate
**Archaeal PCR was performed in lab and the resulting product was purified and sequenced.
The purified DNA was sequenced at concentrations of 1:10 and 1:100.

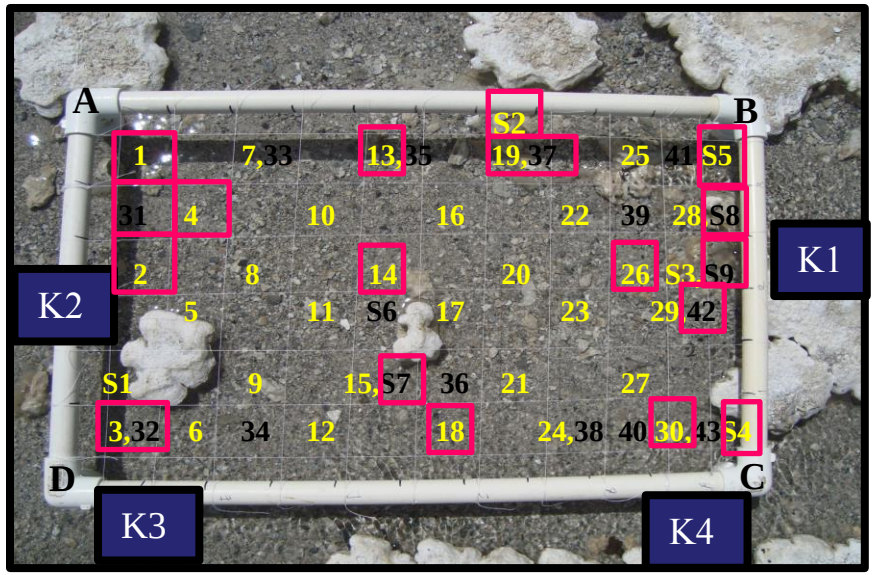


Figure 9. Bat Pool grid highlighting the samples that were sequenced. Grid numbers with a pink square around them represent samples that were sequenced. Yellow numbers with the pink squares refer to 2011 sample locations, which were sequenced using 454 pyrotag sequencing. Black grid numbers within the pink squares refer to 2012 sample locations, which were sequenced using the Illumina platform.

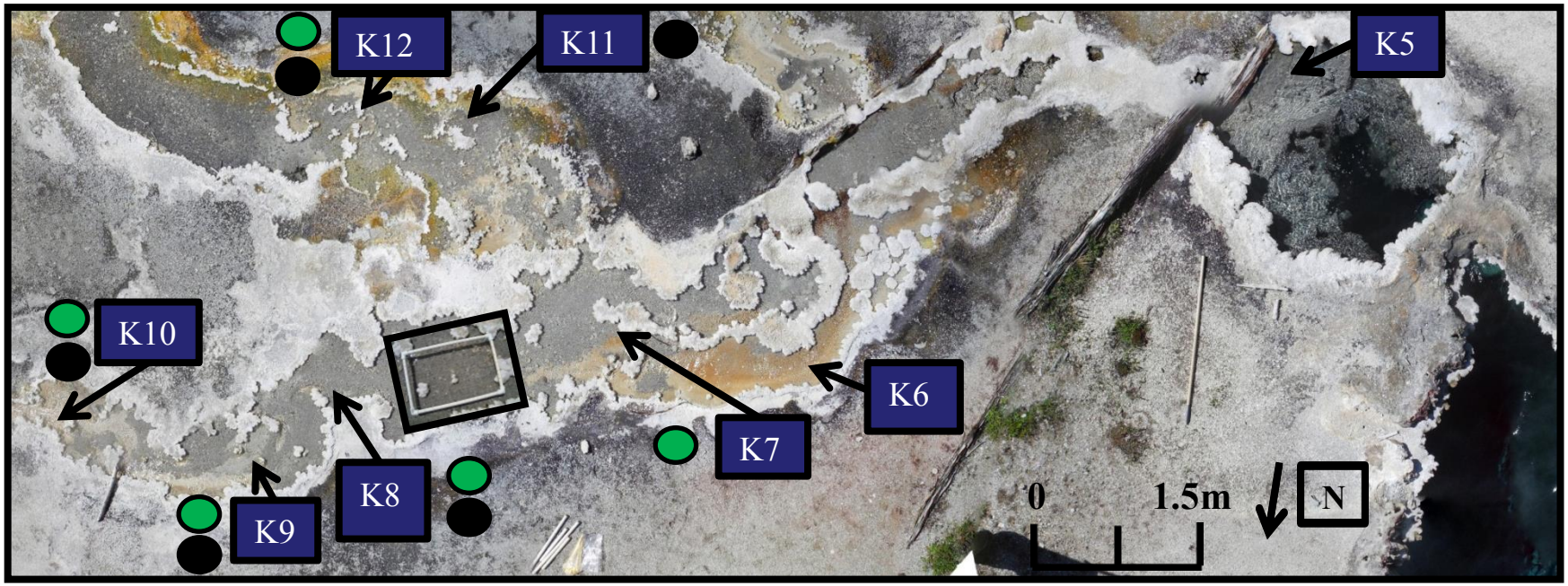


Figure 10. Bat Pool outflow channel highlighting the 2012 samples that underwent Illumina HiSeq platform sequencing. Sample locations with green circles indicate sample locations where an SBC sample was sequenced. Sample locations with black circles indicate sample locations where a sediment sample was sequenced. Sample locations with both a green and black dot indicate locations where both SBC and sediment samples were sequenced. Additional samples within the grid (Figure 9) were also sequenced by the Illumina platform.

D. Data Processing

The Illumina samples were processed using QIIME (Quantitative Insights into Microbial Ecology), using the following two tutorials as guidelines for processing the samples: one from the QIIME website (http://qiime.org/tutorials/tutorial.html) and one from Jeff Werner's lab (SUNY Cortland) based off of the tutorial on the QIIME website (http://www.wernerlab.org/teaching/qiime). The list of commands used in the data processing can be found in Appendix A, Table IX. The file names in this table are example file names; most actual file names were longer and contained an identifier as to which dataset was being run. Unless otherwise indicated, the commands were all run with the default settings. In addition to the Illumina datasets, the 454 pyrotag sequencing datasets were also processed using QIIME so that the samples were processed using the same method. The 454 pyrotag datasets underwent the initial processing as outlined in Table IV. A third dataset was also processed in QIIME: a 454 pyrotag sequencing dataset which consisted of SBC samples collected by our collaborators Jeff Havig and Trinity Hamilton (Penn State University) from other geothermal basins in Yellowstone National Park. From this point onward, the Havig-Hamilton pyrotag sequencing dataset will be referred to as the Multi-Basin pyrotag dataset. The sample locations, sample names, and number of reads per sample can be found in Table VI.

TABLE VI
MULTI-BASIN PYROTAG SEQUENCING SAMPLE INFORMATION

Havig-Hamilton 454 Pyrotag Sequencing 16S Archaea		
Sample Location	**QIIME Sample Name**	**Total # of Raw Reads**
Bison Pool OF1*	JH25Arch	3367
Octopus Spring OF1 *	JH18Arch	2953
Spindle Geyser	JH17Arch	5499
Flat Cone	JH2Arch	2839
'Mitch's Last Stand' OF1*	JH6Arch	2962
Total Number of Sequences		17620
Havig-Hamilton 454 Pyrotag Sequencing 16S Bacteria		
Bison Pool OF1*	JH25Bac	13553
SB Source	JH56Bac	7036
Bat Pool OF1*	DA2Bac	12532
Octopus Spring OF1*	JH18Bac	5392
Spindle Geyser	JH17Bac	7653
Flat Cone	JH2Bac	4834
'Mitch's Last Stand' OF1*	JH6Bac	6108
Total Number of Sequences		57108
*OF = outflow channel sample		

IV. RESULTS

A. Geochemical Results

Table VII reports temperature measurements from July 2011, taken at the corners of the grid to measure variations within the sampling area. The locations of these measurements (A-D), along with the three positions where the *in situ* arrays were placed are illustrated in Figure 11. Figure 12 provides the legend for Figures 13-15, along with an enlarged image of one of the microsensor arrays. Temperature fluctuations over time at each of the array positions are presented in Figures 13-15. The color scheme applied to Figures 13-15 contains a spectrum of blues for the topmost sensors (Y1-Y6) and a spectrum of reds and purples for the bottommost sensors (Y7-Y14). The temperature array closest to the source varied between 83-88°C, while the temperature array 40 cm downstream at Position 3 varied between ~83.5-86.5°. The two conductivity arrays yielded measurements of 5632 µS and 5710 µS showing little variation within the sampling area. The supporting data for Figures 13-15 along with the temperature determinations for sample locations K1-K4 can be found in Tables X-XII, Appendix B.

TABLE VII
BAT POOL 2011 SOURCE AND GRID TEMPERATURES

Hot Spring	pH	Source Temperature	A	B	C	D
Bat Pool [2011]	7.92	91.1°C	76.5°C	78.1°C	77.8°C	76.2°C

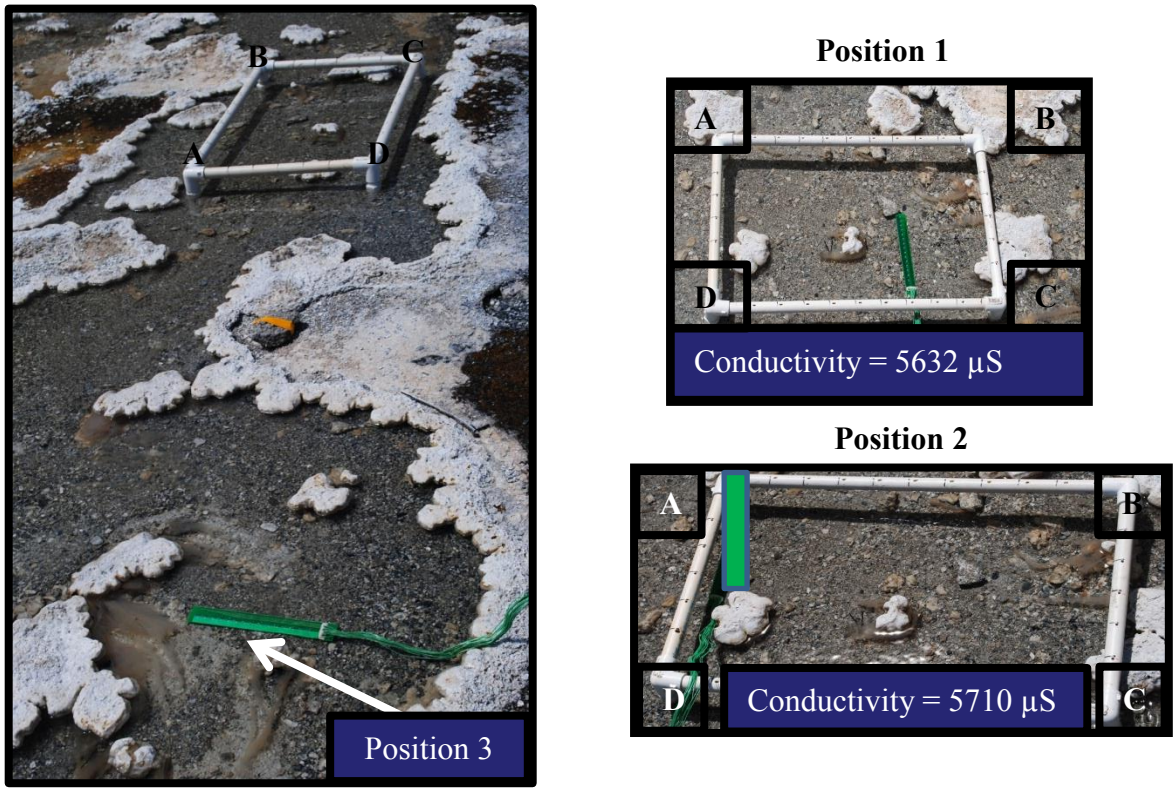


Figure 11. Location of 2012 *in situ* temperature and conductivity arrays conducted by Jon Oiler from Arizona State University with insets highlighting the location of the arrays at positions 1 and 2, along with the average conductivity for the arrays at those two positions.

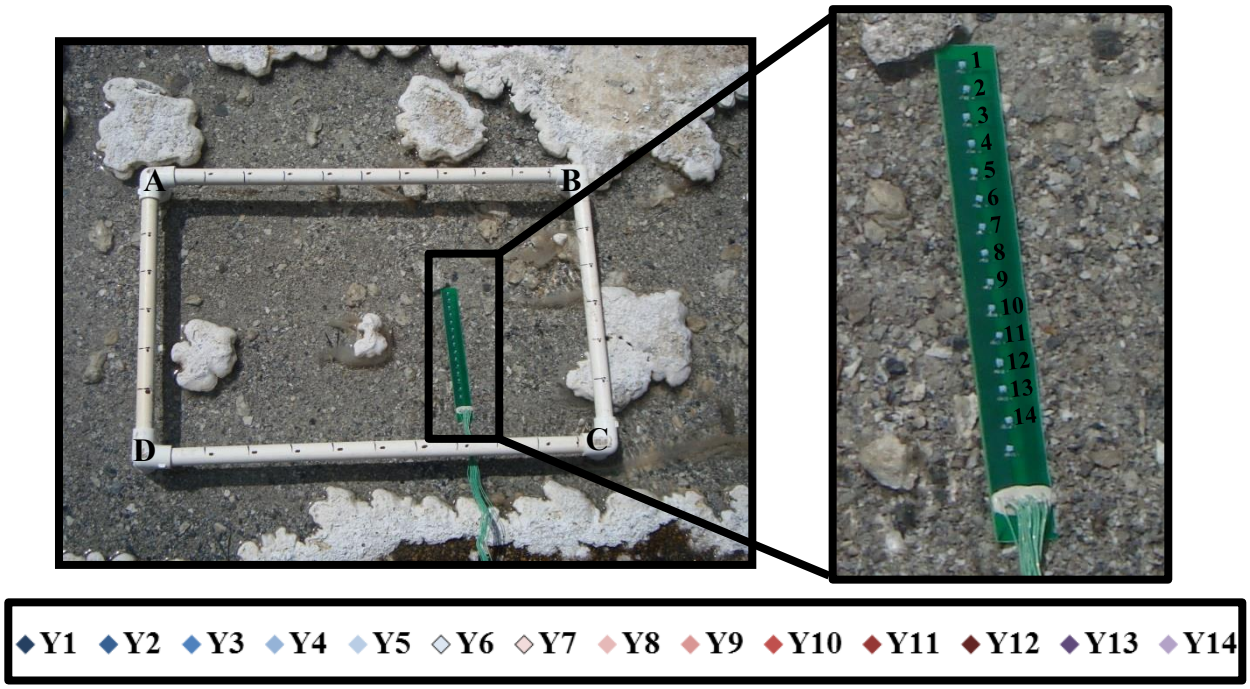


Figure 12. Position 1 with inset, which zooms in on the microsensor array and illustrates the location of each of the 14 temperature sensors. The legend for Figures 13-15 is also included; the Y values correspond to the temperature sensor with the same number.

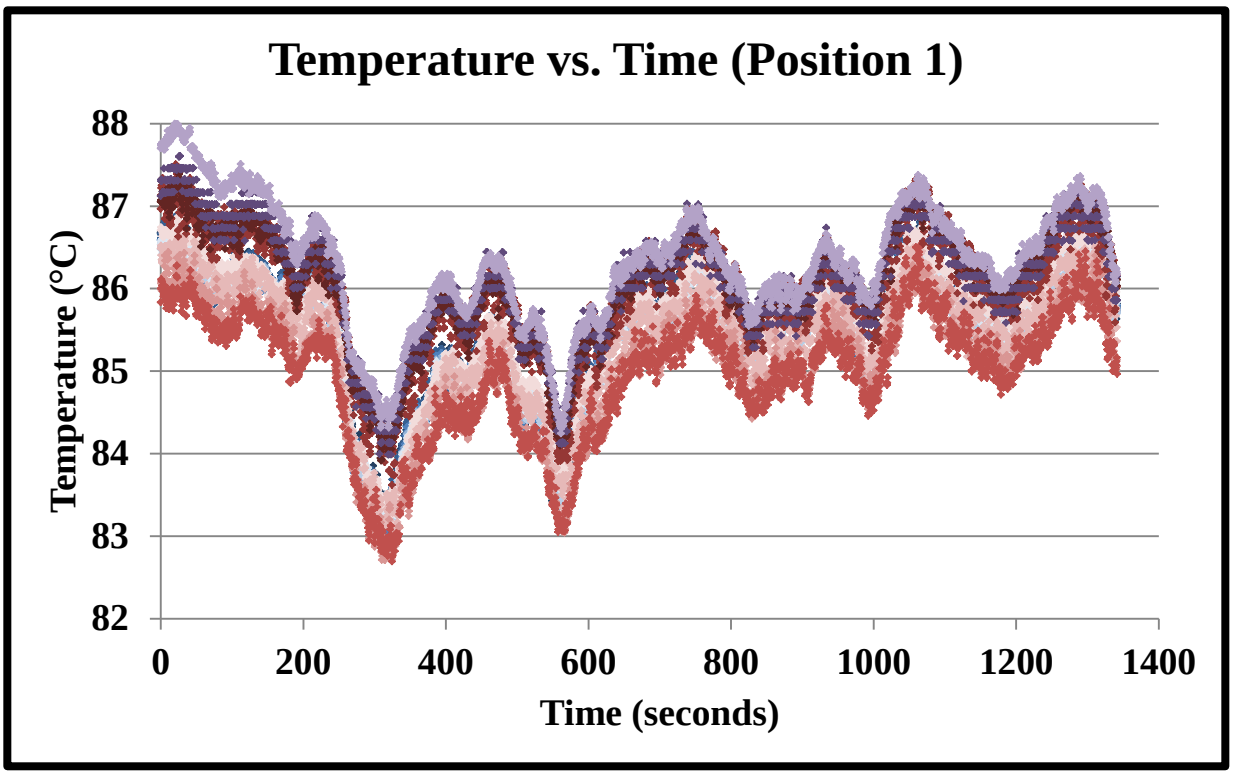


Figure 13. Temperature measurements over time for the temperature array at Position 1.

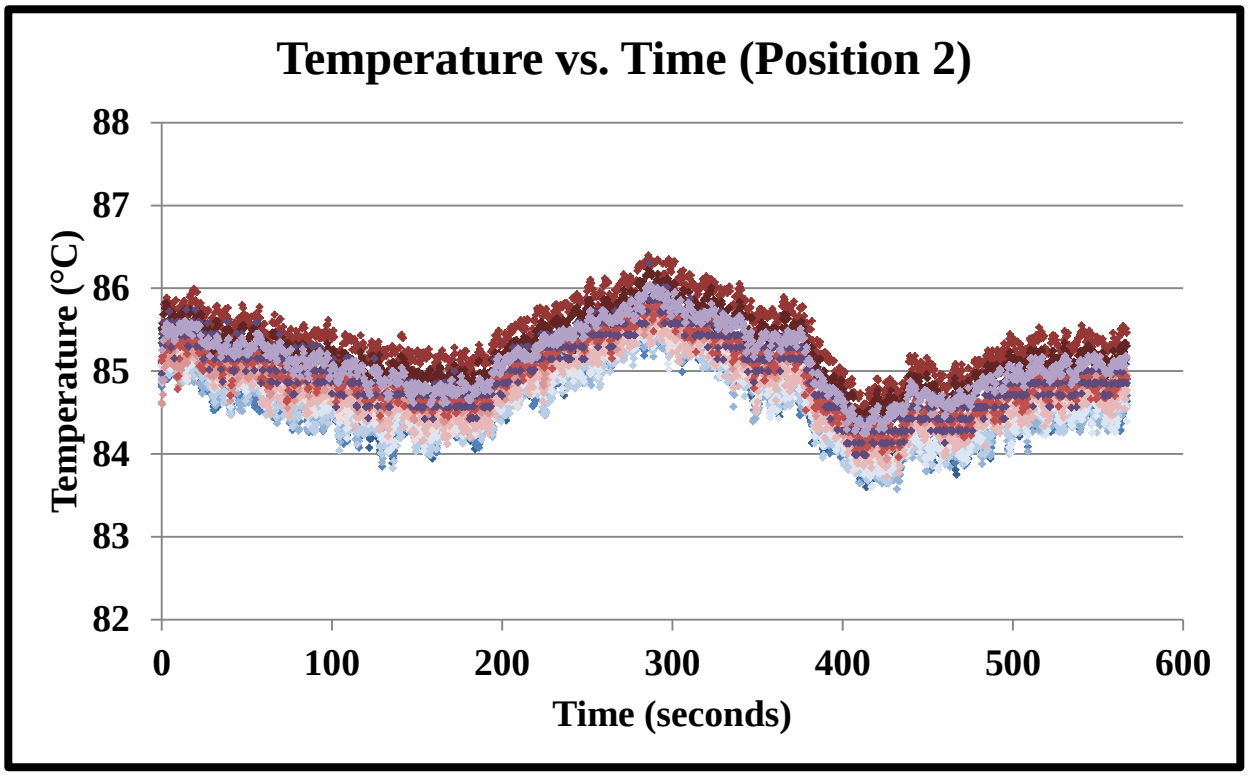


Figure 14. Temperature measurements over time for the temperature array at Position 2.

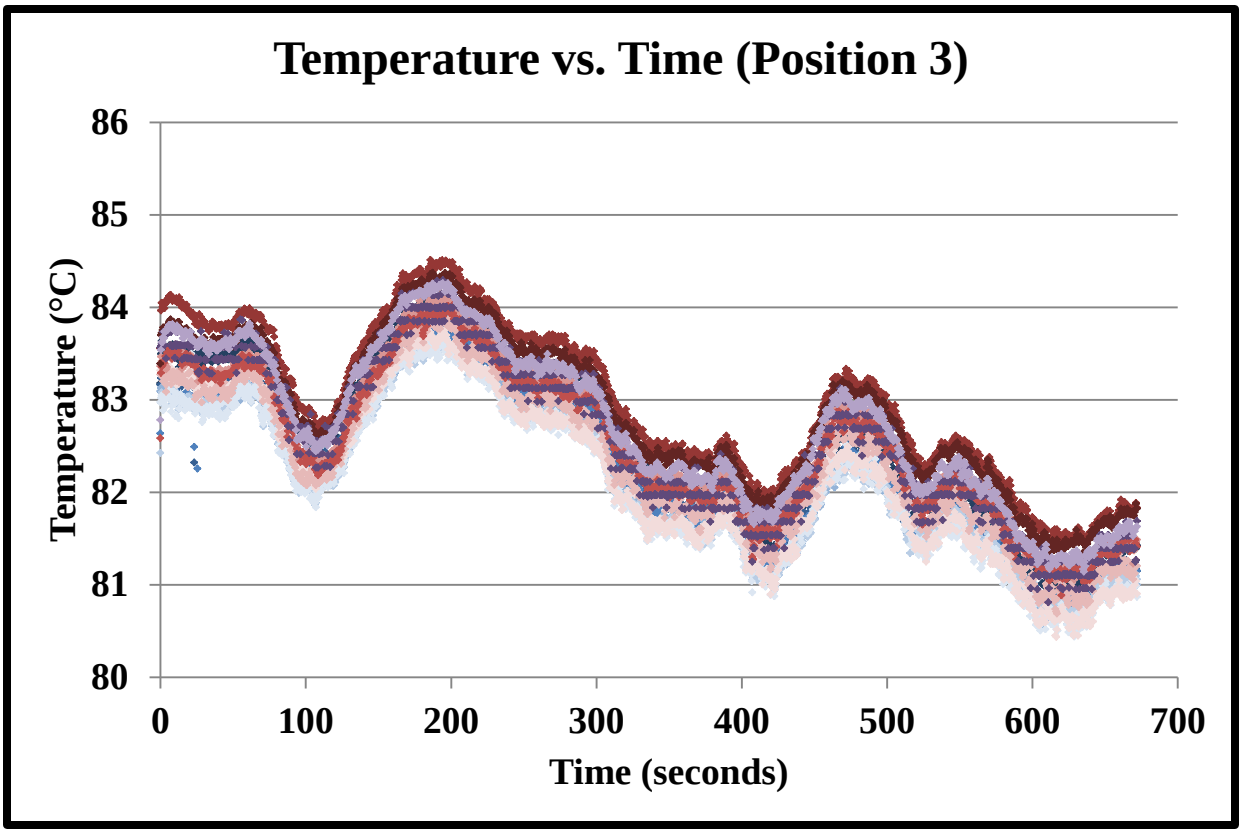


Figure 15. Temperature measurements over time for the temperature array at Position 3.

The major ion chemistry of Bat Pool in 2011 versus Bat Pool in 2010 for the source pool and for a sample location along the outflow channel can be found in Figure 16. Solid black squares represent the source pool data and open red squares represent the outflow channel data. Most of the major ion data falls near the 1:1 line, indicating little variation in the major ion chemistry from year to year. Spectrophotometry measurements consisting of dissolved oxygen and sulfide at all sample locations and additional measurements of nitrate, ammonium, silica, and ferrous iron taken at certain locations, can be found along with pH and conductivity measurements, in Table VIII. Refer to "Figure 7 (III. Methods)" for locations of each of the sample sites. The temperature measurements for K1-K4 were derived from the *in situ* temperature arrays. Samples K1 and K4 were taken closest to the array at Position 1. The temperature value for K1 was determined by taking the average temperature of the topmost

sensor (Y1). The temperature value for K4 was determined by taking the average temperature of the bottommost sensor (Y14). Samples K2 and K3 were closest to the array at Position 2. The water sample for K2 was taken between sensors Y4-Y9, so the temperature measurement determined for K2 was an average of those 6 sensor positions. Sample K3 does not overlap with the temperature array at Position 2; the temperature measurement determined for this point was taken from the average of Y14, the closest sensor point to the sample location.

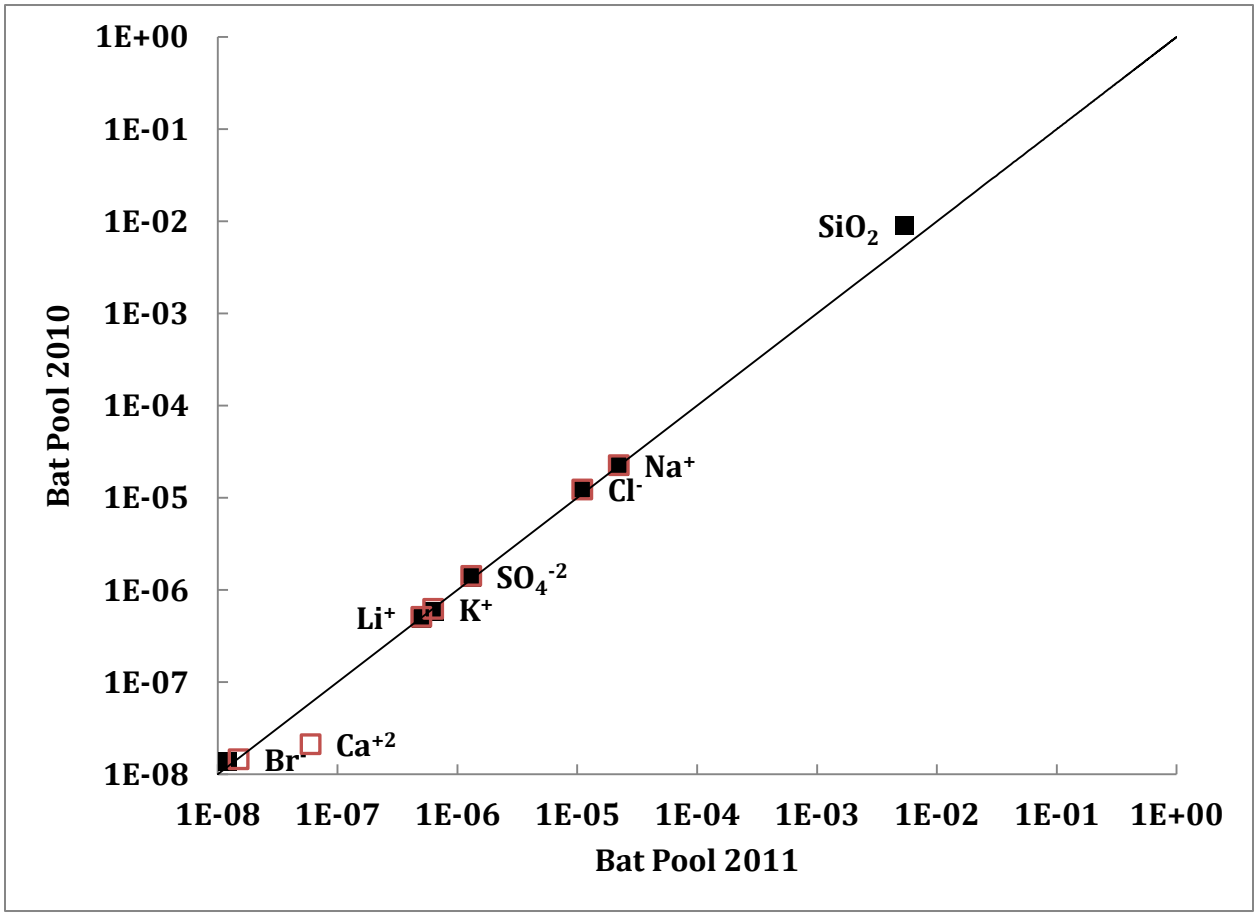


Figure 16. Major ion chemistry and SiO_2 concentrations for the source area and a sample location along the outflow channel of Bat Pool from 2011 versus 2010. Source data is represented by solid black squares and the outflow channel data is represented by open red squares. All concentrations are in molarity. Diagonal line represents a 1:1 relationship.

TABLE VIII
BAT POOL GEOCHEMICAL DATA (2010-2012): SOURCE, OUTFLOW CHANNEL, AND GRID SAMPLING AREAS

Sample ID	Dist. from	pH	pH Temp	Conductivity	Cond. Temp	D.O.	NO_3^-	NH_4^+	Fe^{+2}	S^{-2}	SiO_2
Main Outflow Channel	**Source[a] (m)**		**°C**	**µS**	**°C**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**µg/L**	**mg/L**
120719-MR (true source)		n.d.	n.d.	5820	92	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
100803KA	Source	8.393	91.1	5930	91.7	0.45	2.70	0.18	UR[b]	2710	542.3
110714F (ASU)	-2.07	7.918	91.1	5730	91.1	0.15	n.d.	n.d.	0.01	2690	324.5
110714STL-F	-2.07	8.459	89.0	n.d.	n.d.	0.152	n.d.	n.d.	n.d.	2690	n.d.
120719K5	-2.07	8.457	87.8	5650	89.1	0.119	n.d.	n.d.	n.d.	2055	n.d.
110714STL-G	1.17	8.481	85.5	5360	85.6	0.189	n.d.	n.d.	n.d.	2430[d]	n.d.
120719K6	3.40	8.423	87	5540	88	0.224	n.d.	n.d.	n.d.	2099	n.d.
120719K7	4.57	8.494	83.1	5430	84.3	0.300	n.d.	n.d.	n.d.	1540	n.d.
110714STL-H	4.81	8.542	82.5	5380	83.1	0.281	n.d.	n.d.	n.d.	1375[d]	n.d.
120719K1	5.75	n.d.	85.57	n.d.	n.d.	0.500	5.350	0.050	0.06	1128	309
120719K4	5.75	n.d.	86.32	n.d.	n.d.	0.550	6.050	0.030	UR[b]	1671	325
120719K2	6.33	n.d.	84.69	n.d.	n.d.	0.933	4.317	0.020	0.03	1512	277
120719K3	6.33	n.d.	85.13	n.d.	n.d.	1.333	1.600	UR[b]	UR[b]	1020	295
120719K8	7.03	8.522	81.2	5320	82.4	0.200	n.d.	n.d.	n.d.	1819	n.d.
120719K9	7.97	8.535	80.4	5270	81.1	0.400	n.d.	n.d.	n.d.	1807	n.d.
110714STL-I	8.56	8.673	71.2	2570	71.2	0.66	n.d.	n.d.	n.d.	1255[d]	n.d.
120719K10	9.49	8.571	78.7	5150	79.4	0.200	n.d.	n.d.	n.d.	1250	n.d.
Middle Outflow Channel											
100803JA		8.547	74.6	5070	74.6	2.10	1.90	0.03	UR[b]	1670	642.4
JRH110714Q		8.268	78.6	4949	78.4	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
120719K11	6.21	8.589	80.6	20[c]	80.8	0.567	n.d.	n.d.	n.d.	1547	n.d.
120719K12	7.27	8.589	79.8	2500	80.4	0.400	n.d.	n.d.	n.d.	1585	n.d.

Dist. from Source[a]: measurements start at the main outflow channel, after the sinter covered area following the secondary source pool
UR[b]: underrange; n.d. = not determined
#[c]: probe not fully submerged (nearby reading comparable w/downstream)
#[d]: measurements done a day later (110715) - spectrophotometer malfunctioned in the field the previous day

The change in sulfide concentration with temperature is shown in Figure 17, showing a minor positive trend: sulfide values increase with increasing temperature ($R^2 = 0.3884$). Sulfide and temperature may not be as strongly correlated as expected, due to microbial activity down the outflow channel: biological oxidation of sulfide may account for the damped trend (Cox et al. 2011; Swingley et al., 2012). The change in dissolved oxygen concentration with temperature is shown in Figure 18 and dissolved oxygen concentration versus sulfide concentration is shown in Figure 19. In all of these cases, there is not a strong correlation as indicated by the R^2 values for all of the trendlines.

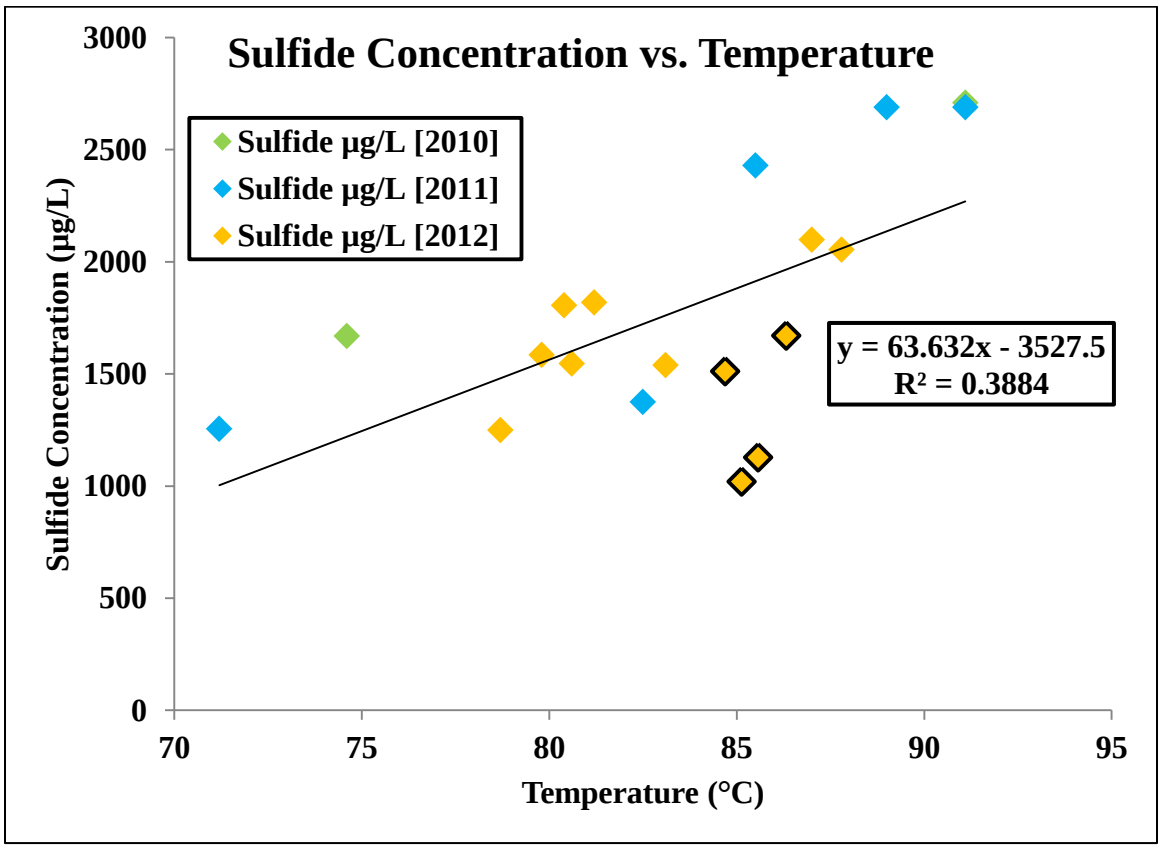


Figure 17. Temperature vs. sulfide concentration for 2010, 2011, and 2012 spectrophotometry data. Data from the four grid sampling locations (K1-K4) are indicated by diamonds with a black outline.

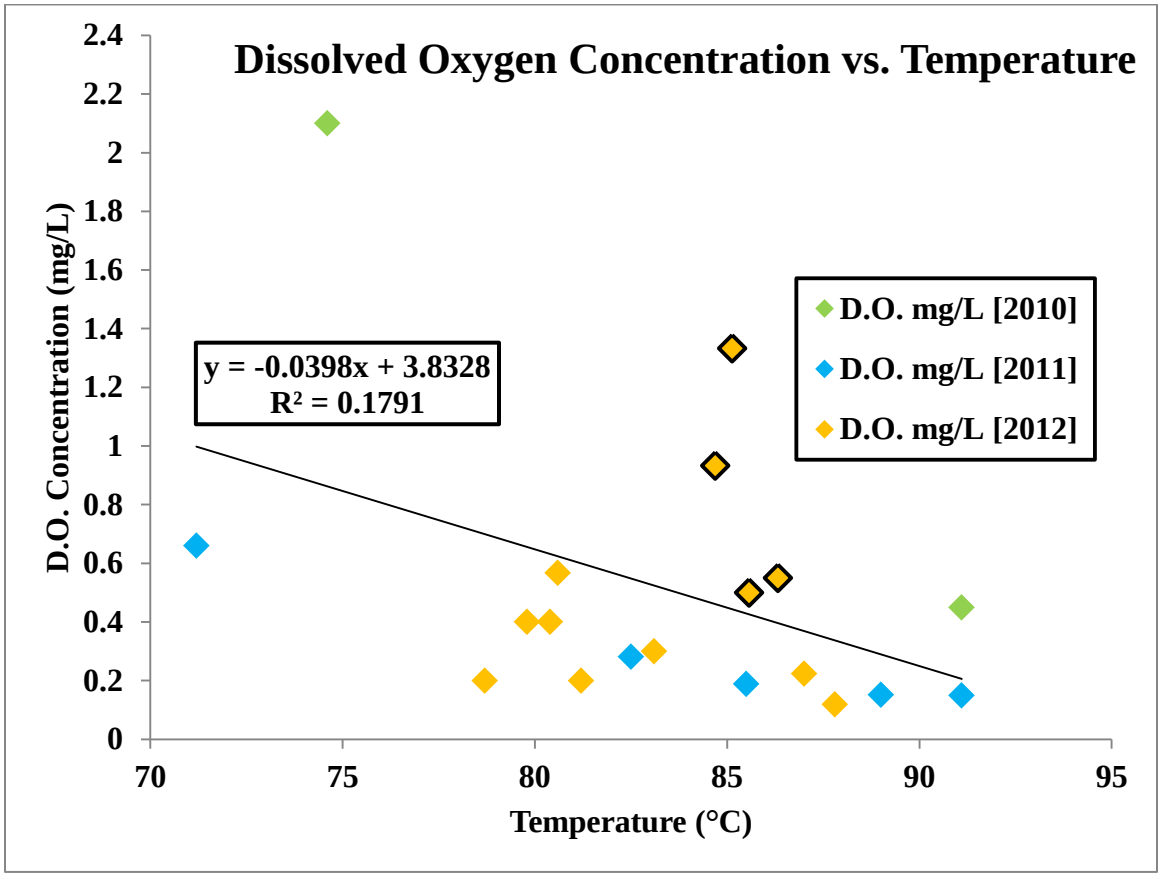


Figure 18. Temperature vs. dissolved oxygen (D.O.) concentration for 2010, 2011, and 2012 spectrophotometry data. Data from the four grid sampling locations (K1-K4) are indicated by diamonds with a black outline.

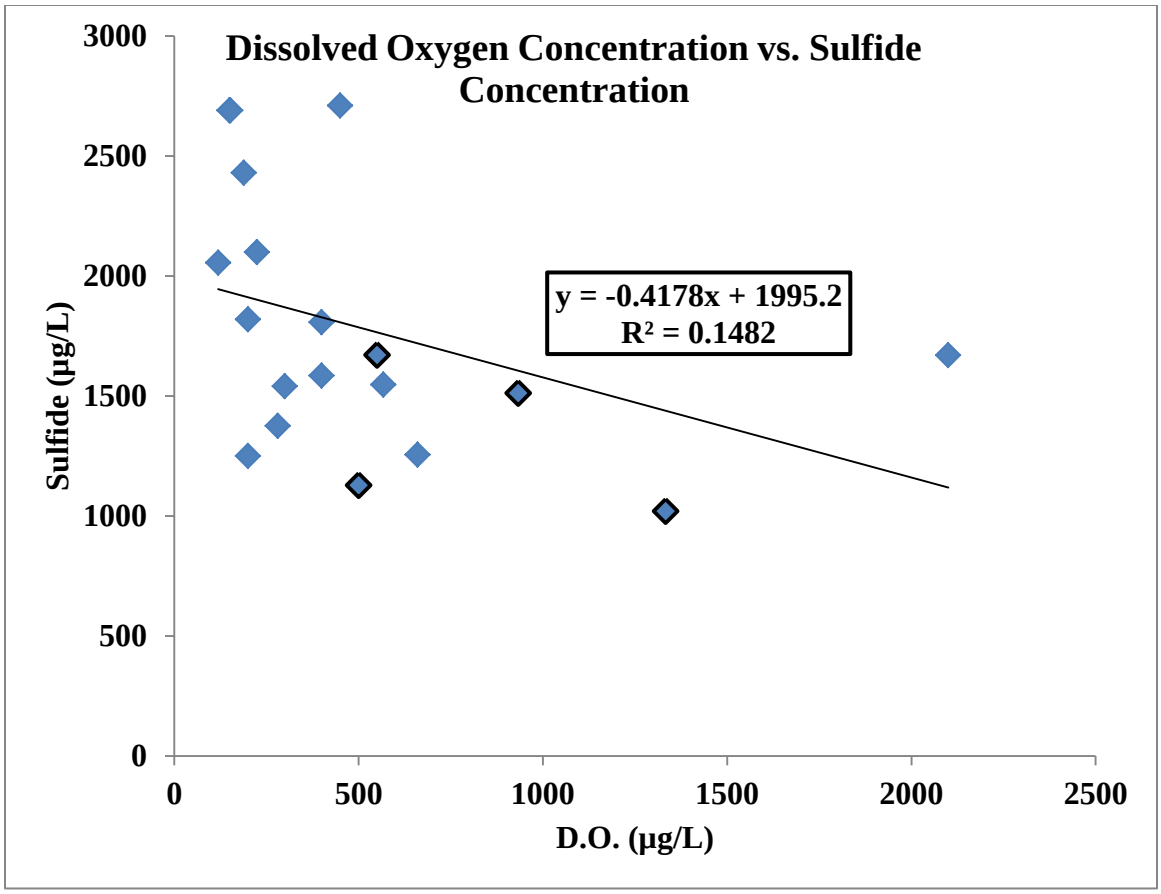


Figure 19. Dissolved oxygen (D.O.) concentration vs. sulfide concentration, both in µg/L, for 2010, 2011, and 2012 Bat Pool spectrophotometry data. These data points include the outflow channel as well as the grid sampling area. Data from the four grid sampling locations (K1-K4) are indicated by diamonds with a black outline.

Octopus Spring and 'Bison Pool', two chemosynthetic hot springs in other areas of the park that have been extensively studied, are shown to have relatively similar bulk geochemistry to Bat Pool as seen in Figure 20 as illustrated by most of the major ion data falling near the 1:1 line. This indicates a similar process of origin for these hydrothermal fluids. The data for this figure can be found in Table XIII, New Appendix C.

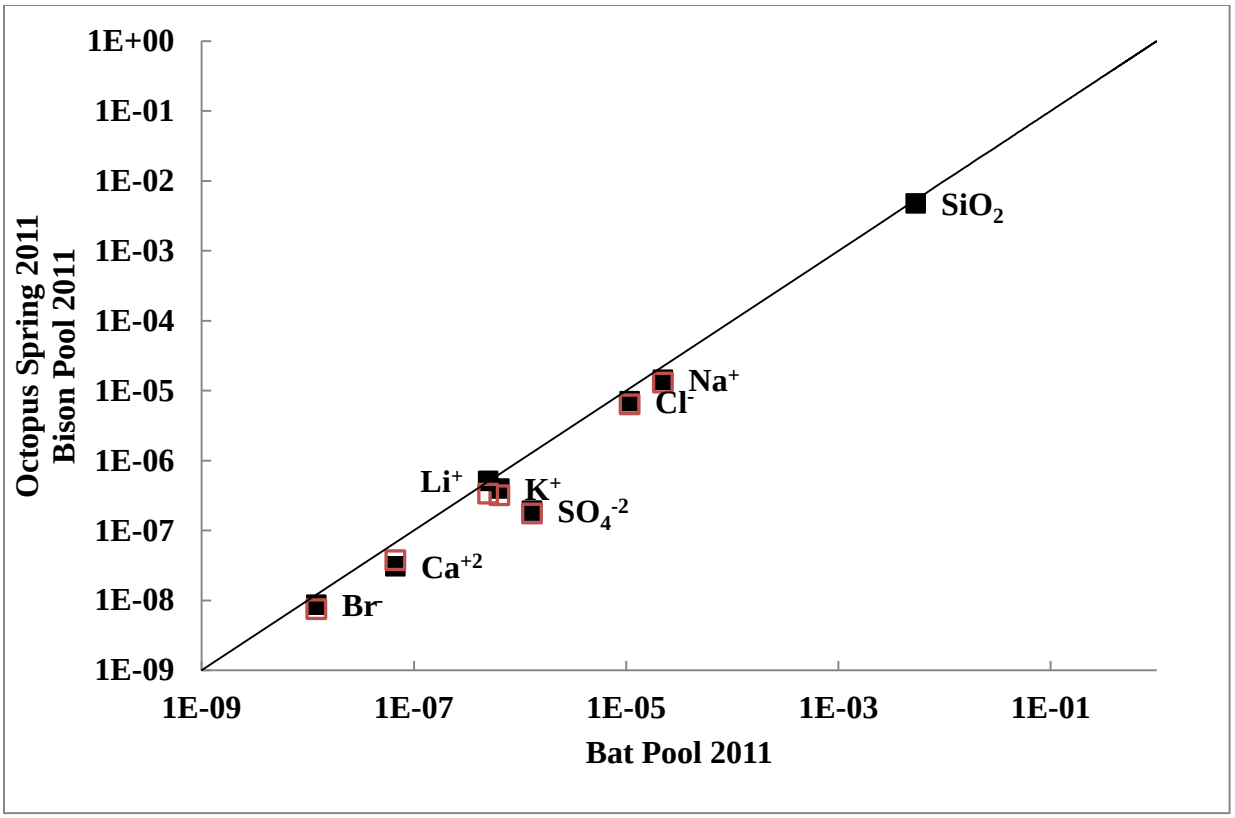


Figure 20. Major ion chemistry and SiO_2 concentrations for the source area of Bat Pool versus the source areas of Octopus Spring (black squares) and 'Bison Pool' (red squares) for the 2011 field season. All concentrations are in molarity.

Expanding the scope of comparison to an even larger scale, Figure 21 displays the sulfate and chloride concentration of four main geographic areas throughout the park: the Greater Obsidian Pool Area (GOPA)-the location of Obsidian Pool, Sylvan Springs, Sentinel Meadows in the Lower Geyser Basin, and Geyser Creek, illustrating that the alkaline systems of Lower Geyser Basin and Bat Pool have high chloride values and low sulfate concentrations relative to other systems in the park, indicative of long residence time of the hydrothermal fluids and very little gas input into the system. The sulfate and chloride concentrations for the Bat Pool Source and Bat Pool Outflow points are highlighted by red symbols in Figure 21 and the accompanying data are provided in Table XIV, Appendix C. Geochemical data for the locations studied in the

Multi-Basin dataset can be found in Table XV and Table XVI, Appendix C.

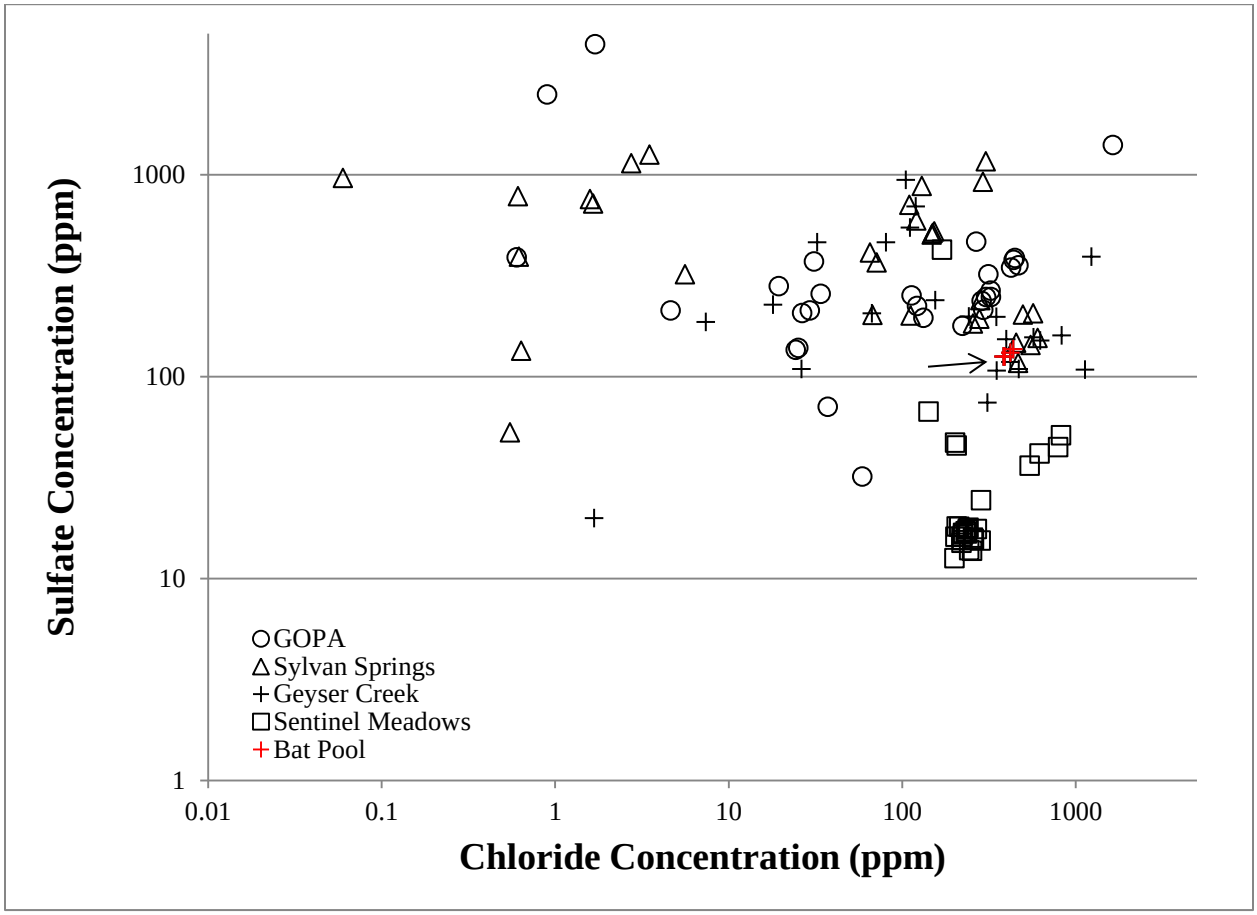


Figure 21. Sulfate and chloride concentrations (in ppm) measured in 2010 and 2011 for the Greater Obsidian Pool Area (GOPA), Sylvan Springs, Geyser Creek, and Sentinel Meadows in the Lower Geyser Basin. The black arrow indicates four points (in red) that represent the Bat Pool Source and Bat Pool Outflow points for 2010 and 2011. (Data re-plotted from previously published work Meyer-Dombard et. al, 2005)

B. Biological Results

This section focuses on the data processing results from the software QIIME. Appendix D, Table XVII lists the number of sequences per sample that were classified as Archaea or Bacteria which illustrates the size of the dataset used for each sample as the following results are presented. Archaeal and bacterial taxonomic abundance for sediment and SBC samples within the grid are presented in Figures 22 and 23; the sediment samples are presented with a black border while the SBC samples are presented with a green border. The cluster diagrams for these samples are presented in Figures 24 and 25. The cluster diagrams demonstrate which samples cluster closely together, as well as presenting bar charts to display the taxonomic similarity, or dissimilarity, between the samples. The distance matrices for the cluster diagrams discussed in this section can be found in Tables XVIII-XXIII, Appendix E. The pie charts in Figures 22 and 23 and the bar charts adjacent to the cluster diagrams display the taxonomic information for each sample at the order level; taxonomic information used in creating the bar charts can be found in Tables XXIV-XXIX, Appendix F. The order level taxa in the plots are listed in the first few rows; the "Other" row is a summation of all of the taxonomic groups listed below that row which contained less than <5% representation across all samples. To save space, if the taxonomic information was too long, the kingdom information was left off; k = kingdom, p = phylum, c = class, and o = order.

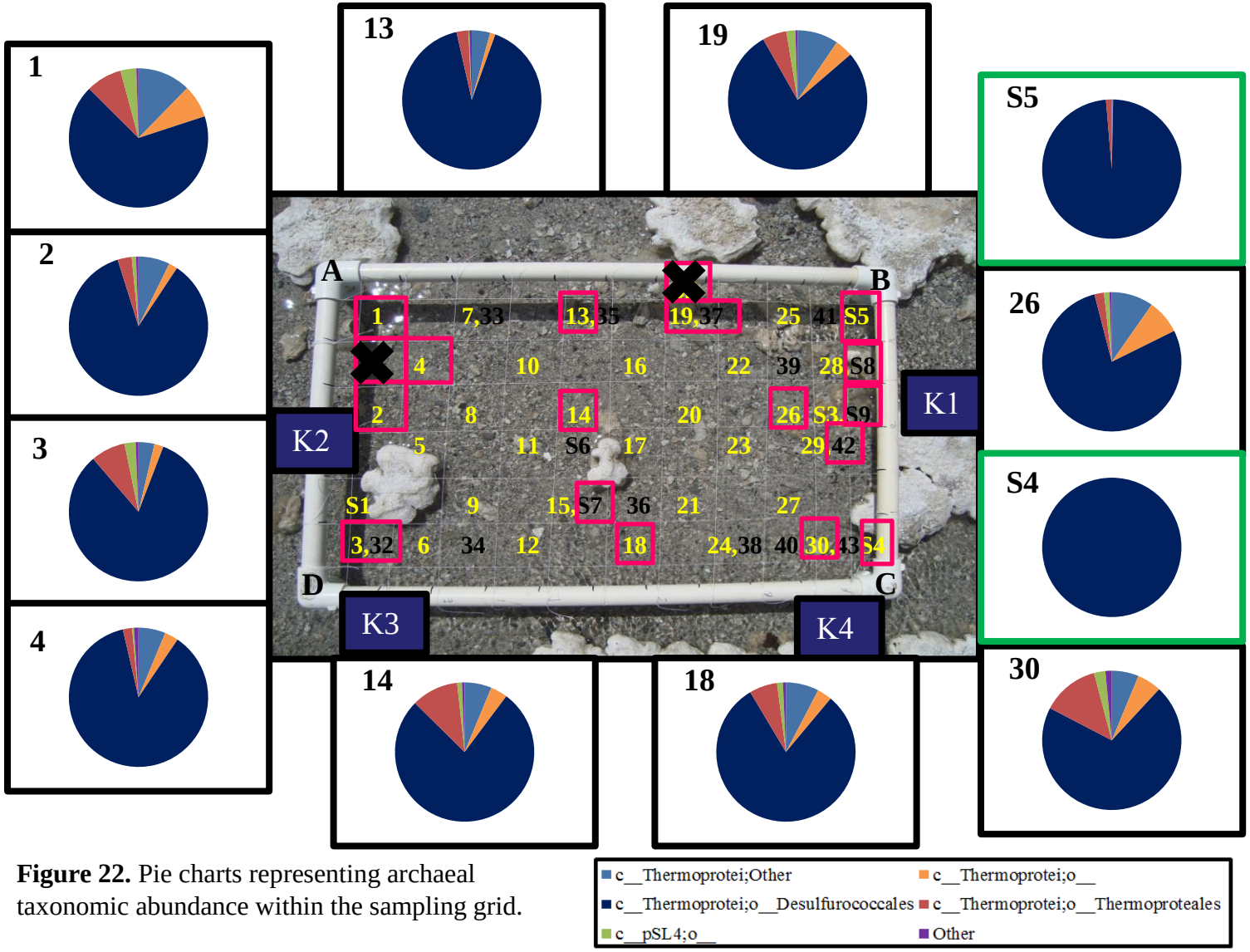


Figure 22. Pie charts representing archaeal taxonomic abundance within the sampling grid.

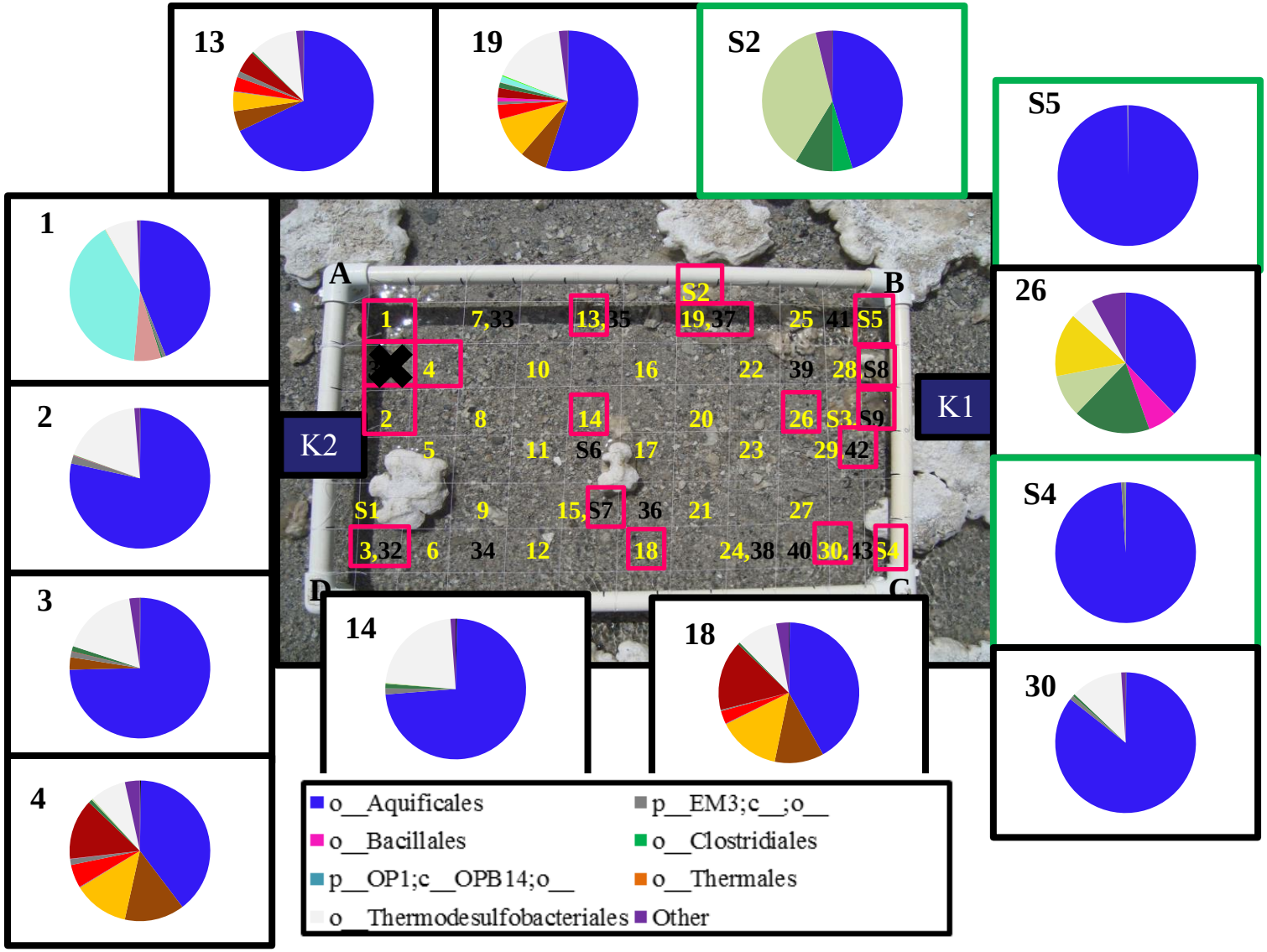


Figure 23. Pie charts representing bacterial taxonomic abundance within the sampling grid.

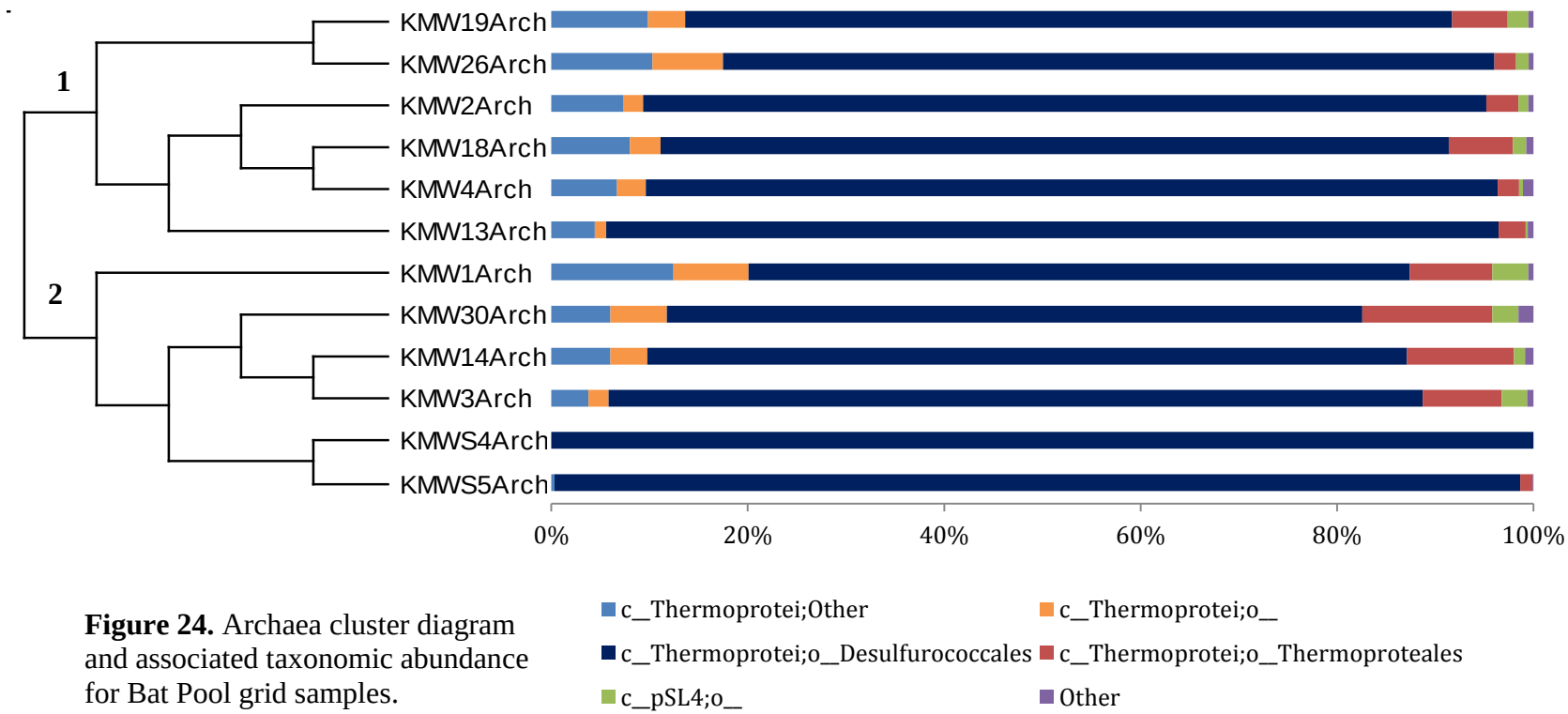


Figure 24. Archaea cluster diagram and associated taxonomic abundance for Bat Pool grid samples.

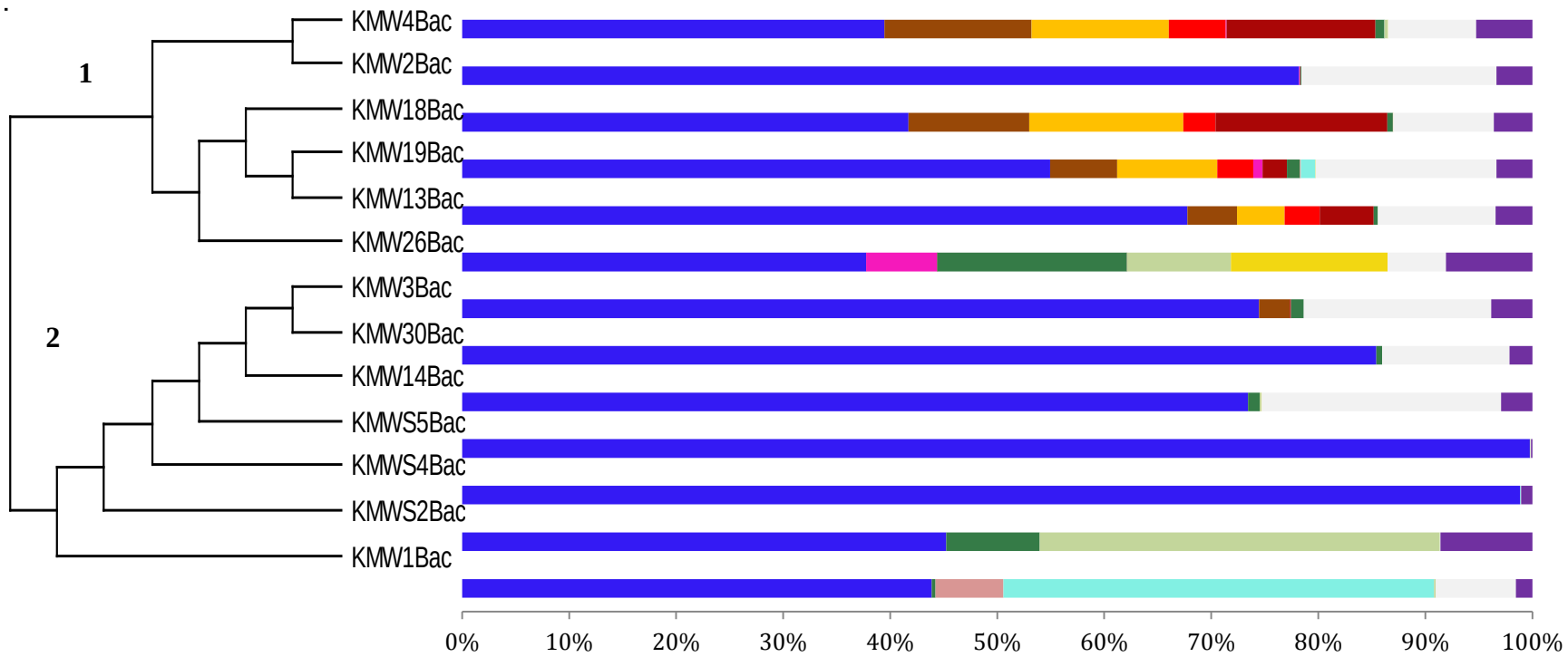


Figure 25. Bacteria cluster diagram and associated taxonomic abundance for Bat Pool grid samples.

- o__Aquificales
- o__Ignavibacteriales
- c__Anaerolineae;o__GCA004
- o__Deferribacterales
- o__Bacillales
- o__Nitrospirales
- o__Burkholderiales
- c__Gammaproteobacteria;Other
- o__Chromatiales
- o__Enterobacteriales
- o__Pseudomonadales
- o__Thermodesulfobacteriales
- Other

Archaeal and bacterial taxonomic abundance for SBC and sediment samples along the outflow channel are presented in Figure 26 and Figure 27 (SBC samples) and Figure 28 and Figure 29 (sediment samples). The cluster diagrams for these samples are presented in Figures 30 and 31.

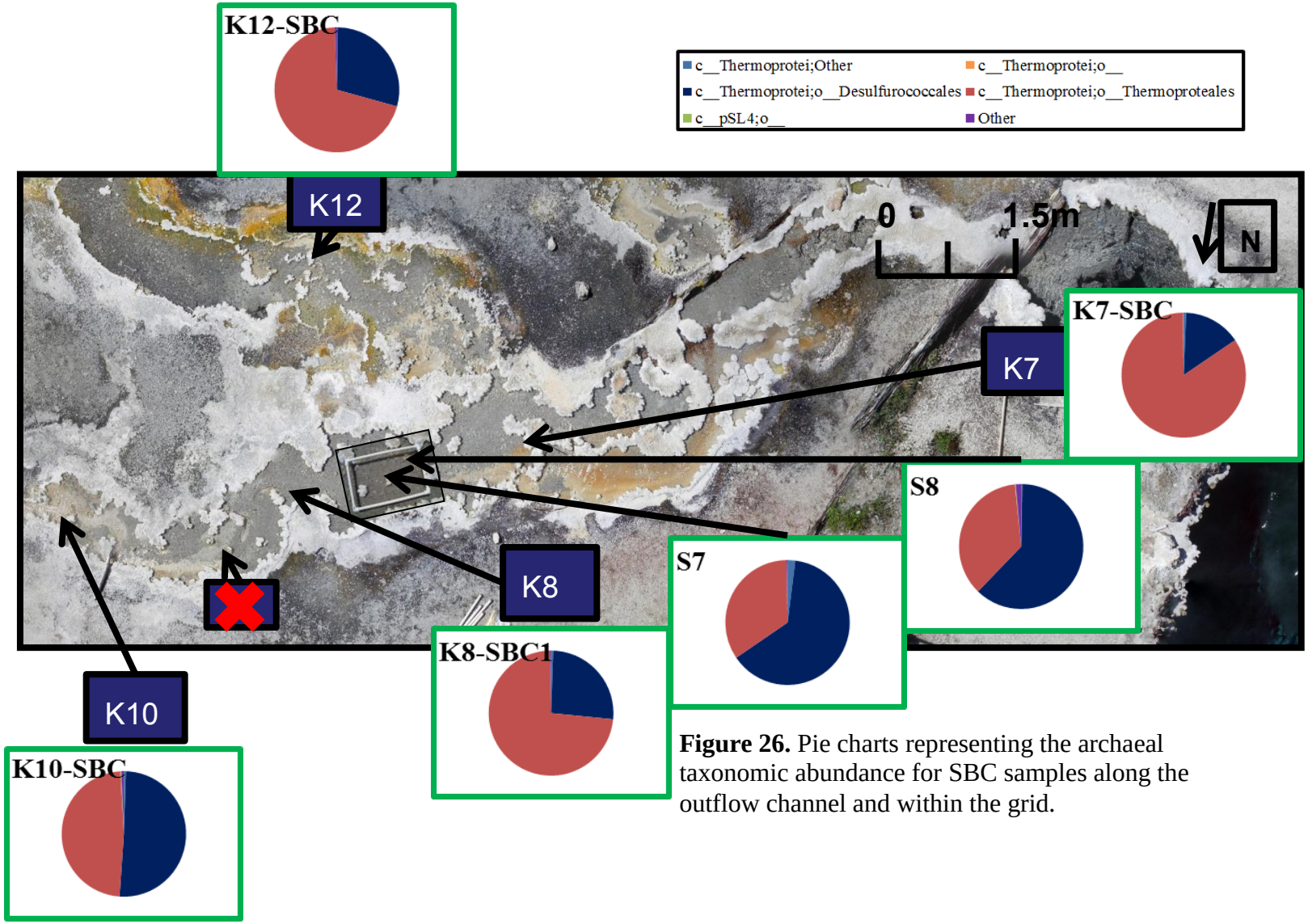


Figure 26. Pie charts representing the archaeal taxonomic abundance for SBC samples along the outflow channel and within the grid.

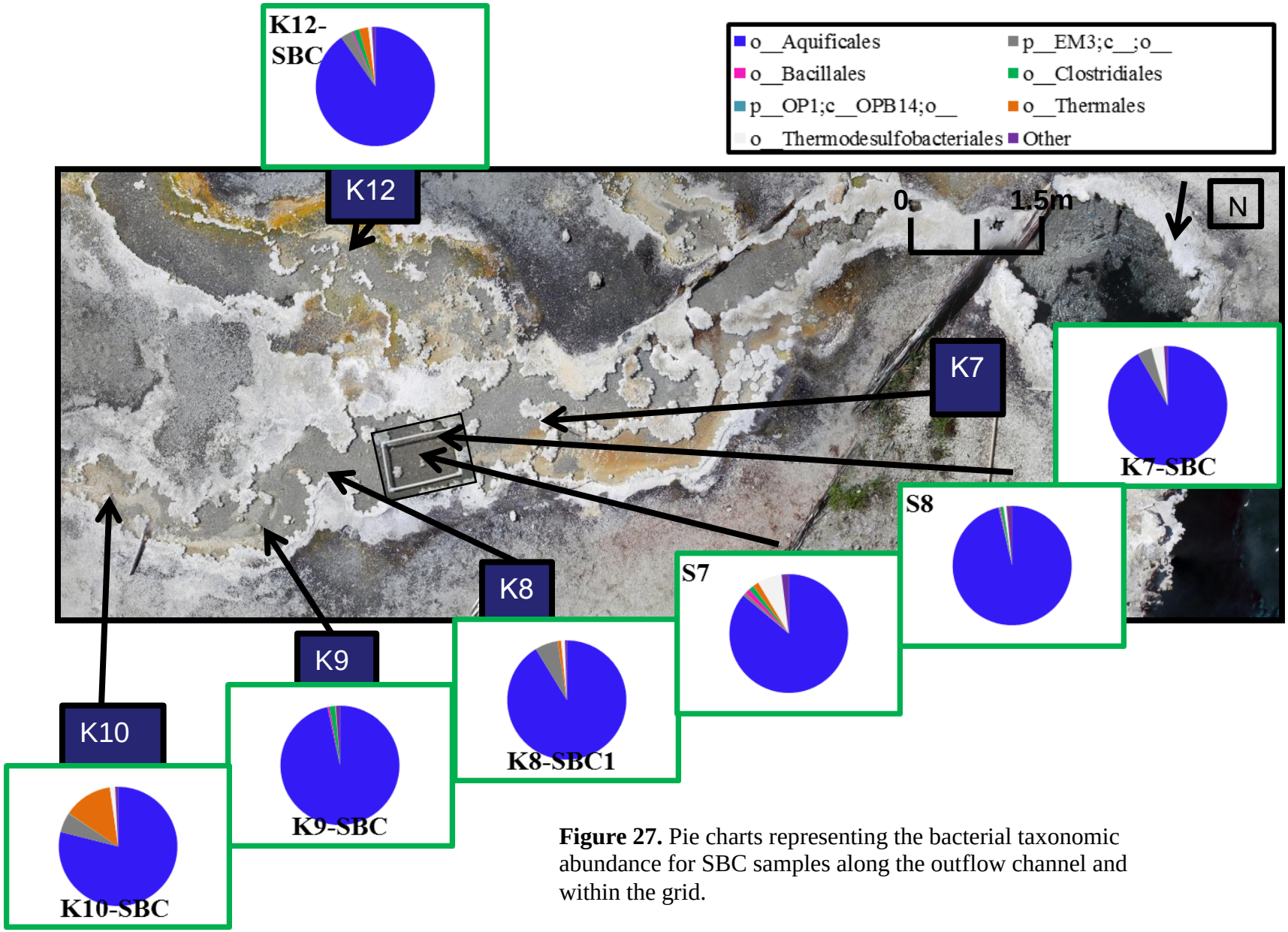


Figure 27. Pie charts representing the bacterial taxonomic abundance for SBC samples along the outflow channel and within the grid.

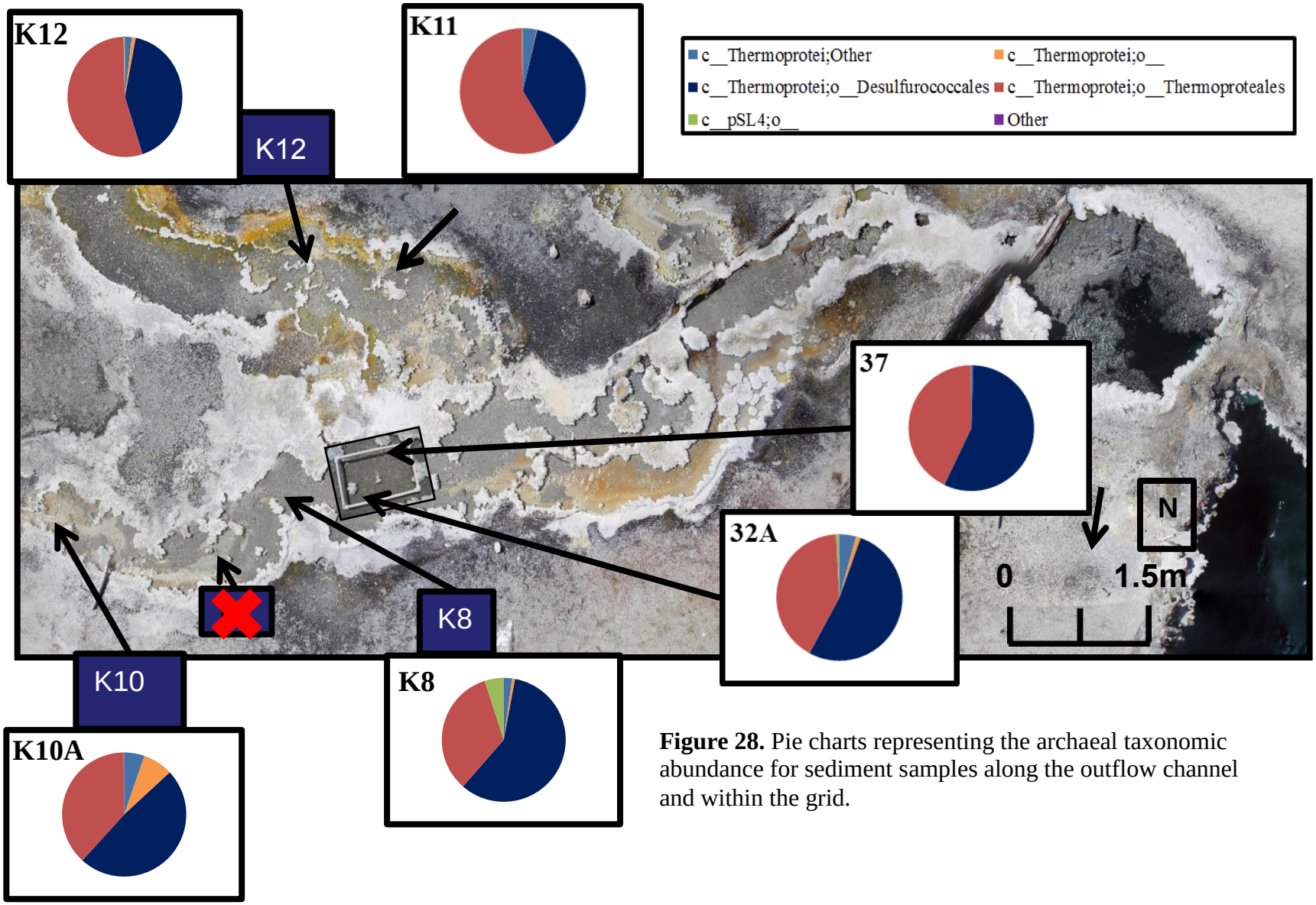


Figure 28. Pie charts representing the archaeal taxonomic abundance for sediment samples along the outflow channel and within the grid.

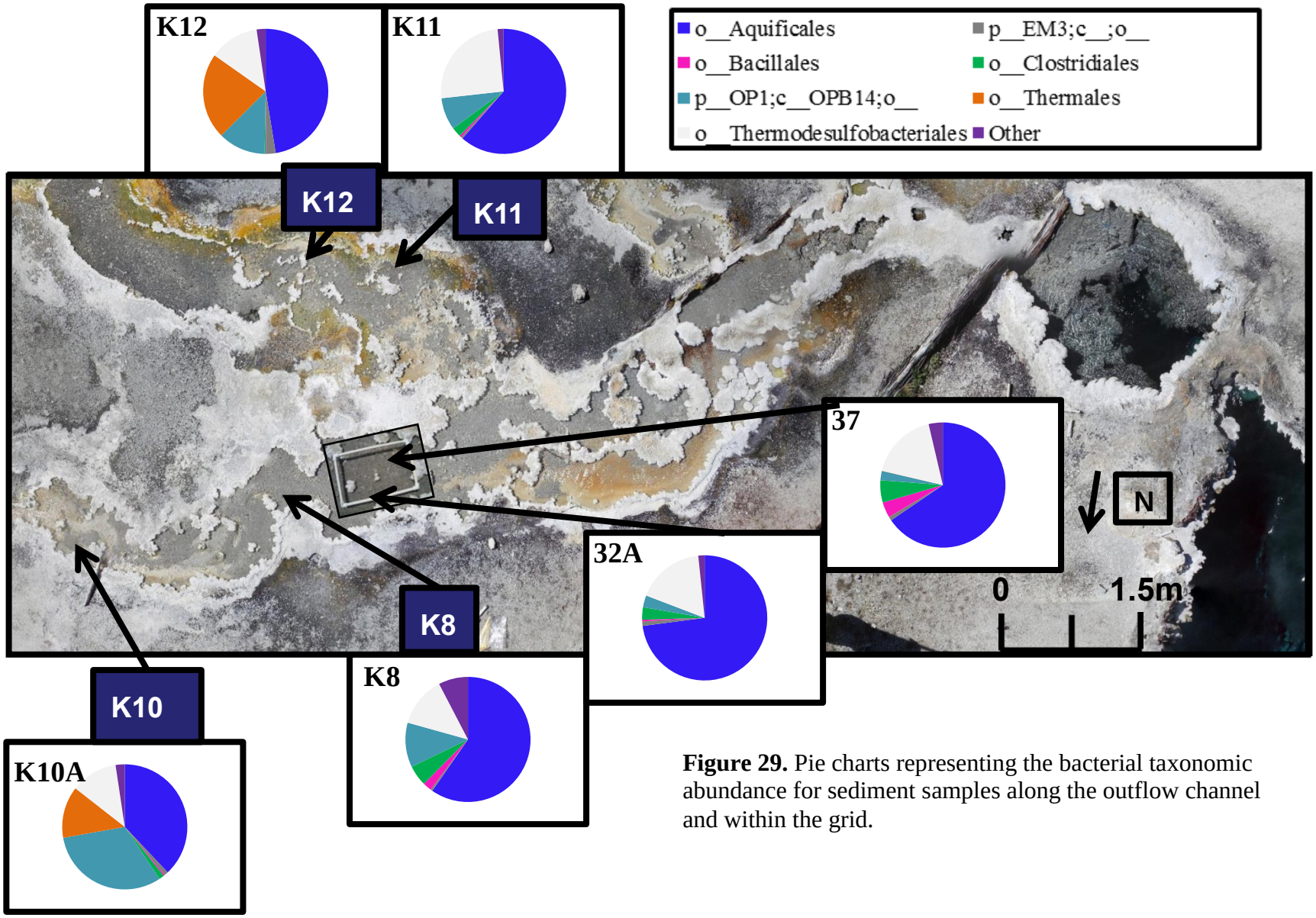


Figure 29. Pie charts representing the bacterial taxonomic abundance for sediment samples along the outflow channel and within the grid.

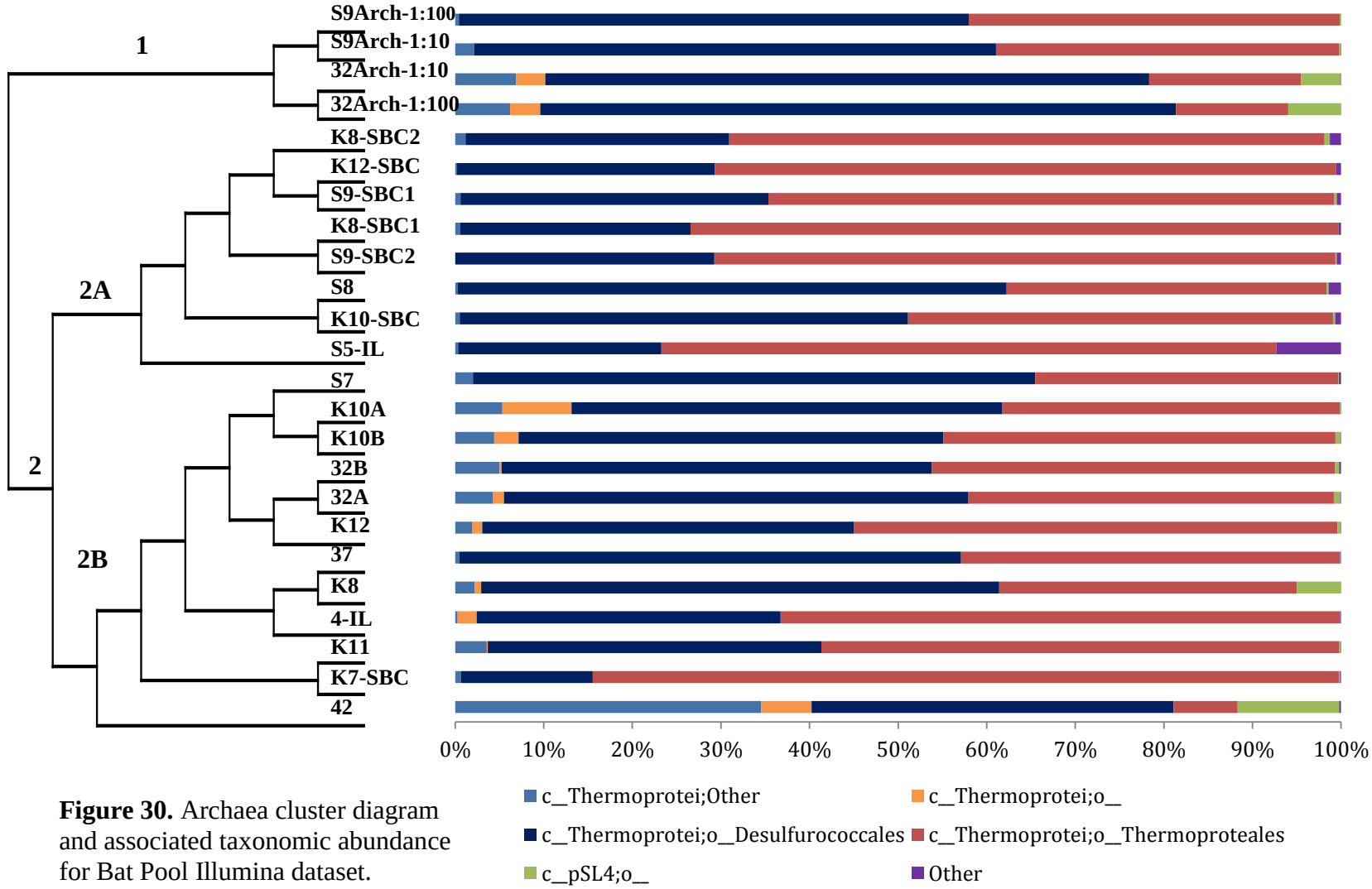


Figure 30. Archaea cluster diagram and associated taxonomic abundance for Bat Pool Illumina dataset.

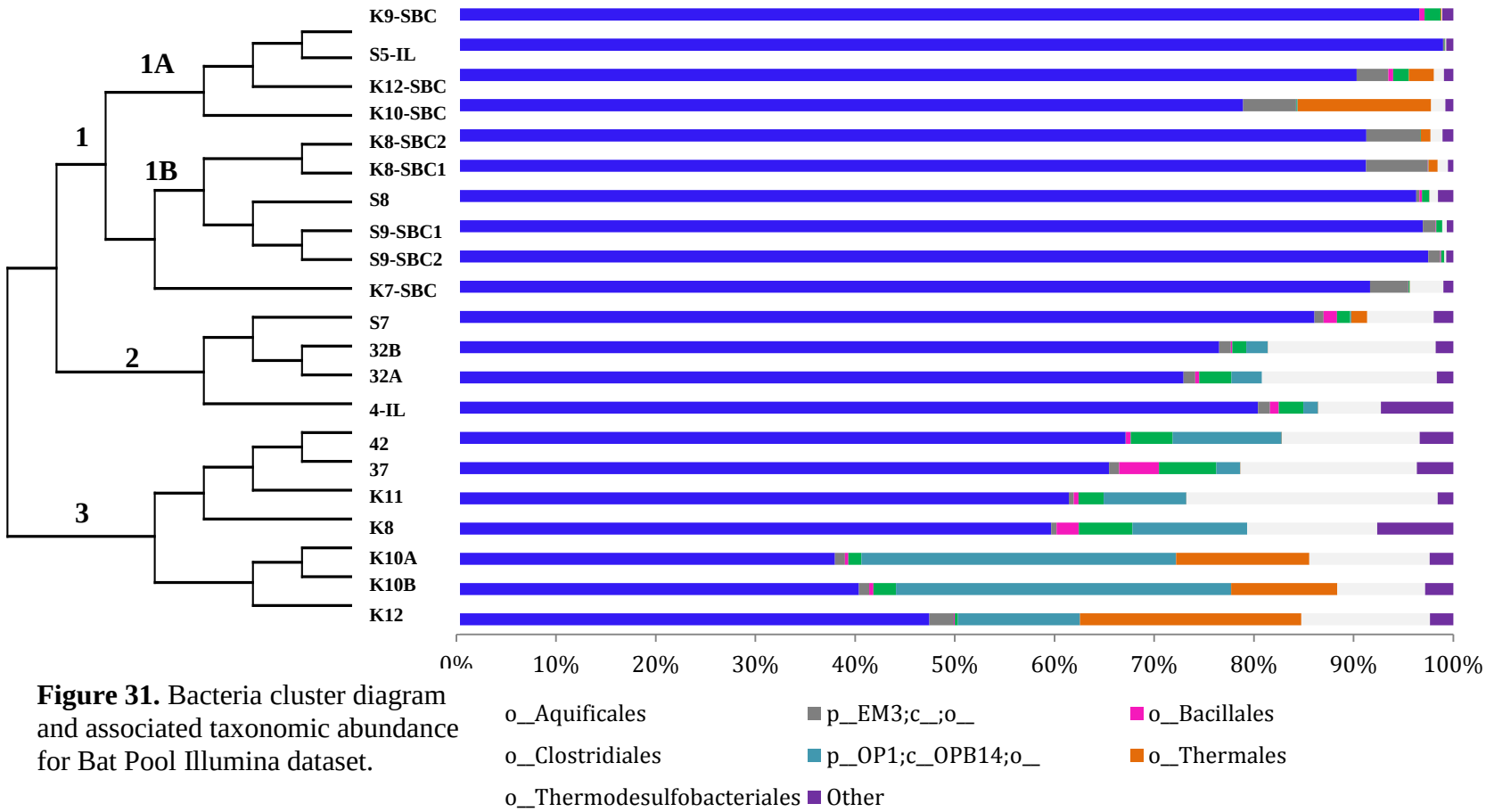


Figure 31. Bacteria cluster diagram and associated taxonomic abundance for Bat Pool Illumina dataset.

The taxonomic abundance data for the Multi-Basin Archaea and the Multi-Basin Bacteria datasets are presented in Figures 32 and 33 respectively. The cluster diagrams for these samples are presented in Figures 34 and 35.

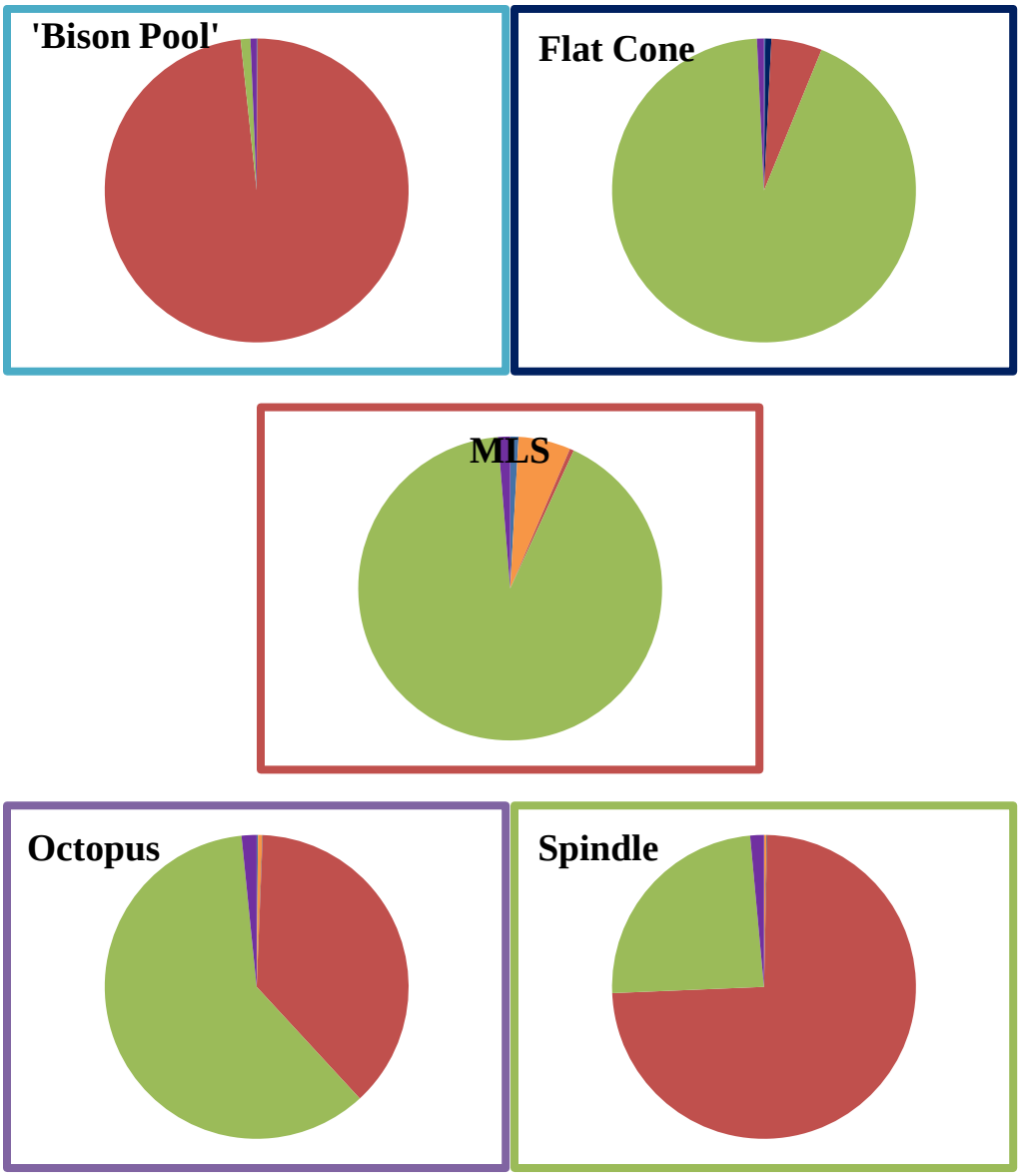


Figure 32. Multi-Basin Archaea dataset taxonomic abundance represented by pie charts. The borders on each pie chart correspond with the symbol color in Figure 6.

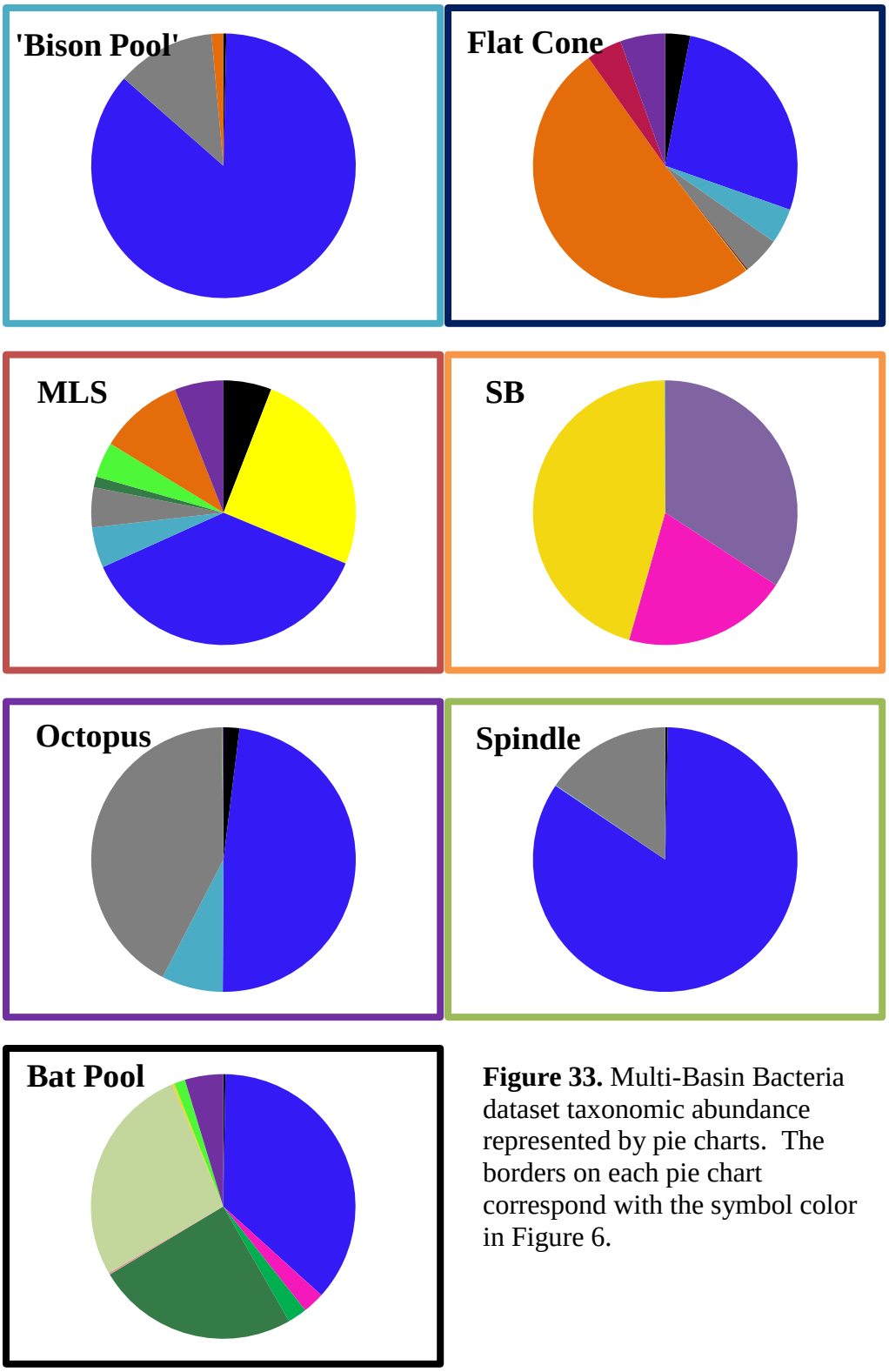


Figure 33. Multi-Basin Bacteria dataset taxonomic abundance represented by pie charts. The borders on each pie chart correspond with the symbol color in Figure 6.

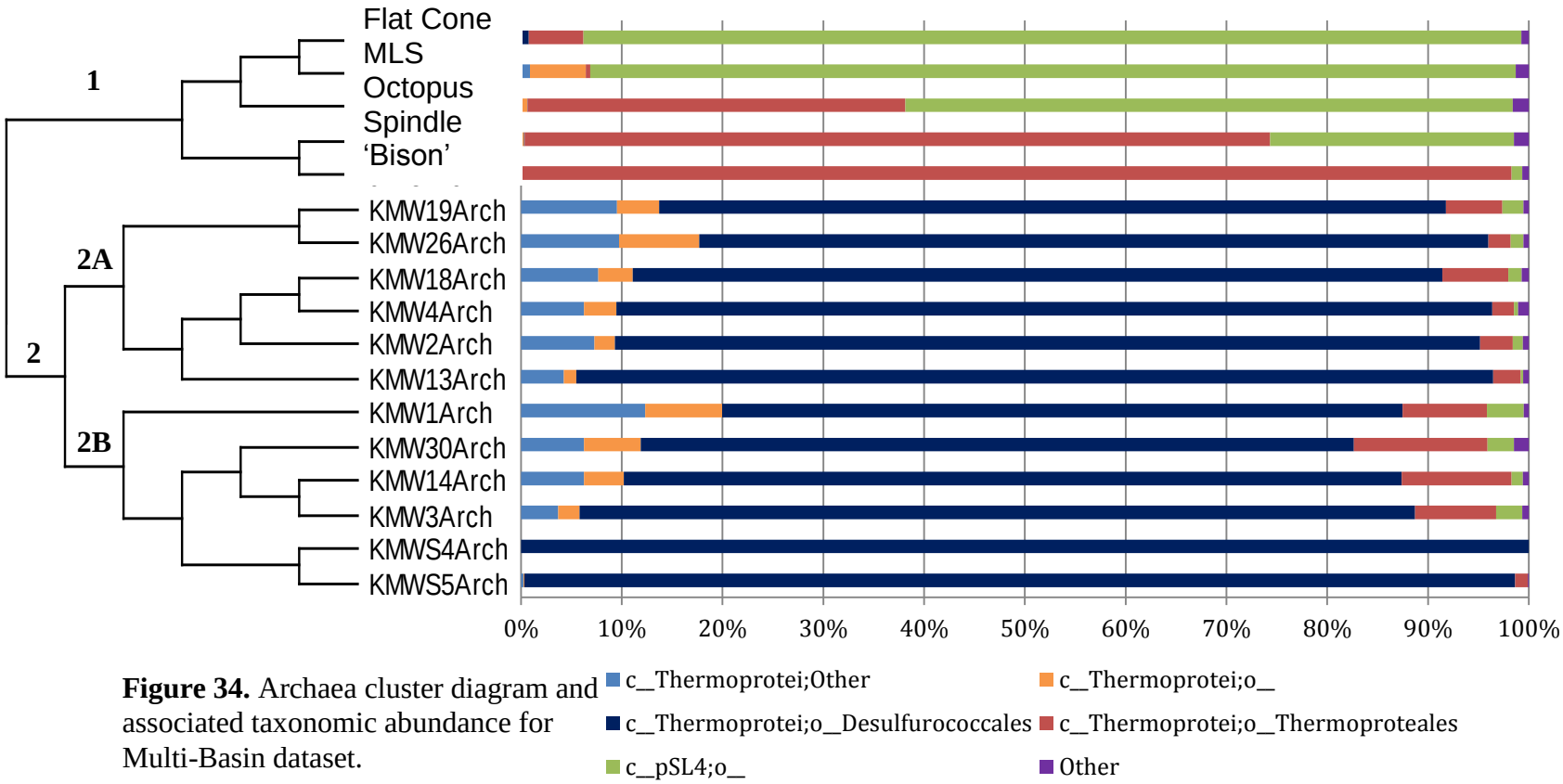


Figure 34. Archaea cluster diagram and associated taxonomic abundance for Multi-Basin dataset.

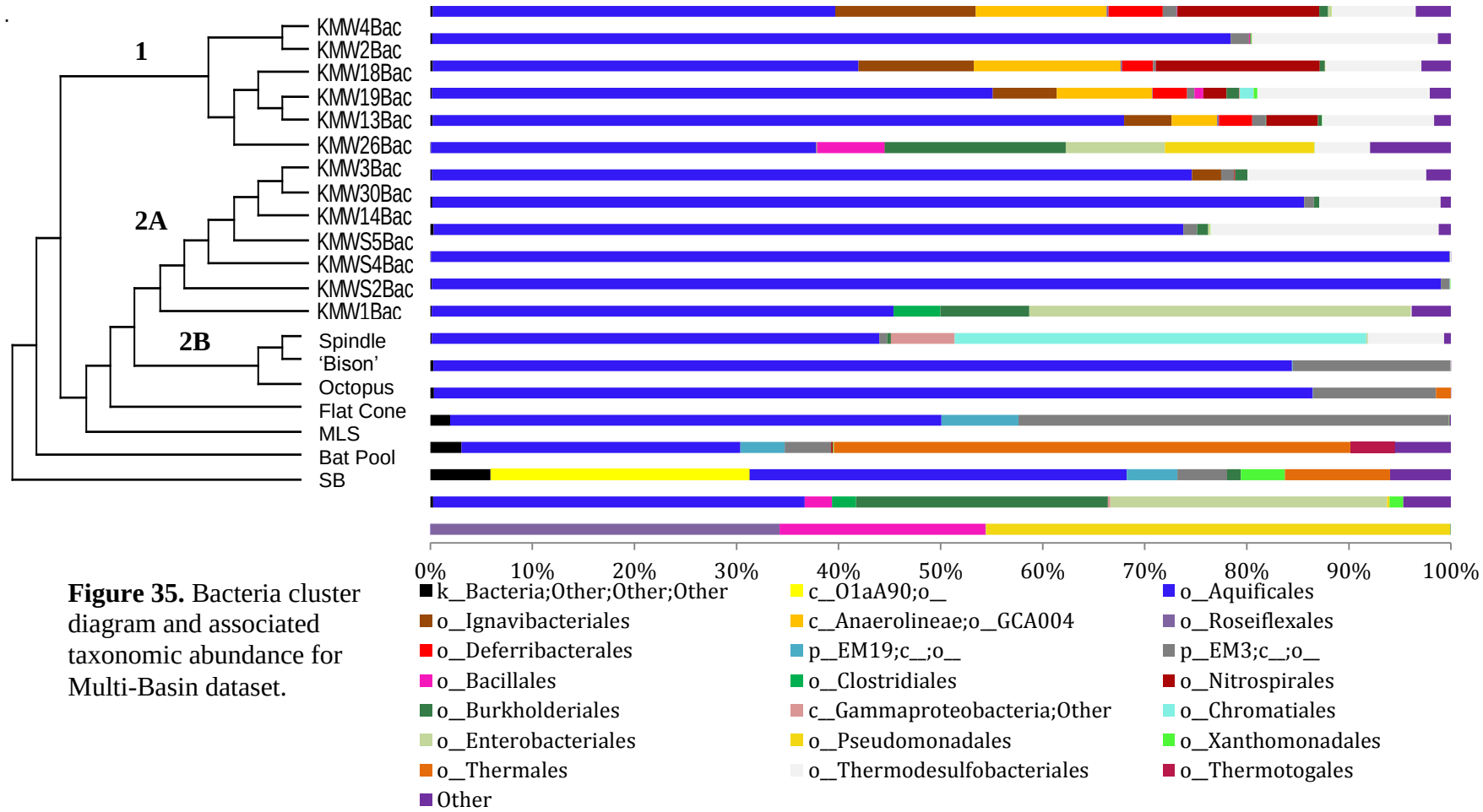


Figure 35. Bacteria cluster diagram and associated taxonomic abundance for Multi-Basin dataset.

C. Additional Biological Results

Additional biological results can be found in Appendices G-J. These consist of OTU heatmaps (Appendix G), the Core Microbiome Concept (Appendix H), Alpha Diversity Metrics (Appendix I), and Rarefaction curves (Appendix J). The OTU heatmaps allow the samples to be compared by their dominant OTUs. They can be used as an initial determination of whether the samples are taxonomically similar or different and whether the majority of the sequences in each sample belong to one OTU or are divided among multiple OTUs. The Core Microbiome data support the OTU heatmaps and visually depicts the number of OTUs shared across a certain percentage of samples in a dataset, illustrating that many OTUs are shared across the majority of samples, but very few OTUs are shared across all, or 100%, of the samples in a given dataset. The Alpha Diversity Metrics along with the Rarefaction curves allow for the calculation of diversity within each sample with different considerations. The Chao1 estimator predicts the estimated richness of the samples, and can be compared to the observed number of taxa as an indicator of over or undersampling. The Shannon index measures of how diverse the community is, with higher values representing a more diverse community. The Simpson index provides a measure of evenness across the samples and the Faith's Phylogenetic Diversity metric determines taxonomic diversity based on a phylogenetic tree. These different analyses demonstrate the diversity present within the Bat Pool community, both among the sediment and SBC samples, as well as compare the Bat Pool SBC community to other SBC communities across the park.

V. Discussion

A. Overview

Bat Pool is an alkaline hot spring which has a similar bulk geochemistry to that of other alkaline hot springs such as Octopus Spring and 'Bison Pool' as seen in Figure 20. Bat Pool had a similar bulk geochemistry over the two sampling seasons (Figure 16). Temperature fluctuations were observed in the sampling area by the microsensor arrays that were put in place at three of the sampling locations along the outflow channel. The temperature arrays demonstrated that there was variation in temperature over the grid sampling area; however, the temperature array closest to the source varied between 83-88°C, while the temperature array 40 cm downstream at Position 3 varied between ~83.5-86.5° showing little overall variation in temperature; the two conductivity arrays demonstrated there to be little variation within the grid sampling area as well. The source of the hot spring was measured to be 92° and over the course of the main outflow channel, the temperature dropped to 79.4° (Table VIII). The decrease in temperature along the outflow channel should influence the hot spring community with lower temperature sampling locations containing a wider variety of microorganisms present, particularly ones that may prefer cooler temperatures. Sulfide concentration shows a minor positive trend with temperature: sulfide values increase with increasing temperature (Figure 17); however, sulfide and temperature may not be as strongly correlated as expected, due to microbial activity down the outflow channel: biological oxidation of sulfide may account for the damped trend (Cox et al. 2011; Swingley et al., 2012). The flow rate of the source fluid was relatively constant throughout the sampling period with the exception of times when the flow would increase when there was a "surge" from the source. However, flow rate can be affected by silica sinter or foreign material such as branches present throughout the sampling area. Silica sinter

may cause certain nutrients to not be distributed as evenly as they would if the sinter were not there; microorganisms present around these silica sinters could likely have a different community than other areas of the outflow channel. On the level that we can geochemically measure, there is no way to determine the exact fluid packet or nutrients that each 5 x 5 cm sampling square would receive. All things aside, samples that are within close proximity to each other (e.g. 5 cm) would likely have very similar communities based on received the same nutrients from the source. However, in going downstream, the community would likely shift as a decrease in temperature occurs along with increased dissolved oxygen.

B. Microbial Diversity in Bat Pool at Small and Intermediate Spatial Scales

Small-Scale & Intermediate Scale OTU Heatmaps: The archaeal sequences for the Bat Pool grid samples (Table XXXI, Appendix G) are overwhelmingly assigned to Desulfurococcales (OTU 2736). The bacterial sequences are classified predominantly as Aquificales (OTU 3587 & 3431; Table XXXII). The grid samples have multiple (2-3) dominant OTUs (Simpson evenness values of 0.49-0.86). The Bat Pool outflow channel archaeal sequences predominantly fall within two main orders: Desulfurococcales (OTU's 3381 & 8058) and Thermoproteales (OTU 6547) (Table XXXIII). These are from the same phylum and class: Crenarchaeaota and Thermoprotei. The majority of the bacterial sequences are classified as Aquificales (OTU 5040) (Table XXXIV), with all but 2 samples (K10A&B, K12) dominated by this order. The next two major taxa represented are the class of uncultured organisms known as OPB14 (OTU 8459) and the order Thermodesulfobacteriales (OTU 8732). The class OPB14 is in highest abundance in reads from K10A & K10B (duplicates of the same sample). The outflow channel samples, particularly the sediment samples, display a greater diversity of OTUs having high sequence counts: K11, K10A&B, K10-SBC, K12, and K8 all have more than one OTU with

high sequence counts; these communities are also more even with Simpson evenness values of 0.59-0.75. There are also a few grid samples that display a wider range of diversity than the other grid samples: 42, 32A&B, and 37 (Simpson evenness values of 0.43-0.55). While the majority of the grid SBC samples resemble SBCs from the outflow channel, S2 has a different taxonomic composition, with half of its sequences classified as the order Enterobacteriales (OTU 227). As Enterobacteriales are not typically thermophilic organisms, it is likely that some animal-based material was trapped in the SBCs when DNA was extracted. This is a function that the SBCs serve, as a means to access nutrients (e.g., Meyer-Dombard et al., 2011; Swingley et al., 2012; Schubotz et al., 2013).

Small-Scale & Intermediate-Scale Archaeal Dataset: In looking at the grid samples, the two SBC samples S4 and S5 have very similar taxonomic composition as indicated by the bar charts and cluster analyses (Figures 22 and 24). The taxonomy for the remaining sediment samples all appears very similar regardless of the sample location as illustrated in Figure 22. In this figure, the samples are arranged by their relative positions within the sampling grid. The SBC samples S4 and S5 are outlined by green and the sediment samples are all outlined by black. Minor taxa fluctuate in percentage of the total community, but always represent a combined <30% of the community composition regardless of position in the grid. In comparing the Bat Pool grid samples to the Bat Pool outflow channel samples, the grid samples have a higher percentage of Desulfurococcales (67-100%) (ouflow channel samples: 15-63%) and a lower percentage of Thermoproteales (0-13%) than the Bat Pool outflow channel samples (7-84%; Figures 26 & 28) as illustrated in Figures 22, 26, and 28. However, it is important to note that these two orders are within the same class (Thermoprotei), and data are only disagreeing in

the percentages of each order that are present which may be related to read length of the different sequencing methods.

The Bat Pool outflow channel dataset allows for the taxonomic comparison of samples that were run in duplicate during the sequencing process: S9-SBC1 & 2, K8-SBC1 & 2, 32A & B, K10A & B, 32Arch-1:10 &1:100, and S9Arch-1:10 & 1:100. In looking at Figure 30, archaeal communities in duplicates of samples 32Arch and S9Arch (1:10 & 1:100) cluster together; these four samples comprise "Cluster 1". These samples have the highest number of archaeal reads for this dataset (20,240-40,655) because they were sequenced with archaeal PCR product rather than with universal primers. Samples 32Arch and S9Arch can be compared to 32A & B, and S9-SBC1 & 2 (sequenced using universal primers), to evaluate consistency of using different primer targets during sequencing. In general, the 32Arch and S9Arch samples have fewer Thermoproteales and more Desulfurococcales than 32A & B and S9-SBC1 & 2, and the samples pre-amplified with Archaea-specific primers are in a different cluster than those which used universal primers. Of the samples that were sequenced in duplicate, the sediment samples (K10A & B and 32A & B) cluster together well, but K8-SBC1&2, and S9-SBC1&2 duplicates are separated by a couple of nodes within Cluster 2A.

The SBC samples in Figure 30 group together in Cluster 2A with the exception of S7 and K7-SBC; all of the sediment samples group together in Cluster 2B. Even though the SBC samples do not cluster as closely together, taxonomically they have very similar archaeal community taxonomy. The samples are predominantly one of two archaeal orders, as seen previously in the OTU heatmaps (Table XXXIII): Desulfurococcales and Thermoproteales. Sample 42 appears to have distinct archaeal communities among the Bat Pool samples. These results indicate that while it is difficult to assess correlations between samples with the taxonomy

histograms, the UPGMA cluster analysis in Figure 30 illustrates that (with the exceptions noted above), archaeal community diversity in the SBCs and the sediments are different.

Figure 26 and Figure 28 contain pie charts for various outflow channel samples, illustrating whether there are taxonomic differences in archaeal diversity between downstream samples and samples within the grid sampling area, for the SBC samples (Figure 26) and the sediment samples (Figure 28). The SBC samples have variation between samples; however many samples taxonomically look very similar regardless of sampling location. Samples S7, S8, and S9Arch-1:10 all have very similar taxonomic diversity and K12-SBC, K8-SBC1, S9-SBC1, S5-IL, and K7-SBC all have very similar taxonomic diversity; K10-SBC has unique taxonomic distribution (Figures 26 & 30). Within sediment samples, the two middle outflow channel samples (K11 and K12) are taxonomically very similar (Figure 28). These two samples are also taxonomically similar to 4-IL (Figure 30). Within the grid sampling area, samples 37 and 32A are taxonomically similar (Figure 28). Sample 42 is distinctly different from all of the other samples within the sampling area, as also indicated in Figure 30; sample 42 does not closely cluster with any other samples. There does not appear to be any overriding pattern in archaeal diversity between the grid and the outflow channel samples, for either the sediment or SBC samples; Desulfurococcales and Thermoproteales, represented by the dark blue and pink colors in Figure 26 and Figure 28, fluctuate in dominance downstream.

Small-Scale & Intermediate-Scale Bacterial Dataset: In examining the bacterial SBC community on the small-scale level there is homogeneity of the two SBC samples S4 and S5 again; however, S2 is distinctly different from the other two SBC samples, as previously indicated by the OTU heatmap (Table XXXII). Bacterial communities in sediment samples 2, 3, 14, and 30 all are taxonomically similar, whereas the remaining sediment samples are variable in

community composition (Figure 23). Samples 1 and 2 are 10 cm apart within the grid, at the same point of flow, and have different community compositions (Bray Curtis dissimilarity of 0.9471), whereas samples 2 and 3 are taxonomically more similar (Bray Curtis dissimilarity of 0.7237) but are 15 cm apart; all three of these samples are along the same point of flow. Sample 4 has a high degree of dissimilarity with samples 1 and 2 (Bray Curtis dissimilarity values of 0.9650 and 0.4163, respectively), despite being physically within 5 cm of both of those samples. Samples 13 and 19 are taxonomically similar and are 10 cm apart in the grid. Samples 1, 26, and S2 appear to be the most taxonomically unique samples within the sampling grid. Together, these results demonstrate that even within a small sampling area there can be a great range of diversity, among bacterial samples. Further, there does not appear to be a pattern in community diversity or evenness based on position in the grid. Because samples within a small sampling area (such as 5-10 cm apart) are likely to receive the same fluid "packet" and thus have nearly identical environmental pressures, this bacterial diversity must be driven by other selection criteria.

In looking at the bacterial community of the outflow channel samples, the SBC samples (Cluster 1) and the sediment samples (Clusters 2 & 3) group together clearly, with the exception of S7 that, like in the archaeal outflow channel dataset, clustered with the sediment samples (Figure 31). The four pairs of duplicate samples all cluster together in this figure (K8-SBC1 & 2, S9-SBC1 & 2, 32A & B, and K10A & B) and are taxonomically similar, indicating that there is very little variation between duplicate samples. Figure 27 and Figure 29 allow for the determination of whether there are significant taxonomic differences in the Bacteria between downstream samples and samples within the grid sampling area, for the SBC samples (Figure 27) and the sediment samples (Figure 29). The SBC samples taken along the same column

within the grid (at the same point of flow), S5-IL, S8, and S9-SBC1 & 2, are taxonomically similar; K9-SBC is taxonomically very similar to these samples as well (Figure 31). Within the outflow channel, K7-SBC, K8-SBC 1 & 2, and K12-SBC are taxonomically similar. K10-SBC has a more diverse taxonomic distribution than the other SBC samples. There is much higher diversity in the sediment samples within the grid and along the outflow channel (Figure 29) than the SBC samples (Figure 27). The grid samples (32A & B, 4-IL, 37, and 42) are taxonomically similar to the outflow channel samples K11 and K8. K10A & B are taxonomically similar to K12, which is also indicated in Figure 31 where they group together (Cluster 3). Within this bacterial outflow channel dataset, downstream trends in community composition are apparent. Figure 29 shows a decrease in the abundance of Aquificales downstream (with the exception of sample 4-IL), while OPB14 increases in abundance downstream. Samples K10A & B and K12 which are farthest downstream and the coolest sampling locations have different community compositions from their upstream neighbors. Thermales (10-22%) and OPB14 (12-33%) have higher taxonomic abundances among these three samples than among the other samples in this dataset (0-2% Thermales and 0-11% OPB14), while Clostridiales and other miscellaneous uncultured bacteria decrease in abundance, demonstrating a change in community with downstream flow. The Thermodusulfobacteriales vary little downstream, indicating that these organisms have a wider tolerance of environmental conditions than other taxa found here. Figure 27 also shows a decrease in Aquificales downstream with an increase in Thermales, particularly at K10.

C. <u>Large-Scale (Multi-Basin) Biodiversity</u>

Multi-Basin OTU Heatmaps: In looking at the OTU heatmap that compares the Bat Pool archaeal community within the sampling grid to the archaeal community observed at the

five samples locations that were part of the Multi-Basin study: Flat Cone, Spindle Geyser, Octopus Spring, 'Mitch's Last Stand', and 'Bison Pool', a different second class of Archaea is found in all five multi-basin samples (Table XXXV, Appendix G), pSL4 (OTU 918), which refers back to a sample originally found at Obsidian Pool (Barns et al., 1996). The Thermoproteales (OTU 969) are also a dominant order in the multi-basin samples. The samples are split between the dominant OTU found: Flat Cone, 'Mitch's Last Stand', and Octopus Spring are predominantly comprised of pSL4, whereas Spindle Geyser and 'Bison Pool' are predominantly made up of Thermoproteales. The Thermoproteales are a class of Crenarchaea that are known to metabolize sulfur-bearing species coupled to organic compound oxidation, in the laboratory. It is possible that similar metabolic schemes are used in these natural systems, as suggested by metagenomic reads acquired from SBCs at 'Bison Pool' (Swingley et al., 2012). There are no organisms cultured from pSL4 at this time, so the potential metabolism of this taxa is unknown.

The locations of the five multi-basin samples can be found in Figure 6. Flat Cone, 'Bison Pool', and 'Mitch's Last Stand' are all in the Lower Geyser Basin; however, 'Bison Pool' has a different taxonomic signature than Flat Cone and 'Mitch's Last Stand'. Octopus Spring and Spindle Geyser are both in the White Creek thermal area, also in the Lower Geyser Basin, but have different taxonomic signatures. Thus, the taxonomy of Archaea in SBC samples does not appear to be geographically related, on this scale in alkaline hot spring ecosystems of Yellowstone National Park. This statement is further supported by analysis of Figure 34, as discussed in the next section.

The Bat Pool & Multi-Basin dataset allows for the comparison between Bat Pool and the other SBC communities across the park. Table XXXV (Appendix G) shows that the dominant

OTUs are not shared between Bat Pool and the other YNP sample locations; pSL4 (OTU 663) and the genus *Pyrobaculum* (order Thermoproteales, OTU 1678) are the dominant OTUs for the multi-basin samples and the order Desulfurococcales (OTU 3399) is the main OTU for the Bat Pool samples.

In looking at the Bacteria, the multi-basin samples have multiple dominant OTUs (Simpson evenness values of 0.73-0.89) as seen in Table XXXVI (Appendix G). In addition, this dataset contains two samples, Bat Pool and SB, with unique OTUs (not shared among other samples). This OTU heatmap highlights that the multi-basin samples have a different taxonomic composition than the Bat Pool samples.

Multi-Basin Archaeal & Bacterial Dataset: As established in the OTU heatmap discussion, both bacterial and archaeal community composition in SBCs from the multi-basin samples are distinctly different than the other samples in this study (Figures 34-35). As seen in Figures 32 and 34, the class pSL4 comprises majority (92-93%) of the Flat Cone and 'Mitch's Last Stand' sequences, which cluster together. The 'Bison Pool' sample consists mostly of Thermoproteales (98%), which more closely resembles some of the Bat Pool outflow channel samples. These SBCs were taken from five different hot springs throughout the park with their own unique geochemistry and microhabitats/niches/environments as illustrated in Figure 6. However, as previously indicated in Figure 20, Bat Pool, Octopus Spring, and 'Bison Pool' have relatively similar bulk geochemistry which indicate that they likely have a similar process of origin for their hydrothermal fluids although they may vary in the degree and consistency of organic input from exogenous sources.

Similarly, the bacterial composition of the multi-basin samples shows a great deal of diversity as illustrated in Figures 33 and 35. As previously seen in the OTU heatmaps, the SB

sample has a unique community, which it does not share with the other SBC samples. The Spindle Geyser and 'Bison Pool' samples resemble K8-SBC1 & 2 from the Bat Pool outflow channel samples; with a higher percentage of the phylum EM3: 12-15% for the Spindle Geyser and 'Bison Pool' samples versus 5-6% for K8-SBC1 & 2. The other SBC samples in this dataset are very different in taxonomic composition than the Bat Pool SBCs.

In comparing the Bat Pool samples with the multi-basin samples (Figures 34 and 35), it is readily apparent that the two datasets are quite different, especially for the Archaea. As seen in both Figure 34 and Figure 35, the Bat Pool grid samples cluster together and the multi-basin samples cluster together. The multi-basin archaeal samples do not taxonomically resemble any of the Bat Pool samples, even the SBCs. However, as seen in Figure 35, S2 and the multi-basin Bat Pool sample taxonomically resemble each other.

D. <u>Core Microbiome</u>

The Core Microbiome (Figure 36 & Table XXXVII, Appendix H) is closely associated with of the discussion of OTU heatmaps and highlights how few OTUs are shared across all of the samples in a particular dataset. Figure 36 shows the number of OTUs shared over 50-100% of the samples, for each of the various datasets. For both Archaea and Bacteria there is a decreasing trend in the number of OTUs shared between datasets as higher percentages of samples are considered; very few samples have a common OTU shared with the rest of the samples. The combined archaeal dataset for the Bat Pool & Multi-Basin data does not have any OTUs shared across 75-100% of the samples. This is somewhat to be expected given that these two datasets combine samples from across Yellowstone, over a large scale. Also, the multi-basin bacterial samples include Bat Pool and SB, which do not share many OTUs among other samples, if any. Among the Bat Pool grid and outflow channel datasets there are 6-17 OTUs that

are shared across 100% of the samples. The Bat Pool bacterial datasets (grid and outflow channel datasets) contain more OTUs (16-17) shared across 100% of the samples than the archaeal datasets (6-9), indicating that the bacterial samples have a wider diversity found commonly at all locations (more OTUs) than the archaeal samples. The bacterial datasets have more OTUs than the archaeal datasets at each percentage level with the exception of the Multi-Basin Bacteria dataset.

E. <u>Alpha Diversity</u>

The alpha diversity metrics for this study were conducted using the entire dataset, rather than subsampling, because some samples had substantially more sequences than others. For instance, one sample had 67,050 sequences, while another sample only had 2,398 sequences. Subsampling at 2,200 sequences for instance would mean only using 3% of the dataset for sample with the substantially larger number of sequences. Calculating the alpha diversity metrics using the entire dataset means that the number of observed OTUs is not directly comparable given that the samples vary in their number of sequences. However, the Chao1 estimator affords a comparison between the predicted number of OTUs per sample. In addition, the "coverage" calculation, a ratio of the number of observed OTUs and the Chao1 estimator, indicates how well the number of observed OTUs represents the estimated diversity of the dataset. In looking at the observed number of OTUs, the Chao1 estimator, and the "coverage" columns of Table XXXVIII (Appendix I), a trend becomes clear: the Chao1 estimator numbers are always higher than the observed number of OTUs, indicating that a deeper sampling would better represent the entire diversity of these communities. However, the Multi-Basin Bacteria dataset has high values for the coverage column (64-83%), indicating that these samples represent a higher proportion of the predicted diversity than the other datasets. This is due to the

fact that Multi-Basin bacterial dataset samples have a lower number of singlets (OTUs only observed once) than most of the other samples (see 'percent singles' column of Table XXXVIII). The number of singlets present in a sample affects the Chao1 calculation. The Multi-Basin Bacteria dataset has 'Percent Single' values that range from 29-41% whereas, for example, the Bat Pool Illumina dataset has 'Percent Single' values in the 50-70% range.

The Shannon index is used to measure overall diversity of the community. These values remain the same whether the entire dataset is used or if a subsampled dataset was used (see Figures 37-40, Appendix J). In the Bat Pool Illumina Archaea dataset, sample 42 (a grid sediment sample) has particularly high Shannon (4.48) and Simpson indices (0.90), indicating higher diversity than the other samples, as well as high evenness. In the Bat Pool Illumina Bacteria dataset, K10A&B and K12 have higher Shannon indices than the other samples (2.86, 2.95, and 2.87 respectively), representing a more diverse community as previously discussed (OTU heatmaps, Table XXXIV).

The Simpson index (1-Dominance) can be used as a measure of evenness. Evenness indices range in value from 0-1, where a low evenness value indicates a community where the species differ widely in abundance, while a high evenness value indicates a community where each species is equally abundant (Smith & Wilson, 1996). The Multi-Basin Bacteria dataset has high evenness values (0.73-0.89) indicating that the species are more equally abundant (also, Table XXI) because most of the samples have two or more dominant OTUs. This can be contrasted with the Bat Pool Illumina Bacteria dataset (Table XXXVI), or Bat Pool 454 Pyrotag Archaea dataset (Table XXXI) where majority of the samples have one main OTU, as indicated in the lower evenness values for these datasets (as low as 0.12).

Faith's Phylogenetic Diversity (PD) is a diversity index based on a phylogenetic analysis, which adds the branch lengths of a phylogenetic tree as a measure of diversity. Faith (1992) defines Phylogenetic Diversity as "the sum of the lengths of all those branches that are members of the corresponding minimum spanning path". Typically, larger PD values indicate greater potential for future diversity. The Bat Pool Illumina Bacteria dataset has noticeably higher PD values than the Bat Pool Illumina Archaea dataset because the Bacteria have a wider range of OTUs than Archaea.

F. Bat Pool 2011 vs. 2012

Two samples were successfully sequenced via 454 Pyrotag Sequencing and Illumina sequencing: samples 4 and S5. In looking at Figure 41, it is apparent for the Archaea, that these two methods are not comparable. However, it should also be noted that S5-IL only had 288 sequences, and with deeper sequencing the community comparisons may become more equivalent. For the Bacteria, the SBC results appear to be comparable as shown in Figure 41: S5 (99.78% Aquificales) and S5-IL (98.99% Aquificales). Sample S5-IL had 31,414 sequences classified as Bacteria, perhaps allowing for a better comparison of these two methods for this particular sample for Bacteria rather than for Archaea. Sample 4 and 4-IL still look rather incongruous though; especially given that sample 4 has a much wider variety of order level taxa.

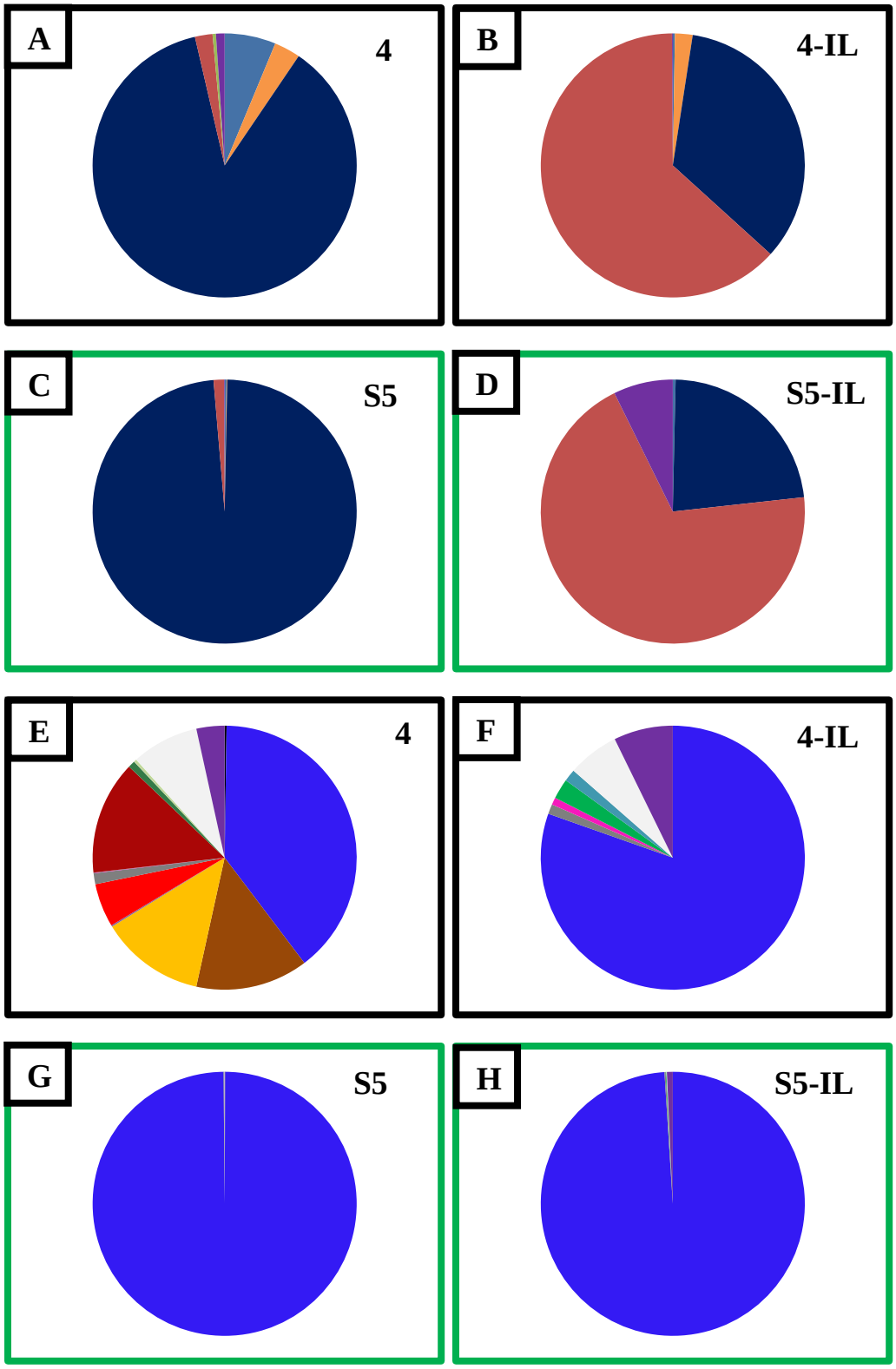


Figure 41. Comparison of 454 pyrotag sequencing and Illumina sequencing for samples 4 and S5 for Archaea (A-D) and Bacteria (E-H).

G. Comparison to Previous YNP Studies

In looking at the microbial communities present within this study, it can be seen that the main taxonomic groups present in both the archaeal and bacterial datasets are similar to other YNP studies. Aquificales are present across all bacterial samples, both SBC and sediment samples, with the sole exception of SB from the Multi-Basin dataset. Previous studies in Yellowstone have identified Aquificales as a dominant presence among sediment and SBC communities (Reysenbach et al., 1994; Hugenholtz et al., 1998; Huber et al., 1998; Meyer-Dombard et al., 2005; 2011, among others). Desulfurococcales and Thermoproteales, the two main orders for the archaeal communities have been observed in previous studies as well (Meyer-Dombard et al., 2005). The class pSL4, one of the main taxonomic assignments for the Multi-Basin dataset, has been observed in a previous study at Obsidian Pool (Barns et al., 1994). The role of the Aquificales in sediments and SBCs is under debate. Early work suggested that these organisms oxidize hydrogen gas aerobically (e.g., Reysenbach et al., 1994; Huber et al., 1992, 1998; Spear et al., 2005). While Aquificales in natural Yellowstone ecosystems have been shown to have the genetic capacity for carbon fixation fueled by sulfide and/or hydrogen oxidation (Swingley et al., 2012), recent work has shown that the Aquificales are mixotrophs that can switch between autotrophy and heterotrophy as needed (Jahnke et al., 2001; Schubotz et al., 2013). This metabolic flexibility may explain the ubiquitous nature of the Aquificales across the sample locations analyzed here.

VI. Conclusions

This study investigates the diversity of Bat Pool, an alkaline hot spring, in Yellowstone National Park at multiple spatial scales over two different sampling years, looking at the taxonomic diversity between sediment and SBC samples within a 30 x 50 cm sampling grid and along two outflow channels: the main outflow channel and the middle outflow channel.

At small spatial scales, within the Bat Pool sampling grid, there is little variation in Archaea, regardless of sample type or sequencing method. Most taxa identified belong to the Thermoproteales or Desulfurococcales within the class Thermoprotei. There is a great deal of observed variation in Bacteria, regardless of sample type or sequencing method. Position in sampling grid did not correlate with community variation. This diversity cannot be explained by environmental pressures afforded by fluid chemistry, unless it is smaller-scale variation in DOC.

At intermediate spatial scales, along the outflow channel of Bat Pool, no particular pattern is observed in archaeal community structure regardless of sample type, but within the Illumina dataset there are clear downstream trends in the bacterial community, with taxa switching to those that prefer slightly cooler temperatures downstream.

At large, multi-basin, scales there does not seem to be an obvious pattern in community structure that is basin-specific. Further, there is substantial variation in these SBCs relative to those at Bat Pool. There is a possibility that methodological bias is preventing useful comparison, especially given that the Multi-Basin Bat Pool sample was taxonomically different from the Bat Pool Illumina and 454 Pyrotag SBC samples. The temperature measurements for these samples range from 74-92°C, which falls within the range of temperatures that samples were taken at Bat Pool (78-91°C) demonstrating that variation does not appear to be driven by

temperature. Overall there is greater diversity in the bacterial communities than the archaeal communities and sediment and SBC communities differ from each other.

This study emphasizes the importance of sample location and how much variation there can be in taxonomic diversity at scales as small as even 5 cm. Many studies conducted within Yellowstone have taken a single sample as representative of the hot spring community, which this study shows is not necessarily the case, even within a Bat Pool, a hot spring where the temperature and geochemical variations within the grid sampling area do not vary substantially. Future researchers would obtain a more accurate understanding of the hot spring community by taking multiple samples from the same area, rather than considering one sample representative of the community.

APPENDICES

APPENDIX A

Table IX
QIIME DATA PROCESSING

Step	**Command**	**Input Files; Additional Command Lines**
Step 1: Pick OTUs	pick_otus.py	-i seqs.fna [fasta file with sequences] output directory: uclust_picked_otus
Step 2: Pick representative set of sequences	pick_rep_set.py	-i uclust_picked_otus/seqs_otus.txt [.txt format] -f seqs.fna [fasta file with sequences] -m most_abundant -o rep_set.fna [output file; .fna format]
Step 3: Assign Taxonomy	assign_taxonomy.py	-i rep_set.fna -o taxonomy_results_date/ [--rdp_max_memory 40000] → allots more memory
Step 4A: Making an OTU table	make_otu_table.py	-i uclust_picked_otus/seqs_otus.txt -t taxonomy_results_date/rep_set_tax_assignments.txt -o otu_table.biom
Step 4B: Convert OTU table	convert_biom.py	-i otu_table.biom -o otu_table_tabseparated.txt -b --header_key taxonomy --output_metadata_id "Consensus Lineage"
Step 5: Separating Bacteria and Archaea	split_otu_table_by_taxonomy.py	-i otu_table.biom -L1 -o taxon_specific_otus/L1/
Step 6A: Filter out low coverage samples	filter_samples_from_otu_table.py	-i taxon_specific_otus_date/L1/otu_table_k__Archaea.biom -o otu_table_just_Archaea_date.biom -n 50 [minimum observation count to retain the sample]
Step 6B: Convert OTU table	convert_biom.py	-i otu_table_just_Archaea_date.biom -o otu_table_tabseparated_just_Archaea_date.txt -b --header_key taxonomy --output_metadata_id "Consensus Lineage"
Step 7A: Summarize Taxonomy	summarize_taxa.py	-i otu_table_just_Archaea_date.biom -o taxonomy_summaries_just_BacArch_date/

APPENDIX A (continued)

Step	Command	Input Files; Additional Command Lines
Step 7B: Plot Taxonomy	plot_taxa_summary.py	-i taxonomy_summaries_just_BacArch_date/ otu_table_just_Archaea_date_L4.txt → L4: order level -o taxonomy_plot_L4/Archaea/
Step 8: Make OTU Heatmap	make_otu_heatmap.html.py	-i otu_table_just_Archaea_date.biom -o otu_heatmap_date/Archaea_Heatmap/
Step 9: Align Sequences	align_seqs.py	-i rep_set.fna -o alignment_date/
Step 10: Make Phylogeny	make_phylogeny.py	-i alignment_date/rep_set_aligned.fasta -o rep_set_tree_date.tre*
Step 11: Alpha Diversity	alpha_diversity.py	-i otu_table_just_Archaea_date.biom -o alpha_allmetrics_date_Archaea.txt -m chao1,dominance,observed_species,osd,shannon,simpson, PD_whole_tree -t rep_set_tree_date.tre*
Step 12: Beta Diversity	beta_diversity.py	-i otu_table_just_Archaea_date.biom -m bray_curtis,unweighted_unifrac,weighted_unifrac -o beta_div_Archaea_date/ -t rep_set_tree_date.tre*
Step 13: UPGMA Cluster	upgma_cluster.py	-i beta_div_Archaea_date/ bray_curtis_otu_table_just_Archaea_date.txt [unweighted_unifrac_otu_table_just_Archaea_date.txt] [weighted_unifrac_otu_table_just_Archaea_date.txt] -o beta_div_cluster_Archaea_bray_curtis_date.tre* [-o beta_div_cluster_Archaea_unweighted_unifrac_date.tre] [-o beta_div_cluster_Archaea_weighted_unifrac_date.tre]
Step 14: Core Microbiome	compute_core_microbiome.py	-i otu_table_just_Archaea_date.biom -o otu_table_core_Archaea_date
Step 15A: Generate Rarefied OTU Tables	multiple_rarefactions.py	-i otu_table_just_Archaea_date.biom -m 600 [19000] -x 2000 [45000] -s 100 [1000] -n 10 [Bacteria] -o rare_600-2000[19000-45000]_date/

APPENDIX A (continued)

Step	**Command**	**Input Files; Additional Command Lines**
Step 15B: Alpha Diversity on Rarified OTU tables	alpha_diversity.py	-i rare_600-2000[19000-45000]_date/ -o alpha_rare_600-2000[19000-45000]_date/ -t rep_set_tree_date.tre -m chao1,dominance,osd,shannon,simpson,PD_whole_tree
Step 15C: Collate Alpha Diversity Results	collate_alpha.py	-i alpha_rare_600-2000[19000-45000]_date/ -o alpha_collated_ 600-2000[19000-45000]_date/
Step 15D: Generate Alpha Rarefaction Plots	make_rarefaction_plots.py	-i alpha_collated_ 600-2000[19000-45000]_date/ -m uic_mapping_kmw.txt [mapping file for dataset] -o rarefaction_plots_date/
*can view tree files in various programs such as Topiary Explorer and TreeViewX **all files that have “Archaea” in them were also run with “Bacteria”		

APPENDIX B

Microsensor Temperature Array Data
Collected by Jon Oiler from Arizona State University

TABLE X
TEMPERATURE ARRAY DATA FOR POSITION 1

Position 1: Time (X) vs. Temperature (Y)														
X	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	**Y11**	**Y12**	**Y13**	**Y14**
0	86.68	86.66	86.59	86.58	86.48	86.53	86.71	86.48	86.00	85.83	86.96	87.05	87.12	87.70
0.5	86.58	86.61	86.55	86.56	86.50	86.57	86.74	86.52	86.06	86.00	87.13	87.07	87.32	87.75
1	86.57	86.58	86.52	86.54	86.51	86.55	86.71	86.40	86.09	86.11	87.22	87.07	87.30	87.73
1.5	86.64	86.58	86.57	86.56	86.53	86.55	86.71	86.35	85.97	86.10	87.25	87.04	87.32	87.72
2	86.70	86.70	86.60	86.53	86.51	86.60	86.73	86.33	86.03	86.08	87.29	87.12	87.32	87.74
2.5	86.65	86.58	86.50	86.48	86.46	86.52	86.63	86.31	85.99	86.03	87.30	87.14	87.31	87.77
3	86.61	86.61	86.54	86.46	86.43	86.47	86.67	86.30	85.99	86.00	87.34	87.17	87.17	87.75
3.5	86.65	86.65	86.57	86.51	86.43	86.46	86.65	86.37	86.08	85.96	87.33	87.06	87.16	87.74
4	86.68	86.75	86.59	86.59	86.49	86.47	86.62	86.40	86.10	85.90	87.17	87.11	87.16	87.77
4.5	86.69	86.72	86.67	86.65	86.55	86.55	86.65	86.38	86.10	85.93	87.23	87.16	87.45	87.68
5	86.75	86.76	86.67	86.69	86.59	86.50	86.65	86.45	86.17	85.95	87.23	87.15	87.16	87.70
5.5	86.80	86.79	86.70	86.69	86.58	86.53	86.66	86.48	86.27	86.02	87.12	87.06	87.16	87.74
6	86.83	86.82	86.67	86.67	86.59	86.53	86.69	86.51	86.40	86.03	86.85	87.02	87.16	87.68
6.5	86.68	86.67	86.60	86.65	86.60	86.55	86.70	86.51	86.34	85.97	86.84	86.98	87.32	87.75
7	86.57	86.45	86.49	86.51	86.51	86.57	86.71	86.52	86.17	85.91	86.85	87.03	87.16	87.75
7.5	86.58	86.58	86.55	86.55	86.52	86.52	86.69	86.47	86.07	85.86	87.02	87.11	87.31	87.74
8	86.66	86.65	86.59	86.59	86.52	86.52	86.68	86.43	85.98	85.76	87.02	87.18	87.31	87.80
8.5	86.66	86.65	86.55	86.52	86.50	86.50	86.68	86.43	86.04	85.80	86.90	87.19	87.16	87.83
9	86.62	86.58	86.50	86.54	86.49	86.50	86.69	86.40	86.10	85.90	86.88	87.08	87.16	87.79
9.5	86.60	86.58	86.50	86.52	86.45	86.52	86.68	86.47	86.24	85.99	86.89	87.05	87.31	87.83
10	86.58	86.54	86.51	86.53	86.43	86.48	86.67	86.42	86.35	85.97	86.91	87.04	87.32	87.91
10.5	86.62	86.62	86.53	86.54	86.49	86.52	86.65	86.45	86.43	85.93	86.92	87.16	87.45	87.86
11	86.68	86.71	86.59	86.57	86.50	86.52	86.70	86.48	86.44	85.86	86.93	87.22	87.45	87.76
11.5	86.67	86.71	86.60	86.65	86.57	86.60	86.71	86.46	86.36	85.75	86.99	87.10	87.46	87.82
12	86.72	86.69	86.62	86.61	86.52	86.62	86.73	86.50	86.18	85.75	86.90	86.92	87.16	87.81
12.5	86.60	86.56	86.56	86.58	86.52	86.55	86.65	86.54	86.08	85.76	86.77	86.86	87.45	87.83
13	86.55	86.61	86.57	86.59	86.50	86.57	86.68	86.55	86.08	85.77	86.80	87.03	87.32	87.78
13.5	86.59	86.63	86.56	86.59	86.49	86.55	86.65	86.48	86.02	85.80	86.82	87.08	87.31	87.83
14	86.60	86.56	86.46	86.52	86.48	86.50	86.70	86.30	85.97	85.80	86.76	86.99	87.45	87.80
14.5	86.52	86.49	86.49	86.54	86.49	86.51	86.72	86.36	85.88	85.78	86.78	86.98	87.33	87.88
15	86.50	86.50	86.46	86.51	86.40	86.47	86.58	86.45	85.88	85.80	86.85	87.06	87.16	87.89
15.5	86.63	86.58	86.52	86.54	86.42	86.51	86.58	86.37	85.92	85.92	86.85	86.98	87.47	87.93
16	86.68	86.66	86.55	86.53	86.48	86.52	86.58	86.28	85.98	85.96	86.97	87.09	87.47	87.93

16.5	86.60	86.63	86.53	86.53	86.50	86.53	86.57	86.29	85.97	86.01	87.21	87.22	87.17	87.95
17	86.60	86.63	86.50	86.52	86.54	86.55	86.63	86.32	85.99	85.95	87.31	87.26	87.46	87.88
17.5	86.61	86.58	86.48	86.52	86.53	86.57	86.67	86.43	85.95	85.88	87.29	87.12	87.17	87.91
18	86.59	86.56	86.45	86.49	86.36	86.53	86.68	86.51	85.97	85.73	87.09	86.99	87.31	87.86
18.5	86.56	86.58	86.46	86.51	86.35	86.47	86.63	86.54	86.24	85.80	87.07	87.12	87.31	87.89
19	86.64	86.61	86.57	86.55	86.47	86.45	86.64	86.55	86.10	85.87	87.19	87.19	87.17	87.94
19.5	86.62	86.60	86.52	86.56	86.47	86.48	86.64	86.52	86.10	85.88	87.28	87.08	87.44	87.85
20	86.73	86.63	86.60	86.65	86.56	86.57	86.71	86.28	86.05	85.88	87.32	87.12	87.46	88.00
20.5	86.76	86.73	86.65	86.68	86.60	86.62	86.72	86.14	86.02	85.86	87.46	87.28	87.31	87.99
21	86.80	86.78	86.70	86.69	86.56	86.63	86.76	86.18	86.04	85.95	87.50	87.30	87.45	87.93
21.5	86.74	86.74	86.68	86.76	86.61	86.68	86.83	86.26	86.03	85.94	87.48	87.25	87.46	87.98
22	86.81	86.84	86.71	86.75	86.67	86.71	86.83	86.38	86.06	86.16	87.50	87.29	87.46	87.95
22.5	86.82	86.83	86.76	86.73	86.63	86.64	86.83	86.51	86.19	86.27	87.41	87.25	87.44	87.99
23	86.88	86.90	86.81	86.78	86.69	86.76	86.85	86.59	86.37	86.28	87.39	87.28	87.47	87.99
23.5	86.78	86.81	86.75	86.78	86.66	86.66	86.78	86.60	86.37	86.13	87.21	87.27	87.45	87.99
24	86.82	86.78	86.67	86.67	86.63	86.66	86.85	86.55	86.23	86.00	87.02	87.28	87.31	88.00
24.5	86.75	86.76	86.65	86.67	86.63	86.66	86.85	86.44	86.14	85.87	86.70	87.19	87.31	87.99
25	86.72	86.76	86.63	86.67	86.56	86.66	86.88	86.44	86.07	85.90	86.63	87.28	87.45	87.97
25.5	86.70	86.60	86.52	86.64	86.59	86.66	86.88	86.54	86.05	85.90	86.71	87.34	87.60	88.00
26	86.59	86.62	86.55	86.54	86.56	86.63	86.86	86.63	86.11	85.93	86.92	87.38	87.60	88.05
26.5	86.61	86.63	86.54	86.53	86.56	86.61	86.81	86.63	86.34	85.95	87.15	87.41	87.61	87.90
27	86.67	86.69	86.57	86.55	86.47	86.40	86.76	86.61	86.41	85.91	87.23	87.32	87.46	87.90
27.5	86.64	86.57	86.51	86.60	86.51	86.48	86.71	86.59	86.32	85.95	87.13	87.07	87.61	87.90
28	86.65	86.65	86.58	86.60	86.51	86.48	86.71	86.52	86.26	85.91	87.12	87.16	87.44	87.92
28.5	86.73	86.76	86.71	86.70	86.58	86.50	86.54	86.23	86.12	85.95	87.04	87.25	87.46	87.85
29	86.57	86.60	86.71	86.69	86.64	86.57	86.51	86.18	85.99	85.87	86.96	87.09	87.46	87.90
29.5	86.51	86.50	86.49	86.56	86.51	86.57	86.55	86.22	86.00	85.72	86.90	87.16	87.44	87.86
30	86.54	86.53	86.48	86.52	86.38	86.47	86.68	86.45	86.15	85.71	86.75	87.10	87.46	87.90
30.5	86.59	86.58	86.48	86.55	86.48	86.49	86.64	86.53	86.29	85.79	86.78	86.95	87.18	87.90
31	86.58	86.59	86.56	86.58	86.50	86.49	86.66	86.40	86.21	85.83	86.76	87.02	87.31	87.80
31.5	86.49	86.58	86.47	86.52	86.49	86.52	86.70	86.47	86.23	85.87	86.95	87.11	87.31	87.80
32	86.55	86.51	86.43	86.49	86.44	86.51	86.71	86.52	86.21	85.84	87.13	87.17	87.46	87.81
32.5	86.55	86.56	86.49	86.52	86.45	86.49	86.73	86.58	86.27	85.95	87.28	87.19	87.31	87.81
33	86.53	86.49	86.42	86.48	86.49	86.52	86.73	86.60	86.34	86.05	87.28	87.15	87.45	87.77
33.5	86.47	86.52	86.47	86.47	86.42	86.47	86.69	86.58	86.43	86.00	87.07	87.11	87.31	87.77
34	86.46	86.49	86.49	86.47	86.46	86.51	86.69	86.61	86.29	85.96	87.17	87.21	87.33	87.80
34.5	86.52	86.47	86.52	86.46	86.40	86.49	86.57	86.57	86.09	85.88	87.06	87.21	87.30	87.78
35	86.58	86.56	86.53	86.48	86.43	86.47	86.60	86.47	86.02	85.83	86.98	87.18	87.45	87.83
35.5	86.66	86.63	86.55	86.49	86.46	86.42	86.59	86.33	85.97	85.67	86.82	87.16	87.45	87.86
36	86.67	86.70	86.59	86.56	86.54	86.48	86.58	86.13	85.90	85.67	86.66	86.95	87.16	87.86
36.5	86.72	86.70	86.57	86.58	86.50	86.51	86.54	85.99	85.96	85.79	86.71	86.73	87.44	87.87

37	86.69	86.58	86.47	86.54	86.52	86.53	86.62	86.15	86.01	85.93	86.80	86.84	87.45	87.89
37.5	86.72	86.70	86.49	86.49	86.51	86.54	86.64	86.25	86.07	85.98	86.85	87.03	87.44	87.88
38	86.73	86.72	86.59	86.51	86.52	86.45	86.69	86.21	86.07	86.02	86.92	86.89	87.31	87.89
38.5	86.45	86.54	86.48	86.57	86.54	86.48	86.64	86.22	86.09	85.95	86.84	86.97	87.16	87.88
39	86.42	86.46	86.46	86.49	86.49	86.45	86.65	86.31	86.15	85.95	86.83	87.06	87.31	87.89
39.5	86.46	86.43	86.42	86.41	86.35	86.33	86.65	86.44	86.23	86.03	86.86	87.11	87.45	87.90
40	86.39	86.44	86.34	86.34	86.30	86.31	86.62	86.27	86.04	86.05	87.12	87.07	87.30	87.86
40.5	86.48	86.48	86.40	86.39	86.36	86.43	86.61	86.13	86.03	85.98	87.25	87.19	87.17	87.91
41	86.47	86.47	86.40	86.39	86.35	86.43	86.59	86.11	86.08	85.93	87.28	87.15	87.31	87.95
41.5	86.48	86.45	86.41	86.42	86.36	86.41	86.58	86.15	86.06	86.13	87.34	87.26	87.46	87.90
42	86.46	86.50	86.43	86.42	86.36	86.39	86.56	86.25	86.15	86.22	87.30	87.19	87.16	87.71
42.5	86.52	86.45	86.37	86.39	86.40	86.39	86.58	86.35	86.14	86.08	87.28	87.12	87.16	87.68
43	86.58	86.52	86.39	86.44	86.42	86.43	86.56	86.35	86.05	85.99	87.30	87.12	87.16	87.70
43.5	86.35	86.35	86.36	86.44	86.38	86.46	86.59	86.21	85.97	85.99	87.23	87.12	87.16	87.71
44	86.55	86.57	86.40	86.42	86.44	86.50	86.63	86.19	86.05	85.97	87.04	87.07	87.17	87.72
44.5	86.52	86.48	86.42	86.43	86.45	86.49	86.62	86.16	86.02	85.90	86.93	86.91	87.16	87.70
45	86.53	86.56	86.47	86.49	86.48	86.50	86.66	86.24	85.98	85.87	86.83	86.96	87.45	87.73
45.5	86.66	86.62	86.50	86.49	86.49	86.53	86.69	86.37	86.01	85.93	86.82	87.02	87.31	87.71
46	86.66	86.64	86.51	86.47	86.48	86.55	86.67	86.39	86.10	86.01	86.96	87.13	87.46	87.66
46.5	86.56	86.62	86.56	86.49	86.49	86.57	86.69	86.47	86.18	85.93	86.95	87.12	87.31	87.70
47	86.49	86.55	86.50	86.54	86.50	86.55	86.69	86.57	86.31	85.93	86.90	87.03	87.31	87.71
47.5	86.50	86.56	86.53	86.49	86.42	86.36	86.68	86.57	86.40	86.05	86.86	86.99	87.16	87.64
48	86.59	86.59	86.47	86.45	86.36	86.35	86.63	86.54	86.31	85.95	86.86	87.02	87.16	87.58
48.5	86.51	86.54	86.48	86.45	86.38	86.40	86.57	86.28	86.09	85.90	86.85	87.01	87.03	87.65
49	86.45	86.49	86.45	86.48	86.42	86.46	86.60	86.17	86.01	85.82	86.77	87.03	87.02	87.62
49.5	86.43	86.46	86.37	86.45	86.43	86.46	86.65	86.31	85.99	85.79	86.76	87.05	87.02	87.65
50	86.42	86.46	86.42	86.45	86.39	86.45	86.66	86.34	85.94	85.69	86.66	87.05	87.16	87.62
50.5	86.30	86.28	86.30	86.42	86.43	86.50	86.67	86.41	85.87	85.67	86.71	87.07	87.32	87.63
51	86.37	86.32	86.24	86.34	86.34	86.41	86.61	86.43	85.89	85.75	86.74	86.75	87.16	87.57
51.5	86.38	86.34	86.32	86.36	86.31	86.35	86.60	86.46	85.93	85.83	86.75	86.77	87.17	87.63
52	86.38	86.44	86.39	86.39	86.32	86.32	86.52	86.33	85.94	85.84	86.74	86.92	87.16	87.57
52.5	86.44	86.41	86.39	86.41	86.28	86.35	86.54	86.32	86.00	85.81	86.78	86.87	87.16	87.54
53	86.37	86.40	86.32	86.42	86.33	86.40	86.57	86.35	86.03	85.80	86.74	86.88	87.17	87.59
53.5	86.29	86.35	86.29	86.29	86.22	86.32	86.60	86.40	86.05	85.80	86.76	86.71	87.02	87.57
54	86.30	86.22	86.18	86.20	86.21	86.38	86.51	86.30	86.13	85.84	86.77	86.78	87.03	87.62
54.5	86.31	86.32	86.25	86.27	86.20	86.31	86.47	86.30	86.13	85.75	86.75	86.91	87.03	87.60
55	86.27	86.37	86.27	86.29	86.23	86.27	86.42	86.30	85.94	85.65	86.81	86.94	87.16	87.56
55.5	86.32	86.27	86.30	86.29	86.20	86.26	86.42	86.08	85.85	85.73	86.80	86.95	87.02	87.57
56	86.26	86.30	86.23	86.22	86.18	86.26	86.42	86.08	85.84	85.73	86.74	86.86	87.16	87.55
56.5	86.33	86.24	86.19	86.25	86.18	86.22	86.42	86.20	85.86	85.79	86.74	86.51	86.87	87.54
57	86.30	86.30	86.23	86.28	86.20	86.23	86.39	86.20	85.91	85.80	86.77	86.73	87.02	87.46

57.5	86.32	86.30	86.27	86.29	86.19	86.26	86.40	86.22	85.95	85.79	86.89	86.84	87.02	87.51
58	86.28	86.32	86.27	86.29	86.26	86.27	86.43	86.30	86.02	85.83	87.04	86.87	87.03	87.50
58.5	86.25	86.22	86.22	86.25	86.22	86.23	86.40	86.30	86.02	85.85	87.02	86.83	87.16	87.49
59	86.26	86.23	86.19	86.28	86.22	86.23	86.42	86.25	85.97	85.83	86.92	86.57	87.16	87.52
59.5	86.26	86.29	86.19	86.21	86.18	86.25	86.40	86.31	86.01	85.82	86.82	86.64	86.87	87.52
60	86.20	86.24	86.19	86.24	86.16	86.19	86.40	86.28	85.79	85.79	86.77	86.86	87.16	87.48
60.5	86.37	86.29	86.19	86.20	86.23	86.27	86.41	86.25	85.70	85.71	86.72	86.88	87.16	87.48
61	86.29	86.34	86.27	86.29	86.25	86.29	86.44	86.16	85.76	85.71	86.84	86.85	86.87	87.46
61.5	86.38	86.28	86.22	86.33	86.33	86.31	86.48	86.18	85.96	85.62	86.68	86.77	87.03	87.46
62	86.32	86.28	86.18	86.29	86.30	86.27	86.48	86.25	85.97	85.59	86.56	86.73	86.87	87.46
62.5	86.28	86.26	86.25	86.27	86.18	86.22	86.48	86.26	85.93	85.51	86.57	86.84	87.01	87.44
63	86.25	86.29	86.19	86.25	86.15	86.23	86.46	86.24	85.86	85.57	86.57	86.90	86.87	87.42
63.5	86.27	86.24	86.20	86.26	86.20	86.31	86.35	86.20	85.80	85.62	86.59	86.88	86.74	87.40
64	86.18	86.22	86.12	86.19	86.23	86.30	86.30	86.02	85.82	85.68	86.61	86.85	87.03	87.40
64.5	86.12	86.15	86.06	86.11	86.10	86.22	86.34	85.99	85.76	85.71	86.59	86.84	86.87	87.41
65	86.19	86.17	86.11	86.16	86.12	86.16	86.28	86.04	85.80	85.67	86.60	86.86	86.86	87.46
65.5	86.26	86.30	86.19	86.15	86.15	86.20	86.36	86.15	85.86	85.76	86.66	86.90	87.02	87.45
66	86.26	86.30	86.25	86.24	86.19	86.23	86.37	86.20	85.82	85.79	86.76	86.89	87.16	87.38
66.5	86.25	86.27	86.19	86.22	86.20	86.26	86.42	86.24	85.69	85.77	86.80	86.90	86.87	87.38
67	86.12	86.08	86.12	86.23	86.20	86.18	86.41	86.19	85.74	85.72	86.88	86.87	87.01	87.41
67.5	86.16	86.24	86.22	86.25	86.16	86.19	86.37	86.20	85.79	85.73	86.85	86.95	86.87	87.49
68	86.29	86.36	86.23	86.21	86.16	86.17	86.27	86.18	85.81	85.66	86.71	86.99	87.16	87.41
68.5	86.29	86.32	86.29	86.22	86.12	86.03	86.36	86.22	85.86	85.66	86.67	86.87	86.87	87.43
69	86.25	86.20	86.16	86.18	86.13	86.07	86.37	86.25	85.95	85.66	86.50	86.63	87.02	87.35
69.5	86.19	86.16	86.14	86.16	86.10	86.15	86.41	86.26	85.84	85.55	86.41	86.47	86.87	87.44
70	86.12	86.22	86.20	86.21	86.19	86.23	86.39	86.25	85.82	85.56	86.42	86.71	87.16	87.49
70.5	86.16	86.19	86.13	86.18	86.18	86.25	86.42	86.31	85.91	85.54	86.41	86.76	87.16	87.51
71	86.15	86.15	86.15	86.19	86.17	86.25	86.47	86.29	85.87	85.61	86.47	86.88	87.17	87.52
71.5	86.18	86.17	86.18	86.17	86.11	86.14	86.38	86.25	85.73	85.48	86.39	86.87	86.88	87.49
72	86.26	86.29	86.19	86.21	86.16	86.16	86.39	86.25	85.73	85.37	86.35	86.90	87.02	87.49
72.5	86.26	86.24	86.16	86.22	86.15	86.17	86.42	86.25	85.68	85.42	86.45	86.92	87.02	87.45
73	86.05	86.12	86.14	86.20	86.18	86.19	86.41	86.06	85.60	85.39	86.44	86.84	86.72	87.31
73.5	86.11	86.11	86.05	86.07	85.98	86.07	86.27	85.83	85.63	85.50	86.47	86.75	86.74	87.28
74	86.02	86.00	85.96	85.98	85.99	86.07	86.26	85.88	85.69	85.57	86.48	86.64	86.59	87.26
74.5	85.95	85.96	85.98	86.05	86.01	86.10	86.27	85.99	85.70	85.62	86.50	86.62	86.88	87.34
75	85.89	85.80	85.89	85.91	85.98	86.14	86.28	86.07	85.71	85.64	86.53	86.66	87.01	87.28
75.5	85.97	85.90	85.85	85.94	86.00	86.08	86.28	86.10	85.63	85.55	86.59	86.70	86.58	87.27
76	86.09	86.07	86.02	85.98	86.01	86.12	86.30	86.14	85.65	85.43	86.71	86.57	87.02	87.32
76.5	86.08	86.03	85.96	85.93	86.01	86.15	86.29	86.10	85.60	85.42	86.71	86.57	86.72	87.40
77	86.06	86.04	86.02	85.98	86.02	86.13	86.33	86.12	85.63	85.46	86.60	86.67	86.87	87.30
77.5	86.10	86.10	85.99	86.01	86.01	86.07	86.33	86.18	85.85	85.50	86.54	86.76	86.87	87.24

78	86.23	86.17	86.02	85.99	85.89	86.12	86.33	86.15	86.01	85.62	86.35	86.71	87.02	87.17
78.5	86.13	86.04	86.02	86.04	85.96	86.09	86.33	86.14	86.11	85.60	86.36	86.64	86.87	87.23
79	86.07	86.14	86.10	86.09	86.03	86.08	86.28	86.15	85.99	85.58	86.37	86.68	86.88	87.30
79.5	86.06	86.10	86.07	86.11	86.06	86.06	86.23	86.15	85.86	85.50	86.50	86.67	86.87	87.23
80	86.13	86.11	86.04	86.07	86.06	86.12	86.29	86.15	85.73	85.44	86.66	86.71	86.73	87.17
80.5	86.02	86.03	85.96	85.98	85.96	86.10	86.29	86.07	85.59	85.34	86.83	86.73	86.73	87.17
81	86.05	86.01	85.99	85.99	85.96	86.03	86.21	85.92	85.59	85.42	86.90	86.66	86.73	87.16
81.5	85.92	85.94	85.93	85.98	85.95	86.06	86.24	85.85	85.60	85.42	86.79	86.68	86.73	87.11
82	85.97	85.97	85.97	85.99	85.93	85.97	86.27	85.98	85.68	85.44	86.61	86.67	86.59	87.16
82.5	86.03	86.03	85.94	85.99	85.92	85.99	86.21	85.97	85.56	85.47	86.51	86.70	86.87	87.13
83	86.09	86.11	86.04	86.09	85.95	85.97	86.16	86.01	85.53	85.36	86.50	86.71	86.59	87.13
83.5	86.07	86.12	86.11	86.06	86.04	86.05	86.24	86.08	85.53	85.37	86.62	86.69	86.59	87.14
84	86.09	86.03	85.92	86.00	86.04	86.07	86.22	86.04	85.60	85.41	86.74	86.68	86.58	87.15
84.5	86.08	86.08	85.95	86.00	86.00	86.07	86.25	86.09	85.77	85.45	86.82	86.70	86.58	87.11
85	86.11	86.01	86.00	86.05	86.03	86.10	86.28	86.09	85.83	85.52	86.90	86.66	86.59	87.17
85.5	86.07	86.09	86.02	86.07	86.06	86.07	86.30	86.12	85.69	85.51	86.81	86.65	86.74	87.22
86	85.91	85.85	85.90	85.99	85.94	86.03	86.31	85.89	85.56	85.45	86.64	86.77	86.88	87.24
86.5	86.00	85.97	85.92	86.00	85.92	86.02	86.26	85.78	85.52	85.46	86.82	86.79	86.75	87.17
87	86.08	86.06	85.98	85.95	85.89	85.91	86.23	85.81	85.52	85.48	86.88	86.70	86.89	87.22
87.5	86.01	85.95	85.88	85.92	85.89	85.97	86.18	85.88	85.57	85.55	86.88	86.71	86.74	87.22
88	85.97	86.00	85.94	85.92	85.91	85.96	86.17	85.97	85.62	85.46	86.64	86.66	86.59	87.23
88.5	85.98	85.96	85.88	85.92	85.91	85.95	86.14	85.98	85.61	85.42	86.64	86.68	86.74	87.27
89	86.04	86.08	85.98	85.97	85.91	85.98	86.09	85.92	85.64	85.52	86.82	86.69	86.87	87.21
89.5	86.13	86.15	86.04	86.06	85.96	86.00	86.11	85.89	85.58	85.57	86.99	86.75	86.88	87.12
90	86.10	86.07	85.94	85.99	85.90	85.96	86.07	85.92	85.54	85.53	86.79	86.67	86.57	87.15
90.5	86.00	86.01	85.94	85.95	85.89	85.99	86.13	86.01	85.60	85.44	86.55	86.48	86.59	87.17
91	86.05	86.10	86.02	86.01	85.95	86.02	86.14	86.05	85.59	85.34	86.55	86.60	86.73	87.27
91.5	86.00	86.02	86.01	86.05	86.00	86.03	86.22	86.06	85.50	85.35	86.62	86.78	86.88	87.22
92	85.97	86.01	86.00	86.08	86.03	86.09	86.19	85.91	85.39	85.30	86.76	86.77	86.87	87.22
92.5	86.08	86.11	86.10	86.12	86.08	86.11	86.27	85.96	85.43	85.37	86.83	86.77	86.74	87.25
93	86.07	86.06	86.05	86.06	86.01	86.05	86.21	86.06	85.58	85.46	86.90	86.73	86.87	87.24
93.5	86.12	86.16	86.12	86.12	86.09	86.07	86.24	86.12	85.81	85.50	86.76	86.77	86.87	87.26
94	86.17	86.20	86.14	86.19	86.12	86.16	86.27	86.17	85.85	85.50	86.71	86.71	86.59	87.24
94.5	86.12	86.16	86.16	86.19	86.12	86.19	86.30	86.17	85.91	85.62	86.77	86.70	86.87	87.23
95	86.14	86.12	86.06	86.14	86.08	86.14	86.24	86.09	85.80	85.51	86.82	86.76	86.87	87.22
95.5	86.18	86.16	86.14	86.14	86.10	86.17	86.25	86.10	85.70	85.45	86.88	86.73	86.87	87.22
96	86.15	86.19	86.12	86.09	85.99	85.97	86.23	86.14	85.60	85.40	86.64	86.57	86.73	87.29
96.5	86.18	86.08	86.10	86.10	86.01	86.03	86.15	86.09	85.56	85.38	86.46	86.68	86.88	87.24
97	86.10	86.03	86.07	86.11	86.02	86.07	86.17	86.00	85.40	85.42	86.55	86.82	86.87	87.26
97.5	86.13	86.12	86.11	86.12	86.06	86.10	86.09	85.75	85.41	85.45	86.75	86.82	87.03	87.25
98	86.10	86.09	86.08	86.10	86.08	86.13	86.21	85.59	85.43	85.58	86.81	86.87	86.74	87.25

98.5	86.15	86.17	86.10	86.14	86.08	86.10	86.24	85.84	85.45	85.53	86.63	86.83	87.02	87.20
99	86.12	86.04	86.09	86.11	86.05	86.09	86.20	85.80	85.47	85.44	86.60	86.80	86.87	87.30
99.5	86.20	86.18	86.11	86.10	86.06	86.13	86.27	85.76	85.53	85.48	86.66	86.88	87.03	87.37
100	86.22	86.17	86.09	86.19	86.09	86.10	86.24	85.78	85.50	85.49	86.76	86.90	87.02	87.30
100.5	86.04	86.05	86.10	86.15	86.02	86.07	86.20	85.78	85.54	85.56	86.71	86.68	87.00	87.27
101	86.21	86.15	86.17	86.17	86.13	86.13	86.25	85.78	85.60	85.60	86.66	86.56	86.88	87.21
101.5	86.23	86.26	86.17	86.24	86.13	86.15	86.27	85.81	85.63	85.54	86.57	86.51	86.73	87.22
102	86.28	86.22	86.18	86.26	86.15	86.18	86.32	85.93	85.70	85.61	86.56	86.66	86.87	87.21
102.5	86.45	86.36	86.22	86.28	86.20	86.25	86.39	85.97	85.84	85.75	86.55	86.74	86.59	87.30
103	86.35	86.35	86.22	86.27	86.26	86.23	86.37	86.07	85.76	85.63	86.71	86.82	86.87	87.27
103.5	86.37	86.43	86.35	86.32	86.25	86.27	86.33	86.10	85.73	85.69	86.85	86.83	86.59	87.33
104	86.37	86.34	86.27	86.31	86.28	86.28	86.38	86.13	85.70	85.64	86.94	86.84	86.87	87.37
104.5	86.20	86.17	86.16	86.27	86.22	86.25	86.37	86.17	85.71	85.62	86.88	86.82	86.73	87.33
105	86.17	86.11	86.07	86.17	86.18	86.20	86.37	86.08	85.63	85.53	86.61	86.84	86.73	87.35
105.5	86.23	86.17	86.07	86.12	86.07	86.14	86.34	86.09	85.61	85.54	86.49	86.77	87.03	87.34
106	86.27	86.19	86.12	86.17	86.08	86.17	86.34	86.02	85.59	85.54	86.45	86.54	86.87	87.35
106.5	86.26	86.23	86.16	86.15	86.08	86.16	86.39	86.14	85.65	85.40	86.45	86.73	86.87	87.33
107	86.33	86.32	86.27	86.17	86.11	86.20	86.31	86.16	85.67	85.44	86.66	86.84	87.03	87.31
107.5	86.30	86.37	86.31	86.25	86.18	86.18	86.28	85.95	85.74	85.45	86.66	86.84	87.03	87.30
108	86.34	86.32	86.29	86.24	86.17	86.14	86.29	85.90	85.67	85.49	86.47	86.63	87.01	87.34
108.5	86.22	86.22	86.22	86.29	86.23	86.14	86.24	86.02	85.68	85.48	86.43	86.56	86.87	87.32
109	86.20	86.20	86.23	86.28	86.25	86.26	86.24	86.07	85.68	85.52	86.42	86.70	87.02	87.42
109.5	86.23	86.23	86.23	86.27	86.19	86.16	86.32	86.05	85.63	85.49	86.41	86.70	87.02	87.43
110	86.32	86.29	86.19	86.27	86.18	86.21	86.28	86.10	85.58	85.49	86.38	86.47	87.01	87.29
110.5	86.32	86.29	86.27	86.27	86.19	86.29	86.34	85.95	85.62	85.56	86.44	86.55	86.87	87.27
111	86.39	86.35	86.26	86.31	86.20	86.26	86.37	86.04	85.75	85.63	86.48	86.52	86.87	87.33
111.5	86.43	86.36	86.25	86.29	86.22	86.26	86.37	86.20	86.01	85.76	86.60	86.45	87.02	87.39
112	86.45	86.45	86.36	86.41	86.32	86.36	86.40	86.17	86.01	85.90	86.66	86.66	87.02	87.45
112.5	86.36	86.36	86.35	86.41	86.35	86.36	86.42	86.08	85.84	85.72	86.57	86.86	86.87	87.51
113	86.25	86.22	86.26	86.28	86.28	86.23	86.37	86.18	85.81	85.70	86.52	86.92	86.87	87.42
113.5	86.25	86.24	86.21	86.26	86.25	86.28	86.37	86.13	85.80	85.71	86.55	86.92	87.01	87.31
114	86.21	86.12	86.15	86.29	86.28	86.32	86.26	85.80	85.71	85.72	86.65	86.82	87.16	87.37
114.5	86.15	86.27	86.22	86.30	86.27	86.33	86.28	85.79	85.71	85.73	86.69	86.82	87.03	87.41
115	86.23	86.24	86.19	86.25	86.25	86.27	86.32	85.90	85.75	85.75	86.74	86.76	87.02	87.42
115.5	86.25	86.28	86.21	86.13	86.17	86.18	86.29	85.96	85.73	85.77	86.71	86.78	87.16	87.35
116	86.16	86.17	86.09	86.09	86.10	86.14	86.23	86.12	85.78	85.74	86.62	86.80	86.71	87.23
116.5	86.23	86.26	86.17	86.17	86.16	86.22	86.30	86.21	85.99	85.82	86.61	86.84	86.87	87.26
117	86.26	86.23	86.13	86.21	86.12	86.19	86.33	86.27	86.15	85.84	86.80	86.83	86.86	87.26
117.5	86.17	86.24	86.20	86.22	86.19	86.27	86.37	86.20	86.20	85.82	86.92	86.87	86.87	87.22
118	86.21	86.18	86.12	86.14	86.15	86.24	86.34	86.16	86.03	85.75	87.00	86.89	86.58	87.24
118.5	86.27	86.29	86.21	86.19	86.14	86.21	86.32	86.25	86.03	85.74	86.87	86.85	86.87	87.34

119	86.21	86.18	86.15	86.19	86.18	86.25	86.35	86.29	86.09	85.78	86.79	86.94	87.01	87.34
119.5	86.26	86.20	86.22	86.24	86.23	86.23	86.34	86.27	85.98	85.83	86.83	86.84	87.16	87.38
120	86.28	86.24	86.27	86.24	86.23	86.24	86.37	86.32	85.99	85.85	86.74	86.75	87.01	87.35
120.5	86.21	86.18	86.17	86.25	86.26	86.31	86.37	86.30	85.89	85.77	86.74	86.81	87.03	87.36
121	86.17	86.17	86.12	86.15	86.19	86.23	86.39	86.28	85.88	85.73	86.67	86.86	87.16	87.33
121.5	86.27	86.31	86.24	86.23	86.23	86.27	86.38	86.30	85.83	85.71	86.66	86.87	87.03	87.28
122	86.44	86.41	86.30	86.29	86.26	86.33	86.28	86.20	85.77	85.61	86.64	86.85	86.88	87.30
122.5	86.27	86.32	86.35	86.31	86.25	86.30	86.29	86.08	85.84	85.70	86.83	86.92	87.02	87.27
123	86.37	86.39	86.33	86.32	86.28	86.35	86.13	85.98	85.82	85.75	87.02	86.93	86.87	87.30
123.5	86.44	86.38	86.38	86.35	86.30	86.31	86.21	86.05	85.86	85.75	86.99	86.85	86.88	87.28
124	86.44	86.43	86.34	86.31	86.32	86.34	86.23	86.14	85.85	85.73	86.87	86.83	86.86	87.14
124.5	86.39	86.36	86.39	86.32	86.30	86.36	86.27	86.27	85.91	85.77	86.71	86.77	86.87	87.24
125	86.23	86.16	86.19	86.35	86.28	86.36	86.32	86.28	85.81	85.67	86.69	86.73	87.02	87.32
125.5	86.22	86.16	86.19	86.26	86.28	86.34	86.35	86.15	85.74	85.61	86.65	86.84	87.16	87.40
126	86.28	86.15	86.25	86.25	86.28	86.31	86.38	86.17	85.75	85.65	86.86	86.93	87.18	87.38
126.5	86.30	86.17	86.24	86.27	86.23	86.28	86.34	86.09	85.70	85.62	86.93	86.94	87.03	87.31
127	86.33	86.34	86.25	86.26	86.26	86.28	86.32	86.15	85.70	85.65	86.84	86.91	87.03	87.28
127.5	86.32	86.26	86.23	86.22	86.20	86.32	86.32	86.24	85.89	85.75	86.77	86.87	87.02	87.20
128	86.21	86.32	86.35	86.30	86.27	86.34	86.34	86.30	86.07	85.78	86.74	86.84	87.16	87.18
128.5	86.17	86.16	86.17	86.24	86.31	86.35	86.35	86.35	86.03	85.88	86.72	86.72	87.01	87.18
129	86.31	86.31	86.24	86.23	86.16	86.33	86.35	86.38	85.92	85.83	86.69	86.81	87.03	87.24
129.5	86.36	86.36	86.25	86.32	86.22	86.32	86.34	86.27	85.76	85.73	86.79	86.82	86.87	87.23
130	86.17	86.24	86.25	86.34	86.28	86.32	86.32	85.98	85.75	85.77	86.86	86.79	86.87	87.22
130.5	86.40	86.43	86.30	86.34	86.30	86.35	86.29	85.91	85.78	85.75	86.73	86.77	86.87	87.26
131	86.40	86.37	86.30	86.25	86.20	86.30	86.34	86.10	85.79	85.70	86.79	86.79	87.02	87.29
131.5	86.30	86.22	86.22	86.23	86.24	86.37	86.35	86.20	85.83	85.68	86.88	86.85	87.03	87.27
132	86.19	86.17	86.19	86.22	86.25	86.32	86.33	86.22	85.82	85.66	86.77	86.82	86.87	87.20
132.5	86.25	86.22	86.12	86.19	86.23	86.32	86.34	86.16	85.81	85.64	86.79	86.84	87.01	87.19
133	86.20	86.22	86.14	86.15	86.18	86.26	86.36	86.15	85.78	85.70	86.71	86.86	86.87	87.26
133.5	86.15	86.14	86.09	86.17	86.15	86.25	86.29	86.04	85.83	85.71	86.69	86.85	87.01	87.22
134	86.34	86.35	86.24	86.23	86.17	86.21	86.22	86.06	85.87	85.69	86.68	86.79	87.01	87.22
134.5	86.37	86.40	86.31	86.23	86.20	86.21	86.22	86.05	85.77	85.62	86.61	86.88	87.17	87.25
135	86.32	86.23	86.27	86.22	86.18	86.17	86.20	86.08	85.73	85.65	86.60	86.84	87.16	87.27
135.5	86.20	86.19	86.13	86.15	86.18	86.25	86.20	86.15	85.78	85.56	86.51	86.83	87.02	87.30
136	86.19	86.16	86.07	86.07	85.95	86.03	86.17	86.15	85.76	85.59	86.50	86.63	87.16	87.36
136.5	86.13	86.09	86.03	86.05	85.95	85.99	86.14	86.17	85.78	85.62	86.45	86.63	87.02	87.35
137	86.18	86.17	86.14	86.10	86.01	86.10	86.21	86.10	85.80	85.58	86.49	86.69	87.17	87.33
137.5	86.09	86.10	86.12	86.17	86.09	86.15	86.21	85.84	85.79	85.62	86.52	86.80	86.87	87.26
138	86.20	86.20	86.23	86.24	86.13	86.09	86.16	85.84	85.72	85.63	86.60	86.82	86.87	87.16
138.5	86.20	86.23	86.23	86.21	86.12	86.15	86.13	85.90	85.68	85.66	86.60	86.82	86.87	87.22
139	86.21	86.02	86.12	86.26	86.18	86.18	86.15	85.94	85.73	85.67	86.55	86.66	86.87	87.18

139.5	86.16	86.23	86.22	86.27	86.20	86.22	86.19	86.05	85.78	85.70	86.61	86.64	87.02	87.16
140	86.24	86.28	86.25	86.23	86.21	86.18	86.21	86.12	85.77	85.65	86.56	86.57	86.87	87.19
140.5	86.34	86.32	86.28	86.27	86.17	86.24	86.25	86.19	85.70	85.61	86.58	86.71	87.17	87.31
141	86.33	86.23	86.27	86.26	86.16	86.23	86.24	86.12	85.69	85.43	86.71	86.78	87.15	87.27
141.5	86.10	86.07	86.13	86.21	86.23	86.27	86.29	86.15	85.81	85.43	86.82	86.84	86.87	87.27
142	86.07	86.02	86.06	86.13	86.18	86.24	86.25	86.17	85.68	85.48	86.76	86.84	86.87	87.18
142.5	86.17	86.14	86.12	86.16	86.14	86.18	86.26	86.15	85.58	85.46	86.71	86.79	87.01	87.19
143	86.10	86.01	85.97	86.06	86.03	86.17	86.17	86.23	85.57	85.50	86.74	86.81	86.88	87.20
143.5	86.15	86.11	86.09	86.14	86.06	86.16	86.19	86.24	85.65	85.60	86.73	86.83	87.02	87.22
144	86.15	86.13	86.13	86.17	86.13	86.17	86.19	86.20	85.69	85.57	86.83	86.77	86.87	87.13
144.5	86.22	86.22	86.13	86.14	86.06	86.10	86.19	86.18	85.60	85.54	86.61	86.66	86.87	87.14
145	86.25	86.22	86.23	86.17	86.12	86.12	86.16	86.18	85.59	85.49	86.52	86.63	86.87	87.14
145.5	86.27	86.28	86.21	86.22	86.17	86.14	86.19	86.18	85.66	85.48	86.46	86.68	86.74	87.17
146	86.26	86.30	86.25	86.27	86.20	86.15	86.17	86.14	85.60	85.42	86.41	86.73	87.02	87.17
146.5	86.19	86.24	86.20	86.27	86.22	86.13	86.10	86.00	85.56	85.42	86.41	86.71	86.73	87.16
147	86.14	86.15	86.15	86.25	86.23	86.23	86.14	86.05	85.64	85.51	86.49	86.72	87.03	87.17
147.5	86.05	86.11	86.08	86.13	86.08	86.15	86.21	86.20	85.70	85.50	86.58	86.72	86.74	87.21
148	86.10	86.04	86.02	86.05	86.04	86.17	86.17	86.20	85.69	85.58	86.72	86.75	86.88	87.21
148.5	86.17	86.14	86.09	86.11	86.02	86.06	86.14	86.15	85.71	85.67	86.80	86.77	87.02	87.13
149	86.20	86.24	86.20	86.19	86.09	86.13	86.19	86.04	85.71	85.72	86.80	86.76	86.87	87.13
149.5	86.19	86.20	86.09	86.12	86.08	86.13	86.07	86.01	85.84	85.72	86.80	86.73	86.73	87.16
150	86.12	86.07	86.07	86.11	86.09	86.19	85.90	85.75	85.73	85.66	86.77	86.73	86.87	87.19
150.5	86.14	86.12	86.08	86.14	86.14	86.18	85.92	85.64	85.60	85.46	86.65	86.65	86.87	87.22
151	85.98	85.95	86.01	86.09	86.11	86.14	86.02	85.69	85.60	85.46	86.56	86.76	86.87	87.15
151.5	86.11	86.09	86.02	86.03	86.08	86.12	86.06	85.74	85.60	85.52	86.76	86.75	86.72	87.12
152	86.17	86.13	86.03	86.09	86.08	86.10	86.09	85.88	85.65	85.63	86.85	86.73	86.87	87.11
152.5	86.15	86.17	86.05	86.09	86.01	86.05	86.09	86.00	85.70	85.70	86.87	86.75	87.17	87.17
153	86.06	85.99	86.02	86.08	85.93	85.99	86.07	86.10	85.76	85.66	86.69	86.55	86.73	87.24
153.5	86.00	85.97	86.03	86.09	86.01	86.07	86.04	86.08	85.84	85.67	86.66	86.54	86.87	87.16
154	85.91	85.93	85.95	86.00	85.95	86.08	86.03	86.12	85.86	85.72	86.69	86.63	87.01	87.05
154.5	85.95	85.93	85.94	86.04	85.99	86.12	86.11	86.05	85.84	85.77	86.76	86.67	86.87	86.94
155	86.00	85.94	85.93	86.01	86.02	86.09	86.11	85.98	85.70	85.66	86.64	86.64	86.71	86.97
155.5	86.07	86.02	85.98	86.03	86.00	86.08	86.11	86.02	85.55	85.48	86.56	86.63	86.58	87.02
156	86.10	86.10	86.04	86.07	85.99	86.09	86.10	85.94	85.39	85.20	86.45	86.64	86.73	87.07
156.5	86.03	85.96	85.94	86.04	85.98	86.06	86.06	85.88	85.39	85.24	86.41	86.66	86.73	87.01
157	86.08	86.12	86.06	86.06	86.00	86.05	86.03	85.83	85.41	85.31	86.33	86.66	86.58	86.94
157.5	86.06	85.97	85.94	85.98	85.82	85.96	86.10	85.98	85.62	85.39	86.33	86.67	86.87	87.00
158	85.99	85.86	85.81	85.90	85.78	85.84	86.00	86.02	85.81	85.52	86.37	86.63	86.58	86.93
158.5	85.98	86.05	85.96	85.93	85.85	85.95	85.99	86.00	85.76	85.61	86.41	86.62	86.72	86.97
159	86.05	86.09	86.05	85.94	85.83	85.98	86.00	85.83	85.68	85.49	86.60	86.63	86.72	86.92
159.5	85.97	86.00	86.00	86.02	85.98	86.06	86.01	85.68	85.52	85.42	86.67	86.60	86.59	86.91

160	86.03	86.01	86.09	86.08	86.06	86.03	86.01	85.80	85.50	85.40	86.52	86.60	86.87	86.95
160.5	86.02	85.97	85.94	86.07	85.99	86.02	86.04	85.82	85.52	85.46	86.44	86.52	86.59	86.98
161	85.85	85.88	85.86	85.98	85.93	85.97	86.03	85.87	85.56	85.39	86.32	86.60	86.73	86.98
161.5	85.84	85.90	85.82	85.94	85.90	85.97	86.00	85.84	85.50	85.39	86.41	86.56	86.72	86.93
162	85.92	85.92	85.81	85.89	85.85	85.94	86.00	85.90	85.48	85.44	86.63	86.57	86.72	86.94
162.5	85.89	85.91	85.84	85.81	85.78	85.97	86.03	85.98	85.53	85.54	86.70	86.60	86.44	86.94
163	85.95	85.99	85.92	85.87	85.83	85.93	85.96	85.88	85.55	85.46	86.74	86.49	86.59	86.95
163.5	85.80	85.78	85.76	85.85	85.86	85.90	85.97	85.71	85.43	85.33	86.48	86.39	86.73	86.92
164	85.89	85.82	85.71	85.79	85.73	85.84	85.93	85.66	85.45	85.36	86.38	86.34	86.72	86.92
164.5	85.81	85.79	85.81	85.81	85.74	85.80	85.92	85.64	85.44	85.41	86.40	86.43	86.72	86.93
165	85.83	85.88	85.80	85.85	85.82	85.82	85.93	85.62	85.49	85.43	86.50	86.52	86.73	86.97
165.5	85.94	85.95	85.86	85.89	85.85	85.87	85.90	85.62	85.41	85.31	86.55	86.57	86.72	86.96
166	85.95	85.99	85.85	85.89	85.84	85.90	85.89	85.63	85.45	85.38	86.55	86.56	86.58	87.03
166.5	85.99	85.99	85.95	85.94	85.87	85.92	85.93	85.70	85.45	85.39	86.47	86.49	86.72	86.96
167	86.06	86.07	85.96	85.98	85.93	85.96	85.93	85.77	85.59	85.44	86.38	86.52	86.87	86.88
167.5	86.04	86.05	85.98	86.00	85.91	85.98	85.96	85.93	85.71	85.46	86.36	86.50	86.58	86.87
168	85.99	86.05	85.95	86.01	85.94	85.92	85.93	85.97	85.68	85.49	86.37	86.50	86.58	86.87
168.5	86.06	86.07	86.00	86.04	86.01	85.96	86.00	85.97	85.62	85.52	86.38	86.54	86.87	86.87
169	86.15	86.07	86.04	86.05	85.99	86.00	86.01	85.98	85.63	85.53	86.39	86.52	86.44	86.87
169.5	86.19	86.19	86.13	86.01	86.02	86.03	86.03	85.90	85.75	85.66	86.44	86.52	86.59	86.81
170	86.11	86.08	85.97	85.98	85.95	85.96	86.05	85.91	85.75	85.67	86.41	86.38	86.42	86.82
170.5	86.07	86.02	85.95	85.93	85.93	85.99	86.02	85.86	85.57	85.49	86.43	86.40	86.43	86.93
171	86.05	86.04	85.99	85.98	85.95	86.00	86.06	85.82	85.45	85.36	86.58	86.55	86.59	86.89
171.5	85.94	85.94	85.88	85.92	85.90	85.98	86.02	85.70	85.43	85.37	86.65	86.56	86.45	86.86
172	85.95	85.96	85.83	85.91	85.85	85.91	85.87	85.57	85.39	85.32	86.60	86.45	86.75	86.85
172.5	85.95	86.01	85.86	85.82	85.69	85.83	85.84	85.45	85.39	85.21	86.39	86.41	86.59	86.81
173	85.97	86.00	85.90	85.84	85.78	85.80	85.83	85.42	85.33	85.29	86.39	86.45	86.59	86.68
173.5	86.07	85.95	85.88	85.91	85.77	85.85	85.86	85.53	85.34	85.31	86.49	86.41	86.58	86.64
174	86.19	86.06	85.97	85.92	85.76	85.96	85.84	85.75	85.47	85.39	86.48	86.32	86.30	86.69
174.5	86.15	86.22	86.04	86.02	85.93	86.02	85.94	85.88	85.72	85.44	86.42	86.33	86.44	86.72
175	86.17	86.15	86.06	86.07	85.97	86.05	85.98	85.99	85.81	85.49	86.31	86.28	86.43	86.73
175.5	86.07	86.07	86.03	86.08	86.03	86.12	86.07	85.95	85.73	85.43	86.29	86.32	86.59	86.75
176	86.11	86.09	86.02	86.03	86.00	86.02	86.03	85.94	85.58	85.31	86.37	86.36	86.43	86.70
176.5	86.04	86.01	85.92	86.03	85.97	85.92	86.05	85.97	85.48	85.25	86.27	86.25	86.43	86.70
177	86.05	86.01	85.92	85.99	85.98	85.97	86.06	86.05	85.49	85.33	86.31	86.26	86.30	86.76
177.5	86.05	85.99	85.88	85.93	85.94	86.01	85.96	86.03	85.51	85.18	86.15	86.20	86.58	86.77
178	86.00	86.03	85.94	85.91	85.93	86.00	85.96	85.98	85.47	85.14	86.14	86.29	86.59	86.76
178.5	85.70	85.75	85.86	85.97	85.96	86.00	86.01	85.65	85.47	85.17	86.32	86.38	86.59	86.72
179	85.84	85.82	85.87	85.95	85.93	85.98	85.94	85.49	85.40	85.06	86.20	86.37	86.30	86.79
179.5	85.85	85.78	85.70	85.84	85.86	85.93	85.90	85.48	85.27	85.04	86.00	86.35	86.59	86.82
180	85.95	85.86	85.76	85.75	85.78	85.85	85.88	85.70	85.21	84.87	85.94	86.20	86.30	86.75

180.5	85.89	85.80	85.76	85.75	85.79	85.85	85.90	85.77	85.14	85.01	86.04	86.28	86.44	86.76
181	85.83	85.70	85.70	85.77	85.81	85.85	85.88	85.80	85.24	85.11	86.07	86.26	86.30	86.82
181.5	85.82	85.80	85.74	85.78	85.85	85.85	85.84	85.67	85.40	85.16	86.22	86.36	86.59	86.81
182	85.88	85.83	85.75	85.77	85.84	85.82	85.79	85.57	85.12	85.06	86.09	86.37	86.43	86.75
182.5	85.93	85.90	85.79	85.77	85.76	85.82	85.51	85.35	85.10	84.86	86.00	86.41	86.59	86.66
183	85.95	85.98	85.84	85.80	85.74	85.80	85.67	85.46	85.06	84.89	85.96	86.30	86.43	86.54
183.5	85.95	85.92	85.88	85.89	85.81	85.85	85.69	85.47	85.22	85.11	86.05	86.27	86.45	86.47
184	85.94	85.96	85.92	85.89	85.80	85.81	85.60	85.27	85.19	85.01	86.02	86.23	86.45	86.49
184.5	85.89	85.93	85.89	85.87	85.83	85.75	85.61	85.28	85.19	85.01	86.00	86.19	86.30	86.40
185	85.87	85.88	85.85	85.87	85.84	85.85	85.73	85.57	85.18	85.02	85.92	86.15	86.14	86.39
185.5	85.86	85.86	85.82	85.85	85.86	85.87	85.81	85.65	85.20	85.10	85.98	86.03	86.30	86.41
186	85.76	85.75	85.69	85.82	85.82	85.89	85.85	85.74	85.37	85.19	85.98	85.91	86.01	86.38
186.5	85.77	85.87	85.79	85.81	85.79	85.83	85.85	85.78	85.46	85.33	86.04	85.97	86.01	86.34
187	85.75	85.78	85.68	85.73	85.83	85.82	85.86	85.72	85.52	85.32	86.02	85.93	86.00	86.42
187.5	85.70	85.73	85.63	85.69	85.72	85.73	85.77	85.65	85.47	85.27	85.95	85.88	86.01	86.44
188	85.87	85.88	85.68	85.69	85.65	85.71	85.80	85.67	85.18	85.09	85.89	85.96	86.14	86.48
188.5	85.85	85.87	85.76	85.69	85.69	85.75	85.77	85.65	85.04	84.93	85.82	86.06	86.30	86.50
189	85.81	85.86	85.80	85.77	85.74	85.77	85.79	85.52	85.08	84.98	85.82	85.95	86.02	86.54
189.5	85.92	85.96	85.86	85.85	85.81	85.77	85.70	85.51	85.06	84.94	85.88	85.93	86.15	86.54
190	86.02	86.04	85.87	85.88	85.85	85.86	85.67	85.57	85.11	84.94	85.76	85.99	86.44	86.54
190.5	85.93	85.97	85.90	85.94	85.83	85.86	85.74	85.45	85.06	84.93	85.74	86.04	86.30	86.54
191	85.97	85.94	85.92	85.91	85.86	85.92	85.85	85.51	85.01	84.90	85.78	85.81	86.30	86.50
191.5	85.97	85.97	85.90	85.89	85.89	85.96	85.88	85.67	85.04	85.01	85.93	85.72	86.15	86.34
192	85.97	85.96	85.88	85.89	85.81	85.94	85.85	85.63	85.05	85.01	85.93	85.85	86.00	86.29
192.5	85.95	85.91	85.87	85.89	85.82	85.90	85.85	85.47	85.10	85.06	85.93	85.91	86.15	86.35
193	85.78	85.76	85.70	85.76	85.84	85.87	85.88	85.46	85.06	84.99	85.86	85.98	86.02	86.33
193.5	85.86	85.84	85.80	85.79	85.85	85.89	85.87	85.64	85.10	84.93	85.82	85.90	86.15	86.35
194	85.90	85.90	85.89	85.85	85.78	85.89	85.88	85.68	85.06	84.96	85.75	85.97	86.30	86.38
194.5	85.97	85.88	85.84	85.87	85.81	85.85	85.81	85.54	85.04	84.96	85.79	85.99	86.30	86.44
195	85.86	85.87	85.82	85.88	85.79	85.87	85.83	85.42	85.03	85.01	85.90	86.07	86.30	86.44
195.5	85.87	85.92	85.88	85.89	85.84	85.85	85.82	85.27	85.03	85.03	86.02	86.14	86.14	86.39
196	85.84	85.86	85.82	85.89	85.83	85.87	85.83	85.21	85.05	85.02	86.02	86.08	86.14	86.38
196.5	85.82	85.68	85.66	85.71	85.65	85.80	85.81	85.19	85.08	85.07	86.09	86.09	86.30	86.37
197	85.93	85.85	85.77	85.73	85.67	85.75	85.76	85.26	85.14	85.12	86.20	86.10	86.02	86.39
197.5	85.80	85.75	85.70	85.69	85.69	85.76	85.57	85.29	85.14	85.11	86.17	86.03	86.30	86.43
198	85.79	85.75	85.66	85.71	85.65	85.75	85.63	85.36	85.15	85.06	85.99	85.98	86.14	86.45
198.5	85.77	85.74	85.66	85.69	85.66	85.69	85.65	85.32	85.02	85.03	85.98	86.04	86.14	86.50
199	85.81	85.82	85.78	85.79	85.71	85.74	85.68	85.43	85.05	85.06	86.12	86.12	86.45	86.57
199.5	85.79	85.80	85.76	85.79	85.73	85.76	85.64	85.35	85.10	85.07	86.10	86.20	86.30	86.54
200	85.79	85.75	85.71	85.79	85.75	85.81	85.66	85.39	85.09	85.16	86.11	86.18	86.29	86.48
200.5	85.81	85.79	85.68	85.73	85.67	85.70	85.73	85.50	85.18	85.14	86.07	86.20	86.45	86.54

201	85.80	85.78	85.68	85.72	85.67	85.70	85.75	85.52	85.12	85.12	86.05	86.17	86.30	86.61
201.5	85.83	85.83	85.70	85.75	85.72	85.70	85.73	85.44	85.13	85.09	86.06	86.25	86.44	86.56
202	85.87	85.84	85.72	85.73	85.73	85.77	85.72	85.43	85.17	85.14	86.14	86.30	86.30	86.60
202.5	85.89	85.88	85.71	85.74	85.68	85.72	85.70	85.39	85.26	85.23	86.15	86.25	86.43	86.58
203	85.95	85.94	85.82	85.75	85.72	85.80	85.70	85.47	85.30	85.21	86.12	86.28	86.44	86.60
203.5	85.90	85.84	85.82	85.75	85.72	85.82	85.77	85.60	85.34	85.33	86.25	86.29	86.44	86.57
204	86.02	86.02	85.89	85.84	85.80	85.82	85.73	85.63	85.32	85.23	86.16	86.24	86.14	86.51
204.5	85.90	85.94	85.94	85.93	85.83	85.87	85.74	85.66	85.28	85.20	86.10	86.22	86.28	86.53
205	86.00	86.01	86.00	85.91	85.88	85.90	85.80	85.75	85.33	85.21	86.10	86.15	86.44	86.57
205.5	86.07	86.06	85.96	85.91	85.91	85.96	85.87	85.84	85.36	85.13	86.07	86.13	86.44	86.63
206	86.03	86.03	85.93	85.88	85.83	85.90	85.85	85.88	85.37	85.16	86.12	86.20	86.30	86.60
206.5	85.99	86.02	85.92	85.91	85.85	85.90	85.86	85.90	85.26	85.28	86.24	86.27	86.29	86.61
207	86.07	86.08	85.99	85.97	85.91	85.90	85.89	85.83	85.22	85.26	86.44	86.33	86.29	86.62
207.5	86.11	86.08	85.99	86.00	85.91	85.90	85.83	85.76	85.26	85.31	86.38	86.28	86.58	86.65
208	86.10	86.10	86.02	85.99	85.92	85.90	85.90	85.68	85.32	85.27	86.36	86.35	86.44	86.68
208.5	86.11	86.11	86.00	85.99	85.98	85.95	85.95	85.80	85.34	85.37	86.34	86.26	86.45	86.67
209	86.05	86.03	85.94	86.01	85.98	85.97	85.98	85.91	85.37	85.33	86.35	86.32	86.59	86.79
209.5	86.02	85.99	85.87	85.94	85.99	86.03	85.98	85.85	85.42	85.33	86.47	86.42	86.44	86.81
210	85.92	85.93	85.89	85.78	85.78	86.00	85.94	85.80	85.34	85.31	86.63	86.44	86.44	86.78
210.5	85.92	85.96	85.90	85.72	85.69	85.97	85.94	85.57	85.29	85.27	86.55	86.28	86.44	86.72
211	85.96	86.01	85.90	85.82	85.76	85.97	85.96	85.45	85.29	85.33	86.48	86.36	86.44	86.68
211.5	86.03	86.11	85.99	85.92	85.86	85.97	85.97	85.44	85.33	85.36	86.52	86.35	86.59	86.72
212	86.08	86.11	86.05	86.02	85.98	86.03	86.02	85.72	85.37	85.38	86.50	86.43	86.45	86.73
212.5	86.17	86.22	86.10	86.05	86.03	86.09	86.04	85.85	85.37	85.39	86.42	86.44	86.87	86.65
213	86.08	86.09	86.06	86.10	86.04	86.09	86.06	85.94	85.44	85.31	86.38	86.41	86.43	86.61
213.5	86.13	86.11	86.09	86.08	86.06	86.10	86.07	86.02	85.62	85.33	86.33	86.33	86.44	86.70
214	86.18	86.20	86.14	86.16	86.08	86.05	86.06	86.06	85.58	85.37	86.36	86.31	86.59	86.76
214.5	86.19	86.13	86.02	86.07	86.03	86.06	86.07	86.05	85.58	85.33	86.33	86.29	86.59	86.85
215	86.16	86.17	86.07	86.07	86.08	86.09	86.07	85.92	85.46	85.39	86.45	86.35	86.73	86.82
215.5	86.12	86.10	86.02	86.05	85.98	86.10	86.13	85.97	85.39	85.39	86.52	86.33	86.59	86.75
216	86.08	86.02	85.95	85.97	85.91	86.02	86.08	86.04	85.54	85.42	86.40	86.31	86.87	86.70
216.5	86.07	86.05	85.97	85.99	85.94	86.00	86.09	86.09	85.66	85.42	86.30	86.39	86.74	86.89
217	86.11	86.11	86.02	86.03	85.94	85.99	86.06	85.99	85.60	85.32	86.15	86.49	86.72	86.65
217.5	86.00	86.11	86.03	86.07	86.02	86.05	86.00	85.81	85.62	85.29	86.19	86.41	86.30	86.62
218	86.02	86.00	85.97	86.04	86.01	86.09	86.04	85.81	85.53	85.34	86.28	86.36	86.30	86.66
218.5	85.97	85.97	85.96	85.97	85.98	86.05	86.07	85.90	85.34	85.24	86.25	86.29	86.73	86.73
219	86.05	86.03	85.96	85.98	85.94	85.99	86.04	85.97	85.32	85.16	86.22	86.28	86.60	86.77
219.5	86.16	86.19	86.00	85.97	85.91	86.02	86.03	86.00	85.40	85.29	86.19	86.31	86.73	86.81
220	86.20	86.16	86.04	86.04	85.93	86.02	86.07	85.97	85.49	85.30	86.25	86.44	86.59	86.87
220.5	86.12	86.14	86.06	86.07	86.03	86.05	86.04	85.77	85.40	85.40	86.36	86.41	86.44	86.88
221	86.14	86.19	86.08	86.07	86.03	86.08	86.06	85.74	85.38	85.35	86.24	86.27	86.58	86.83

221.5	86.20	86.21	86.12	86.15	86.11	86.10	86.06	85.57	85.43	85.35	86.24	86.10	86.45	86.74
222	86.17	86.22	86.11	86.20	86.17	86.18	86.06	85.63	85.41	85.51	86.41	86.14	86.58	86.78
222.5	86.24	86.31	86.11	86.13	86.13	86.20	86.15	85.90	85.47	85.61	86.47	86.36	86.59	86.77
223	86.30	86.36	86.12	86.11	86.10	86.17	86.13	86.02	85.49	85.56	86.47	86.38	86.44	86.81
223.5	86.26	86.27	86.13	86.11	86.05	86.19	86.16	85.91	85.46	85.46	86.47	86.33	86.44	86.84
224	86.16	86.16	86.12	86.04	86.05	86.17	86.17	85.78	85.46	85.37	86.45	86.42	86.59	86.84
224.5	86.12	86.11	86.13	86.09	86.05	86.19	86.14	85.60	85.42	85.42	86.50	86.47	86.73	86.78
225	86.08	86.12	86.04	86.05	86.06	86.17	86.17	85.68	85.45	85.38	86.46	86.50	86.74	86.76
225.5	86.09	86.04	85.93	86.02	86.03	86.16	86.06	85.68	85.43	85.36	86.51	86.49	86.44	86.76
226	86.10	86.07	85.99	85.99	86.02	86.13	86.07	85.88	85.43	85.39	86.33	86.48	86.59	86.76
226.5	86.07	86.08	85.95	86.02	86.04	86.10	86.01	85.95	85.40	85.28	86.17	86.47	86.74	86.82
227	86.02	85.96	86.02	86.08	86.01	86.06	86.01	85.74	85.34	85.23	86.14	86.49	86.59	86.79
227.5	86.10	86.10	86.07	86.11	86.09	86.10	86.00	85.55	85.30	85.26	86.19	86.47	86.59	86.73
228	86.16	86.15	86.05	86.05	86.08	86.12	86.02	85.53	85.38	85.33	86.40	86.50	86.60	86.75
228.5	86.05	86.06	85.96	85.95	85.98	86.02	86.03	85.62	85.40	85.39	86.39	86.51	86.59	86.76
229	85.82	85.78	85.92	85.98	85.98	86.07	86.06	85.71	85.46	85.36	86.17	86.55	86.59	86.78
229.5	85.90	86.00	85.92	86.00	86.01	86.08	86.09	85.90	85.40	85.32	86.15	86.51	86.46	86.74
230	85.97	85.90	85.90	85.89	85.95	86.02	86.03	85.90	85.34	85.26	86.09	86.20	86.44	86.72
230.5	85.89	85.83	85.80	85.81	85.79	85.96	86.03	85.97	85.27	85.24	86.14	86.06	86.30	86.66
231	85.90	85.87	85.74	85.75	85.68	85.85	85.97	85.92	85.27	85.21	86.13	86.03	86.30	86.73
231.5	85.92	85.94	85.82	85.82	85.76	85.85	85.96	85.87	85.32	85.14	86.17	86.25	86.44	86.70
232	86.00	85.99	85.87	85.81	85.79	85.92	85.94	85.94	85.39	85.16	86.14	86.31	86.44	86.66
232.5	85.85	85.86	85.80	85.84	85.83	85.87	85.91	85.88	85.43	85.24	86.17	86.33	86.44	86.68
233	85.85	85.85	85.78	85.80	85.84	85.83	85.88	85.92	85.48	85.28	86.15	86.36	86.59	86.73
233.5	85.76	85.73	85.69	85.78	85.83	85.90	85.85	85.97	85.63	85.39	86.12	86.28	86.59	86.70
234	85.74	85.75	85.64	85.74	85.82	85.90	85.93	85.98	85.71	85.37	86.10	86.29	86.44	86.40
234.5	85.76	85.77	85.67	85.77	85.73	85.77	85.90	85.95	85.69	85.42	86.07	86.20	86.30	86.40
235	85.70	85.81	85.83	85.79	85.72	85.73	85.91	85.74	85.63	85.33	86.20	86.20	86.15	86.46
235.5	85.74	85.80	85.77	85.81	85.73	85.77	85.85	85.66	85.43	85.34	86.27	86.11	86.28	86.44
236	85.77	85.78	85.70	85.72	85.78	85.83	85.90	85.64	85.37	85.29	86.22	85.91	86.15	86.53
236.5	85.82	85.87	85.70	85.69	85.76	85.80	85.85	85.65	85.36	85.21	86.17	85.99	86.44	86.59
237	85.79	85.71	85.70	85.74	85.69	85.79	85.75	85.70	85.24	85.21	86.25	86.15	86.44	86.62
237.5	85.74	85.73	85.58	85.61	85.63	85.80	85.76	85.62	85.21	85.22	86.43	86.25	86.43	86.61
238	85.67	85.70	85.62	85.62	85.55	85.65	85.84	85.61	85.23	85.27	86.57	86.33	86.59	86.60
238.5	85.67	85.63	85.64	85.66	85.61	85.71	85.69	85.49	85.32	85.31	86.37	86.34	86.59	86.58
239	85.87	85.85	85.74	85.71	85.65	85.72	85.60	85.43	85.37	85.25	86.15	86.25	86.00	86.45
239.5	85.95	85.93	85.80	85.74	85.62	85.76	85.70	85.58	85.37	85.36	86.13	86.22	86.30	86.49
240	85.89	85.84	85.73	85.72	85.69	85.73	85.81	85.70	85.46	85.33	86.16	86.16	86.30	86.56
240.5	85.82	85.83	85.83	85.80	85.78	85.79	85.83	85.81	85.52	85.40	86.34	86.22	86.31	86.61
241	85.85	85.86	85.80	85.85	85.84	85.84	85.83	85.68	85.40	85.29	86.36	86.27	86.45	86.57
241.5	85.73	85.73	85.70	85.79	85.76	85.86	85.83	85.78	85.30	85.24	86.23	86.29	86.44	86.57

242	85.81	85.72	85.72	85.74	85.81	85.81	85.83	85.82	85.35	85.19	86.12	86.28	86.43	86.51
242.5	85.54	85.51	85.53	85.72	85.76	85.80	85.88	85.88	85.27	85.16	86.17	86.09	86.30	86.53
243	85.59	85.51	85.49	85.65	85.61	85.69	85.83	85.84	85.32	85.19	86.19	86.20	86.59	86.50
243.5	85.34	85.37	85.34	85.51	85.45	85.52	85.67	85.76	85.22	85.19	86.33	86.17	86.43	86.43
244	85.36	85.41	85.43	85.47	85.39	85.49	85.64	85.74	85.17	85.17	86.17	86.06	86.30	86.41
244.5	85.43	85.50	85.43	85.44	85.43	85.50	85.60	85.47	85.17	85.07	86.01	86.09	86.15	86.40
245	85.40	85.50	85.41	85.43	85.44	85.50	85.63	85.42	85.04	84.86	85.95	86.02	86.30	86.42
245.5	85.61	85.56	85.49	85.43	85.47	85.51	85.59	85.33	84.96	84.92	85.89	85.92	86.29	86.39
246	85.62	85.45	85.39	85.50	85.50	85.55	85.65	85.45	85.01	85.01	85.88	86.01	86.16	86.33
246.5	85.56	85.52	85.47	85.51	85.52	85.56	85.58	85.51	85.07	84.98	85.81	85.96	86.30	86.22
247	85.50	85.41	85.44	85.44	85.42	85.55	85.64	85.58	85.10	85.09	85.87	85.97	86.01	86.33
247.5	85.59	85.58	85.53	85.49	85.46	85.46	85.58	85.62	85.20	85.13	85.97	86.01	86.15	86.41
248	85.65	85.59	85.45	85.43	85.48	85.51	85.59	85.60	85.18	85.08	85.80	86.06	86.29	86.38
248.5	85.50	85.54	85.44	85.39	85.43	85.50	85.61	85.57	85.19	84.93	85.78	86.10	86.15	86.31
249	85.54	85.54	85.41	85.40	85.38	85.44	85.62	85.63	85.05	84.82	85.80	86.04	86.29	86.33
249.5	85.55	85.56	85.48	85.43	85.43	85.51	85.60	85.59	84.87	84.76	85.71	85.89	86.14	86.32
250	85.48	85.45	85.34	85.36	85.41	85.45	85.59	85.60	84.80	84.78	85.73	85.98	86.30	86.38
250.5	85.35	85.33	85.22	85.29	85.41	85.47	85.46	85.44	84.80	84.78	85.73	86.02	86.14	86.36
251	85.29	85.24	85.13	85.24	85.31	85.45	85.35	85.22	84.82	84.64	85.68	86.00	86.15	86.35
251.5	85.09	85.08	85.04	85.15	85.21	85.35	85.37	85.09	84.69	84.57	85.69	85.90	86.01	86.30
252	85.04	85.07	85.01	85.12	85.19	85.28	85.30	85.07	84.75	84.72	85.79	85.88	86.02	86.25
252.5	85.23	85.20	85.03	85.10	85.12	85.22	85.30	85.10	84.86	84.67	85.93	85.94	86.02	86.27
253	85.08	84.97	84.78	84.90	84.93	85.17	85.20	85.23	84.99	84.72	85.90	85.78	86.02	86.28
253.5	84.96	84.99	84.86	84.88	84.92	85.07	85.19	85.21	85.02	84.75	85.81	85.84	86.14	86.24
254	85.07	85.07	84.95	84.92	84.93	85.16	85.20	85.26	84.95	84.69	85.67	85.92	86.16	86.20
254.5	85.09	85.05	85.03	85.02	84.91	85.10	85.19	85.27	84.82	84.54	85.66	85.87	85.86	86.05
255	85.09	85.11	85.04	85.05	84.96	85.13	85.15	85.19	84.64	84.45	85.91	85.80	85.72	85.95
255.5	85.16	85.11	85.03	85.01	84.99	85.16	85.19	85.07	84.52	84.32	86.01	85.74	85.57	85.95
256	84.98	84.95	84.91	84.93	84.83	84.77	85.07	85.07	84.51	84.46	85.83	85.70	85.71	85.94
256.5	84.86	84.87	84.86	84.90	84.96	84.90	84.97	85.01	84.51	84.45	85.57	85.61	85.71	85.89
257	84.93	84.89	84.81	84.99	84.94	85.06	85.03	85.05	84.54	84.50	85.57	85.62	85.72	85.84
257.5	84.81	84.67	84.77	84.87	84.86	85.14	85.11	85.00	84.54	84.61	85.73	85.66	85.73	85.87
258	84.69	84.52	84.46	84.69	84.77	85.05	84.98	84.76	84.44	84.46	85.86	85.63	85.71	85.79
258.5	84.68	84.65	84.63	84.70	84.74	84.95	85.03	84.69	84.47	84.56	85.89	85.53	85.71	85.73
259	84.67	84.58	84.59	84.52	84.55	84.81	84.99	84.80	84.36	84.66	85.86	85.54	85.44	85.79
259.5	84.54	84.52	84.50	84.50	84.62	84.83	84.93	84.81	84.25	84.64	85.84	85.39	85.43	85.70
260	84.53	84.39	84.46	84.52	84.67	84.76	84.96	84.72	84.20	84.41	85.72	85.37	85.57	85.65
260.5	84.57	84.46	84.41	84.52	84.58	84.69	84.80	84.55	84.18	84.22	85.62	85.40	85.43	85.58
261	84.60	84.40	84.36	84.48	84.57	84.69	84.65	84.39	84.18	84.02	85.65	85.39	85.43	85.52
261.5	84.48	84.42	84.32	84.39	84.44	84.65	84.69	84.46	84.22	84.04	85.41	85.32	85.42	85.46
262	84.38	84.29	84.23	84.33	84.36	84.50	84.68	84.50	84.18	84.09	85.42	85.23	85.13	85.38

262.5	84.54	84.42	84.26	84.31	84.34	84.52	84.69	84.51	84.25	84.21	85.17	85.20	85.43	85.39
263	84.44	84.21	84.21	84.28	84.32	84.43	84.63	84.68	84.29	84.27	85.27	85.17	85.14	85.44
263.5	84.45	84.30	84.17	84.19	84.16	84.30	84.55	84.66	84.26	84.28	85.35	85.22	85.29	85.40
264	84.38	84.27	84.25	84.25	84.19	84.33	84.54	84.40	84.04	84.12	85.41	85.14	85.15	85.31
264.5	84.41	84.27	84.22	84.29	84.19	84.27	84.50	84.26	84.05	83.99	85.29	85.05	84.86	85.23
265	84.46	84.29	84.21	84.20	84.14	84.15	84.37	84.29	84.10	84.05	85.06	85.01	85.14	85.19
265.5	84.48	84.32	84.21	84.20	84.17	84.25	84.36	84.24	84.11	84.03	85.03	85.03	85.13	85.19
266	84.55	84.34	84.21	84.30	84.27	84.34	84.32	84.17	84.13	83.95	85.03	85.00	85.15	85.18
266.5	84.53	84.34	84.24	84.26	84.24	84.35	84.30	84.18	83.99	83.95	85.15	85.01	85.12	85.19
267	84.43	84.23	84.17	84.25	84.22	84.38	84.29	84.14	83.94	84.10	85.24	84.95	84.85	85.22
267.5	84.36	84.14	84.24	84.28	84.31	84.38	84.21	84.02	83.99	84.18	85.08	84.76	84.85	85.16
268	84.37	84.16	84.14	84.21	84.29	84.39	84.29	84.05	84.02	83.97	85.02	84.84	85.00	85.17
268.5	84.32	84.08	84.02	84.13	84.09	84.13	84.29	84.09	83.88	83.84	85.05	84.86	84.99	85.18
269	84.35	84.11	84.02	84.10	84.06	84.11	84.22	84.13	83.87	83.92	84.90	84.90	84.86	85.20
269.5	84.19	83.91	83.84	84.02	84.00	84.15	84.27	84.26	83.81	83.87	84.76	84.91	85.00	85.22
270	84.19	83.91	83.81	83.92	83.92	84.19	84.29	84.14	83.87	83.91	84.79	84.94	85.14	85.22
270.5	84.10	83.88	83.87	83.92	83.96	84.07	84.14	84.13	83.80	83.69	84.70	84.88	85.12	85.23
271	84.08	83.85	83.77	83.87	83.89	83.96	84.05	84.13	83.78	83.66	84.46	84.75	85.12	85.10
271.5	84.20	84.00	83.91	83.94	83.91	84.02	84.08	84.19	83.73	83.62	84.60	84.86	85.00	85.09
272	84.17	83.98	83.96	83.87	83.90	84.08	84.07	84.19	83.73	83.68	84.57	84.86	84.85	85.09
272.5	84.06	83.88	83.94	83.98	84.02	84.15	84.08	84.11	83.84	83.77	84.84	84.89	84.85	85.14
273	84.15	84.01	83.97	83.98	84.05	84.13	84.11	84.12	83.81	83.72	85.03	84.93	85.01	85.12
273.5	84.04	83.91	83.97	83.97	83.95	84.02	84.03	84.09	83.86	83.77	85.11	84.89	85.00	85.03
274	84.07	83.90	83.91	84.01	83.97	83.98	84.08	83.78	83.60	83.89	85.08	84.81	84.85	85.12
274.5	84.13	83.94	83.90	83.97	83.91	84.02	83.97	83.85	83.50	83.92	85.02	84.78	84.56	85.03
275	84.14	83.94	83.91	83.92	83.92	84.06	84.00	83.76	83.41	83.86	84.90	84.75	84.69	85.07
275.5	83.99	83.78	83.72	83.86	83.94	84.00	83.98	83.67	83.52	83.67	84.94	84.77	84.84	85.03
276	83.69	83.65	83.70	83.71	83.77	84.02	84.01	83.84	83.64	83.68	84.93	84.81	84.85	85.04
276.5	83.79	83.65	83.58	83.70	83.76	84.01	84.01	83.96	83.56	83.56	84.94	84.84	84.86	85.11
277	83.86	83.70	83.60	83.64	83.71	83.89	83.97	84.01	83.68	83.59	84.79	84.76	85.14	85.10
277.5	84.01	83.90	83.74	83.72	83.72	83.89	83.88	84.01	83.66	83.62	84.60	84.81	84.85	85.12
278	83.78	83.75	83.78	83.87	83.84	83.91	83.89	84.00	83.60	83.57	84.62	84.75	84.84	84.99
278.5	84.06	84.01	83.96	84.02	83.89	83.95	83.93	83.93	83.59	83.47	84.70	84.71	84.70	84.98
279	84.07	83.93	83.99	83.98	83.92	83.98	83.98	83.99	83.55	83.46	84.68	84.73	84.85	85.01
279.5	84.20	84.16	83.99	84.00	83.95	84.03	84.04	84.09	83.55	83.48	84.70	84.73	85.00	85.07
280	84.24	84.09	83.99	84.05	84.04	84.06	84.07	84.08	83.50	83.46	84.61	84.75	84.85	85.01
280.5	84.14	84.03	83.97	84.10	84.10	84.06	84.07	84.08	83.42	83.35	84.51	84.72	84.85	85.03
281	84.00	83.98	83.97	84.04	84.02	84.03	84.08	84.09	83.44	83.38	84.67	84.76	84.85	85.06
281.5	83.95	83.89	83.91	83.96	83.89	84.07	84.08	84.11	83.43	83.36	84.70	84.74	84.99	85.05
282	83.84	83.80	83.81	83.92	83.91	84.06	84.08	84.11	83.38	83.32	84.65	84.76	85.00	85.07
282.5	84.00	83.90	83.84	83.81	83.85	84.05	84.08	84.12	83.32	83.36	84.64	84.81	85.00	85.10

283	83.89	83.77	83.76	83.75	83.74	83.85	84.06	84.08	83.32	83.41	84.43	84.81	84.85	85.00
283.5	83.97	83.83	83.78	83.80	83.79	83.84	84.01	84.07	83.40	83.50	84.43	84.79	84.72	84.98
284	83.97	83.90	83.80	83.84	83.87	83.92	84.03	83.94	83.42	83.52	84.29	84.65	84.56	85.00
284.5	83.95	83.90	83.86	83.89	83.89	83.94	84.02	83.81	83.40	83.31	84.19	84.61	84.56	84.86
285	83.85	83.76	83.71	83.83	83.80	83.97	83.99	83.80	83.39	83.28	84.44	84.62	84.56	84.93
285.5	83.83	83.73	83.67	83.73	83.73	83.94	84.02	83.91	83.54	83.37	84.35	84.68	84.72	84.96
286	83.81	83.68	83.67	83.72	83.74	83.91	83.93	83.96	83.60	83.41	84.55	84.63	84.71	84.91
286.5	83.70	83.65	83.64	83.72	83.75	83.83	83.94	83.95	83.42	83.52	84.55	84.59	84.85	84.95
287	83.80	83.75	83.69	83.68	83.75	83.88	83.85	83.82	83.28	83.55	84.52	84.56	84.71	84.94
287.5	83.62	83.70	83.70	83.76	83.76	83.81	83.83	83.65	83.27	83.42	84.66	84.63	84.72	84.94
288	83.66	83.61	83.64	83.65	83.64	83.71	83.70	83.42	83.18	83.29	84.35	84.60	84.56	84.93
288.5	83.63	83.60	83.57	83.54	83.51	83.55	83.75	83.49	83.19	83.25	84.14	84.53	84.42	84.90
289	83.53	83.50	83.46	83.53	83.55	83.61	83.75	83.61	83.30	83.27	84.12	84.55	84.56	84.89
289.5	83.56	83.55	83.51	83.56	83.65	83.76	83.75	83.61	83.33	83.26	84.21	84.52	84.70	84.93
290	83.72	83.73	83.66	83.63	83.63	83.78	83.76	83.56	83.21	83.21	84.27	84.59	84.70	84.83
290.5	83.79	83.66	83.74	83.65	83.68	83.81	83.72	83.43	83.22	83.24	84.55	84.63	84.86	84.89
291	83.63	83.62	83.55	83.63	83.67	83.78	83.62	83.38	83.17	83.10	84.67	84.65	84.56	84.92
291.5	83.72	83.53	83.54	83.49	83.63	83.83	83.69	83.40	83.19	83.16	84.74	84.70	84.86	84.89
292	83.59	83.54	83.51	83.40	83.35	83.52	83.68	83.39	83.12	83.05	84.68	84.62	84.71	84.84
292.5	83.45	83.42	83.46	83.48	83.49	83.67	83.75	83.27	82.97	82.94	84.69	84.64	84.72	84.89
293	83.45	83.37	83.32	83.30	83.42	83.66	83.67	83.51	83.06	83.01	84.22	84.42	84.84	84.89
293.5	83.50	83.44	83.34	83.32	83.32	83.59	83.64	83.63	83.12	83.13	84.02	84.28	84.55	84.85
294	83.32	83.27	83.26	83.37	83.36	83.51	83.62	83.68	83.19	83.14	83.99	84.33	84.56	84.89
294.5	83.41	83.31	83.26	83.35	83.35	83.54	83.64	83.61	83.12	83.11	84.08	84.49	84.71	84.85
295	83.53	83.45	83.33	83.31	83.37	83.46	83.58	83.56	83.17	83.15	84.30	84.52	84.56	84.82
295.5	83.53	83.53	83.39	83.36	83.35	83.47	83.54	83.51	83.23	83.20	84.44	84.52	84.56	84.77
296	83.69	83.69	83.59	83.52	83.43	83.50	83.53	83.52	83.27	83.31	84.38	84.45	84.72	84.86
296.5	83.77	83.80	83.74	83.58	83.51	83.59	83.57	83.55	83.31	83.26	84.25	84.47	84.71	84.90
297	83.79	83.80	83.69	83.67	83.61	83.68	83.50	83.58	83.44	83.22	84.42	84.50	84.44	84.80
297.5	83.71	83.80	83.70	83.62	83.65	83.72	83.60	83.59	83.37	83.31	84.49	84.44	84.56	84.81
298	83.85	83.76	83.64	83.52	83.46	83.76	83.66	83.67	83.17	83.44	84.66	84.54	84.57	84.89
298.5	83.69	83.64	83.63	83.54	83.51	83.61	83.62	83.56	83.14	83.46	84.65	84.59	84.56	84.88
299	83.51	83.57	83.63	83.55	83.61	83.64	83.61	83.62	83.17	83.23	84.41	84.50	84.56	84.84
299.5	83.64	83.56	83.56	83.53	83.62	83.70	83.68	83.72	83.13	83.10	84.43	84.55	84.57	84.79
300	83.50	83.50	83.49	83.51	83.58	83.65	83.67	83.76	82.95	82.99	84.64	84.54	84.56	84.72
300.5	83.38	83.37	83.39	83.46	83.47	83.61	83.64	83.34	82.87	82.91	84.54	84.54	84.41	84.74
301	83.45	83.42	83.36	83.39	83.45	83.50	83.60	83.18	82.88	83.08	84.51	84.51	84.70	84.70
301.5	83.66	83.62	83.51	83.50	83.50	83.56	83.59	83.18	82.93	83.17	84.40	84.48	84.56	84.67
302	83.66	83.64	83.56	83.60	83.60	83.65	83.60	83.31	83.02	83.48	84.63	84.47	84.58	84.69
302.5	83.58	83.56	83.52	83.55	83.46	83.57	83.53	83.32	83.13	83.56	84.63	84.47	84.28	84.67
303	83.64	83.67	83.61	83.61	83.53	83.52	83.55	83.46	83.17	83.41	84.64	84.44	84.56	84.63

303.5	83.67	83.64	83.60	83.64	83.61	83.61	83.61	83.55	83.19	83.35	84.45	84.43	84.56	84.56
304	83.74	83.64	83.60	83.67	83.67	83.65	83.67	83.39	83.18	83.21	84.36	84.36	84.27	84.65
304.5	83.59	83.51	83.41	83.55	83.54	83.58	83.68	83.22	83.14	83.03	84.41	84.44	84.56	84.66
305	83.41	83.38	83.37	83.43	83.38	83.45	83.64	83.36	83.05	83.02	84.51	84.43	84.56	84.69
305.5	83.29	83.20	83.15	83.26	83.35	83.50	83.59	83.37	82.97	83.00	84.28	84.42	84.56	84.63
306	83.38	83.35	83.22	83.21	83.15	83.22	83.56	83.32	83.06	83.20	84.25	84.31	84.72	84.69
306.5	83.42	83.43	83.34	83.26	83.19	83.33	83.52	83.30	83.06	83.04	84.08	84.31	84.28	84.45
307	83.41	83.43	83.38	83.33	83.21	83.37	83.49	83.44	83.03	82.93	84.25	84.20	83.99	84.50
307.5	83.47	83.37	83.20	83.25	83.24	83.41	83.34	83.45	83.02	83.12	84.38	84.22	84.27	84.56
308	83.44	83.34	83.26	83.24	83.31	83.46	83.45	83.42	83.12	83.12	84.25	84.22	84.27	84.55
308.5	83.27	83.19	83.14	83.19	83.23	83.44	83.43	83.46	83.23	82.90	84.12	83.94	84.43	84.50
309	83.40	83.32	83.17	83.27	83.26	83.34	83.32	83.38	83.17	82.89	84.13	84.02	84.13	84.31
309.5	83.36	83.29	83.05	83.33	83.33	83.37	83.33	83.07	82.87	82.85	84.16	83.91	84.12	84.35
310	83.49	83.48	83.29	83.39	83.42	83.46	83.33	83.03	82.80	82.81	84.15	83.93	84.28	84.42
310.5	83.52	83.49	83.33	83.40	83.42	83.36	83.33	82.93	82.71	82.83	84.28	84.09	84.56	84.45
311	83.44	83.32	83.38	83.42	83.41	83.47	83.39	82.96	82.76	83.07	84.36	84.06	84.14	84.54
311.5	83.32	83.26	83.24	83.31	83.31	83.46	83.46	83.19	82.87	83.04	84.33	84.15	84.28	84.53
312	83.42	83.39	83.32	83.26	83.31	83.42	83.45	83.16	82.96	82.97	84.30	84.13	84.28	84.57
312.5	83.35	83.21	83.08	83.22	83.30	83.43	83.39	83.10	82.88	82.84	84.34	84.19	84.27	84.52
313	83.30	83.19	83.14	83.13	83.14	83.29	83.42	82.98	82.76	82.80	84.43	84.22	84.27	84.47
313.5	83.32	83.23	83.16	83.11	83.12	83.26	83.40	82.97	82.71	82.80	84.21	84.22	84.28	84.50
314	83.37	83.40	83.30	83.18	83.23	83.26	83.37	82.98	82.76	82.86	84.00	84.24	84.42	84.50
314.5	83.39	83.35	83.21	83.24	83.23	83.32	83.37	82.94	82.82	82.91	83.89	84.24	84.42	84.53
315	83.50	83.46	83.37	83.31	83.36	83.41	83.38	83.11	82.71	82.91	84.22	84.31	84.29	84.52
315.5	83.49	83.38	83.30	83.34	83.34	83.44	83.32	83.18	82.73	82.89	84.11	84.30	84.27	84.52
316	83.50	83.35	83.23	83.24	83.40	83.51	83.39	83.22	82.83	82.89	84.03	84.24	84.27	84.49
316.5	83.41	83.31	83.29	83.34	83.38	83.48	83.48	83.32	82.98	82.93	84.00	84.22	84.42	84.59
317	83.19	83.05	83.19	83.25	83.24	83.21	83.47	83.45	82.96	82.98	84.23	84.31	84.27	84.65
317.5	83.09	83.12	83.07	83.17	83.28	83.31	83.47	83.51	82.95	82.93	84.26	84.25	84.27	84.59
318	83.29	83.25	83.21	83.17	83.27	83.34	83.49	83.48	82.91	82.83	84.11	84.27	84.27	84.53
318.5	83.20	83.25	83.21	83.21	83.23	83.29	83.47	83.25	82.83	82.76	84.25	84.30	84.27	84.56
319	83.46	83.42	83.34	83.33	83.28	83.35	83.45	83.16	82.85	82.76	84.30	84.20	84.13	84.44
319.5	83.39	83.47	83.36	83.41	83.37	83.36	83.39	83.29	82.76	82.92	84.32	84.06	83.99	84.34
320	83.39	83.32	83.30	83.37	83.31	83.41	83.39	83.36	82.91	82.92	84.08	84.02	83.99	84.31
320.5	83.45	83.36	83.39	83.35	83.40	83.44	83.46	83.40	83.20	82.88	83.78	84.03	84.12	84.41
321	83.52	83.50	83.42	83.35	83.41	83.44	83.49	83.49	83.32	82.86	83.80	84.03	84.14	84.48
321.5	83.53	83.50	83.45	83.42	83.43	83.44	83.49	83.47	83.37	82.95	84.05	84.16	84.27	84.45
322	83.51	83.44	83.41	83.41	83.34	83.44	83.49	83.34	83.34	83.08	84.23	84.14	84.13	84.44
322.5	83.45	83.39	83.39	83.45	83.38	83.47	83.53	83.19	83.00	83.01	84.28	84.06	84.28	84.48
323	83.38	83.32	83.41	83.43	83.40	83.46	83.50	83.00	82.85	83.13	84.28	84.19	84.12	84.48
323.5	83.29	83.37	83.46	83.45	83.41	83.44	83.29	82.89	82.75	83.12	84.19	84.17	83.99	84.50

324	83.36	83.38	83.31	83.30	83.27	83.34	83.16	82.88	82.72	82.75	83.75	84.05	84.13	84.55
324.5	83.46	83.50	83.47	83.41	83.33	83.35	83.25	82.94	82.75	82.69	83.62	84.12	84.42	84.61
325	83.62	83.69	83.59	83.56	83.47	83.50	83.40	83.08	82.81	82.75	83.75	84.24	84.44	84.56
325.5	83.56	83.58	83.60	83.55	83.54	83.58	83.54	83.28	82.78	82.76	84.00	84.17	84.27	84.53
326	83.40	83.48	83.49	83.53	83.48	83.58	83.60	83.48	82.82	82.86	84.08	84.20	84.27	84.44
326.5	83.61	83.58	83.52	83.55	83.49	83.52	83.58	83.52	82.89	82.94	84.14	84.22	84.28	84.51
327	83.54	83.51	83.50	83.54	83.45	83.52	83.60	83.42	82.96	82.96	84.04	84.20	84.27	84.58
327.5	83.46	83.38	83.40	83.44	83.44	83.55	83.48	83.38	82.96	82.98	83.87	84.30	84.56	84.66
328	83.44	83.38	83.26	83.33	83.34	83.48	83.52	83.42	83.02	82.82	83.73	84.25	84.42	84.66
328.5	83.34	83.32	83.26	83.25	83.23	83.27	83.55	83.54	83.00	82.81	83.89	84.36	84.43	84.69
329	83.39	83.38	83.34	83.28	83.27	83.31	83.42	83.48	82.89	82.93	84.20	84.30	84.42	84.62
329.5	83.41	83.48	83.39	83.35	83.26	83.25	83.45	83.41	82.88	82.98	84.32	84.31	84.42	84.62
330	83.51	83.50	83.44	83.41	83.32	83.27	83.36	83.40	82.94	82.90	84.38	84.38	84.28	84.58
330.5	83.45	83.34	83.38	83.40	83.35	83.36	83.34	83.34	82.93	82.91	84.44	84.30	84.27	84.65
331	83.67	83.70	83.61	83.55	83.45	83.46	83.42	83.31	82.93	83.03	84.52	84.38	84.56	84.65
331.5	83.82	83.78	83.72	83.63	83.56	83.57	83.47	83.26	82.96	83.01	84.44	84.36	84.43	84.67
332	83.65	83.66	83.72	83.70	83.59	83.50	83.49	83.14	82.95	82.97	84.27	84.35	84.41	84.70
332.5	83.80	83.74	83.67	83.71	83.67	83.62	83.48	83.17	83.01	82.98	84.26	84.47	84.72	84.78
333	83.89	83.89	83.72	83.67	83.66	83.68	83.52	83.26	82.98	83.00	84.31	84.35	84.41	84.82
333.5	83.95	83.96	83.86	83.76	83.67	83.77	83.63	83.37	83.01	82.94	84.44	84.46	84.41	84.84
334	84.03	83.94	83.87	83.81	83.74	83.81	83.74	83.55	83.11	82.93	84.36	84.49	84.71	84.81
334.5	83.79	83.78	83.77	83.72	83.75	83.83	83.77	83.62	83.12	83.02	84.42	84.46	84.56	84.88
335	83.77	83.80	83.71	83.72	83.71	83.81	83.80	83.64	83.11	83.26	84.55	84.46	84.56	84.93
335.5	83.61	83.63	83.59	83.72	83.75	83.84	83.81	83.67	83.10	83.30	84.53	84.51	84.72	85.01
336	83.59	83.63	83.63	83.68	83.68	83.82	83.86	83.75	83.25	83.27	84.66	84.53	84.87	84.99
336.5	83.68	83.66	83.69	83.65	83.63	83.76	83.85	83.81	83.33	83.27	84.63	84.59	84.84	84.95
337	83.71	83.78	83.76	83.74	83.63	83.75	83.84	83.84	83.29	83.38	84.73	84.60	84.56	84.90
337.5	83.85	83.81	83.77	83.80	83.75	83.79	83.82	83.82	83.42	83.70	84.84	84.64	84.72	84.95
338	84.00	84.04	83.93	83.84	83.80	83.83	83.85	83.78	83.55	83.85	84.80	84.63	84.85	84.91
338.5	84.07	84.11	83.96	83.91	83.92	83.91	83.80	83.69	83.58	83.88	84.81	84.62	84.71	85.00
339	84.09	84.08	84.02	84.02	83.99	83.99	83.91	83.74	83.46	83.79	84.87	84.66	84.72	85.01
339.5	84.07	84.04	83.97	83.98	84.01	83.99	83.94	83.79	83.57	83.82	84.93	84.68	84.71	85.03
340	84.00	83.97	83.94	83.97	83.98	84.01	83.87	83.65	83.63	83.81	84.65	84.54	84.85	85.06
340.5	84.07	84.00	83.91	83.90	83.91	83.98	83.83	83.69	83.57	83.72	84.64	84.73	84.85	85.14
341	84.03	84.11	83.96	83.90	83.90	83.90	83.72	83.61	83.47	83.67	84.86	84.84	85.13	85.19
341.5	84.14	84.11	84.06	84.00	83.97	83.95	83.65	83.45	83.37	83.79	84.99	84.91	84.85	85.17
342	84.21	84.21	84.07	84.07	83.98	83.88	83.77	83.42	83.48	83.78	85.08	84.94	85.00	85.22
342.5	84.23	84.21	84.11	84.07	84.00	83.91	83.84	83.49	83.61	83.92	85.14	84.88	85.14	85.29
343	84.06	84.04	84.03	84.01	83.92	83.92	83.91	83.52	83.55	83.66	84.73	84.78	85.29	85.23
343.5	83.98	83.95	83.97	83.96	83.90	84.01	83.95	83.66	83.51	83.54	84.47	84.79	85.15	85.17
344	84.06	83.97	83.90	83.92	83.92	84.05	83.97	83.71	83.47	83.49	84.62	84.86	85.14	85.22

344.5	84.17	84.13	83.97	83.97	83.96	84.02	84.02	83.85	83.54	83.55	84.98	84.98	85.01	85.28
345	84.29	84.33	84.21	84.08	84.01	84.01	83.90	83.64	83.53	83.72	85.12	85.04	84.85	85.30
345.5	84.36	84.37	84.31	84.24	84.15	84.08	84.00	83.72	83.47	83.82	85.09	84.92	84.85	85.28
346	84.44	84.37	84.27	84.24	84.18	84.19	84.08	83.74	83.42	83.55	84.90	84.88	85.00	85.35
346.5	84.39	84.40	84.23	84.21	84.15	84.13	84.17	83.84	83.48	83.49	84.83	85.04	85.14	85.35
347	84.28	84.31	84.19	84.22	84.14	84.17	84.15	83.96	83.42	83.51	84.97	85.05	85.13	85.33
347.5	84.34	84.21	84.23	84.25	84.21	84.22	84.17	83.99	83.37	83.75	85.06	85.04	85.00	85.35
348	84.32	84.26	84.21	84.19	84.19	84.20	84.15	83.80	83.24	83.51	84.76	85.00	85.28	85.38
348.5	84.32	84.34	84.23	84.19	84.17	84.18	84.19	83.60	83.30	83.37	84.54	84.97	84.99	85.40
349	84.36	84.30	84.23	84.22	84.18	84.21	84.21	83.59	83.37	83.39	84.45	85.01	85.14	85.45
349.5	84.33	84.32	84.21	84.19	84.14	84.17	84.13	83.81	83.40	83.44	84.60	85.05	85.28	85.41
350	84.34	84.40	84.35	84.28	84.22	84.19	84.15	83.93	83.46	83.72	84.90	85.09	85.15	85.50
350.5	84.26	84.27	84.20	84.22	84.21	84.08	84.10	83.76	83.51	83.62	84.89	85.04	85.29	85.49
351	84.38	84.30	84.25	84.24	84.22	84.17	83.95	83.73	83.54	83.59	84.91	85.01	85.12	85.42
351.5	84.32	84.35	84.32	84.30	84.26	84.24	84.09	83.86	83.74	83.59	84.52	84.84	85.29	85.46
352	84.19	84.32	84.36	84.30	84.29	84.28	84.19	83.99	83.85	83.58	84.65	84.97	85.28	85.46
352.5	84.37	84.39	84.31	84.28	84.27	84.31	84.26	84.14	83.94	83.74	84.92	85.17	85.14	85.49
353	84.56	84.52	84.43	84.32	84.27	84.29	84.26	84.16	83.84	83.74	85.09	85.20	85.29	85.51
353.5	84.54	84.52	84.41	84.35	84.31	84.35	84.24	84.06	83.63	83.75	85.17	85.08	85.29	85.52
354	84.61	84.63	84.49	84.41	84.38	84.18	84.33	83.89	83.53	83.69	85.09	85.17	85.29	85.52
354.5	84.58	84.57	84.51	84.46	84.40	84.40	84.40	83.93	83.56	83.64	84.87	85.19	85.29	85.53
355	84.42	84.38	84.35	84.37	84.38	84.39	84.45	84.11	83.61	83.61	84.63	85.26	85.45	85.53
355.5	84.36	84.31	84.35	84.27	84.26	84.33	84.39	84.11	83.62	83.64	84.59	85.16	85.42	85.54
356	84.37	84.42	84.37	84.38	84.31	84.33	84.33	84.11	83.67	83.74	84.62	85.13	85.29	85.47
356.5	84.43	84.52	84.46	84.45	84.39	84.39	84.39	84.09	83.71	83.78	84.70	85.10	85.29	85.41
357	84.44	84.41	84.31	84.30	84.32	84.43	84.41	84.22	83.78	83.99	84.87	85.14	85.44	85.47
357.5	84.43	84.47	84.39	84.32	84.29	84.31	84.30	84.24	83.83	83.97	85.05	85.16	85.29	85.41
358	84.54	84.52	84.50	84.41	84.34	84.31	84.31	84.22	83.87	83.97	85.06	85.14	85.14	85.36
358.5	84.57	84.60	84.59	84.51	84.44	84.39	84.37	84.24	83.86	84.04	85.19	85.10	85.29	85.35
359	84.53	84.47	84.44	84.48	84.48	84.42	84.42	84.29	83.97	84.20	85.31	85.14	85.29	85.45
359.5	84.43	84.46	84.41	84.44	84.41	84.42	84.46	84.28	84.05	84.17	85.31	85.02	85.14	85.48
360	84.46	84.42	84.39	84.38	84.35	84.38	84.49	84.18	83.97	84.20	85.31	85.08	85.14	85.51
360.5	84.36	84.30	84.31	84.35	84.32	84.38	84.33	83.96	83.84	84.10	85.36	85.08	85.29	85.52
361	84.33	84.29	84.26	84.32	84.27	84.28	84.24	83.96	83.77	84.05	85.34	85.24	85.43	85.55
361.5	84.33	84.32	84.33	84.37	84.25	84.26	84.06	83.85	83.70	83.98	85.49	85.27	85.29	85.48
362	84.52	84.63	84.52	84.45	84.29	84.21	83.95	83.87	83.75	84.12	85.33	85.24	85.29	85.47
362.5	84.51	84.47	84.46	84.46	84.31	84.31	83.96	83.83	83.82	83.96	85.16	85.21	85.13	85.46
363	84.48	84.48	84.46	84.42	84.37	84.31	84.15	84.01	83.79	83.77	85.05	85.21	85.42	85.49
363.5	84.43	84.45	84.40	84.41	84.41	84.41	84.23	84.16	83.81	83.74	85.24	85.27	85.43	85.55
364	84.48	84.39	84.39	84.42	84.43	84.47	84.38	84.21	83.85	84.02	85.23	85.29	85.28	85.57
364.5	84.49	84.48	84.49	84.53	84.49	84.50	84.47	84.22	83.94	84.02	85.13	85.34	85.44	85.62

365	84.55	84.52	84.45	84.42	84.41	84.41	84.51	84.23	83.89	83.99	85.04	85.28	85.28	85.54
365.5	84.47	84.17	84.31	84.37	84.39	84.43	84.49	84.34	84.00	84.01	84.90	85.04	85.29	85.52
366	84.49	84.36	84.40	84.41	84.41	84.42	84.53	84.37	83.99	83.82	84.77	84.98	85.29	85.54
366.5	84.54	84.43	84.36	84.42	84.45	84.49	84.52	84.32	83.97	83.81	84.80	85.18	85.29	85.58
367	84.58	84.53	84.45	84.46	84.47	84.47	84.51	84.30	84.01	83.92	84.85	85.31	85.29	85.53
367.5	84.47	84.47	84.43	84.39	84.35	84.37	84.53	84.26	84.03	83.92	84.83	85.23	85.12	85.49
368	84.59	84.57	84.51	84.50	84.41	84.41	84.52	84.24	84.02	83.94	84.81	85.24	85.43	85.57
368.5	84.56	84.59	84.54	84.54	84.45	84.45	84.55	84.26	84.00	83.92	84.84	85.24	85.14	85.61
369	84.51	84.56	84.53	84.50	84.47	84.45	84.49	84.34	84.02	83.95	84.96	85.39	85.43	85.63
369.5	84.60	84.57	84.49	84.47	84.47	84.52	84.52	84.39	84.05	84.02	84.93	85.34	85.43	85.61
370	84.52	84.51	84.52	84.50	84.46	84.51	84.52	84.46	84.05	83.99	84.90	85.24	85.44	85.63
370.5	84.67	84.65	84.60	84.51	84.51	84.56	84.55	84.52	84.00	83.95	84.83	85.18	85.43	85.67
371	84.55	84.55	84.58	84.57	84.57	84.60	84.58	84.50	84.17	83.99	84.82	85.22	85.57	85.60
371.5	84.41	84.47	84.45	84.47	84.47	84.61	84.60	84.47	84.20	84.06	84.97	85.32	85.44	85.59
372	84.43	84.43	84.36	84.34	84.35	84.51	84.62	84.54	84.22	84.08	85.17	85.32	85.29	85.61
372.5	84.44	84.39	84.37	84.34	84.37	84.35	84.57	84.52	84.25	84.05	85.34	85.33	85.72	85.60
373	84.59	84.50	84.48	84.42	84.43	84.44	84.54	84.54	84.34	84.02	85.39	85.37	85.58	85.65
373.5	84.61	84.57	84.53	84.51	84.47	84.51	84.53	84.49	84.26	83.98	85.25	85.33	85.43	85.61
374	84.69	84.71	84.64	84.59	84.52	84.57	84.58	84.47	84.23	84.07	85.36	85.35	85.44	85.62
374.5	84.70	84.69	84.64	84.59	84.56	84.59	84.59	84.48	84.16	84.09	85.43	85.37	85.70	85.62
375	84.69	84.69	84.66	84.60	84.62	84.65	84.62	84.54	84.12	84.17	85.34	85.39	85.29	85.65
375.5	84.72	84.78	84.72	84.67	84.66	84.71	84.67	84.53	84.17	84.03	85.35	85.41	85.44	85.68
376	84.83	84.83	84.71	84.68	84.68	84.72	84.70	84.54	84.09	83.97	85.36	85.43	85.72	85.74
376.5	84.84	84.88	84.73	84.69	84.62	84.69	84.70	84.58	84.05	83.91	85.43	85.39	85.43	85.80
377	84.79	84.77	84.72	84.73	84.67	84.74	84.74	84.46	83.98	83.91	85.30	85.45	85.57	85.84
377.5	84.70	84.78	84.76	84.74	84.69	84.72	84.80	84.55	83.94	83.98	85.09	85.52	85.57	85.83
378	84.67	84.72	84.73	84.78	84.73	84.75	84.79	84.65	83.97	84.02	85.18	85.53	85.41	85.83
378.5	84.75	84.55	84.69	84.73	84.73	84.78	84.81	84.75	84.05	84.06	85.14	85.56	85.73	85.90
379	84.68	84.59	84.60	84.61	84.65	84.76	84.79	84.73	84.06	84.04	85.24	85.43	85.56	85.86
379.5	84.66	84.60	84.60	84.61	84.64	84.73	84.73	84.75	84.13	84.04	85.33	85.58	85.72	85.96
380	84.71	84.64	84.61	84.62	84.64	84.74	84.75	84.67	84.26	84.06	85.61	85.66	85.73	85.97
380.5	84.61	84.60	84.54	84.56	84.56	84.68	84.77	84.52	84.23	84.10	85.71	85.64	85.87	85.98
381	84.58	84.61	84.59	84.60	84.59	84.64	84.75	84.53	84.13	84.16	85.74	85.62	85.87	85.94
381.5	84.69	84.66	84.56	84.62	84.65	84.66	84.72	84.51	84.15	84.12	85.53	85.64	85.72	85.79
382	84.79	84.76	84.64	84.60	84.59	84.60	84.67	84.49	84.12	84.08	85.52	85.50	85.57	85.79
382.5	84.77	84.83	84.71	84.67	84.61	84.51	84.65	84.41	84.07	84.04	85.49	85.50	85.57	85.82
383	84.85	84.91	84.75	84.66	84.53	84.58	84.67	84.46	84.04	84.06	85.42	85.59	85.73	85.94
383.5	84.99	85.03	84.89	84.82	84.74	84.77	84.80	84.63	84.17	84.23	85.59	85.66	86.00	85.97
384	85.08	85.14	84.96	84.91	84.77	84.84	84.87	84.70	84.40	84.35	85.67	85.71	85.71	85.98
384.5	85.19	85.19	85.09	84.99	84.88	84.91	84.90	84.49	84.44	84.62	85.77	85.69	85.85	85.97
385	85.22	85.16	85.10	85.07	84.98	84.96	84.88	84.42	84.36	84.78	85.84	85.71	86.01	85.98

385.5	85.24	85.16	85.10	85.06	85.02	84.97	84.93	84.41	84.39	84.70	85.64	85.69	85.70	86.05
386	85.20	85.24	85.15	85.09	85.02	85.04	84.99	84.52	84.37	84.59	85.74	85.73	85.87	86.00
386.5	85.13	85.19	85.19	85.14	85.08	85.06	85.03	84.51	84.33	84.48	85.85	85.71	86.01	86.02
387	85.09	85.06	85.03	85.04	85.08	85.12	85.08	84.75	84.29	84.32	85.82	85.72	85.86	86.03
387.5	84.96	84.98	84.93	84.97	85.04	85.08	85.08	84.84	84.23	84.24	85.59	85.78	86.01	86.06
388	84.96	84.92	84.86	84.88	84.92	84.96	85.01	84.67	84.20	84.20	85.60	85.81	85.86	86.08
388.5	84.85	84.88	84.79	84.80	84.81	84.84	84.94	84.39	84.20	84.23	85.83	85.82	85.85	85.98
389	84.88	84.87	84.85	84.83	84.83	84.85	84.94	84.46	84.30	84.29	85.70	85.76	85.85	86.05
389.5	84.85	84.85	84.81	84.86	84.83	84.90	84.82	84.47	84.21	84.35	85.71	85.77	85.71	86.01
390	84.81	84.88	84.79	84.82	84.76	84.85	84.81	84.40	84.25	84.33	85.62	85.73	85.71	85.98
390.5	84.92	84.91	84.81	84.84	84.81	84.86	84.86	84.54	84.32	84.38	85.72	85.71	85.86	86.03
391	84.84	84.90	84.78	84.79	84.72	84.73	84.83	84.73	84.49	84.48	85.64	85.75	86.02	86.13
391.5	84.94	84.93	84.90	84.81	84.78	84.75	84.75	84.82	84.59	84.54	85.52	85.75	86.01	86.05
392	85.06	85.04	84.93	84.92	84.86	84.86	84.73	84.81	84.67	84.47	85.78	85.77	86.01	86.05
392.5	85.17	85.17	85.05	84.99	84.94	84.96	84.86	84.83	84.57	84.56	85.96	85.83	86.02	86.04
393	85.19	85.21	85.13	85.07	85.01	84.98	84.93	84.69	84.39	84.47	85.98	85.80	85.86	86.06
393.5	85.26	85.27	85.21	85.14	85.04	84.95	84.95	84.55	84.35	84.37	85.97	85.85	85.86	86.14
394	85.19	85.23	85.18	85.14	85.07	85.02	85.00	84.50	84.33	84.39	85.99	85.69	85.85	86.11
394.5	85.32	85.27	85.21	85.12	85.09	85.09	85.02	84.58	84.38	84.37	85.79	85.75	86.01	86.18
395	85.22	85.19	85.20	85.18	85.11	85.08	85.05	84.75	84.43	84.38	85.79	85.85	86.01	86.14
395.5	85.21	85.23	85.15	85.07	85.03	85.10	85.05	84.87	84.40	84.35	85.90	85.92	86.00	86.13
396	85.15	85.09	85.15	85.12	85.10	85.11	85.10	84.95	84.39	84.56	86.04	85.94	86.02	86.16
396.5	84.89	84.91	84.95	84.99	84.94	85.07	85.11	84.99	84.44	84.56	85.95	85.89	85.85	85.98
397	85.02	85.02	85.00	85.03	85.04	85.12	85.08	85.04	84.51	84.48	85.61	85.81	86.02	86.02
397.5	85.04	85.08	85.04	85.07	85.05	85.09	85.03	84.92	84.51	84.50	85.52	85.75	85.86	86.06
398	85.06	85.11	85.06	85.09	85.06	85.10	85.08	84.92	84.51	84.57	85.53	85.81	86.01	86.08
398.5	85.15	85.14	85.14	85.16	85.12	85.20	85.16	84.99	84.72	84.58	85.76	85.86	86.02	86.07
399	85.14	85.19	85.09	85.11	85.14	85.18	85.20	85.06	84.80	84.59	85.80	85.82	85.85	86.03
399.5	85.13	85.12	85.04	85.11	85.09	85.18	85.21	85.14	84.93	84.70	85.93	85.84	86.01	86.09
400	84.97	84.88	84.94	84.99	85.02	85.13	85.21	85.15	84.90	84.73	86.10	85.87	86.01	86.05
400.5	85.02	84.98	84.90	84.89	84.96	85.10	85.19	85.07	84.61	84.70	86.12	85.87	85.86	86.05
401	85.13	85.11	84.99	84.92	84.95	85.09	85.15	84.95	84.55	84.65	86.01	85.74	86.01	86.12
401.5	85.17	85.16	85.10	85.08	85.06	85.09	85.09	84.68	84.49	84.48	85.94	85.77	85.86	86.15
402	85.03	85.11	85.09	85.07	85.09	85.08	85.11	84.64	84.48	84.45	85.87	85.88	85.86	86.17
402.5	85.06	85.02	85.10	85.11	85.14	85.15	85.11	84.85	84.48	84.43	85.97	85.87	85.86	86.18
403	84.86	84.78	84.81	84.97	85.06	85.15	85.18	84.89	84.41	84.32	86.06	85.91	86.01	86.05
403.5	84.90	84.98	84.86	84.95	84.98	85.05	85.16	84.99	84.38	84.41	86.04	85.80	85.72	85.96
404	85.02	85.09	85.04	85.04	84.98	85.10	85.19	85.05	84.41	84.40	85.87	85.75	86.01	85.99
404.5	85.05	85.13	85.01	85.02	85.02	85.06	85.17	85.09	84.40	84.28	85.92	85.79	85.73	85.98
405	85.21	85.23	85.18	85.12	85.04	85.08	85.17	85.12	84.47	84.56	85.95	85.76	85.87	85.97
405.5	85.27	85.22	85.16	85.12	85.11	85.13	85.18	85.07	84.48	84.64	85.95	85.77	85.86	86.11

406	85.05	85.08	85.03	85.03	85.08	85.11	85.14	84.99	84.44	84.60	85.92	85.89	86.00	86.14
406.5	85.07	85.05	85.04	85.05	85.09	85.13	85.11	84.85	84.41	84.50	85.60	85.96	86.01	86.17
407	85.03	84.95	84.94	84.97	84.98	85.12	85.12	84.79	84.43	84.43	85.43	85.88	86.01	86.17
407.5	85.11	85.14	85.06	85.04	84.97	85.05	85.08	84.73	84.41	84.42	85.39	85.86	86.00	86.14
408	85.13	85.18	85.15	85.11	85.08	85.15	85.11	84.81	84.44	84.41	85.71	85.83	85.88	86.04
408.5	85.20	85.27	85.21	85.15	85.12	85.07	85.11	84.95	84.44	84.38	85.58	85.75	85.73	86.00
409	85.19	85.21	85.16	85.14	85.05	85.09	85.15	84.98	84.45	84.43	85.59	85.68	85.72	85.93
409.5	85.17	85.19	85.17	85.19	85.05	85.13	85.18	84.99	84.52	84.43	85.57	85.67	85.86	86.05
410	85.19	85.19	85.17	85.15	85.16	85.18	85.19	85.09	84.55	84.47	85.60	85.67	85.86	86.06
410.5	85.01	85.10	85.08	85.10	85.08	85.18	85.24	85.19	84.66	84.60	85.77	85.67	85.85	85.97
411	84.96	85.02	85.06	85.07	85.06	85.15	85.22	85.15	84.68	84.57	85.78	85.71	85.86	85.95
411.5	85.03	85.05	85.07	85.04	84.89	85.10	85.24	85.18	84.80	84.45	85.59	85.74	85.72	85.98
412	84.87	84.94	84.95	85.03	84.97	85.10	85.27	85.17	84.93	84.52	85.76	85.72	85.73	85.95
412.5	84.86	84.95	84.96	84.98	84.98	85.02	85.25	85.12	84.84	84.31	85.91	85.69	85.70	85.94
413	85.04	85.05	84.97	85.07	85.05	85.12	85.28	85.09	84.56	84.21	85.93	85.71	85.86	85.98
413.5	85.04	85.11	85.06	85.05	85.06	85.12	85.24	84.81	84.43	84.31	86.01	85.77	85.86	85.95
414	85.06	85.03	84.92	84.94	84.94	85.08	85.17	84.86	84.34	84.29	86.02	85.74	85.85	85.89
414.5	85.06	85.04	84.93	84.98	84.98	85.09	85.15	84.99	84.38	84.37	85.87	85.68	85.72	85.87
415	84.86	84.79	84.91	85.01	85.04	85.12	85.15	84.88	84.38	84.37	85.43	85.50	85.72	85.93
415.5	84.73	84.78	84.70	84.82	84.82	85.05	85.08	84.72	84.41	84.34	85.30	85.65	85.72	85.95
416	84.80	84.89	84.76	84.81	84.81	84.95	84.89	84.62	84.41	84.38	85.50	85.53	86.01	85.93
416.5	84.86	84.86	84.74	84.75	84.82	84.82	84.76	84.54	84.39	84.43	85.63	85.61	85.86	85.84
417	84.87	84.85	84.63	84.69	84.75	84.85	84.83	84.55	84.45	84.53	85.65	85.53	85.72	85.80
417.5	84.70	84.66	84.61	84.65	84.69	84.78	84.88	84.69	84.42	84.48	85.46	85.46	85.57	85.77
418	84.85	84.85	84.76	84.73	84.66	84.78	84.93	84.79	84.40	84.33	85.20	85.51	85.85	85.84
418.5	84.91	85.00	84.89	84.89	84.80	84.78	84.99	84.92	84.44	84.35	85.38	85.56	85.58	85.85
419	85.02	85.08	85.01	84.95	84.88	84.83	84.98	84.94	84.39	84.30	85.43	85.61	85.72	85.83
419.5	85.13	85.11	85.03	85.04	84.96	84.92	85.03	84.98	84.36	84.31	85.33	85.61	85.72	85.84
420	85.06	85.04	85.02	85.04	84.83	85.01	85.08	84.96	84.50	84.40	85.61	85.57	85.57	85.78
420.5	85.09	85.06	85.10	85.04	84.95	85.03	85.06	85.01	84.72	84.53	85.75	85.61	85.57	85.79
421	85.07	85.06	85.01	85.01	85.02	85.09	85.09	84.99	84.77	84.68	85.74	85.58	85.43	85.77
421.5	84.99	85.01	84.97	84.95	84.95	85.02	85.03	84.95	84.68	84.58	85.78	85.53	85.57	85.77
422	84.84	84.95	84.95	84.94	84.97	85.00	85.07	84.91	84.40	84.33	85.78	85.47	85.71	85.70
422.5	84.97	84.98	84.91	84.89	84.95	84.92	85.03	84.72	84.33	84.30	85.76	85.49	85.72	85.77
423	84.99	85.01	84.90	84.88	84.91	84.90	85.01	84.69	84.26	84.37	85.76	85.49	85.57	85.76
423.5	85.02	84.98	84.91	84.91	84.92	84.96	85.03	84.74	84.28	84.53	85.62	85.46	85.57	85.73
424	84.99	85.04	84.93	84.91	84.92	84.98	85.05	84.77	84.31	84.46	85.30	85.43	85.74	85.73
424.5	85.00	85.04	84.94	84.89	84.94	84.96	85.03	84.77	84.33	84.44	85.34	85.48	85.57	85.73
425	84.87	84.86	84.91	84.94	84.89	84.90	85.03	84.79	84.45	84.54	85.57	85.49	85.43	85.68
425.5	84.94	84.93	84.82	84.89	84.88	84.90	84.97	84.81	84.41	84.47	85.49	85.45	85.71	85.72
426	85.03	84.97	84.90	84.93	84.91	84.98	84.94	84.74	84.37	84.38	85.45	85.52	85.45	85.72

426.5	85.00	85.00	84.91	84.90	84.87	84.90	84.97	84.83	84.33	84.35	85.31	85.46	85.44	85.77
427	84.96	85.01	84.90	84.92	84.84	84.85	84.96	84.88	84.38	84.43	85.25	85.43	85.72	85.79
427.5	84.95	84.91	84.85	84.90	84.89	84.93	84.99	84.89	84.24	84.33	85.35	85.44	85.58	85.74
428	84.98	84.97	84.91	84.90	84.87	84.90	84.99	84.87	84.33	84.25	85.48	85.41	85.73	85.65
428.5	84.97	84.93	84.81	84.85	84.81	84.88	85.03	84.97	84.51	84.31	85.38	85.34	85.72	85.65
429	84.91	84.85	84.78	84.79	84.81	84.87	84.98	84.94	84.64	84.47	85.45	85.34	85.57	85.65
429.5	84.89	84.85	84.83	84.81	84.81	84.83	84.92	84.98	84.80	84.61	85.57	85.39	85.43	85.64
430	84.86	84.87	84.76	84.80	84.79	84.72	84.81	84.89	84.63	84.57	85.65	85.38	85.42	85.68
430.5	84.94	84.91	84.79	84.82	84.77	84.83	84.87	84.76	84.30	84.65	85.66	85.37	85.58	85.68
431	84.89	84.84	84.77	84.82	84.83	84.81	84.91	84.59	84.17	84.61	85.64	85.37	85.58	85.71
431.5	84.84	84.78	84.70	84.75	84.78	84.78	84.90	84.64	84.19	84.63	85.36	85.21	85.57	85.71
432	84.84	84.83	84.76	84.69	84.81	84.78	84.89	84.72	84.22	84.45	85.30	85.16	85.57	85.73
432.5	84.85	84.87	84.78	84.76	84.77	84.80	84.90	84.81	84.27	84.36	85.22	85.37	85.57	85.70
433	84.86	84.90	84.85	84.82	84.77	84.82	84.91	84.80	84.30	84.26	85.30	85.39	85.57	85.72
433.5	84.97	84.98	84.90	84.89	84.84	84.86	84.95	84.81	84.33	84.37	85.43	85.30	85.57	85.71
434	84.98	85.00	84.88	84.87	84.86	84.88	84.91	84.76	84.38	84.40	85.45	85.35	85.71	85.76
434.5	85.14	85.14	84.99	84.94	84.88	84.92	84.93	84.75	84.46	84.47	85.60	85.48	85.72	85.76
435	85.16	85.18	85.09	85.02	84.96	84.99	85.02	84.88	84.43	84.27	85.62	85.50	85.72	85.76
435.5	85.14	85.10	85.02	85.02	84.97	85.03	85.06	84.95	84.46	84.29	85.41	85.54	85.58	85.77
436	85.16	85.20	85.06	85.03	85.00	85.00	85.11	84.99	84.51	84.35	85.48	85.54	85.71	85.78
436.5	85.14	85.16	85.11	85.09	85.03	85.04	85.11	85.03	84.50	84.35	85.62	85.54	85.71	85.79
437	85.21	85.19	85.12	85.11	85.06	84.95	85.05	84.99	84.41	84.55	85.74	85.55	85.71	85.81
437.5	85.12	85.10	85.11	85.09	85.06	84.97	85.04	85.03	84.47	84.62	85.81	85.60	85.57	85.82
438	85.23	85.22	85.11	85.12	85.08	84.99	85.11	84.89	84.58	84.70	85.88	85.59	85.43	85.84
438.5	85.19	85.15	85.13	85.12	85.06	85.06	85.08	84.91	84.59	84.60	85.87	85.64	85.72	85.86
439	85.16	85.22	85.14	85.12	85.09	85.10	85.16	84.87	84.54	84.47	85.88	85.59	85.86	85.87
439.5	85.19	85.24	85.15	85.17	85.14	85.18	85.18	84.87	84.49	84.50	85.87	85.61	85.74	85.80
440	85.16	85.18	85.09	85.08	85.01	85.18	85.16	84.82	84.46	84.50	85.84	85.53	85.72	85.82
440.5	85.21	85.14	85.08	85.07	84.98	85.12	85.16	84.91	84.48	84.43	85.73	85.55	86.00	85.86
441	85.22	85.26	85.17	85.10	85.04	85.11	85.14	85.03	84.57	84.45	85.71	85.63	85.73	85.88
441.5	85.14	85.10	85.14	85.19	85.13	85.10	85.16	85.00	84.50	84.45	85.71	85.60	85.87	85.88
442	85.07	85.04	84.95	85.05	85.07	85.11	85.10	84.99	84.49	84.40	85.71	85.66	85.73	86.00
442.5	85.14	85.12	85.01	85.01	84.99	85.05	85.12	85.01	84.46	84.38	85.41	85.68	85.86	85.93
443	85.24	85.27	85.17	85.08	84.96	85.03	85.12	84.97	84.55	84.47	85.24	85.65	85.86	85.95
443.5	85.18	85.23	85.15	85.13	85.03	85.10	85.11	84.96	84.54	84.50	85.43	85.67	85.57	85.98
444	85.23	85.31	85.19	85.12	85.11	85.15	85.15	84.99	84.52	84.48	85.59	85.69	85.72	85.92
444.5	85.26	85.27	85.24	85.17	85.13	85.18	85.17	85.06	84.48	84.43	85.45	85.67	85.85	86.01
445	85.28	85.34	85.25	85.21	85.17	85.17	85.21	84.90	84.50	84.50	85.51	85.73	86.00	86.03
445.5	85.38	85.34	85.27	85.23	85.21	85.19	85.27	84.85	84.54	84.63	85.72	85.77	85.88	86.01
446	85.44	85.41	85.30	85.28	85.24	85.19	85.28	84.99	84.58	84.70	85.84	85.74	85.86	86.00
446.5	85.40	85.37	85.30	85.31	85.31	85.26	85.28	84.95	84.49	84.55	85.82	85.77	85.72	86.06

447	85.30	85.37	85.23	85.28	85.28	85.32	85.09	84.81	84.54	84.55	85.93	85.83	86.01	86.09
447.5	85.35	85.34	85.26	85.27	85.24	85.25	85.13	84.79	84.59	84.66	85.97	85.80	86.00	86.07
448	85.41	85.39	85.28	85.29	85.24	85.24	85.20	84.79	84.61	84.69	85.97	85.73	85.85	86.19
448.5	85.40	85.37	85.32	85.31	85.29	85.22	85.26	84.81	84.55	84.67	85.78	85.87	86.01	86.15
449	85.34	85.27	85.26	85.32	85.31	85.29	85.32	85.02	84.55	84.67	85.81	85.88	86.01	86.09
449.5	85.36	85.36	85.28	85.27	85.27	85.34	85.37	85.14	84.57	84.62	85.78	85.77	86.00	86.13
450	85.36	85.24	85.28	85.26	85.27	85.34	85.39	85.01	84.51	84.66	85.92	85.80	86.00	86.19
450.5	85.42	85.39	85.34	85.24	85.28	85.30	85.35	84.84	84.55	84.77	86.06	85.85	85.86	86.21
451	85.42	85.43	85.32	85.20	85.28	85.30	85.36	85.03	84.60	84.85	85.93	85.92	85.85	86.21
451.5	85.47	85.45	85.34	85.29	85.33	85.34	85.43	85.16	84.66	84.78	85.86	85.92	86.02	86.26
452	85.42	85.47	85.41	85.39	85.34	85.37	85.44	85.23	84.66	84.72	85.57	85.79	86.14	86.24
452.5	85.41	85.47	85.39	85.40	85.40	85.41	85.47	85.14	84.56	84.60	85.54	85.87	86.00	86.29
453	85.28	85.24	85.26	85.36	85.37	85.38	85.39	84.97	84.64	84.65	85.54	85.93	86.29	86.30
453.5	85.29	85.29	85.20	85.25	85.31	85.39	85.38	84.95	84.62	84.61	85.52	85.94	86.15	86.27
454	85.45	85.56	85.39	85.33	85.30	85.35	85.40	85.10	84.70	84.66	85.58	85.96	86.14	86.26
454.5	85.59	85.58	85.46	85.47	85.33	85.35	85.44	85.19	84.77	84.73	85.76	85.94	86.01	86.30
455	85.54	85.45	85.39	85.44	85.33	85.39	85.45	85.24	84.82	84.74	85.91	85.99	86.30	86.33
455.5	85.52	85.50	85.29	85.28	85.41	85.43	85.48	85.28	84.90	84.86	85.95	86.04	86.15	86.34
456	85.40	85.45	85.39	85.34	85.31	85.46	85.51	85.39	84.95	84.90	85.85	86.04	86.15	86.33
456.5	85.40	85.42	85.44	85.38	85.38	85.45	85.52	85.42	84.93	84.78	85.82	86.06	86.30	86.37
457	85.47	85.44	85.42	85.42	85.41	85.43	85.48	85.44	84.91	84.77	85.81	86.10	86.44	86.34
457.5	85.50	85.57	85.47	85.44	85.41	85.50	85.57	85.42	85.01	84.87	85.93	86.13	86.30	86.37
458	85.45	85.49	85.46	85.49	85.48	85.55	85.59	85.44	85.00	84.90	86.06	86.08	86.14	86.29
458.5	85.49	85.48	85.53	85.55	85.53	85.59	85.64	85.44	84.98	84.98	86.10	86.03	86.44	86.33
459	85.36	85.44	85.45	85.51	85.47	85.51	85.66	85.42	84.93	84.95	86.14	86.11	86.14	86.38
459.5	85.42	85.52	85.41	85.47	85.43	85.47	85.60	85.36	84.89	84.86	86.30	86.11	86.14	86.32
460	85.47	85.55	85.47	85.49	85.48	85.42	85.54	85.39	84.95	85.10	86.29	86.09	86.01	86.33
460.5	85.50	85.55	85.46	85.48	85.48	85.42	85.52	85.38	85.06	85.33	86.32	86.09	86.15	86.33
461	85.56	85.66	85.54	85.50	85.47	85.45	85.41	85.23	84.95	85.36	86.30	86.04	86.29	86.36
461.5	85.53	85.55	85.52	85.49	85.46	85.50	85.51	85.24	85.04	85.21	86.26	86.07	86.15	86.38
462	85.46	85.47	85.46	85.52	85.51	85.56	85.55	85.31	85.11	85.27	86.17	86.10	86.30	86.35
462.5	85.51	85.55	85.50	85.49	85.48	85.56	85.61	85.46	85.18	85.21	86.23	86.08	85.99	86.41
463	85.52	85.54	85.44	85.52	85.51	85.53	85.67	85.54	85.27	85.26	86.25	86.16	86.30	86.43
463.5	85.63	85.65	85.48	85.53	85.50	85.49	85.64	85.58	85.20	85.17	86.38	86.14	86.28	86.32
464	85.64	85.66	85.52	85.55	85.54	85.57	85.60	85.57	85.06	85.12	86.39	86.15	86.30	86.32
464.5	85.52	85.50	85.44	85.44	85.43	85.58	85.61	85.47	85.01	85.00	86.28	86.09	86.01	86.30
465	85.34	85.27	85.27	85.32	85.41	85.58	85.58	85.25	84.94	84.97	86.23	86.10	86.30	86.28
465.5	85.43	85.44	85.37	85.32	85.29	85.43	85.58	85.17	84.90	84.96	86.28	86.03	86.30	86.28
466	85.42	85.49	85.39	85.39	85.36	85.42	85.59	85.21	84.87	84.88	86.25	85.93	86.00	86.29
466.5	85.49	85.55	85.46	85.44	85.43	85.48	85.60	85.39	84.82	84.88	86.19	85.96	86.01	86.31
467	85.47	85.52	85.50	85.51	85.49	85.43	85.52	85.32	84.87	84.91	86.01	86.03	86.15	86.35

467.5	85.36	85.29	85.23	85.29	85.33	85.40	85.54	85.32	84.88	84.86	85.74	86.06	86.30	86.30
468	85.34	85.35	85.31	85.27	85.26	85.34	85.55	85.37	84.88	84.84	85.79	86.04	86.16	86.29
468.5	85.50	85.48	85.37	85.35	85.35	85.39	85.51	85.31	84.90	84.86	86.09	85.97	86.01	86.22
469	85.54	85.56	85.42	85.36	85.40	85.42	85.46	85.29	84.92	85.08	86.14	85.96	86.14	86.24
469.5	85.63	85.64	85.50	85.42	85.46	85.46	85.51	85.37	84.98	85.10	85.95	86.00	86.01	86.24
470	85.59	85.62	85.55	85.47	85.37	85.42	85.54	85.39	84.96	84.99	85.96	85.95	86.14	86.24
470.5	85.56	85.60	85.47	85.42	85.38	85.45	85.55	85.48	85.08	85.07	86.03	85.94	86.01	86.27
471	85.52	85.62	85.52	85.47	85.40	85.41	85.56	85.46	85.18	84.96	86.05	85.96	86.14	86.21
471.5	85.55	85.65	85.56	85.50	85.43	85.42	85.54	85.44	85.12	84.72	86.18	86.02	86.00	86.24
472	85.64	85.67	85.60	85.49	85.41	85.46	85.61	85.47	85.01	84.74	86.33	86.06	86.15	86.30
472.5	85.57	85.60	85.54	85.51	85.43	85.46	85.57	85.31	84.84	84.73	86.33	86.07	86.15	86.33
473	85.62	85.63	85.56	85.52	85.49	85.49	85.61	85.31	84.78	85.07	86.31	86.03	86.30	86.37
473.5	85.56	85.68	85.56	85.58	85.52	85.50	85.61	85.44	84.72	85.20	85.95	85.65	86.28	86.40
474	85.69	85.71	85.57	85.57	85.55	85.56	85.67	85.51	84.94	85.10	85.84	85.75	86.30	86.37
474.5	85.69	85.69	85.52	85.50	85.51	85.58	85.69	85.59	84.99	85.01	85.92	85.96	86.29	86.39
475	85.58	85.53	85.48	85.47	85.49	85.54	85.72	85.46	85.02	85.12	86.11	86.07	86.02	86.36
475.5	85.60	85.54	85.52	85.49	85.48	85.52	85.73	85.38	85.04	85.26	86.20	86.07	86.30	86.33
476	85.46	85.48	85.42	85.49	85.52	85.53	85.64	85.34	85.08	85.23	86.20	86.06	86.15	86.34
476.5	85.48	85.52	85.44	85.44	85.47	85.55	85.53	85.32	85.02	85.08	86.25	86.09	86.29	86.33
477	85.50	85.47	85.43	85.42	85.42	85.52	85.58	85.24	84.95	85.04	86.31	86.12	86.15	86.37
477.5	85.46	85.39	85.30	85.41	85.43	85.46	85.57	85.15	84.98	85.07	86.36	86.09	86.30	86.35
478	85.52	85.48	85.34	85.39	85.43	85.43	85.55	85.17	84.99	85.06	86.26	86.05	86.16	86.32
478.5	85.46	85.44	85.42	85.42	85.43	85.40	85.49	85.25	84.95	84.91	85.88	86.07	86.15	86.30
479	85.39	85.39	85.42	85.44	85.46	85.43	85.45	85.22	84.95	84.88	85.75	85.93	86.30	86.21
479.5	85.43	85.44	85.36	85.35	85.35	85.46	85.52	85.31	84.95	84.91	85.69	85.97	86.44	86.28
480	85.42	85.39	85.42	85.39	85.32	85.42	85.54	85.44	85.03	84.88	85.68	85.90	86.01	86.22
480.5	85.43	85.42	85.40	85.45	85.41	85.45	85.57	85.48	85.24	84.96	85.74	85.84	86.01	86.30
481	85.28	85.27	85.28	85.40	85.43	85.48	85.56	85.44	85.34	85.05	85.90	85.98	86.43	86.32
481.5	85.30	85.27	85.24	85.35	85.32	85.43	85.52	85.19	85.20	85.14	86.10	86.03	86.30	86.25
482	85.43	85.44	85.32	85.28	85.24	85.32	85.49	85.14	85.07	85.19	86.10	86.06	86.15	86.28
482.5	85.42	85.47	85.42	85.36	85.27	85.31	85.47	85.19	85.06	85.12	86.21	86.02	86.14	86.20
483	85.54	85.52	85.44	85.44	85.35	85.45	85.49	85.32	84.94	84.93	86.19	85.94	85.86	86.22
483.5	85.53	85.50	85.40	85.37	85.31	85.46	85.58	85.42	84.90	84.97	86.23	85.96	85.86	86.15
484	85.36	85.31	85.32	85.33	85.34	85.42	85.57	85.45	84.97	85.03	86.23	85.87	85.88	86.14
484.5	85.41	85.43	85.32	85.29	85.30	85.42	85.56	85.37	84.96	85.13	86.11	85.80	86.00	86.14
485	85.37	85.41	85.38	85.35	85.35	85.40	85.54	85.35	84.81	85.00	85.95	85.88	85.99	86.09
485.5	85.29	85.29	85.21	85.27	85.29	85.42	85.55	85.38	84.82	84.88	85.79	85.88	86.01	86.14
486	85.17	85.21	85.16	85.19	85.18	85.35	85.49	85.42	84.91	84.90	85.98	85.93	86.15	86.19
486.5	85.33	85.31	85.16	85.15	85.11	85.25	85.49	85.39	84.94	84.90	85.85	85.94	86.01	86.15
487	85.27	85.27	85.17	85.19	85.19	85.29	85.49	85.41	84.82	84.76	85.93	85.93	85.86	86.08
487.5	85.24	85.24	85.16	85.18	85.22	85.36	85.47	85.34	84.87	84.78	85.97	85.84	85.86	86.02

488	85.20	85.24	85.21	85.17	85.16	85.26	85.42	85.19	84.84	84.80	85.97	85.81	86.01	85.99
488.5	85.12	85.21	85.16	85.21	85.19	85.12	85.39	85.05	84.77	84.73	85.87	85.83	85.86	86.06
489	85.16	85.22	85.17	85.15	85.15	85.20	85.29	85.07	84.72	84.68	85.87	85.78	85.72	85.92
489.5	85.13	85.20	85.20	85.24	85.15	85.21	85.31	85.11	84.63	84.62	85.93	85.70	85.98	85.89
490	84.98	85.10	85.06	85.13	85.17	85.27	85.33	85.17	84.59	84.53	86.03	85.70	86.00	85.98
490.5	85.05	84.98	84.89	84.97	84.98	85.10	85.34	85.24	84.67	84.62	85.74	85.73	85.71	86.07
491	84.83	84.70	84.83	84.92	84.98	85.10	85.35	85.25	84.68	84.55	85.56	85.78	86.01	86.12
491.5	84.84	84.88	84.85	85.00	85.04	85.11	85.31	85.21	84.59	84.36	85.39	85.79	85.85	86.04
492	84.99	84.98	84.91	84.91	84.94	85.07	85.29	85.24	84.60	84.43	85.39	85.76	86.00	85.95
492.5	85.00	85.02	84.94	84.95	84.95	85.00	85.25	85.08	84.52	84.50	85.46	85.72	85.86	85.98
493	85.08	85.04	84.95	84.91	84.87	84.92	85.08	84.80	84.54	84.39	85.51	85.73	86.00	85.94
493.5	85.00	84.92	84.96	84.92	84.88	84.96	85.12	84.97	84.55	84.48	85.59	85.74	85.86	85.92
494	84.69	84.70	84.69	84.87	84.94	85.02	85.14	85.08	84.58	84.68	85.75	85.72	85.72	85.87
494.5	84.69	84.72	84.69	84.79	84.84	85.01	85.13	85.04	84.51	84.53	85.83	85.70	85.85	85.84
495	84.85	84.87	84.81	84.84	84.87	85.02	85.11	84.81	84.33	84.46	85.83	85.66	85.71	85.81
495.5	84.71	84.78	84.77	84.77	84.82	85.00	85.14	84.62	84.23	84.34	85.88	85.62	85.57	85.76
496	84.92	84.90	84.87	84.86	84.84	84.93	85.09	84.73	84.33	84.39	85.85	85.62	85.58	85.81
496.5	84.96	84.94	84.88	84.89	84.86	84.95	85.07	84.73	84.28	84.23	85.73	85.61	85.71	85.81
497	84.81	84.83	84.79	84.82	84.84	84.94	85.08	84.80	84.38	84.29	85.71	85.63	85.57	85.76
497.5	84.87	84.88	84.84	84.85	84.86	84.95	85.11	84.88	84.41	84.37	85.57	85.59	85.57	85.73
498	84.78	84.81	84.76	84.82	84.81	84.94	85.11	84.90	84.43	84.43	85.49	85.57	85.71	85.73
498.5	84.94	84.92	84.80	84.79	84.76	84.90	85.06	84.97	84.48	84.44	85.37	85.49	85.72	85.71
499	84.94	84.95	84.81	84.79	84.71	84.89	85.01	84.92	84.59	84.47	85.43	85.48	85.72	85.70
499.5	84.89	84.83	84.75	84.77	84.71	84.90	84.98	84.93	84.69	84.47	85.57	85.51	85.71	85.70
500	84.72	84.81	84.73	84.72	84.66	84.84	84.98	84.77	84.66	84.47	85.65	85.50	85.71	85.72
500.5	84.81	84.87	84.79	84.76	84.80	84.87	85.01	84.72	84.54	84.45	85.70	85.51	85.44	85.71
501	84.80	84.75	84.74	84.74	84.79	84.83	84.98	84.57	84.45	84.43	85.79	85.49	85.43	85.64
501.5	84.74	84.70	84.72	84.74	84.74	84.84	84.95	84.56	84.41	84.52	85.74	85.41	85.57	85.46
502	84.69	84.68	84.57	84.62	84.61	84.59	84.89	84.62	84.38	84.55	85.69	85.30	85.29	85.42
502.5	84.71	84.69	84.57	84.60	84.58	84.60	84.75	84.64	84.38	84.30	85.55	85.30	85.14	85.44
503	84.65	84.65	84.55	84.63	84.67	84.69	84.81	84.77	84.37	84.26	85.40	85.30	85.45	85.51
503.5	84.61	84.67	84.58	84.55	84.62	84.67	84.76	84.72	84.27	84.24	85.51	85.31	85.41	85.45
504	84.55	84.48	84.45	84.44	84.59	84.68	84.82	84.70	84.22	84.10	85.54	85.31	85.42	85.44
504.5	84.47	84.53	84.47	84.52	84.52	84.65	84.80	84.74	84.32	84.10	85.31	85.27	85.43	85.41
505	84.54	84.49	84.55	84.57	84.56	84.65	84.75	84.73	84.46	84.03	85.17	85.15	85.13	85.43
505.5	84.59	84.56	84.56	84.54	84.54	84.63	84.76	84.69	84.45	84.14	85.28	85.20	85.43	85.42
506	84.64	84.58	84.55	84.56	84.56	84.67	84.83	84.75	84.26	84.13	85.38	85.24	85.29	85.42
506.5	84.64	84.57	84.57	84.60	84.59	84.65	84.76	84.78	84.16	84.10	85.41	85.20	85.43	85.47
507	84.74	84.70	84.66	84.60	84.63	84.70	84.77	84.64	84.14	84.22	85.49	85.22	85.28	85.49
507.5	84.82	84.86	84.79	84.68	84.68	84.68	84.80	84.62	84.18	84.20	85.53	85.29	85.43	85.48
508	84.62	84.65	84.72	84.72	84.67	84.74	84.85	84.56	84.15	84.06	85.42	85.28	85.28	85.46

508.5	84.46	84.50	84.59	84.65	84.69	84.79	84.89	84.57	84.09	84.10	85.41	85.29	85.43	85.51
509	84.31	84.34	84.39	84.49	84.54	84.70	84.87	84.66	84.12	84.12	85.16	85.18	85.42	85.49
509.5	84.36	84.31	84.29	84.40	84.49	84.65	84.82	84.70	84.01	84.07	85.07	85.19	85.13	85.47
510	84.47	84.47	84.40	84.41	84.51	84.63	84.79	84.71	84.07	84.04	85.17	85.27	85.29	85.49
510.5	84.48	84.49	84.41	84.44	84.44	84.55	84.77	84.64	84.11	84.09	85.36	85.23	85.42	85.51
511	84.43	84.52	84.51	84.49	84.49	84.53	84.68	84.59	84.11	84.23	85.42	85.22	85.28	85.49
511.5	84.34	84.37	84.41	84.45	84.47	84.55	84.69	84.59	84.13	84.18	85.47	85.23	85.29	85.42
512	84.48	84.60	84.53	84.47	84.49	84.51	84.64	84.54	84.04	84.13	85.43	85.16	85.13	85.37
512.5	84.53	84.53	84.47	84.51	84.45	84.46	84.66	84.57	84.09	84.15	85.34	85.13	85.29	85.48
513	84.61	84.56	84.53	84.48	84.49	84.52	84.66	84.59	84.23	84.18	85.25	85.10	85.43	85.55
513.5	84.54	84.47	84.41	84.42	84.44	84.53	84.68	84.59	84.31	84.09	85.33	85.19	85.42	85.56
514	84.54	84.54	84.42	84.40	84.40	84.53	84.67	84.63	84.24	84.09	85.42	85.29	85.28	85.53
514.5	84.54	84.58	84.49	84.44	84.44	84.53	84.68	84.51	84.20	84.12	85.48	85.23	85.57	85.53
515	84.69	84.72	84.61	84.52	84.52	84.56	84.65	84.45	84.09	83.95	85.49	85.30	85.29	85.52
515.5	84.70	84.72	84.59	84.58	84.57	84.58	84.72	84.48	84.09	83.97	85.33	85.32	85.45	85.56
516	84.65	84.71	84.68	84.66	84.60	84.64	84.74	84.59	84.20	84.13	85.32	85.31	85.42	85.54
516.5	84.72	84.76	84.68	84.65	84.67	84.73	84.78	84.66	84.21	84.23	85.22	85.31	85.58	85.60
517	84.75	84.76	84.74	84.65	84.66	84.73	84.83	84.70	84.13	84.18	85.17	85.32	85.58	85.58
517.5	84.84	84.78	84.64	84.65	84.67	84.77	84.84	84.69	84.11	84.06	85.09	85.40	85.44	85.59
518	84.78	84.76	84.71	84.66	84.71	84.77	84.83	84.66	84.13	84.08	85.19	85.36	85.41	85.54
518.5	84.73	84.75	84.69	84.71	84.72	84.82	84.88	84.64	84.15	84.15	85.34	85.30	85.29	85.55
519	84.86	84.86	84.79	84.74	84.78	84.83	84.90	84.52	84.16	84.20	85.38	85.26	85.29	85.57
519.5	84.84	84.81	84.76	84.76	84.77	84.80	84.90	84.40	84.17	84.17	85.26	85.23	85.42	85.59
520	84.84	84.80	84.66	84.66	84.70	84.77	84.91	84.39	84.18	84.19	85.26	85.34	85.57	85.63
520.5	84.84	84.86	84.71	84.68	84.71	84.78	84.89	84.51	84.18	84.15	85.18	85.37	85.43	85.70
521	84.73	84.76	84.70	84.68	84.69	84.77	84.86	84.52	84.19	84.15	84.99	85.40	85.56	85.65
521.5	84.84	84.86	84.76	84.77	84.74	84.79	84.88	84.64	84.19	84.21	85.19	85.39	85.57	85.67
522	84.87	84.86	84.76	84.77	84.75	84.78	84.83	84.51	84.23	84.25	85.34	85.48	85.72	85.71
522.5	84.75	84.65	84.62	84.73	84.70	84.76	84.88	84.47	84.21	84.23	85.50	85.40	85.73	85.75
523	84.63	84.65	84.64	84.68	84.76	84.82	84.85	84.44	84.28	84.24	85.31	85.45	85.43	85.73
523.5	84.70	84.73	84.57	84.62	84.67	84.72	84.83	84.58	84.32	84.22	85.30	85.45	85.57	85.61
524	84.78	84.80	84.68	84.55	84.70	84.76	84.86	84.56	84.24	84.28	85.38	85.43	85.44	85.72
524.5	84.76	84.79	84.69	84.60	84.65	84.80	84.89	84.52	84.23	84.30	85.34	85.48	85.43	85.70
525	84.79	84.78	84.66	84.67	84.68	84.80	84.88	84.57	84.18	84.31	85.43	85.45	85.72	85.68
525.5	84.77	84.83	84.76	84.71	84.71	84.78	84.80	84.58	84.20	84.31	85.34	85.40	85.43	85.67
526	84.68	84.68	84.68	84.63	84.63	84.75	84.78	84.53	84.22	84.32	85.45	85.35	85.42	85.62
526.5	84.51	84.49	84.43	84.45	84.52	84.65	84.82	84.55	84.10	84.31	85.37	85.30	85.70	85.64
527	84.63	84.59	84.50	84.47	84.57	84.69	84.85	84.68	84.09	84.20	85.41	85.36	85.57	85.63
527.5	84.48	84.51	84.53	84.53	84.61	84.64	84.82	84.73	84.18	84.10	85.36	85.38	85.42	85.66
528	84.41	84.36	84.47	84.55	84.62	84.69	84.82	84.58	84.23	84.04	85.34	85.39	85.57	85.63
528.5	84.54	84.59	84.53	84.54	84.62	84.68	84.82	84.64	84.20	84.10	85.43	85.39	85.43	85.57

529	84.47	84.55	84.55	84.56	84.60	84.70	84.83	84.65	84.23	84.10	85.48	85.37	85.29	85.56
529.5	84.51	84.53	84.47	84.54	84.55	84.66	84.78	84.68	84.07	84.08	85.22	85.24	85.14	85.51
530	84.50	84.52	84.50	84.52	84.54	84.63	84.78	84.68	84.02	84.10	85.17	85.21	85.43	85.45
530.5	84.51	84.46	84.47	84.54	84.53	84.62	84.73	84.65	84.13	84.05	85.27	85.26	85.27	85.40
531	84.45	84.40	84.44	84.47	84.46	84.60	84.75	84.57	84.07	84.03	85.38	85.14	85.15	85.40
531.5	84.43	84.41	84.38	84.44	84.47	84.60	84.74	84.56	84.05	84.03	85.33	85.10	85.42	85.46
532	84.41	84.41	84.31	84.34	84.36	84.50	84.69	84.59	84.02	84.04	85.32	85.13	85.28	85.46
532.5	84.60	84.55	84.50	84.45	84.39	84.52	84.69	84.55	84.05	84.04	85.08	85.23	85.29	85.49
533	84.70	84.66	84.59	84.50	84.45	84.53	84.65	84.51	84.03	83.97	84.99	85.29	85.29	85.51
533.5	84.64	84.57	84.56	84.48	84.49	84.59	84.66	84.47	84.05	83.95	85.05	85.24	85.43	85.54
534	84.58	84.58	84.61	84.49	84.53	84.64	84.71	84.53	84.04	83.95	85.04	85.27	85.44	85.62
534.5	84.46	84.46	84.36	84.44	84.48	84.55	84.75	84.52	83.96	83.99	85.05	85.36	85.72	85.52
535	84.63	84.70	84.53	84.54	84.54	84.58	84.73	84.58	83.92	83.94	85.02	85.32	85.29	85.51
535.5	84.59	84.60	84.52	84.49	84.59	84.60	84.72	84.46	83.91	84.06	85.26	85.25	85.28	85.47
536	84.61	84.60	84.55	84.56	84.56	84.54	84.59	84.16	83.92	84.12	85.35	85.25	85.28	85.40
536.5	84.51	84.47	84.47	84.51	84.54	84.55	84.50	84.08	84.02	84.25	85.40	85.18	85.29	85.38
537	84.44	84.49	84.47	84.48	84.45	84.51	84.46	84.06	83.94	84.28	85.41	85.17	85.29	85.47
537.5	84.37	84.37	84.43	84.50	84.49	84.58	84.33	84.05	83.96	84.12	85.40	85.17	85.29	85.42
538	84.33	84.32	84.28	84.44	84.51	84.57	84.45	84.06	84.02	84.04	85.16	85.21	85.42	85.46
538.5	84.36	84.32	84.36	84.43	84.48	84.56	84.59	84.32	84.12	84.14	85.26	85.23	85.16	85.38
539	84.41	84.36	84.30	84.38	84.41	84.49	84.62	84.39	84.06	84.12	85.25	85.16	85.29	85.38
539.5	84.37	84.37	84.27	84.41	84.39	84.46	84.59	84.42	84.07	84.15	85.19	85.14	85.14	85.23
540	84.23	84.27	84.27	84.38	84.37	84.46	84.59	84.48	84.15	84.12	85.18	85.05	85.14	85.22
540.5	84.33	84.24	84.28	84.32	84.42	84.42	84.51	84.45	84.12	84.12	85.19	84.99	85.12	85.24
541	84.16	84.20	84.29	84.34	84.38	84.43	84.57	84.42	83.99	84.27	85.21	85.02	85.29	85.25
541.5	84.11	84.16	84.24	84.31	84.35	84.43	84.51	84.15	83.91	84.02	85.09	85.04	85.12	85.13
542	84.21	84.21	84.13	84.22	84.31	84.38	84.46	84.08	83.89	83.77	85.08	84.97	85.00	85.25
542.5	84.10	84.14	84.10	84.10	84.12	84.25	84.49	84.22	83.81	83.72	85.22	85.08	85.14	85.29
543	84.02	84.12	84.02	83.99	83.92	84.04	84.36	84.21	83.69	83.71	85.24	85.06	85.13	85.21
543.5	84.17	84.10	84.06	84.05	84.10	84.25	84.37	83.99	83.80	83.66	84.84	84.73	84.85	85.06
544	84.08	84.08	84.02	84.02	84.04	84.14	84.35	83.89	83.78	83.58	84.70	84.74	84.99	85.14
544.5	84.18	84.04	84.02	84.08	84.08	84.01	84.25	83.96	83.56	83.50	84.59	84.73	85.01	85.18
545	84.10	84.14	84.07	84.12	84.12	84.12	84.26	83.96	83.58	83.54	84.51	84.82	85.00	85.03
545.5	84.20	84.20	84.09	84.08	84.02	84.12	84.31	83.96	83.64	83.56	84.38	84.59	84.85	85.00
546	84.06	84.06	84.09	83.98	83.95	84.03	84.30	84.12	83.68	83.61	84.38	84.68	85.00	84.91
546.5	83.97	83.97	83.91	84.01	83.98	84.08	84.34	84.19	83.73	83.75	84.43	84.72	85.00	85.00
547	83.89	83.80	83.83	83.85	83.91	84.03	84.23	84.22	83.71	83.72	84.61	84.81	84.85	85.06
547.5	83.87	83.83	83.76	83.70	83.84	84.02	84.27	84.12	83.74	83.72	84.79	84.86	84.85	85.03
548	83.80	83.80	83.79	83.75	83.85	83.98	84.29	84.05	83.79	83.69	84.55	84.82	85.00	84.98
548.5	83.64	83.69	83.71	83.73	83.86	84.00	84.21	83.94	83.71	83.62	84.50	84.77	85.01	84.99
549	83.43	83.55	83.65	83.67	83.82	83.95	84.15	83.86	83.52	83.46	84.67	84.73	84.98	84.88

549.5	83.69	83.67	83.73	83.75	83.82	83.95	84.11	83.79	83.40	83.38	84.68	84.70	84.71	84.82
550	83.86	83.87	83.80	83.70	83.78	83.92	84.13	83.81	83.37	83.36	84.38	84.70	84.71	84.77
550.5	83.87	83.86	83.81	83.72	83.82	83.91	84.08	83.71	83.40	83.41	84.32	84.59	84.85	84.77
551	83.71	83.69	83.71	83.69	83.73	83.73	84.08	83.73	83.45	83.42	84.37	84.52	84.72	84.80
551.5	83.57	83.54	83.53	83.61	83.68	83.78	84.07	83.69	83.47	83.41	84.32	84.54	84.71	84.82
552	83.46	83.60	83.56	83.55	83.60	83.83	84.02	83.66	83.49	83.41	84.46	84.64	84.70	84.82
552.5	83.67	83.75	83.64	83.68	83.65	83.80	83.99	83.70	83.49	83.34	84.55	84.44	84.72	84.74
553	83.59	83.62	83.65	83.60	83.53	83.57	83.95	83.66	83.40	83.28	84.46	84.43	84.56	84.68
553.5	83.72	83.79	83.70	83.67	83.61	83.68	83.99	83.62	83.35	83.32	84.51	84.46	84.72	84.62
554	83.79	83.83	83.70	83.62	83.67	83.76	83.96	83.69	83.35	83.46	84.57	84.36	84.56	84.53
554.5	83.67	83.70	83.66	83.67	83.78	83.86	84.01	83.82	83.40	83.58	84.43	84.30	84.56	84.58
555	83.57	83.63	83.64	83.68	83.75	83.88	84.03	83.81	83.41	83.39	84.38	84.36	84.56	84.58
555.5	83.64	83.68	83.63	83.70	83.80	83.92	84.07	83.84	83.37	83.38	84.42	84.31	84.27	84.52
556	83.69	83.64	83.67	83.64	83.67	83.74	84.06	83.82	83.29	83.22	84.17	84.24	84.42	84.47
556.5	83.51	83.60	83.58	83.56	83.63	83.76	84.00	83.67	83.23	83.21	84.00	84.20	84.41	84.51
557	83.47	83.47	83.53	83.57	83.71	83.75	83.90	83.62	83.21	83.15	84.03	84.22	84.56	84.50
557.5	83.53	83.60	83.50	83.50	83.55	83.69	83.85	83.61	83.18	83.05	83.91	84.22	84.42	84.47
558	83.50	83.42	83.46	83.41	83.51	83.64	83.80	83.64	83.17	83.08	83.97	84.24	84.42	84.47
558.5	83.43	83.44	83.38	83.37	83.47	83.64	83.76	83.66	83.19	83.13	83.96	84.23	84.27	84.44
559	83.48	83.46	83.36	83.35	83.37	83.60	83.76	83.68	83.23	83.17	84.18	84.22	84.41	84.44
559.5	83.61	83.63	83.46	83.37	83.42	83.57	83.77	83.71	83.26	83.26	84.25	84.20	84.12	84.38
560	83.55	83.59	83.51	83.46	83.49	83.57	83.73	83.66	83.17	83.19	84.17	84.22	84.28	84.35
560.5	83.54	83.64	83.56	83.50	83.44	83.56	83.71	83.61	83.17	83.16	84.07	84.09	84.27	84.39
561	83.66	83.65	83.59	83.54	83.45	83.61	83.73	83.61	83.25	83.16	83.91	84.15	84.27	84.33
561.5	83.76	83.74	83.67	83.60	83.58	83.65	83.78	83.64	83.24	83.15	83.98	84.14	84.13	84.24
562	83.76	83.81	83.67	83.58	83.58	83.58	83.80	83.65	83.18	83.16	84.00	84.11	84.27	84.30
562.5	83.77	83.81	83.74	83.65	83.65	83.69	83.82	83.56	83.12	83.09	83.92	84.12	84.11	84.34
563	83.87	83.86	83.82	83.80	83.79	83.81	83.85	83.50	83.09	83.07	83.93	84.19	84.28	84.32
563.5	83.83	83.80	83.73	83.75	83.75	83.86	83.94	83.15	83.05	83.06	83.95	84.15	84.27	84.37
564	83.77	83.83	83.72	83.70	83.68	83.79	83.93	83.34	83.10	83.19	84.01	84.13	84.14	84.47
564.5	83.77	83.80	83.74	83.75	83.74	83.78	83.93	83.62	83.18	83.16	83.98	84.14	84.42	84.44
565	83.80	83.84	83.77	83.77	83.80	83.85	83.96	83.74	83.19	83.19	83.94	84.14	84.27	84.37
565.5	83.82	83.75	83.81	83.80	83.79	83.80	83.87	83.71	83.14	83.14	83.97	84.14	84.27	84.33
566	83.95	83.93	83.91	83.86	83.80	83.84	83.80	83.57	83.08	83.05	84.00	84.13	84.56	84.39
566.5	83.79	83.82	83.86	83.83	83.82	83.86	83.77	83.31	83.04	83.05	84.11	84.17	84.12	84.47
567	83.82	83.89	83.79	83.79	83.79	83.83	83.76	83.28	83.07	83.07	84.24	84.25	84.12	84.55
567.5	83.84	83.82	83.75	83.68	83.78	83.91	83.91	83.57	83.09	83.27	84.31	84.25	84.43	84.61
568	83.78	83.81	83.75	83.65	83.69	83.86	83.95	83.69	83.14	83.30	84.41	84.32	84.57	84.60
568.5	83.81	83.84	83.79	83.67	83.74	83.89	83.97	83.74	83.24	83.39	84.48	84.34	84.42	84.56
569	83.86	83.90	83.83	83.68	83.72	83.85	83.96	83.61	83.24	83.34	84.51	84.20	84.27	84.56
569.5	83.96	84.00	83.90	83.81	83.78	83.83	83.91	83.45	83.21	83.29	84.32	84.24	84.27	84.59

570	83.88	83.82	83.75	83.77	83.73	83.81	83.85	83.38	83.16	83.14	84.03	84.23	84.27	84.65
570.5	83.81	83.78	83.77	83.78	83.72	83.73	83.87	83.43	83.18	83.16	83.92	84.22	84.55	84.70
571	83.94	83.93	83.80	83.72	83.77	83.78	83.68	83.38	83.25	83.28	83.95	84.38	84.42	84.72
571.5	83.93	83.93	83.82	83.79	83.80	83.81	83.76	83.36	83.24	83.28	84.09	84.33	84.56	84.67
572	83.96	84.00	83.93	83.90	83.88	83.89	83.88	83.56	83.31	83.26	84.10	84.41	84.56	84.77
572.5	84.07	84.14	84.03	83.91	83.92	83.95	83.97	83.74	83.27	83.29	84.20	84.52	84.56	84.79
573	84.06	84.09	83.99	83.95	83.97	84.01	84.07	83.88	83.32	83.36	84.35	84.47	84.71	84.88
573.5	84.13	84.13	84.07	84.00	84.01	84.06	84.11	83.96	83.38	83.39	84.36	84.60	84.85	84.94
574	84.00	84.06	84.04	84.01	83.97	84.05	84.16	84.04	83.54	83.49	84.26	84.69	84.85	84.97
574.5	84.09	84.11	84.03	84.04	83.97	84.05	84.19	84.04	83.63	83.46	84.18	84.68	84.84	84.95
575	84.16	84.21	84.09	84.02	83.96	84.01	84.18	84.04	83.55	83.40	84.22	84.65	84.84	84.96
575.5	84.23	84.31	84.18	84.13	84.04	84.07	84.15	84.00	83.58	83.38	84.13	84.64	84.70	85.05
576	84.20	84.21	84.14	84.10	84.05	84.13	84.21	83.85	83.51	83.45	84.46	84.84	84.85	85.09
576.5	84.22	84.21	84.11	84.10	83.96	84.13	84.16	83.81	83.47	83.46	84.66	84.84	85.13	85.11
577	84.16	84.11	84.07	84.08	84.00	84.03	84.19	83.64	83.47	83.46	84.83	84.82	84.85	85.16
577.5	84.20	84.27	84.11	84.02	84.01	84.12	84.06	83.51	83.41	83.36	84.96	84.81	85.14	85.23
578	84.15	84.18	84.09	84.02	84.00	84.13	84.02	83.57	83.43	83.43	84.75	84.94	85.13	85.24
578.5	84.14	84.11	84.04	84.00	84.01	84.12	84.14	83.59	83.48	83.44	84.71	84.97	85.14	85.25
579	84.22	84.19	84.06	84.03	84.04	84.14	84.18	83.66	83.52	83.51	84.54	84.73	84.99	85.28
579.5	83.91	83.97	84.11	84.10	84.11	84.11	84.17	83.71	83.51	83.62	84.51	84.89	85.00	85.28
580	84.11	84.19	84.16	84.18	84.14	84.19	84.21	83.79	83.55	83.66	84.61	85.01	85.14	85.35
580.5	84.12	84.26	84.23	84.22	84.19	84.23	84.26	83.80	83.53	83.63	84.51	85.06	85.28	85.37
581	84.37	84.46	84.31	84.27	84.25	84.32	84.33	83.76	83.61	83.58	84.52	85.01	85.29	85.36
581.5	84.37	84.49	84.43	84.35	84.35	84.36	84.36	83.92	83.60	83.64	84.87	84.98	85.14	85.29
582	84.54	84.60	84.48	84.52	84.46	84.53	84.48	84.06	83.69	83.71	85.04	85.07	85.13	85.33
582.5	84.68	84.75	84.55	84.52	84.49	84.50	84.48	84.09	83.70	83.97	85.24	85.06	85.28	85.35
583	84.70	84.70	84.63	84.58	84.49	84.50	84.40	83.73	83.71	83.94	85.28	85.02	85.12	85.40
583.5	84.77	84.77	84.67	84.62	84.55	84.57	84.54	84.16	83.71	83.87	85.31	85.11	85.29	85.47
584	84.77	84.82	84.69	84.61	84.54	84.58	84.62	84.24	83.70	83.77	84.96	85.16	85.29	85.51
584.5	84.73	84.79	84.67	84.61	84.55	84.63	84.60	84.08	83.71	83.77	84.74	85.21	85.43	85.44
585	84.71	84.72	84.61	84.60	84.53	84.60	84.64	84.07	83.73	83.73	84.81	85.18	85.28	85.46
585.5	84.53	84.62	84.50	84.48	84.49	84.53	84.59	84.11	83.74	83.74	84.77	85.18	85.14	85.52
586	84.60	84.57	84.50	84.50	84.51	84.53	84.55	84.15	83.74	83.74	84.81	85.18	85.43	85.49
586.5	84.64	84.67	84.55	84.53	84.51	84.45	84.54	84.04	83.78	83.81	84.70	85.13	85.13	85.44
587	84.70	84.72	84.64	84.58	84.49	84.50	84.60	84.15	83.81	83.88	84.90	85.11	84.98	85.45
587.5	84.73	84.69	84.61	84.58	84.49	84.52	84.62	84.29	83.89	83.91	85.11	85.23	85.57	85.42
588	84.61	84.63	84.54	84.59	84.50	84.51	84.67	84.33	83.98	84.00	85.26	85.19	85.15	85.43
588.5	84.60	84.50	84.59	84.60	84.55	84.59	84.65	84.29	83.94	84.07	85.17	85.17	85.14	85.45
589	84.40	84.49	84.44	84.57	84.47	84.65	84.70	84.35	83.96	83.98	85.08	85.16	85.43	85.47
589.5	84.60	84.60	84.57	84.58	84.51	84.66	84.75	84.45	83.99	83.92	84.96	85.27	85.14	85.49
590	84.61	84.58	84.53	84.52	84.54	84.61	84.67	84.51	84.07	83.97	85.01	85.29	85.42	85.56

590.5	84.64	84.68	84.54	84.55	84.54	84.58	84.70	84.52	84.09	83.95	84.89	85.27	85.43	85.55
591	84.64	84.71	84.65	84.59	84.56	84.63	84.71	84.46	84.01	83.93	85.01	85.28	85.42	85.57
591.5	84.65	84.78	84.72	84.63	84.59	84.63	84.71	84.27	83.98	83.97	85.16	85.31	85.42	85.51
592	84.77	84.79	84.73	84.68	84.64	84.68	84.63	84.25	84.03	84.20	85.25	85.32	85.57	85.60
592.5	84.77	84.84	84.78	84.76	84.70	84.76	84.80	84.43	84.07	84.10	85.23	85.37	85.58	85.59
593	84.85	84.94	84.82	84.83	84.74	84.78	84.84	84.63	84.21	84.29	85.36	85.37	85.73	85.55
593.5	84.77	84.80	84.64	84.71	84.76	84.79	84.92	84.72	84.36	84.24	85.25	85.27	85.57	85.52
594	84.64	84.68	84.59	84.63	84.69	84.78	84.94	84.75	84.37	84.16	85.14	85.38	85.44	85.60
594.5	84.63	84.65	84.49	84.55	84.59	84.69	84.93	84.74	84.28	84.07	85.08	85.26	85.29	85.44
595	84.68	84.73	84.57	84.56	84.56	84.64	84.91	84.75	84.33	84.07	85.29	85.21	85.29	85.47
595.5	84.71	84.72	84.63	84.57	84.59	84.65	84.84	84.73	84.09	84.04	85.35	85.22	85.28	85.50
596	84.63	84.59	84.53	84.55	84.58	84.66	84.82	84.39	83.94	84.05	85.33	85.33	85.29	85.48
596.5	84.56	84.62	84.51	84.50	84.54	84.65	84.79	84.18	83.97	84.12	85.30	85.30	85.43	85.57
597	84.59	84.67	84.64	84.55	84.52	84.58	84.73	84.14	83.97	84.07	85.13	85.05	85.44	85.60
597.5	84.69	84.73	84.67	84.64	84.59	84.62	84.70	84.11	84.05	84.07	85.11	85.26	85.43	85.55
598	84.75	84.74	84.63	84.59	84.54	84.64	84.75	84.17	84.01	84.09	85.26	85.32	85.13	85.53
598.5	84.74	84.77	84.68	84.66	84.61	84.58	84.75	84.27	84.04	84.14	85.26	85.32	85.28	85.49
599	84.74	84.80	84.66	84.63	84.60	84.67	84.80	84.43	84.14	84.16	85.19	85.28	85.42	85.50
599.5	84.86	84.89	84.77	84.72	84.67	84.72	84.83	84.59	84.13	84.18	85.27	85.32	85.43	85.52
600	84.87	84.87	84.75	84.75	84.72	84.78	84.91	84.67	84.21	84.23	85.48	85.38	85.44	85.62
600.5	84.87	84.87	84.68	84.75	84.72	84.73	84.88	84.57	84.20	84.30	85.57	85.35	85.44	85.60
601	85.00	85.04	84.88	84.89	84.79	84.77	84.83	84.42	84.20	84.42	85.60	85.43	85.58	85.65
601.5	84.94	85.04	84.97	84.91	84.81	84.78	84.86	84.38	84.23	84.57	85.65	85.48	85.57	85.68
602	85.04	85.08	84.96	84.94	84.85	84.86	84.93	84.41	84.30	84.64	85.72	85.53	85.72	85.71
602.5	84.99	85.00	84.98	84.96	84.88	84.88	84.94	84.50	84.31	84.50	85.74	85.54	85.57	85.78
603	84.86	84.89	84.83	84.92	84.85	84.88	84.96	84.74	84.33	84.54	85.79	85.58	85.72	85.76
603.5	84.92	85.07	84.96	84.97	84.84	84.90	84.98	84.77	84.33	84.73	85.80	85.60	85.57	85.73
604	84.96	85.01	84.98	84.90	84.88	84.91	85.03	84.70	84.41	84.66	85.78	85.58	85.57	85.69
604.5	84.96	84.99	84.93	84.87	84.94	84.96	85.02	84.58	84.32	84.38	85.75	85.49	85.72	85.64
605	84.94	84.95	84.88	84.82	84.82	84.94	85.02	84.72	84.30	84.32	85.69	85.37	85.70	85.67
605.5	84.92	84.97	84.91	84.86	84.86	84.91	85.01	84.71	84.27	84.29	85.76	85.44	85.57	85.72
606	84.77	84.78	84.77	84.84	84.82	84.88	84.86	84.41	84.20	84.54	85.75	85.48	85.57	85.79
606.5	84.82	84.73	84.63	84.68	84.65	84.80	84.67	84.38	84.30	84.80	85.63	85.39	85.72	85.70
607	84.71	84.62	84.57	84.55	84.57	84.76	84.78	84.45	84.32	84.61	85.56	85.46	85.43	85.65
607.5	84.59	84.60	84.33	84.50	84.50	84.63	84.81	84.63	84.35	84.35	85.52	85.45	85.42	85.60
608	84.69	84.67	84.59	84.60	84.57	84.65	84.82	84.63	84.37	84.16	85.70	85.45	85.42	85.63
608.5	84.79	84.78	84.66	84.65	84.64	84.69	84.79	84.58	84.20	84.07	85.62	85.48	85.43	85.61
609	84.74	84.80	84.74	84.71	84.64	84.66	84.79	84.54	84.13	84.04	85.18	85.43	85.72	85.61
609.5	84.89	84.89	84.79	84.78	84.75	84.76	84.85	84.64	84.15	84.12	85.02	85.39	85.43	85.58
610	84.88	84.87	84.80	84.75	84.76	84.76	84.84	84.68	84.13	84.15	84.93	85.36	85.41	85.55
610.5	84.91	84.97	84.86	84.80	84.80	84.84	84.85	84.60	84.12	84.19	84.92	85.32	85.42	85.57

611	84.89	84.98	84.86	84.89	84.84	84.88	84.90	84.49	84.10	84.18	85.02	85.37	85.43	85.61
611.5	85.00	85.02	84.87	84.85	84.81	84.92	84.96	84.47	84.09	84.14	84.95	85.39	85.29	85.61
612	85.02	85.14	84.96	84.92	84.86	84.83	84.98	84.72	84.20	84.02	84.80	85.37	85.43	85.57
612.5	85.12	85.15	85.04	85.01	84.94	84.83	84.99	84.77	84.28	84.11	84.84	85.33	85.43	85.55
613	85.20	85.24	85.11	85.04	84.94	84.83	84.96	84.84	84.35	84.18	84.99	85.34	85.43	85.61
613.5	85.27	85.24	85.09	85.07	84.98	84.96	84.98	84.82	84.48	84.20	85.02	85.32	85.43	85.63
614	85.11	85.08	85.06	85.06	84.93	84.95	85.04	84.80	84.43	84.16	85.01	85.37	85.42	85.57
614.5	85.08	85.06	84.95	85.05	84.96	84.96	84.94	84.52	84.27	84.18	85.14	85.37	85.44	85.50
615	84.92	84.98	84.91	84.98	84.96	84.93	84.89	84.42	84.22	84.18	85.37	85.30	85.57	85.51
615.5	84.82	84.89	84.89	84.91	84.84	84.92	84.93	84.49	84.29	84.28	85.41	85.27	85.43	85.51
616	84.94	84.90	84.82	84.92	84.84	84.94	84.94	84.73	84.23	84.26	85.32	85.16	85.29	85.52
616.5	84.98	84.97	84.88	84.89	84.83	84.91	84.93	84.79	84.25	84.23	85.10	85.06	85.57	85.54
617	85.04	85.09	84.94	84.91	84.86	84.95	85.01	84.81	84.39	84.31	85.11	85.17	85.29	85.38
617.5	85.08	85.08	84.93	84.93	84.93	84.92	85.05	84.91	84.57	84.33	85.23	85.16	85.28	85.41
618	85.19	85.15	85.04	84.94	84.95	85.00	85.12	84.88	84.38	84.35	85.34	85.21	85.14	85.49
618.5	85.09	85.14	85.01	84.97	84.91	84.97	85.05	84.59	84.21	84.19	85.29	85.28	85.57	85.62
619	85.03	85.11	85.01	84.98	84.95	84.93	84.99	84.62	84.22	84.15	85.12	85.27	85.43	85.60
619.5	85.04	85.08	84.97	84.99	84.92	84.89	84.96	84.62	84.22	84.21	85.06	85.30	85.27	85.58
620	85.04	85.06	84.96	84.97	84.91	84.95	84.98	84.44	84.21	84.22	85.33	85.35	85.28	85.53
620.5	84.96	85.06	85.01	84.97	84.85	84.98	85.01	84.47	84.26	84.25	85.27	85.32	85.14	85.52
621	85.03	85.05	85.01	84.98	84.91	85.00	85.05	84.39	84.20	84.25	85.40	85.27	85.43	85.55
621.5	85.04	85.06	84.97	84.92	84.96	84.99	85.05	84.59	84.19	84.27	85.47	85.32	85.57	85.64
622	84.99	85.01	84.98	84.93	84.91	85.00	85.01	84.66	84.31	84.39	85.41	85.44	85.42	85.66
622.5	85.03	84.95	84.90	84.85	84.89	85.02	85.08	84.62	84.29	84.31	85.27	85.40	85.43	85.63
623	84.95	85.01	84.92	84.87	84.86	84.95	85.05	84.53	84.24	84.27	85.24	85.44	85.42	85.62
623.5	84.99	85.05	85.00	84.94	84.88	84.90	85.06	84.55	84.29	84.32	85.31	85.43	85.43	85.73
624	85.04	85.06	85.00	84.94	84.91	84.88	85.05	84.57	84.29	84.40	85.41	85.52	85.57	85.68
624.5	85.20	85.21	85.09	85.02	84.98	84.93	84.89	84.58	84.38	84.64	85.59	85.48	85.43	85.63
625	85.27	85.25	85.17	85.09	85.05	85.00	84.99	84.59	84.48	84.70	85.63	85.42	85.57	85.67
625.5	85.26	85.29	85.19	85.13	84.98	85.02	85.13	84.80	84.56	84.56	85.45	85.47	85.71	85.73
626	85.25	85.29	85.21	85.14	85.06	85.10	85.08	84.90	84.72	84.55	85.51	85.45	85.28	85.72
626.5	85.28	85.31	85.19	85.14	85.14	85.18	85.16	84.87	84.64	84.62	85.57	85.45	85.57	85.73
627	85.30	85.37	85.23	85.18	85.12	85.12	85.22	84.97	84.52	84.55	85.55	85.55	85.57	85.73
627.5	85.37	85.35	85.21	85.22	85.18	85.20	85.26	85.04	84.58	84.50	85.66	85.52	85.43	85.68
628	85.47	85.42	85.32	85.27	85.16	85.18	85.31	85.07	84.72	84.40	85.66	85.56	85.57	85.67
628.5	85.26	85.33	85.26	85.26	85.18	85.15	85.23	85.06	84.74	84.35	85.42	85.53	85.71	85.70
629	85.35	85.40	85.28	85.26	85.21	85.25	85.29	85.07	84.69	84.42	85.35	85.54	85.42	85.75
629.5	85.35	85.46	85.35	85.29	85.24	85.28	85.39	85.09	84.64	84.43	85.38	85.58	85.57	85.89
630	85.35	85.37	85.31	85.29	85.27	85.32	85.44	85.19	84.77	84.50	85.33	85.53	85.71	85.88
630.5	85.30	85.27	85.25	85.25	85.24	85.31	85.40	85.26	84.91	84.56	85.48	85.66	85.73	85.88
631	85.32	85.35	85.25	85.23	85.24	85.33	85.37	85.25	84.91	84.69	85.64	85.67	85.73	85.91

631.5	85.39	85.38	85.26	85.27	85.25	85.29	85.37	84.85	84.78	84.76	85.76	85.71	85.72	85.93
632	85.41	85.49	85.41	85.36	85.30	85.31	85.42	84.72	84.63	84.91	85.92	85.70	85.87	85.90
632.5	85.46	85.52	85.42	85.39	85.26	85.25	85.34	84.79	84.63	85.02	85.81	85.70	85.57	85.88
633	85.48	85.44	85.38	85.37	85.27	85.28	85.40	85.07	84.66	84.80	85.61	85.42	85.85	85.91
633.5	85.52	85.57	85.45	85.43	85.37	85.32	85.37	85.26	84.66	84.62	85.45	85.55	85.85	85.95
634	85.59	85.65	85.55	85.51	85.43	85.41	85.46	85.33	84.60	84.53	85.67	85.70	85.85	86.00
634.5	85.57	85.58	85.57	85.51	85.31	85.29	85.47	85.34	84.55	84.54	85.71	85.77	85.86	86.05
635	85.57	85.56	85.48	85.46	85.29	85.30	85.42	85.20	84.56	84.56	85.61	85.73	85.87	86.14
635.5	85.55	85.49	85.52	85.47	85.36	85.37	85.22	84.95	84.60	84.59	85.42	85.78	86.02	86.19
636	85.50	85.51	85.47	85.44	85.39	85.46	85.30	85.00	84.81	84.81	85.61	85.90	86.02	86.23
636.5	85.36	85.37	85.41	85.37	85.36	85.41	85.46	85.07	84.80	84.69	85.70	85.80	86.00	86.23
637	85.44	85.46	85.43	85.42	85.33	85.39	85.49	85.08	84.59	84.62	85.57	85.92	85.99	86.26
637.5	85.51	85.54	85.39	85.40	85.34	85.42	85.50	85.10	84.67	84.70	85.54	85.95	86.00	86.21
638	85.42	85.44	85.31	85.34	85.36	85.32	85.52	85.27	84.69	84.73	85.64	85.98	86.00	86.24
638.5	85.44	85.50	85.42	85.37	85.38	85.35	85.57	85.37	84.77	84.67	85.82	85.97	86.01	86.11
639	85.53	85.55	85.43	85.41	85.39	85.42	85.58	85.44	84.88	84.63	85.68	85.93	86.01	86.12
639.5	85.60	85.58	85.49	85.44	85.38	85.39	85.58	85.42	84.78	84.63	85.46	85.91	85.86	86.21
640	85.56	85.60	85.55	85.51	85.40	85.38	85.57	85.32	84.69	84.56	85.43	85.95	86.29	86.16
640.5	85.54	85.60	85.52	85.45	85.41	85.40	85.45	85.29	84.51	84.48	85.53	85.93	85.86	86.09
641	85.54	85.58	85.54	85.48	85.41	85.43	85.55	85.07	84.55	84.55	85.66	85.93	86.01	86.18
641.5	85.67	85.74	85.53	85.49	85.43	85.43	85.52	85.02	84.67	84.68	85.81	85.96	86.01	86.21
642	85.72	85.58	85.59	85.61	85.51	85.35	85.44	85.01	84.77	84.88	85.82	85.96	86.15	86.24
642.5	85.66	85.69	85.61	85.59	85.50	85.47	85.35	85.01	84.81	84.85	85.73	85.85	86.28	86.22
643	85.69	85.73	85.70	85.65	85.56	85.56	85.49	85.15	84.93	85.00	85.79	85.93	86.15	86.24
643.5	85.73	85.78	85.67	85.64	85.52	85.58	85.67	85.39	85.10	85.03	85.81	86.00	86.15	86.25
644	85.67	85.75	85.67	85.59	85.56	85.60	85.68	85.51	85.15	84.82	85.76	85.97	86.14	86.22
644.5	85.70	85.65	85.58	85.55	85.51	85.51	85.72	85.56	85.11	84.76	85.73	85.95	86.16	86.26
645	85.67	85.68	85.52	85.51	85.46	85.52	85.71	85.57	84.90	84.77	85.55	85.99	86.15	86.24
645.5	85.62	85.62	85.54	85.51	85.47	85.54	85.69	85.56	84.89	84.78	85.58	85.95	86.00	86.08
646	85.62	85.61	85.52	85.47	85.48	85.56	85.70	85.61	84.85	84.78	85.68	85.84	85.72	86.03
646.5	85.63	85.65	85.56	85.52	85.38	85.48	85.73	85.61	84.85	84.68	85.85	85.77	85.86	86.09
647	85.70	85.72	85.61	85.57	85.49	85.55	85.73	85.57	84.96	84.82	85.90	85.92	85.87	86.17
647.5	85.72	85.82	85.66	85.61	85.50	85.60	85.76	85.59	85.09	85.02	86.02	85.93	85.85	86.14
648	85.82	85.78	85.70	85.62	85.50	85.54	85.73	85.56	85.18	85.11	86.17	86.02	86.16	86.17
648.5	85.66	85.67	85.59	85.58	85.51	85.52	85.65	85.47	85.11	85.13	86.12	86.00	86.01	86.21
649	85.67	85.71	85.63	85.61	85.53	85.55	85.61	85.19	85.03	84.87	85.88	85.99	86.01	86.28
649.5	85.59	85.59	85.59	85.61	85.54	85.54	85.59	85.10	84.92	84.79	85.81	86.06	86.43	86.32
650	85.75	85.76	85.65	85.61	85.53	85.50	85.59	85.11	84.95	84.83	85.86	86.09	86.14	86.19
650.5	85.72	85.69	85.61	85.61	85.51	85.47	85.59	85.24	84.90	84.86	85.99	85.90	86.14	86.23
651	85.70	85.74	85.67	85.65	85.58	85.56	85.68	85.28	84.85	84.91	86.09	85.96	86.01	86.12
651.5	85.67	85.73	85.59	85.65	85.56	85.66	85.73	85.29	84.97	85.07	86.09	85.93	86.01	86.19

652	85.79	85.80	85.64	85.62	85.53	85.60	85.75	85.39	84.95	85.11	86.13	85.99	86.15	86.19
652.5	85.82	85.93	85.75	85.66	85.57	85.65	85.75	85.34	84.95	85.08	86.18	86.01	86.00	86.17
653	85.90	85.94	85.83	85.80	85.71	85.69	85.84	85.44	84.91	84.96	86.16	86.08	86.17	86.17
653.5	85.78	85.78	85.75	85.79	85.76	85.68	85.82	85.59	84.95	84.91	85.90	86.05	86.16	86.14
654	85.83	85.86	85.79	85.79	85.72	85.75	85.88	85.62	85.04	84.91	85.74	85.97	86.01	86.22
654.5	85.89	85.93	85.84	85.84	85.71	85.79	85.85	85.65	84.93	84.88	85.63	85.96	86.15	86.31
655	85.97	85.99	85.89	85.88	85.83	85.86	85.87	85.61	84.95	84.90	85.94	86.07	86.30	86.34
655.5	85.99	85.97	85.83	85.79	85.78	85.85	85.94	85.44	84.90	84.94	86.16	86.04	86.01	86.31
656	85.81	85.92	85.84	85.77	85.65	85.78	85.90	85.63	84.89	84.98	86.12	86.05	86.14	86.27
656.5	85.85	85.84	85.77	85.76	85.74	85.83	86.01	85.70	85.19	84.96	85.93	86.04	86.16	86.30
657	85.56	85.70	85.67	85.72	85.73	85.76	85.93	85.75	85.06	84.96	85.79	86.00	86.15	86.34
657.5	85.64	85.72	85.62	85.69	85.69	85.70	85.88	85.72	84.93	84.92	85.76	86.10	86.16	86.29
658	85.72	85.77	85.69	85.59	85.46	85.56	85.84	85.61	84.98	84.93	85.74	86.06	86.01	86.28
658.5	85.62	85.60	85.53	85.54	85.46	85.56	85.74	85.45	84.95	84.93	85.72	86.01	86.44	86.33
659	85.63	85.61	85.56	85.55	85.55	85.59	85.77	85.45	84.98	84.97	85.72	86.03	86.15	86.28
659.5	85.64	85.75	85.63	85.59	85.53	85.62	85.75	85.42	84.98	85.14	85.85	86.04	86.01	86.24
660	85.62	85.73	85.62	85.54	85.53	85.57	85.75	85.39	85.05	85.12	85.86	85.87	86.14	86.27
660.5	85.66	85.71	85.63	85.61	85.53	85.60	85.75	85.54	85.10	85.07	85.74	85.94	86.30	86.28
661	85.69	85.75	85.63	85.61	85.56	85.60	85.78	85.60	85.26	85.00	85.84	86.03	86.01	86.28
661.5	85.83	85.83	85.64	85.61	85.59	85.67	85.81	85.70	85.33	85.04	85.93	86.07	86.01	86.30
662	85.86	85.93	85.77	85.64	85.55	85.65	85.80	85.67	85.20	85.10	86.10	86.13	86.15	86.31
662.5	85.89	85.94	85.86	85.77	85.66	85.69	85.80	85.57	85.13	85.07	86.25	86.12	86.15	86.31
663	85.95	85.93	85.87	85.82	85.75	85.77	85.83	85.52	85.03	84.97	86.26	86.03	86.01	86.22
663.5	85.95	85.91	85.80	85.72	85.65	85.66	85.88	85.71	85.00	84.98	86.25	85.99	86.01	86.27
664	85.78	85.78	85.69	85.70	85.64	85.65	85.83	85.74	85.25	85.12	86.15	86.04	86.29	86.38
664.5	85.90	85.97	85.81	85.73	85.66	85.64	85.74	85.62	85.49	85.20	86.29	86.16	86.28	86.34
665	85.96	86.00	85.86	85.81	85.66	85.63	85.74	85.66	85.39	85.38	86.36	86.13	86.42	86.31
665.5	86.01	86.05	85.91	85.87	85.74	85.72	85.75	85.50	85.31	85.49	86.41	86.14	86.29	86.33
666	86.07	86.09	85.92	85.85	85.66	85.82	85.83	85.45	85.30	85.46	86.22	86.13	86.30	86.40
666.5	85.95	85.96	85.78	85.87	85.70	85.77	85.83	85.47	85.32	85.22	86.08	86.21	86.00	86.43
667	85.89	85.91	85.82	85.85	85.73	85.86	85.93	85.50	85.16	85.23	86.17	86.20	86.30	86.37
667.5	85.73	85.75	85.72	85.69	85.81	85.87	86.00	85.44	85.16	85.17	86.28	86.17	86.01	86.34
668	85.68	85.73	85.66	85.66	85.68	85.75	85.96	85.42	85.12	85.15	86.31	86.20	86.29	86.35
668.5	85.64	85.67	85.62	85.60	85.60	85.75	85.93	85.53	85.21	85.16	86.30	86.20	86.00	86.42
669	85.72	85.80	85.69	85.67	85.58	85.65	85.86	85.40	85.03	85.18	86.34	86.22	86.43	86.42
669.5	85.76	85.83	85.67	85.69	85.63	85.67	85.84	85.29	85.00	85.10	86.06	86.20	86.15	86.46
670	85.75	85.78	85.69	85.66	85.63	85.70	85.83	85.43	85.02	85.09	86.22	86.20	86.14	86.38
670.5	85.69	85.73	85.67	85.72	85.68	85.70	85.85	85.55	85.08	85.16	86.41	86.20	86.15	86.31
671	85.77	85.82	85.71	85.71	85.63	85.72	85.89	85.66	85.12	84.99	86.41	86.21	86.14	86.33
671.5	85.76	85.77	85.76	85.68	85.71	85.75	85.90	85.68	85.01	85.06	86.42	86.20	86.15	86.35
672	85.79	85.80	85.77	85.72	85.69	85.79	85.94	85.72	84.94	84.96	86.39	86.17	86.30	86.41

672.5	85.85	85.89	85.75	85.77	85.71	85.81	85.96	85.74	85.00	85.01	86.40	86.22	86.29	86.42
673	85.87	85.96	85.83	85.77	85.71	85.75	85.94	85.81	85.16	85.09	86.47	86.26	86.15	86.33
673.5	85.80	85.83	85.80	85.75	85.71	85.77	85.90	85.81	85.34	85.30	86.41	86.17	86.01	86.25
674	85.73	85.77	85.73	85.73	85.72	85.77	85.88	85.78	85.44	85.47	86.32	86.08	86.28	86.28
674.5	85.81	85.72	85.74	85.70	85.67	85.74	85.85	85.77	85.34	85.32	86.33	86.17	86.14	86.36
675	85.85	85.83	85.74	85.74	85.68	85.79	85.83	85.58	85.20	85.36	86.41	86.20	86.15	86.40
675.5	85.80	85.87	85.83	85.77	85.71	85.77	85.84	85.61	85.19	85.20	86.45	86.19	86.01	86.34
676	85.74	85.76	85.80	85.86	85.79	85.84	85.96	85.75	85.12	85.18	86.20	86.05	86.16	86.29
676.5	85.84	85.86	85.76	85.76	85.77	85.87	85.95	85.63	85.09	85.09	85.96	86.01	86.00	86.36
677	85.73	85.75	85.73	85.78	85.75	85.83	85.98	85.65	85.11	85.11	85.97	86.16	86.30	86.50
677.5	85.74	85.90	85.76	85.77	85.72	85.75	85.93	85.77	85.26	85.36	86.03	86.19	86.44	86.43
678	85.86	85.91	85.74	85.79	85.75	85.80	85.97	85.74	85.39	85.36	86.16	86.22	86.30	86.34
678.5	85.85	85.86	85.79	85.82	85.78	85.85	85.97	85.77	85.30	85.17	86.31	86.20	86.15	86.34
679	85.85	85.84	85.73	85.74	85.72	85.77	85.98	85.81	85.27	85.20	86.36	86.17	86.30	86.35
679.5	85.74	85.81	85.74	85.78	85.71	85.83	85.98	85.75	85.32	85.44	86.39	86.20	86.15	86.34
680	85.82	85.84	85.73	85.78	85.71	85.80	85.94	85.80	85.39	85.37	86.33	86.26	86.30	86.50
680.5	85.85	85.89	85.75	85.70	85.70	85.74	85.89	85.80	85.37	85.18	86.21	86.28	86.43	86.54
681	85.97	86.01	85.86	85.77	85.71	85.74	85.82	85.79	85.31	85.13	86.37	86.34	86.58	86.52
681.5	86.01	85.98	85.88	85.85	85.75	85.76	85.82	85.75	85.23	85.24	86.45	86.22	86.42	86.50
682	86.03	86.04	85.90	85.84	85.75	85.82	85.93	85.74	85.19	85.21	86.50	86.32	86.15	86.53
682.5	85.94	86.01	85.92	85.87	85.77	85.82	85.95	85.72	85.12	85.18	86.40	86.37	86.43	86.54
683	85.90	85.93	85.87	85.84	85.76	85.82	85.93	85.58	85.06	85.06	86.35	86.32	86.44	86.54
683.5	85.89	85.97	85.84	85.88	85.75	85.85	85.80	85.51	85.06	85.14	86.36	86.33	86.30	86.44
684	85.72	85.85	85.85	85.83	85.73	85.87	85.88	85.66	85.18	85.37	86.49	86.34	86.45	86.45
684.5	85.65	85.72	85.70	85.76	85.69	85.83	85.98	85.73	85.28	85.38	86.56	86.36	86.30	86.48
685	85.77	85.79	85.75	85.73	85.66	85.75	85.98	85.82	85.22	85.15	86.58	86.34	86.30	86.44
685.5	85.85	85.92	85.85	85.80	85.65	85.67	85.98	85.83	85.12	85.05	86.53	86.31	86.29	86.46
686	85.85	85.93	85.86	85.85	85.75	85.80	86.00	85.77	85.07	84.98	86.47	86.31	86.30	86.52
686.5	85.82	85.90	85.80	85.71	85.65	85.63	85.96	85.74	85.13	85.07	86.32	86.38	86.30	86.46
687	85.65	85.69	85.74	85.69	85.63	85.70	85.93	85.40	85.09	85.09	86.30	86.27	86.29	86.46
687.5	85.60	85.63	85.57	85.62	85.59	85.70	85.88	85.61	85.17	85.14	86.23	86.17	86.30	86.50
688	85.57	85.58	85.47	85.57	85.55	85.63	85.81	85.71	85.34	85.23	86.25	86.22	86.44	86.50
688.5	85.61	85.63	85.46	85.49	85.45	85.65	85.82	85.66	85.39	85.18	86.05	86.22	86.43	86.57
689	85.52	85.55	85.47	85.49	85.48	85.62	85.81	85.58	85.30	85.10	86.22	86.36	86.44	86.56
689.5	85.59	85.57	85.46	85.54	85.49	85.61	85.83	85.65	85.23	85.14	86.34	86.37	86.31	86.52
690	85.50	85.52	85.43	85.45	85.33	85.46	85.75	85.62	85.23	85.36	86.42	86.33	86.30	86.44
690.5	85.59	85.65	85.51	85.49	85.41	85.51	85.73	85.59	85.34	85.54	86.43	86.27	86.29	86.38
691	85.56	85.63	85.49	85.49	85.44	85.50	85.70	85.47	85.34	85.36	86.46	86.21	86.43	86.39
691.5	85.63	85.70	85.59	85.55	85.46	85.53	85.70	85.50	85.34	85.27	86.31	86.10	86.15	86.46
692	85.67	85.64	85.57	85.57	85.46	85.53	85.70	85.52	85.21	85.13	86.35	86.17	86.30	86.46
692.5	85.72	85.75	85.56	85.52	85.48	85.52	85.70	85.52	85.16	85.14	86.26	86.22	86.15	86.52

693	85.70	85.74	85.66	85.58	85.51	85.55	85.70	85.54	85.17	85.10	86.03	86.31	86.30	86.47
693.5	85.61	85.69	85.64	85.60	85.53	85.52	85.70	85.54	85.13	85.08	86.09	86.33	86.58	86.48
694	85.69	85.65	85.57	85.52	85.55	85.56	85.70	85.44	85.06	84.98	85.93	86.32	86.44	86.54
694.5	85.78	85.82	85.64	85.56	85.50	85.54	85.75	85.54	85.03	85.02	85.99	86.33	86.14	86.48
695	85.60	85.71	85.59	85.52	85.48	85.55	85.78	85.61	85.08	84.87	85.95	86.20	86.15	86.40
695.5	85.44	85.50	85.45	85.59	85.50	85.51	85.64	85.62	85.09	84.85	85.96	86.06	86.29	86.46
696	85.60	85.64	85.56	85.56	85.55	85.59	85.64	85.64	85.01	84.88	85.78	86.16	86.14	86.43
696.5	85.56	85.65	85.58	85.54	85.54	85.61	85.64	85.52	84.98	84.98	85.96	86.15	86.00	86.30
697	85.62	85.65	85.55	85.53	85.51	85.60	85.70	85.36	85.06	85.06	86.19	85.99	86.14	86.33
697.5	85.71	85.70	85.62	85.59	85.51	85.51	85.70	85.44	85.16	85.23	86.24	86.11	86.14	86.36
698	85.69	85.73	85.62	85.58	85.56	85.58	85.75	85.48	85.16	85.21	86.28	86.16	86.01	86.38
698.5	85.66	85.70	85.57	85.55	85.46	85.55	85.78	85.55	85.19	85.23	86.33	86.17	86.01	86.34
699	85.63	85.67	85.57	85.57	85.51	85.58	85.77	85.62	85.16	85.11	86.16	86.20	86.15	86.41
699.5	85.60	85.60	85.56	85.55	85.51	85.60	85.75	85.58	85.16	85.20	86.29	86.25	86.15	86.35
700	85.70	85.77	85.63	85.62	85.56	85.65	85.75	85.50	85.10	85.13	86.36	86.19	86.15	86.35
700.5	85.76	85.75	85.73	85.67	85.63	85.60	85.75	85.38	85.06	85.09	86.32	86.19	86.30	86.38
701	85.77	85.81	85.73	85.62	85.62	85.67	85.80	85.11	85.00	85.11	86.25	85.93	86.01	86.40
701.5	85.71	85.77	85.64	85.62	85.62	85.63	85.78	85.12	84.95	85.11	86.14	85.94	86.14	86.31
702	85.83	85.87	85.74	85.69	85.63	85.70	85.81	85.41	85.04	85.16	86.16	86.04	86.01	86.34
702.5	85.84	85.86	85.75	85.70	85.67	85.71	85.83	85.62	85.11	85.13	86.06	86.08	86.00	86.33
703	85.85	85.90	85.80	85.77	85.68	85.75	85.83	85.61	85.34	85.29	86.16	86.13	86.30	86.24
703.5	85.89	85.94	85.83	85.78	85.71	85.73	85.78	85.58	85.21	85.30	86.28	86.10	86.44	86.27
704	85.80	85.78	85.71	85.75	85.66	85.71	85.85	85.69	85.27	85.27	86.33	86.12	86.02	86.32
704.5	85.84	85.86	85.78	85.71	85.65	85.72	85.88	85.72	85.24	85.26	86.30	86.11	86.00	86.24
705	85.90	85.90	85.82	85.79	85.71	85.75	85.87	85.75	85.27	85.24	86.22	86.10	86.01	86.33
705.5	85.80	85.84	85.76	85.78	85.68	85.77	85.88	85.75	85.47	85.17	86.29	86.22	86.30	86.43
706	85.82	85.89	85.75	85.73	85.63	85.71	85.88	85.79	85.54	85.26	86.37	86.27	86.43	86.48
706.5	85.85	85.83	85.66	85.66	85.57	85.72	85.90	85.77	85.58	85.39	86.49	86.33	86.29	86.52
707	85.79	85.65	85.66	85.67	85.61	85.67	85.88	85.80	85.27	85.47	86.48	86.33	86.44	86.56
707.5	85.56	85.54	85.56	85.60	85.53	85.62	85.89	85.73	85.18	85.31	86.46	86.27	86.29	86.52
708	85.72	85.75	85.69	85.64	85.55	85.63	85.81	85.74	85.14	85.20	86.22	86.32	86.30	86.50
708.5	85.71	85.78	85.66	85.61	85.63	85.65	85.82	85.66	85.16	85.19	86.14	86.33	86.29	86.46
709	85.81	85.88	85.72	85.67	85.67	85.67	85.78	85.63	85.17	85.24	86.34	86.33	86.30	86.42
709.5	85.71	85.79	85.72	85.69	85.64	85.65	85.69	85.34	85.12	85.21	86.31	86.28	86.29	86.39
710	85.73	85.75	85.69	85.68	85.63	85.72	85.70	85.42	85.13	85.16	86.35	86.20	86.15	86.43
710.5	85.80	85.81	85.70	85.67	85.62	85.69	85.80	85.61	85.19	85.24	86.28	86.19	86.30	86.44
711	85.85	85.97	85.84	85.75	85.66	85.73	85.87	85.70	85.24	85.27	86.25	86.28	86.44	86.49
711.5	85.87	85.96	85.79	85.77	85.72	85.75	85.84	85.74	85.47	85.33	86.29	86.22	86.44	86.49
712	85.89	85.96	85.82	85.81	85.71	85.77	85.88	85.78	85.46	85.29	86.32	86.25	86.44	86.49
712.5	85.88	85.93	85.86	85.81	85.69	85.75	85.84	85.80	85.61	85.37	86.48	86.18	86.17	86.46
713	85.88	85.90	85.81	85.76	85.70	85.74	85.83	85.73	85.68	85.55	86.40	86.21	86.14	86.48

713.5	85.87	85.94	85.82	85.75	85.68	85.77	85.90	85.77	85.69	85.53	86.50	86.31	86.15	86.43
714	85.85	85.92	85.82	85.75	85.76	85.83	85.95	85.80	85.69	85.39	86.21	86.28	86.30	86.52
714.5	85.83	85.61	85.66	85.67	85.68	85.69	85.85	85.78	85.62	85.29	86.07	86.22	86.44	86.50
715	85.89	85.88	85.75	85.71	85.68	85.71	85.89	85.73	85.41	85.22	85.95	86.25	86.43	86.51
715.5	85.77	85.85	85.72	85.76	85.67	85.72	85.90	85.72	85.29	85.05	86.11	86.34	86.29	86.49
716	85.77	85.86	85.79	85.75	85.71	85.77	85.94	85.81	85.14	85.06	86.00	86.26	86.30	86.37
716.5	85.79	85.86	85.77	85.78	85.71	85.79	85.91	85.80	85.30	85.11	86.06	86.19	86.15	86.30
717	85.76	85.78	85.74	85.78	85.73	85.79	85.94	85.81	85.37	85.30	86.16	86.15	86.15	86.38
717.5	85.69	85.71	85.60	85.64	85.62	85.73	85.91	85.75	85.47	85.46	86.29	86.23	86.44	86.46
718	85.83	85.88	85.71	85.63	85.57	85.66	85.92	85.78	85.49	85.53	86.41	86.26	86.42	86.45
718.5	85.92	85.97	85.83	85.72	85.71	85.72	85.87	85.74	85.39	85.42	86.47	86.26	86.15	86.46
719	86.00	86.02	85.78	85.85	85.81	85.86	85.87	85.74	85.38	85.29	86.48	86.29	86.31	86.49
719.5	85.89	85.96	85.84	85.84	85.75	85.77	85.91	85.68	85.30	85.11	86.45	86.32	86.15	86.50
720	85.96	85.93	85.90	85.84	85.73	85.80	85.96	85.74	85.36	85.30	86.45	86.35	86.30	86.56
720.5	86.04	86.07	85.97	85.90	85.81	85.87	85.98	85.85	85.48	85.39	86.42	86.39	86.30	86.64
721	86.00	85.97	85.99	85.92	85.86	85.89	85.96	85.77	85.63	85.26	86.55	86.47	86.59	86.65
721.5	86.05	86.03	85.96	85.94	85.88	85.82	85.90	85.74	85.52	85.14	86.32	86.33	86.44	86.57
722	86.02	86.04	85.94	85.92	85.83	85.77	85.83	85.72	85.34	85.07	86.01	86.36	86.59	86.57
722.5	86.03	86.03	85.92	85.87	85.81	85.83	85.87	85.52	85.34	85.06	85.94	86.29	86.30	86.59
723	85.81	85.85	85.76	85.79	85.74	85.84	85.98	85.62	85.44	85.13	85.99	86.36	86.43	86.59
723.5	85.74	85.73	85.63	85.65	85.69	85.75	85.94	85.80	85.53	85.36	86.28	86.38	86.30	86.65
724	85.77	85.79	85.68	85.67	85.64	85.68	85.89	85.76	85.52	85.34	86.47	86.40	86.58	86.58
724.5	85.79	85.73	85.61	85.67	85.64	85.70	85.86	85.73	85.61	85.38	86.55	86.34	86.43	86.51
725	85.79	85.80	85.69	85.71	85.68	85.73	85.90	85.74	85.56	85.59	86.58	86.33	86.30	86.53
725.5	85.91	85.98	85.81	85.79	85.69	85.71	85.86	85.76	85.35	85.58	86.55	86.36	86.30	86.60
726	85.96	86.00	85.90	85.82	85.69	85.75	85.90	85.74	85.24	85.42	86.52	86.41	86.44	86.60
726.5	86.09	86.11	85.96	85.88	85.75	85.73	85.97	85.74	85.21	85.30	86.39	86.44	86.44	86.60
727	86.02	85.97	85.92	85.94	85.86	85.83	85.93	85.74	85.23	85.36	86.29	86.31	86.59	86.66
727.5	86.08	86.08	85.95	85.95	85.87	85.94	86.05	85.73	85.31	85.34	86.26	86.36	86.45	86.68
728	86.11	86.08	85.95	85.94	85.85	85.92	86.06	85.80	85.32	85.26	86.27	86.38	86.58	86.74
728.5	86.20	86.17	86.01	85.93	85.87	85.92	86.08	85.75	85.34	85.26	86.17	86.46	86.42	86.70
729	86.13	86.19	86.04	85.98	85.91	85.93	86.01	85.84	85.40	85.31	86.17	86.51	86.44	86.75
729.5	86.10	86.09	86.02	85.99	85.95	85.96	86.00	85.80	85.37	85.30	86.16	86.54	86.59	86.78
730	86.08	86.14	86.04	86.00	85.94	85.97	86.02	85.69	85.41	85.25	86.31	86.58	86.59	86.77
730.5	86.07	86.13	85.99	85.98	85.91	85.97	86.04	85.62	85.37	85.24	86.33	86.57	86.59	86.73
731	86.14	86.16	86.01	85.96	85.88	85.97	86.06	85.64	85.35	85.22	86.44	86.56	86.43	86.81
731.5	86.06	86.09	85.99	86.03	85.91	85.92	86.06	85.61	85.32	85.16	86.26	86.42	86.60	86.78
732	86.15	86.10	86.02	86.04	85.93	85.93	85.97	85.54	85.24	85.17	86.14	86.49	86.59	86.69
732.5	86.08	86.09	85.98	85.97	85.88	85.92	85.93	85.53	85.15	85.08	86.36	86.50	86.29	86.68
733	86.13	86.08	86.04	85.96	85.93	85.91	85.89	85.49	85.37	85.45	86.50	86.53	86.45	86.74
733.5	86.16	86.11	86.02	85.97	85.92	85.93	85.94	85.51	85.40	85.49	86.41	86.42	86.73	86.76

734	86.19	86.18	86.06	86.03	85.94	85.97	86.03	85.69	85.37	85.34	86.27	86.46	86.58	86.77
734.5	86.25	86.23	86.14	86.09	85.98	86.00	86.10	85.85	85.39	85.36	86.39	86.55	86.44	86.78
735	86.23	86.33	86.20	86.11	86.03	86.00	86.11	85.92	85.37	85.40	86.57	86.51	86.57	86.76
735.5	86.25	86.29	86.19	86.11	86.05	86.05	86.13	85.97	85.52	85.32	86.53	86.57	86.72	86.75
736	86.29	86.28	86.17	86.14	86.08	86.14	86.18	86.00	85.70	85.39	86.41	86.57	86.58	86.71
736.5	86.23	86.23	86.16	86.18	86.10	86.09	86.21	86.05	85.85	85.49	86.47	86.57	86.44	86.75
737	86.30	86.36	86.20	86.15	86.12	86.07	86.20	86.05	85.85	85.56	86.48	86.60	86.59	86.84
737.5	86.29	86.35	86.25	86.17	86.10	86.12	86.23	86.04	85.79	85.46	86.60	86.70	86.73	86.95
738	86.35	86.39	86.26	86.21	86.12	86.15	86.27	85.74	85.53	85.50	86.79	86.79	86.73	86.97
738.5	86.43	86.43	86.27	86.23	86.11	86.20	86.27	85.56	85.47	85.55	86.87	86.81	87.03	86.93
739	86.37	86.42	86.30	86.24	86.12	86.19	86.26	85.51	85.46	85.66	86.76	86.71	86.73	86.94
739.5	86.43	86.47	86.32	86.32	86.21	86.20	86.32	85.60	85.50	85.64	86.87	86.77	86.74	86.89
740	86.27	86.18	86.14	86.16	86.15	86.24	86.24	85.80	85.45	85.54	86.88	86.73	86.72	86.84
740.5	86.25	86.31	86.15	86.16	86.07	86.17	86.26	85.79	85.38	85.41	86.93	86.70	86.72	86.89
741	86.29	86.32	86.22	86.21	86.08	86.16	86.24	85.72	85.36	85.49	86.96	86.74	86.59	86.87
741.5	86.29	86.27	86.20	86.11	85.95	86.10	86.24	85.62	85.27	85.49	86.88	86.66	86.59	86.81
742	86.20	86.29	86.23	86.11	85.83	85.92	86.13	85.50	85.26	85.43	86.82	86.63	86.73	86.81
742.5	86.13	86.22	86.19	86.12	85.96	86.06	86.19	85.50	85.29	85.54	86.77	86.60	86.59	86.79
743	86.27	86.35	86.20	86.15	86.03	86.10	86.22	85.79	85.35	85.47	86.66	86.58	86.45	86.87
743.5	86.17	86.24	86.20	86.17	86.09	86.10	86.21	85.97	85.43	85.26	86.55	86.63	86.73	86.88
744	86.23	86.29	86.17	86.17	86.09	86.12	86.16	85.80	85.37	85.29	86.61	86.64	86.59	86.87
744.5	86.25	86.27	86.22	86.15	86.08	86.09	86.23	85.62	85.39	85.40	86.69	86.66	86.87	86.88
745	86.22	86.26	86.19	86.18	86.09	86.06	86.24	85.67	85.43	85.46	86.73	86.58	86.59	86.87
745.5	86.20	86.23	86.22	86.17	86.12	86.09	86.24	85.82	85.52	85.50	86.66	86.63	86.73	86.91
746	86.26	86.26	86.26	86.21	86.15	86.15	86.30	85.88	85.52	85.70	86.79	86.73	86.73	86.97
746.5	86.27	86.29	86.18	86.20	86.11	86.11	86.22	85.84	85.47	85.74	86.95	86.76	86.87	86.93
747	86.32	86.35	86.25	86.21	86.13	86.10	86.19	85.57	85.43	85.62	86.89	86.80	86.87	86.87
747.5	86.25	86.24	86.14	86.18	86.09	86.12	86.21	85.58	85.46	85.56	86.71	86.63	86.87	86.82
748	86.29	86.34	86.25	86.23	86.11	86.18	86.28	85.84	85.50	85.52	86.53	86.65	86.87	86.90
748.5	86.28	86.29	86.21	86.24	86.14	86.21	86.32	86.07	85.52	85.56	86.60	86.72	86.87	86.94
749	86.28	86.31	86.22	86.20	86.17	86.21	86.37	86.13	85.58	85.59	86.69	86.73	86.72	86.94
749.5	86.32	86.44	86.27	86.26	86.17	86.18	86.38	86.17	85.70	85.62	86.75	86.69	86.87	86.96
750	86.42	86.47	86.39	86.32	86.20	86.15	86.36	86.17	85.82	85.73	86.85	86.70	86.73	86.81
750.5	86.22	86.23	86.27	86.29	86.22	86.23	86.36	86.11	85.81	85.76	86.88	86.63	86.30	86.82
751	86.18	86.24	86.29	86.29	86.20	86.25	86.37	85.96	85.61	85.91	86.85	86.60	86.72	86.87
751.5	86.35	86.42	86.33	86.31	86.25	86.27	86.37	85.77	85.55	85.85	86.82	86.60	86.59	86.92
752	86.44	86.53	86.41	86.33	86.27	86.30	86.43	85.75	85.58	85.73	86.96	86.75	86.88	86.89
752.5	86.45	86.50	86.39	86.36	86.21	86.12	86.35	85.73	85.65	85.87	86.97	86.70	86.87	86.84
753	86.50	86.50	86.40	86.32	86.25	86.25	86.37	85.91	85.71	85.79	86.74	86.67	86.73	86.87
753.5	86.47	86.45	86.39	86.32	86.28	86.30	86.40	85.91	85.69	85.70	86.54	86.70	86.73	86.89
754	86.42	86.42	86.33	86.32	86.26	86.33	86.45	86.11	85.63	85.69	86.45	86.71	86.87	86.98

754.5	86.32	86.26	86.26	86.27	86.25	86.26	86.49	86.10	85.65	85.66	86.61	86.80	87.02	86.98
755	86.28	86.24	86.25	86.23	86.20	86.25	86.31	86.00	85.70	85.70	86.69	86.81	86.88	86.98
755.5	86.21	86.24	86.19	86.09	86.07	86.21	86.34	85.89	85.74	85.68	86.59	86.68	86.58	86.96
756	86.25	86.28	86.21	86.14	86.10	86.17	86.34	85.89	85.70	85.62	86.55	86.72	86.87	86.86
756.5	86.27	86.32	86.20	86.17	86.08	86.18	86.35	85.86	85.70	85.68	86.80	86.75	86.74	86.87
757	86.26	86.33	86.19	86.17	86.10	86.19	86.27	85.85	85.68	85.70	86.85	86.73	86.87	86.92
757.5	86.22	86.20	86.16	86.09	86.03	86.15	86.24	85.95	85.52	85.50	86.57	86.63	86.73	86.81
758	86.22	86.24	86.14	86.11	86.06	86.17	86.32	86.07	85.46	85.43	86.45	86.63	86.59	86.81
758.5	86.15	86.13	86.07	86.09	86.09	86.13	86.32	86.14	85.63	85.50	86.44	86.61	86.87	86.81
759	86.13	86.17	86.03	85.99	85.96	86.14	86.33	86.12	85.83	85.59	86.48	86.62	86.28	86.69
759.5	86.17	86.24	86.13	86.09	86.05	86.13	86.27	85.77	85.63	85.70	86.69	86.55	86.44	86.68
760	86.27	86.36	86.20	86.15	86.09	86.14	86.26	85.79	85.56	85.56	86.70	86.46	86.71	86.73
760.5	86.33	86.30	86.27	86.23	86.16	86.24	86.32	85.95	85.60	85.58	86.68	86.58	86.74	86.80
761	86.30	86.30	86.17	86.18	86.15	86.29	86.36	86.02	85.56	85.47	86.54	86.61	86.59	86.82
761.5	86.25	86.29	86.24	86.19	86.14	86.25	86.28	86.06	85.57	85.51	86.57	86.68	86.87	86.77
762	86.25	86.26	86.19	86.17	86.16	86.23	86.30	86.04	85.66	85.52	86.60	86.66	86.59	86.75
762.5	86.30	86.36	86.23	86.14	86.09	86.13	86.36	86.08	85.62	85.50	86.60	86.67	86.73	86.75
763	86.24	86.29	86.19	86.14	86.05	86.09	86.32	85.90	85.52	85.42	86.56	86.63	86.58	86.74
763.5	86.10	86.17	86.14	86.16	86.07	86.14	86.31	85.78	85.48	85.42	86.66	86.63	86.59	86.67
764	86.23	86.24	86.16	86.14	86.06	86.15	86.27	85.71	85.47	85.43	86.66	86.58	86.44	86.66
764.5	86.22	86.23	86.20	86.08	86.03	86.20	86.36	85.95	85.49	85.49	86.45	86.58	86.59	86.65
765	86.02	85.97	85.97	85.98	85.95	86.15	86.34	86.05	85.55	85.54	86.45	86.58	86.59	86.66
765.5	86.09	86.10	86.04	86.02	86.01	86.06	86.21	86.10	85.62	85.50	86.57	86.55	86.59	86.69
766	86.01	86.05	86.01	86.03	86.00	86.05	86.22	86.08	85.53	85.34	86.40	86.55	86.59	86.70
766.5	86.03	86.03	86.00	86.05	85.99	86.03	86.22	86.07	85.52	85.43	86.37	86.45	86.46	86.66
767	85.93	86.04	85.96	85.95	85.95	85.99	86.19	86.02	85.46	85.36	86.25	86.44	86.44	86.60
767.5	86.09	86.10	85.94	85.91	85.86	85.92	86.21	86.00	85.45	85.37	86.28	86.54	86.59	86.62
768	86.03	86.14	86.01	85.97	85.89	85.94	86.22	85.95	85.38	85.41	86.53	86.50	86.45	86.61
768.5	86.13	86.16	86.07	85.99	85.91	86.00	86.19	85.94	85.47	85.44	86.64	86.44	86.44	86.46
769	86.14	86.14	86.04	86.03	85.96	86.02	86.20	85.85	85.53	85.54	86.64	86.36	86.42	86.40
769.5	86.12	86.14	86.05	86.03	86.00	86.07	86.22	85.96	85.57	85.55	86.52	86.34	86.43	86.42
770	86.13	86.18	86.07	86.05	85.98	86.04	86.22	86.05	85.71	85.65	86.55	86.34	86.45	86.41
770.5	86.12	86.13	86.09	86.08	85.98	86.05	86.21	86.07	85.84	85.60	86.57	86.32	86.30	86.37
771	86.09	86.10	86.07	86.09	85.99	86.06	86.21	86.11	85.95	85.63	86.54	86.29	86.30	86.34
771.5	86.16	86.16	86.03	86.02	85.91	86.06	86.23	86.01	85.82	85.52	86.58	86.29	86.15	86.38
772	86.17	86.14	86.02	86.02	85.92	86.02	86.23	86.05	85.65	85.30	86.57	86.29	86.30	86.46
772.5	86.05	86.09	85.99	86.02	85.95	86.03	86.24	86.11	85.50	85.30	86.60	86.38	86.30	86.53
773	85.95	86.04	85.99	85.99	85.98	86.03	86.23	85.98	85.32	85.33	86.64	86.44	86.44	86.53
773.5	85.96	85.99	85.86	85.84	85.86	85.96	86.14	85.75	85.27	85.44	86.66	86.31	86.44	86.59
774	86.02	85.98	85.84	85.86	85.83	85.94	86.08	85.83	85.22	85.52	86.44	86.31	86.29	86.55
774.5	86.06	86.07	85.93	85.94	85.86	85.96	86.10	85.78	85.32	85.66	86.45	86.26	86.44	86.59

775	86.00	86.03	85.99	85.97	85.91	85.97	86.10	85.72	85.45	85.60	86.47	86.33	86.30	86.60
775.5	86.17	86.21	86.01	85.97	85.87	85.97	86.12	85.83	85.48	85.59	86.47	86.37	86.58	86.62
776	86.10	86.13	86.03	85.95	85.89	86.00	86.16	85.94	85.47	85.62	86.63	86.44	86.44	86.57
776.5	86.07	86.09	86.00	85.95	85.86	85.94	86.18	86.02	85.44	85.71	86.61	86.47	86.45	86.61
777	85.91	85.96	85.84	85.90	85.91	85.98	86.13	86.00	85.44	85.45	86.59	86.47	86.43	86.54
777.5	85.97	85.88	85.87	85.86	85.80	85.87	86.14	86.01	85.36	85.30	86.60	86.43	86.42	86.53
778	85.97	85.94	85.82	85.81	85.76	85.85	86.07	86.00	85.21	85.23	86.63	86.41	86.44	86.56
778.5	85.94	85.96	85.86	85.83	85.75	85.88	86.08	85.64	85.25	85.36	86.69	86.46	86.43	86.51
779	85.91	85.96	85.88	85.89	85.80	85.88	86.03	85.62	85.22	85.35	86.68	86.38	86.43	86.48
779.5	85.79	85.84	85.78	85.88	85.80	85.86	86.05	85.55	85.14	85.23	86.38	86.36	86.28	86.50
780	85.74	85.67	85.69	85.57	85.55	85.68	86.03	85.59	85.13	85.23	86.25	86.38	86.43	86.45
780.5	85.81	85.79	85.72	85.70	85.63	85.70	85.92	85.72	85.25	85.24	86.23	86.36	86.16	86.41
781	85.72	85.80	85.75	85.76	85.68	85.77	85.95	85.67	85.31	85.29	86.34	86.28	86.29	86.43
781.5	85.87	85.89	85.84	85.80	85.74	85.81	85.96	85.79	85.37	85.35	86.43	86.31	86.43	86.45
782	85.79	85.79	85.69	85.77	85.71	85.85	85.96	85.84	85.39	85.34	86.43	86.37	86.14	86.51
782.5	85.77	85.79	85.72	85.73	85.71	85.80	86.04	85.85	85.44	85.38	86.43	86.36	86.45	86.47
783	85.68	85.72	85.69	85.76	85.65	85.75	86.02	85.84	85.35	85.34	86.52	86.33	86.29	86.35
783.5	85.74	85.75	85.64	85.73	85.65	85.73	85.97	85.84	85.33	85.31	86.30	86.27	86.14	86.35
784	85.82	85.91	85.80	85.76	85.67	85.75	85.98	85.86	85.40	85.32	86.45	86.30	86.16	86.35
784.5	85.93	85.94	85.84	85.82	85.75	85.79	85.97	85.80	85.36	85.50	86.47	86.29	86.30	86.35
785	85.89	85.89	85.85	85.90	85.78	85.74	85.96	85.79	85.22	85.42	86.38	86.27	86.00	86.35
785.5	85.95	85.94	85.82	85.85	85.74	85.83	85.99	85.82	85.25	85.28	86.37	86.27	86.02	86.36
786	85.97	85.95	85.79	85.79	85.73	85.82	86.03	85.84	85.24	85.28	86.31	86.22	86.14	86.30
786.5	85.84	85.76	85.69	85.71	85.70	85.84	86.03	85.86	85.28	85.35	86.38	86.20	86.14	86.33
787	85.79	85.78	85.66	85.62	85.68	85.83	86.03	85.85	85.34	85.39	86.22	86.22	86.30	86.40
787.5	85.81	85.79	85.71	85.70	85.68	85.84	85.99	85.76	85.29	85.34	86.33	86.28	86.43	86.36
788	85.80	85.86	85.73	85.75	85.69	85.70	85.94	85.60	85.30	85.30	86.42	86.23	86.15	86.31
788.5	85.75	85.82	85.75	85.74	85.75	85.80	85.92	85.53	85.22	85.22	86.41	86.20	86.29	86.32
789	85.77	85.75	85.66	85.71	85.60	85.74	85.94	85.49	85.13	85.15	86.42	86.19	86.14	86.29
789.5	85.66	85.75	85.69	85.69	85.66	85.70	85.94	85.68	85.08	85.29	86.48	86.25	86.15	86.27
790	85.68	85.75	85.65	85.67	85.66	85.71	85.94	85.78	85.27	85.42	86.47	86.24	86.30	86.33
790.5	85.73	85.74	85.62	85.62	85.58	85.63	85.90	85.77	85.33	85.42	86.32	86.22	86.15	86.34
791	85.67	85.63	85.61	85.57	85.53	85.65	85.86	85.69	85.31	85.29	86.05	86.10	86.02	86.32
791.5	85.61	85.62	85.56	85.59	85.55	85.52	85.83	85.60	85.18	85.05	85.93	86.14	86.14	86.26
792	85.67	85.70	85.65	85.61	85.55	85.60	85.80	85.44	85.11	85.01	85.83	86.15	86.00	86.19
792.5	85.66	85.75	85.67	85.65	85.57	85.64	85.79	85.34	85.05	85.07	85.72	85.98	86.28	86.21
793	85.77	85.77	85.66	85.68	85.63	85.73	85.90	85.48	85.14	84.98	85.69	85.93	86.01	86.21
793.5	85.72	85.71	85.70	85.68	85.62	85.73	85.90	85.68	85.23	85.01	85.68	86.00	86.15	86.22
794	85.79	85.82	85.68	85.63	85.64	85.71	85.90	85.73	85.26	84.93	85.67	86.04	86.00	86.20
794.5	85.79	85.83	85.74	85.74	85.66	85.75	85.87	85.78	85.36	85.03	85.78	86.04	86.15	86.19
795	85.82	85.84	85.76	85.71	85.63	85.77	85.91	85.80	85.46	85.03	85.82	86.09	86.15	86.24

795.5	85.73	85.73	85.64	85.72	85.65	85.76	85.96	85.82	85.60	85.16	85.87	86.12	86.15	86.25
796	85.64	85.67	85.59	85.61	85.59	85.69	85.88	85.80	85.72	85.16	86.01	86.09	86.01	86.21
796.5	85.76	85.68	85.59	85.65	85.61	85.69	85.87	85.80	85.76	85.06	86.10	86.04	86.01	86.14
797	85.77	85.83	85.67	85.65	85.59	85.69	85.84	85.75	85.65	84.93	86.07	85.99	86.15	85.98
797.5	85.86	85.91	85.80	85.68	85.59	85.66	85.83	85.52	85.45	84.98	85.82	85.85	85.86	85.98
798	85.71	85.70	85.62	85.61	85.61	85.71	85.72	85.43	85.24	84.82	85.76	85.80	85.85	86.01
798.5	85.77	85.84	85.73	85.69	85.61	85.69	85.85	85.58	85.13	84.81	85.82	85.96	85.86	86.00
799	85.77	85.84	85.75	85.73	85.63	85.71	85.91	85.72	85.34	84.85	85.99	85.92	85.87	85.97
799.5	85.86	85.81	85.70	85.69	85.66	85.72	85.90	85.75	85.46	85.09	86.04	85.87	85.86	86.00
800	85.69	85.80	85.66	85.65	85.59	85.75	85.87	85.65	85.40	85.21	86.04	85.91	86.01	86.05
800.5	85.62	85.75	85.69	85.66	85.60	85.67	85.59	85.21	85.37	85.26	86.06	85.96	86.00	86.10
801	85.64	85.71	85.72	85.72	85.63	85.58	85.42	85.12	85.29	85.19	86.04	85.91	86.01	86.14
801.5	85.56	85.61	85.57	85.58	85.56	85.63	85.64	85.44	85.21	85.04	86.04	85.80	85.86	86.17
802	85.73	85.74	85.64	85.64	85.56	85.65	85.77	85.61	85.19	84.97	85.95	85.90	86.01	86.19
802.5	85.74	85.75	85.66	85.64	85.53	85.67	85.80	85.61	84.95	84.96	85.94	86.04	85.86	86.21
803	85.77	85.76	85.68	85.67	85.58	85.65	85.76	85.53	84.96	84.99	86.05	86.05	86.00	86.24
803.5	85.75	85.78	85.72	85.69	85.63	85.71	85.82	85.49	84.99	84.99	86.01	86.18	86.02	86.23
804	85.61	85.64	85.63	85.62	85.62	85.72	85.82	85.58	85.08	84.98	85.89	86.08	85.99	86.18
804.5	85.67	85.68	85.60	85.58	85.58	85.69	85.84	85.68	85.29	85.14	86.04	86.03	86.15	86.21
805	85.67	85.72	85.61	85.56	85.51	85.61	85.80	85.66	85.41	85.21	86.21	86.04	86.14	86.24
805.5	85.61	85.57	85.58	85.53	85.45	85.64	85.83	85.70	85.48	85.31	86.30	86.05	86.00	86.24
806	85.68	85.70	85.61	85.56	85.45	85.60	85.80	85.64	85.35	85.19	86.30	86.11	86.00	86.26
806.5	85.73	85.72	85.66	85.61	85.35	85.54	85.75	85.52	85.15	85.17	86.24	86.08	85.99	86.29
807	85.62	85.64	85.63	85.64	85.46	85.59	85.67	85.32	85.04	85.26	86.28	86.16	86.15	86.22
807.5	85.54	85.60	85.60	85.59	85.51	85.56	85.71	85.27	84.90	85.19	86.23	86.06	86.01	86.11
808	85.59	85.60	85.46	85.47	85.46	85.59	85.75	85.38	84.88	85.10	86.04	85.88	86.01	86.08
808.5	85.65	85.68	85.58	85.49	85.41	85.51	85.73	85.53	84.91	84.96	86.04	85.69	85.87	86.06
809	85.72	85.71	85.61	85.53	85.44	85.58	85.79	85.53	85.02	84.98	85.98	85.83	85.87	86.16
809.5	85.68	85.70	85.62	85.59	85.48	85.61	85.77	85.49	85.05	85.09	86.11	86.01	86.14	86.14
810	85.71	85.72	85.65	85.65	85.57	85.64	85.79	85.45	84.92	84.96	86.20	85.95	85.87	86.07
810.5	85.68	85.71	85.58	85.56	85.50	85.68	85.82	85.49	84.70	84.79	85.99	85.75	86.02	86.01
811	85.49	85.58	85.60	85.57	85.53	85.63	85.81	85.24	84.75	84.78	85.93	85.77	85.86	85.95
811.5	85.49	85.60	85.52	85.54	85.48	85.60	85.77	85.03	84.77	84.72	85.83	85.77	85.71	85.94
812	85.56	85.60	85.49	85.52	85.45	85.56	85.71	85.08	84.74	84.70	85.69	85.77	85.72	85.98
812.5	85.62	85.60	85.48	85.36	85.44	85.60	85.72	85.26	84.79	84.76	85.64	85.86	86.02	86.12
813	85.56	85.58	85.53	85.41	85.41	85.60	85.74	85.45	84.82	84.83	85.78	86.01	86.01	86.14
813.5	85.54	85.55	85.49	85.45	85.43	85.60	85.67	85.48	84.88	84.88	85.75	86.03	86.01	86.08
814	85.50	85.50	85.44	85.46	85.41	85.55	85.75	85.52	85.01	84.85	85.61	86.01	85.87	86.07
814.5	85.39	85.48	85.50	85.49	85.41	85.55	85.73	85.52	85.16	84.73	85.68	85.93	85.86	86.06
815	85.42	85.41	85.34	85.39	85.29	85.45	85.73	85.55	85.21	84.84	85.60	85.94	86.01	86.11
815.5	85.45	85.50	85.44	85.41	85.26	85.35	85.72	85.46	85.15	84.89	85.55	85.95	86.00	86.11

816	85.36	85.41	85.36	85.37	85.31	85.42	85.70	85.42	85.07	84.84	85.76	85.99	85.86	86.06
816.5	85.45	85.50	85.37	85.40	85.33	85.41	85.66	85.49	85.01	84.91	85.85	85.96	85.73	86.01
817	85.37	85.40	85.37	85.40	85.36	85.43	85.68	85.53	85.01	84.86	85.73	85.86	85.87	85.97
817.5	85.52	85.50	85.42	85.39	85.33	85.40	85.64	85.50	85.06	84.78	85.67	85.83	85.85	85.95
818	85.64	85.67	85.44	85.42	85.36	85.45	85.67	85.54	85.30	84.84	85.84	85.87	85.72	85.96
818.5	85.63	85.60	85.43	85.42	85.42	85.49	85.64	85.54	85.37	84.91	85.84	85.85	85.72	85.92
819	85.52	85.52	85.42	85.39	85.37	85.51	85.66	85.50	85.24	84.99	85.80	85.80	85.73	85.91
819.5	85.46	85.44	85.38	85.37	85.37	85.51	85.69	85.49	85.00	84.96	85.71	85.69	85.57	85.92
820	85.35	85.40	85.38	85.41	85.40	85.45	85.72	85.40	85.06	84.78	85.81	85.76	85.71	85.94
820.5	85.30	85.37	85.33	85.39	85.36	85.46	85.64	85.01	84.82	84.68	85.71	85.83	85.86	85.86
821	85.40	85.39	85.33	85.34	85.29	85.43	85.57	84.92	84.77	84.61	85.63	85.77	85.72	85.71
821.5	85.23	85.18	85.14	85.18	85.21	85.33	85.48	85.12	84.71	84.65	85.50	85.68	85.57	85.77
822	85.18	85.20	85.16	85.19	85.21	85.32	85.47	85.27	84.72	84.66	85.45	85.64	85.71	85.78
822.5	85.30	85.29	85.17	85.14	85.18	85.30	85.45	85.15	84.71	84.67	85.40	85.62	85.41	85.73
823	85.24	85.30	85.25	85.22	85.16	85.31	85.37	84.97	84.76	84.75	85.42	85.56	85.58	85.66
823.5	85.19	85.20	85.21	85.23	85.16	85.28	85.40	85.07	84.63	84.73	85.27	85.51	85.57	85.70
824	85.32	85.28	85.24	85.25	85.18	85.32	85.45	85.11	84.65	84.70	85.34	85.55	85.72	85.74
824.5	85.33	85.32	85.23	85.22	85.09	85.14	85.45	85.22	84.62	84.57	85.22	85.56	85.56	85.56
825	85.35	85.40	85.32	85.29	85.14	85.24	85.52	85.32	84.53	84.47	85.24	85.50	85.42	85.54
825.5	85.40	85.43	85.32	85.33	85.24	85.33	85.53	85.36	84.62	84.56	85.29	85.44	85.44	85.62
826	85.28	85.14	85.19	85.30	85.23	85.24	85.50	85.30	84.73	84.71	85.29	85.50	85.44	85.56
826.5	85.30	85.27	85.19	85.24	85.21	85.19	85.41	85.25	84.62	84.60	85.25	85.48	85.43	85.60
827	85.29	85.31	85.26	85.29	85.24	85.25	85.41	85.24	84.65	84.54	85.27	85.45	85.43	85.68
827.5	85.44	85.40	85.32	85.32	85.24	85.27	85.39	85.13	84.54	84.52	85.33	85.54	85.44	85.77
828	85.37	85.34	85.24	85.21	85.15	85.23	85.31	84.88	84.54	84.55	85.43	85.59	85.43	85.79
828.5	85.37	85.37	85.26	85.22	85.18	85.22	85.15	84.69	84.49	84.57	85.57	85.62	85.57	85.65
829	85.36	85.38	85.27	85.28	85.21	85.25	85.19	84.72	84.45	84.51	85.63	85.50	85.43	85.57
829.5	85.34	85.35	85.29	85.27	85.22	85.28	85.18	84.75	84.42	84.55	85.38	85.48	85.43	85.60
830	85.32	85.34	85.29	85.26	85.20	85.24	85.33	84.87	84.51	84.52	85.52	85.50	85.42	85.57
830.5	85.39	85.42	85.30	85.22	85.22	85.28	85.42	84.85	84.52	84.58	85.62	85.49	85.29	85.58
831	85.49	85.47	85.33	85.22	85.12	85.23	85.35	84.82	84.58	84.74	85.62	85.39	85.29	85.60
831.5	85.37	85.35	85.24	85.25	85.15	85.20	85.32	84.94	84.59	84.64	85.34	85.29	85.43	85.61
832	85.32	85.32	85.27	85.31	85.22	85.25	85.35	84.99	84.58	84.51	85.33	85.33	85.57	85.68
832.5	85.39	85.34	85.24	85.21	85.14	85.23	85.38	85.08	84.55	84.58	85.43	85.48	85.72	85.71
833	85.34	85.33	85.28	85.23	85.17	85.22	85.40	85.17	84.72	84.56	85.45	85.53	85.42	85.63
833.5	85.40	85.43	85.34	85.30	85.20	85.24	85.43	85.02	84.70	84.58	85.28	85.56	85.58	85.71
834	85.45	85.50	85.42	85.31	85.18	85.27	85.46	84.84	84.59	84.46	85.38	85.54	85.42	85.59
834.5	85.55	85.54	85.42	85.34	85.27	85.31	85.50	84.97	84.54	84.49	85.35	85.47	85.57	85.59
835	85.56	85.55	85.43	85.37	85.21	85.33	85.44	85.24	84.88	84.55	85.50	85.48	85.29	85.63
835.5	85.52	85.48	85.36	85.28	85.24	85.33	85.47	85.28	84.94	84.53	85.43	85.56	85.43	85.70
836	85.42	85.46	85.37	85.27	85.21	85.36	85.43	85.07	84.69	84.53	85.36	85.59	85.44	85.60

836.5	85.42	85.44	85.37	85.32	85.29	85.38	85.45	84.87	84.67	84.55	85.46	85.53	85.43	85.64
837	85.51	85.50	85.38	85.29	85.10	85.35	85.50	84.91	84.72	84.65	85.59	85.54	85.57	85.72
837.5	85.43	85.39	85.37	85.29	85.19	85.29	85.48	85.17	84.80	84.77	85.60	85.49	85.72	85.77
838	85.44	85.44	85.35	85.29	85.23	85.32	85.50	85.23	84.76	84.66	85.51	85.60	85.71	85.82
838.5	85.45	85.46	85.39	85.33	85.21	85.37	85.52	85.32	84.67	84.56	85.74	85.67	85.87	85.74
839	85.49	85.54	85.46	85.39	85.32	85.40	85.45	85.19	84.67	84.80	85.76	85.59	85.72	85.73
839.5	85.54	85.56	85.45	85.46	85.40	85.44	85.52	85.01	84.66	84.86	85.73	85.60	85.57	85.72
840	85.56	85.58	85.47	85.49	85.42	85.45	85.57	84.94	84.65	84.88	85.79	85.61	85.72	85.73
840.5	85.60	85.57	85.54	85.49	85.39	85.49	85.62	85.05	84.77	84.87	85.72	85.61	85.43	85.82
841	85.56	85.59	85.52	85.49	85.31	85.42	85.53	85.10	84.59	84.53	85.57	85.61	85.42	85.81
841.5	85.63	85.67	85.54	85.48	85.36	85.45	85.45	85.07	84.55	84.55	85.53	85.58	85.57	85.84
842	85.54	85.51	85.49	85.49	85.42	85.52	85.48	85.14	84.55	84.73	85.56	85.50	85.72	85.95
842.5	85.52	85.50	85.38	85.40	85.37	85.55	85.53	85.17	84.67	84.76	85.61	85.69	85.87	85.95
843	85.54	85.54	85.46	85.40	85.33	85.38	85.47	85.24	84.64	84.55	85.77	85.73	85.71	85.92
843.5	85.52	85.49	85.42	85.43	85.33	85.32	85.47	85.24	84.54	84.52	85.78	85.66	85.71	85.94
844	85.50	85.48	85.41	85.39	85.34	85.40	85.49	85.07	84.53	84.58	85.58	85.76	85.73	85.94
844.5	85.50	85.44	85.39	85.37	85.28	85.33	85.51	84.97	84.58	84.50	85.34	85.74	85.72	85.90
845	85.41	85.39	85.40	85.36	85.28	85.23	85.32	84.86	84.56	84.49	85.28	85.74	85.85	85.91
845.5	85.52	85.54	85.42	85.37	85.31	85.32	85.31	84.93	84.59	84.55	85.24	85.74	85.71	85.94
846	85.58	85.55	85.42	85.35	85.33	85.31	85.33	85.13	84.56	84.51	85.25	85.80	85.73	85.97
846.5	85.47	85.44	85.42	85.39	85.35	85.33	85.42	85.17	84.54	84.50	85.53	85.84	85.72	85.93
847	85.59	85.66	85.52	85.47	85.36	85.40	85.49	85.27	84.66	84.65	85.73	85.74	85.85	85.92
847.5	85.58	85.63	85.55	85.53	85.43	85.41	85.50	85.13	84.82	84.83	85.78	85.73	85.71	86.01
848	85.71	85.72	85.54	85.53	85.43	85.44	85.48	85.03	84.88	84.75	85.75	85.84	85.85	86.05
848.5	85.65	85.75	85.65	85.57	85.50	85.51	85.54	84.90	84.70	84.69	85.77	85.86	85.85	85.97
849	85.69	85.76	85.71	85.63	85.51	85.47	85.53	84.90	84.61	84.63	85.84	85.85	85.71	85.89
849.5	85.67	85.63	85.52	85.57	85.53	85.60	85.54	85.03	84.60	84.60	85.80	85.85	85.71	85.95
850	85.60	85.59	85.53	85.61	85.50	85.62	85.68	85.34	84.79	84.62	85.82	85.79	85.85	85.93
850.5	85.69	85.68	85.60	85.57	85.52	85.65	85.74	85.47	84.95	84.65	85.71	85.80	85.72	85.99
851	85.77	85.81	85.70	85.61	85.59	85.67	85.75	85.50	84.87	84.68	85.53	85.77	85.57	86.05
851.5	85.71	85.76	85.66	85.64	85.63	85.71	85.72	85.49	84.74	84.65	85.54	85.80	86.00	86.00
852	85.74	85.79	85.72	85.69	85.60	85.67	85.66	85.26	84.72	84.59	85.65	85.82	85.85	85.97
852.5	85.78	85.79	85.66	85.63	85.54	85.58	85.69	85.27	84.80	84.75	85.68	85.85	85.71	86.05
853	85.72	85.73	85.59	85.59	85.53	85.60	85.65	85.38	84.90	84.78	85.69	85.83	85.72	86.06
853.5	85.69	85.67	85.57	85.59	85.52	85.58	85.68	85.41	84.88	84.76	85.79	85.84	85.86	86.08
854	85.62	85.57	85.46	85.52	85.46	85.58	85.73	85.39	84.90	84.76	85.90	85.87	85.86	85.95
854.5	85.64	85.59	85.50	85.56	85.49	85.58	85.68	85.26	84.95	84.84	85.95	85.83	85.73	85.78
855	85.65	85.60	85.58	85.56	85.48	85.57	85.64	85.26	84.86	84.86	85.92	85.73	85.57	85.82
855.5	85.59	85.60	85.55	85.56	85.51	85.61	85.73	85.34	84.86	84.73	85.89	85.76	85.71	85.92
856	85.61	85.65	85.60	85.56	85.50	85.61	85.72	85.45	84.92	84.68	85.82	85.80	85.73	85.97
856.5	85.67	85.74	85.63	85.62	85.52	85.58	85.74	85.50	85.00	84.88	85.84	85.87	85.86	86.03

857	85.69	85.66	85.55	85.56	85.55	85.58	85.76	85.50	84.92	84.89	85.84	85.83	85.71	86.05
857.5	85.75	85.76	85.58	85.59	85.54	85.57	85.75	85.43	84.87	84.99	86.02	85.90	85.71	86.00
858	85.79	85.81	85.67	85.68	85.55	85.56	85.75	85.21	84.82	85.06	86.01	85.77	85.72	85.86
858.5	85.85	85.80	85.59	85.69	85.60	85.60	85.59	85.04	84.80	84.86	86.00	85.70	85.57	85.76
859	85.87	85.90	85.76	85.72	85.63	85.65	85.54	84.99	84.78	84.68	85.81	85.77	85.72	85.93
859.5	85.87	85.88	85.72	85.70	85.64	85.71	85.69	85.00	84.87	84.75	85.81	85.82	85.85	85.94
860	85.85	85.82	85.70	85.69	85.67	85.68	85.56	85.03	84.96	84.84	85.85	85.72	85.87	85.98
860.5	85.69	85.70	85.67	85.68	85.69	85.72	85.37	85.14	84.95	85.00	85.91	85.84	86.01	86.09
861	85.78	85.76	85.68	85.69	85.61	85.70	85.52	85.20	85.11	85.14	85.96	85.98	86.02	86.14
861.5	85.72	85.73	85.64	85.61	85.53	85.53	85.64	85.39	85.16	85.13	86.00	86.03	85.86	86.08
862	85.67	85.52	85.54	85.59	85.51	85.54	85.72	85.50	85.21	85.15	86.08	85.99	85.85	86.05
862.5	85.72	85.70	85.54	85.51	85.45	85.62	85.74	85.61	85.37	84.86	86.06	85.91	86.01	86.05
863	85.64	85.66	85.56	85.60	85.51	85.62	85.72	85.62	85.48	84.83	85.96	85.96	86.00	85.98
863.5	85.65	85.62	85.56	85.53	85.48	85.60	85.77	85.59	85.28	84.93	86.09	85.90	85.71	86.00
864	85.74	85.65	85.64	85.60	85.53	85.61	85.76	85.56	85.15	85.08	85.87	85.92	85.71	86.05
864.5	85.74	85.71	85.63	85.58	85.42	85.56	85.77	85.60	85.19	85.01	85.79	85.90	86.01	86.12
865	85.69	85.73	85.67	85.69	85.55	85.53	85.73	85.64	85.11	84.90	85.65	85.90	86.01	86.00
865.5	85.74	85.74	85.58	85.66	85.57	85.66	85.64	85.41	85.02	84.82	85.56	85.81	85.70	85.90
866	85.69	85.74	85.63	85.61	85.52	85.55	85.71	85.24	84.87	84.76	85.57	85.81	85.57	85.87
866.5	85.64	85.66	85.58	85.59	85.47	85.57	85.64	85.09	84.83	84.69	85.73	85.79	85.85	86.01
867	85.61	85.57	85.52	85.54	85.47	85.54	85.64	85.13	84.90	84.75	85.90	85.87	85.71	86.04
867.5	85.60	85.61	85.53	85.55	85.43	85.50	85.62	85.31	84.91	84.91	86.00	85.94	86.01	86.14
868	85.53	85.51	85.50	85.55	85.48	85.50	85.52	85.34	85.00	85.01	86.04	85.96	86.01	86.17
868.5	85.48	85.44	85.41	85.44	85.34	85.47	85.59	85.29	84.92	85.03	86.03	86.01	85.85	86.04
869	85.50	85.52	85.46	85.45	85.35	85.42	85.54	85.16	84.72	85.05	85.98	85.90	85.99	85.94
869.5	85.58	85.53	85.46	85.53	85.40	85.42	85.54	85.01	84.73	84.86	85.96	85.83	85.71	85.85
870	85.61	85.63	85.51	85.53	85.41	85.47	85.46	84.96	84.72	84.75	85.89	85.75	85.58	85.74
870.5	85.59	85.64	85.60	85.55	85.45	85.52	85.49	85.09	84.72	84.65	85.87	85.68	85.43	85.79
871	85.56	85.67	85.64	85.64	85.52	85.58	85.60	85.15	84.72	84.76	85.82	85.71	85.72	85.87
871.5	85.60	85.59	85.55	85.60	85.53	85.57	85.63	85.33	84.76	84.88	85.85	85.78	85.73	85.93
872	85.64	85.64	85.54	85.52	85.46	85.49	85.51	85.32	84.82	84.83	85.91	85.85	85.86	86.03
872.5	85.67	85.68	85.57	85.49	85.45	85.55	85.52	85.24	84.78	85.09	85.98	85.93	86.01	86.11
873	85.72	85.68	85.67	85.60	85.49	85.57	85.59	85.03	84.85	85.06	86.05	85.95	85.87	86.13
873.5	85.63	85.67	85.59	85.61	85.56	85.63	85.67	85.22	84.93	85.07	86.10	85.99	86.01	86.12
874	85.73	85.74	85.64	85.64	85.55	85.60	85.73	85.41	84.98	84.97	85.75	85.88	86.15	86.12
874.5	85.85	85.91	85.77	85.69	85.54	85.67	85.78	85.36	84.96	84.85	85.63	85.86	85.73	86.13
875	85.90	85.93	85.84	85.79	85.62	85.72	85.78	85.38	84.90	84.83	85.53	85.72	86.01	86.09
875.5	85.95	85.96	85.89	85.81	85.71	85.72	85.80	85.21	84.91	84.87	85.56	85.81	86.01	86.14
876	85.86	85.84	85.76	85.82	85.69	85.76	85.81	85.25	84.95	84.88	85.57	85.90	86.01	86.12
876.5	85.84	85.81	85.74	85.77	85.69	85.71	85.85	85.17	84.92	84.85	85.64	85.92	86.02	86.04
877	85.79	85.81	85.66	85.68	85.66	85.69	85.84	85.18	85.04	84.91	85.60	85.83	85.86	86.02

877.5	85.79	85.75	85.67	85.67	85.59	85.66	85.68	85.22	85.04	85.04	85.66	85.83	85.72	85.84
878	85.74	85.73	85.69	85.68	85.59	85.66	85.64	85.15	85.08	85.01	85.78	85.74	85.72	85.87
878.5	85.64	85.65	85.64	85.62	85.59	85.69	85.75	85.35	85.03	84.98	85.79	85.77	85.57	85.89
879	85.67	85.67	85.66	85.59	85.53	85.62	85.72	85.52	85.09	85.11	85.84	85.76	85.71	85.91
879.5	85.70	85.71	85.67	85.64	85.52	85.63	85.77	85.58	85.23	85.07	85.66	85.78	85.86	85.93
880	85.80	85.75	85.66	85.64	85.55	85.63	85.75	85.61	85.26	84.98	85.63	85.83	85.72	85.96
880.5	85.77	85.72	85.66	85.63	85.57	85.62	85.77	85.62	85.21	84.85	85.62	85.85	85.71	85.98
881	85.76	85.77	85.60	85.55	85.49	85.63	85.73	85.62	85.08	84.86	85.60	85.88	85.72	85.96
881.5	85.75	85.78	85.67	85.59	85.53	85.68	85.79	85.63	85.06	84.88	85.79	85.94	85.87	86.01
882	85.74	85.80	85.69	85.65	85.58	85.69	85.80	85.52	85.03	84.98	85.85	85.85	86.01	86.12
882.5	85.71	85.76	85.72	85.63	85.60	85.67	85.77	85.39	85.12	85.08	85.96	85.95	85.85	86.11
883	85.62	85.60	85.55	85.63	85.63	85.70	85.80	85.47	85.21	85.18	86.06	85.98	86.00	86.01
883.5	85.71	85.59	85.59	85.60	85.54	85.68	85.80	85.54	85.28	85.13	86.14	85.93	85.85	85.95
884	85.73	85.73	85.59	85.61	85.52	85.62	85.78	85.60	85.33	85.20	86.01	85.85	86.01	85.99
884.5	85.74	85.75	85.63	85.69	85.53	85.65	85.78	85.58	85.27	85.11	86.00	85.94	85.72	86.05
885	85.76	85.74	85.69	85.69	85.55	85.62	85.78	85.61	85.17	84.96	86.07	86.03	86.15	86.09
885.5	85.77	85.79	85.71	85.67	85.60	85.64	85.73	85.63	85.25	85.09	85.95	86.01	85.85	85.92
886	85.84	85.78	85.68	85.67	85.63	85.64	85.76	85.66	85.27	84.96	85.67	85.85	85.87	85.82
886.5	85.83	85.81	85.64	85.67	85.65	85.65	85.81	85.61	85.27	84.81	85.62	85.75	85.72	85.82
887	85.71	85.76	85.64	85.53	85.55	85.67	85.79	85.52	85.26	84.82	85.68	85.77	85.57	85.82
887.5	85.69	85.64	85.59	85.57	85.49	85.66	85.80	85.50	85.00	84.78	85.81	85.75	85.57	85.73
888	85.60	85.63	85.62	85.61	85.52	85.62	85.75	85.29	84.91	84.96	85.90	85.75	85.86	85.80
888.5	85.68	85.70	85.58	85.51	85.48	85.61	85.69	85.16	84.90	85.01	85.92	85.74	85.71	85.82
889	85.77	85.72	85.57	85.53	85.51	85.57	85.56	85.05	84.93	85.05	85.90	85.78	85.58	85.85
889.5	85.66	85.65	85.59	85.54	85.46	85.55	85.26	84.98	84.93	85.03	85.79	85.75	86.01	85.84
890	85.69	85.67	85.62	85.58	85.49	85.56	85.44	85.04	84.88	84.93	85.66	85.74	85.72	85.84
890.5	85.67	85.73	85.64	85.55	85.43	85.58	85.51	85.08	84.94	84.87	85.56	85.72	85.72	85.90
891	85.70	85.64	85.59	85.59	85.45	85.55	85.60	85.17	85.04	84.86	85.50	85.72	85.57	85.92
891.5	85.67	85.66	85.59	85.56	85.45	85.54	85.66	85.33	85.00	84.80	85.57	85.76	85.42	85.95
892	85.78	85.78	85.67	85.62	85.51	85.55	85.68	85.37	85.12	84.89	85.54	85.69	85.87	86.03
892.5	85.77	85.75	85.69	85.60	85.44	85.58	85.70	85.27	85.03	84.90	85.62	85.74	85.57	85.81
893	85.72	85.73	85.64	85.65	85.46	85.53	85.70	85.28	84.97	84.96	85.78	85.74	85.57	85.82
893.5	85.76	85.75	85.67	85.63	85.48	85.59	85.72	85.29	85.05	85.04	85.88	85.71	85.70	85.75
894	85.77	85.75	85.66	85.63	85.53	85.54	85.76	85.52	85.37	85.05	85.89	85.71	85.57	85.81
894.5	85.73	85.68	85.57	85.59	85.51	85.60	85.75	85.55	85.49	85.13	85.94	85.77	85.57	85.84
895	85.60	85.50	85.45	85.45	85.44	85.61	85.79	85.62	85.51	85.22	85.90	85.78	85.58	85.84
895.5	85.60	85.58	85.54	85.49	85.45	85.49	85.75	85.62	85.52	85.10	85.91	85.74	85.86	85.87
896	85.55	85.59	85.52	85.47	85.45	85.44	85.70	85.59	85.55	84.93	85.96	85.80	85.71	85.91
896.5	85.50	85.42	85.37	85.39	85.33	85.47	85.67	85.52	85.44	85.08	86.01	85.85	85.70	85.93
897	85.53	85.47	85.34	85.38	85.33	85.45	85.67	85.52	85.26	85.09	86.01	85.83	85.72	85.95
897.5	85.52	85.52	85.42	85.39	85.38	85.40	85.61	85.44	85.23	85.11	86.03	85.64	85.86	85.93

898	85.58	85.56	85.44	85.41	85.34	85.44	85.57	85.37	85.06	85.08	85.92	85.70	85.85	85.97
898.5	85.54	85.43	85.42	85.42	85.29	85.40	85.60	85.42	85.01	85.12	86.01	85.82	85.87	85.98
899	85.59	85.55	85.42	85.41	85.36	85.50	85.58	85.41	85.06	85.01	85.98	85.80	85.86	85.93
899.5	85.64	85.67	85.53	85.48	85.35	85.50	85.62	85.42	85.04	85.00	86.01	85.81	85.85	85.97
900	85.72	85.70	85.59	85.58	85.45	85.53	85.65	85.42	85.06	84.93	86.06	85.90	86.01	85.98
900.5	85.77	85.68	85.47	85.59	85.52	85.59	85.70	85.45	85.06	84.98	86.10	85.88	85.72	85.90
901	85.76	85.75	85.62	85.61	85.53	85.65	85.75	85.52	85.07	85.11	86.07	85.84	85.72	85.90
901.5	85.70	85.71	85.62	85.60	85.50	85.65	85.81	85.62	85.11	85.08	85.85	85.72	85.73	85.97
902	85.62	85.61	85.53	85.58	85.51	85.66	85.77	85.57	85.08	85.03	85.84	85.83	85.86	86.02
902.5	85.61	85.65	85.63	85.59	85.57	85.62	85.69	85.52	84.95	84.82	85.86	85.81	85.85	86.03
903	85.68	85.66	85.60	85.62	85.44	85.54	85.72	85.27	84.85	84.84	85.82	85.88	86.02	86.03
903.5	85.71	85.67	85.56	85.61	85.44	85.57	85.69	85.13	84.85	84.80	85.76	85.77	85.71	86.00
904	85.66	85.65	85.57	85.57	85.46	85.58	85.71	85.24	84.81	84.70	85.56	85.64	85.72	85.99
904.5	85.68	85.71	85.62	85.57	85.51	85.61	85.78	85.39	84.82	84.72	85.48	85.76	85.87	86.07
905	85.72	85.68	85.60	85.56	85.47	85.58	85.75	85.52	84.82	84.81	85.47	85.73	85.73	86.10
905.5	85.64	85.65	85.55	85.57	85.45	85.55	85.72	85.52	84.86	84.86	85.49	85.87	85.85	86.13
906	85.65	85.60	85.55	85.58	85.54	85.63	85.77	85.43	84.88	84.83	85.56	85.93	85.88	86.15
906.5	85.66	85.65	85.54	85.55	85.49	85.59	85.77	85.19	84.82	84.78	85.71	85.97	86.01	86.09
907	85.59	85.65	85.54	85.54	85.44	85.51	85.72	85.40	84.76	84.82	85.81	85.93	86.00	86.07
907.5	85.56	85.57	85.52	85.51	85.45	85.51	85.70	85.49	84.76	84.72	85.78	85.85	86.00	86.05
908	85.63	85.63	85.57	85.58	85.48	85.52	85.68	85.52	84.75	84.70	85.72	85.88	85.72	86.06
908.5	85.77	85.75	85.72	85.65	85.52	85.56	85.64	85.39	84.81	84.63	85.63	85.88	86.01	86.12
909	85.77	85.77	85.67	85.68	85.56	85.56	85.62	85.17	84.74	84.63	85.76	85.97	86.01	86.14
909.5	85.85	85.90	85.77	85.72	85.61	85.67	85.77	85.22	84.72	84.63	85.85	85.99	85.86	86.19
910	85.85	85.87	85.77	85.78	85.63	85.73	85.84	85.22	84.72	84.77	85.65	86.01	86.01	86.18
910.5	85.90	85.98	85.91	85.89	85.74	85.77	85.85	85.33	84.79	84.88	85.57	86.05	86.02	86.17
911	86.02	86.03	85.89	85.88	85.72	85.75	85.91	85.54	84.90	84.88	85.78	86.00	86.01	86.02
911.5	85.89	85.90	85.84	85.88	85.70	85.79	85.88	85.54	84.84	84.85	85.89	85.87	85.99	85.99
912	85.83	85.88	85.84	85.85	85.76	85.83	85.96	85.35	84.88	84.91	85.91	85.78	85.72	86.11
912.5	85.91	85.96	85.88	85.89	85.77	85.82	85.85	85.14	84.92	84.95	85.97	85.87	86.00	86.21
913	85.92	85.93	85.85	85.89	85.70	85.81	85.72	85.09	84.98	85.08	86.16	86.06	86.00	86.21
913.5	85.81	85.81	85.80	85.82	85.72	85.83	85.79	85.12	85.05	85.15	86.23	86.04	85.85	86.12
914	85.90	85.80	85.77	85.75	85.72	85.82	85.90	85.39	85.10	85.16	86.20	86.06	85.86	86.18
914.5	85.82	85.78	85.75	85.71	85.67	85.82	85.92	85.62	85.15	85.12	86.11	86.04	85.71	86.21
915	85.79	85.80	85.74	85.71	85.63	85.77	85.88	85.71	85.20	85.20	86.12	86.06	86.01	86.25
915.5	85.66	85.64	85.57	85.64	85.58	85.75	85.93	85.68	85.19	85.19	86.22	86.12	86.15	86.18
916	85.77	85.72	85.65	85.69	85.63	85.67	85.91	85.57	85.25	85.08	86.14	86.11	86.02	86.20
916.5	85.77	85.77	85.62	85.67	85.56	85.59	85.80	85.64	85.24	85.06	86.20	86.10	86.15	86.30
917	85.82	85.80	85.72	85.67	85.60	85.67	85.76	85.64	85.13	85.22	86.31	86.11	85.85	86.32
917.5	85.85	85.88	85.78	85.75	85.63	85.68	85.78	85.49	85.12	85.24	86.21	86.05	86.16	86.36
918	85.89	85.90	85.80	85.75	85.62	85.69	85.84	85.51	85.01	85.04	86.01	86.12	86.30	86.24

918.5	85.81	85.78	85.72	85.71	85.60	85.68	85.80	85.54	85.08	85.09	85.99	86.15	86.14	86.24
919	85.82	85.73	85.74	85.70	85.65	85.68	85.83	85.50	85.15	85.22	86.14	86.17	86.00	86.29
919.5	85.87	85.84	85.76	85.72	85.65	85.75	85.85	85.57	85.27	85.27	86.23	86.13	86.15	86.33
920	85.95	85.91	85.84	85.79	85.71	85.77	85.88	85.65	85.21	85.26	86.22	86.20	86.30	86.41
920.5	85.95	86.01	85.86	85.84	85.71	85.79	85.91	85.65	85.20	85.21	86.22	86.26	86.30	86.41
921	85.93	85.94	85.87	85.88	85.75	85.86	85.90	85.60	85.24	85.24	86.00	86.25	86.30	86.33
921.5	85.94	85.94	85.84	85.83	85.75	85.83	85.90	85.49	85.37	85.23	85.98	86.11	86.14	86.34
922	85.95	85.96	85.84	85.83	85.71	85.82	85.96	85.66	85.38	85.21	85.97	86.20	86.00	86.39
922.5	85.88	85.90	85.82	85.81	85.73	85.84	85.95	85.72	85.35	85.19	86.18	86.02	86.14	86.42
923	85.85	85.88	85.79	85.81	85.73	85.82	85.93	85.64	85.26	85.15	86.18	86.05	86.29	86.45
923.5	85.77	85.81	85.82	85.82	85.72	85.82	85.96	85.70	85.23	85.21	86.00	86.07	86.30	86.43
924	85.85	85.88	85.82	85.81	85.71	85.79	85.97	85.80	85.36	85.30	86.12	86.20	86.30	86.47
924.5	85.89	85.91	85.86	85.85	85.73	85.77	85.88	85.55	85.43	85.34	86.11	86.26	86.28	86.47
925	85.97	85.99	85.86	85.85	85.75	85.80	85.90	85.45	85.45	85.33	86.28	86.31	86.30	86.46
925.5	86.02	86.04	85.92	85.89	85.73	85.82	85.90	85.51	85.30	85.11	86.09	86.32	86.44	86.49
926	86.05	86.10	85.99	85.95	85.82	85.86	85.81	85.54	85.23	85.13	86.09	86.35	86.30	86.52
926.5	85.96	85.97	85.92	85.92	85.79	85.92	85.91	85.57	85.33	85.19	86.12	86.26	86.15	86.53
927	86.03	86.02	85.92	85.90	85.84	85.90	85.99	85.55	85.28	85.28	86.02	86.05	86.45	86.54
927.5	85.95	85.92	85.88	85.86	85.74	85.88	86.03	85.59	85.32	85.28	86.00	86.20	86.00	86.52
928	85.98	85.99	85.91	85.86	85.77	85.88	86.03	85.50	85.32	85.25	86.11	86.30	86.29	86.57
928.5	86.10	86.11	85.96	85.97	85.79	85.89	86.07	85.58	85.23	85.23	86.26	86.39	86.44	86.53
929	86.12	86.14	86.06	85.99	85.83	85.86	85.96	85.70	85.33	85.16	86.23	86.35	86.30	86.53
929.5	86.19	86.19	86.10	86.05	85.89	85.90	85.97	85.78	85.42	85.29	86.22	86.39	86.59	86.54
930	86.27	86.31	86.17	86.10	85.98	85.97	86.04	85.83	85.50	85.48	86.40	86.40	86.30	86.52
930.5	86.31	86.29	86.19	86.11	85.94	86.01	86.05	85.82	85.54	85.67	86.46	86.40	86.29	86.52
931	86.03	86.03	86.03	86.08	86.03	86.12	86.04	85.72	85.46	85.73	86.52	86.39	86.30	86.46
931.5	86.19	86.16	86.09	86.11	86.01	86.12	86.13	85.80	85.46	85.63	86.22	86.38	86.44	86.52
932	86.09	86.02	86.01	86.07	85.97	86.05	86.16	85.66	85.39	85.35	86.30	86.38	86.29	86.45
932.5	86.05	86.04	86.02	86.02	85.96	86.05	86.17	85.81	85.40	85.42	86.20	86.36	86.15	86.46
933	86.01	86.03	85.94	85.93	85.88	85.97	86.11	85.92	85.50	85.39	86.36	86.40	86.58	86.61
933.5	85.89	85.93	85.93	85.91	85.85	85.93	86.11	85.90	85.36	85.42	86.54	86.49	86.44	86.66
934	85.94	85.95	85.88	85.92	85.83	85.95	86.14	85.82	85.25	85.62	86.65	86.55	86.74	86.57
934.5	86.03	86.06	86.00	85.98	85.85	85.92	86.07	85.77	85.29	85.79	86.64	86.42	86.44	86.54
935	86.17	86.07	86.03	86.01	85.85	85.90	86.07	85.70	85.42	85.76	86.58	86.44	86.44	86.54
935.5	86.12	86.10	86.03	85.99	85.86	85.99	86.07	85.70	85.39	85.57	86.61	86.47	86.30	86.59
936	86.18	86.15	86.05	86.06	85.93	85.97	86.13	85.87	85.41	85.44	86.33	86.41	86.43	86.64
936.5	86.26	86.22	86.13	86.09	85.99	85.97	86.16	85.85	85.50	85.37	86.19	86.42	86.44	86.53
937	86.30	86.30	86.19	86.18	86.02	86.06	86.17	85.74	85.52	85.43	86.16	86.44	86.59	86.57
937.5	86.29	86.34	86.24	86.20	86.07	86.08	86.18	85.63	85.42	85.41	86.16	86.47	86.43	86.48
938	86.33	86.32	86.21	86.22	86.04	86.14	86.15	85.55	85.43	85.48	86.40	86.37	86.30	86.49
938.5	86.27	86.25	86.17	86.19	86.10	86.08	86.13	85.53	85.37	85.44	86.34	86.34	86.29	86.46

939	86.21	86.08	86.13	86.16	86.07	86.09	86.11	85.45	85.39	85.34	86.35	86.38	86.28	86.51
939.5	86.00	86.03	86.02	86.05	86.01	86.09	86.03	85.44	85.40	85.29	86.17	86.41	86.30	86.54
940	86.07	86.09	85.99	86.01	85.96	86.00	86.09	85.55	85.37	85.30	86.12	86.29	86.15	86.53
940.5	86.16	86.14	86.03	86.01	85.95	86.02	86.11	85.51	85.32	85.33	86.06	86.33	86.30	86.50
941	86.12	86.10	86.03	86.02	85.92	85.99	86.06	85.47	85.27	85.27	86.16	86.35	86.30	86.41
941.5	86.06	86.00	85.92	85.94	85.86	85.86	86.00	85.71	85.34	85.26	86.32	86.31	86.15	86.38
942	86.00	85.94	85.90	85.97	85.89	85.95	86.04	85.74	85.40	85.29	86.25	86.26	86.15	86.47
942.5	85.97	85.96	85.92	85.94	85.85	85.95	86.10	85.75	85.56	85.39	86.19	86.35	86.30	86.46
943	85.90	85.97	85.86	85.89	85.79	85.87	86.13	85.80	85.73	85.39	86.13	86.33	86.15	86.46
943.5	86.02	86.04	85.92	85.89	85.81	85.92	86.10	85.91	85.84	85.37	86.22	86.31	86.30	86.35
944	86.06	86.04	85.97	85.95	85.86	85.96	86.10	85.94	85.68	85.33	86.13	86.28	86.30	86.28
944.5	86.03	86.00	85.89	85.87	85.81	85.92	86.11	85.97	85.66	85.30	86.01	86.19	86.01	86.30
945	85.99	86.01	85.95	85.93	85.84	85.95	86.06	85.87	85.61	85.23	86.11	86.20	86.00	86.30
945.5	86.08	86.06	85.94	85.94	85.84	85.94	86.09	85.87	85.54	85.26	86.28	86.24	86.00	86.39
946	86.07	86.04	85.97	85.95	85.81	85.88	86.08	85.78	85.50	85.28	86.36	86.28	86.02	86.33
946.5	86.05	86.07	85.94	85.94	85.85	85.95	86.07	85.82	85.34	85.20	86.36	86.25	86.15	86.25
947	86.15	86.09	85.99	85.98	85.85	85.96	86.06	85.75	85.24	85.27	86.26	86.26	86.15	86.25
947.5	86.11	86.11	86.04	86.00	85.88	85.98	86.08	85.56	85.32	85.22	86.00	86.22	86.29	86.27
948	86.07	85.99	85.96	85.94	85.88	85.99	86.06	85.58	85.40	85.24	86.07	86.26	86.15	86.31
948.5	85.97	86.01	85.95	85.91	85.84	85.99	86.02	85.64	85.35	85.28	86.25	86.25	86.14	86.33
949	86.02	86.02	85.90	85.94	85.85	86.01	86.09	85.73	85.43	85.35	86.28	86.26	86.17	86.36
949.5	85.87	85.85	85.88	85.86	85.83	85.94	86.12	85.83	85.44	85.35	86.09	86.21	86.00	86.33
950	86.00	85.96	85.89	85.94	85.85	85.92	86.12	85.91	85.49	85.35	86.16	86.24	86.02	86.37
950.5	86.03	86.01	85.92	85.90	85.80	85.94	86.01	85.86	85.69	85.34	86.28	86.26	86.30	86.44
951	85.95	85.99	85.88	85.87	85.81	85.90	85.95	85.82	85.63	85.45	86.36	86.28	86.02	86.38
951.5	85.85	85.88	85.82	85.89	85.81	85.89	85.94	85.78	85.56	85.39	86.29	86.28	86.30	86.38
952	85.91	85.90	85.79	85.83	85.74	85.88	85.98	85.74	85.45	85.34	86.24	86.31	86.14	86.39
952.5	85.89	85.96	85.89	85.84	85.78	85.86	86.01	85.78	85.40	85.26	86.29	86.35	86.01	86.49
953	85.91	85.90	85.84	85.83	85.75	85.84	86.00	85.84	85.31	85.25	86.40	86.31	86.29	86.40
953.5	85.89	85.86	85.86	85.89	85.78	85.85	86.03	85.90	85.32	85.12	86.11	86.24	86.00	86.35
954	86.04	85.92	85.91	85.92	85.80	85.90	86.05	85.89	85.25	85.05	85.98	86.23	86.16	86.42
954.5	85.89	85.83	85.79	85.84	85.78	85.88	86.06	85.89	85.19	85.05	86.08	86.18	86.29	86.48
955	85.87	85.91	85.87	85.87	85.80	85.85	86.09	85.89	85.48	85.09	86.26	86.27	86.30	86.32
955.5	85.87	85.90	85.86	85.84	85.73	85.80	86.03	85.79	85.55	85.32	86.31	86.18	86.00	86.19
956	85.92	85.88	85.84	85.82	85.72	85.79	86.01	85.88	85.45	85.34	86.32	86.12	86.15	86.22
956.5	85.99	85.90	85.80	85.77	85.72	85.80	86.03	85.87	85.58	85.24	86.28	86.17	86.01	86.24
957	85.95	85.91	85.82	85.78	85.69	85.75	85.98	85.90	85.71	85.24	86.25	86.20	86.01	86.25
957.5	85.91	85.92	85.81	85.71	85.70	85.82	85.99	85.87	85.76	85.23	86.15	86.17	86.00	86.30
958	85.93	85.90	85.82	85.74	85.72	85.82	86.00	85.80	85.55	85.21	86.22	86.20	86.01	86.22
958.5	85.99	85.99	85.89	85.75	85.71	85.79	85.91	85.71	85.39	85.14	86.12	86.06	86.01	86.24
959	85.93	85.87	85.82	85.77	85.73	85.82	85.94	85.58	85.49	85.17	86.04	86.03	85.86	86.19

959.5	85.79	85.80	85.70	85.69	85.63	85.83	85.96	85.54	85.56	85.23	86.10	86.09	85.86	86.17
960	85.70	85.64	85.66	85.67	85.65	85.80	85.97	85.67	85.56	85.21	86.06	86.00	86.01	86.19
960.5	85.69	85.74	85.64	85.67	85.46	85.62	85.96	85.77	85.39	85.10	85.87	86.04	86.01	86.27
961	85.73	85.75	85.62	85.64	85.55	85.65	85.90	85.80	85.26	84.93	85.87	86.10	86.15	86.30
961.5	85.85	85.78	85.64	85.64	85.51	85.66	85.93	85.78	85.24	84.93	85.85	86.15	86.15	86.27
962	85.86	85.86	85.74	85.67	85.55	85.72	85.93	85.68	85.23	85.01	85.98	86.17	86.15	86.28
962.5	85.75	85.76	85.74	85.69	85.55	85.72	85.89	85.62	85.29	85.19	86.09	86.15	86.14	86.20
963	85.82	85.82	85.82	85.76	85.60	85.77	85.81	85.49	85.28	85.27	86.20	86.12	85.87	86.09
963.5	85.80	85.84	85.79	85.77	85.61	85.76	85.90	85.57	85.24	85.27	86.19	86.07	85.86	86.11
964	85.81	85.79	85.68	85.66	85.57	85.72	85.95	85.73	85.41	85.36	86.06	86.04	85.85	86.07
964.5	85.61	85.52	85.56	85.61	85.62	85.74	85.95	85.78	85.40	85.38	86.11	86.04	85.85	86.15
965	85.56	85.55	85.49	85.59	85.52	85.72	85.94	85.81	85.43	85.36	86.14	86.09	86.01	86.12
965.5	85.27	85.27	85.42	85.48	85.52	85.66	85.88	85.75	85.46	85.16	86.06	86.09	85.86	86.09
966	85.45	85.49	85.48	85.49	85.41	85.57	85.82	85.73	85.42	85.08	85.90	85.99	86.00	86.10
966.5	85.47	85.57	85.49	85.52	85.39	85.53	85.80	85.70	85.32	85.04	85.93	86.04	86.01	86.12
967	85.52	85.55	85.52	85.51	85.42	85.49	85.77	85.70	85.23	85.09	86.03	86.06	85.86	86.17
967.5	85.50	85.44	85.44	85.44	85.45	85.53	85.77	85.64	85.33	85.10	86.10	86.09	86.01	86.12
968	85.50	85.48	85.48	85.50	85.40	85.50	85.76	85.66	85.43	85.27	86.12	86.07	86.02	86.16
968.5	85.54	85.52	85.47	85.48	85.43	85.49	85.71	85.61	85.46	85.38	86.20	86.06	85.85	86.12
969	85.57	85.63	85.54	85.53	85.44	85.54	85.63	85.55	85.43	85.19	86.15	86.04	85.87	86.22
969.5	85.47	85.45	85.47	85.49	85.43	85.53	85.64	85.48	85.43	85.23	86.23	86.13	86.01	86.30
970	85.52	85.54	85.47	85.49	85.49	85.45	85.73	85.51	85.37	85.27	86.28	86.20	86.01	86.33
970.5	85.62	85.73	85.58	85.49	85.43	85.44	85.66	85.35	85.31	85.14	86.21	86.24	86.30	86.35
971	85.67	85.70	85.57	85.51	85.45	85.50	85.64	85.14	85.11	84.91	85.94	86.26	86.15	86.27
971.5	85.54	85.53	85.48	85.50	85.47	85.55	85.67	85.09	85.02	84.92	85.83	86.08	86.14	86.29
972	85.55	85.50	85.41	85.40	85.44	85.58	85.73	85.27	85.01	84.94	85.76	86.20	86.30	86.35
972.5	85.59	85.58	85.50	85.48	85.49	85.55	85.71	85.39	85.04	84.88	85.71	86.13	86.15	86.28
973	85.54	85.54	85.43	85.47	85.39	85.52	85.67	85.34	85.01	84.88	85.69	86.10	86.01	86.25
973.5	85.54	85.53	85.48	85.44	85.43	85.54	85.64	85.27	85.03	84.95	85.71	86.12	86.00	86.27
974	85.57	85.57	85.47	85.49	85.48	85.56	85.68	85.37	85.04	84.97	85.72	86.13	85.86	86.28
974.5	85.41	85.34	85.32	85.41	85.43	85.51	85.72	85.30	85.08	84.98	85.76	86.12	86.14	86.32
975	85.44	85.38	85.40	85.47	85.48	85.52	85.67	85.37	85.04	84.96	85.75	86.19	86.15	86.31
975.5	85.40	85.33	85.28	85.47	85.40	85.48	85.68	85.36	84.92	84.86	85.67	86.21	86.02	86.30
976	85.18	85.16	85.22	85.30	85.26	85.36	85.69	85.35	84.89	84.89	85.67	86.14	86.16	86.22
976.5	85.18	85.23	85.24	85.31	85.24	85.32	85.52	85.27	84.92	84.86	85.74	86.09	86.00	86.11
977	85.32	85.33	85.34	85.41	85.36	85.44	85.56	85.29	84.98	84.93	85.97	86.04	86.00	86.08
977.5	85.53	85.52	85.46	85.45	85.38	85.50	85.64	85.34	85.14	85.09	86.06	85.97	85.72	86.06
978	85.58	85.56	85.47	85.50	85.44	85.54	85.65	85.43	85.28	85.08	85.86	85.98	85.87	86.10
978.5	85.45	85.49	85.38	85.44	85.38	85.48	85.66	85.50	85.37	85.02	85.68	85.92	85.85	86.08
979	85.39	85.39	85.39	85.47	85.41	85.52	85.60	85.42	85.39	84.96	85.71	85.90	85.86	85.96
979.5	85.39	85.37	85.40	85.42	85.35	85.46	85.52	85.27	85.21	85.07	85.81	85.91	85.72	85.92

980	85.21	85.19	85.38	85.40	85.31	85.42	85.56	85.20	85.21	85.08	85.89	85.85	86.00	85.84
980.5	85.26	85.22	85.33	85.34	85.31	85.40	85.60	85.27	85.13	85.16	85.97	85.84	85.57	85.89
981	85.41	85.37	85.35	85.30	85.21	85.31	85.62	85.32	85.06	85.16	85.84	85.83	86.00	85.92
981.5	85.40	85.45	85.35	85.20	85.13	85.28	85.59	85.46	85.28	85.05	85.96	85.91	85.87	86.01
982	85.49	85.47	85.34	85.31	85.24	85.26	85.57	85.39	85.27	85.16	86.01	85.99	86.01	86.09
982.5	85.37	85.24	85.24	85.34	85.26	85.32	85.57	85.37	85.21	85.11	86.04	85.97	85.86	86.12
983	85.24	85.21	85.13	85.19	85.18	85.29	85.56	85.38	85.08	85.03	85.95	85.95	85.85	86.09
983.5	85.12	85.02	84.99	85.11	85.09	85.25	85.49	85.34	85.03	84.87	85.82	86.00	85.72	86.02
984	85.03	85.12	84.99	85.15	85.12	85.23	85.47	85.28	84.97	84.67	85.98	85.99	85.86	86.02
984.5	85.06	85.08	85.01	85.09	85.07	85.21	85.39	85.27	84.80	84.75	86.02	85.95	85.85	85.98
985	85.02	85.01	84.98	85.06	84.93	85.10	85.40	85.15	84.85	84.71	85.80	85.96	85.73	86.01
985.5	85.07	85.04	84.97	85.01	84.92	85.05	85.28	85.05	84.80	84.61	85.49	85.90	85.86	86.00
986	85.12	85.16	85.10	85.08	84.99	85.08	85.29	85.07	84.77	84.64	85.63	85.87	85.57	85.99
986.5	85.20	85.13	85.09	85.09	85.03	85.11	85.32	85.12	84.76	84.88	85.71	85.88	85.87	85.94
987	85.14	85.15	85.10	85.08	85.02	85.06	85.32	85.12	84.85	84.88	85.63	85.81	85.56	85.91
987.5	85.17	85.19	85.14	85.14	85.08	85.15	85.19	85.15	84.78	84.83	85.71	85.81	85.72	85.96
988	85.19	85.18	85.07	85.05	85.06	85.16	85.16	85.05	84.80	84.74	85.78	85.83	85.72	85.95
988.5	85.07	85.08	85.10	85.14	85.05	85.15	85.12	84.87	84.75	84.68	85.81	85.85	85.72	85.90
989	85.09	85.09	85.04	85.11	85.05	85.15	85.22	84.89	84.75	84.71	85.75	85.78	85.72	85.87
989.5	84.92	84.94	84.99	85.07	85.03	85.18	85.30	84.99	84.70	84.63	85.70	85.82	85.71	85.86
990	84.89	84.93	84.91	84.99	84.99	85.10	85.29	85.10	84.83	84.65	85.74	85.80	85.58	85.84
990.5	85.02	85.02	84.97	84.99	84.88	85.00	85.25	85.12	84.80	84.68	85.79	85.80	85.57	85.83
991	85.12	85.06	84.98	84.91	84.91	85.00	85.21	85.04	84.64	84.60	85.84	85.80	85.57	85.86
991.5	85.08	85.13	85.04	84.96	84.92	85.06	85.16	84.92	84.62	84.65	85.82	85.79	85.44	85.88
992	85.08	85.04	84.98	84.99	84.96	85.10	85.13	84.79	84.62	84.61	85.85	85.78	85.87	85.88
992.5	85.07	85.04	84.94	84.98	84.95	85.06	85.21	84.82	84.54	84.45	85.60	85.68	85.57	85.83
993	84.94	85.06	85.00	84.97	84.89	85.06	85.24	84.88	84.56	84.48	85.41	85.75	85.57	85.84
993.5	84.98	85.05	84.96	84.96	84.85	84.96	85.15	84.85	84.58	84.57	85.45	85.74	85.56	85.84
994	85.11	85.14	85.05	85.01	84.93	85.01	85.17	84.97	84.66	84.57	85.67	85.74	85.42	85.84
994.5	85.14	85.19	85.09	85.02	84.94	85.10	85.22	85.04	84.69	84.65	85.75	85.77	85.72	85.82
995	85.22	85.23	85.12	85.12	85.02	85.10	85.26	85.07	84.76	84.62	85.71	85.73	85.87	85.82
995.5	85.22	85.21	85.14	85.11	85.01	85.13	85.28	85.09	84.88	84.74	85.78	85.72	85.72	85.82
996	85.27	85.27	85.13	85.14	85.05	85.13	85.34	85.09	84.95	84.78	85.78	85.71	85.57	85.83
996.5	85.16	85.18	85.17	85.24	85.09	85.18	85.34	85.15	84.93	84.64	85.63	85.68	85.57	85.83
997	85.00	85.03	84.94	85.04	84.96	85.09	85.36	85.15	84.79	84.49	85.41	85.71	85.56	85.78
997.5	85.08	85.06	85.02	85.03	84.94	85.11	85.42	85.17	84.69	84.52	85.25	85.70	85.58	85.94
998	85.05	85.01	84.98	85.01	84.97	85.08	85.33	85.20	84.72	84.60	85.30	85.76	85.71	85.95
998.5	85.18	85.12	85.07	85.08	85.00	85.12	85.35	85.14	84.96	84.70	85.62	85.84	85.88	86.05
999	85.14	85.12	85.01	85.05	84.98	85.10	85.29	85.05	84.84	84.73	85.71	85.90	85.72	86.06
999.5	85.08	85.07	85.03	85.10	84.97	85.08	85.29	85.06	84.90	84.75	85.73	85.92	85.71	86.07
1000	85.12	85.09	85.04	85.08	84.99	85.09	85.29	85.09	84.74	84.64	85.82	85.93	85.72	86.08

1000.5	85.04	85.09	85.04	85.02	84.96	85.09	85.26	85.12	84.65	84.52	85.72	85.92	85.70	86.09
1001	85.07	85.08	85.00	84.97	84.94	85.10	85.25	85.12	84.65	84.61	85.62	85.83	86.01	86.05
1001.5	85.10	85.10	85.02	84.99	84.99	85.06	85.30	85.15	84.75	84.66	85.47	85.69	85.87	86.03
1002	85.14	85.11	85.02	85.00	84.94	84.97	85.26	85.16	84.77	84.70	85.42	85.61	85.85	86.00
1002.5	85.04	85.06	85.05	85.04	84.98	85.00	85.26	85.17	84.85	84.72	85.38	85.61	85.57	85.95
1003	85.11	85.17	85.01	85.04	85.00	85.04	85.26	85.16	84.95	84.72	85.57	85.70	85.71	85.86
1003.5	85.22	85.15	85.17	85.17	85.06	85.12	85.26	85.08	85.01	84.81	85.76	85.78	85.57	85.87
1004	85.21	85.21	85.16	85.14	84.92	85.03	85.26	85.11	85.00	84.91	85.85	85.69	85.56	85.94
1004.5	85.17	85.13	85.08	85.11	84.98	85.04	85.31	85.14	84.88	84.87	85.88	85.82	85.99	85.96
1005	85.28	85.29	85.15	85.15	85.07	85.18	85.30	85.19	84.82	84.88	85.89	85.86	86.02	86.03
1005.5	85.36	85.33	85.25	85.20	85.14	85.21	85.30	85.20	84.69	84.79	85.77	85.87	85.85	86.05
1006	85.31	85.30	85.18	85.27	85.18	85.25	85.37	85.17	84.76	84.73	85.51	85.92	86.00	86.11
1006.5	85.40	85.38	85.26	85.25	85.16	85.32	85.41	85.14	84.74	84.64	85.43	85.93	85.72	86.22
1007	85.38	85.37	85.34	85.33	85.20	85.31	85.37	85.06	84.70	84.65	85.35	85.95	85.71	86.13
1007.5	85.49	85.48	85.42	85.32	85.24	85.33	85.32	84.99	84.82	84.76	85.55	86.03	86.01	86.17
1008	85.39	85.44	85.37	85.34	85.24	85.33	85.39	85.05	84.84	84.81	85.81	86.06	85.86	86.22
1008.5	85.50	85.47	85.43	85.35	85.29	85.39	85.49	85.14	84.87	85.03	86.03	86.09	86.01	86.27
1009	85.52	85.52	85.45	85.41	85.30	85.40	85.53	85.26	84.90	85.12	85.97	86.09	86.00	86.27
1009.5	85.45	85.46	85.41	85.41	85.33	85.38	85.53	85.32	84.82	84.92	85.89	86.06	86.14	86.30
1010	85.41	85.43	85.44	85.39	85.30	85.43	85.53	85.26	84.86	84.88	85.76	86.04	86.02	86.25
1010.5	85.54	85.53	85.44	85.39	85.33	85.40	85.52	85.34	84.99	84.93	85.68	85.99	86.00	86.32
1011	85.52	85.52	85.43	85.35	85.33	85.42	85.55	85.41	85.23	85.04	85.88	86.16	86.01	86.31
1011.5	85.40	85.52	85.49	85.35	85.36	85.35	85.49	85.38	85.34	85.21	86.09	86.17	86.01	86.30
1012	85.48	85.57	85.55	85.47	85.41	85.44	85.52	85.39	85.39	85.35	86.21	86.15	86.00	86.30
1012.5	85.53	85.61	85.54	85.52	85.46	85.53	85.47	85.34	85.37	85.37	86.22	86.13	86.15	86.31
1013	85.69	85.71	85.59	85.54	85.48	85.56	85.57	85.29	85.27	85.27	86.13	86.17	86.01	86.43
1013.5	85.60	85.74	85.67	85.61	85.48	85.56	85.60	85.29	85.01	85.09	86.00	86.23	86.30	86.50
1014	85.83	85.84	85.70	85.67	85.54	85.56	85.68	85.15	85.01	85.00	85.88	86.19	86.31	86.53
1014.5	85.86	85.83	85.73	85.64	85.51	85.59	85.73	85.18	85.06	85.06	85.84	86.23	86.15	86.54
1015	85.78	85.83	85.72	85.66	85.55	85.62	85.69	85.34	85.15	85.12	85.90	86.22	86.29	86.51
1015.5	85.72	85.73	85.72	85.72	85.61	85.62	85.73	85.44	85.26	85.27	86.19	86.32	86.44	86.54
1016	85.74	85.75	85.70	85.69	85.59	85.66	85.80	85.54	85.33	85.36	86.35	86.41	86.44	86.59
1016.5	85.72	85.71	85.66	85.64	85.51	85.63	85.80	85.57	85.27	85.24	86.29	86.42	86.30	86.62
1017	85.79	85.78	85.70	85.64	85.58	85.63	85.74	85.42	85.37	85.19	86.41	86.44	86.30	86.68
1017.5	85.83	85.84	85.74	85.69	85.59	85.63	85.67	85.28	85.30	85.19	86.57	86.51	86.44	86.66
1018	85.86	85.78	85.77	85.75	85.63	85.62	85.71	85.41	85.24	85.09	86.51	86.49	86.30	86.65
1018.5	85.82	85.83	85.82	85.71	85.65	85.65	85.65	85.52	85.17	84.86	86.06	86.48	86.59	86.63
1019	85.92	85.91	85.82	85.75	85.66	85.69	85.75	85.64	85.24	84.83	85.87	86.45	86.59	86.63
1019.5	85.97	85.99	85.90	85.81	85.69	85.75	85.85	85.62	85.30	84.86	86.01	86.44	86.59	86.60
1020	86.00	86.01	85.91	85.87	85.79	85.84	85.94	85.72	85.14	84.92	86.20	86.43	86.45	86.67
1020.5	86.12	86.10	85.94	85.89	85.78	85.86	86.00	85.77	85.20	85.07	86.33	86.47	86.59	86.72

1021	86.10	85.98	85.91	85.93	85.84	85.93	85.99	85.82	85.40	85.24	86.43	86.56	86.45	86.80
1021.5	86.08	86.01	85.94	85.94	85.83	85.94	86.05	85.90	85.64	85.44	86.53	86.63	86.58	86.80
1022	86.07	86.02	86.01	85.99	85.86	85.93	86.06	85.93	85.40	85.47	86.53	86.46	86.45	86.77
1022.5	86.04	86.04	86.00	85.97	85.87	85.94	86.09	85.92	85.28	85.31	86.36	86.42	86.59	86.83
1023	86.10	86.10	86.04	85.97	85.85	85.92	86.09	85.94	85.27	85.23	86.47	86.57	86.44	86.87
1023.5	86.17	86.11	86.04	85.99	85.89	85.98	86.08	85.89	85.30	85.24	86.64	86.72	86.74	86.90
1024	86.12	86.10	86.02	86.01	85.81	85.87	86.09	85.71	85.34	85.42	86.73	86.76	86.59	86.88
1024.5	86.21	86.21	86.14	86.11	85.98	85.97	86.02	85.73	85.32	85.55	86.60	86.60	86.14	86.86
1025	86.23	86.23	86.14	86.15	85.99	86.09	86.07	85.78	85.42	85.43	86.22	86.09	86.59	86.91
1025.5	86.15	86.14	86.13	86.11	86.01	86.09	86.14	85.85	85.46	85.37	86.13	86.20	86.73	86.89
1026	86.09	86.16	86.15	86.13	86.03	86.02	86.16	85.92	85.64	85.29	86.33	86.46	86.43	86.92
1026.5	86.20	86.20	86.14	86.15	86.06	86.11	86.27	86.02	85.87	85.42	86.47	86.72	86.45	86.87
1027	86.10	86.14	86.13	86.11	86.01	86.10	86.26	85.91	85.85	85.67	86.63	86.70	86.59	86.87
1027.5	86.12	86.11	86.03	86.08	86.01	86.09	86.24	85.80	85.76	85.87	86.74	86.70	86.59	86.91
1028	86.05	86.05	86.07	86.09	86.00	86.04	86.27	85.92	85.89	85.95	86.81	86.74	86.59	86.93
1028.5	86.18	86.20	86.15	86.13	86.04	86.05	86.25	86.00	85.73	85.90	86.83	86.77	86.59	86.96
1029	86.24	86.22	86.09	86.04	85.97	86.07	86.18	85.90	85.58	85.81	86.85	86.73	86.58	86.93
1029.5	86.25	86.19	86.13	86.08	85.96	86.06	86.19	85.90	85.49	85.72	86.88	86.77	86.59	86.91
1030	86.14	86.21	86.14	86.13	86.01	86.08	86.13	85.76	85.44	85.74	86.82	86.82	86.58	86.90
1030.5	86.29	86.26	86.13	86.15	86.01	86.09	86.17	85.54	85.24	85.46	86.80	86.68	86.87	86.95
1031	86.16	86.23	86.17	86.11	86.05	86.07	86.21	85.44	85.21	85.37	86.63	86.67	86.73	86.89
1031.5	86.19	86.22	86.21	86.14	86.03	86.14	86.24	85.67	85.31	85.38	86.47	86.49	86.58	86.94
1032	86.22	86.20	86.19	86.09	86.03	86.12	86.30	85.90	85.42	85.47	86.33	86.64	86.73	87.00
1032.5	86.23	86.26	86.22	86.17	86.02	86.12	86.21	86.01	85.59	85.65	86.35	86.70	86.87	86.89
1033	86.35	86.35	86.25	86.24	86.10	86.15	86.20	86.05	85.78	85.65	86.47	86.67	86.59	86.89
1033.5	86.42	86.42	86.30	86.19	86.10	86.12	86.19	86.07	85.60	85.52	86.45	86.74	86.87	86.92
1034	86.36	86.40	86.32	86.27	86.18	86.19	86.19	85.91	85.53	85.47	86.55	86.74	86.44	86.87
1034.5	86.34	86.28	86.25	86.26	86.17	86.24	86.08	85.73	85.50	85.42	86.55	86.70	86.58	86.89
1035	86.37	86.41	86.30	86.25	86.17	86.27	85.83	85.53	85.41	85.50	86.64	86.84	86.74	87.05
1035.5	86.43	86.49	86.42	86.35	86.22	86.17	85.71	85.54	85.42	85.77	86.83	86.87	86.73	86.92
1036	86.55	86.55	86.47	86.44	86.28	86.17	85.87	85.48	85.46	85.87	86.83	86.84	86.73	86.92
1036.5	86.47	86.45	86.40	86.37	86.25	86.27	85.98	85.47	85.53	85.83	86.80	86.82	86.73	87.00
1037	86.42	86.40	86.35	86.37	86.22	86.30	86.19	85.55	85.60	85.79	86.51	86.70	86.73	86.92
1037.5	86.39	86.34	86.29	86.26	86.15	86.23	86.28	85.79	85.66	85.67	86.46	86.71	86.86	87.01
1038	86.46	86.42	86.36	86.31	86.20	86.23	86.37	86.02	85.72	85.67	86.45	86.84	87.02	87.07
1038.5	86.53	86.50	86.39	86.35	86.22	86.30	86.40	86.15	85.86	85.69	86.67	86.89	86.73	87.08
1039	86.52	86.51	86.41	86.36	86.23	86.31	86.29	85.99	85.76	85.74	86.90	87.01	86.87	87.15
1039.5	86.47	86.46	86.46	86.39	86.23	86.29	86.30	85.90	85.73	85.75	87.05	87.05	86.87	87.16
1040	86.52	86.53	86.46	86.41	86.30	86.37	86.40	85.98	85.78	85.85	87.02	87.05	86.87	87.06
1040.5	86.58	86.63	86.52	86.43	86.32	86.35	86.48	86.15	85.89	85.87	87.06	86.98	86.87	87.11
1041	86.62	86.56	86.47	86.47	86.36	86.37	86.50	86.24	85.99	86.09	87.12	87.03	86.87	87.17

1041.5	86.47	86.50	86.45	86.43	86.32	86.37	86.47	86.02	85.96	86.08	87.09	87.07	87.01	87.08
1042	86.39	86.39	86.39	86.42	86.35	86.39	86.21	85.95	85.89	86.03	87.09	87.00	86.86	87.07
1042.5	86.39	86.40	86.36	86.35	86.28	86.35	86.23	85.90	85.91	85.95	87.12	87.05	86.73	87.13
1043	86.39	86.42	86.32	86.29	86.21	86.34	86.37	85.96	85.93	86.02	87.10	86.97	86.87	87.08
1043.5	86.46	86.46	86.39	86.32	86.25	86.33	86.42	86.02	86.01	86.12	87.09	86.99	87.02	87.16
1044	86.54	86.55	86.47	86.37	86.27	86.28	86.41	86.13	85.93	86.30	87.09	87.04	86.87	87.13
1044.5	86.60	86.58	86.39	86.36	86.28	86.34	86.48	86.22	85.80	86.30	87.10	86.94	86.87	87.16
1045	86.60	86.57	86.53	86.45	86.26	86.31	86.47	86.26	85.83	86.31	87.18	86.98	86.88	87.12
1045.5	86.55	86.55	86.42	86.44	86.35	86.37	86.47	86.16	85.89	86.37	87.12	86.98	86.87	87.15
1046	86.56	86.57	86.51	86.49	86.39	86.47	86.50	86.08	85.80	86.27	87.08	87.02	86.86	87.07
1046.5	86.50	86.57	86.55	86.50	86.40	86.51	86.62	86.25	85.90	85.95	86.81	86.92	86.87	87.03
1047	86.65	86.59	86.50	86.47	86.32	86.47	86.66	86.37	86.02	85.87	86.57	86.99	87.02	87.07
1047.5	86.64	86.64	86.54	86.50	86.33	86.45	86.61	86.46	85.99	85.91	86.59	86.95	87.03	87.09
1048	86.58	86.58	86.57	86.52	86.33	86.48	86.60	86.48	85.92	85.87	86.77	86.97	86.74	87.09
1048.5	86.55	86.58	86.56	86.54	86.39	86.45	86.59	86.40	85.91	85.86	86.88	86.96	87.02	87.13
1049	86.49	86.49	86.39	86.48	86.29	86.39	86.58	86.37	85.92	85.85	86.89	86.93	86.87	87.16
1049.5	86.43	86.36	86.40	86.41	86.29	86.39	86.53	86.31	85.88	85.80	86.92	86.91	86.86	87.13
1050	86.45	86.45	86.45	86.47	86.36	86.43	86.55	86.18	85.88	85.79	86.99	87.00	87.02	87.16
1050.5	86.44	86.41	86.37	86.41	86.34	86.41	86.49	86.15	85.89	85.92	87.09	87.07	86.72	87.15
1051	86.46	86.50	86.39	86.38	86.23	86.35	86.46	86.17	85.88	86.03	87.17	87.02	86.73	87.08
1051.5	86.49	86.47	86.39	86.42	86.30	86.39	86.50	86.25	85.92	86.13	87.14	87.00	87.02	87.16
1052	86.43	86.43	86.37	86.34	86.25	86.42	86.55	86.21	86.10	86.16	87.04	86.92	86.87	87.16
1052.5	86.45	86.46	86.37	86.35	86.25	86.42	86.56	86.22	86.12	86.10	86.95	86.92	87.02	87.22
1053	86.50	86.59	86.50	86.41	86.28	86.35	86.59	86.17	86.10	86.05	86.96	86.92	87.02	87.23
1053.5	86.51	86.52	86.52	86.49	86.35	86.34	86.55	86.29	86.07	86.01	87.04	87.04	87.01	87.18
1054	86.55	86.55	86.49	86.47	86.30	86.39	86.55	86.32	86.04	86.05	87.14	87.10	86.87	87.21
1054.5	86.49	86.52	86.47	86.45	86.33	86.37	86.59	86.30	86.20	86.13	87.12	87.09	87.16	87.22
1055	86.53	86.59	86.55	86.42	86.35	86.43	86.62	86.43	86.28	86.05	87.11	87.11	87.02	87.20
1055.5	86.63	86.65	86.59	86.58	86.46	86.50	86.66	86.44	86.25	86.13	87.02	87.09	87.16	87.23
1056	86.59	86.60	86.56	86.57	86.46	86.57	86.68	86.50	86.27	86.16	87.05	87.19	87.02	87.24
1056.5	86.67	86.66	86.57	86.56	86.40	86.51	86.63	86.42	86.24	86.06	87.18	87.15	87.15	87.18
1057	86.61	86.64	86.60	86.60	86.48	86.53	86.67	86.39	86.12	86.16	87.26	87.10	87.03	87.15
1057.5	86.59	86.56	86.57	86.52	86.46	86.54	86.69	86.41	86.14	86.20	87.21	86.97	87.00	87.14
1058	86.58	86.59	86.57	86.57	86.49	86.50	86.70	86.44	86.07	86.23	87.20	87.12	87.16	87.23
1058.5	86.52	86.55	86.51	86.50	86.41	86.51	86.70	86.29	85.94	86.24	87.23	87.13	86.87	87.22
1059	86.55	86.50	86.48	86.49	86.38	86.48	86.65	86.13	85.97	86.37	87.31	87.16	87.16	87.25
1059.5	86.51	86.51	86.50	86.47	86.41	86.53	86.68	86.15	86.09	86.50	87.32	87.16	87.03	87.21
1060	86.48	86.52	86.45	86.43	86.32	86.41	86.67	86.09	86.13	86.50	87.23	87.01	86.99	87.18
1060.5	86.57	86.63	86.53	86.45	86.27	86.38	86.63	86.15	86.08	86.39	87.26	87.06	87.17	87.15
1061	86.60	86.67	86.55	86.45	86.30	86.28	86.53	86.20	86.08	86.36	87.28	87.04	87.03	87.27
1061.5	86.55	86.50	86.49	86.45	86.36	86.35	86.46	86.18	86.07	86.16	87.09	87.11	87.02	87.32

1062	86.52	86.47	86.45	86.43	86.35	86.45	86.55	86.26	86.00	86.08	86.88	87.01	87.16	87.34
1062.5	86.55	86.56	86.47	86.51	86.39	86.49	86.55	86.38	86.10	85.99	86.95	87.12	87.16	87.38
1063	86.63	86.58	86.55	86.55	86.42	86.52	86.55	86.37	86.08	86.23	87.17	87.21	87.16	87.33
1063.5	86.68	86.63	86.57	86.57	86.42	86.50	86.62	86.43	86.04	86.41	87.21	87.21	87.31	87.27
1064	86.75	86.69	86.57	86.54	86.43	86.52	86.56	86.38	86.11	86.49	87.21	87.21	87.02	87.19
1064.5	86.74	86.73	86.61	86.54	86.44	86.54	86.49	86.35	86.16	86.44	87.22	87.13	86.87	87.09
1065	86.72	86.73	86.65	86.58	86.46	86.56	86.59	86.31	86.04	86.52	87.24	87.06	86.87	87.10
1065.5	86.81	86.80	86.67	86.61	86.51	86.52	86.65	86.35	86.03	86.34	87.19	87.04	86.87	87.09
1066	86.70	86.67	86.65	86.54	86.48	86.52	86.62	86.36	86.13	86.30	87.12	86.98	87.01	87.13
1066.5	86.54	86.51	86.47	86.49	86.41	86.48	86.67	86.35	86.22	86.27	87.10	86.88	87.01	87.16
1067	86.60	86.62	86.56	86.51	86.40	86.52	86.73	86.43	86.17	85.99	87.02	87.02	87.02	87.24
1067.5	86.59	86.53	86.46	86.49	86.42	86.50	86.75	86.53	85.97	85.73	87.05	87.14	87.16	87.27
1068	86.59	86.57	86.51	86.48	86.40	86.40	86.69	86.45	85.80	85.79	87.14	87.18	86.86	87.23
1068.5	86.59	86.56	86.52	86.45	86.35	86.52	86.69	86.28	85.79	86.05	87.18	87.14	86.87	87.20
1069	86.50	86.52	86.45	86.47	86.32	86.47	86.70	86.21	85.91	85.93	86.79	86.82	86.87	87.27
1069.5	86.35	86.36	86.33	86.38	86.35	86.45	86.69	86.07	85.85	85.79	86.57	86.73	86.87	87.29
1070	86.40	86.43	86.37	86.38	86.32	86.46	86.63	85.98	85.86	85.80	86.54	86.98	87.16	87.32
1070.5	86.37	86.40	86.39	86.41	86.32	86.45	86.55	86.00	85.97	85.87	86.57	87.11	87.02	87.33
1071	86.47	86.50	86.42	86.39	86.34	86.39	86.55	86.07	85.96	85.95	86.69	87.17	87.01	87.29
1071.5	86.49	86.46	86.42	86.44	86.38	86.43	86.59	86.27	85.97	85.98	86.88	87.18	86.87	87.16
1072	86.37	86.40	86.39	86.42	86.36	86.40	86.49	86.30	86.02	85.95	86.96	87.05	87.02	87.13
1072.5	86.35	86.35	86.37	86.37	86.34	86.37	86.49	86.26	86.00	85.95	86.97	87.04	87.01	87.09
1073	86.36	86.35	86.27	86.28	86.18	86.25	86.46	86.30	86.17	85.99	86.89	87.02	86.87	87.11
1073.5	86.37	86.35	86.25	86.24	86.15	86.22	86.44	86.30	86.19	85.78	86.87	86.98	86.87	87.15
1074	86.35	86.32	86.24	86.26	86.20	86.28	86.42	86.27	86.00	85.79	87.03	87.07	86.87	87.22
1074.5	86.34	86.31	86.25	86.26	86.23	86.31	86.48	86.26	85.82	85.80	87.19	87.16	87.03	87.25
1075	86.32	86.29	86.24	86.23	86.23	86.29	86.49	86.10	85.83	86.04	87.22	87.16	86.87	87.22
1075.5	86.14	86.15	86.08	86.14	86.11	86.22	86.48	86.20	85.87	86.08	87.17	87.07	87.16	87.16
1076	86.23	86.17	86.10	86.09	86.03	86.15	86.47	86.28	85.91	86.03	87.15	87.00	86.87	87.14
1076.5	86.24	86.29	86.21	86.13	86.03	86.19	86.47	86.29	86.00	85.98	87.19	87.03	86.87	87.09
1077	86.25	86.35	86.24	86.21	86.10	86.25	86.39	86.29	86.07	86.08	87.19	87.01	86.87	87.09
1077.5	86.32	86.29	86.22	86.22	86.08	86.23	86.30	86.14	86.18	86.25	87.23	87.08	86.87	87.08
1078	86.28	86.26	86.19	86.13	86.04	86.17	86.28	86.12	85.99	86.04	87.17	87.01	86.58	87.02
1078.5	86.27	86.16	86.08	86.11	86.01	86.15	86.37	86.12	85.89	85.87	87.14	86.88	86.87	86.97
1079	86.27	86.16	86.14	86.09	86.01	86.14	86.38	85.82	85.87	85.82	87.00	86.87	86.87	86.97
1079.5	86.31	86.35	86.21	86.13	86.04	86.11	86.40	85.80	85.79	85.80	86.74	86.90	86.59	87.01
1080	86.37	86.37	86.29	86.24	86.09	86.17	86.37	85.81	85.75	85.72	86.52	86.92	86.87	87.00
1080.5	86.29	86.34	86.28	86.29	86.11	86.17	86.21	85.79	85.78	85.72	86.49	86.89	86.87	87.03
1081	86.29	86.29	86.27	86.25	86.15	86.23	86.32	85.94	85.76	85.77	86.63	86.96	87.02	87.01
1081.5	86.23	86.22	86.22	86.21	86.15	86.20	86.34	86.07	85.79	85.79	86.82	86.86	86.59	86.89
1082	86.29	86.29	86.19	86.16	86.09	86.13	86.36	86.14	85.85	85.83	86.81	86.73	86.42	86.67

1082.5	86.27	86.26	86.22	86.21	86.12	86.16	86.36	86.20	85.82	85.96	86.86	86.66	86.44	86.68
1083	86.23	86.22	86.16	86.15	86.10	86.22	86.40	86.11	85.73	85.92	86.86	86.66	86.44	86.78
1083.5	86.12	86.13	86.13	86.09	85.98	86.12	86.39	86.02	85.78	85.87	86.77	86.71	86.59	86.85
1084	86.16	86.17	86.14	86.12	86.03	86.12	86.36	85.82	85.65	85.90	86.74	86.58	86.59	86.87
1084.5	86.20	86.20	86.17	86.10	86.04	86.17	86.35	85.65	85.53	85.74	86.75	86.68	86.45	86.82
1085	86.18	86.17	86.17	86.12	86.07	86.13	86.27	85.63	85.63	85.78	86.81	86.75	86.59	86.84
1085.5	86.13	86.10	86.04	86.08	86.02	86.15	86.26	85.77	85.66	85.93	86.88	86.74	86.59	86.87
1086	86.16	86.14	86.07	86.05	85.96	86.12	86.27	85.94	85.79	86.06	86.90	86.76	86.59	86.87
1086.5	86.09	86.14	86.06	86.06	85.97	86.09	86.24	86.02	85.78	85.94	86.97	86.82	86.58	86.86
1087	86.13	86.14	86.06	86.08	85.98	86.12	86.23	86.08	85.82	85.90	86.82	86.82	86.73	86.84
1087.5	86.12	86.12	86.04	86.06	85.98	86.09	86.24	86.09	85.81	85.78	86.74	86.78	86.58	86.80
1088	86.21	86.18	86.10	86.09	85.98	86.07	86.21	86.12	85.87	85.73	86.74	86.78	86.74	86.87
1088.5	86.24	86.30	86.18	86.17	86.03	86.11	86.24	86.12	85.86	85.64	86.56	86.85	86.74	86.98
1089	86.14	86.19	86.21	86.13	86.03	86.11	86.28	86.10	85.97	85.67	86.71	86.89	86.58	86.97
1089.5	86.00	85.94	85.96	86.04	85.95	86.06	86.26	86.08	85.95	85.76	86.92	86.84	86.59	86.94
1090	86.10	86.14	86.04	86.02	85.93	86.06	86.24	86.07	85.85	85.79	86.73	86.67	86.59	86.92
1090.5	86.07	86.10	86.04	85.99	85.90	86.06	86.23	85.95	85.78	85.69	86.58	86.70	86.71	86.91
1091	86.17	86.16	86.09	86.08	85.96	86.12	86.26	85.84	85.73	85.60	86.63	86.74	86.87	86.97
1091.5	86.11	86.12	86.09	86.04	86.01	86.11	86.26	85.82	85.64	85.49	86.41	86.82	86.87	86.93
1092	86.17	86.15	86.05	86.03	85.97	86.11	86.24	85.69	85.52	85.41	86.27	86.81	86.58	86.93
1092.5	86.17	86.17	86.06	86.02	85.91	86.07	86.24	85.68	85.53	85.43	86.33	86.79	86.87	86.92
1093	86.25	86.26	86.13	86.11	85.98	86.12	86.30	85.80	85.50	85.39	86.36	86.83	86.73	86.94
1093.5	86.27	86.30	86.17	86.09	86.06	86.17	86.28	85.98	85.52	85.46	86.38	86.84	87.00	86.95
1094	86.22	86.29	86.20	86.15	86.05	86.22	86.36	86.10	85.65	85.52	86.52	86.87	86.87	86.95
1094.5	86.15	86.09	86.09	86.12	86.08	86.16	86.37	86.11	85.76	85.73	86.76	86.86	86.73	86.91
1095	86.15	86.16	86.10	86.11	86.08	86.19	86.42	86.07	85.69	85.87	86.83	86.84	86.59	86.84
1095.5	86.09	86.09	86.02	86.07	86.05	86.17	86.34	85.87	85.60	85.79	86.88	86.76	86.59	86.75
1096	86.11	86.12	86.05	86.01	85.97	86.11	86.26	85.72	85.63	85.65	86.85	86.70	86.58	86.77
1096.5	86.12	86.13	86.03	86.01	85.93	86.10	86.11	85.65	85.65	85.69	86.86	86.74	86.59	86.78
1097	85.97	86.04	86.07	86.06	85.94	86.08	86.22	85.72	85.70	85.81	86.68	86.71	86.45	86.70
1097.5	85.95	85.98	85.95	85.99	85.95	85.94	86.21	85.82	85.76	85.85	86.62	86.65	86.58	86.74
1098	86.07	86.06	86.00	85.95	85.89	85.95	86.24	85.90	85.78	85.89	86.74	86.67	86.44	86.76
1098.5	86.17	86.16	85.96	85.99	85.90	85.99	86.22	85.97	85.70	85.71	86.63	86.66	86.43	86.75
1099	86.07	86.07	85.96	85.89	85.89	86.03	86.24	85.97	85.72	85.67	86.51	86.63	86.59	86.81
1099.5	86.05	86.07	85.98	85.95	85.84	86.03	86.22	85.98	85.76	85.64	86.55	86.62	86.59	86.84
1100	86.09	86.09	86.05	86.01	85.88	86.01	86.25	85.97	85.69	85.70	86.75	86.74	86.46	86.84
1100.5	85.99	85.99	85.96	85.99	85.91	86.01	86.22	85.99	85.51	85.81	86.79	86.68	86.72	86.80
1101	85.93	85.89	85.91	85.95	85.89	86.01	86.24	86.03	85.43	85.71	86.88	86.63	86.59	86.80
1101.5	86.00	85.97	85.92	85.92	85.83	85.96	86.19	86.02	85.45	85.75	86.82	86.67	86.73	86.79
1102	86.02	86.01	85.95	85.96	85.87	85.98	86.19	85.97	85.48	85.75	86.87	86.70	86.58	86.68
1102.5	86.02	85.94	85.87	85.97	85.88	86.02	86.23	85.75	85.50	85.83	86.86	86.64	86.44	86.68

1103	85.97	85.96	85.98	85.96	85.86	86.04	86.24	85.88	85.60	85.94	86.81	86.65	86.59	86.73
1103.5	86.04	86.02	85.92	85.90	85.84	85.93	86.25	86.00	85.74	85.91	86.83	86.65	86.59	86.74
1104	86.02	86.03	85.97	85.94	85.83	85.92	86.21	86.05	85.91	85.80	86.82	86.63	86.59	86.72
1104.5	86.05	86.01	86.03	85.98	85.86	85.89	86.21	86.07	85.79	85.77	86.82	86.71	86.59	86.79
1105	85.97	86.08	85.98	85.97	85.85	85.97	86.15	86.06	85.61	85.45	86.88	86.73	86.58	86.74
1105.5	85.99	86.04	85.93	85.99	85.91	85.97	86.16	86.02	85.43	85.24	86.89	86.68	86.59	86.68
1106	85.97	85.97	85.96	85.98	85.89	85.99	86.16	85.98	85.40	85.30	86.71	86.61	86.30	86.70
1106.5	86.02	85.99	85.93	85.99	85.89	86.03	86.13	85.90	85.42	85.31	86.63	86.66	86.44	86.69
1107	86.02	85.99	85.96	86.01	85.91	86.06	86.17	85.97	85.55	85.46	86.42	86.64	86.59	86.65
1107.5	86.04	86.02	85.98	86.00	85.93	86.08	86.22	86.07	85.81	85.49	86.43	86.65	86.58	86.62
1108	86.09	86.07	85.97	85.91	85.79	85.93	86.16	85.98	86.01	85.60	86.54	86.66	86.59	86.65
1108.5	85.87	85.82	85.80	85.82	85.70	85.87	86.10	85.96	85.98	85.57	86.60	86.64	86.42	86.70
1109	85.80	85.78	85.76	85.78	85.75	85.92	86.09	85.92	85.84	85.54	86.73	86.68	86.59	86.79
1109.5	85.88	85.88	85.76	85.71	85.61	85.91	86.11	85.73	85.51	85.38	86.47	86.69	86.43	86.77
1110	85.92	85.96	85.87	85.79	85.63	85.86	86.10	85.55	85.43	85.36	86.14	86.67	86.30	86.72
1110.5	86.03	86.04	85.93	85.84	85.72	85.85	86.07	85.74	85.43	85.33	86.29	86.64	86.44	86.68
1111	85.98	85.98	85.91	85.87	85.80	85.90	86.09	85.70	85.43	85.31	86.47	86.61	86.59	86.63
1111.5	85.92	85.84	85.86	85.88	85.78	85.87	86.10	85.82	85.58	85.30	86.52	86.57	86.44	86.65
1112	85.95	85.87	85.80	85.85	85.79	85.90	86.10	85.91	85.65	85.39	86.55	86.57	86.44	86.63
1112.5	85.95	85.97	85.89	85.88	85.78	85.92	86.10	85.95	85.58	85.56	86.63	86.51	86.44	86.63
1113	85.91	85.90	85.84	85.86	85.80	85.88	86.09	85.96	85.51	85.42	86.65	86.53	86.43	86.67
1113.5	86.00	86.00	85.96	85.91	85.83	85.93	86.11	85.94	85.43	85.47	86.54	86.55	86.30	86.69
1114	86.02	85.99	85.89	85.89	85.86	85.92	86.11	85.87	85.40	85.36	86.38	86.48	86.30	86.65
1114.5	85.81	85.75	85.72	85.82	85.83	85.97	86.11	85.88	85.38	85.35	86.27	86.50	86.30	86.66
1115	85.85	85.89	85.76	85.74	85.70	85.81	86.12	85.89	85.41	85.31	86.36	86.49	86.29	86.58
1115.5	85.94	85.98	85.86	85.84	85.70	85.80	86.09	85.70	85.37	85.46	86.50	86.47	86.43	86.62
1116	85.86	85.81	85.80	85.87	85.75	85.80	85.93	85.52	85.39	85.52	86.54	86.48	86.44	86.69
1116.5	85.89	85.88	85.83	85.81	85.72	85.80	85.81	85.50	85.34	85.34	86.31	86.57	86.44	86.69
1117	85.94	85.95	85.85	85.81	85.74	85.77	85.70	85.46	85.34	85.28	86.09	86.56	86.29	86.57
1117.5	86.07	85.99	85.87	85.85	85.79	85.83	85.76	85.52	85.35	85.18	86.07	86.46	86.45	86.60
1118	86.06	85.99	86.00	85.92	85.73	85.82	85.91	85.72	85.36	85.19	85.94	86.19	86.30	86.56
1118.5	86.05	85.98	85.89	85.90	85.80	85.84	85.95	85.73	85.45	85.32	86.06	86.34	86.29	86.58
1119	86.02	86.03	85.89	85.94	85.85	85.89	85.98	85.67	85.46	85.46	86.14	86.49	86.30	86.57
1119.5	85.94	85.92	85.89	85.91	85.80	85.78	86.00	85.62	85.44	85.36	86.22	86.50	86.29	86.59
1120	85.89	85.95	85.86	85.89	85.73	85.82	86.00	85.77	85.48	85.28	86.40	86.52	86.29	86.62
1120.5	85.95	85.97	85.86	85.87	85.76	85.85	86.03	85.81	85.52	85.30	86.51	86.51	86.15	86.56
1121	85.89	85.86	85.78	85.87	85.75	85.87	86.03	85.77	85.48	85.39	86.41	86.43	86.29	86.49
1121.5	85.88	85.98	85.82	85.86	85.79	85.84	86.02	85.78	85.50	85.39	86.39	86.43	86.30	86.49
1122	85.99	86.01	85.86	85.84	85.72	85.87	85.90	85.71	85.49	85.40	86.38	86.47	86.30	86.56
1122.5	85.90	85.91	85.81	85.78	85.70	85.82	85.90	85.59	85.44	85.41	86.49	86.43	86.28	86.63
1123	85.87	85.85	85.85	85.84	85.75	85.87	86.00	85.60	85.50	85.64	86.53	86.50	86.29	86.70

1123.5	85.96	86.01	85.93	85.91	85.75	85.90	86.03	85.65	85.55	85.40	86.61	86.58	86.30	86.68
1124	85.79	85.85	85.81	85.91	85.83	85.91	85.99	85.59	85.47	85.39	86.60	86.59	86.58	86.58
1124.5	85.92	85.93	85.92	85.92	85.83	85.97	86.07	85.54	85.39	85.37	86.32	86.52	86.30	86.50
1125	85.90	85.97	85.93	85.95	85.83	86.00	86.14	85.75	85.37	85.33	86.20	86.48	86.44	86.50
1125.5	85.89	85.96	85.88	85.97	85.85	86.02	86.15	85.84	85.39	85.32	86.34	86.43	86.14	86.35
1126	85.99	86.00	85.92	85.94	85.82	86.06	86.17	85.70	85.39	85.49	86.47	86.40	86.31	86.42
1126.5	85.83	85.84	85.87	85.93	85.75	85.94	86.11	85.81	85.39	85.57	86.45	86.27	85.85	86.35
1127	85.90	85.93	85.79	85.88	85.79	85.92	86.10	85.91	85.50	85.62	86.45	86.35	86.15	86.40
1127.5	85.92	85.95	85.89	85.84	85.81	85.95	86.11	85.93	85.58	85.71	86.46	86.36	86.29	86.46
1128	85.82	85.78	85.74	85.75	85.69	85.79	86.09	85.85	85.50	85.69	86.51	86.42	86.30	86.47
1128.5	85.69	85.67	85.66	85.61	85.48	85.67	85.96	85.87	85.42	85.45	86.55	86.37	86.00	86.36
1129	85.67	85.67	85.66	85.65	85.55	85.72	85.91	85.84	85.45	85.33	86.54	86.33	86.01	86.40
1129.5	85.72	85.73	85.72	85.72	85.58	85.72	85.93	85.85	85.39	85.33	86.44	86.33	86.30	86.43
1130	85.82	85.78	85.75	85.63	85.60	85.73	85.96	85.86	85.43	85.25	86.21	86.20	86.16	86.36
1130.5	85.72	85.69	85.60	85.60	85.51	85.73	85.95	85.75	85.50	85.31	86.12	86.27	86.16	86.38
1131	85.78	85.75	85.59	85.60	85.50	85.67	85.95	85.29	85.32	85.31	86.33	86.34	86.14	86.40
1131.5	85.68	85.69	85.68	85.63	85.46	85.64	85.95	85.17	85.30	85.45	86.45	86.28	86.16	86.41
1132	85.67	85.75	85.69	85.65	85.51	85.65	85.91	85.45	85.32	85.30	86.41	86.26	86.01	86.33
1132.5	85.70	85.68	85.67	85.67	85.53	85.73	85.94	85.64	85.34	85.43	86.45	86.29	86.15	86.35
1133	85.68	85.73	85.70	85.69	85.57	85.71	85.92	85.73	85.44	85.47	86.52	86.31	86.30	86.39
1133.5	85.80	85.86	85.78	85.73	85.64	85.74	85.91	85.73	85.48	85.42	86.49	86.30	86.02	86.47
1134	85.77	85.81	85.72	85.72	85.63	85.75	85.96	85.75	85.45	85.34	86.49	86.37	86.45	86.47
1134.5	85.95	85.91	85.83	85.82	85.75	85.75	86.01	85.77	85.37	85.59	86.54	86.35	86.15	86.30
1135	85.96	85.93	85.77	85.82	85.72	85.80	86.03	85.84	85.37	85.65	86.51	86.28	86.01	86.30
1135.5	85.87	85.90	85.77	85.77	85.72	85.80	86.09	85.85	85.45	85.56	86.50	86.29	86.15	86.37
1136	85.68	85.72	85.81	85.81	85.75	85.88	86.08	85.82	85.29	85.48	86.52	86.31	86.14	86.39
1136.5	85.62	85.59	85.59	85.74	85.77	85.90	86.08	85.83	85.21	85.26	86.47	86.25	86.00	86.39
1137	85.71	85.69	85.65	85.67	85.64	85.84	86.05	85.80	85.19	85.15	86.39	86.28	86.02	86.39
1137.5	85.69	85.72	85.61	85.63	85.54	85.70	86.00	85.72	85.18	85.01	86.30	86.31	86.00	86.33
1138	85.65	85.60	85.51	85.57	85.44	85.55	85.88	85.70	85.15	84.99	86.30	86.25	86.14	86.32
1138.5	85.51	85.51	85.56	85.56	85.48	85.59	85.82	85.66	85.13	85.14	86.33	86.24	86.28	86.34
1139	85.59	85.61	85.56	85.61	85.53	85.65	85.85	85.58	85.24	85.21	86.42	86.31	86.15	86.40
1139.5	85.66	85.68	85.59	85.61	85.55	85.65	85.80	85.57	85.24	85.21	86.39	86.35	86.15	86.40
1140	85.67	85.57	85.49	85.57	85.51	85.65	85.81	85.62	85.21	85.10	85.95	86.20	86.15	86.37
1140.5	85.74	85.66	85.52	85.54	85.51	85.62	85.80	85.57	85.19	85.08	85.80	86.04	86.29	86.30
1141	85.77	85.75	85.66	85.61	85.52	85.63	85.84	85.47	85.16	85.07	85.94	86.15	86.01	86.33
1141.5	85.77	85.79	85.71	85.69	85.60	85.64	85.78	85.35	85.11	85.08	86.17	86.24	86.30	86.36
1142	85.79	85.86	85.75	85.69	85.54	85.64	85.73	85.27	85.03	85.06	86.12	86.21	86.00	86.27
1142.5	85.78	85.82	85.72	85.72	85.64	85.74	85.83	85.23	85.06	85.04	86.15	86.20	86.16	86.32
1143	85.65	85.76	85.75	85.74	85.65	85.71	85.82	85.43	85.03	85.05	85.95	85.99	86.14	86.32
1143.5	85.82	85.86	85.79	85.72	85.68	85.76	85.90	85.65	85.21	85.09	85.94	85.97	86.01	86.37

1144	85.92	85.97	85.82	85.69	85.66	85.77	85.96	85.77	85.26	85.20	86.01	86.16	86.01	86.34
1144.5	85.91	85.88	85.72	85.79	85.67	85.78	85.99	85.77	85.24	85.13	86.15	86.21	86.00	86.33
1145	85.81	85.81	85.74	85.77	85.70	85.84	86.04	85.80	85.40	85.27	86.21	86.21	86.02	86.36
1145.5	85.77	85.75	85.70	85.77	85.72	85.85	86.01	85.72	85.39	85.30	86.14	86.28	86.15	86.37
1146	85.70	85.69	85.68	85.68	85.59	85.79	86.00	85.68	85.27	85.26	86.21	86.28	86.02	86.40
1146.5	85.53	85.54	85.46	85.51	85.56	85.77	85.97	85.64	85.13	85.36	86.26	86.23	86.14	86.37
1147	85.60	85.52	85.52	85.48	85.51	85.75	85.90	85.70	85.33	85.49	86.28	86.22	86.01	86.40
1147.5	85.59	85.56	85.48	85.53	85.50	85.65	85.83	85.69	85.34	85.29	86.25	86.14	86.00	86.33
1148	85.70	85.67	85.56	85.54	85.56	85.63	85.81	85.62	85.20	85.17	86.09	86.17	86.01	86.31
1148.5	85.57	85.54	85.56	85.54	85.46	85.63	85.80	85.48	85.11	85.07	86.17	86.23	86.01	86.34
1149	85.54	85.58	85.54	85.60	85.50	85.60	85.82	85.33	85.06	85.18	86.31	86.28	86.16	86.35
1149.5	85.49	85.62	85.62	85.63	85.51	85.61	85.77	85.34	85.09	85.12	86.14	86.24	86.00	86.29
1150	85.58	85.72	85.71	85.69	85.57	85.68	85.81	85.29	85.01	85.02	86.02	86.26	86.02	86.36
1150.5	85.60	85.63	85.67	85.62	85.52	85.60	85.87	85.31	85.06	85.06	85.98	86.19	86.15	86.35
1151	85.60	85.58	85.56	85.58	85.53	85.60	85.87	85.48	85.06	85.03	86.07	86.22	86.15	86.37
1151.5	85.54	85.53	85.55	85.57	85.51	85.60	85.79	85.44	84.96	84.92	85.80	86.22	86.00	86.33
1152	85.59	85.61	85.63	85.59	85.52	85.59	85.78	85.37	84.97	84.97	85.84	86.25	86.01	86.38
1152.5	85.76	85.74	85.69	85.64	85.51	85.62	85.78	85.32	85.06	85.01	85.82	86.26	86.01	86.40
1153	85.72	85.68	85.64	85.65	85.55	85.63	85.80	85.50	85.16	85.09	85.97	86.23	86.30	86.40
1153.5	85.90	85.88	85.80	85.75	85.62	85.69	85.87	85.64	85.14	85.09	86.07	86.29	86.01	86.31
1154	85.88	85.92	85.82	85.76	85.64	85.78	85.88	85.73	85.30	85.12	86.20	86.23	86.16	86.32
1154.5	85.96	86.01	85.86	85.81	85.68	85.75	85.84	85.48	85.23	85.20	86.25	86.19	86.01	86.28
1155	85.91	85.90	85.81	85.79	85.68	85.68	85.89	85.54	85.09	85.38	86.28	86.17	85.85	86.24
1155.5	85.92	85.93	85.84	85.80	85.70	85.80	85.92	85.43	85.29	85.39	86.25	86.17	86.00	86.30
1156	85.81	85.80	85.73	85.81	85.69	85.80	85.98	85.38	85.24	85.23	86.23	86.19	86.14	86.29
1156.5	85.74	85.71	85.64	85.75	85.61	85.75	85.91	85.44	85.23	85.20	86.01	86.22	86.01	86.33
1157	85.74	85.66	85.70	85.73	85.61	85.67	85.89	85.37	85.24	85.15	85.96	86.24	86.30	86.39
1157.5	85.67	85.67	85.63	85.64	85.61	85.69	85.87	85.34	85.23	85.11	85.95	86.19	86.01	86.33
1158	85.67	85.74	85.66	85.65	85.61	85.73	85.87	85.27	85.14	84.98	86.00	86.22	86.01	86.37
1158.5	85.70	85.73	85.70	85.69	85.63	85.69	85.90	85.21	85.07	84.93	86.14	86.29	86.15	86.35
1159	85.44	85.42	85.52	85.59	85.55	85.67	85.85	85.28	85.21	84.91	86.19	86.23	86.30	86.35
1159.5	85.54	85.57	85.56	85.57	85.51	85.63	85.85	85.42	85.20	84.98	86.12	86.25	86.01	86.34
1160	85.56	85.57	85.54	85.54	85.45	85.61	85.77	85.52	85.13	85.03	85.93	86.27	86.00	86.33
1160.5	85.64	85.57	85.56	85.51	85.43	85.55	85.70	85.41	85.08	85.07	85.84	86.20	86.15	86.34
1161	85.61	85.60	85.58	85.56	85.45	85.57	85.73	85.42	85.35	85.23	85.83	86.09	86.29	86.38
1161.5	85.62	85.65	85.56	85.58	85.46	85.60	85.78	85.52	85.47	85.34	85.95	86.20	86.01	86.37
1162	85.66	85.55	85.52	85.54	85.49	85.48	85.78	85.60	85.42	85.21	86.17	86.29	86.01	86.34
1162.5	85.59	85.63	85.58	85.54	85.47	85.47	85.77	85.27	85.22	85.23	86.28	86.25	85.85	86.30
1163	85.57	85.57	85.58	85.63	85.53	85.63	85.59	84.96	85.15	85.23	86.30	86.22	85.99	86.31
1163.5	85.60	85.61	85.62	85.67	85.62	85.69	85.73	85.05	85.13	85.24	86.31	86.20	86.01	86.30
1164	85.57	85.60	85.50	85.59	85.51	85.66	85.74	85.12	85.26	85.44	86.22	86.17	86.01	86.19

1164.5	85.62	85.60	85.49	85.58	85.53	85.56	85.74	85.21	85.34	85.44	86.06	86.17	86.01	86.21
1165	85.53	85.51	85.49	85.55	85.52	85.60	85.68	85.27	85.30	85.19	86.12	86.06	86.01	86.31
1165.5	85.57	85.55	85.44	85.49	85.45	85.60	85.73	85.29	85.23	85.10	85.95	85.94	85.86	86.24
1166	85.43	85.39	85.40	85.44	85.41	85.55	85.74	85.32	85.19	85.13	85.81	85.96	85.86	86.15
1166.5	85.41	85.37	85.37	85.39	85.33	85.41	85.69	85.35	85.09	85.14	85.82	86.04	86.02	86.13
1167	85.50	85.48	85.38	85.36	85.29	85.40	85.63	85.46	85.12	85.02	85.83	86.04	86.02	86.13
1167.5	85.46	85.47	85.34	85.38	85.19	85.43	85.64	85.50	85.13	85.09	85.81	86.04	86.15	86.15
1168	85.43	85.44	85.36	85.37	85.26	85.39	85.65	85.38	85.13	85.09	85.79	86.01	85.86	86.18
1168.5	85.45	85.49	85.41	85.40	85.31	85.38	85.63	85.26	85.06	84.98	85.65	85.99	85.85	86.07
1169	85.52	85.53	85.46	85.40	85.33	85.44	85.63	85.33	85.03	84.89	85.70	85.96	85.71	86.00
1169.5	85.52	85.50	85.44	85.42	85.35	85.46	85.64	85.41	85.24	85.04	85.90	85.99	85.86	86.06
1170	85.51	85.50	85.44	85.37	85.31	85.50	85.63	85.39	85.29	85.15	85.99	85.99	85.85	86.04
1170.5	85.45	85.49	85.45	85.41	85.33	85.48	85.66	85.30	85.11	85.03	85.99	85.93	85.85	86.04
1171	85.49	85.50	85.52	85.48	85.41	85.50	85.64	85.39	85.01	85.13	86.03	85.96	85.72	86.08
1171.5	85.49	85.51	85.47	85.44	85.36	85.46	85.64	85.48	85.06	85.19	86.09	85.99	85.86	86.06
1172	85.52	85.53	85.49	85.49	85.38	85.48	85.62	85.49	85.11	85.19	86.12	85.96	85.71	86.01
1172.5	85.51	85.52	85.48	85.49	85.36	85.48	85.66	85.52	85.18	85.32	86.08	85.93	85.71	86.07
1173	85.56	85.54	85.46	85.43	85.34	85.52	85.70	85.56	85.37	85.34	86.09	85.99	85.85	86.01
1173.5	85.53	85.50	85.43	85.42	85.41	85.49	85.73	85.60	85.43	85.36	86.12	86.01	85.86	86.02
1174	85.54	85.53	85.42	85.47	85.38	85.48	85.67	85.56	85.28	85.31	86.06	85.95	85.85	86.08
1174.5	85.56	85.55	85.42	85.48	85.38	85.48	85.64	85.54	85.14	84.98	85.93	86.01	85.86	86.14
1175	85.59	85.57	85.47	85.45	85.29	85.44	85.64	85.29	84.89	84.92	85.86	85.97	85.85	86.15
1175.5	85.48	85.46	85.39	85.40	85.31	85.48	85.66	85.06	84.92	84.85	85.77	86.02	86.00	86.10
1176	85.51	85.58	85.44	85.36	85.33	85.50	85.72	85.07	84.93	84.85	85.88	86.02	85.87	86.03
1176.5	85.49	85.50	85.42	85.41	85.33	85.46	85.67	85.22	84.98	84.98	86.00	85.97	85.72	85.98
1177	85.52	85.54	85.41	85.39	85.31	85.44	85.64	85.32	85.03	85.05	85.93	85.90	85.71	85.98
1177.5	85.54	85.52	85.45	85.41	85.33	85.42	85.67	85.43	85.18	85.01	85.70	85.92	86.00	86.00
1178	85.52	85.53	85.49	85.43	85.31	85.42	85.67	85.44	85.12	84.89	85.77	86.01	86.00	86.08
1178.5	85.52	85.46	85.46	85.43	85.28	85.48	85.69	85.33	84.96	84.79	85.96	86.01	85.85	86.07
1179	85.50	85.52	85.52	85.45	85.33	85.49	85.68	85.24	84.91	84.71	85.81	86.00	85.72	86.03
1179.5	85.58	85.52	85.50	85.46	85.43	85.51	85.68	85.19	84.88	84.79	85.73	85.95	85.73	86.03
1180	85.52	85.52	85.44	85.41	85.40	85.52	85.66	84.99	84.87	84.80	85.86	85.89	85.85	86.01
1180.5	85.49	85.58	85.44	85.42	85.39	85.50	85.67	85.25	84.92	85.01	85.88	85.87	85.70	85.99
1181	85.51	85.58	85.51	85.47	85.41	85.57	85.70	85.40	85.12	84.94	85.80	85.88	86.02	86.00
1181.5	85.51	85.56	85.48	85.47	85.34	85.57	85.76	85.50	85.12	84.83	85.70	85.82	85.71	86.01
1182	85.56	85.55	85.52	85.52	85.41	85.48	85.80	85.55	85.03	84.86	85.75	85.87	85.86	86.06
1182.5	85.59	85.57	85.53	85.55	85.41	85.50	85.77	85.55	84.98	84.80	85.90	85.91	85.86	86.05
1183	85.41	85.42	85.38	85.44	85.31	85.48	85.67	85.50	85.02	84.82	85.90	85.95	85.85	86.05
1183.5	85.45	85.40	85.42	85.40	85.31	85.47	85.72	85.47	84.99	84.85	85.86	85.99	85.73	86.10
1184	85.45	85.43	85.38	85.33	85.30	85.48	85.66	85.27	84.96	84.82	85.70	85.92	85.71	86.10
1184.5	85.42	85.44	85.39	85.33	85.21	85.45	85.66	85.03	84.90	84.80	85.86	85.92	85.85	86.07

1185	85.44	85.42	85.38	85.37	85.29	85.40	85.65	85.03	84.91	85.01	85.98	85.95	86.02	85.98
1185.5	85.41	85.42	85.35	85.33	85.21	85.35	85.57	85.07	84.90	84.90	85.87	85.92	85.71	86.01
1186	85.47	85.36	85.37	85.35	85.24	85.38	85.55	85.09	84.93	84.89	85.74	85.94	85.58	86.01
1186.5	85.51	85.46	85.42	85.29	85.18	85.37	85.52	85.20	85.02	84.89	85.70	85.92	85.71	86.07
1187	85.49	85.47	85.42	85.36	85.20	85.37	85.54	85.32	85.19	84.92	85.77	85.96	85.71	86.10
1187.5	85.52	85.56	85.41	85.33	85.31	85.41	85.59	85.39	85.15	84.85	85.83	85.95	85.85	86.11
1188	85.67	85.68	85.50	85.42	85.33	85.45	85.56	85.43	85.12	84.79	85.96	85.98	86.02	86.19
1188.5	85.51	85.49	85.40	85.39	85.33	85.39	85.54	85.18	84.92	84.78	85.94	85.98	85.85	86.12
1189	85.48	85.49	85.48	85.44	85.36	85.44	85.60	85.04	84.90	84.83	85.83	85.96	85.85	86.16
1189.5	85.53	85.57	85.50	85.48	85.32	85.46	85.65	85.27	84.98	84.93	85.79	85.99	85.86	86.21
1190	85.53	85.51	85.50	85.59	85.43	85.52	85.65	85.41	85.11	84.91	85.75	86.07	86.01	86.18
1190.5	85.72	85.70	85.59	85.61	85.49	85.55	85.68	85.39	85.17	84.94	85.74	86.10	86.15	86.19
1191	85.77	85.76	85.59	85.63	85.54	85.62	85.76	85.36	85.11	84.89	85.84	86.12	85.71	86.20
1191.5	85.77	85.75	85.64	85.63	85.58	85.67	85.77	85.32	84.98	84.85	85.93	86.08	86.00	86.19
1192	85.72	85.71	85.66	85.67	85.58	85.70	85.80	85.28	84.95	84.86	86.06	86.07	85.86	86.19
1192.5	85.54	85.52	85.47	85.54	85.61	85.65	85.78	85.14	85.07	84.88	85.76	86.01	85.86	86.22
1193	85.48	85.42	85.38	85.46	85.44	85.58	85.75	85.16	85.03	84.92	85.61	85.87	86.00	86.23
1193.5	85.57	85.57	85.46	85.51	85.32	85.35	85.70	85.05	85.01	84.94	85.68	85.96	85.86	86.18
1194	85.56	85.55	85.46	85.49	85.32	85.33	85.58	85.01	84.95	84.88	85.76	85.91	85.86	86.18
1194.5	85.46	85.47	85.36	85.37	85.28	85.34	85.46	84.97	84.90	84.92	85.89	85.89	86.00	86.20
1195	85.56	85.53	85.44	85.41	85.33	85.42	85.50	84.94	84.92	84.93	85.97	86.01	85.85	86.10
1195.5	85.50	85.48	85.47	85.45	85.39	85.47	85.59	85.16	84.93	84.84	85.85	85.95	85.73	86.10
1196	85.56	85.57	85.50	85.48	85.41	85.46	85.54	85.05	84.93	84.94	85.72	85.68	85.86	86.15
1196.5	85.57	85.63	85.52	85.47	85.43	85.46	85.62	85.21	85.01	85.04	85.65	85.68	85.72	86.14
1197	85.74	85.75	85.60	85.48	85.39	85.55	85.70	85.39	85.24	85.09	85.75	85.87	85.86	86.21
1197.5	85.74	85.70	85.62	85.61	85.41	85.49	85.65	85.48	85.32	85.07	85.90	86.03	85.86	86.21
1198	85.75	85.79	85.66	85.63	85.48	85.54	85.69	85.49	85.42	85.28	86.09	86.09	85.85	86.19
1198.5	85.89	85.78	85.76	85.71	85.59	85.60	85.73	85.45	85.26	85.39	86.14	86.12	86.01	86.21
1199	85.87	85.85	85.76	85.67	85.54	85.58	85.76	85.49	85.09	85.36	86.12	86.11	86.00	86.19
1199.5	85.77	85.81	85.76	85.72	85.61	85.69	85.84	85.55	85.11	85.29	85.93	86.06	85.72	86.19
1200	85.82	85.86	85.77	85.75	85.63	85.73	85.92	85.63	85.06	85.11	85.82	86.12	85.87	86.16
1200.5	85.81	85.79	85.74	85.71	85.67	85.77	85.90	85.64	85.06	85.05	85.74	86.08	86.00	86.16
1201	85.77	85.78	85.69	85.71	85.65	85.75	85.83	85.37	85.04	84.94	85.65	86.07	85.86	86.19
1201.5	85.74	85.76	85.72	85.66	85.57	85.72	85.88	85.47	85.05	85.01	85.74	86.02	85.71	86.19
1202	85.74	85.72	85.71	85.65	85.57	85.73	85.91	85.62	85.05	85.02	85.63	85.75	86.16	86.25
1202.5	85.69	85.63	85.57	85.54	85.53	85.75	85.91	85.54	85.07	85.11	85.71	86.01	86.01	86.25
1203	85.63	85.51	85.56	85.52	85.48	85.67	85.88	85.48	85.19	85.11	85.84	86.09	86.01	86.33
1203.5	85.70	85.60	85.57	85.52	85.43	85.65	85.85	85.51	85.24	85.16	85.95	86.04	86.01	86.37
1204	85.61	85.59	85.54	85.56	85.39	85.60	85.82	85.58	85.18	85.13	85.89	86.16	86.42	86.37
1204.5	85.70	85.74	85.62	85.61	85.51	85.60	85.81	85.57	85.20	85.17	85.90	86.23	86.15	86.31
1205	85.72	85.71	85.63	85.59	85.48	85.60	85.80	85.52	85.34	85.31	86.01	86.19	85.86	86.27

1205.5	85.67	85.73	85.67	85.64	85.51	85.58	85.80	85.60	85.49	85.40	86.04	86.12	86.15	86.34
1206	85.72	85.73	85.70	85.61	85.52	85.63	85.71	85.57	85.33	85.30	86.04	86.20	86.01	86.34
1206.5	85.69	85.76	85.72	85.66	85.50	85.68	85.77	85.43	85.11	85.15	86.09	86.22	86.00	86.33
1207	85.74	85.73	85.68	85.66	85.57	85.67	85.85	85.56	85.02	85.05	85.99	86.18	86.14	86.33
1207.5	85.74	85.75	85.68	85.67	85.57	85.64	85.83	85.46	85.06	85.06	86.05	86.27	86.29	86.40
1208	85.69	85.67	85.66	85.72	85.61	85.69	85.74	85.31	85.13	85.13	86.20	86.26	86.01	86.35
1208.5	85.75	85.82	85.74	85.71	85.61	85.70	85.75	85.27	85.28	85.25	86.09	86.24	86.14	86.39
1209	85.72	85.73	85.67	85.73	85.64	85.74	85.83	85.39	85.35	85.25	86.02	86.28	86.16	86.54
1209.5	85.73	85.75	85.67	85.67	85.63	85.73	85.90	85.61	85.32	85.17	85.93	86.36	86.30	86.53
1210	85.66	85.70	85.73	85.77	85.66	85.75	85.90	85.68	85.24	85.13	86.07	86.38	86.15	86.43
1210.5	85.68	85.69	85.74	85.66	85.58	85.71	85.88	85.70	85.24	85.15	86.15	86.30	86.29	86.40
1211	85.76	85.77	85.76	85.68	85.48	85.69	85.80	85.54	85.26	85.16	86.01	86.26	86.01	86.40
1211.5	85.77	85.79	85.72	85.74	85.58	85.70	85.83	85.42	85.28	85.19	85.93	86.28	86.00	86.45
1212	85.72	85.68	85.63	85.74	85.65	85.75	85.84	85.42	85.34	85.21	85.95	86.29	86.15	86.44
1212.5	85.74	85.74	85.73	85.77	85.62	85.79	85.91	85.38	85.34	85.26	86.16	86.31	86.01	86.40
1213	85.89	85.84	85.82	85.72	85.65	85.77	85.94	85.24	85.33	85.27	86.29	86.28	86.01	86.38
1213.5	85.92	85.88	85.79	85.68	85.62	85.77	85.94	85.18	85.26	85.23	86.23	86.23	86.30	86.37
1214	85.87	85.83	85.76	85.70	85.64	85.78	85.88	85.19	85.22	85.25	86.30	86.30	86.00	86.40
1214.5	85.82	85.78	85.71	85.71	85.64	85.82	85.92	85.43	85.29	85.36	86.30	86.31	86.14	86.39
1215	85.82	85.80	85.74	85.74	85.62	85.80	85.97	85.61	85.33	85.23	86.09	86.28	86.15	86.44
1215.5	85.83	85.78	85.77	85.77	85.63	85.77	85.94	85.68	85.33	85.26	85.97	86.33	86.15	86.47
1216	85.76	85.82	85.80	85.81	85.66	85.72	85.90	85.71	85.33	85.24	85.97	86.35	86.42	86.47
1216.5	85.80	85.78	85.74	85.71	85.65	85.72	85.96	85.71	85.33	85.20	86.01	86.33	86.30	86.46
1217	85.76	85.78	85.79	85.78	85.71	85.79	85.94	85.60	85.32	85.27	86.26	86.31	86.15	86.44
1217.5	85.81	85.85	85.82	85.79	85.67	85.78	85.91	85.50	85.40	85.37	86.36	86.30	86.02	86.44
1218	85.80	85.84	85.84	85.79	85.66	85.77	85.90	85.57	85.36	85.37	86.33	86.29	86.30	86.49
1218.5	85.82	85.81	85.80	85.81	85.71	85.80	85.81	85.48	85.34	85.42	86.28	86.26	86.15	86.52
1219	85.87	85.90	85.84	85.79	85.71	85.79	85.88	85.44	85.23	85.21	86.00	86.22	86.15	86.54
1219.5	85.87	85.91	85.86	85.79	85.67	85.77	85.92	85.62	85.21	85.20	85.88	86.13	86.14	86.57
1220	85.85	85.78	85.73	85.68	85.69	85.79	85.93	85.64	85.27	85.24	86.06	86.32	86.30	86.56
1220.5	85.74	85.63	85.70	85.71	85.62	85.77	85.83	85.42	85.29	85.30	86.26	86.42	86.15	86.50
1221	85.76	85.74	85.67	85.69	85.59	85.76	85.81	85.38	85.31	85.28	86.35	86.36	86.28	86.41
1221.5	85.84	85.82	85.68	85.68	85.59	85.70	85.81	85.31	85.31	85.34	86.38	86.29	86.14	86.44
1222	85.75	85.75	85.71	85.74	85.61	85.77	85.88	85.33	85.38	85.29	86.21	86.33	86.43	86.40
1222.5	85.78	85.80	85.79	85.80	85.64	85.70	85.83	85.36	85.44	85.41	86.15	86.31	86.00	86.46
1223	85.79	85.78	85.72	85.80	85.68	85.74	85.73	85.36	85.34	85.25	86.05	86.34	86.29	86.52
1223.5	85.90	85.84	85.77	85.79	85.70	85.80	85.78	85.40	85.27	85.17	85.99	86.43	86.30	86.51
1224	85.81	85.86	85.76	85.76	85.65	85.80	85.89	85.34	85.22	85.11	86.02	86.40	86.29	86.45
1224.5	85.85	85.88	85.82	85.83	85.71	85.80	85.96	85.62	85.18	85.18	85.96	86.27	86.29	86.46
1225	85.86	85.97	85.90	85.89	85.79	85.85	86.01	85.68	85.36	85.30	85.95	86.32	86.01	86.43
1225.5	85.96	85.97	85.94	85.95	85.75	85.85	86.06	85.62	85.23	85.23	86.03	86.33	86.01	86.44

1226	85.98	85.92	85.88	85.86	85.78	85.90	86.06	85.69	85.21	85.18	86.16	86.25	86.29	86.48
1226.5	85.94	85.88	85.86	85.81	85.73	85.90	86.08	85.76	85.33	85.33	86.32	86.33	86.28	86.54
1227	85.87	85.87	85.87	85.79	85.76	85.89	86.11	85.81	85.43	85.54	86.39	86.36	86.15	86.57
1227.5	85.87	85.88	85.80	85.79	85.69	85.87	86.00	85.81	85.34	85.47	86.36	86.36	86.14	86.61
1228	85.85	85.86	85.81	85.83	85.71	85.80	85.92	85.73	85.19	85.44	86.46	86.43	86.29	86.62
1228.5	85.81	85.89	85.82	85.80	85.65	85.81	85.92	85.63	85.18	85.31	86.36	86.44	86.29	86.57
1229	85.94	85.91	85.81	85.82	85.64	85.80	85.78	85.40	85.17	85.19	86.33	86.52	86.30	86.61
1229.5	85.86	85.83	85.84	85.81	85.71	85.79	85.87	85.48	85.11	85.17	86.32	86.47	86.30	86.57
1230	85.92	85.90	85.84	85.81	85.68	85.80	85.98	85.70	85.18	85.12	85.96	86.28	86.14	86.55
1230.5	86.08	86.08	86.01	85.99	85.83	85.84	85.98	85.79	85.21	85.13	85.86	86.37	86.14	86.51
1231	86.04	86.01	85.95	85.91	85.77	85.87	85.98	85.69	85.19	85.12	85.86	86.40	86.29	86.55
1231.5	86.01	85.98	85.99	85.94	85.78	85.88	86.00	85.79	85.37	85.22	86.02	86.46	86.29	86.59
1232	85.99	86.06	86.00	85.97	85.86	85.85	85.93	85.81	85.52	85.47	86.12	86.47	86.30	86.47
1232.5	85.97	85.98	86.02	85.97	85.85	85.84	85.99	85.70	85.38	85.34	86.21	86.37	86.14	86.43
1233	86.11	86.14	86.01	85.98	85.77	85.83	85.97	85.62	85.39	85.31	86.20	86.23	86.14	86.50
1233.5	86.09	86.11	86.08	86.03	85.88	85.94	86.05	85.59	85.39	85.25	86.06	86.31	86.29	86.55
1234	86.10	86.07	86.08	86.09	86.01	86.07	86.19	85.88	85.44	85.29	86.01	86.42	86.30	86.44
1234.5	86.07	86.07	86.04	86.04	85.98	86.05	86.29	85.95	85.42	85.27	86.07	86.36	86.30	86.49
1235	85.95	85.91	86.01	86.02	85.96	86.10	86.30	86.08	85.43	85.29	86.08	86.28	86.16	86.55
1235.5	85.97	86.00	86.03	86.04	85.93	85.99	86.19	86.04	85.45	85.42	86.19	86.39	86.30	86.52
1236	86.07	86.05	86.05	86.03	85.91	85.94	86.16	86.00	85.52	85.56	86.41	86.40	86.29	86.52
1236.5	86.04	85.96	85.88	85.96	85.90	85.91	86.06	85.93	85.54	85.65	86.53	86.47	86.29	86.62
1237	85.96	85.96	85.90	85.91	85.82	85.93	86.07	85.82	85.46	85.59	86.45	86.48	86.30	86.62
1237.5	85.91	85.94	85.90	85.92	85.80	85.94	86.08	85.78	85.56	85.58	86.43	86.50	86.45	86.67
1238	85.87	85.83	85.89	85.90	85.83	85.88	86.05	85.79	85.57	85.65	86.37	86.46	86.29	86.70
1238.5	86.00	85.95	85.88	85.87	85.76	85.87	86.05	85.85	85.54	85.51	86.27	86.52	86.59	86.73
1239	85.98	85.96	85.89	85.89	85.77	85.87	86.05	85.74	85.54	85.52	86.28	86.59	86.43	86.74
1239.5	85.97	85.93	85.89	85.86	85.80	85.91	85.96	85.67	85.48	85.48	86.36	86.62	86.29	86.80
1240	85.97	85.90	85.92	85.89	85.83	85.90	85.88	85.60	85.37	85.43	86.55	86.57	86.44	86.81
1240.5	85.99	85.97	85.86	85.91	85.86	85.92	85.97	85.50	85.40	85.43	86.36	86.66	86.59	86.81
1241	86.07	86.07	85.89	85.85	85.89	85.90	86.00	85.45	85.39	85.33	86.22	86.67	86.59	86.78
1241.5	86.12	86.11	85.99	85.93	85.91	85.90	85.95	85.54	85.41	85.38	86.11	86.65	86.43	86.74
1242	86.15	86.09	86.02	86.01	85.92	85.92	86.06	85.65	85.42	85.36	86.19	86.49	86.44	86.81
1242.5	86.19	86.19	86.06	86.01	85.91	85.99	86.09	85.54	85.40	85.39	86.10	86.54	86.87	86.84
1243	86.05	86.00	86.03	85.99	85.89	85.95	86.16	85.50	85.39	85.40	86.14	86.67	86.73	86.85
1243.5	86.03	85.88	85.91	86.00	85.94	86.01	86.14	85.39	85.38	85.41	86.42	86.69	86.59	86.82
1244	86.05	86.03	85.95	85.99	85.94	86.02	86.16	85.49	85.39	85.29	86.36	86.73	86.58	86.81
1244.5	86.15	86.15	85.98	85.89	85.89	86.10	86.24	85.80	85.41	85.29	86.27	86.68	86.45	86.84
1245	86.27	86.22	86.12	86.07	85.98	86.08	86.24	85.92	85.61	85.36	86.24	86.68	86.43	86.86
1245.5	86.14	86.15	86.12	86.14	86.04	86.12	86.26	85.70	85.50	85.41	86.33	86.75	86.58	86.81
1246	86.07	85.98	85.99	86.09	86.05	86.14	86.29	85.53	85.42	85.34	86.24	86.69	86.43	86.80

1246.5	86.09	86.06	86.02	86.05	85.99	86.12	86.27	85.70	85.43	85.46	86.22	86.67	86.44	86.82
1247	86.21	86.20	86.04	86.07	86.04	86.17	86.34	85.90	85.56	85.60	86.45	86.72	86.59	86.86
1247.5	86.22	86.18	86.08	86.09	86.00	86.07	86.31	86.04	85.65	85.71	86.63	86.73	86.58	86.80
1248	86.17	86.15	86.11	86.10	86.01	86.13	86.28	86.12	85.89	85.95	86.74	86.72	86.59	86.83
1248.5	86.19	86.11	86.09	86.11	86.02	86.16	86.30	86.10	85.81	85.87	86.51	86.67	86.59	86.82
1249	86.23	86.23	86.13	86.12	86.05	86.15	86.33	86.15	85.73	85.77	86.36	86.55	86.44	86.82
1249.5	86.24	86.16	86.17	86.13	86.05	86.12	86.32	86.13	85.78	85.55	86.37	86.68	86.43	86.86
1250	86.17	86.11	86.12	86.14	86.02	86.10	86.32	85.94	85.78	85.53	86.60	86.71	86.59	86.84
1250.5	86.20	86.19	86.04	86.09	86.03	86.12	86.30	85.85	85.71	85.53	86.61	86.77	86.87	86.87
1251	86.20	86.11	86.09	86.08	86.06	86.13	86.26	85.77	85.56	85.43	86.52	86.77	86.73	86.82
1251.5	86.23	86.17	86.17	86.18	86.03	86.07	86.27	85.68	85.52	85.52	86.58	86.76	86.59	86.78
1252	86.23	86.22	86.22	86.18	86.08	86.17	86.21	85.58	85.55	85.52	86.61	86.67	86.44	86.79
1252.5	86.27	86.33	86.25	86.18	86.03	86.16	86.30	85.81	85.50	85.53	86.57	86.71	86.44	86.72
1253	86.30	86.37	86.34	86.28	86.10	86.19	86.33	85.95	85.54	85.64	86.60	86.64	86.42	86.69
1253.5	86.24	86.31	86.27	86.33	86.20	86.21	86.35	85.94	85.67	85.77	86.65	86.66	86.72	86.84
1254	86.35	86.35	86.30	86.32	86.20	86.29	86.45	85.81	85.72	85.75	86.52	86.74	86.59	86.89
1254.5	86.33	86.29	86.27	86.28	86.18	86.29	86.49	85.85	85.75	85.63	86.39	86.80	86.59	86.95
1255	86.32	86.29	86.32	86.27	86.10	86.29	86.49	86.09	85.73	85.59	86.38	86.78	86.58	86.97
1255.5	86.33	86.34	86.30	86.31	86.15	86.23	86.43	86.15	85.72	85.59	86.49	86.75	86.71	86.98
1256	86.29	86.27	86.20	86.24	86.15	86.29	86.49	86.05	85.73	85.63	86.45	86.83	86.87	87.01
1256.5	86.32	86.32	86.26	86.24	86.18	86.30	86.46	85.92	85.78	85.69	86.57	86.87	86.73	87.03
1257	86.35	86.35	86.27	86.23	86.18	86.27	86.47	86.06	85.82	85.75	86.64	86.84	86.59	87.05
1257.5	86.24	86.25	86.27	86.23	86.13	86.22	86.38	86.15	85.84	85.75	86.50	86.88	86.87	87.11
1258	86.37	86.32	86.26	86.19	86.16	86.25	86.42	86.21	85.82	85.53	86.60	86.95	86.73	86.97
1258.5	86.43	86.42	86.36	86.29	86.18	86.29	86.43	86.14	85.76	85.53	86.55	86.92	86.73	86.97
1259	86.50	86.51	86.44	86.33	86.20	86.28	86.39	85.97	85.61	85.58	86.50	86.91	86.72	86.97
1259.5	86.50	86.50	86.45	86.39	86.27	86.43	86.54	86.03	85.61	85.64	86.64	86.95	86.74	87.05
1260	86.50	86.47	86.38	86.34	86.25	86.32	86.57	85.89	85.61	85.61	86.76	86.95	86.87	87.00
1260.5	86.34	86.35	86.37	86.36	86.28	86.34	86.55	85.92	85.67	85.69	86.76	86.92	86.72	86.99
1261	86.42	86.41	86.32	86.34	86.24	86.34	86.58	86.10	85.73	85.72	86.88	86.91	86.72	87.00
1261.5	86.41	86.38	86.32	86.34	86.23	86.35	86.57	86.26	85.76	85.78	86.71	86.91	86.72	87.02
1262	86.37	86.34	86.29	86.26	86.15	86.34	86.55	86.30	85.91	85.78	86.75	86.91	86.87	87.05
1262.5	86.43	86.32	86.33	86.34	86.20	86.35	86.53	86.33	85.99	85.73	86.76	86.98	87.02	87.04
1263	86.49	86.45	86.39	86.32	86.23	86.23	86.53	86.35	85.85	85.66	86.88	86.93	86.73	87.06
1263.5	86.50	86.50	86.45	86.38	86.22	86.26	86.53	86.30	85.97	85.67	86.96	86.92	86.73	87.00
1264	86.56	86.52	86.47	86.39	86.26	86.32	86.49	86.28	86.10	85.90	86.99	86.93	87.02	86.97
1264.5	86.52	86.51	86.39	86.45	86.28	86.36	86.49	86.26	86.06	86.07	86.95	86.86	86.56	86.94
1265	86.37	86.40	86.43	86.38	86.35	86.45	86.46	86.12	86.02	85.92	87.02	86.90	86.73	87.00
1265.5	86.44	86.49	86.43	86.39	86.29	86.40	86.50	86.09	85.86	85.77	86.92	86.93	86.86	87.04
1266	86.39	86.39	86.40	86.38	86.26	86.42	86.53	86.04	85.82	85.75	86.89	86.93	86.73	87.08
1266.5	86.32	86.29	86.29	86.29	86.23	86.42	86.56	86.14	85.85	85.77	86.80	86.96	86.87	87.14

1267	86.37	86.36	86.27	86.34	86.23	86.33	86.53	86.07	85.85	85.82	86.89	87.05	86.59	87.14
1267.5	86.32	86.36	86.29	86.31	86.22	86.37	86.54	86.05	85.85	85.83	86.98	87.03	87.15	87.10
1268	86.36	86.32	86.27	86.27	86.18	86.27	86.59	86.08	85.92	86.06	87.11	87.03	86.87	87.08
1268.5	86.37	86.39	86.30	86.28	86.18	86.32	86.60	86.10	86.05	85.98	87.07	87.06	86.73	87.10
1269	86.44	86.44	86.39	86.38	86.23	86.34	86.52	86.12	85.91	85.76	86.96	87.00	86.71	87.08
1269.5	86.44	86.51	86.42	86.41	86.28	86.31	86.51	86.25	85.86	85.84	86.75	87.01	87.01	87.06
1270	86.59	86.60	86.47	86.38	86.32	86.39	86.52	86.28	85.88	85.83	86.79	86.98	87.02	87.03
1270.5	86.61	86.58	86.55	86.46	86.33	86.35	86.58	86.36	85.83	85.94	86.96	86.97	86.74	87.01
1271	86.53	86.50	86.53	86.51	86.32	86.39	86.60	86.30	85.92	86.13	87.04	86.98	86.87	87.04
1271.5	86.58	86.60	86.52	86.50	86.37	86.48	86.65	86.30	85.93	85.98	86.97	87.01	86.87	87.00
1272	86.48	86.47	86.45	86.43	86.37	86.54	86.63	86.35	85.93	85.85	86.88	86.95	86.88	87.01
1272.5	86.47	86.51	86.45	86.42	86.36	86.50	86.64	86.32	85.96	85.81	86.84	86.98	86.88	87.14
1273	86.37	86.39	86.45	86.44	86.36	86.40	86.58	86.41	85.95	85.80	86.93	86.96	86.87	87.04
1273.5	86.47	86.56	86.56	86.48	86.40	86.42	86.53	86.38	85.92	85.79	86.76	86.86	86.87	87.04
1274	86.47	86.56	86.53	86.48	86.42	86.50	86.59	86.30	85.88	85.72	86.66	86.84	86.73	87.11
1274.5	86.52	86.53	86.53	86.47	86.36	86.52	86.56	86.18	85.78	85.73	86.66	86.96	86.59	87.08
1275	86.49	86.47	86.40	86.41	86.36	86.49	86.65	86.34	85.82	85.80	86.58	86.95	86.59	87.07
1275.5	86.48	86.47	86.45	86.44	86.27	86.38	86.64	86.43	85.93	85.82	86.60	86.88	86.72	87.08
1276	86.52	86.50	86.45	86.43	86.32	86.38	86.60	86.36	86.00	85.82	86.59	86.88	86.72	87.12
1276.5	86.37	86.37	86.41	86.37	86.25	86.39	86.60	86.37	86.10	85.87	86.47	86.97	86.72	87.16
1277	86.35	86.37	86.34	86.37	86.26	86.41	86.61	86.22	86.06	85.78	86.47	87.01	87.03	87.24
1277.5	86.39	86.39	86.31	86.31	86.21	86.34	86.55	86.07	85.91	85.75	86.68	87.10	87.01	87.19
1278	86.47	86.44	86.40	86.36	86.24	86.34	86.54	86.26	85.93	85.80	86.90	87.14	87.03	87.20
1278.5	86.48	86.42	86.39	86.34	86.17	86.22	86.51	86.29	85.86	85.61	86.79	87.10	87.01	87.22
1279	86.51	86.58	86.51	86.41	86.21	86.22	86.48	86.30	85.83	85.65	86.95	87.07	86.58	87.09
1279.5	86.57	86.47	86.52	86.46	86.28	86.29	86.52	86.25	85.84	85.95	87.00	87.00	86.87	87.11
1280	86.46	86.47	86.49	86.45	86.35	86.40	86.52	86.25	85.86	85.96	87.09	87.03	86.73	87.11
1280.5	86.56	86.59	86.52	86.45	86.35	86.45	86.56	86.30	85.94	86.19	87.12	87.00	86.73	87.17
1281	86.45	86.50	86.50	86.44	86.30	86.43	86.62	86.34	86.08	86.18	87.05	86.99	86.87	87.19
1281.5	86.46	86.45	86.43	86.41	86.33	86.47	86.65	86.37	86.08	86.10	87.09	87.09	86.87	87.16
1282	86.49	86.49	86.49	86.44	86.32	86.40	86.62	86.44	86.07	86.18	87.12	87.12	87.16	87.19
1282.5	86.53	86.51	86.43	86.40	86.31	86.45	86.63	86.45	86.06	86.08	87.00	87.04	86.88	87.20
1283	86.51	86.45	86.41	86.43	86.30	86.44	86.58	86.40	86.16	85.98	86.93	87.03	86.72	87.18
1283.5	86.53	86.50	86.43	86.48	86.38	86.45	86.55	86.35	86.04	85.90	86.95	87.11	86.87	87.17
1284	86.60	86.59	86.50	86.45	86.29	86.43	86.52	86.22	85.91	85.87	86.95	87.09	86.73	87.20
1284.5	86.54	86.44	86.49	86.46	86.34	86.38	86.32	86.04	85.89	85.90	87.00	87.11	87.01	87.19
1285	86.44	86.40	86.45	86.42	86.36	86.44	86.47	86.03	86.02	86.04	87.12	87.17	87.03	87.25
1285.5	86.43	86.48	86.45	86.42	86.30	86.45	86.57	86.22	86.08	86.10	87.12	87.19	87.03	87.33
1286	86.54	86.52	86.49	86.46	86.25	86.44	86.57	86.30	86.15	86.17	87.19	87.17	87.01	87.34
1286.5	86.62	86.56	86.56	86.54	86.38	86.46	86.63	86.40	86.15	86.03	87.18	87.19	87.16	87.26
1287	86.60	86.54	86.45	86.41	86.34	86.47	86.61	86.39	85.89	85.92	87.20	87.19	87.01	87.32

1287.5	86.58	86.58	86.49	86.41	86.32	86.42	86.60	86.36	85.87	86.18	87.20	87.16	87.16	87.28
1288	86.61	86.57	86.49	86.46	86.34	86.44	86.65	86.26	85.97	86.41	87.01	87.11	87.01	87.28
1288.5	86.60	86.61	86.58	86.53	86.42	86.45	86.57	86.30	86.10	86.18	86.69	87.03	86.87	87.25
1289	86.62	86.63	86.54	86.53	86.38	86.44	86.61	86.42	86.10	86.17	86.78	87.11	87.01	87.25
1289.5	86.62	86.65	86.59	86.54	86.41	86.47	86.64	86.43	86.10	86.20	87.06	87.17	87.01	87.21
1290	86.70	86.75	86.66	86.59	86.46	86.47	86.60	86.42	86.04	86.27	87.14	87.13	87.00	87.32
1290.5	86.62	86.71	86.66	86.64	86.48	86.53	86.63	86.43	86.01	86.33	87.17	87.22	87.16	87.36
1291	86.67	86.68	86.59	86.56	86.41	86.54	86.73	86.43	86.07	86.20	87.26	87.04	87.01	87.32
1291.5	86.65	86.63	86.57	86.49	86.40	86.49	86.75	86.44	86.08	86.12	87.15	87.05	87.02	87.23
1292	86.59	86.57	86.50	86.52	86.35	86.41	86.70	86.28	85.86	85.89	87.11	87.10	86.86	87.18
1292.5	86.58	86.55	86.54	86.53	86.38	86.42	86.67	86.04	85.84	86.02	87.00	86.91	86.87	87.22
1293	86.55	86.56	86.49	86.48	86.29	86.43	86.55	85.95	85.89	86.19	86.95	86.87	86.87	87.22
1293.5	86.41	86.45	86.45	86.47	86.28	86.41	86.39	85.94	85.99	86.10	86.79	86.89	87.01	87.15
1294	86.52	86.49	86.40	86.32	86.30	86.43	86.53	86.17	85.95	86.03	86.71	86.93	86.73	87.11
1294.5	86.56	86.53	86.37	86.33	86.17	86.39	86.54	86.32	85.96	86.20	86.89	86.97	86.86	87.10
1295	86.45	86.42	86.43	86.41	86.23	86.40	86.62	86.44	86.07	86.16	86.98	86.98	86.87	87.10
1295.5	86.50	86.48	86.44	86.44	86.31	86.42	86.58	86.39	86.16	86.21	86.93	86.94	86.87	87.09
1296	86.60	86.60	86.52	86.45	86.30	86.45	86.63	86.44	86.28	86.10	86.96	86.92	87.16	87.13
1296.5	86.62	86.59	86.56	86.47	86.35	86.49	86.63	86.48	86.34	86.18	86.90	87.05	87.02	87.16
1297	86.57	86.56	86.45	86.46	86.36	86.43	86.60	86.42	86.38	86.27	87.04	87.09	87.03	87.18
1297.5	86.49	86.50	86.50	86.45	86.29	86.42	86.60	86.40	86.12	86.45	87.17	87.05	86.73	87.06
1298	86.56	86.53	86.46	86.38	86.20	86.27	86.60	86.45	86.11	86.36	87.17	86.98	86.73	87.04
1298.5	86.55	86.57	86.47	86.36	86.21	86.32	86.54	86.36	86.10	86.25	87.07	87.00	86.72	87.06
1299	86.60	86.60	86.52	86.47	86.38	86.43	86.62	86.37	86.08	86.00	86.86	87.02	86.87	87.11
1299.5	86.66	86.66	86.57	86.48	86.35	86.47	86.70	86.40	86.07	85.80	86.83	87.06	86.73	87.13
1300	86.60	86.63	86.58	86.49	86.30	86.44	86.71	86.42	85.93	85.65	87.04	87.03	86.59	86.98
1300.5	86.58	86.60	86.55	86.49	86.36	86.45	86.65	86.40	85.79	85.86	87.07	86.96	86.59	86.94
1301	86.44	86.44	86.48	86.50	86.38	86.44	86.55	86.25	85.90	86.05	86.98	86.88	86.72	86.94
1301.5	86.31	86.39	86.41	86.41	86.32	86.47	86.54	86.00	85.93	86.07	86.81	86.85	86.58	86.97
1302	86.38	86.37	86.34	86.29	86.25	86.41	86.57	86.03	85.78	85.82	86.68	86.89	86.72	86.99
1302.5	86.37	86.35	86.28	86.24	86.11	86.22	86.52	86.19	85.70	85.75	86.74	86.98	86.87	87.03
1303	86.45	86.46	86.37	86.35	86.19	86.26	86.52	86.25	85.88	85.90	86.93	86.99	86.73	87.07
1303.5	86.55	86.52	86.44	86.39	86.24	86.31	86.55	86.22	85.93	86.10	87.03	87.00	86.72	87.06
1304	86.53	86.41	86.43	86.36	86.25	86.30	86.53	86.18	85.98	86.07	86.99	87.03	86.71	87.07
1304.5	86.55	86.50	86.39	86.39	86.25	86.36	86.53	86.21	85.98	85.98	87.02	87.00	86.87	87.08
1305	86.58	86.52	86.42	86.39	86.23	86.37	86.62	86.34	85.92	85.90	86.98	87.00	86.87	87.01
1305.5	86.55	86.52	86.42	86.37	86.26	86.37	86.63	86.24	85.91	85.87	86.90	86.80	86.73	87.07
1306	86.50	86.50	86.42	86.40	86.28	86.37	86.62	86.22	85.93	85.87	86.72	86.75	86.72	87.03
1306.5	86.48	86.47	86.38	86.34	86.27	86.38	86.62	86.30	85.99	85.94	86.71	86.91	86.58	87.12
1307	86.57	86.52	86.44	86.39	86.27	86.38	86.60	86.30	86.09	85.94	86.65	86.88	86.72	87.12
1307.5	86.57	86.50	86.42	86.36	86.28	86.44	86.61	86.37	86.19	86.01	86.72	86.97	86.87	87.15

1308	86.49	86.47	86.43	86.39	86.29	86.40	86.65	86.41	86.28	86.05	86.76	87.03	86.73	87.22
1308.5	86.55	86.54	86.45	86.45	86.31	86.40	86.66	86.30	86.10	85.95	86.69	87.07	86.74	87.20
1309	86.60	86.59	86.50	86.51	86.35	86.39	86.58	86.10	85.79	85.77	86.86	87.03	87.02	87.13
1309.5	86.48	86.44	86.48	86.46	86.35	86.44	86.62	86.32	85.70	85.67	86.87	87.03	87.01	87.11
1310	86.56	86.52	86.44	86.38	86.30	86.39	86.62	86.41	85.76	85.66	86.90	87.06	86.86	87.11
1310.5	86.65	86.67	86.55	86.43	86.28	86.41	86.64	86.45	86.12	85.72	86.93	87.01	86.72	87.13
1311	86.59	86.65	86.52	86.49	86.35	86.46	86.68	86.50	86.33	85.92	86.79	86.99	86.59	87.19
1311.5	86.56	86.58	86.52	86.48	86.36	86.43	86.69	86.53	86.40	86.02	86.79	86.98	86.87	87.20
1312	86.60	86.57	86.52	86.49	86.35	86.42	86.67	86.49	86.22	85.84	86.93	87.03	86.87	87.15
1312.5	86.65	86.65	86.56	86.51	86.39	86.47	86.63	86.38	86.25	85.96	87.04	87.02	86.73	87.19
1313	86.66	86.63	86.57	86.57	86.38	86.45	86.62	86.15	86.31	86.19	87.09	87.05	86.73	87.22
1313.5	86.68	86.69	86.63	86.57	86.30	86.47	86.66	86.22	86.29	86.33	87.07	87.00	86.88	87.22
1314	86.70	86.72	86.60	86.55	86.36	86.52	86.69	86.12	86.21	86.26	87.02	87.00	87.02	87.19
1314.5	86.74	86.74	86.61	86.59	86.45	86.52	86.70	86.17	86.23	86.07	86.82	86.97	86.87	87.15
1315	86.80	86.78	86.67	86.61	86.47	86.55	86.71	86.29	86.13	85.94	86.62	86.87	86.87	87.16
1315.5	86.87	86.81	86.68	86.67	86.48	86.52	86.71	86.39	86.13	85.88	86.49	86.95	86.87	87.18
1316	86.87	86.84	86.80	86.75	86.58	86.64	86.77	86.46	86.08	85.83	86.45	86.95	86.74	87.20
1316.5	86.74	86.73	86.72	86.71	86.54	86.59	86.83	86.43	85.96	85.75	86.69	87.01	86.72	87.15
1317	86.70	86.71	86.65	86.68	86.56	86.60	86.85	86.47	85.95	85.77	86.90	87.03	87.02	87.13
1317.5	86.65	86.65	86.67	86.61	86.51	86.59	86.78	86.50	86.06	86.07	87.00	87.03	86.87	87.09
1318	86.42	86.40	86.42	86.51	86.52	86.57	86.78	86.53	86.17	86.21	87.02	86.95	86.73	87.10
1318.5	86.40	86.39	86.40	86.44	86.38	86.53	86.76	86.43	85.98	85.85	86.77	86.76	86.73	87.04
1319	86.29	86.37	86.25	86.34	86.30	86.44	86.75	86.29	85.87	85.61	86.68	86.87	86.72	87.11
1319.5	86.47	86.40	86.37	86.36	86.27	86.46	86.70	86.38	85.95	85.67	86.73	86.96	86.71	87.15
1320	86.58	86.57	86.44	86.46	86.30	86.39	86.68	86.40	86.17	85.82	86.56	86.66	86.72	87.13
1320.5	86.57	86.52	86.47	86.43	86.30	86.42	86.65	86.46	86.35	85.81	86.47	86.78	86.72	87.08
1321	86.65	86.65	86.55	86.38	86.35	86.40	86.66	86.48	86.44	85.79	86.39	86.87	86.73	86.98
1321.5	86.68	86.68	86.62	86.52	86.43	86.53	86.72	86.47	86.41	85.76	86.63	86.89	86.44	87.04
1322	86.70	86.63	86.60	86.53	86.48	86.54	86.73	86.49	86.19	85.71	86.78	86.87	86.59	87.02
1322.5	86.58	86.50	86.49	86.39	86.30	86.39	86.65	86.51	85.99	85.54	86.71	86.87	86.73	87.07
1323	86.58	86.50	86.45	86.38	86.22	86.43	86.65	86.53	85.88	85.54	86.79	87.00	86.87	87.04
1323.5	86.52	86.50	86.41	86.40	86.20	86.39	86.55	86.43	85.78	85.61	86.82	86.94	86.72	86.93
1324	86.45	86.38	86.32	86.40	86.24	86.38	86.58	85.73	85.51	85.64	86.78	86.79	86.58	86.83
1324.5	86.41	86.41	86.35	86.36	86.24	86.37	86.55	85.56	85.51	85.65	86.71	86.76	86.43	86.90
1325	86.35	86.29	86.26	86.27	86.23	86.30	86.59	85.64	85.56	85.59	86.52	86.82	86.59	86.97
1325.5	86.35	86.35	86.29	86.24	86.18	86.33	86.53	86.04	85.69	85.52	86.23	86.74	86.87	86.98
1326	86.43	86.40	86.32	86.29	86.20	86.29	86.52	86.15	85.62	85.33	85.93	86.55	86.59	86.89
1326.5	86.37	86.35	86.26	86.29	86.16	86.23	86.49	86.21	85.53	85.33	85.90	86.58	86.73	86.92
1327	86.27	86.13	86.13	86.19	86.09	86.20	86.43	86.10	85.58	85.34	85.91	86.63	86.59	86.88
1327.5	86.06	86.01	86.04	86.12	86.05	86.20	86.45	86.11	85.71	85.31	86.04	86.64	86.30	86.78
1328	86.27	86.30	86.13	86.14	86.10	86.22	86.45	86.12	85.69	85.26	86.12	86.60	86.30	86.75

1328.5	86.27	86.27	86.20	86.21	86.09	86.22	86.47	86.11	85.56	85.14	86.03	86.60	86.30	86.79
1329	86.21	86.14	86.11	86.06	86.03	86.13	86.43	86.00	85.43	85.17	86.23	86.69	86.59	86.73
1329.5	86.23	86.24	86.14	86.09	85.96	86.12	86.37	85.64	85.40	85.24	86.42	86.61	86.44	86.62
1330	86.19	86.19	86.15	86.16	85.97	86.07	86.35	85.66	85.48	85.46	86.55	86.52	86.14	86.62
1330.5	86.23	86.12	86.15	86.13	86.00	86.13	86.40	85.82	85.69	85.52	86.45	86.43	86.45	86.63
1331	86.22	86.22	86.14	86.17	85.95	86.02	86.35	86.00	85.86	85.58	86.46	86.41	86.14	86.45
1331.5	86.23	86.13	86.13	86.14	85.99	86.12	86.34	86.02	85.94	85.76	86.51	86.33	86.15	86.46
1332	86.18	86.09	86.04	86.07	86.00	86.02	86.25	85.97	85.93	85.54	86.50	86.34	86.14	86.39
1332.5	86.22	86.13	86.03	86.05	85.96	86.03	86.27	85.91	85.71	85.36	86.48	86.36	86.30	86.38
1333	86.25	86.19	86.12	85.95	85.88	86.05	86.32	85.94	85.49	85.20	86.42	86.36	86.15	86.47
1333.5	86.30	86.33	86.16	86.07	85.92	86.06	86.24	85.97	85.46	85.27	86.45	86.45	86.15	86.53
1334	86.21	86.22	86.17	86.10	86.00	86.11	86.25	85.90	85.44	85.35	86.53	86.46	86.14	86.39
1334.5	86.20	86.18	86.11	86.05	86.00	86.09	86.11	85.69	85.30	85.24	86.42	86.33	85.99	86.26
1335	86.17	86.13	86.04	86.07	86.01	86.12	86.19	85.80	85.20	85.07	86.22	86.28	86.01	86.30
1335.5	86.20	86.11	86.07	86.01	85.86	85.95	86.23	85.90	85.16	85.00	86.22	86.25	86.15	86.37
1336	86.02	86.00	85.96	85.91	85.78	85.89	86.20	85.85	85.19	85.00	86.25	86.31	86.15	86.38
1336.5	85.93	85.91	85.90	85.92	85.79	85.89	86.19	85.82	85.21	85.23	86.29	86.29	86.01	86.25
1337	85.79	85.72	85.75	85.81	85.80	85.88	86.15	85.54	85.24	85.35	86.34	86.24	85.85	86.14
1337.5	85.87	85.86	85.85	85.83	85.74	85.91	85.99	85.24	85.18	85.31	86.34	86.17	85.85	86.17
1338	85.89	85.92	85.88	85.86	85.63	85.87	85.80	85.14	85.18	85.32	86.15	86.12	85.85	86.24
1338.5	86.07	86.04	85.96	85.92	85.75	85.87	85.87	85.19	85.17	85.06	85.72	86.03	86.01	86.27
1339	86.09	86.07	85.97	85.95	85.73	85.87	85.97	85.36	85.15	85.03	85.59	86.04	85.99	86.22
1339.5	85.99	86.09	86.04	85.99	85.81	85.91	86.02	85.52	85.13	85.02	85.76	86.06	85.85	86.10
1340	86.01	86.07	86.00	85.95	85.86	85.96	86.05	85.66	85.11	85.04	85.91	86.00	85.85	86.06
1340.5	86.03	86.03	85.92	85.89	85.75	85.93	85.98	85.77	85.07	85.07	86.01	86.03	85.86	86.17
1341	85.63	85.77	85.74	85.81	85.76	85.89	85.96	85.74	85.01	85.11	86.01	86.10	85.86	86.24
1341.5	85.72	85.78	85.75	85.74	85.71	85.85	86.02	85.53	85.13	85.16	86.02	86.04	86.14	86.20
1342	85.82	85.72	85.79	85.73	85.70	85.84	86.00	85.36	85.06	84.96	86.16	86.11	85.85	86.17
Average:	**85.57**	85.57	85.51	85.50	85.45	85.52	85.63	85.37	85.03	84.98	86.00	86.06	86.09	**86.32**
	Estimated 120719K1 Temperature Value: 85.57							**Estimated 120719K4 Temperature Value: 86.32**						

TABLE XI
TEMPERATURE ARRAY DATA FOR POSITION 2

Position 2: Time (X) vs. Temperature (Y)														
X	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	**Y11**	**Y12**	**Y13**	**Y14**
0	85.10	84.84	84.81	85.06	84.95	85.13	85.06	84.92	84.62	85.12	85.34	85.51	84.96	84.89
0.5	85.39	84.99	84.96	85.14	85.08	85.19	85.15	84.85	84.60	85.17	85.58	85.49	85.45	85.25
1	85.48	85.05	85.10	85.25	85.14	85.23	85.15	85.01	84.71	85.17	85.68	85.57	85.30	85.37
1.5	85.45	85.14	85.07	85.22	85.12	85.21	85.11	85.12	84.89	85.22	85.80	85.69	85.58	85.47
2	85.29	85.01	84.93	85.07	85.12	85.19	85.17	85.18	85.04	85.32	85.83	85.75	85.59	85.53
2.5	85.19	84.97	84.92	85.05	85.14	85.22	85.22	85.27	85.10	85.27	85.80	85.81	85.45	85.48
3	85.30	84.99	84.90	85.14	85.15	85.18	85.30	85.28	85.17	85.42	85.88	85.81	85.59	85.57
3.5	85.18	84.90	84.91	85.02	85.07	85.21	85.36	85.27	85.11	85.39	85.85	85.78	85.44	85.50
4	85.22	84.91	85.02	84.99	84.97	85.17	85.22	85.16	85.12	85.34	85.77	85.60	85.58	85.42
4.5	85.29	84.99	85.07	84.97	84.95	85.10	85.19	85.15	85.13	85.30	85.76	85.62	85.72	85.45
5	85.34	85.04	84.99	84.99	85.03	85.10	85.16	85.16	85.09	85.25	85.71	85.54	85.44	85.49
5.5	85.39	85.08	85.03	85.01	85.01	85.02	85.14	85.22	85.14	85.26	85.74	85.62	85.29	85.52
6	85.35	85.04	85.05	85.00	85.07	85.21	85.28	85.37	85.20	85.37	85.81	85.67	85.59	85.50
6.5	85.30	85.01	85.12	85.10	85.14	85.26	85.35	85.35	85.23	85.40	85.81	85.71	85.59	85.53
7	85.37	85.04	85.15	85.12	85.17	85.16	85.22	85.17	85.11	85.31	85.73	85.59	85.44	85.43
7.5	85.12	85.03	85.07	85.02	85.10	85.11	85.11	85.12	85.05	85.29	85.74	85.59	85.15	85.36
8	85.21	84.96	84.94	84.99	85.12	85.13	85.23	85.23	85.08	85.39	85.85	85.66	85.44	85.39
8.5	85.35	85.01	85.00	85.10	85.04	85.22	85.37	85.31	85.09	85.33	85.85	85.59	85.45	85.47
9	85.23	85.07	85.09	85.08	84.95	85.23	85.27	85.30	85.06	84.93	85.65	85.57	85.59	85.45
9.5	85.21	85.13	85.08	84.97	84.90	85.24	85.20	84.97	84.91	84.78	85.52	85.47	85.58	85.49
10	85.32	85.09	85.01	84.92	84.90	85.08	85.07	85.03	84.82	84.94	85.66	85.47	85.44	85.52
10.5	85.36	85.12	85.00	84.94	85.00	85.04	85.12	85.15	85.01	85.14	85.72	85.67	85.59	85.57
11	85.53	85.21	85.12	85.05	85.07	85.12	85.19	85.01	85.04	85.29	85.78	85.68	85.59	85.56
11.5	85.46	85.19	85.10	85.01	84.84	85.19	85.15	85.01	85.01	85.37	85.75	85.64	85.43	85.47
12	85.46	85.20	85.10	85.03	84.85	85.08	85.11	85.07	85.09	85.32	85.75	85.61	85.59	85.51
12.5	85.51	85.20	85.09	84.97	84.97	85.10	85.14	85.12	85.06	85.29	85.82	85.60	85.58	85.52
13	85.56	85.20	85.06	85.04	85.10	85.06	85.18	85.20	85.12	85.35	85.84	85.70	85.45	85.54
13.5	85.39	85.07	85.13	85.11	85.05	85.01	85.31	85.27	85.13	85.42	85.84	85.74	85.59	85.60
14	85.36	85.17	85.21	85.00	84.96	84.91	85.24	85.20	85.11	85.28	85.77	85.61	85.42	85.60
14.5	85.50	85.25	85.22	85.03	85.00	85.04	85.11	85.20	85.19	85.26	85.65	85.52	85.74	85.58
15	85.46	85.14	85.12	84.95	84.90	84.88	84.94	85.08	85.10	85.20	85.69	85.52	85.45	85.48
15.5	85.40	85.12	85.09	85.01	84.97	85.04	85.09	85.13	85.17	85.32	85.74	85.48	85.30	85.47
16	85.25	85.03	84.98	84.87	84.92	85.10	85.16	85.23	85.27	85.37	85.77	85.53	85.29	85.50
16.5	85.44	85.19	84.94	84.93	84.93	85.16	85.26	85.30	85.30	85.45	85.89	85.69	85.44	85.50
17	85.32	85.03	84.97	84.93	85.02	85.20	85.26	85.37	85.32	85.48	85.92	85.75	85.58	85.56
17.5	85.27	85.04	85.05	85.00	85.00	85.10	85.19	85.20	85.22	85.34	85.82	85.59	85.44	85.58
18	85.25	84.95	85.03	84.91	85.01	85.08	85.22	85.30	85.32	85.39	85.85	85.58	85.45	85.42

18.5	85.35	85.02	84.95	84.93	85.07	85.19	85.35	85.24	85.35	85.46	85.97	85.61	85.59	85.54
19	85.28	85.03	84.94	84.86	84.93	85.27	85.39	85.15	85.37	85.51	85.99	85.70	85.58	85.55
19.5	85.30	85.08	85.05	84.98	85.05	85.35	85.35	85.24	85.36	85.39	85.96	85.73	85.45	85.53
20	85.38	85.22	85.17	85.10	85.08	85.38	85.44	85.35	85.29	85.43	85.85	85.71	85.74	85.56
20.5	85.44	85.20	85.15	85.15	85.07	85.40	85.46	85.43	85.18	85.34	85.82	85.66	85.29	85.56
21	85.37	85.14	85.14	85.16	85.09	85.40	85.37	85.33	85.18	85.37	85.95	85.67	85.44	85.50
21.5	85.43	85.10	85.13	85.08	85.14	85.35	85.25	85.20	85.09	85.26	85.80	85.70	85.59	85.56
22	85.13	84.97	85.09	84.97	85.01	85.18	85.17	85.23	85.04	85.22	85.81	85.71	85.59	85.56
22.5	85.10	84.86	84.96	84.84	85.00	85.06	85.11	85.18	85.06	85.06	85.80	85.64	85.45	85.54
23	85.10	84.87	84.87	84.86	84.99	85.10	85.13	85.07	85.09	85.25	85.82	85.64	85.29	85.43
23.5	85.00	84.79	84.93	84.83	84.95	85.12	85.05	85.11	85.17	85.22	85.77	85.68	85.45	85.35
24	84.99	84.75	84.80	84.73	84.91	85.14	85.19	85.18	85.12	85.03	85.56	85.46	85.45	85.34
24.5	85.17	84.76	84.76	84.79	84.96	85.22	85.19	85.05	85.07	85.00	85.47	85.39	85.14	85.33
25	85.23	84.79	84.80	84.95	85.09	85.21	85.17	85.09	85.04	85.11	85.64	85.53	85.31	85.34
25.5	85.23	84.82	84.87	85.00	85.10	85.14	85.15	85.07	85.07	85.20	85.68	85.57	85.16	85.32
26	85.35	84.97	84.92	85.00	85.06	85.14	85.20	85.23	85.14	85.29	85.73	85.56	85.44	85.36
26.5	85.19	84.91	84.79	84.91	84.94	85.05	85.15	85.10	85.16	85.39	85.72	85.46	85.30	85.29
27	85.24	84.91	84.76	84.79	84.85	85.00	85.11	85.01	85.11	85.33	85.71	85.53	85.57	85.32
27.5	85.19	84.94	84.89	84.80	84.84	85.05	85.11	85.11	85.14	85.33	85.74	85.49	85.30	85.39
28	85.19	84.86	84.86	84.85	84.87	85.04	85.07	85.07	85.06	85.25	85.58	85.32	85.01	85.29
28.5	84.97	84.85	84.92	84.87	84.87	84.95	84.99	85.00	84.94	85.12	85.55	85.39	85.30	85.18
29	85.07	84.91	84.89	84.88	84.80	84.89	84.99	85.00	84.99	85.12	85.53	85.38	85.45	85.31
29.5	84.87	84.75	84.83	84.84	84.78	84.91	84.94	84.95	85.00	85.14	85.64	85.43	85.45	85.32
30	84.71	84.63	84.71	84.69	84.72	84.87	84.81	84.90	85.01	85.12	85.64	85.46	85.44	85.33
30.5	84.94	84.57	84.52	84.66	84.69	84.78	84.81	84.83	84.93	85.08	85.60	85.24	85.29	85.30
31	84.96	84.68	84.64	84.62	84.62	84.78	84.85	84.79	84.95	85.14	85.57	85.32	85.14	85.30
31.5	84.82	84.53	84.66	84.58	84.62	84.83	84.98	84.94	85.04	85.23	85.71	85.50	85.14	85.32
32	85.00	84.60	84.71	84.62	84.72	84.91	85.06	84.99	85.01	85.35	85.77	85.60	85.44	85.37
32.5	84.81	84.60	84.68	84.59	84.76	84.91	85.06	85.07	85.04	85.35	85.79	85.59	85.44	85.42
33	84.75	84.56	84.69	84.64	84.75	84.96	85.09	85.11	85.06	85.23	85.74	85.59	85.45	85.39
33.5	85.02	84.78	84.86	84.78	84.78	84.92	85.04	84.98	85.10	85.19	85.71	85.55	85.30	85.37
34	85.03	84.76	84.90	84.78	84.75	84.85	84.90	84.89	84.97	85.09	85.55	85.37	85.29	85.26
34.5	85.28	84.96	84.97	84.82	84.80	84.83	84.94	84.95	85.02	85.14	85.69	85.34	85.15	85.28
35	85.33	85.01	84.97	84.75	84.81	84.92	84.99	85.01	84.96	85.03	85.64	85.36	85.01	85.16
35.5	85.34	84.80	84.94	84.68	84.78	84.92	85.01	84.94	84.82	84.91	85.60	85.42	85.29	85.22
36	85.13	84.82	84.83	84.64	84.68	84.86	85.01	85.00	84.97	84.96	85.50	85.32	84.87	85.25
36.5	85.11	84.73	84.77	84.70	84.62	84.91	85.01	85.09	85.06	85.02	85.64	85.30	85.15	85.24
37	85.03	84.73	84.83	84.64	84.64	84.99	85.05	84.97	85.13	85.21	85.72	85.42	85.14	85.30
37.5	84.98	84.76	84.78	84.69	84.74	85.00	84.91	84.93	85.02	85.27	85.74	85.50	85.15	85.25
38	85.00	84.78	84.79	84.74	84.72	84.90	84.92	84.97	85.04	85.14	85.66	85.32	85.29	85.23
38.5	84.95	84.71	84.76	84.67	84.68	84.84	84.99	85.04	85.09	85.19	85.66	85.38	85.59	85.31

39	84.83	84.63	84.70	84.62	84.68	84.92	85.03	85.09	85.08	85.23	85.76	85.52	85.31	85.37
39.5	84.87	84.63	84.62	84.58	84.68	84.88	84.96	84.91	85.09	85.22	85.62	85.46	85.16	85.39
40	84.97	84.63	84.61	84.56	84.47	84.67	84.87	84.85	84.98	85.01	85.57	85.48	85.29	85.23
40.5	84.87	84.59	84.55	84.51	84.50	84.56	84.73	84.80	84.64	84.70	85.34	85.29	85.16	85.23
41	84.89	84.63	84.50	84.48	84.47	84.63	84.73	84.81	84.72	84.83	85.40	85.21	85.29	85.22
41.5	85.12	84.78	84.55	84.56	84.66	84.81	84.88	84.92	84.79	84.88	85.41	85.22	85.01	85.20
42	85.19	84.88	84.67	84.72	84.74	84.82	84.95	84.91	84.82	85.10	85.50	85.34	85.14	85.25
42.5	85.18	84.77	84.63	84.77	84.76	84.84	84.98	84.90	84.73	85.09	85.46	85.26	84.99	85.18
43	85.10	84.74	84.71	84.76	84.76	84.93	85.06	84.95	84.88	85.19	85.58	85.28	85.01	85.17
43.5	85.04	84.77	84.82	84.89	84.84	84.87	84.90	84.86	84.88	85.04	85.55	85.37	85.15	85.25
44	85.13	84.84	84.86	84.81	84.84	84.89	85.01	84.94	84.99	85.02	85.50	85.39	85.16	85.31
44.5	84.83	84.68	84.69	84.73	84.82	84.86	84.96	84.90	85.01	85.12	85.52	85.41	85.45	85.34
45	85.04	84.69	84.66	84.62	84.82	84.85	84.95	84.84	84.91	85.16	85.59	85.37	85.29	85.23
45.5	85.04	84.70	84.65	84.62	84.83	84.86	84.81	84.89	85.04	85.24	85.64	85.44	85.15	85.20
46	84.98	84.63	84.59	84.53	84.83	84.93	84.96	84.89	85.02	85.21	85.58	85.41	85.29	85.23
46.5	84.95	84.66	84.60	84.54	84.84	84.99	84.98	84.91	85.01	85.23	85.62	85.51	85.30	85.31
47	84.99	84.68	84.67	84.60	84.87	84.96	84.96	84.88	84.97	85.19	85.66	85.54	85.45	85.39
47.5	85.09	84.71	84.69	84.51	84.85	84.96	84.98	84.94	85.10	85.33	85.80	85.52	85.30	85.39
48	85.00	84.74	84.74	84.65	84.89	84.97	84.99	84.99	85.18	85.37	85.76	85.56	85.29	85.36
48.5	85.01	84.90	84.81	84.77	84.82	84.83	85.00	85.02	85.14	85.25	85.69	85.51	85.29	85.33
49	85.02	84.93	84.81	84.60	84.77	84.80	85.03	85.02	85.04	85.11	85.61	85.37	85.15	85.33
49.5	85.12	84.93	84.89	84.68	84.64	84.75	84.92	84.88	84.97	85.16	85.57	85.36	85.00	85.23
50	85.31	85.00	84.93	84.69	84.70	84.85	84.94	84.93	85.11	85.22	85.58	85.35	85.13	85.19
50.5	85.25	84.97	84.85	84.68	84.75	84.92	84.96	84.98	84.92	85.08	85.66	85.38	85.17	85.24
51	85.17	84.81	84.74	84.62	84.70	84.90	84.87	84.87	84.91	85.12	85.55	85.34	85.15	85.20
51.5	85.16	84.79	84.69	84.65	84.77	84.98	84.92	84.88	84.97	85.12	85.59	85.41	85.16	85.22
52	85.04	84.78	84.75	84.86	84.89	84.94	84.97	84.95	85.08	85.17	85.64	85.40	85.29	85.30
52.5	85.09	84.76	84.73	84.88	84.81	84.90	85.02	84.94	85.06	85.14	85.65	85.45	85.29	85.30
53	84.97	84.71	84.68	84.87	84.87	84.98	85.10	85.02	85.06	85.22	85.66	85.50	85.29	85.27
53.5	84.78	84.65	84.68	84.79	84.90	85.00	85.14	84.83	84.96	85.08	85.51	85.41	85.29	85.30
54	84.87	84.61	84.72	84.76	84.80	84.87	85.04	84.83	85.02	85.11	85.55	85.31	85.29	85.28
54.5	84.79	84.65	84.61	84.73	84.79	84.83	84.99	84.97	85.11	85.28	85.67	85.44	85.01	85.27
55	84.69	84.59	84.56	84.74	84.82	84.92	85.08	84.97	85.14	85.19	85.65	85.42	85.30	85.32
55.5	84.88	84.65	84.62	84.82	84.94	85.11	85.13	85.10	85.17	85.25	85.63	85.54	85.58	85.44
56	84.92	84.71	84.77	84.95	85.02	85.07	85.06	84.95	84.91	85.15	85.64	85.56	85.15	85.39
56.5	84.84	84.73	84.77	84.97	84.96	85.00	84.99	84.90	84.91	85.12	85.63	85.47	85.58	85.36
57	84.86	84.63	84.63	84.85	84.90	84.98	84.99	84.91	85.10	85.33	85.72	85.46	85.45	85.45
57.5	84.79	84.63	84.51	84.70	84.73	85.00	84.88	84.95	85.15	85.32	85.77	85.43	85.29	85.43
58	84.74	84.60	84.71	84.70	84.77	84.88	85.00	84.92	85.02	85.22	85.64	85.40	85.15	85.40
58.5	84.86	84.68	84.81	84.78	84.78	84.86	84.89	84.62	84.90	84.90	85.53	85.30	84.85	85.38
59	84.81	84.57	84.74	84.69	84.59	84.91	84.81	84.60	84.95	84.92	85.44	85.35	85.15	85.33

59.5	84.74	84.57	84.69	84.67	84.69	84.87	84.77	84.66	84.93	85.01	85.50	85.28	85.01	85.31
60	84.85	84.69	84.67	84.67	84.74	84.85	84.58	84.60	84.90	85.10	85.56	85.33	85.16	85.28
60.5	84.91	84.70	84.67	84.60	84.76	84.73	84.57	84.85	84.95	85.09	85.57	85.22	85.29	85.31
61	84.81	84.55	84.49	84.63	84.70	84.76	84.78	85.00	84.86	84.88	85.38	85.30	85.29	85.27
61.5	84.87	84.60	84.59	84.48	84.47	84.85	84.85	84.89	84.98	85.04	85.40	85.36	85.29	85.19
62	84.92	84.65	84.68	84.55	84.76	84.98	84.93	84.92	84.83	84.82	85.45	85.32	85.15	85.27
62.5	84.83	84.63	84.79	84.65	84.84	84.92	84.91	84.61	84.77	84.87	85.42	85.29	85.16	85.31
63	84.87	84.64	84.64	84.70	84.72	84.81	84.77	84.56	84.75	84.86	85.33	85.24	85.15	85.27
63.5	84.91	84.65	84.58	84.66	84.64	84.74	84.55	84.52	84.70	84.84	85.35	85.14	85.01	85.20
64	84.97	84.59	84.60	84.67	84.57	84.78	84.62	84.47	84.74	84.81	85.33	85.20	84.87	85.16
64.5	84.79	84.46	84.66	84.64	84.60	84.68	84.68	84.67	84.73	84.94	85.43	85.27	85.16	85.21
65	84.82	84.45	84.57	84.65	84.61	84.68	84.79	84.75	84.84	85.06	85.59	85.46	84.87	85.23
65.5	84.80	84.52	84.61	84.68	84.64	84.72	84.86	84.75	84.87	85.00	85.57	85.42	85.29	85.25
66	84.75	84.50	84.61	84.67	84.52	84.74	84.87	84.76	84.96	85.14	85.58	85.43	85.29	85.28
66.5	84.70	84.55	84.43	84.67	84.54	84.79	85.04	84.88	85.01	85.22	85.68	85.46	85.01	85.22
67	84.83	84.59	84.57	84.53	84.52	84.89	85.05	84.95	85.12	85.33	85.57	85.41	85.31	85.20
67.5	85.00	84.69	84.57	84.45	84.44	84.82	84.89	84.81	84.97	84.97	85.41	85.27	85.00	85.14
68	84.96	84.68	84.59	84.37	84.57	84.76	84.75	84.68	84.85	84.93	85.44	85.30	84.85	85.12
68.5	84.89	84.58	84.53	84.41	84.65	84.78	84.78	84.81	84.91	85.10	85.59	85.42	85.16	85.25
69	84.95	84.52	84.50	84.58	84.71	84.85	84.86	84.90	84.94	85.14	85.50	85.39	85.16	85.31
69.5	84.81	84.44	84.62	84.72	84.83	84.96	85.01	84.93	85.01	85.22	85.63	85.40	85.44	85.34
70	84.95	84.80	84.85	84.89	84.86	84.94	84.97	84.77	84.93	85.09	85.63	85.40	85.15	85.34
70.5	85.01	84.93	84.91	84.80	84.70	84.80	84.82	84.60	84.90	84.90	85.48	85.41	85.13	85.25
71	85.02	84.90	84.82	84.69	84.56	84.80	84.74	84.62	84.91	84.98	85.45	85.28	85.29	85.24
71.5	84.93	84.78	84.75	84.61	84.45	84.82	84.76	84.70	84.93	85.10	85.53	85.29	85.16	85.25
72	84.86	84.82	84.76	84.61	84.55	84.88	84.88	84.78	84.97	85.09	85.46	85.27	85.16	85.22
72.5	84.82	84.68	84.74	84.62	84.67	84.88	84.80	84.77	84.88	84.91	85.35	85.28	85.01	85.23
73	84.82	84.66	84.73	84.68	84.74	84.92	84.79	84.67	84.90	84.90	85.37	85.33	85.01	85.21
73.5	84.85	84.63	84.69	84.68	84.62	84.79	84.85	84.74	84.71	84.63	85.23	85.22	84.87	85.09
74	84.84	84.56	84.54	84.57	84.52	84.53	84.67	84.51	84.55	84.65	85.33	85.18	84.85	85.04
74.5	84.84	84.67	84.55	84.57	84.55	84.68	84.65	84.49	84.65	84.76	85.45	85.34	85.15	85.09
75	84.97	84.70	84.45	84.55	84.46	84.73	84.70	84.44	84.67	84.92	85.38	85.31	85.15	85.14
75.5	84.81	84.51	84.37	84.39	84.43	84.70	84.68	84.52	84.80	84.99	85.44	85.27	84.86	85.24
76	84.86	84.50	84.36	84.43	84.52	84.75	84.76	84.65	84.87	85.03	85.50	85.25	85.16	85.26
76.5	84.82	84.49	84.45	84.58	84.54	84.74	84.78	84.58	84.84	85.00	85.37	85.11	85.01	85.13
77	84.59	84.36	84.29	84.44	84.32	84.70	84.78	84.61	84.77	84.96	85.30	85.04	84.71	85.00
77.5	84.62	84.40	84.35	84.32	84.35	84.70	84.78	84.67	84.73	84.94	85.35	85.11	84.72	84.95
78	84.82	84.48	84.39	84.33	84.43	84.70	84.65	84.62	84.65	84.82	85.36	85.18	84.72	84.99
78.5	84.89	84.49	84.40	84.38	84.49	84.72	84.78	84.79	84.84	84.93	85.41	85.23	85.29	85.07
79	84.84	84.51	84.51	84.50	84.66	84.83	84.86	84.87	84.96	85.06	85.48	85.32	85.15	85.15
79.5	84.89	84.65	84.68	84.65	84.57	84.74	84.70	84.76	84.85	84.98	85.29	85.09	85.01	85.11

80	85.09	84.75	84.74	84.65	84.61	84.78	84.63	84.65	84.75	84.91	85.37	85.13	84.85	85.03
80.5	85.04	84.78	84.65	84.28	84.43	84.66	84.67	84.67	84.79	84.92	85.44	85.24	85.01	85.12
81	84.92	84.59	84.39	84.30	84.47	84.75	84.84	84.78	84.94	84.89	85.34	85.17	85.16	85.02
81.5	84.89	84.59	84.55	84.54	84.58	84.81	84.79	84.74	84.90	84.86	85.26	85.06	85.01	84.93
82	84.89	84.61	84.69	84.60	84.66	84.74	84.84	84.72	84.92	85.02	85.39	85.19	85.01	85.04
82.5	84.81	84.54	84.68	84.60	84.69	84.73	84.87	84.72	84.93	85.11	85.51	85.30	85.01	85.15
83	84.77	84.55	84.66	84.65	84.74	84.79	84.79	84.71	84.94	85.12	85.53	85.33	85.30	85.26
83.5	84.81	84.66	84.70	84.68	84.66	84.76	84.77	84.75	84.92	85.12	85.56	85.31	85.02	85.21
84	84.83	84.62	84.61	84.58	84.64	84.72	84.78	84.71	84.88	85.11	85.52	85.30	85.00	85.13
84.5	84.82	84.63	84.63	84.58	84.71	84.72	84.65	84.54	84.86	85.03	85.43	85.16	85.01	85.04
85	84.90	84.56	84.62	84.53	84.60	84.51	84.49	84.47	84.88	84.94	85.43	85.17	85.16	85.12
85.5	84.56	84.39	84.39	84.31	84.45	84.46	84.46	84.50	84.80	84.87	85.37	85.20	84.87	85.12
86	84.68	84.41	84.28	84.28	84.36	84.36	84.47	84.49	84.76	84.78	85.33	85.11	85.01	84.96
86.5	84.63	84.32	84.26	84.30	84.44	84.51	84.49	84.49	84.69	84.80	85.31	85.14	85.14	84.91
87	84.71	84.41	84.44	84.42	84.52	84.53	84.52	84.60	84.80	84.95	85.35	85.24	85.01	85.05
87.5	84.78	84.53	84.58	84.50	84.52	84.60	84.60	84.65	84.86	85.05	85.42	85.27	85.15	85.12
88	84.73	84.53	84.50	84.45	84.31	84.64	84.53	84.61	84.87	84.94	85.43	85.23	85.30	85.16
88.5	84.64	84.40	84.27	84.42	84.29	84.54	84.50	84.62	84.83	84.94	85.45	85.24	85.01	85.18
89	84.82	84.48	84.29	84.38	84.36	84.53	84.54	84.69	84.89	84.96	85.45	85.16	85.15	85.17
89.5	84.77	84.50	84.39	84.37	84.31	84.59	84.71	84.78	84.88	84.93	85.47	85.23	85.30	85.21
90	84.88	84.50	84.38	84.43	84.26	84.50	84.73	84.77	84.91	84.95	85.50	85.28	85.01	85.17
90.5	84.85	84.60	84.44	84.50	84.30	84.47	84.64	84.65	84.85	84.85	85.41	85.21	85.01	85.09
91	84.89	84.62	84.59	84.44	84.35	84.48	84.65	84.62	84.72	84.74	85.31	85.10	85.00	85.10
91.5	84.71	84.62	84.60	84.47	84.47	84.63	84.73	84.67	84.75	84.78	85.49	85.11	84.85	85.16
92	84.77	84.55	84.52	84.60	84.54	84.78	84.76	84.80	84.88	84.89	85.49	85.19	84.87	85.19
92.5	84.69	84.49	84.60	84.58	84.59	84.78	84.76	84.64	84.74	84.83	85.40	85.16	85.14	85.19
93	84.81	84.60	84.62	84.56	84.59	84.76	84.83	84.75	84.82	84.92	85.42	85.24	85.29	85.24
93.5	85.01	84.64	84.54	84.50	84.56	84.73	84.78	84.85	84.88	84.94	85.39	85.21	84.86	85.21
94	84.93	84.56	84.41	84.40	84.49	84.49	84.69	84.67	84.85	84.87	85.41	85.21	85.00	85.13
94.5	84.90	84.36	84.29	84.35	84.40	84.51	84.72	84.72	84.88	84.92	85.45	85.25	84.87	85.12
95	84.89	84.50	84.27	84.28	84.44	84.58	84.71	84.78	84.91	84.90	85.43	85.17	85.01	85.07
95.5	84.94	84.64	84.38	84.32	84.47	84.58	84.64	84.73	84.83	84.89	85.39	85.15	85.13	85.06
96	84.86	84.63	84.46	84.53	84.54	84.65	84.73	84.72	84.77	84.92	85.43	85.22	84.87	85.10
96.5	84.76	84.52	84.45	84.45	84.54	84.72	84.71	84.70	84.77	85.00	85.49	85.14	85.01	85.15
97	84.70	84.40	84.36	84.34	84.54	84.66	84.78	84.84	84.91	85.04	85.55	85.23	85.16	85.15
97.5	84.74	84.45	84.40	84.38	84.45	84.52	84.76	84.85	84.98	85.06	85.56	85.33	85.00	85.20
98	84.85	84.57	84.49	84.43	84.36	84.54	84.74	84.89	85.05	85.09	85.61	85.28	85.15	85.15
98.5	84.85	84.57	84.58	84.53	84.50	84.70	84.77	84.76	84.86	84.94	85.47	85.24	85.01	84.91
99	84.72	84.58	84.55	84.57	84.55	84.67	84.68	84.70	84.86	84.94	85.44	85.12	85.01	84.93
99.5	84.81	84.55	84.51	84.56	84.53	84.61	84.65	84.62	84.88	84.94	85.41	85.15	84.86	85.01
100	84.79	84.52	84.59	84.64	84.55	84.72	84.79	84.77	84.83	84.90	85.39	85.17	84.72	85.06

100.5	84.68	84.54	84.65	84.59	84.46	84.74	84.86	84.85	84.92	84.99	85.44	85.25	85.01	85.07
101	84.84	84.55	84.56	84.50	84.47	84.79	84.92	84.92	84.98	85.04	85.49	85.26	85.14	85.07
101.5	84.72	84.45	84.51	84.56	84.66	84.91	85.00	84.97	84.99	85.01	85.41	85.22	85.01	85.04
102	84.60	84.50	84.56	84.62	84.67	84.75	84.78	84.85	84.87	84.86	85.19	85.16	85.00	85.01
102.5	84.66	84.39	84.60	84.61	84.52	84.72	84.63	84.61	84.69	84.63	85.14	84.98	84.56	84.94
103	84.75	84.53	84.53	84.47	84.40	84.68	84.58	84.58	84.70	84.70	85.12	85.07	84.87	84.88
103.5	84.88	84.58	84.47	84.39	84.29	84.54	84.47	84.53	84.73	84.78	85.20	85.03	84.86	84.86
104	84.51	84.27	84.21	84.30	84.21	84.51	84.52	84.61	84.80	84.83	85.19	85.01	84.85	84.85
104.5	84.47	84.20	84.23	84.27	84.04	84.38	84.44	84.57	84.67	84.78	85.22	84.98	84.71	84.90
105	84.43	84.20	84.17	84.14	84.21	84.42	84.43	84.55	84.68	84.81	85.26	85.06	84.87	84.91
105.5	84.55	84.27	84.25	84.28	84.42	84.60	84.50	84.57	84.75	84.75	85.17	85.08	84.72	84.98
106	84.69	84.45	84.29	84.34	84.50	84.57	84.62	84.70	84.83	84.79	85.22	85.22	84.99	85.02
106.5	84.69	84.39	84.14	84.41	84.44	84.55	84.70	84.75	84.82	84.83	85.33	85.16	85.00	85.03
107	84.55	84.22	84.12	84.36	84.51	84.54	84.65	84.61	84.80	84.83	85.33	85.06	84.70	84.98
107.5	84.44	84.18	84.22	84.36	84.47	84.54	84.67	84.63	84.85	84.95	85.42	85.18	85.01	85.04
108	84.46	84.20	84.36	84.31	84.25	84.42	84.56	84.61	84.88	84.87	85.44	85.21	85.00	85.09
108.5	84.55	84.30	84.32	84.28	84.22	84.30	84.44	84.63	84.88	84.86	85.33	85.09	85.15	85.05
109	84.48	84.22	84.15	84.28	84.27	84.19	84.37	84.60	84.73	84.94	85.41	85.09	85.15	85.07
109.5	84.51	84.32	84.29	84.42	84.26	84.31	84.51	84.60	84.73	84.90	85.39	85.18	84.99	85.09
110	84.68	84.42	84.45	84.55	84.30	84.47	84.64	84.65	84.88	84.98	85.39	85.15	85.01	85.04
110.5	84.71	84.46	84.47	84.48	84.35	84.53	84.60	84.68	84.95	85.03	85.41	85.14	84.85	84.95
111	84.75	84.51	84.59	84.46	84.42	84.56	84.68	84.75	84.91	85.04	85.41	85.15	85.15	85.09
111.5	84.88	84.63	84.58	84.52	84.47	84.57	84.75	84.65	84.76	84.85	85.36	85.12	84.86	85.04
112	84.83	84.62	84.57	84.51	84.48	84.52	84.73	84.58	84.74	84.81	85.26	85.14	84.87	85.12
112.5	84.87	84.66	84.60	84.57	84.55	84.69	84.75	84.61	84.82	84.84	85.14	85.13	84.85	85.10
113	84.95	84.78	84.69	84.57	84.57	84.73	84.74	84.69	84.92	84.95	85.26	85.09	84.86	85.08
113.5	84.73	84.61	84.52	84.28	84.37	84.61	84.62	84.54	84.86	84.86	85.39	85.10	84.87	85.10
114	84.64	84.52	84.35	84.17	84.34	84.41	84.39	84.33	84.80	84.72	85.24	85.06	84.99	85.12
114.5	84.42	84.42	84.35	84.24	84.27	84.44	84.43	84.44	84.83	84.76	85.33	84.98	84.58	85.03
115	84.41	84.30	84.29	84.18	84.11	84.48	84.47	84.47	84.72	84.70	85.33	85.05	84.56	84.94
115.5	84.46	84.26	84.10	84.17	84.24	84.52	84.47	84.47	84.51	84.74	85.27	85.01	84.71	84.98
116	84.24	84.19	84.07	84.15	84.27	84.55	84.52	84.54	84.61	84.74	85.22	85.05	84.85	85.01
116.5	84.43	84.22	84.20	84.30	84.43	84.64	84.53	84.44	84.65	84.83	85.26	85.07	84.87	85.04
117	84.60	84.23	84.33	84.45	84.54	84.59	84.50	84.54	84.74	84.93	85.43	85.23	85.00	85.06
117.5	84.73	84.33	84.41	84.44	84.41	84.48	84.60	84.57	84.87	84.91	85.30	85.17	85.00	85.06
118	84.67	84.34	84.38	84.40	84.32	84.53	84.50	84.53	84.85	84.75	85.32	85.15	85.01	85.07
118.5	84.71	84.49	84.44	84.38	84.25	84.38	84.46	84.51	84.81	84.83	85.34	85.11	84.85	85.00
119	84.67	84.47	84.43	84.28	84.22	84.42	84.60	84.59	84.88	84.73	85.28	85.10	84.71	84.91
119.5	84.58	84.47	84.37	84.38	84.42	84.54	84.58	84.46	84.66	84.63	85.16	84.99	84.72	84.88
120	84.63	84.47	84.43	84.41	84.42	84.45	84.52	84.41	84.61	84.71	85.14	84.98	84.56	84.82
120.5	84.45	84.26	84.39	84.34	84.31	84.37	84.45	84.39	84.64	84.73	85.10	84.94	84.70	84.83

121	84.34	84.24	84.29	84.32	84.27	84.40	84.52	84.50	84.65	84.76	85.14	84.90	84.72	84.77
121.5	84.39	84.21	84.25	84.26	84.32	84.36	84.55	84.46	84.57	84.58	85.16	84.86	84.43	84.77
122	84.36	84.07	84.24	84.30	84.34	84.44	84.55	84.50	84.57	84.56	85.12	84.84	84.58	84.74
122.5	84.30	84.17	84.26	84.27	84.31	84.55	84.52	84.55	84.68	84.58	85.22	84.92	84.71	84.71
123	84.43	84.33	84.29	84.27	84.31	84.46	84.44	84.57	84.69	84.74	85.31	85.08	84.71	84.85
123.5	84.47	84.19	84.27	84.27	84.37	84.48	84.62	84.68	84.77	84.86	85.36	85.18	84.85	85.00
124	84.61	84.40	84.30	84.37	84.51	84.56	84.66	84.64	84.75	84.65	85.27	85.17	85.00	84.98
124.5	84.73	84.42	84.33	84.50	84.45	84.42	84.55	84.62	84.78	84.68	85.21	85.18	84.85	85.00
125	84.79	84.50	84.41	84.39	84.30	84.36	84.55	84.59	84.82	84.69	85.17	85.06	85.15	85.04
125.5	84.78	84.41	84.32	84.26	84.33	84.37	84.52	84.54	84.80	84.73	85.25	85.05	84.86	84.99
126	84.46	84.29	84.31	84.27	84.28	84.38	84.43	84.57	84.85	84.77	85.21	85.07	84.71	84.98
126.5	84.49	84.32	84.24	84.30	84.39	84.43	84.61	84.60	84.83	84.76	85.29	85.05	85.01	85.04
127	84.38	84.24	84.29	84.38	84.37	84.47	84.55	84.54	84.80	84.88	85.32	85.02	84.57	84.93
127.5	84.37	84.18	84.22	84.29	84.27	84.41	84.50	84.54	84.75	84.85	85.35	85.11	85.01	84.96
128	84.38	84.15	84.24	84.23	84.22	84.38	84.55	84.29	84.49	84.68	85.26	85.19	85.01	84.99
128.5	84.32	84.04	84.02	84.10	84.08	84.24	84.46	84.32	84.41	84.46	85.18	85.06	84.87	84.86
129	84.40	84.13	83.99	84.07	84.01	84.18	84.44	84.34	84.51	84.58	85.03	84.88	84.85	84.88
129.5	84.26	84.10	83.84	83.90	84.00	84.22	84.44	84.34	84.56	84.70	85.15	84.92	84.85	84.81
130	84.35	84.12	84.02	83.94	84.10	84.32	84.42	84.32	84.68	84.67	85.26	84.98	84.87	84.83
130.5	84.40	84.20	84.06	84.10	84.15	84.19	84.40	84.35	84.68	84.70	85.25	85.00	84.85	84.85
131	84.49	84.22	84.13	84.23	84.17	84.22	84.42	84.40	84.70	84.56	85.26	84.95	84.72	84.90
131.5	84.41	84.27	84.29	84.13	84.12	84.34	84.45	84.52	84.66	84.59	85.20	84.95	84.86	84.86
132	84.49	84.21	84.27	84.17	84.18	84.25	84.43	84.55	84.74	84.58	85.18	84.86	84.71	84.88
132.5	84.48	84.30	84.25	84.20	84.08	84.16	84.44	84.50	84.79	84.75	85.26	84.99	84.72	84.73
133	84.51	84.32	84.21	84.05	84.01	84.03	84.33	84.21	84.58	84.60	85.00	84.89	84.71	84.66
133.5	84.37	84.24	84.14	84.11	84.08	84.22	84.26	84.29	84.49	84.61	85.09	84.89	84.56	84.68
134	84.34	84.17	84.11	84.15	84.10	84.23	84.26	84.37	84.62	84.65	84.95	84.94	84.56	84.72
134.5	84.21	84.05	84.07	84.13	84.08	84.04	84.16	84.43	84.59	84.66	85.03	84.86	84.72	84.86
135	84.24	84.04	83.99	84.12	84.12	84.23	84.29	84.53	84.59	84.71	85.20	84.99	84.72	84.93
135.5	84.03	83.89	83.97	84.16	84.10	84.35	84.43	84.55	84.64	84.86	85.30	85.10	84.87	85.00
136	84.06	83.94	83.97	84.08	83.82	84.29	84.49	84.49	84.67	84.81	85.28	85.11	85.00	85.00
136.5	84.26	84.04	84.03	84.12	83.91	84.09	84.50	84.51	84.64	84.71	85.24	85.05	84.85	84.97
137	84.49	84.23	84.27	84.31	84.11	84.15	84.63	84.54	84.64	84.71	85.21	85.04	84.87	84.93
137.5	84.66	84.36	84.41	84.40	84.28	84.35	84.67	84.61	84.74	84.80	85.24	85.08	84.71	84.97
138	84.81	84.44	84.42	84.49	84.33	84.51	84.74	84.69	84.76	84.73	85.12	85.02	84.86	84.89
138.5	84.63	84.30	84.31	84.48	84.10	84.48	84.70	84.62	84.71	84.63	85.08	85.00	84.71	84.84
139	84.46	84.30	84.23	84.28	84.27	84.42	84.62	84.61	84.61	84.61	85.12	85.06	84.72	84.87
139.5	84.58	84.24	84.19	84.39	84.27	84.44	84.61	84.54	84.65	84.62	85.12	85.03	84.72	84.85
140	84.43	84.26	84.27	84.31	84.19	84.51	84.65	84.54	84.69	84.78	85.28	85.04	84.71	84.87
140.5	84.51	84.37	84.38	84.35	84.19	84.53	84.70	84.62	84.83	84.94	85.42	85.18	84.86	84.95
141	84.57	84.40	84.42	84.36	84.22	84.56	84.58	84.62	84.85	84.89	85.44	85.18	84.86	85.04

141.5	84.67	84.38	84.35	84.40	84.31	84.56	84.55	84.55	84.77	84.76	85.40	85.09	84.87	84.97
142	84.58	84.34	84.30	84.43	84.38	84.54	84.57	84.43	84.75	84.79	85.40	85.11	84.73	84.95
142.5	84.55	84.23	84.32	84.44	84.44	84.49	84.60	84.32	84.64	84.57	85.23	85.14	84.87	84.94
143	84.52	84.35	84.38	84.49	84.47	84.64	84.67	84.47	84.62	84.58	85.19	85.09	84.86	84.98
143.5	84.66	84.36	84.50	84.58	84.55	84.49	84.65	84.54	84.69	84.74	85.21	85.04	84.85	84.82
144	84.79	84.45	84.61	84.59	84.47	84.41	84.47	84.47	84.73	84.81	85.19	84.99	84.72	84.83
144.5	84.80	84.43	84.50	84.50	84.35	84.35	84.31	84.54	84.74	84.84	85.19	85.04	84.71	84.77
145	84.67	84.40	84.43	84.48	84.34	84.43	84.44	84.58	84.77	84.83	85.25	84.92	84.71	84.74
145.5	84.65	84.51	84.49	84.50	84.36	84.53	84.52	84.53	84.63	84.68	85.10	84.90	84.86	84.70
146	84.64	84.51	84.52	84.52	84.45	84.40	84.47	84.46	84.56	84.72	85.13	84.96	84.86	84.79
146.5	84.58	84.42	84.45	84.26	84.29	84.34	84.44	84.42	84.67	84.71	85.12	84.92	84.57	84.66
147	84.69	84.39	84.40	84.24	84.33	84.42	84.46	84.54	84.74	84.77	85.23	85.01	84.87	84.86
147.5	84.58	84.37	84.39	84.29	84.40	84.46	84.48	84.50	84.63	84.73	85.16	84.96	84.72	84.76
148	84.52	84.32	84.31	84.29	84.30	84.46	84.45	84.29	84.43	84.53	85.01	84.73	84.57	84.61
148.5	84.43	84.27	84.24	84.20	84.15	84.29	84.21	84.24	84.41	84.53	84.96	84.69	84.71	84.72
149	84.47	84.28	84.18	84.25	84.08	84.23	84.16	84.26	84.50	84.66	85.12	84.89	84.86	84.85
149.5	84.73	84.37	84.20	84.37	84.02	84.21	84.37	84.52	84.64	84.67	85.22	84.92	84.85	84.82
150	84.60	84.32	84.27	84.35	84.11	84.26	84.42	84.57	84.61	84.70	85.21	84.92	84.56	84.78
150.5	84.35	84.25	84.29	84.25	84.09	84.33	84.45	84.53	84.57	84.68	85.25	84.99	84.72	84.77
151	84.48	84.30	84.21	84.25	84.10	84.30	84.35	84.37	84.53	84.65	85.17	84.99	84.57	84.85
151.5	84.65	84.35	84.28	84.25	84.13	84.31	84.41	84.42	84.57	84.63	85.19	84.95	84.72	84.80
152	84.42	84.21	84.31	84.23	84.16	84.23	84.38	84.40	84.60	84.59	85.09	84.92	84.72	84.76
152.5	84.38	84.28	84.29	84.27	84.24	84.27	84.42	84.47	84.66	84.66	85.13	84.91	84.56	84.77
153	84.37	84.31	84.35	84.35	84.25	84.40	84.54	84.43	84.62	84.52	85.22	84.96	84.72	84.80
153.5	84.38	84.28	84.12	84.19	84.10	84.33	84.45	84.16	84.56	84.53	85.22	84.94	84.70	84.74
154	84.26	84.07	84.06	84.11	84.10	84.03	84.23	84.16	84.55	84.58	85.22	84.88	84.56	84.74
154.5	84.29	84.09	84.10	84.07	84.05	84.09	84.16	84.29	84.56	84.63	85.18	84.86	84.42	84.77
155	84.32	84.11	84.12	84.18	84.06	84.21	84.24	84.34	84.53	84.62	85.16	84.90	84.72	84.83
155.5	84.41	84.08	84.07	84.10	84.02	84.21	84.34	84.32	84.50	84.58	85.14	84.89	84.72	84.80
156	84.37	84.09	84.04	84.00	84.05	84.19	84.40	84.24	84.43	84.58	85.17	84.94	84.71	84.77
156.5	84.34	84.07	84.00	84.02	84.15	84.35	84.40	84.34	84.49	84.68	85.21	84.97	84.71	84.77
157	84.47	84.07	84.01	84.13	84.20	84.27	84.44	84.42	84.59	84.68	85.26	84.99	84.72	84.79
157.5	84.48	84.07	84.07	84.13	84.08	84.16	84.35	84.36	84.56	84.66	85.19	85.02	84.72	84.79
158	84.43	84.12	84.09	84.17	83.98	84.17	84.35	84.37	84.49	84.57	85.02	85.01	84.72	84.59
158.5	84.40	84.15	84.12	84.13	84.04	84.17	84.29	84.40	84.47	84.53	84.98	84.90	84.72	84.62
159	84.14	83.94	84.17	84.18	84.08	84.23	84.39	84.39	84.48	84.50	84.99	84.81	84.56	84.65
159.5	84.36	84.10	84.17	84.24	84.15	84.31	84.44	84.39	84.58	84.57	84.96	84.72	84.42	84.69
160	84.47	84.13	84.14	84.25	84.28	84.23	84.39	84.42	84.62	84.64	85.05	84.81	84.71	84.78
160.5	84.48	84.03	84.11	84.26	84.17	84.30	84.42	84.44	84.60	84.69	85.10	84.90	84.84	84.76
161	84.41	84.09	84.04	84.25	84.17	84.26	84.42	84.35	84.65	84.77	85.17	84.95	84.71	84.75
161.5	84.30	84.10	84.01	84.15	84.05	84.21	84.36	84.34	84.54	84.57	85.06	84.88	84.56	84.75

162	84.44	84.15	84.07	84.22	84.06	84.20	84.37	84.42	84.54	84.66	85.10	84.89	84.57	84.74
162.5	84.65	84.31	84.22	84.24	84.13	84.31	84.42	84.44	84.59	84.70	85.10	84.99	84.70	84.82
163	84.66	84.34	84.30	84.28	84.18	84.49	84.56	84.52	84.64	84.76	85.17	85.02	84.85	84.74
163.5	84.61	84.37	84.33	84.22	84.32	84.41	84.56	84.37	84.64	84.81	85.19	85.05	84.71	84.77
164	84.55	84.39	84.30	84.27	84.35	84.39	84.53	84.42	84.71	84.79	85.17	85.03	84.72	84.84
164.5	84.60	84.43	84.31	84.27	84.37	84.46	84.53	84.54	84.68	84.70	85.19	84.92	84.71	84.77
165	84.71	84.44	84.32	84.30	84.29	84.43	84.38	84.37	84.57	84.68	85.25	84.95	84.72	84.72
165.5	84.79	84.45	84.33	84.31	84.19	84.23	84.23	84.29	84.41	84.55	85.17	84.88	84.85	84.61
166	84.64	84.33	84.24	84.21	84.19	84.26	84.26	84.21	84.38	84.47	85.17	84.75	84.56	84.66
166.5	84.49	84.30	84.28	84.23	84.19	84.29	84.32	84.23	84.40	84.59	85.14	84.92	84.86	84.79
167	84.45	84.28	84.25	84.28	84.22	84.27	84.35	84.34	84.40	84.61	85.17	84.90	84.57	84.80
167.5	84.57	84.32	84.29	84.32	84.22	84.18	84.11	84.19	84.52	84.63	85.15	84.89	84.56	84.62
168	84.61	84.35	84.38	84.42	84.25	84.13	84.19	84.12	84.63	84.63	85.14	84.92	84.57	84.74
168.5	84.33	84.22	84.36	84.40	84.23	84.23	84.28	84.21	84.61	84.45	85.03	84.80	84.70	84.76
169	84.49	84.32	84.37	84.32	84.24	84.26	84.31	84.34	84.65	84.53	85.06	84.85	84.56	84.74
169.5	84.55	84.41	84.37	84.35	84.27	84.30	84.32	84.34	84.49	84.63	85.12	84.98	84.86	84.82
170	84.60	84.47	84.36	84.37	84.25	84.28	84.39	84.44	84.59	84.67	85.08	84.95	84.85	84.88
170.5	84.62	84.35	84.35	84.43	84.25	84.33	84.22	84.50	84.62	84.68	85.06	84.92	84.86	84.89
171	84.61	84.37	84.36	84.42	84.32	84.36	84.26	84.47	84.59	84.64	85.14	84.94	84.71	84.71
171.5	84.61	84.35	84.34	84.42	84.39	84.44	84.50	84.50	84.63	84.62	85.19	84.98	84.86	84.73
172	84.51	84.30	84.36	84.41	84.42	84.46	84.55	84.48	84.56	84.65	85.28	85.07	85.00	84.78
172.5	84.56	84.36	84.43	84.38	84.28	84.38	84.47	84.44	84.58	84.63	85.21	84.89	84.56	84.75
173	84.49	84.19	84.28	84.26	84.25	84.30	84.47	84.39	84.60	84.49	85.06	84.77	84.57	84.70
173.5	84.43	84.21	84.20	84.22	84.22	84.28	84.42	84.39	84.54	84.50	84.98	84.81	84.56	84.72
174	84.58	84.35	84.31	84.42	84.37	84.47	84.45	84.42	84.52	84.53	84.95	84.89	84.57	84.77
174.5	84.67	84.41	84.39	84.38	84.37	84.50	84.55	84.46	84.54	84.58	85.04	84.89	84.72	84.73
175	84.72	84.38	84.38	84.40	84.33	84.47	84.55	84.42	84.63	84.63	85.13	84.95	84.72	84.76
175.5	84.63	84.36	84.32	84.44	84.40	84.38	84.48	84.38	84.67	84.74	85.21	85.01	84.58	84.86
176	84.58	84.30	84.28	84.42	84.33	84.40	84.44	84.43	84.65	84.75	85.19	84.90	84.72	84.93
176.5	84.54	84.27	84.33	84.31	84.15	84.28	84.44	84.31	84.49	84.68	85.08	84.85	84.56	84.87
177	84.59	84.34	84.27	84.18	84.12	84.22	84.29	84.31	84.56	84.58	85.08	84.89	84.71	84.87
177.5	84.48	84.30	84.19	84.22	84.20	84.29	84.28	84.26	84.56	84.68	85.17	84.90	84.72	84.76
178	84.43	84.26	84.30	84.24	84.35	84.41	84.43	84.34	84.62	84.67	85.24	85.01	84.56	84.82
178.5	84.29	84.22	84.28	84.26	84.42	84.51	84.60	84.47	84.72	84.73	85.16	84.95	84.57	84.85
179	84.42	84.38	84.45	84.43	84.52	84.62	84.68	84.58	84.77	84.81	85.24	84.93	84.72	84.78
179.5	84.57	84.51	84.55	84.47	84.47	84.61	84.65	84.59	84.54	84.63	85.07	84.82	84.57	84.82
180	84.69	84.53	84.48	84.50	84.45	84.48	84.48	84.40	84.41	84.61	85.01	84.79	84.57	84.67
180.5	84.77	84.49	84.43	84.50	84.47	84.35	84.36	84.28	84.56	84.68	85.09	84.86	84.71	84.65
181	84.61	84.27	84.19	84.32	84.27	84.32	84.37	84.19	84.59	84.61	85.09	84.78	84.42	84.65
181.5	84.38	84.15	84.19	84.29	84.30	84.38	84.45	84.39	84.57	84.46	84.98	84.82	84.43	84.64
182	84.47	84.17	84.25	84.30	84.35	84.41	84.48	84.46	84.59	84.53	85.03	84.86	84.57	84.69

182.5	84.39	84.21	84.21	84.19	84.29	84.44	84.52	84.43	84.59	84.65	85.09	84.90	84.57	84.77
183	84.49	84.22	84.18	84.25	84.32	84.44	84.52	84.39	84.59	84.65	85.16	84.89	84.43	84.79
183.5	84.54	84.25	84.19	84.32	84.30	84.43	84.48	84.37	84.56	84.65	85.13	84.96	84.57	84.72
184	84.31	84.06	84.16	84.31	84.29	84.38	84.33	84.34	84.52	84.53	85.12	84.88	84.71	84.72
184.5	84.28	84.07	84.11	84.28	84.22	84.30	84.24	84.30	84.52	84.53	85.10	84.82	84.72	84.79
185	84.32	84.11	84.09	84.28	84.23	84.31	84.41	84.36	84.59	84.65	85.10	84.79	84.43	84.77
185.5	84.43	84.19	84.25	84.30	84.27	84.41	84.46	84.43	84.54	84.66	85.19	84.87	84.70	84.73
186	84.49	84.14	84.24	84.24	84.28	84.42	84.50	84.48	84.61	84.70	85.22	85.10	84.85	84.84
186.5	84.36	84.11	84.07	84.24	84.31	84.36	84.50	84.48	84.56	84.74	85.31	85.13	84.85	84.90
187	84.35	84.22	84.14	84.32	84.39	84.38	84.47	84.39	84.56	84.73	85.26	84.98	84.86	84.91
187.5	84.51	84.30	84.27	84.26	84.22	84.37	84.42	84.43	84.59	84.58	85.23	84.90	84.86	84.85
188	84.53	84.26	84.21	84.24	84.17	84.32	84.31	84.32	84.49	84.57	85.18	84.86	84.71	84.84
188.5	84.62	84.31	84.38	84.35	84.20	84.30	84.34	84.36	84.60	84.66	85.19	84.95	84.72	84.86
189	84.70	84.43	84.43	84.32	84.29	84.36	84.42	84.45	84.62	84.70	85.11	84.97	84.56	84.77
189.5	84.69	84.47	84.44	84.32	84.37	84.38	84.45	84.40	84.62	84.72	85.19	84.99	84.72	84.77
190	84.64	84.41	84.36	84.26	84.34	84.40	84.41	84.34	84.57	84.57	85.07	84.91	84.56	84.76
190.5	84.58	84.40	84.37	84.35	84.37	84.43	84.40	84.33	84.59	84.62	85.12	84.84	84.57	84.77
191	84.69	84.46	84.36	84.41	84.41	84.55	84.44	84.42	84.64	84.63	85.12	84.91	84.71	84.78
191.5	84.62	84.38	84.42	84.45	84.46	84.56	84.44	84.30	84.52	84.61	85.16	84.96	84.86	84.86
192	84.84	84.47	84.45	84.47	84.56	84.58	84.44	84.24	84.49	84.63	85.12	84.98	84.57	84.85
192.5	84.84	84.48	84.43	84.53	84.51	84.55	84.35	84.34	84.48	84.62	85.10	84.87	84.84	84.83
193	84.71	84.45	84.38	84.30	84.34	84.48	84.36	84.39	84.56	84.62	85.13	84.97	84.56	84.76
193.5	84.65	84.45	84.32	84.28	84.33	84.43	84.47	84.47	84.63	84.84	85.23	85.00	84.57	84.88
194	84.57	84.24	84.34	84.25	84.29	84.40	84.48	84.52	84.79	84.86	85.32	85.14	84.72	84.98
194.5	84.49	84.25	84.32	84.20	84.23	84.41	84.52	84.64	84.86	84.92	85.26	85.12	84.84	84.98
195	84.56	84.41	84.32	84.28	84.31	84.45	84.61	84.61	84.79	84.79	85.24	85.01	84.83	84.96
195.5	84.74	84.50	84.51	84.48	84.47	84.58	84.69	84.74	84.87	84.91	85.37	85.17	85.14	85.00
196	84.84	84.59	84.57	84.55	84.49	84.63	84.79	84.71	84.88	84.96	85.43	85.21	85.00	84.98
196.5	84.75	84.51	84.59	84.59	84.43	84.57	84.64	84.46	84.83	84.88	85.32	85.13	84.84	85.05
197	84.84	84.58	84.69	84.65	84.52	84.66	84.64	84.62	84.89	84.96	85.44	85.18	85.15	85.14
197.5	84.94	84.60	84.68	84.62	84.51	84.58	84.71	84.64	84.87	84.98	85.43	85.21	84.84	85.09
198	85.06	84.69	84.74	84.68	84.55	84.66	84.79	84.79	84.91	84.98	85.49	85.21	85.14	85.17
198.5	85.01	84.74	84.75	84.62	84.66	84.73	84.81	84.72	84.91	84.96	85.38	85.18	85.01	85.07
199	84.95	84.66	84.62	84.48	84.54	84.56	84.75	84.60	84.78	84.87	85.30	85.17	84.72	84.96
199.5	84.79	84.57	84.55	84.42	84.39	84.51	84.69	84.59	84.73	84.83	85.33	85.13	84.99	85.03
200	84.92	84.70	84.58	84.54	84.49	84.54	84.65	84.64	84.80	84.92	85.32	85.12	84.70	85.05
200.5	85.02	84.72	84.67	84.62	84.64	84.68	84.75	84.69	84.82	84.84	85.36	85.13	84.85	85.01
201	84.86	84.69	84.57	84.48	84.48	84.60	84.72	84.75	84.85	84.90	85.36	85.17	85.00	85.09
201.5	84.82	84.62	84.54	84.47	84.51	84.69	84.85	84.81	84.90	84.91	85.44	85.23	85.14	85.12
202	84.71	84.53	84.49	84.57	84.47	84.72	84.78	84.69	84.65	84.86	85.46	85.21	84.85	85.16
202.5	84.66	84.40	84.50	84.47	84.47	84.72	84.80	84.69	84.72	84.80	85.30	85.18	84.85	85.10

203	84.69	84.47	84.51	84.54	84.60	84.77	84.87	84.76	84.83	84.85	85.39	85.21	84.84	85.12
203.5	84.88	84.58	84.71	84.66	84.56	84.67	84.93	84.79	84.91	84.95	85.41	85.28	85.15	85.18
204	84.89	84.68	84.75	84.67	84.61	84.65	84.63	84.72	84.81	84.87	85.39	85.26	84.87	85.18
204.5	84.81	84.70	84.68	84.67	84.49	84.68	84.71	84.76	84.90	84.95	85.46	85.21	85.13	85.11
205	84.89	84.78	84.74	84.72	84.56	84.71	84.84	84.83	85.04	84.99	85.51	85.32	85.01	85.15
205.5	84.84	84.82	84.76	84.68	84.61	84.62	84.78	84.65	84.90	85.00	85.53	85.30	85.14	85.14
206	84.82	84.73	84.72	84.65	84.62	84.67	84.80	84.73	84.95	85.06	85.47	85.30	85.15	85.14
206.5	84.74	84.68	84.73	84.64	84.68	84.66	84.76	84.71	84.94	85.06	85.49	85.30	85.29	85.20
207	84.80	84.65	84.64	84.58	84.58	84.62	84.75	84.75	84.93	85.03	85.53	85.36	85.14	85.22
207.5	84.79	84.60	84.63	84.62	84.67	84.76	84.86	84.81	84.91	85.10	85.53	85.33	85.00	85.19
208	84.94	84.75	84.76	84.75	84.65	84.75	84.82	84.77	84.95	85.06	85.56	85.36	85.00	85.17
208.5	84.96	84.76	84.67	84.71	84.67	84.63	84.73	84.69	84.87	85.01	85.53	85.37	85.14	85.20
209	84.96	84.76	84.73	84.68	84.64	84.69	84.78	84.68	84.85	85.01	85.55	85.36	85.29	85.25
209.5	84.97	84.74	84.69	84.62	84.56	84.64	84.57	84.70	84.86	85.01	85.54	85.31	84.86	85.27
210	84.91	84.73	84.68	84.63	84.59	84.73	84.67	84.72	84.86	84.99	85.55	85.28	85.15	85.21
210.5	84.97	84.73	84.73	84.64	84.65	84.79	84.82	84.77	84.95	85.09	85.57	85.33	85.00	85.25
211	85.10	84.87	84.71	84.72	84.66	84.83	84.94	84.92	85.08	85.15	85.61	85.27	85.01	85.21
211.5	85.23	84.86	84.87	84.67	84.67	84.92	84.99	84.95	85.04	85.10	85.53	85.34	85.29	85.22
212	85.21	84.96	84.90	84.88	84.90	84.97	85.06	85.02	85.07	84.94	85.51	85.37	85.17	85.16
212.5	85.04	84.78	84.83	84.87	84.78	84.92	84.86	84.98	84.97	84.88	85.49	85.30	85.14	85.20
213	84.97	84.76	84.78	84.70	84.76	84.84	84.99	84.99	85.08	85.04	85.61	85.41	85.15	85.23
213.5	85.02	84.80	84.79	84.72	84.82	84.88	85.05	84.98	85.08	85.03	85.53	85.29	85.14	85.13
214	85.09	84.85	84.84	84.81	84.82	84.92	85.03	84.95	85.13	85.04	85.50	85.33	85.29	85.16
214.5	85.08	84.87	84.89	84.87	84.83	84.94	85.07	84.95	85.09	85.09	85.61	85.37	85.15	85.20
215	85.12	84.90	84.81	84.86	84.86	85.01	85.10	85.05	85.15	85.18	85.63	85.38	85.15	85.14
215.5	84.98	84.80	84.79	84.79	84.82	84.96	85.01	84.77	85.09	85.08	85.61	85.37	85.29	85.18
216	84.89	84.70	84.74	84.79	84.76	84.84	84.91	84.72	84.96	84.96	85.44	85.25	85.15	85.17
216.5	84.98	84.78	84.77	84.80	84.74	84.77	84.86	84.82	84.95	84.96	85.44	85.24	85.01	85.17
217	85.04	84.85	84.84	84.88	84.81	84.78	84.83	84.87	85.00	84.96	85.43	85.21	85.00	85.13
217.5	84.93	84.72	84.79	84.85	84.84	84.70	84.93	84.89	85.00	84.97	85.41	85.27	85.00	85.13
218	84.88	84.74	84.58	84.76	84.74	84.72	84.74	84.93	85.00	85.03	85.51	85.34	84.99	85.18
218.5	85.01	84.78	84.58	84.75	84.76	84.81	84.78	84.80	85.12	85.12	85.61	85.35	85.15	85.20
219	84.95	84.68	84.60	84.73	84.84	84.91	84.92	84.91	85.06	85.07	85.62	85.36	85.01	85.26
219.5	84.87	84.65	84.64	84.77	84.81	84.90	85.01	84.97	85.11	85.13	85.59	85.37	85.14	85.22
220	84.86	84.68	84.64	84.81	84.81	84.90	85.01	84.99	85.14	85.16	85.68	85.48	85.29	85.30
220.5	84.89	84.74	84.70	84.84	84.82	84.84	85.05	85.05	85.25	85.25	85.75	85.43	85.16	85.16
221	85.10	84.88	84.70	84.75	84.71	84.78	85.01	84.97	85.16	85.23	85.72	85.50	85.14	85.19
221.5	85.27	85.04	84.87	84.75	84.81	84.92	85.06	84.97	85.10	85.16	85.72	85.50	85.14	85.29
222	85.20	85.04	84.91	84.82	84.92	84.87	84.94	84.92	85.12	85.22	85.73	85.53	85.15	85.27
222.5	85.13	84.92	84.79	84.74	84.84	84.89	84.96	84.95	85.17	85.27	85.76	85.55	85.29	85.33
223	84.99	84.79	84.76	84.68	84.82	84.94	85.01	85.00	85.16	85.25	85.74	85.59	85.45	85.32

223.5	85.01	84.76	84.68	84.50	84.72	84.74	84.91	84.79	85.02	85.06	85.71	85.57	85.15	85.28
224	85.07	84.80	84.71	84.63	84.56	84.68	84.78	84.63	84.85	85.09	85.66	85.48	85.29	85.40
224.5	85.12	84.76	84.62	84.65	84.47	84.66	84.77	84.73	84.82	85.11	85.70	85.54	85.29	85.43
225	85.02	84.77	84.62	84.59	84.52	84.76	84.81	84.77	84.91	85.04	85.70	85.53	85.44	85.43
225.5	85.10	84.86	84.67	84.46	84.47	84.76	84.84	84.83	84.96	85.09	85.71	85.56	85.29	85.39
226	84.99	84.73	84.51	84.50	84.51	84.80	84.96	85.02	85.07	85.20	85.75	85.53	85.29	85.33
226.5	85.14	84.81	84.62	84.67	84.64	84.80	84.97	84.83	85.15	85.18	85.69	85.51	85.44	85.36
227	85.22	84.76	84.63	84.74	84.61	84.78	84.83	84.89	85.20	85.20	85.65	85.49	85.43	85.38
227.5	85.12	84.83	84.75	84.76	84.74	84.94	85.04	84.99	85.09	85.21	85.64	85.51	85.29	85.33
228	85.07	84.82	84.79	84.75	84.81	84.93	85.11	85.04	85.16	85.17	85.57	85.48	85.14	85.35
228.5	85.12	84.83	84.80	84.81	84.64	84.90	84.95	85.09	85.21	85.16	85.62	85.46	85.29	85.38
229	85.04	84.79	84.89	84.79	84.69	84.83	85.01	85.07	85.17	85.17	85.57	85.42	85.29	85.39
229.5	84.97	84.73	84.79	84.75	84.67	84.75	84.98	85.02	85.14	85.03	85.55	85.43	85.14	85.32
230	85.13	84.82	84.79	84.84	84.75	84.85	84.93	85.04	85.14	85.21	85.66	85.58	85.43	85.39
230.5	85.27	84.89	84.86	84.88	84.75	84.93	85.05	85.03	85.17	85.20	85.72	85.60	85.41	85.32
231	85.32	84.99	84.99	84.92	84.86	85.00	85.13	85.09	85.17	85.21	85.79	85.60	85.44	85.39
231.5	85.18	84.94	84.98	84.97	84.90	85.02	85.13	85.07	85.25	85.25	85.80	85.60	85.42	85.43
232	85.32	85.06	84.99	85.03	84.99	85.04	85.19	85.17	85.35	85.29	85.80	85.63	85.44	85.33
232.5	85.14	84.95	84.95	84.99	84.91	85.00	85.16	85.09	85.34	85.21	85.68	85.54	85.28	85.31
233	84.96	84.85	84.86	84.98	84.88	85.02	85.16	85.11	85.27	85.24	85.74	85.62	85.43	85.41
233.5	84.94	84.85	84.94	85.04	84.98	85.09	85.14	85.05	85.32	85.30	85.62	85.53	85.43	85.48
234	85.27	85.03	85.11	85.10	85.10	85.14	85.17	85.17	85.28	85.28	85.67	85.44	85.15	85.39
234.5	85.30	85.09	85.13	85.11	85.06	85.10	85.16	85.15	85.27	85.36	85.79	85.55	85.29	85.35
235	85.43	85.21	85.14	85.08	84.92	84.92	85.12	85.04	85.32	85.37	85.78	85.59	85.43	85.38
235.5	85.47	85.14	85.13	84.98	84.74	84.79	85.05	84.99	85.30	85.34	85.76	85.48	85.29	85.44
236	85.17	84.81	85.02	85.00	84.90	84.87	85.07	84.96	85.27	85.31	85.80	85.62	85.44	85.50
236.5	85.04	84.70	84.90	84.92	84.92	84.96	85.13	85.06	85.27	85.30	85.81	85.60	85.41	85.48
237	85.07	84.80	84.90	84.98	84.90	85.00	85.13	85.12	85.27	85.28	85.82	85.59	85.46	85.43
237.5	85.09	84.86	84.96	84.94	84.94	85.02	85.15	85.14	85.33	85.29	85.80	85.57	85.16	85.42
238	85.30	85.07	85.08	84.97	85.00	85.04	85.13	85.12	85.37	85.29	85.82	85.59	85.29	85.43
238.5	85.34	85.01	84.98	84.92	84.79	84.98	85.14	85.15	85.34	85.31	85.80	85.54	85.15	85.40
239	85.31	84.97	84.93	84.87	84.83	84.97	85.10	85.06	85.25	85.29	85.71	85.51	85.13	85.44
239.5	85.34	85.04	85.08	84.99	84.96	85.03	85.14	85.07	85.28	85.31	85.74	85.50	85.15	85.49
240	85.18	85.00	84.94	84.91	84.96	85.02	85.08	85.09	85.23	85.33	85.75	85.63	85.27	85.46
240.5	85.26	85.05	85.11	85.02	85.05	84.99	85.08	85.11	85.24	85.23	85.75	85.65	85.14	85.49
241	85.31	84.98	85.06	85.00	85.11	85.07	85.13	85.14	85.31	85.25	85.77	85.66	85.28	85.49
241.5	85.30	85.04	85.09	85.04	84.94	84.96	85.02	85.17	85.32	85.27	85.88	85.68	85.43	85.38
242	85.29	85.01	85.04	84.98	84.84	84.88	85.03	85.09	85.32	85.34	85.88	85.69	85.43	85.47
242.5	85.36	85.04	85.11	84.95	84.81	84.99	85.09	85.09	85.30	85.37	85.85	85.72	85.43	85.42
243	85.25	85.03	85.12	84.90	84.79	84.97	85.16	85.12	85.38	85.39	85.88	85.73	85.29	85.42
243.5	85.06	84.89	84.96	84.88	84.81	84.98	85.14	85.12	85.36	85.37	85.91	85.75	85.57	85.51

244	85.22	85.04	85.06	85.05	84.94	85.06	85.12	85.11	85.36	85.36	85.93	85.77	85.57	85.55
244.5	85.32	85.09	85.10	85.04	84.96	85.00	85.16	85.05	85.27	85.39	85.88	85.69	85.43	85.57
245	85.20	85.06	85.03	84.92	84.86	84.93	85.14	85.09	85.32	85.37	85.90	85.69	85.43	85.52
245.5	85.35	85.12	85.02	84.96	84.84	84.97	85.16	85.16	85.32	85.45	85.88	85.70	85.58	85.53
246	85.30	85.07	84.99	85.00	84.97	85.10	85.26	85.22	85.38	85.38	85.82	85.63	85.29	85.53
246.5	85.29	85.06	84.89	85.04	85.01	85.13	85.26	85.22	85.42	85.34	85.84	85.65	85.43	85.55
247	85.27	85.06	85.06	85.04	85.06	85.10	85.28	85.22	85.27	85.36	85.63	85.53	85.14	85.48
247.5	85.26	85.02	84.86	84.89	85.04	84.92	85.21	85.12	85.19	85.30	85.65	85.43	85.29	85.39
248	85.26	85.04	84.99	84.89	84.92	84.88	85.22	85.12	85.21	85.27	85.66	85.49	85.29	85.41
248.5	85.33	85.02	84.99	84.89	84.85	85.15	85.31	85.19	85.36	85.24	85.72	85.59	85.14	85.41
249	85.37	85.09	85.10	85.08	85.09	85.22	85.35	85.21	85.23	85.31	85.82	85.71	85.57	85.54
249.5	85.46	85.24	85.16	85.21	85.14	85.30	85.38	85.19	85.23	85.36	85.88	85.75	85.43	85.51
250	85.40	85.14	85.18	85.07	85.13	85.34	85.36	85.32	85.43	85.54	85.96	85.76	85.44	85.50
250.5	85.33	85.16	85.07	85.01	85.12	85.25	85.31	85.25	85.39	85.44	86.01	85.85	85.57	85.61
251	85.30	84.97	85.05	85.06	85.07	85.17	85.24	85.23	85.43	85.38	86.02	85.82	85.58	85.65
251.5	85.39	85.06	84.96	84.88	85.02	84.98	85.21	85.22	85.49	85.52	86.07	85.85	85.57	85.71
252	85.43	85.08	84.97	84.92	85.02	84.96	85.22	85.17	85.46	85.56	86.10	85.85	85.72	85.73
252.5	85.52	85.15	84.96	84.82	84.99	84.98	85.26	85.19	85.37	85.52	86.06	85.81	85.72	85.61
253	85.42	85.19	85.09	84.95	85.10	85.06	85.22	85.09	85.35	85.42	85.99	85.75	85.44	85.63
253.5	85.32	85.12	85.14	85.02	84.98	85.05	85.19	85.18	85.45	85.50	85.98	85.74	85.43	85.61
254	85.46	85.21	85.19	85.08	85.08	85.13	85.28	85.24	85.42	85.47	85.93	85.68	85.72	85.58
254.5	85.43	85.24	85.19	85.12	85.15	85.20	85.31	85.21	85.37	85.42	85.90	85.68	85.57	85.58
255	85.33	85.18	85.13	85.07	85.05	85.13	85.11	85.15	85.34	85.39	85.91	85.71	85.57	85.55
255.5	85.41	85.12	85.09	84.99	84.90	85.07	85.20	85.15	85.41	85.39	85.89	85.63	85.44	85.52
256	85.41	85.09	85.09	84.99	84.92	85.04	85.30	85.10	85.30	85.34	85.76	85.56	85.44	85.58
256.5	85.29	85.02	85.04	84.97	84.94	84.93	85.16	85.08	85.33	85.33	85.79	85.58	85.29	85.61
257	85.32	85.01	85.02	84.99	84.90	85.00	85.17	85.10	85.38	85.35	85.90	85.66	85.44	85.62
257.5	85.37	85.04	85.01	84.96	84.80	85.01	85.23	85.20	85.41	85.48	85.95	85.72	85.58	85.63
258	85.34	85.15	85.10	84.95	84.84	85.12	85.29	85.28	85.42	85.40	85.93	85.67	85.72	85.64
258.5	85.43	85.14	85.09	85.02	85.01	85.20	85.35	85.24	85.37	85.39	85.87	85.67	85.43	85.67
259	85.43	85.09	85.07	85.11	85.09	85.25	85.34	85.32	85.49	85.44	85.94	85.71	85.72	85.73
259.5	85.36	85.06	85.09	85.07	84.98	85.25	85.29	85.34	85.50	85.56	86.03	85.80	85.72	85.73
260	85.49	85.18	85.21	85.18	85.05	85.23	85.21	85.22	85.53	85.54	86.03	85.87	85.72	85.68
260.5	85.52	85.27	85.29	85.20	85.14	85.25	85.18	85.21	85.52	85.55	86.12	85.86	85.59	85.72
261	85.54	85.32	85.27	85.19	85.14	85.18	85.19	85.23	85.53	85.51	86.08	85.80	85.44	85.63
261.5	85.60	85.31	85.27	85.22	85.16	85.26	85.28	85.31	85.56	85.57	86.09	85.85	85.57	85.61
262	85.67	85.40	85.38	85.29	85.21	85.24	85.34	85.40	85.60	85.57	86.08	85.86	85.58	85.62
262.5	85.64	85.35	85.35	85.30	85.27	85.31	85.43	85.29	85.48	85.48	86.07	85.82	85.58	85.62
263	85.53	85.29	85.21	85.17	85.16	85.22	85.38	85.22	85.47	85.46	85.93	85.77	85.29	85.58
263.5	85.42	85.12	85.09	85.06	84.99	85.14	85.36	85.23	85.44	85.37	85.83	85.75	85.44	85.65
264	85.57	85.24	85.04	85.05	85.09	85.22	85.35	85.24	85.36	85.21	85.76	85.68	85.57	85.63

264.5	85.49	85.16	85.14	85.14	85.11	85.18	85.20	85.14	85.34	85.15	85.73	85.64	85.57	85.60
265	85.35	85.10	85.08	85.13	85.10	85.23	85.30	85.25	85.34	85.29	85.86	85.63	85.29	85.58
265.5	85.39	85.19	85.11	85.10	85.14	85.17	85.34	85.24	85.26	85.39	85.81	85.71	85.57	85.63
266	85.50	85.29	85.19	85.18	85.09	85.22	85.38	85.32	85.43	85.49	85.90	85.77	85.43	85.61
266.5	85.45	85.17	85.19	85.10	85.10	85.27	85.42	85.36	85.51	85.52	85.98	85.79	85.73	85.60
267	85.50	85.19	85.19	85.12	85.14	85.25	85.41	85.31	85.34	85.50	85.97	85.78	85.72	85.67
267.5	85.63	85.32	85.23	85.15	85.15	85.20	85.35	85.22	85.26	85.42	85.95	85.78	85.57	85.60
268	85.61	85.30	85.15	85.17	85.16	85.17	85.34	85.27	85.39	85.41	86.00	85.69	85.42	85.65
268.5	85.69	85.38	85.16	85.15	85.19	85.23	85.44	85.38	85.47	85.52	86.03	85.83	85.43	85.70
269	85.64	85.39	85.25	85.19	85.16	85.23	85.46	85.40	85.53	85.52	86.05	85.85	85.73	85.72
269.5	85.51	85.32	85.32	85.22	85.19	85.23	85.36	85.30	85.53	85.54	86.05	85.82	85.58	85.69
270	85.62	85.31	85.19	85.25	85.18	85.38	85.39	85.32	85.56	85.59	86.06	85.74	85.57	85.60
270.5	85.66	85.28	85.16	85.14	85.16	85.36	85.52	85.18	85.62	85.65	86.09	85.84	85.57	85.67
271	85.59	85.24	85.17	85.17	85.16	85.38	85.47	85.25	85.65	85.73	86.10	85.91	85.57	85.77
271.5	85.55	85.31	85.18	85.14	85.13	85.28	85.41	85.34	85.67	85.71	86.16	85.98	85.57	85.79
272	85.70	85.44	85.27	85.25	85.19	85.35	85.49	85.44	85.63	85.54	86.06	85.93	85.72	85.79
272.5	85.74	85.46	85.34	85.31	85.33	85.40	85.47	85.47	85.61	85.52	86.06	85.83	85.57	85.69
273	85.81	85.50	85.28	85.33	85.29	85.33	85.45	85.52	85.66	85.61	86.12	85.86	85.44	85.69
273.5	85.80	85.50	85.34	85.31	85.33	85.42	85.51	85.45	85.58	85.65	86.10	85.84	85.72	85.70
274	85.73	85.47	85.36	85.27	85.31	85.29	85.45	85.34	85.60	85.52	86.04	85.80	85.43	85.73
274.5	85.66	85.38	85.33	85.28	85.25	85.32	85.49	85.39	85.56	85.53	86.03	85.77	85.72	85.68
275	85.52	85.37	85.39	85.34	85.35	85.39	85.47	85.28	85.56	85.52	85.98	85.77	85.43	85.74
275.5	85.58	85.30	85.38	85.26	85.29	85.37	85.47	85.32	85.61	85.62	86.14	85.95	85.44	85.82
276	85.57	85.30	85.27	85.23	85.27	85.27	85.33	85.32	85.50	85.60	86.11	85.96	85.87	85.85
276.5	85.52	85.34	85.32	85.24	85.21	85.25	85.33	85.33	85.52	85.54	86.08	85.93	85.85	85.84
277	85.62	85.42	85.30	85.25	85.06	85.26	85.42	85.44	85.59	85.65	86.09	85.83	85.72	85.67
277.5	85.60	85.38	85.27	85.25	85.15	85.39	85.54	85.48	85.56	85.54	85.85	85.68	85.43	85.61
278	85.63	85.37	85.29	85.28	85.25	85.28	85.45	85.32	85.50	85.53	85.85	85.74	85.43	85.65
278.5	85.67	85.39	85.32	85.24	85.30	85.32	85.43	85.33	85.55	85.54	85.96	85.85	85.71	85.66
279	85.75	85.46	85.42	85.36	85.30	85.38	85.42	85.45	85.64	85.67	86.09	85.94	85.73	85.75
279.5	85.81	85.60	85.54	85.40	85.33	85.42	85.50	85.53	85.77	85.68	86.21	86.05	85.85	85.81
280	85.86	85.64	85.54	85.49	85.41	85.50	85.58	85.47	85.73	85.72	86.25	86.06	85.86	85.89
280.5	85.76	85.54	85.54	85.51	85.48	85.46	85.58	85.47	85.73	85.72	86.28	86.04	85.72	85.92
281	85.73	85.52	85.53	85.45	85.48	85.52	85.64	85.50	85.78	85.83	86.29	86.09	85.57	85.87
281.5	85.72	85.45	85.44	85.42	85.53	85.58	85.70	85.54	85.78	85.83	86.28	86.07	85.72	85.86
282	85.56	85.37	85.34	85.44	85.51	85.60	85.66	85.52	85.77	85.79	86.27	85.96	85.57	85.76
282.5	85.55	85.42	85.34	85.49	85.54	85.62	85.70	85.60	85.83	85.79	86.28	85.99	85.57	85.72
283	85.62	85.39	85.27	85.45	85.51	85.65	85.70	85.50	85.80	85.78	86.30	86.08	85.87	85.87
283.5	85.57	85.32	85.19	85.28	85.45	85.38	85.62	85.47	85.43	85.66	86.26	86.01	85.86	85.93
284	85.74	85.42	85.24	85.32	85.43	85.40	85.54	85.45	85.50	85.67	86.32	86.00	85.57	85.90
284.5	85.85	85.53	85.35	85.46	85.48	85.58	85.64	85.53	85.52	85.71	86.33	86.15	85.57	86.00

285	85.89	85.55	85.49	85.59	85.53	85.59	85.60	85.51	85.58	85.75	86.32	86.15	86.01	85.98
285.5	85.77	85.39	85.47	85.61	85.46	85.50	85.65	85.52	85.66	85.76	86.33	86.16	85.72	86.02
286	85.69	85.39	85.46	85.54	85.51	85.59	85.62	85.41	85.62	85.76	86.39	86.22	85.86	85.99
286.5	85.69	85.44	85.42	85.51	85.55	85.55	85.58	85.41	85.59	85.75	86.36	86.17	86.30	86.02
287	85.77	85.54	85.51	85.51	85.36	85.35	85.57	85.32	85.60	85.74	86.31	86.17	86.00	86.04
287.5	85.80	85.55	85.44	85.45	85.39	85.31	85.53	85.36	85.58	85.77	86.34	86.18	85.87	86.01
288	85.92	85.60	85.34	85.32	85.38	85.33	85.47	85.35	85.59	85.69	86.28	86.15	85.86	86.02
288.5	85.76	85.37	85.24	85.27	85.24	85.29	85.42	85.34	85.59	85.62	86.32	86.17	85.86	85.98
289	85.64	85.37	85.26	85.17	85.24	85.30	85.54	85.46	85.61	85.48	86.30	86.04	85.85	85.91
289.5	85.74	85.43	85.37	85.29	85.39	85.47	85.63	85.60	85.69	85.67	86.30	86.02	85.87	85.94
290	85.75	85.50	85.47	85.49	85.54	85.63	85.70	85.56	85.77	85.77	86.31	86.05	86.02	85.95
290.5	85.87	85.50	85.45	85.62	85.63	85.71	85.79	85.60	85.79	85.78	86.31	86.07	86.02	85.94
291	85.63	85.45	85.32	85.55	85.62	85.73	85.74	85.61	85.79	85.82	86.32	86.10	85.86	85.90
291.5	85.67	85.50	85.42	85.50	85.53	85.67	85.72	85.63	85.76	85.77	86.34	86.17	85.87	86.00
292	85.73	85.54	85.37	85.35	85.43	85.62	85.70	85.61	85.72	85.73	86.16	86.01	85.86	85.92
292.5	85.85	85.54	85.40	85.44	85.43	85.59	85.62	85.57	85.75	85.79	86.09	85.93	85.86	85.89
293	85.79	85.53	85.48	85.53	85.51	85.55	85.59	85.44	85.67	85.68	86.09	85.92	85.71	85.92
293.5	85.84	85.59	85.49	85.54	85.44	85.42	85.49	85.37	85.58	85.56	86.11	86.02	85.71	85.89
294	85.85	85.56	85.46	85.27	85.36	85.40	85.47	85.43	85.55	85.69	86.11	86.05	85.71	85.92
294.5	85.72	85.53	85.46	85.27	85.44	85.52	85.63	85.55	85.66	85.78	86.29	86.09	85.74	85.98
295	85.73	85.55	85.47	85.38	85.41	85.45	85.65	85.48	85.68	85.57	86.17	86.00	86.01	85.77
295.5	85.80	85.57	85.37	85.44	85.39	85.50	85.52	85.50	85.71	85.62	86.13	85.83	85.57	85.79
296	85.70	85.42	85.39	85.28	85.35	85.42	85.45	85.47	85.69	85.59	86.17	85.91	85.72	85.84
296.5	85.87	85.52	85.43	85.24	85.35	85.39	85.39	85.58	85.76	85.70	86.29	86.06	86.01	85.90
297	85.90	85.57	85.42	85.28	85.33	85.39	85.48	85.47	85.73	85.77	86.32	86.12	86.01	85.92
297.5	85.72	85.48	85.24	85.26	85.23	85.08	85.46	85.45	85.74	85.80	86.30	86.11	85.87	85.93
298	85.92	85.60	85.24	85.21	85.16	85.02	85.28	85.44	85.69	85.79	86.35	86.07	85.86	85.84
298.5	85.68	85.63	85.39	85.21	85.27	85.24	85.33	85.42	85.77	85.79	86.28	85.95	85.71	85.75
299	85.71	85.53	85.46	85.36	85.41	85.38	85.39	85.46	85.70	85.74	86.22	86.01	85.57	85.70
299.5	85.77	85.59	85.51	85.41	85.43	85.44	85.50	85.44	85.65	85.74	86.19	85.98	85.57	85.66
300	85.82	85.53	85.38	85.35	85.44	85.44	85.55	85.22	85.60	85.75	86.27	86.02	85.73	85.78
300.5	85.84	85.43	85.42	85.35	85.39	85.36	85.50	85.43	85.70	85.71	86.28	86.05	85.73	85.84
301	85.64	85.39	85.44	85.35	85.38	85.26	85.54	85.48	85.78	85.70	86.32	86.06	85.57	85.93
301.5	85.79	85.51	85.50	85.47	85.45	85.36	85.55	85.41	85.72	85.63	86.32	86.05	85.74	85.95
302	85.83	85.50	85.47	85.35	85.29	85.35	85.52	85.37	85.50	85.47	86.04	85.87	85.57	85.80
302.5	85.70	85.39	85.36	85.28	85.28	85.39	85.47	85.42	85.58	85.54	85.95	85.83	85.57	85.71
303	85.57	85.37	85.39	85.32	85.28	85.36	85.41	85.24	85.65	85.60	86.10	85.93	85.57	85.74
303.5	85.45	85.29	85.36	85.33	85.30	85.30	85.33	85.11	85.65	85.56	86.09	85.86	85.57	85.79
304	85.42	85.24	85.23	85.21	85.19	85.29	85.34	85.17	85.62	85.65	86.13	85.88	85.72	85.82
304.5	85.43	85.21	85.11	85.16	85.20	85.26	85.29	85.11	85.43	85.57	86.07	85.85	85.85	85.77
305	85.62	85.36	85.29	85.25	85.19	85.26	85.42	85.29	85.53	85.67	86.20	85.86	85.73	85.85

305.5	85.30	85.21	85.13	85.14	85.21	85.35	85.41	85.44	85.62	85.73	86.14	85.88	85.57	85.74
306	85.34	85.09	84.99	85.11	85.36	85.42	85.45	85.48	85.62	85.65	86.06	85.93	85.72	85.74
306.5	85.35	85.16	85.11	85.17	85.26	85.33	85.39	85.37	85.57	85.65	86.21	85.98	85.73	85.74
307	85.44	85.12	85.19	85.22	85.21	85.29	85.38	85.42	85.65	85.57	86.13	85.87	85.72	85.67
307.5	85.34	85.16	85.24	85.25	85.19	85.28	85.38	85.31	85.49	85.40	85.97	85.62	85.43	85.58
308	85.44	85.19	85.27	85.29	85.31	85.39	85.41	85.24	85.45	85.42	86.04	85.71	85.72	85.58
308.5	85.53	85.32	85.33	85.38	85.39	85.42	85.41	85.27	85.46	85.49	86.00	85.77	85.57	85.65
309	85.57	85.21	85.32	85.24	85.22	85.35	85.25	85.19	85.49	85.40	86.03	85.83	85.57	85.73
309.5	85.70	85.33	85.28	85.16	85.23	85.31	85.33	85.32	85.53	85.55	86.14	85.95	85.73	85.82
310	85.60	85.30	85.28	85.20	85.30	85.20	85.30	85.29	85.58	85.68	86.17	85.95	85.73	85.78
310.5	85.54	85.36	85.34	85.27	85.33	85.18	85.27	85.25	85.61	85.58	86.11	85.79	85.87	85.79
311	85.67	85.43	85.38	85.25	85.37	85.23	85.32	85.17	85.45	85.50	86.15	85.86	85.58	85.79
311.5	85.67	85.45	85.44	85.30	85.29	85.27	85.34	85.26	85.34	85.44	86.04	85.79	85.58	85.72
312	85.72	85.44	85.39	85.28	85.32	85.30	85.37	85.34	85.39	85.37	86.06	85.83	85.57	85.73
312.5	85.75	85.52	85.37	85.39	85.34	85.33	85.45	85.45	85.44	85.42	86.01	85.78	85.58	85.63
313	85.86	85.57	85.47	85.44	85.35	85.45	85.58	85.48	85.46	85.48	86.04	85.86	85.59	85.64
313.5	85.69	85.49	85.42	85.40	85.38	85.45	85.57	85.37	85.39	85.44	85.89	85.76	85.42	85.62
314	85.63	85.48	85.43	85.39	85.42	85.50	85.61	85.44	85.43	85.23	85.90	85.80	85.57	85.60
314.5	85.62	85.37	85.41	85.34	85.33	85.41	85.59	85.39	85.47	85.44	85.99	85.82	85.57	85.68
315	85.47	85.26	85.29	85.20	85.19	85.24	85.42	85.27	85.53	85.48	85.96	85.75	85.44	85.62
315.5	85.36	85.14	85.20	85.19	85.16	85.20	85.37	85.34	85.50	85.44	85.93	85.75	85.57	85.63
316	85.44	85.22	85.29	85.25	85.24	85.29	85.45	85.32	85.49	85.42	85.98	85.78	85.43	85.64
316.5	85.67	85.36	85.32	85.30	85.33	85.38	85.49	85.22	85.51	85.51	85.99	85.78	85.58	85.69
317	85.53	85.21	85.27	85.35	85.31	85.36	85.47	85.32	85.63	85.59	86.03	85.69	85.43	85.57
317.5	85.51	85.20	85.15	85.27	85.12	85.33	85.40	85.37	85.61	85.62	86.05	85.75	85.44	85.58
318	85.50	85.29	85.24	85.29	85.03	85.31	85.39	85.40	85.60	85.60	86.11	85.80	85.73	85.63
318.5	85.49	85.29	85.27	85.17	85.14	85.36	85.47	85.38	85.37	85.50	86.09	85.85	85.57	85.64
319	85.58	85.31	85.22	85.20	85.19	85.45	85.48	85.41	85.52	85.52	86.04	85.87	85.59	85.72
319.5	85.38	85.11	85.06	85.17	85.07	85.38	85.41	85.42	85.55	85.51	86.00	85.74	85.71	85.69
320	85.46	85.21	85.21	85.14	85.05	85.33	85.41	85.38	85.63	85.62	86.14	85.88	85.57	85.70
320.5	85.54	85.25	85.20	85.09	85.06	85.20	85.32	85.28	85.62	85.62	86.12	85.93	85.43	85.63
321	85.59	85.28	85.13	85.14	85.16	85.23	85.31	85.17	85.55	85.42	86.03	85.77	85.29	85.70
321.5	85.37	85.12	85.09	85.04	85.16	85.15	85.41	85.27	85.49	85.47	86.06	85.85	85.43	85.68
322	85.41	85.14	85.14	85.19	85.23	85.31	85.47	85.37	85.58	85.57	85.95	85.94	85.73	85.68
322.5	85.36	85.12	85.07	85.25	85.31	85.30	85.39	85.37	85.59	85.62	86.09	85.97	85.72	85.71
323	85.38	85.14	85.12	85.27	85.20	85.30	85.34	85.27	85.60	85.61	86.11	86.01	85.73	85.81
323.5	85.54	85.24	85.27	85.34	85.21	85.28	85.37	85.21	85.32	85.21	85.98	85.80	85.43	85.73
324	85.51	85.27	85.31	85.16	85.08	85.20	85.33	85.10	85.35	85.31	85.95	85.80	85.57	85.72
324.5	85.52	85.23	85.21	85.13	85.07	85.12	85.24	85.16	85.38	85.39	85.99	85.86	85.57	85.72
325	85.50	85.22	85.10	85.19	85.04	85.06	85.14	85.19	85.37	85.37	86.07	85.83	85.57	85.74
325.5	85.53	85.25	85.26	85.24	85.06	85.06	85.26	85.07	85.37	85.40	85.98	85.78	85.43	85.65

326	85.56	85.27	85.27	85.18	85.06	85.18	85.28	85.15	85.37	85.39	86.01	85.72	85.57	85.60
326.5	85.47	85.15	85.19	85.05	85.08	85.15	85.18	85.15	85.29	85.23	85.84	85.61	85.14	85.55
327	85.42	85.04	85.08	84.93	84.91	85.08	85.20	85.11	85.29	85.19	85.84	85.53	85.28	85.50
327.5	85.47	85.09	85.11	85.04	85.05	85.23	85.29	85.32	85.37	85.42	85.91	85.64	85.43	85.54
328	85.46	85.14	85.18	85.09	85.03	84.95	85.34	85.39	85.44	85.44	85.92	85.69	85.57	85.59
328.5	85.24	84.95	85.00	84.92	84.94	84.93	85.37	85.31	85.52	85.49	86.00	85.80	85.72	85.63
329	85.42	85.08	85.10	85.02	85.04	85.18	85.47	85.37	85.59	85.56	85.95	85.84	85.57	85.58
329.5	85.57	85.21	85.11	85.11	85.16	85.22	85.47	85.31	85.47	85.46	85.81	85.74	85.43	85.64
330	85.45	85.16	84.95	85.24	85.20	85.25	85.37	85.33	85.44	85.48	85.93	85.69	85.13	85.69
330.5	85.52	85.19	85.11	85.23	85.04	85.14	85.31	85.16	85.39	85.49	85.96	85.70	85.42	85.56
331	85.56	85.24	85.20	85.21	85.06	85.16	85.26	84.94	85.32	85.43	85.98	85.62	85.43	85.54
331.5	85.57	85.29	85.22	85.15	84.93	85.06	85.23	85.12	85.34	85.31	85.96	85.54	85.29	85.47
332	85.58	85.28	85.22	85.15	84.92	85.08	85.28	85.27	85.40	85.33	85.96	85.58	85.45	85.60
332.5	85.60	85.35	85.27	85.08	84.86	85.13	85.34	85.28	85.37	85.37	85.94	85.74	85.43	85.64
333	85.74	85.47	85.36	84.93	85.00	85.17	85.39	85.29	85.39	85.39	85.97	85.74	85.42	85.63
333.5	85.62	85.43	85.38	84.99	85.11	85.21	85.40	85.33	85.54	85.48	86.02	85.76	85.42	85.60
334	85.49	85.34	85.29	85.11	85.07	85.28	85.46	85.37	85.52	85.48	85.96	85.45	85.42	85.51
334.5	85.56	85.31	85.19	84.97	85.03	85.20	85.36	85.16	85.35	85.36	85.78	85.58	85.28	85.50
335	85.17	85.12	85.07	84.85	84.91	85.03	85.31	85.07	85.27	85.30	85.76	85.53	85.57	85.51
335.5	84.95	84.83	84.88	84.73	84.90	84.80	85.14	84.90	85.02	85.11	85.79	85.57	85.58	85.55
336	85.02	84.86	84.81	84.57	84.79	84.89	84.98	84.79	85.19	85.23	85.81	85.65	85.57	85.60
336.5	85.22	84.89	84.81	84.71	84.79	84.93	84.98	84.94	85.23	85.19	85.79	85.65	85.43	85.60
337	84.94	84.91	84.87	84.91	84.92	85.08	85.11	84.99	85.27	85.14	85.90	85.69	85.43	85.61
337.5	85.15	85.00	84.98	85.04	85.01	85.17	85.18	85.06	85.31	85.21	85.90	85.67	85.28	85.57
338	85.39	85.06	85.04	85.07	85.01	85.16	85.21	85.14	85.27	85.27	85.88	85.69	85.43	85.54
338.5	85.34	85.08	85.03	85.09	85.06	85.15	85.11	84.94	85.30	85.36	85.93	85.72	85.43	85.60
339	85.30	84.92	84.99	85.01	84.95	85.02	84.89	84.81	85.29	85.31	85.98	85.74	85.43	85.64
339.5	85.24	84.91	85.02	85.02	85.06	85.14	85.01	85.12	85.41	85.39	86.05	85.83	85.58	85.66
340	85.32	85.06	85.10	85.08	85.09	85.15	85.12	85.15	85.40	85.34	86.01	85.77	85.29	85.64
340.5	85.32	85.06	85.11	85.03	85.02	84.98	85.16	85.16	85.38	85.25	85.98	85.78	85.44	85.63
341	85.18	85.04	85.05	85.01	84.97	85.01	85.05	85.10	85.25	85.15	85.89	85.69	85.42	85.59
341.5	85.30	85.09	85.10	84.95	84.99	84.96	84.96	85.02	85.21	85.14	85.84	85.64	85.57	85.52
342	85.52	85.18	85.07	84.91	84.81	84.85	84.98	85.09	85.08	85.14	85.82	85.67	85.43	85.55
342.5	85.49	85.18	85.09	85.01	84.69	84.93	85.01	85.07	85.08	85.17	85.87	85.65	85.14	85.48
343	85.11	85.00	85.07	85.03	84.80	85.06	85.07	85.03	85.22	85.24	85.85	85.66	85.29	85.40
343.5	85.26	85.08	85.16	85.08	84.95	85.20	85.18	85.11	85.30	85.26	85.75	85.45	85.14	85.22
344	85.35	85.14	85.19	85.13	85.10	85.21	85.23	85.04	85.22	85.13	85.65	85.35	85.13	85.24
344.5	85.26	85.23	85.25	85.17	85.04	85.07	85.14	84.90	85.19	85.16	85.68	85.38	84.99	85.31
345	85.04	84.88	85.07	85.12	84.95	85.03	85.12	84.98	85.26	85.24	85.75	85.50	85.14	85.39
345.5	85.05	84.81	84.87	84.92	84.93	85.00	85.14	85.06	85.25	85.11	85.77	85.64	85.44	85.42
346	85.02	84.70	84.77	84.82	84.84	84.96	85.14	85.07	85.24	85.19	85.76	85.64	85.43	85.45

346.5	84.99	84.80	84.82	84.86	84.90	85.00	85.16	85.14	85.28	85.23	85.84	85.64	85.28	85.47
347	85.07	84.73	84.81	84.74	84.86	85.00	85.14	85.15	85.29	85.09	85.68	85.64	85.14	85.36
347.5	84.96	84.71	84.63	84.39	84.86	84.81	84.97	84.99	85.06	84.89	85.58	85.41	85.13	85.25
348	84.92	84.65	84.52	84.42	84.76	84.63	84.78	84.82	84.92	84.79	85.48	85.38	84.86	85.17
348.5	85.02	84.69	84.59	84.51	84.61	84.63	84.83	84.78	85.08	84.94	85.49	85.37	85.00	85.23
349	85.00	84.65	84.59	84.42	84.61	84.75	84.76	84.55	85.10	85.04	85.59	85.43	85.14	85.29
349.5	84.84	84.60	84.58	84.49	84.50	84.66	84.58	84.52	85.08	85.05	85.63	85.41	85.15	85.25
350	84.79	84.69	84.64	84.50	84.55	84.60	84.66	84.62	85.08	85.09	85.69	85.40	85.00	85.30
350.5	84.92	84.68	84.53	84.52	84.68	84.68	84.86	84.75	85.10	85.14	85.69	85.43	85.00	85.32
351	85.10	84.75	84.60	84.55	84.76	84.75	84.85	84.82	85.10	85.11	85.66	85.46	85.14	85.32
351.5	85.00	84.79	84.70	84.69	84.74	84.72	84.93	84.85	85.19	85.17	85.75	85.53	85.29	85.32
352	84.97	84.75	84.74	84.81	84.82	84.82	84.99	84.98	85.29	85.24	85.75	85.52	85.29	85.36
352.5	85.14	84.89	84.82	84.79	84.77	84.86	85.11	85.05	85.30	85.24	85.74	85.59	85.01	85.44
353	85.08	84.85	84.79	84.77	84.74	84.87	85.05	85.01	85.26	85.19	85.70	85.50	85.13	85.40
353.5	85.07	84.73	84.69	84.68	84.75	84.96	85.06	84.99	85.17	85.13	85.65	85.56	85.14	85.38
354	85.07	84.80	84.73	84.77	84.85	84.99	85.09	84.88	84.98	84.88	85.72	85.55	85.14	85.41
354.5	85.13	84.82	84.83	84.79	84.91	85.02	85.05	84.83	84.94	84.88	85.56	85.53	85.12	85.42
355	85.17	84.91	84.83	84.85	84.91	85.05	85.06	84.97	85.06	84.97	85.66	85.50	85.29	85.47
355.5	85.20	84.96	84.73	84.68	84.95	84.85	85.12	84.89	85.11	85.01	85.65	85.52	85.14	85.41
356	85.26	84.98	84.75	84.72	84.83	84.71	84.94	84.96	85.15	85.16	85.64	85.44	85.28	85.22
356.5	85.32	85.02	84.91	84.78	84.81	84.78	84.92	84.88	85.16	85.23	85.66	85.46	85.00	85.19
357	85.19	84.94	84.76	84.69	84.59	84.48	84.94	84.84	85.09	85.09	85.68	85.35	85.13	85.15
357.5	84.84	84.69	84.71	84.61	84.49	84.43	84.75	84.88	84.95	85.00	85.66	85.29	85.14	85.20
358	84.92	84.63	84.68	84.55	84.59	84.53	84.83	84.95	85.05	85.09	85.67	85.40	85.15	85.30
358.5	84.87	84.69	84.71	84.69	84.65	84.63	84.86	84.99	85.17	85.04	85.72	85.43	85.29	85.36
359	84.97	84.75	84.74	84.77	84.71	84.55	84.83	85.02	85.20	85.19	85.75	85.52	85.29	85.44
359.5	84.97	84.68	84.60	84.71	84.62	84.51	84.92	84.95	85.14	85.17	85.71	85.45	85.29	85.39
360	84.78	84.51	84.57	84.66	84.59	84.54	84.90	84.92	85.18	85.08	85.69	85.48	85.29	85.40
360.5	84.87	84.65	84.67	84.64	84.62	84.65	84.82	84.82	84.94	84.98	85.65	85.52	85.43	85.45
361	84.85	84.61	84.71	84.65	84.72	84.68	84.84	84.65	84.91	85.04	85.58	85.51	85.44	85.40
361.5	84.87	84.62	84.72	84.74	84.72	84.69	84.94	84.78	85.06	85.17	85.65	85.45	85.30	85.42
362	84.93	84.70	84.70	84.72	84.76	84.52	85.06	84.92	85.11	85.20	85.57	85.33	85.43	85.42
362.5	84.74	84.50	84.67	84.55	84.54	84.42	84.93	84.89	85.17	85.20	85.60	85.37	85.29	85.36
363	84.67	84.45	84.57	84.57	84.62	84.65	85.03	84.94	85.24	85.20	85.62	85.39	85.14	85.35
363.5	84.84	84.57	84.54	84.67	84.72	84.83	85.12	85.07	85.27	85.27	85.66	85.29	85.00	85.26
364	84.86	84.63	84.67	84.74	84.79	84.88	85.11	84.99	85.19	85.16	85.63	85.30	85.29	85.23
364.5	84.90	84.70	84.79	84.81	84.84	84.96	85.14	85.02	85.23	85.19	85.78	85.52	85.29	85.32
365	84.78	84.60	84.64	84.69	84.79	84.93	85.04	85.09	85.31	85.34	85.83	85.63	85.29	85.33
365.5	84.89	84.73	84.74	84.66	84.70	84.80	84.99	85.09	85.31	85.35	85.89	85.69	85.15	85.39
366	85.07	84.86	84.82	84.69	84.64	84.74	85.00	84.95	85.32	85.25	85.86	85.60	85.44	85.36
366.5	84.87	84.66	84.76	84.65	84.57	84.66	85.01	84.82	85.17	85.20	85.76	85.50	85.43	85.38

367	84.82	84.70	84.78	84.74	84.63	84.74	85.03	84.93	85.16	85.31	85.81	85.53	85.42	85.33
367.5	85.01	84.86	84.87	84.76	84.70	84.73	85.11	85.03	85.22	85.21	85.77	85.67	85.29	85.44
368	84.81	84.71	84.82	84.70	84.73	84.78	85.05	85.00	85.11	85.18	85.73	85.63	85.28	85.49
368.5	84.98	84.77	84.77	84.65	84.72	84.81	84.96	84.87	85.15	85.29	85.71	85.48	85.15	85.43
369	85.12	84.80	84.76	84.67	84.58	84.68	84.86	84.75	85.17	85.17	85.75	85.46	85.29	85.41
369.5	85.14	84.83	84.79	84.79	84.59	84.69	84.95	84.82	85.21	85.26	85.72	85.46	85.14	85.39
370	85.10	84.86	84.74	84.81	84.64	84.73	84.99	84.79	85.26	85.20	85.71	85.48	85.29	85.35
370.5	85.15	84.87	84.79	84.77	84.73	84.81	84.96	84.86	85.22	85.17	85.71	85.51	85.15	85.43
371	85.28	84.94	84.85	84.87	84.87	84.97	85.05	84.93	85.18	85.18	85.80	85.55	85.42	85.44
371.5	85.27	85.01	84.94	84.95	84.92	84.96	85.09	84.99	85.29	85.26	85.84	85.58	85.29	85.45
372	85.15	84.93	84.95	84.91	84.94	85.00	85.03	84.87	85.09	85.02	85.67	85.47	85.13	85.37
372.5	85.10	84.85	84.93	84.79	84.88	84.89	85.03	84.85	85.10	85.07	85.62	85.43	85.14	85.33
373	85.06	84.93	84.81	84.85	84.92	84.90	84.99	84.91	85.11	85.13	85.63	85.49	85.41	85.29
373.5	85.18	84.95	84.84	84.89	84.86	84.89	85.06	85.01	85.13	85.10	85.50	85.56	85.27	85.38
374	85.12	84.96	84.74	84.74	84.71	84.88	85.08	84.98	85.19	85.09	85.52	85.56	85.29	85.45
374.5	84.94	84.75	84.61	84.72	84.64	84.78	84.98	84.94	85.27	85.17	85.66	85.53	85.14	85.42
375	84.82	84.60	84.47	84.70	84.76	84.84	85.00	84.89	85.19	85.22	85.76	85.54	85.15	85.46
375.5	84.76	84.53	84.47	84.65	84.76	84.92	85.01	84.88	85.19	85.26	85.75	85.53	85.29	85.51
376	84.86	84.68	84.51	84.57	84.74	85.02	85.14	84.91	85.24	85.29	85.76	85.60	85.13	85.46
376.5	85.02	84.76	84.59	84.54	84.78	85.02	85.09	84.92	85.20	85.26	85.78	85.52	85.14	85.38
377	84.98	84.71	84.61	84.54	84.69	84.87	84.94	84.89	85.13	85.21	85.77	85.53	85.28	85.38
377.5	84.89	84.72	84.67	84.62	84.65	84.80	84.89	84.82	85.00	84.94	85.66	85.45	85.43	85.39
378	84.76	84.57	84.59	84.69	84.67	84.60	84.87	84.80	84.95	84.70	85.58	85.34	85.13	85.22
378.5	84.67	84.49	84.57	84.54	84.49	84.66	84.93	84.88	84.88	84.53	85.56	85.33	85.29	85.23
379	84.65	84.51	84.57	84.53	84.57	84.78	84.99	84.89	84.96	84.85	85.58	85.34	85.01	85.28
379.5	84.87	84.57	84.54	84.58	84.71	84.86	85.03	84.97	85.04	85.01	85.50	85.23	85.14	85.12
380	84.74	84.57	84.69	84.71	84.68	84.66	84.89	84.79	84.84	84.93	85.40	85.14	85.14	85.09
380.5	84.64	84.47	84.77	84.77	84.67	84.58	84.89	84.71	84.75	84.77	85.40	85.16	84.85	85.14
381	84.59	84.43	84.74	84.68	84.58	84.49	84.75	84.67	84.87	84.84	85.50	85.17	84.85	85.12
381.5	84.66	84.40	84.39	84.52	84.54	84.51	84.70	84.57	84.87	84.88	85.50	85.14	84.85	85.09
382	84.34	84.13	84.34	84.45	84.55	84.43	84.75	84.65	84.78	84.93	85.60	85.29	85.00	85.09
382.5	84.52	84.41	84.35	84.46	84.49	84.44	84.72	84.60	84.89	84.98	85.38	85.21	84.84	84.98
383	84.68	84.42	84.29	84.44	84.34	84.30	84.57	84.57	84.92	84.82	85.30	85.07	84.84	84.84
383.5	84.60	84.42	84.37	84.48	84.21	84.21	84.46	84.49	84.69	84.55	85.30	85.07	84.71	84.85
384	84.57	84.34	84.26	84.38	84.12	84.21	84.43	84.34	84.55	84.57	85.19	84.95	84.71	84.85
384.5	84.54	84.35	84.29	84.23	84.19	84.37	84.46	84.30	84.46	84.55	85.24	84.99	84.70	84.83
385	84.50	84.27	84.32	84.30	84.41	84.46	84.52	84.41	84.52	84.64	85.37	85.14	84.87	84.96
385.5	84.48	84.36	84.41	84.36	84.44	84.41	84.55	84.39	84.54	84.57	85.16	85.05	84.84	84.98
386	84.59	84.34	84.37	84.25	84.44	84.42	84.56	84.28	84.54	84.58	85.21	84.95	84.71	84.84
386.5	84.57	84.32	84.37	84.35	84.44	84.43	84.53	84.31	84.62	84.67	85.31	85.13	85.00	84.95
387	84.62	84.41	84.44	84.40	84.39	84.44	84.60	84.50	84.75	84.65	85.35	85.15	84.86	84.85

387.5	84.61	84.32	84.37	84.41	84.39	84.32	84.60	84.38	84.67	84.55	85.21	84.95	84.85	84.79
388	84.33	84.16	84.23	84.25	84.14	84.18	84.49	84.41	84.70	84.61	85.15	84.94	84.87	84.87
388.5	84.29	84.06	84.09	84.18	83.95	84.09	84.49	84.39	84.68	84.54	85.17	84.98	84.71	84.91
389	84.06	84.02	84.13	84.12	83.99	84.21	84.52	84.41	84.66	84.50	85.22	85.00	84.84	84.87
389.5	84.09	84.04	84.19	84.11	84.10	84.32	84.44	84.19	84.56	84.67	85.22	85.00	84.71	84.78
390	84.30	84.16	84.24	84.24	84.10	84.22	84.40	84.29	84.67	84.58	85.22	84.91	84.56	84.79
390.5	84.39	84.17	84.16	84.24	84.11	84.28	84.46	84.38	84.64	84.50	85.14	84.92	84.71	84.81
391	84.37	84.14	84.22	84.28	84.19	84.30	84.38	84.30	84.63	84.59	85.20	84.87	84.57	84.76
391.5	84.43	84.19	84.22	84.12	84.20	84.25	84.45	84.43	84.59	84.63	85.19	84.89	84.56	84.70
392	84.30	84.23	84.26	84.10	84.30	84.34	84.45	84.57	84.64	84.53	85.11	84.90	84.58	84.75
392.5	84.19	84.09	84.00	84.11	84.20	84.25	84.33	84.48	84.67	84.54	85.11	84.87	84.58	84.80
393	84.20	84.06	84.07	84.15	84.17	84.23	84.44	84.39	84.62	84.61	85.15	84.86	84.42	84.78
393.5	84.40	84.19	84.23	84.21	84.14	84.26	84.44	84.37	84.49	84.38	84.87	84.85	84.56	84.74
394	84.33	84.15	84.19	84.22	84.12	84.20	84.35	84.30	84.46	84.37	84.92	84.80	84.70	84.77
394.5	84.26	84.19	84.29	84.20	84.10	84.22	84.40	84.41	84.64	84.53	85.11	84.92	84.56	84.79
395	84.31	84.20	84.21	84.25	84.17	84.25	84.43	84.52	84.69	84.53	85.12	84.94	84.56	84.78
395.5	84.31	84.16	84.16	84.16	84.12	84.18	84.45	84.41	84.53	84.43	85.00	84.90	84.70	84.77
396	84.34	84.21	84.16	84.08	84.07	84.23	84.31	84.18	84.52	84.53	84.95	84.81	84.71	84.74
396.5	84.34	84.19	84.14	84.05	84.05	84.05	84.23	84.21	84.51	84.50	84.96	84.72	84.56	84.63
397	84.34	84.14	84.12	84.03	84.02	84.13	84.32	84.20	84.49	84.30	84.95	84.66	84.28	84.63
397.5	84.24	84.09	84.09	84.09	84.05	84.13	84.40	84.30	84.54	84.36	84.88	84.68	84.57	84.67
398	84.30	84.03	84.16	84.20	84.07	84.11	84.40	84.32	84.46	84.43	84.93	84.72	84.56	84.66
398.5	84.38	84.11	84.04	84.15	84.09	84.20	84.41	84.37	84.54	84.62	85.04	84.84	84.57	84.72
399	84.30	84.01	83.96	84.12	84.15	84.21	84.40	84.38	84.58	84.60	85.02	84.89	84.56	84.65
399.5	84.42	84.12	84.01	84.12	84.16	84.24	84.34	84.36	84.57	84.59	84.98	84.89	84.72	84.66
400	84.33	84.07	84.04	84.10	84.01	84.12	84.31	84.34	84.52	84.51	84.93	84.78	84.27	84.66
400.5	84.34	84.16	84.11	84.05	83.90	84.12	84.29	84.25	84.22	84.44	84.87	84.78	84.27	84.58
401	84.41	84.16	84.23	84.07	83.86	84.01	84.13	84.14	84.28	84.49	84.97	84.73	84.56	84.52
401.5	84.20	84.11	84.10	84.14	84.02	84.06	84.20	84.22	84.38	84.54	84.99	84.73	84.56	84.62
402	84.37	84.19	84.16	84.18	84.17	84.15	84.24	84.14	84.36	84.47	84.83	84.56	84.27	84.52
402.5	84.22	84.13	84.16	84.07	84.10	84.15	84.21	84.10	84.25	84.40	84.82	84.52	84.12	84.29
403	84.37	84.16	84.11	83.97	83.82	84.12	84.16	84.01	84.28	84.31	84.86	84.66	84.13	84.37
403.5	84.26	84.06	84.05	83.90	83.80	84.03	84.12	84.09	84.22	84.26	84.85	84.70	84.41	84.48
404	84.32	84.12	83.99	83.84	83.87	84.03	84.18	84.20	84.35	84.32	84.84	84.58	84.12	84.39
404.5	84.19	83.98	83.91	83.92	83.93	84.06	84.22	84.19	84.40	84.36	84.82	84.54	84.28	84.44
405	84.01	83.85	83.89	83.93	83.85	84.03	84.19	84.17	84.30	84.29	84.88	84.70	84.28	84.50
405.5	84.09	83.94	84.06	83.94	83.94	83.95	84.13	84.12	84.32	84.34	84.90	84.73	84.56	84.55
406	84.31	84.04	84.09	83.87	83.90	83.89	84.07	84.04	84.25	84.31	84.84	84.70	84.27	84.55
406.5	84.39	84.00	84.01	83.92	83.87	83.92	83.80	84.05	84.19	84.24	84.74	84.68	84.42	84.47
407	84.09	83.91	84.01	83.85	83.85	83.98	83.98	84.08	84.22	84.24	84.74	84.53	84.13	84.42
407.5	84.03	83.91	83.90	83.87	83.77	83.89	83.98	83.99	84.18	84.04	84.57	84.43	83.99	84.27

408	83.86	83.87	83.83	83.78	83.77	83.82	84.00	83.92	84.07	84.01	84.48	84.38	83.99	84.30
408.5	84.00	83.97	83.81	83.82	83.78	83.91	84.07	83.96	84.16	84.05	84.55	84.37	83.99	84.39
409	84.13	83.97	83.84	83.81	83.97	84.03	84.04	83.88	84.15	84.05	84.51	84.30	84.27	84.34
409.5	84.03	83.83	83.79	83.81	83.85	83.91	83.98	83.94	84.16	84.18	84.67	84.46	84.13	84.37
410	83.87	83.66	83.66	83.64	83.77	83.91	84.09	83.98	84.21	84.26	84.70	84.50	84.29	84.42
410.5	84.00	83.70	83.77	83.78	83.77	83.95	84.13	84.05	84.16	84.24	84.73	84.49	84.42	84.39
411	84.09	83.90	83.90	83.82	83.88	83.91	83.96	84.02	84.03	84.12	84.52	84.41	84.42	84.36
411.5	83.91	83.78	83.67	83.84	83.84	83.83	83.90	83.98	84.02	84.01	84.54	84.47	84.13	84.36
412	83.94	83.78	83.75	83.82	83.83	83.83	83.86	83.86	84.11	84.07	84.57	84.39	83.99	84.25
412.5	84.00	83.71	83.69	83.75	83.84	83.75	83.91	83.85	84.15	84.21	84.60	84.43	83.99	84.24
413	83.95	83.73	83.82	83.76	83.89	83.87	84.02	83.97	84.15	84.15	84.60	84.48	83.99	84.25
413.5	84.05	83.82	83.83	83.72	83.90	83.90	84.08	84.03	84.15	84.12	84.60	84.49	83.98	84.29
414	83.99	83.60	83.71	83.75	83.75	83.79	84.01	83.96	84.09	83.98	84.60	84.49	84.27	84.24
414.5	83.78	83.60	83.75	83.73	83.69	83.77	83.99	83.91	84.08	84.07	84.56	84.43	84.41	84.29
415	83.91	83.70	83.78	83.69	83.67	83.77	84.02	83.97	84.14	84.16	84.72	84.49	84.27	84.36
415.5	83.84	83.64	83.79	83.74	83.74	83.78	84.07	83.98	84.19	84.17	84.77	84.53	84.27	84.33
416	83.97	83.78	83.80	83.78	83.82	83.85	84.13	84.02	84.19	84.11	84.67	84.49	84.42	84.42
416.5	84.01	83.75	83.74	83.77	83.71	83.72	84.03	83.89	84.12	84.17	84.67	84.49	84.27	84.40
417	83.86	83.67	83.78	83.76	83.76	83.60	83.96	83.83	84.07	84.20	84.70	84.52	84.41	84.39
417.5	84.07	83.81	83.99	83.80	83.88	83.62	83.96	83.99	84.24	84.32	84.78	84.61	84.14	84.51
418	84.27	83.97	84.06	83.74	83.87	83.76	84.13	84.12	84.30	84.24	84.79	84.56	84.42	84.43
418.5	84.16	84.02	84.03	83.73	83.84	83.84	84.08	84.11	84.21	84.12	84.76	84.52	84.12	84.39
419	84.15	83.88	83.96	83.73	83.82	83.86	84.08	84.14	84.21	84.14	84.81	84.57	84.27	84.49
419.5	84.14	83.96	83.86	83.74	83.94	83.92	84.17	84.15	84.23	84.25	84.80	84.66	84.42	84.46
420	84.26	83.97	83.91	83.77	83.97	83.89	84.11	84.04	84.23	84.31	84.90	84.72	84.42	84.50
420.5	84.13	83.92	83.81	83.69	83.80	83.77	84.08	84.03	84.30	84.39	84.91	84.77	84.56	84.54
421	83.94	83.81	83.78	83.76	83.78	83.83	84.04	83.97	84.28	84.33	84.88	84.68	84.57	84.57
421.5	83.94	83.73	83.71	83.77	83.71	83.78	83.90	83.98	84.23	84.22	84.79	84.57	84.27	84.30
422	83.86	83.74	83.71	83.81	83.80	83.76	83.84	83.94	84.22	84.20	84.77	84.63	84.42	84.40
422.5	84.09	83.83	83.84	83.82	83.85	83.83	83.93	83.89	84.18	84.18	84.64	84.52	84.27	84.34
423	84.10	83.90	83.93	83.80	83.85	83.86	83.98	83.88	84.12	84.11	84.55	84.40	84.13	84.36
423.5	83.99	83.86	83.91	83.64	83.77	83.88	84.00	83.89	84.07	84.02	84.61	84.53	84.27	84.37
424	84.15	83.76	83.83	83.66	83.69	83.84	83.93	83.99	84.20	84.09	84.65	84.51	84.27	84.32
424.5	84.15	83.83	83.83	83.75	83.82	83.87	83.92	83.97	84.25	84.19	84.72	84.48	84.12	84.31
425	84.16	83.85	83.88	83.91	83.88	83.88	83.95	83.98	84.12	84.12	84.77	84.62	84.40	84.41
425.5	84.14	83.77	83.96	83.92	83.91	83.78	83.83	83.84	84.02	84.18	84.86	84.60	84.42	84.39
426	84.00	83.70	83.79	83.88	83.77	83.75	83.83	83.72	83.93	84.08	84.76	84.60	84.13	84.43
426.5	84.00	83.70	83.64	83.74	83.65	83.76	83.93	83.85	83.94	84.12	84.67	84.53	84.13	84.42
427	84.09	83.77	83.76	83.77	83.64	83.74	83.97	83.89	84.05	84.18	84.74	84.52	84.27	84.40
427.5	84.04	83.75	83.77	83.70	83.68	83.79	84.08	84.04	84.21	84.32	84.81	84.67	84.43	84.50
428	84.03	83.67	83.73	83.77	83.78	83.85	84.20	84.12	84.29	84.35	84.90	84.70	84.56	84.55

428.5	84.00	83.70	83.77	83.78	83.78	83.86	84.17	84.11	84.26	84.30	84.87	84.76	84.56	84.55
429	83.77	83.68	83.71	83.70	83.87	83.86	84.14	84.11	84.13	84.12	84.79	84.63	84.13	84.47
429.5	83.83	83.70	83.73	83.73	83.83	83.81	84.06	84.06	84.14	84.07	84.79	84.57	84.27	84.45
430	83.79	83.69	83.74	83.68	83.75	83.83	84.08	84.10	84.18	84.15	84.84	84.66	84.43	84.56
430.5	83.80	83.73	83.73	83.75	83.78	83.92	84.14	84.16	84.25	84.24	84.84	84.68	84.42	84.59
431	83.91	83.75	83.78	83.76	83.82	83.90	84.16	84.19	84.26	84.29	84.71	84.47	84.28	84.47
431.5	84.01	83.75	83.85	83.72	83.90	83.91	84.19	84.19	84.26	84.25	84.76	84.55	84.57	84.54
432	84.03	83.85	83.78	83.57	83.87	83.88	84.09	83.99	84.20	84.23	84.78	84.59	84.56	84.58
432.5	84.05	83.88	83.77	83.68	83.88	83.93	84.14	83.92	84.07	84.13	84.74	84.61	84.57	84.56
433	84.03	83.82	83.81	83.76	83.83	83.91	84.08	83.77	83.96	83.96	84.66	84.54	84.27	84.52
433.5	84.00	83.74	83.86	83.67	83.85	83.96	84.00	83.85	83.97	84.08	84.68	84.50	84.13	84.53
434	83.98	83.83	83.81	83.75	83.93	84.04	84.14	84.09	84.17	84.13	84.71	84.54	84.43	84.57
434.5	84.15	83.95	83.83	83.84	83.99	84.04	84.19	84.13	84.27	84.24	84.76	84.57	84.27	84.54
435	84.26	84.04	83.91	84.02	84.07	84.11	84.27	84.19	84.29	84.34	84.84	84.63	84.27	84.49
435.5	84.28	84.07	84.11	84.08	84.16	84.13	84.29	84.19	84.33	84.39	84.85	84.70	84.28	84.58
436	84.27	84.11	84.17	84.12	84.05	84.09	84.25	84.04	84.31	84.18	84.75	84.58	84.14	84.48
436.5	84.22	84.12	84.11	84.06	84.03	84.00	84.18	83.99	84.21	84.16	84.71	84.61	84.43	84.51
437	84.31	84.09	84.15	83.96	84.00	83.98	84.29	84.14	84.28	84.22	84.79	84.64	84.27	84.57
437.5	84.34	84.23	84.19	83.95	84.01	84.03	84.33	84.15	84.36	84.35	84.87	84.70	84.27	84.59
438	84.16	84.06	84.21	84.00	83.97	83.98	84.29	84.15	84.35	84.41	84.92	84.78	84.42	84.66
438.5	84.16	84.04	84.13	84.05	84.10	84.12	84.39	84.21	84.33	84.40	84.93	84.73	84.42	84.71
439	84.29	84.13	84.19	84.17	84.17	84.08	84.34	84.11	84.22	84.49	85.11	84.83	84.70	84.77
439.5	84.40	84.20	84.21	84.22	84.18	84.15	84.43	84.26	84.35	84.54	85.18	84.95	84.56	84.81
440	84.41	84.25	84.17	84.15	84.13	84.24	84.48	84.39	84.47	84.56	85.14	84.93	84.43	84.88
440.5	84.27	84.16	84.06	84.01	84.01	84.13	84.46	84.25	84.46	84.54	85.11	84.88	84.27	84.75
441	84.31	84.14	84.01	83.95	84.05	84.23	84.49	84.32	84.43	84.50	85.02	84.86	84.42	84.74
441.5	84.44	84.19	84.09	84.16	84.23	84.37	84.58	84.46	84.53	84.58	85.13	84.93	84.57	84.74
442	84.56	84.29	84.27	84.27	84.25	84.21	84.47	84.38	84.58	84.55	85.14	84.94	84.56	84.82
442.5	84.59	84.30	84.21	84.11	84.15	84.23	84.49	84.42	84.59	84.61	85.18	84.91	84.56	84.81
443	84.41	84.23	84.19	84.12	84.14	84.26	84.39	84.34	84.55	84.64	85.09	84.88	84.71	84.78
443.5	84.33	84.16	84.17	84.10	84.07	84.15	84.33	84.34	84.52	84.67	85.09	84.93	84.72	84.72
444	84.34	84.17	84.20	84.14	84.11	84.16	84.47	84.32	84.51	84.61	85.05	84.92	84.71	84.55
444.5	84.53	84.32	84.23	84.15	84.10	84.12	84.50	84.41	84.56	84.61	84.98	84.79	84.56	84.62
445	84.51	84.27	84.15	84.02	84.05	84.14	84.44	84.39	84.62	84.63	85.03	84.87	84.43	84.69
445.5	84.31	84.07	84.11	84.12	83.95	84.02	84.37	84.28	84.52	84.54	85.08	84.92	84.42	84.63
446	84.40	84.17	84.23	84.08	84.07	84.11	84.40	84.25	84.43	84.38	85.11	84.81	84.56	84.63
446.5	84.41	84.25	84.31	84.22	84.12	84.15	84.38	84.33	84.48	84.42	85.07	84.77	84.41	84.67
447	84.41	84.14	84.13	84.07	83.92	84.25	84.44	84.35	84.48	84.44	85.09	84.79	84.71	84.71
447.5	84.20	84.00	83.97	83.92	83.92	84.22	84.42	84.22	84.42	84.43	84.96	84.79	84.71	84.74
448	84.09	83.93	84.01	83.95	83.98	84.13	84.31	84.16	84.38	84.48	84.99	84.78	84.42	84.75
448.5	84.21	83.97	84.06	83.97	83.91	83.95	84.16	84.24	84.36	84.44	85.02	84.79	84.42	84.77

449	84.19	83.99	84.05	83.79	83.92	83.87	84.15	84.20	84.39	84.49	85.01	84.82	84.43	84.70
449.5	84.19	84.01	83.94	83.79	83.96	83.93	84.24	84.27	84.50	84.55	85.16	84.96	84.72	84.76
450	84.27	84.04	83.97	83.93	84.14	84.07	84.22	84.31	84.55	84.44	85.08	84.91	84.72	84.75
450.5	84.25	84.05	84.11	84.04	84.23	83.97	84.16	84.37	84.61	84.55	85.00	84.77	84.56	84.71
451	84.44	84.19	84.21	83.95	84.08	84.03	84.29	84.45	84.64	84.61	85.11	84.82	84.42	84.72
451.5	84.24	84.11	84.04	83.91	84.02	84.13	84.39	84.45	84.64	84.61	85.09	84.79	84.71	84.65
452	84.27	84.09	83.80	83.95	83.95	84.08	84.36	84.47	84.64	84.64	85.02	84.73	84.27	84.47
452.5	84.12	84.01	83.91	84.03	83.87	83.95	84.39	84.46	84.59	84.62	85.07	84.80	84.56	84.60
453	84.37	84.06	84.11	84.02	83.85	83.99	84.37	84.37	84.62	84.61	85.08	84.84	84.56	84.71
453.5	84.47	84.12	84.11	84.08	83.99	84.06	84.42	84.42	84.66	84.56	85.00	84.82	84.57	84.64
454	84.23	84.00	84.11	84.02	84.05	84.12	84.42	84.28	84.49	84.61	85.02	84.84	84.71	84.65
454.5	84.02	83.89	84.12	84.12	84.10	84.19	84.34	84.26	84.46	84.39	84.94	84.79	84.57	84.67
455	84.24	84.07	84.17	84.22	84.18	84.18	84.43	84.31	84.41	84.40	84.83	84.65	84.27	84.61
455.5	84.36	84.09	84.09	84.27	84.31	84.25	84.50	84.35	84.41	84.40	84.86	84.76	84.42	84.66
456	84.36	84.05	84.08	84.22	84.29	84.07	84.54	84.27	84.35	84.36	84.85	84.59	84.41	84.60
456.5	84.28	84.09	84.12	84.19	84.06	83.80	84.29	84.22	84.36	84.30	84.87	84.64	84.43	84.64
457	84.31	84.15	84.05	84.13	84.03	83.86	84.40	84.19	84.40	84.35	84.88	84.67	84.28	84.61
457.5	84.31	84.06	84.00	84.10	84.04	83.92	84.39	84.21	84.41	84.38	84.96	84.69	84.42	84.62
458	84.12	83.98	84.05	84.10	84.05	84.01	84.32	84.19	84.39	84.39	84.78	84.64	84.57	84.66
458.5	84.13	84.00	84.04	84.02	83.92	84.06	84.17	84.24	84.29	84.50	84.92	84.66	84.42	84.71
459	84.23	83.99	83.99	84.02	83.99	84.01	84.21	84.16	84.24	84.40	84.95	84.64	84.27	84.61
459.5	84.25	83.99	83.91	83.98	83.99	83.97	84.14	84.00	84.26	84.32	84.82	84.55	84.28	84.57
460	84.33	83.93	83.93	83.88	83.90	83.96	84.04	83.96	84.23	84.27	84.81	84.53	84.13	84.44
460.5	84.30	83.94	83.94	83.94	83.87	84.05	84.07	83.98	84.25	84.32	84.79	84.54	84.27	84.47
461	84.29	83.96	84.04	84.01	84.10	84.06	84.11	84.04	84.28	84.30	84.71	84.65	84.27	84.55
461.5	84.33	84.03	84.02	84.04	84.14	84.17	84.23	84.17	84.33	84.42	84.82	84.65	84.41	84.60
462	84.25	84.12	84.15	84.10	84.10	84.13	84.34	84.19	84.39	84.49	84.79	84.58	84.57	84.63
462.5	84.17	84.10	84.10	83.98	83.95	84.08	84.19	84.16	84.38	84.44	84.81	84.57	84.42	84.63
463	84.17	84.06	84.07	83.84	83.98	84.05	84.24	84.24	84.38	84.41	84.93	84.63	84.42	84.55
463.5	84.24	84.05	84.07	83.98	84.00	84.09	84.31	84.16	84.33	84.42	84.94	84.61	84.28	84.54
464	84.15	83.93	84.03	84.03	84.04	84.13	84.32	84.16	84.25	84.37	84.88	84.58	84.41	84.58
464.5	84.01	83.86	83.99	83.97	84.03	84.11	84.26	84.20	84.30	84.36	84.91	84.65	84.27	84.54
465	84.04	83.91	83.97	84.01	84.08	84.16	84.20	84.26	84.36	84.40	84.96	84.72	84.27	84.59
465.5	84.12	83.95	84.05	84.09	84.17	84.19	84.22	84.13	84.43	84.46	85.01	84.84	84.57	84.58
466	84.04	83.93	83.99	84.00	84.14	84.09	84.21	84.05	84.39	84.53	85.05	84.91	84.56	84.66
466.5	83.96	83.80	83.89	83.96	84.00	84.05	84.11	84.09	84.46	84.52	85.08	84.83	84.56	84.61
467	83.92	83.75	83.97	84.00	84.03	84.04	84.16	84.13	84.34	84.45	85.00	84.80	84.72	84.67
467.5	84.11	83.95	83.94	83.96	84.06	84.07	84.22	84.13	84.30	84.42	85.01	84.83	84.57	84.61
468	84.34	84.03	84.04	84.02	84.07	84.02	84.19	84.12	84.23	84.30	84.90	84.78	84.27	84.61
468.5	84.24	83.96	84.05	84.05	83.99	83.97	84.21	84.09	84.33	84.32	84.90	84.76	84.28	84.70
469	84.09	83.94	84.07	84.03	83.98	84.03	84.28	84.20	84.41	84.42	84.94	84.74	84.43	84.76

469.5	84.24	84.04	84.14	84.05	83.97	84.05	84.27	84.24	84.46	84.47	84.99	84.72	84.42	84.69
470	84.34	84.11	84.19	84.07	84.00	84.02	84.31	84.31	84.54	84.57	85.08	84.73	84.27	84.71
470.5	84.39	84.09	84.21	84.07	83.91	83.95	84.37	84.31	84.55	84.54	85.00	84.84	84.42	84.63
471	84.36	84.09	84.14	84.10	83.87	83.95	84.33	84.28	84.58	84.22	84.89	84.65	84.56	84.68
471.5	84.04	83.86	84.04	84.15	84.07	83.96	84.30	84.16	84.35	84.20	84.87	84.72	84.56	84.66
472	84.15	83.88	83.93	84.13	84.10	83.94	84.23	84.13	84.30	84.26	84.89	84.75	84.41	84.68
472.5	84.19	83.90	83.87	84.11	84.18	83.98	84.29	84.22	84.41	84.30	84.77	84.69	84.42	84.65
473	84.24	83.89	84.04	84.16	84.15	83.94	84.31	84.22	84.41	84.28	84.90	84.74	84.28	84.63
473.5	84.38	84.01	84.06	84.14	84.12	83.91	84.16	84.14	84.47	84.39	84.92	84.78	84.56	84.65
474	84.29	83.94	84.11	84.15	84.04	84.02	84.21	84.28	84.59	84.58	85.03	84.88	84.56	84.79
474.5	84.35	84.13	84.11	84.03	84.09	84.03	84.25	84.30	84.59	84.36	84.85	84.80	84.41	84.67
475	84.52	84.30	84.25	84.12	84.06	84.07	84.34	84.24	84.46	84.30	84.75	84.66	84.57	84.61
475.5	84.39	84.19	84.15	84.05	84.02	84.10	84.34	84.20	84.33	84.22	84.76	84.68	84.43	84.57
476	84.29	84.16	84.15	84.17	84.17	84.20	84.42	84.24	84.38	84.37	84.92	84.70	84.70	84.65
476.5	84.57	84.37	84.34	84.28	84.27	84.36	84.52	84.26	84.48	84.45	84.96	84.78	84.27	84.68
477	84.69	84.45	84.41	84.30	84.26	84.31	84.48	84.33	84.57	84.55	85.00	84.80	84.56	84.67
477.5	84.61	84.32	84.32	84.29	84.23	84.28	84.45	84.39	84.61	84.60	85.10	84.93	84.56	84.73
478	84.48	84.25	84.27	84.29	84.22	84.27	84.50	84.40	84.62	84.65	85.13	84.98	84.72	84.82
478.5	84.34	84.16	84.14	84.18	84.05	84.18	84.42	84.38	84.56	84.53	85.11	84.98	84.71	84.77
479	84.40	84.17	84.16	84.14	84.12	84.23	84.34	84.31	84.51	84.48	85.12	84.91	84.56	84.78
479.5	84.31	84.12	84.18	84.22	84.26	84.28	84.42	84.39	84.53	84.52	85.05	84.87	84.56	84.84
480	84.14	84.14	84.24	84.28	84.29	84.35	84.50	84.45	84.61	84.63	85.14	84.92	84.56	84.82
480.5	84.27	84.19	84.27	84.27	84.24	84.18	84.52	84.49	84.61	84.61	85.11	84.91	84.56	84.78
481	84.16	84.12	84.21	84.16	84.09	84.18	84.44	84.40	84.46	84.52	85.13	84.97	84.56	84.82
481.5	84.24	84.06	84.16	83.97	84.00	84.13	84.43	84.41	84.42	84.50	85.09	84.88	84.56	84.87
482	84.18	84.02	84.08	83.87	84.12	84.18	84.38	84.36	84.41	84.46	85.00	84.84	84.56	84.89
482.5	84.30	84.14	84.16	83.95	84.15	84.31	84.43	84.32	84.56	84.60	85.09	84.92	84.56	84.93
483	84.43	84.26	84.21	84.07	84.19	84.33	84.57	84.37	84.59	84.60	85.08	84.91	84.42	84.87
483.5	84.46	84.20	84.23	84.08	84.00	84.43	84.60	84.09	84.48	84.51	85.08	84.88	84.56	84.84
484	84.51	84.26	84.20	84.15	84.17	84.52	84.66	84.35	84.55	84.61	85.14	84.97	84.71	84.79
484.5	84.61	84.34	84.30	84.27	84.24	84.46	84.63	84.48	84.62	84.64	85.18	85.00	84.56	84.79
485	84.53	84.16	84.13	84.20	84.14	84.39	84.53	84.51	84.61	84.70	85.19	85.05	84.71	84.78
485.5	84.61	84.32	84.17	84.18	84.05	84.46	84.60	84.50	84.69	84.75	85.25	85.08	84.86	84.88
486	84.51	84.22	84.06	84.04	84.12	84.44	84.54	84.46	84.67	84.62	85.17	85.03	84.84	84.90
486.5	84.22	84.08	83.98	84.02	84.22	84.34	84.54	84.41	84.61	84.59	85.13	84.97	84.70	84.93
487	84.16	83.94	83.97	83.97	84.22	84.32	84.52	84.45	84.64	84.61	85.19	84.97	84.71	84.94
487.5	84.34	84.00	84.07	84.00	84.21	84.38	84.65	84.49	84.75	84.63	85.18	85.02	84.71	84.91
488	84.41	84.14	84.19	84.15	84.27	84.43	84.68	84.52	84.78	84.68	85.25	85.06	84.86	84.88
488.5	84.53	84.26	84.26	84.27	84.31	84.36	84.63	84.41	84.54	84.50	85.12	85.00	84.85	84.88
489	84.51	84.26	84.28	84.24	84.30	84.38	84.62	84.30	84.37	84.40	85.01	84.84	84.56	84.77
489.5	84.41	84.29	84.26	84.25	84.29	84.32	84.49	84.31	84.45	84.40	84.93	84.84	84.56	84.74

490	84.51	84.26	84.28	84.26	84.31	84.37	84.49	84.33	84.50	84.49	85.13	84.94	84.70	84.84
490.5	84.55	84.34	84.31	84.30	84.29	84.41	84.57	84.40	84.57	84.60	85.23	85.07	84.84	84.96
491	84.66	84.46	84.41	84.37	84.44	84.53	84.66	84.51	84.58	84.61	85.25	85.04	84.71	84.97
491.5	84.73	84.47	84.46	84.40	84.42	84.39	84.62	84.41	84.58	84.61	85.18	85.05	84.71	84.95
492	84.67	84.43	84.43	84.38	84.37	84.32	84.53	84.44	84.54	84.45	85.08	84.97	84.71	84.97
492.5	84.76	84.53	84.57	84.42	84.42	84.31	84.34	84.25	84.49	84.40	85.12	85.01	84.71	85.03
493	84.62	84.41	84.48	84.40	84.41	84.30	84.36	84.31	84.51	84.46	85.14	84.97	84.84	85.00
493.5	84.64	84.42	84.44	84.40	84.47	84.41	84.45	84.49	84.53	84.51	85.20	84.99	84.72	84.79
494	84.69	84.42	84.42	84.36	84.50	84.45	84.54	84.54	84.66	84.56	85.23	85.02	84.56	84.76
494.5	84.79	84.46	84.43	84.37	84.44	84.41	84.57	84.57	84.78	84.73	85.27	85.05	84.42	84.79
495	84.75	84.45	84.38	84.36	84.41	84.38	84.54	84.53	84.83	84.80	85.33	85.07	84.70	84.79
495.5	84.73	84.55	84.46	84.42	84.52	84.52	84.62	84.58	84.80	84.80	85.14	84.88	84.42	84.78
496	84.55	84.53	84.49	84.39	84.42	84.56	84.61	84.53	84.73	84.72	85.17	84.98	84.57	84.88
496.5	84.40	84.46	84.50	84.30	84.29	84.38	84.57	84.52	84.74	84.71	85.19	85.04	84.71	84.95
497	84.51	84.32	84.29	84.15	84.22	84.49	84.63	84.52	84.71	84.65	85.27	85.08	84.85	84.94
497.5	84.38	84.07	84.05	84.03	84.25	84.37	84.61	84.34	84.66	84.75	85.32	85.18	84.86	85.04
498	84.29	84.10	84.09	84.02	84.00	84.08	84.53	84.49	84.80	84.81	85.38	85.18	84.85	85.07
498.5	84.44	84.26	84.06	84.02	84.12	84.06	84.44	84.48	84.78	84.87	85.44	85.23	84.71	85.04
499	84.37	84.27	84.11	84.14	84.11	84.01	84.49	84.45	84.75	84.83	85.41	85.14	84.71	85.06
499.5	84.38	84.29	84.22	84.14	84.17	84.13	84.39	84.47	84.76	84.73	85.33	85.12	84.99	85.03
500	84.56	84.35	84.22	84.20	84.26	84.30	84.49	84.49	84.72	84.78	85.36	85.15	84.84	84.92
500.5	84.50	84.40	84.33	84.25	84.38	84.42	84.66	84.58	84.75	84.81	85.33	85.16	84.71	84.90
501	84.49	84.40	84.24	84.32	84.47	84.47	84.54	84.49	84.73	84.78	85.38	85.15	84.86	84.95
501.5	84.65	84.45	84.42	84.40	84.34	84.33	84.54	84.56	84.83	84.75	85.26	85.03	84.70	84.96
502	84.59	84.37	84.40	84.40	84.32	84.25	84.52	84.62	84.78	84.61	85.12	84.91	84.71	85.00
502.5	84.49	84.33	84.46	84.41	84.34	84.32	84.57	84.52	84.68	84.67	85.19	85.04	84.85	84.88
503	84.53	84.33	84.40	84.31	84.35	84.41	84.55	84.51	84.67	84.74	85.36	85.13	84.85	84.95
503.5	84.52	84.24	84.29	84.29	84.40	84.40	84.61	84.47	84.69	84.69	85.33	85.14	84.86	85.04
504	84.38	84.21	84.31	84.25	84.29	84.36	84.60	84.52	84.73	84.78	85.32	85.11	84.86	85.07
504.5	84.44	84.36	84.40	84.40	84.41	84.36	84.59	84.39	84.80	84.80	85.33	85.13	84.71	85.00
505	84.57	84.50	84.51	84.45	84.32	84.35	84.46	84.35	84.59	84.63	85.28	85.13	84.85	84.97
505.5	84.81	84.60	84.51	84.36	84.27	84.38	84.48	84.39	84.57	84.51	85.23	85.03	84.72	84.92
506	84.83	84.60	84.48	84.39	84.34	84.35	84.59	84.48	84.65	84.55	85.16	84.99	84.69	84.88
506.5	84.79	84.46	84.50	84.44	84.35	84.33	84.52	84.51	84.72	84.54	85.18	84.92	84.71	84.81
507	84.75	84.53	84.52	84.47	84.40	84.44	84.55	84.52	84.57	84.62	85.22	84.93	84.72	84.80
507.5	84.62	84.45	84.47	84.43	84.42	84.36	84.54	84.43	84.52	84.66	85.26	85.08	84.72	84.89
508	84.51	84.47	84.43	84.37	84.38	84.42	84.56	84.52	84.55	84.68	85.22	85.13	84.71	84.91
508.5	84.77	84.64	84.38	84.15	84.33	84.27	84.41	84.39	84.52	84.66	85.19	85.12	84.86	84.93
509	84.56	84.52	84.09	84.02	84.24	84.22	84.44	84.37	84.51	84.58	85.17	85.05	84.85	84.97
509.5	84.61	84.37	84.31	84.23	84.35	84.44	84.57	84.43	84.69	84.73	85.29	85.09	84.86	84.92
510	84.74	84.54	84.49	84.47	84.47	84.48	84.58	84.63	84.83	84.83	85.39	85.22	84.84	85.05

510.5	84.89	84.63	84.63	84.50	84.57	84.55	84.67	84.65	84.91	84.87	85.37	85.26	85.14	85.14
511	84.79	84.52	84.49	84.40	84.54	84.52	84.49	84.51	84.91	84.88	85.36	85.24	85.00	85.16
511.5	84.73	84.43	84.31	84.27	84.47	84.52	84.62	84.44	84.78	84.86	85.40	85.18	84.85	85.00
512	84.79	84.51	84.44	84.36	84.53	84.57	84.65	84.44	84.72	84.75	85.29	85.11	84.57	84.95
512.5	84.71	84.45	84.47	84.44	84.58	84.53	84.65	84.54	84.71	84.74	85.21	85.08	84.85	85.00
513	84.65	84.44	84.45	84.42	84.49	84.47	84.72	84.70	84.77	84.83	85.35	85.18	84.84	85.09
513.5	84.58	84.40	84.44	84.36	84.47	84.61	84.78	84.73	84.89	84.91	85.36	85.24	85.01	85.15
514	84.51	84.35	84.32	84.36	84.49	84.55	84.77	84.70	84.86	84.96	85.43	85.23	84.99	85.11
514.5	84.59	84.37	84.30	84.37	84.48	84.65	84.82	84.77	84.87	84.94	85.43	85.11	84.85	85.00
515	84.56	84.36	84.39	84.33	84.46	84.58	84.72	84.64	84.82	84.83	85.36	85.07	84.70	84.99
515.5	84.71	84.50	84.41	84.28	84.45	84.56	84.73	84.73	84.98	84.95	85.52	85.22	84.86	85.04
516	84.70	84.40	84.30	84.34	84.51	84.55	84.67	84.69	84.90	84.93	85.43	85.23	85.00	85.06
516.5	84.57	84.46	84.34	84.42	84.45	84.48	84.63	84.69	84.91	84.94	85.46	85.24	85.00	85.10
517	84.56	84.40	84.43	84.44	84.42	84.52	84.59	84.64	84.93	84.96	85.47	85.26	85.00	85.13
517.5	84.62	84.48	84.51	84.45	84.33	84.48	84.57	84.57	84.89	84.86	85.44	85.22	85.15	85.17
518	84.74	84.52	84.53	84.37	84.24	84.43	84.62	84.48	84.82	84.80	85.40	85.07	84.71	85.01
518.5	84.71	84.49	84.42	84.32	84.34	84.45	84.72	84.54	84.80	84.73	85.42	85.09	84.84	84.96
519	84.84	84.55	84.46	84.47	84.42	84.35	84.59	84.34	84.75	84.70	85.28	85.04	84.85	84.95
519.5	84.66	84.53	84.54	84.44	84.27	84.22	84.55	84.48	84.64	84.65	85.27	85.08	84.85	84.97
520	84.69	84.56	84.47	84.30	84.27	84.29	84.63	84.54	84.69	84.74	85.21	84.98	85.00	84.94
520.5	84.56	84.37	84.37	84.30	84.31	84.28	84.56	84.47	84.65	84.65	85.25	85.02	84.85	84.97
521	84.57	84.40	84.32	84.29	84.37	84.37	84.54	84.40	84.57	84.63	85.20	85.02	84.72	84.92
521.5	84.45	84.28	84.41	84.43	84.42	84.44	84.63	84.44	84.63	84.63	85.09	84.93	84.57	84.91
522	84.40	84.39	84.36	84.45	84.49	84.49	84.69	84.49	84.62	84.58	85.11	84.94	84.56	84.87
522.5	84.59	84.27	84.31	84.52	84.53	84.56	84.75	84.62	84.80	84.79	85.33	85.12	84.72	84.96
523	84.57	84.34	84.40	84.50	84.52	84.65	84.82	84.68	84.80	84.80	85.38	85.18	85.00	85.03
523.5	84.59	84.45	84.37	84.34	84.54	84.53	84.79	84.67	84.81	84.86	85.43	85.24	84.85	85.04
524	84.53	84.36	84.29	84.41	84.51	84.62	84.80	84.65	84.84	84.90	85.43	85.24	84.85	84.91
524.5	84.71	84.50	84.49	84.55	84.56	84.61	84.83	84.73	84.88	84.85	85.41	85.11	85.01	84.95
525	84.81	84.55	84.54	84.55	84.60	84.66	84.88	84.75	84.89	84.94	85.42	85.15	85.01	84.99
525.5	84.77	84.56	84.49	84.50	84.54	84.63	84.89	84.67	84.94	84.93	85.37	85.16	85.00	85.07
526	84.74	84.55	84.43	84.48	84.54	84.55	84.78	84.61	84.69	84.87	85.33	85.16	85.00	85.06
526.5	84.56	84.42	84.46	84.44	84.34	84.41	84.71	84.64	84.74	84.72	85.30	85.15	84.84	85.02
527	84.59	84.49	84.43	84.45	84.27	84.46	84.75	84.68	84.69	84.57	85.15	85.01	84.71	84.97
527.5	84.66	84.49	84.51	84.44	84.31	84.45	84.79	84.54	84.67	84.68	85.18	85.10	84.71	85.03
528	84.63	84.45	84.51	84.44	84.27	84.38	84.70	84.55	84.69	84.76	85.24	85.16	85.00	85.09
528.5	84.72	84.54	84.58	84.46	84.39	84.51	84.78	84.59	84.79	84.79	85.17	85.02	84.86	84.93
529	84.74	84.60	84.49	84.46	84.43	84.51	84.71	84.49	84.74	84.69	85.23	85.10	84.70	84.96
529.5	84.51	84.49	84.44	84.38	84.34	84.41	84.56	84.51	84.69	84.71	85.28	85.16	85.00	85.06
530	84.66	84.45	84.37	84.27	84.25	84.42	84.55	84.44	84.72	84.80	85.37	85.27	85.00	85.14
530.5	84.64	84.42	84.32	84.33	84.29	84.48	84.61	84.57	84.82	84.89	85.48	85.34	85.15	85.17

531	84.62	84.47	84.42	84.42	84.42	84.63	84.71	84.69	84.91	84.95	85.47	85.25	85.01	85.18
531.5	84.64	84.45	84.51	84.50	84.54	84.63	84.78	84.69	84.93	84.92	85.42	85.23	84.99	85.08
532	84.85	84.55	84.56	84.56	84.60	84.60	84.81	84.70	84.92	84.93	85.42	85.21	85.13	85.09
532.5	84.94	84.66	84.67	84.61	84.47	84.56	84.63	84.68	84.90	84.93	85.46	85.17	84.85	85.13
533	84.91	84.71	84.69	84.62	84.57	84.54	84.65	84.70	84.87	84.76	85.32	85.19	84.84	85.09
533.5	84.94	84.63	84.66	84.64	84.62	84.53	84.67	84.71	84.77	84.68	85.27	85.13	84.85	85.00
534	84.79	84.45	84.58	84.57	84.47	84.40	84.58	84.57	84.79	84.69	85.24	85.05	84.70	84.98
534.5	84.68	84.45	84.52	84.46	84.40	84.35	84.52	84.60	84.74	84.75	85.22	85.00	84.56	84.83
535	84.62	84.36	84.49	84.42	84.31	84.34	84.54	84.60	84.72	84.70	85.23	85.03	84.70	84.86
535.5	84.67	84.47	84.46	84.44	84.38	84.42	84.63	84.62	84.80	84.73	85.25	85.07	84.85	84.90
536	84.63	84.43	84.41	84.48	84.38	84.43	84.67	84.62	84.81	84.78	85.31	85.11	85.00	84.94
536.5	84.60	84.45	84.47	84.50	84.49	84.49	84.76	84.69	84.84	84.86	85.34	85.10	84.71	84.95
537	84.62	84.50	84.45	84.43	84.50	84.54	84.83	84.76	84.80	84.69	85.26	84.95	84.72	84.93
537.5	84.70	84.50	84.46	84.37	84.54	84.59	84.85	84.65	84.80	84.64	85.31	85.05	84.56	84.90
538	84.72	84.45	84.45	84.44	84.53	84.53	84.74	84.59	84.85	84.70	85.35	85.10	84.99	85.00
538.5	84.77	84.49	84.46	84.44	84.47	84.49	84.72	84.67	84.91	84.84	85.40	85.18	85.00	85.03
539	84.62	84.37	84.42	84.45	84.42	84.60	84.81	84.76	84.93	84.84	85.39	85.19	85.01	85.09
539.5	84.48	84.30	84.39	84.26	84.45	84.54	84.83	84.70	84.99	84.91	85.44	85.18	84.86	85.12
540	84.53	84.34	84.39	84.31	84.48	84.42	84.73	84.57	84.91	84.98	85.47	85.24	85.00	85.13
540.5	84.70	84.49	84.55	84.40	84.51	84.48	84.68	84.65	84.93	84.96	85.55	85.23	84.72	85.10
541	84.92	84.57	84.44	84.36	84.49	84.41	84.70	84.66	84.86	84.98	85.44	85.22	84.86	85.04
541.5	84.84	84.55	84.57	84.52	84.62	84.47	84.77	84.67	84.79	84.96	85.50	85.24	85.01	85.08
542	84.83	84.59	84.61	84.50	84.59	84.49	84.73	84.71	84.84	84.91	85.47	85.26	85.00	85.10
542.5	84.70	84.56	84.56	84.41	84.48	84.60	84.69	84.64	84.85	84.90	85.43	85.24	84.85	85.12
543	84.77	84.64	84.55	84.46	84.53	84.60	84.63	84.60	84.86	84.91	85.35	85.22	85.01	85.08
543.5	84.90	84.63	84.54	84.55	84.55	84.52	84.65	84.59	84.84	84.83	85.27	85.18	85.14	85.09
544	84.91	84.67	84.54	84.52	84.53	84.57	84.78	84.72	84.92	84.91	85.44	85.22	85.01	85.11
544.5	84.95	84.57	84.55	84.52	84.57	84.63	84.90	84.71	84.89	84.85	85.45	85.31	84.84	85.18
545	84.77	84.56	84.54	84.60	84.61	84.60	84.83	84.74	84.93	84.93	85.49	85.29	84.85	85.14
545.5	84.86	84.59	84.60	84.62	84.61	84.66	84.86	84.84	84.98	84.84	85.46	85.18	84.85	85.12
546	84.76	84.47	84.49	84.50	84.40	84.38	84.90	84.77	84.83	84.66	85.38	85.23	85.13	85.14
546.5	84.67	84.36	84.39	84.38	84.35	84.25	84.80	84.77	84.88	84.80	85.44	85.24	85.00	85.16
547	84.74	84.38	84.52	84.47	84.42	84.36	84.71	84.76	84.86	84.82	85.29	85.18	85.01	85.14
547.5	84.94	84.54	84.60	84.44	84.49	84.62	84.80	84.75	84.91	84.78	85.24	85.10	84.84	85.13
548	85.10	84.73	84.74	84.66	84.67	84.76	84.90	84.73	84.93	84.82	85.35	85.22	84.86	85.20
548.5	85.07	84.78	84.77	84.63	84.67	84.60	84.90	84.76	84.85	84.75	85.36	85.16	85.15	85.18
549	84.91	84.67	84.61	84.39	84.46	84.45	84.85	84.74	84.86	84.66	85.36	85.07	84.84	85.05
549.5	84.94	84.62	84.59	84.40	84.25	84.52	84.80	84.77	84.84	84.67	85.41	85.18	84.85	85.09
550	85.01	84.76	84.71	84.50	84.50	84.61	84.86	84.77	84.91	84.72	85.33	85.19	85.15	85.12
550.5	84.86	84.72	84.68	84.57	84.57	84.57	84.87	84.64	84.98	84.80	85.35	85.16	85.13	85.11
551	84.87	84.62	84.47	84.54	84.58	84.55	84.76	84.59	84.95	84.84	85.38	85.17	85.14	85.12

551.5	84.67	84.57	84.37	84.34	84.47	84.68	84.86	84.79	84.98	84.86	85.36	85.18	85.00	85.17
552	84.78	84.51	84.38	84.39	84.62	84.77	84.94	84.75	84.95	84.86	85.38	85.16	84.86	85.09
552.5	84.88	84.60	84.54	84.55	84.72	84.80	84.99	84.75	84.93	84.91	85.35	85.22	85.01	85.08
553	84.86	84.62	84.61	84.61	84.75	84.80	84.98	84.67	84.93	84.90	85.38	85.21	84.85	85.04
553.5	84.92	84.67	84.52	84.57	84.72	84.71	84.88	84.57	84.80	84.68	85.33	85.16	84.72	85.04
554	84.93	84.62	84.53	84.38	84.48	84.36	84.64	84.53	84.68	84.71	85.29	85.12	84.69	85.01
554.5	84.93	84.56	84.47	84.34	84.35	84.39	84.69	84.52	84.71	84.67	85.15	85.10	84.85	84.98
555	84.88	84.60	84.55	84.34	84.39	84.43	84.69	84.51	84.79	84.75	85.14	85.03	84.84	84.98
555.5	84.95	84.70	84.68	84.40	84.39	84.47	84.74	84.57	84.72	84.69	85.13	85.02	84.99	85.00
556	84.85	84.68	84.56	84.27	84.47	84.53	84.74	84.60	84.70	84.72	85.23	85.10	84.99	84.98
556.5	84.67	84.55	84.34	84.32	84.44	84.55	84.69	84.64	84.80	84.78	85.27	85.11	84.71	85.00
557	84.67	84.59	84.39	84.40	84.47	84.46	84.43	84.48	84.74	84.74	85.28	85.08	84.71	85.00
557.5	84.71	84.58	84.49	84.40	84.40	84.31	84.41	84.53	84.86	84.85	85.32	85.03	84.99	84.96
558	84.70	84.62	84.57	84.45	84.36	84.32	84.53	84.53	84.79	84.84	85.31	85.04	84.84	85.07
558.5	84.76	84.65	84.57	84.50	84.39	84.41	84.56	84.47	84.74	84.86	85.31	85.14	85.00	85.06
559	84.89	84.63	84.54	84.52	84.51	84.53	84.72	84.68	84.93	84.96	85.46	85.24	85.00	85.06
559.5	84.84	84.67	84.61	84.63	84.59	84.54	84.81	84.57	84.93	84.79	85.39	85.24	85.01	85.12
560	84.93	84.73	84.49	84.58	84.35	84.26	84.75	84.59	84.77	84.70	85.25	85.10	84.85	85.09
560.5	84.94	84.62	84.59	84.54	84.44	84.26	84.76	84.67	84.85	84.77	85.28	85.07	85.00	85.06
561	84.90	84.62	84.61	84.58	84.52	84.32	84.75	84.65	84.87	84.83	85.34	85.13	85.00	85.06
561.5	84.95	84.67	84.71	84.57	84.51	84.37	84.69	84.59	84.77	84.82	85.35	85.16	84.84	85.09
562	85.00	84.74	84.70	84.54	84.46	84.42	84.66	84.56	84.78	84.82	85.34	85.18	84.84	85.05
562.5	84.98	84.71	84.54	84.52	84.52	84.56	84.77	84.70	84.86	84.82	85.41	85.25	84.86	85.14
563	84.86	84.47	84.27	84.57	84.62	84.66	84.89	84.77	84.88	84.94	85.44	85.24	85.00	85.14
563.5	84.82	84.46	84.29	84.60	84.64	84.73	84.92	84.84	85.06	84.98	85.50	85.29	84.85	85.14
564	84.71	84.46	84.37	84.54	84.61	84.72	84.83	84.91	85.07	85.04	85.52	85.30	84.85	85.07
564.5	84.74	84.51	84.45	84.46	84.53	84.69	84.84	84.91	85.02	84.92	85.45	85.21	84.98	85.05
565	84.84	84.56	84.49	84.51	84.58	84.70	84.82	84.78	84.94	84.98	85.55	85.24	84.85	85.10
565.5	84.75	84.64	84.62	84.57	84.66	84.66	84.73	84.54	85.02	84.91	85.50	85.22	84.86	85.07
566	84.84	84.65	84.62	84.59	84.64	84.60	84.73	84.66	84.96	84.91	85.51	85.34	85.15	85.07
566.5	85.08	84.83	84.71	84.66	84.57	84.57	84.77	84.73	84.96	84.93	85.51	85.34	85.13	85.18
567	84.90	84.63	84.70	84.58	84.55	84.39	84.76	84.77	84.94	84.90	85.46	85.30	84.85	85.16
Average:	84.84	84.60	84.58	**84.56**	**84.56**	**84.65**	**84.78**	**84.72**	**84.89**	84.93	85.45	85.25	85.01	**85.13**
				Average of Y4-Y9 Averages						**Y14 Average: 85.13**				
				120719K2 Temperature Value: 84.69						**120719K3 Temperature Value: 85.13**				

TABLE XII
TEMPERATURE ARRAY DATA FOR POSITION 3

Position 3: Time (X) vs. Temperature (Y)														
X	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	**Y11**	**Y12**	**Y13**	**Y14**
0	83.18	83.16	82.64	83.09	82.42	82.97	83.32	83.27	83.36	82.58	83.55	83.39	83.56	82.78
0.5	83.50	83.23	83.08	83.12	82.97	83.02	83.30	83.29	83.46	83.29	83.96	83.70	83.58	83.54
1	83.64	83.27	83.13	83.13	83.08	83.04	83.33	83.27	83.42	83.36	84.05	83.72	83.60	83.62
1.5	83.59	83.29	83.09	83.12	83.06	82.99	83.24	83.24	83.39	83.37	84.00	83.75	83.60	83.62
2	83.59	83.24	83.03	83.02	82.97	82.88	83.26	83.20	83.34	83.41	84.03	83.78	83.73	83.68
2.5	83.56	83.28	83.12	83.03	82.95	82.96	83.30	83.28	83.41	83.40	83.99	83.75	83.73	83.66
3	83.53	83.27	83.12	83.09	83.02	83.00	83.27	83.24	83.46	83.43	83.99	83.75	83.59	83.74
3.5	83.48	83.21	83.10	83.12	83.05	83.00	83.24	83.17	83.39	83.47	84.05	83.78	83.73	83.74
4	83.53	83.28	83.08	83.07	83.02	82.93	83.20	83.08	83.33	83.47	84.07	83.76	83.44	83.75
4.5	83.50	83.28	83.06	83.03	83.04	83.04	83.25	83.17	83.35	83.48	84.06	83.78	83.71	83.76
5	83.50	83.21	83.07	83.07	83.09	83.05	83.27	83.24	83.47	83.51	84.06	83.78	83.71	83.75
5.5	83.57	83.25	83.16	83.11	83.10	83.09	83.35	83.26	83.48	83.56	84.10	83.82	83.74	83.79
6	83.52	83.24	83.15	83.12	83.07	83.10	83.34	83.30	83.52	83.55	84.12	83.84	83.73	83.81
6.5	83.59	83.31	83.12	83.09	83.07	83.11	83.36	83.31	83.57	83.51	84.12	83.85	83.73	83.79
7	83.58	83.28	83.13	83.09	83.05	83.01	83.28	83.24	83.59	83.51	84.13	83.87	83.59	83.81
7.5	83.58	83.24	83.15	83.00	82.95	82.87	83.21	83.17	83.50	83.48	84.12	83.84	83.73	83.79
8	83.55	83.22	83.04	82.95	82.98	82.93	83.17	83.22	83.44	83.45	84.08	83.84	83.58	83.80
8.5	83.60	83.19	83.05	83.04	83.01	82.98	83.23	83.26	83.51	83.46	84.07	83.81	83.58	83.81
9	83.54	83.25	83.08	83.02	83.01	83.02	83.25	83.30	83.52	83.47	84.08	83.84	83.58	83.80
9.5	83.52	83.23	83.10	83.10	83.12	83.08	83.26	83.28	83.53	83.54	84.09	83.79	83.59	83.75
10	83.58	83.25	83.13	83.10	83.10	82.95	83.31	83.28	83.55	83.49	84.08	83.79	83.45	83.74
10.5	83.56	83.25	83.10	83.08	83.03	82.82	83.22	83.26	83.60	83.51	84.07	83.79	83.60	83.79
11	83.45	83.12	83.05	83.04	82.98	82.83	83.16	83.20	83.55	83.47	84.10	83.78	83.58	83.73
11.5	83.53	83.21	83.06	83.02	83.05	83.06	83.31	83.29	83.58	83.48	84.05	83.82	83.60	83.80
12	83.46	83.21	83.00	83.00	83.02	83.00	83.30	83.30	83.56	83.50	84.06	83.84	83.73	83.78
12.5	83.35	83.08	83.02	82.93	82.89	82.80	83.17	83.23	83.59	83.53	84.09	83.79	83.59	83.76
13	83.42	83.07	82.93	82.90	82.91	82.90	83.20	83.19	83.59	83.49	84.11	83.84	83.75	83.74
13.5	83.46	83.17	82.98	82.92	82.96	82.98	83.30	83.27	83.56	83.47	84.06	83.76	83.59	83.75
14	83.46	83.18	83.03	83.03	83.05	83.06	83.30	83.28	83.53	83.47	84.03	83.78	83.59	83.74
14.5	83.42	83.16	83.05	83.04	83.03	83.00	83.27	83.20	83.46	83.45	84.02	83.76	83.59	83.75
15	83.44	83.15	83.01	82.99	83.02	82.96	83.26	83.19	83.33	83.37	83.99	83.76	83.43	83.71
15.5	83.50	83.20	83.02	82.97	83.02	82.97	83.26	83.23	83.43	83.41	84.05	83.72	83.73	83.66
16	83.49	83.21	83.02	82.99	82.99	83.01	83.28	83.25	83.44	83.44	84.00	83.75	83.59	83.66
16.5	83.50	83.24	83.03	83.02	83.03	83.01	83.25	83.21	83.48	83.46	84.01	83.76	83.45	83.67
17	83.56	83.26	83.05	83.02	83.02	82.88	83.26	83.18	83.50	83.47	84.00	83.75	83.59	83.74
17.5	83.47	83.23	83.04	82.94	82.95	82.95	83.26	83.16	83.38	83.49	84.01	83.74	83.72	83.74
18	83.53	83.26	83.08	82.97	82.97	82.92	83.23	83.19	83.42	83.49	84.02	83.77	83.45	83.73

18.5	83.46	83.21	83.03	83.02	83.03	82.94	83.18	83.15	83.44	83.41	83.96	83.74	83.44	83.71
19	83.44	83.13	83.04	83.01	83.03	82.96	83.23	83.13	83.42	83.42	83.98	83.74	83.60	83.71
19.5	83.43	83.17	82.99	83.02	83.03	82.97	83.37	83.28	83.43	83.41	83.94	83.74	83.44	83.71
20	83.49	83.22	83.02	83.01	83.00	82.98	83.32	83.30	83.47	83.42	83.93	83.73	83.57	83.70
20.5	83.52	83.21	83.05	83.04	83.00	82.91	83.34	83.30	83.49	83.47	83.91	83.69	83.44	83.74
21	83.50	83.18	83.00	82.99	82.97	82.94	83.20	83.18	83.46	83.44	83.91	83.68	83.73	83.68
21.5	83.45	83.16	83.00	82.99	82.97	83.50	83.21	83.20	83.44	83.38	83.94	83.68	83.44	83.65
22	83.47	83.19	83.04	83.01	82.98	82.98	83.23	83.16	83.46	83.39	83.91	83.65	83.43	83.65
22.5	83.45	83.13	83.01	83.29	83.01	82.93	83.26	83.16	83.44	83.39	83.93	83.68	83.58	83.64
23	83.43	83.18	82.99	82.93	82.89	82.93	83.24	83.15	83.41	83.41	83.90	83.66	83.59	83.63
23.5	83.42	82.32	82.49	82.96	82.92	82.90	83.21	83.17	83.43	83.38	83.87	83.66	83.59	83.63
24	83.35	83.05	82.97	82.94	82.97	82.85	83.12	83.00	83.35	83.36	83.82	83.67	83.43	83.63
24.5	83.38	83.06	82.97	82.95	83.04	82.95	83.18	83.05	83.37	83.39	83.85	83.66	83.45	83.61
25	83.42	83.17	83.05	83.00	82.95	82.88	83.08	83.04	83.36	83.35	83.84	83.62	83.44	83.60
25.5	83.48	83.19	82.25	82.98	83.00	82.95	83.19	83.03	83.28	83.30	83.80	83.61	83.43	83.57
26	83.52	83.26	83.06	83.02	83.03	82.98	83.18	83.07	83.20	83.28	83.81	83.60	83.30	83.60
26.5	83.50	83.25	83.04	83.00	83.06	82.95	83.15	83.05	83.27	83.29	83.79	83.60	83.28	83.57
27	83.53	83.21	83.03	82.98	82.98	83.01	83.18	83.06	83.32	83.29	83.92	83.58	83.31	83.61
27.5	83.52	83.25	83.05	82.98	82.97	82.93	83.19	83.06	83.25	83.32	83.82	83.62	83.43	83.60
28	83.53	83.26	83.17	83.01	83.00	82.92	83.18	83.06	83.87	83.29	83.89	83.63	83.74	83.66
28.5	83.46	83.14	83.08	82.97	83.00	82.88	83.15	82.97	83.24	83.21	83.83	83.65	83.59	83.63
29	83.38	83.18	83.02	82.96	82.86	82.76	83.20	83.08	83.24	83.24	83.80	83.60	83.59	83.65
29.5	83.43	83.16	83.02	82.95	82.83	82.78	83.17	83.10	83.27	83.31	83.86	83.63	83.59	83.65
30	83.45	83.20	82.99	82.90	82.87	82.83	83.17	83.15	83.30	83.34	83.84	83.63	83.57	83.60
30.5	83.50	83.25	83.02	82.92	82.90	82.89	83.20	83.12	83.32	83.32	83.85	83.67	83.43	83.63
31	83.47	83.21	83.04	82.96	82.96	82.88	83.18	83.10	83.27	83.29	83.81	83.62	83.57	83.59
31.5	83.45	83.17	83.04	82.97	82.99	82.88	83.18	83.05	83.31	83.28	83.79	83.62	83.43	83.53
32	83.45	83.14	83.00	82.90	82.94	82.92	83.18	83.07	83.30	83.25	83.79	83.60	83.43	83.56
32.5	83.45	83.14	83.00	82.92	82.95	82.90	83.15	83.07	83.29	83.25	83.80	83.59	83.30	83.58
33	83.43	83.10	82.99	82.90	82.92	82.88	83.17	83.05	83.26	83.22	83.77	83.53	83.30	83.53
33.5	83.47	83.16	82.99	82.91	82.91	82.83	83.10	83.02	83.23	83.23	83.74	83.54	83.56	83.49
34	83.49	83.15	83.06	82.93	82.93	82.91	83.17	83.08	83.27	83.28	83.77	83.57	83.28	83.53
34.5	83.50	83.15	83.07	82.98	82.98	82.93	83.12	83.10	83.29	83.32	83.79	83.61	83.58	83.58
35	83.49	83.22	83.09	82.97	82.94	82.91	83.08	83.04	83.33	83.31	83.79	83.62	83.57	83.62
35.5	83.40	83.18	83.13	83.00	82.94	82.88	83.12	83.05	83.28	83.31	83.78	83.62	83.28	83.59
36	83.49	83.21	83.08	82.93	82.90	82.84	83.11	83.00	83.29	83.27	83.84	83.63	83.59	83.59
36.5	83.55	83.28	83.15	83.09	83.00	82.93	83.13	83.03	83.31	83.27	83.83	83.68	83.59	83.58
37	83.50	83.23	83.12	83.09	83.02	82.97	83.17	83.08	83.29	83.28	83.83	83.65	83.59	83.60
37.5	83.52	83.20	83.12	83.04	83.00	82.95	83.19	83.12	83.26	83.26	83.82	83.58	83.43	83.58
38	83.47	83.19	83.08	82.97	83.00	82.95	83.20	83.10	83.25	83.22	83.77	83.60	83.43	83.55
38.5	83.43	83.17	83.06	82.94	82.94	82.83	83.14	83.10	83.30	83.24	83.77	83.54	83.43	83.53

39	83.48	83.24	83.12	82.99	82.93	82.91	83.20	83.13	83.30	83.27	83.77	83.58	83.44	83.58
39.5	83.45	83.18	83.06	82.97	82.94	82.92	83.21	83.15	83.28	83.28	83.79	83.63	83.43	83.53
40	83.41	83.16	83.08	82.98	82.97	82.95	83.22	83.15	83.32	83.27	83.79	83.65	83.43	83.60
40.5	83.43	83.15	83.03	82.97	82.94	82.85	83.18	83.11	83.28	83.25	83.81	83.63	83.57	83.57
41	83.47	83.19	83.10	82.99	82.91	82.79	83.15	83.16	83.33	83.26	83.79	83.65	83.43	83.57
41.5	83.45	83.18	83.12	82.96	82.94	82.85	83.12	83.01	83.23	83.18	83.75	83.62	83.57	83.56
42	83.48	83.23	83.08	82.95	82.93	83.01	83.20	83.08	83.26	83.25	83.81	83.65	83.44	83.59
42.5	83.50	83.18	83.07	82.95	82.92	82.96	83.22	83.12	83.26	83.26	83.79	83.62	83.43	83.63
43	83.47	83.18	83.04	82.97	83.03	83.10	83.22	83.11	83.28	83.27	83.79	83.57	83.57	83.62
43.5	83.43	83.21	83.06	82.97	82.94	82.98	83.14	83.12	83.28	83.24	83.78	83.67	83.43	83.59
44	83.44	83.20	83.05	82.95	82.81	82.82	83.25	83.19	83.31	83.27	83.79	83.64	83.72	83.64
44.5	83.49	83.22	83.07	82.93	82.86	82.80	83.09	83.04	83.28	83.25	83.81	83.62	83.57	83.62
45	83.57	83.26	83.11	82.95	82.88	82.83	83.05	83.02	83.32	83.27	83.82	83.67	83.43	83.65
45.5	83.49	83.22	83.03	82.94	82.89	82.85	83.04	83.05	83.28	83.28	83.81	83.66	83.57	83.60
46	83.44	83.15	83.07	82.87	82.85	82.88	83.07	83.10	83.29	83.27	83.79	83.67	83.58	83.60
46.5	83.45	83.21	83.00	82.89	82.90	82.85	83.07	83.00	83.30	83.28	83.79	83.63	83.71	83.57
47	83.43	83.23	83.08	82.99	82.99	82.96	83.14	83.05	83.33	83.28	83.83	83.65	83.44	83.59
47.5	83.46	83.25	83.12	82.99	82.99	83.00	83.15	83.08	83.28	83.28	83.79	83.62	83.57	83.54
48	83.50	83.25	83.08	83.01	83.02	83.05	83.16	83.12	83.29	83.26	83.80	83.62	83.58	83.63
48.5	83.49	83.23	83.13	83.06	83.05	82.98	83.17	83.11	83.33	83.28	83.78	83.66	83.44	83.66
49	83.48	83.23	83.08	83.01	83.01	82.95	83.16	83.06	83.33	83.30	83.80	83.67	83.58	83.64
49.5	83.50	83.22	83.11	83.01	82.94	82.92	83.15	83.07	83.29	83.29	83.83	83.68	83.43	83.64
50	83.49	83.24	83.12	82.94	82.94	82.94	83.17	83.12	83.35	83.31	83.77	83.57	83.43	83.63
50.5	83.51	83.25	83.15	83.01	82.98	82.92	83.17	83.16	83.39	83.33	83.82	83.58	83.43	83.61
51	83.49	83.25	83.13	83.00	82.96	82.94	83.17	83.18	83.38	83.34	83.81	83.59	83.43	83.63
51.5	83.53	83.27	83.09	83.00	82.96	82.97	83.27	83.21	83.40	83.37	83.84	83.65	83.57	83.65
52	83.59	83.27	83.13	83.01	83.02	83.01	83.21	83.24	83.37	83.37	83.87	83.62	83.57	83.63
52.5	83.52	83.28	83.15	83.02	83.07	82.95	83.25	83.22	83.38	83.35	83.89	83.64	83.29	83.65
53	83.54	83.32	83.15	83.09	83.05	83.03	83.28	83.25	83.44	83.40	83.89	83.68	83.43	83.68
53.5	83.52	83.28	83.19	83.09	83.10	83.12	83.31	83.28	83.41	83.39	83.88	83.73	83.71	83.73
54	83.51	83.28	83.18	83.12	83.11	83.08	83.28	83.23	83.36	83.39	83.92	83.76	83.43	83.74
54.5	83.54	83.31	83.14	83.04	83.04	83.15	83.33	83.22	83.42	83.42	83.95	83.78	83.72	83.74
55	83.52	83.31	83.18	82.99	83.05	83.10	83.35	83.29	83.48	83.39	83.93	83.76	83.87	83.74
55.5	83.54	83.29	83.15	83.04	83.07	83.08	83.32	83.25	83.48	83.43	83.92	83.70	83.72	83.70
56	83.62	83.39	83.24	83.01	83.11	83.15	83.32	83.25	83.48	83.46	83.91	83.73	83.58	83.71
56.5	83.63	83.40	83.26	83.11	83.11	83.18	83.34	83.24	83.48	83.48	83.94	83.73	83.86	83.72
57	83.63	83.41	83.29	83.14	83.16	83.05	83.34	83.27	83.48	83.47	83.96	83.76	83.71	83.73
57.5	83.65	83.41	83.31	83.18	83.12	83.06	83.33	83.22	83.48	83.42	83.95	83.76	83.72	83.73
58	83.66	83.38	83.27	83.16	83.14	83.10	83.30	83.20	83.46	83.34	83.98	83.78	83.57	83.73
58.5	83.57	83.34	83.23	83.07	83.04	83.01	83.24	83.22	83.44	83.37	83.96	83.78	83.71	83.68
59	83.52	83.28	83.14	83.06	83.07	83.04	83.28	83.25	83.44	83.37	83.97	83.81	83.57	83.70

59.5	83.55	83.31	83.22	83.09	83.13	83.10	83.32	83.30	83.47	83.42	83.94	83.76	83.71	83.78
60	83.56	83.31	83.23	83.11	83.13	83.15	83.34	83.30	83.48	83.39	83.93	83.78	83.71	83.75
60.5	83.62	83.30	83.23	83.14	83.17	83.14	83.37	83.31	83.50	83.45	83.96	83.79	83.43	83.75
61	83.61	83.32	83.22	83.09	83.04	83.04	83.36	83.34	83.51	83.47	83.92	83.77	83.71	83.72
61.5	83.62	83.40	83.22	83.09	83.05	83.10	83.37	83.38	83.56	83.47	83.99	83.79	83.73	83.82
62	83.65	83.37	83.24	83.10	83.00	83.00	83.28	83.34	83.48	83.42	83.97	83.81	83.71	83.79
62.5	83.61	83.36	83.22	83.05	82.97	82.98	83.23	83.28	83.44	83.35	83.96	83.83	83.58	83.74
63	83.60	83.29	83.21	83.09	83.04	83.09	83.30	83.26	83.45	83.39	83.92	83.76	83.72	83.71
63.5	83.59	83.31	83.19	83.07	83.09	83.08	83.34	83.30	83.40	83.39	83.90	83.76	83.43	83.72
64	83.63	83.37	83.29	83.11	83.14	83.08	83.30	83.22	83.38	83.37	83.87	83.72	83.71	83.69
64.5	83.59	83.31	83.23	83.10	83.09	83.07	83.22	83.24	83.38	83.41	83.88	83.76	83.43	83.69
65	83.54	83.27	83.16	83.13	83.04	83.07	83.22	83.23	83.40	83.36	83.86	83.75	83.56	83.67
65.5	83.55	83.28	83.19	83.11	83.09	83.14	83.25	83.24	83.43	83.39	83.91	83.78	83.57	83.69
66	83.59	83.28	83.19	83.11	83.11	83.15	83.38	83.30	83.47	83.39	83.94	83.78	83.71	83.66
66.5	83.56	83.27	83.17	83.10	83.09	83.08	83.27	83.21	83.47	83.38	83.91	83.73	83.43	83.65
67	83.60	83.35	83.25	83.14	83.08	83.10	83.26	83.23	83.46	83.40	83.89	83.73	83.58	83.64
67.5	83.60	83.33	83.26	83.17	83.10	83.02	83.28	83.22	83.47	83.37	83.90	83.70	83.43	83.63
68	83.57	83.25	83.17	83.00	83.03	82.91	83.22	83.22	83.44	83.34	83.91	83.72	83.43	83.62
68.5	83.57	83.27	83.16	83.00	83.04	83.04	83.24	83.18	83.44	83.31	83.87	83.73	83.43	83.60
69	83.52	83.26	83.16	83.07	83.03	83.01	83.23	83.24	83.46	83.38	83.91	83.74	83.44	83.63
69.5	83.50	83.22	83.14	83.00	82.99	82.83	83.15	83.11	83.40	83.38	83.90	83.78	83.57	83.65
70	83.47	83.18	83.09	82.91	82.86	82.80	83.08	83.08	83.30	83.32	83.85	83.70	83.43	83.59
70.5	83.46	83.10	83.02	82.91	82.82	82.77	83.01	82.98	83.35	83.31	83.85	83.69	83.43	83.60
71	83.44	83.10	83.02	82.81	82.71	82.73	83.03	83.06	83.31	83.29	83.85	83.70	83.43	83.58
71.5	83.44	83.08	83.00	82.82	82.85	82.88	83.12	83.12	83.36	83.29	83.80	83.64	83.43	83.48
72	83.42	83.15	83.06	82.93	82.83	82.81	83.08	83.05	83.30	83.29	83.79	83.62	83.57	83.50
72.5	83.42	83.10	82.97	82.91	82.87	82.87	83.07	83.08	83.30	83.28	83.78	83.57	83.43	83.49
73	83.37	83.05	82.97	82.93	82.92	82.94	83.12	83.08	83.28	83.28	83.78	83.59	83.28	83.51
73.5	83.45	83.14	83.00	82.90	82.89	82.85	83.04	83.07	83.28	83.28	83.78	83.63	83.57	83.49
74	83.36	83.11	83.03	82.94	82.92	82.90	83.01	83.04	83.27	83.22	83.75	83.57	83.43	83.44
74.5	83.43	83.14	82.99	82.87	82.84	82.84	82.98	82.99	83.24	83.19	83.73	83.56	83.41	83.45
75	83.42	83.11	83.00	82.89	82.83	82.80	82.99	83.02	83.27	83.24	83.75	83.54	83.43	83.49
75.5	83.44	83.13	83.05	82.92	82.85	82.90	83.07	83.09	83.28	83.27	83.77	83.58	83.43	83.48
76	83.36	83.12	82.99	82.89	82.82	82.84	82.97	83.04	83.27	83.27	83.75	83.56	83.28	83.41
76.5	83.34	83.10	82.97	82.81	82.76	82.74	82.88	82.90	83.28	83.27	83.77	83.54	83.14	83.37
77	83.36	83.04	82.94	82.71	82.72	82.68	83.02	82.97	83.28	83.25	83.75	83.53	83.43	83.40
77.5	83.36	83.10	82.89	82.69	82.72	82.67	82.94	83.01	83.27	83.21	83.75	83.49	83.43	83.40
78	83.34	83.07	82.93	82.71	82.67	82.61	82.86	82.90	83.30	83.22	83.75	83.51	83.43	83.40
78.5	83.43	83.15	83.00	82.79	82.60	82.63	82.82	82.77	83.04	83.02	83.68	83.50	83.43	83.31
79	83.37	83.05	82.90	82.77	82.72	82.80	83.01	82.84	83.01	82.96	83.58	83.43	83.43	83.37
79.5	83.25	82.99	82.88	82.75	82.72	82.81	82.96	82.90	83.05	83.02	83.56	83.39	83.15	83.29

80	83.24	82.98	82.90	82.73	82.70	82.67	82.86	82.87	83.07	83.04	83.58	83.38	83.14	83.27
80.5	83.20	82.95	82.86	82.73	82.66	82.64	82.81	82.80	83.12	83.07	83.53	83.34	82.99	83.21
81	83.15	82.90	82.72	82.52	82.52	82.45	82.63	82.76	83.03	82.99	83.48	83.29	83.13	83.08
81.5	83.14	82.87	82.77	82.59	82.52	82.43	82.58	82.62	82.98	82.95	83.40	83.22	82.99	83.09
82	83.10	82.82	82.74	82.54	82.55	82.51	82.66	82.71	82.98	82.95	83.37	83.18	83.14	83.09
82.5	83.06	82.82	82.73	82.59	82.57	82.58	82.74	82.77	82.94	82.88	83.42	83.20	83.14	83.11
83	83.04	82.78	82.69	82.62	82.60	82.57	82.71	82.72	82.94	82.88	83.40	83.21	83.14	83.15
83.5	83.06	82.78	82.69	82.59	82.52	82.44	82.61	82.62	82.91	82.86	83.36	83.21	82.85	83.12
84	83.00	82.71	82.66	82.56	82.49	82.40	82.58	82.50	82.85	82.79	83.27	83.18	82.99	83.09
84.5	82.97	82.69	82.61	82.52	82.50	82.49	82.64	82.56	82.84	82.77	83.25	83.17	82.86	83.01
85	82.97	82.69	82.58	82.52	82.53	82.59	82.73	82.62	82.89	82.77	83.28	83.16	83.00	83.04
85.5	82.89	82.62	82.57	82.54	82.52	82.53	82.76	82.65	82.89	82.84	83.34	83.18	83.14	83.05
86	82.93	82.66	82.54	82.52	82.47	82.45	82.69	82.61	82.81	82.76	83.34	83.20	83.14	83.03
86.5	82.96	82.66	82.54	82.43	82.43	82.47	82.63	82.61	82.81	82.79	83.33	83.17	82.85	82.98
87	82.94	82.66	82.58	82.44	82.37	82.39	82.58	82.59	82.78	82.76	83.22	83.11	83.13	82.94
87.5	82.89	82.63	82.57	82.41	82.32	82.33	82.54	82.52	82.74	82.60	83.20	83.07	82.84	82.94
88	82.87	82.57	82.54	82.44	82.35	82.33	82.51	82.58	82.71	82.66	83.10	83.03	82.71	82.96
88.5	82.84	82.56	82.50	82.36	82.33	82.26	82.51	82.55	82.73	82.71	83.14	83.01	82.56	82.89
89	82.83	82.55	82.43	82.32	82.29	82.36	82.59	82.58	82.78	82.69	83.23	83.08	82.85	82.92
89.5	82.79	82.52	82.37	82.34	82.23	82.26	82.51	82.52	82.75	82.72	83.23	83.06	82.99	82.85
90	82.89	82.62	82.47	82.27	82.23	82.18	82.46	82.45	82.76	82.74	83.23	83.05	82.85	82.87
90.5	82.88	82.58	82.42	82.35	82.25	82.26	82.43	82.34	82.71	82.71	83.22	82.95	82.70	82.87
91	82.87	82.56	82.39	82.27	82.23	82.20	82.43	82.38	82.72	82.71	83.18	82.95	82.71	82.86
91.5	82.79	82.51	82.39	82.26	82.16	82.14	82.40	82.31	82.68	82.65	83.15	82.96	82.71	82.79
92	82.82	82.54	82.33	82.26	82.12	82.08	82.35	82.30	82.59	82.58	83.05	82.92	82.71	82.79
92.5	82.82	82.51	82.37	82.26	82.16	82.14	82.40	82.37	82.59	82.53	82.99	82.88	82.71	82.77
93	82.79	82.49	82.36	82.24	82.16	82.07	82.30	82.26	82.50	82.52	83.00	82.81	82.69	82.76
93.5	82.77	82.51	82.39	82.26	82.16	82.01	82.22	82.20	82.45	82.52	83.02	82.85	82.71	82.67
94	82.72	82.45	82.39	82.25	82.17	82.06	82.25	82.20	82.48	82.47	82.97	82.72	82.41	82.56
94.5	82.67	82.42	82.39	82.19	82.12	82.08	82.26	82.20	82.50	82.43	82.93	82.73	82.71	82.58
95	82.67	82.41	82.32	82.14	82.06	82.07	82.23	82.18	82.45	82.42	82.93	82.73	82.71	82.58
95.5	82.66	82.41	82.30	82.12	81.99	82.04	82.22	82.15	82.35	82.42	82.95	82.76	82.71	82.60
96	82.66	82.39	82.27	82.17	82.05	82.06	82.23	82.18	82.37	82.45	82.90	82.73	82.71	82.57
96.5	82.64	82.40	82.27	82.15	82.05	82.03	82.17	82.16	82.37	82.33	82.91	82.71	82.41	82.57
97	82.64	82.36	82.29	82.16	82.03	82.00	82.16	82.12	82.37	82.39	82.90	82.72	82.71	82.60
97.5	82.69	82.41	82.26	82.14	82.08	82.08	82.25	82.21	82.37	82.39	82.89	82.73	82.71	82.61
98	82.60	82.36	82.27	82.20	82.15	82.17	82.28	82.20	82.43	82.43	82.92	82.79	82.56	82.64
98.5	82.64	82.38	82.25	82.19	82.15	82.10	82.21	82.22	82.41	82.41	82.88	82.74	82.55	82.59
99	82.62	82.32	82.26	82.19	82.19	82.13	82.23	82.10	82.40	82.39	82.90	82.77	82.56	82.66
99.5	82.63	82.35	82.27	82.14	82.06	81.98	82.12	82.12	82.37	82.38	82.86	82.76	82.56	82.61
100	82.64	82.31	82.28	82.15	82.08	82.03	82.15	82.13	82.34	82.31	82.87	82.71	82.55	82.60

100.5	82.60	82.33	82.27	82.16	82.07	82.04	82.16	82.08	82.33	82.30	82.86	82.70	82.54	82.49
101	82.55	82.30	82.21	82.15	82.08	82.01	82.15	82.08	82.37	82.34	82.85	82.74	82.71	82.58
101.5	82.58	82.30	82.14	82.08	82.04	82.05	82.18	82.12	82.41	82.37	82.88	82.72	82.71	82.61
102	82.56	82.32	82.20	82.10	82.06	82.04	82.23	82.18	82.43	82.33	82.83	82.74	82.56	82.69
102.5	82.55	82.28	82.21	82.17	82.11	82.08	82.21	82.18	82.43	82.39	82.91	82.74	82.43	82.64
103	82.50	82.23	82.19	82.12	82.03	81.93	82.13	82.12	82.40	82.35	82.85	82.74	82.56	82.60
103.5	82.54	82.27	82.19	82.08	82.08	82.06	82.24	82.14	82.38	82.33	82.85	82.72	82.84	82.55
104	82.49	82.25	82.20	82.13	82.09	81.96	82.23	82.22	82.42	82.38	82.85	82.72	82.56	82.58
104.5	82.57	82.31	82.17	82.12	81.99	81.91	82.16	82.25	82.45	82.38	82.83	82.73	82.56	82.55
105	82.60	82.34	82.21	82.08	82.03	81.94	82.17	82.23	82.43	82.37	82.85	82.68	82.43	82.55
105.5	82.59	82.26	82.15	82.03	81.98	81.89	82.07	82.11	82.36	82.38	82.83	82.67	82.56	82.52
106	82.49	82.25	82.16	82.06	82.02	81.94	82.12	82.14	82.35	82.31	82.82	82.64	82.56	82.48
106.5	82.62	82.35	82.13	82.05	81.86	81.89	82.10	82.12	82.33	82.25	82.76	82.63	82.42	82.45
107	82.61	82.34	82.19	81.97	81.88	81.83	82.04	82.07	82.37	82.24	82.74	82.58	82.26	82.44
107.5	82.65	82.34	82.22	82.01	82.03	82.01	82.15	82.12	82.35	82.26	82.71	82.56	82.43	82.46
108	82.61	82.25	82.19	82.05	81.98	81.98	82.09	82.13	82.34	82.21	82.68	82.49	82.55	82.46
108.5	82.59	82.18	82.14	82.04	81.98	81.93	82.11	82.10	82.29	82.18	82.65	82.49	82.26	82.46
109	82.56	82.23	82.13	82.02	82.00	81.94	82.16	82.10	82.26	82.21	82.69	82.54	82.42	82.48
109.5	82.48	82.20	82.17	82.07	82.03	82.01	82.14	82.10	82.25	82.21	82.71	82.59	82.41	82.52
110	82.55	82.22	82.17	82.10	82.00	82.00	82.17	82.18	82.33	82.23	82.76	82.64	82.42	82.54
110.5	82.66	82.33	82.17	82.07	82.06	82.03	82.17	82.18	82.33	82.25	82.76	82.66	82.56	82.52
111	82.69	82.43	82.26	82.10	82.06	82.03	82.16	82.12	82.29	82.23	82.76	82.64	82.56	82.54
111.5	82.69	82.42	82.26	82.10	82.06	82.10	82.19	82.18	82.36	82.31	82.76	82.64	82.42	82.51
112	82.69	82.39	82.23	82.09	82.06	82.11	82.23	82.15	82.27	82.25	82.79	82.66	82.56	82.57
112.5	82.64	82.38	82.17	82.07	82.09	82.21	82.32	82.21	82.33	82.28	82.77	82.66	82.56	82.55
113	82.71	82.39	82.21	82.11	82.06	82.12	82.28	82.25	82.40	82.30	82.77	82.67	82.28	82.55
113.5	82.71	82.44	82.32	82.21	82.14	82.14	82.27	82.22	82.38	82.31	82.78	82.67	82.71	82.58
114	82.70	82.42	82.33	82.20	82.10	82.07	82.20	82.17	82.36	82.28	82.76	82.70	82.56	82.57
114.5	82.68	82.40	82.28	82.15	82.10	82.11	82.21	82.13	82.34	82.30	82.74	82.67	82.28	82.53
115	82.61	82.33	82.22	82.15	82.10	82.08	82.17	82.16	82.35	82.30	82.72	82.63	82.55	82.50
115.5	82.60	82.35	82.21	82.13	82.07	82.05	82.16	82.16	82.36	82.29	82.76	82.60	82.40	82.52
116	82.61	82.32	82.24	82.10	82.09	82.13	82.24	82.24	82.39	82.30	82.76	82.64	82.69	82.60
116.5	82.66	82.35	82.25	82.13	82.12	82.08	82.20	82.18	82.36	82.35	82.79	82.69	82.56	82.60
117	82.64	82.31	82.23	82.16	82.12	82.10	82.25	82.20	82.42	82.35	82.80	82.66	82.27	82.61
117.5	82.65	82.34	82.25	82.18	82.07	82.12	82.24	82.18	82.43	82.36	82.80	82.67	82.57	82.59
118	82.67	82.36	82.21	82.18	82.11	82.11	82.24	82.16	82.44	82.37	82.77	82.71	82.57	82.66
118.5	82.67	82.38	82.24	82.14	82.10	82.15	82.30	82.20	82.38	82.33	82.79	82.69	82.41	82.65
119	82.62	82.40	82.27	82.18	82.07	82.12	82.30	82.20	82.41	82.31	82.82	82.72	82.55	82.63
119.5	82.71	82.40	82.25	82.14	82.07	82.09	82.27	82.28	82.43	82.31	82.83	82.72	82.71	82.64
120	82.66	82.45	82.27	82.17	82.10	82.16	82.32	82.31	82.45	82.33	82.88	82.72	82.71	82.66
120.5	82.62	82.41	82.29	82.19	82.10	82.20	82.36	82.34	82.48	82.35	82.85	82.74	82.56	82.69

121	82.59	82.35	82.22	82.17	82.15	82.22	82.45	82.39	82.52	82.37	82.90	82.81	82.55	82.71
121.5	82.72	82.38	82.23	82.23	82.20	82.23	82.39	82.41	82.52	82.45	82.93	82.82	82.71	82.76
122	82.79	82.43	82.33	82.23	82.16	82.18	82.36	82.38	82.49	82.45	82.98	82.86	82.71	82.77
122.5	82.72	82.38	82.29	82.23	82.19	82.21	82.42	82.40	82.43	82.35	82.96	82.92	82.85	82.77
123	82.71	82.42	82.31	82.24	82.19	82.27	82.39	82.34	82.49	82.40	82.92	82.92	82.54	82.77
123.5	82.83	82.58	82.47	82.36	82.25	82.24	82.38	82.32	82.52	82.43	82.95	82.85	82.71	82.83
124	82.81	82.57	82.39	82.24	82.28	82.22	82.35	82.36	82.55	82.47	82.94	82.85	82.70	82.79
124.5	82.77	82.50	82.36	82.30	82.20	82.24	82.36	82.31	82.53	82.45	82.93	82.84	82.69	82.81
125	82.85	82.57	82.37	82.28	82.27	82.36	82.47	82.40	82.54	82.50	82.98	82.90	82.70	82.84
125.5	82.90	82.59	82.40	82.26	82.30	82.28	82.43	82.44	82.58	82.55	83.02	82.96	82.71	82.86
126	82.91	82.60	82.44	82.28	82.30	82.28	82.41	82.52	82.68	82.58	83.04	82.94	82.70	82.91
126.5	82.82	82.57	82.44	82.32	82.27	82.20	82.38	82.52	82.73	82.60	83.10	82.95	82.84	82.92
127	82.84	82.52	82.46	82.37	82.36	82.34	82.42	82.47	82.66	82.64	83.12	82.98	82.85	82.98
127.5	82.96	82.62	82.50	82.46	82.43	82.53	82.56	82.60	82.71	82.65	83.17	83.04	82.85	82.96
128	82.99	82.73	82.58	82.44	82.42	82.50	82.55	82.66	82.77	82.67	83.16	83.06	82.84	83.00
128.5	83.01	82.74	82.58	82.47	82.47	82.48	82.61	82.60	82.82	82.77	83.23	83.12	83.00	83.07
129	83.01	82.74	82.58	82.45	82.44	82.52	82.58	82.56	82.83	82.76	83.25	83.10	82.84	83.06
129.5	82.93	82.71	82.62	82.50	82.49	82.55	82.62	82.67	82.85	82.75	83.30	83.17	83.14	83.06
130	82.97	82.71	82.63	82.46	82.45	82.43	82.58	82.70	82.91	82.82	83.30	83.18	83.14	83.09
130.5	83.03	82.62	82.51	82.47	82.43	82.41	82.53	82.65	82.86	82.79	83.34	83.18	83.12	83.10
131	83.04	82.69	82.60	82.52	82.50	82.51	82.52	82.62	82.88	82.85	83.33	83.24	82.99	83.12
131.5	83.03	82.71	82.64	82.54	82.50	82.53	82.63	82.70	82.89	82.82	83.36	83.24	83.14	83.21
132	83.06	82.76	82.67	82.57	82.52	82.55	82.66	82.72	82.94	82.91	83.37	83.21	83.14	83.22
132.5	83.04	82.74	82.67	82.59	82.57	82.57	82.71	82.83	82.99	82.91	83.39	83.24	82.84	83.29
133	83.04	82.77	82.67	82.58	82.52	82.50	82.55	82.69	82.94	82.93	83.42	83.32	82.99	83.29
133.5	83.16	82.87	82.66	82.56	82.53	82.54	82.68	82.77	82.98	82.92	83.44	83.34	83.28	83.27
134	83.14	82.89	82.77	82.67	82.59	82.55	82.75	82.88	83.02	82.96	83.47	83.37	83.28	83.31
134.5	83.12	82.86	82.78	82.64	82.61	82.62	82.74	82.87	83.01	82.97	83.48	83.36	83.27	83.36
135	83.04	82.82	82.70	82.66	82.63	82.70	82.72	82.84	83.02	82.79	83.44	83.37	83.14	83.34
135.5	83.09	82.84	82.69	82.74	82.69	82.55	82.72	82.80	83.01	82.86	83.43	83.35	83.14	83.33
136	83.11	82.84	82.78	82.69	82.65	82.63	82.70	82.77	83.03	82.93	83.44	83.36	83.13	83.26
136.5	83.09	82.84	82.78	82.72	82.68	82.65	82.71	82.74	82.97	82.96	83.45	83.38	83.27	83.32
137	83.18	82.91	82.82	82.75	82.70	82.67	82.81	82.84	83.08	83.05	83.49	83.39	83.15	83.31
137.5	83.17	82.91	82.80	82.76	82.72	82.77	82.82	82.90	83.11	83.04	83.52	83.34	83.14	83.27
138	83.20	82.96	82.81	82.77	82.72	82.73	82.86	82.95	83.07	83.03	83.56	83.38	83.15	83.29
138.5	83.14	82.89	82.78	82.71	82.70	82.71	82.84	82.93	83.18	83.06	83.56	83.39	83.29	83.33
139	83.21	82.90	82.77	82.74	82.84	82.93	82.97	82.97	83.19	83.07	83.57	83.40	83.27	83.38
139.5	83.24	82.98	82.83	82.81	82.83	82.90	82.97	83.01	83.20	83.11	83.59	83.46	83.43	83.41
140	83.24	82.98	82.92	82.83	82.79	82.80	82.88	82.98	83.20	83.11	83.62	83.49	83.43	83.41
140.5	83.23	82.98	82.92	82.84	82.80	82.85	82.89	82.94	83.20	83.11	83.63	83.51	83.28	83.40
141	83.25	82.94	82.85	82.79	82.79	82.75	82.87	82.90	83.17	83.10	83.63	83.46	83.27	83.32

141.5	83.36	83.05	82.89	82.80	82.78	82.76	82.87	82.93	83.20	83.10	83.62	83.49	83.30	83.36
142	83.37	83.11	82.90	82.81	82.77	82.74	82.92	82.92	83.17	83.05	83.62	83.47	83.14	83.40
142.5	83.33	83.11	82.93	82.84	82.84	82.88	83.01	82.99	83.18	83.06	83.60	83.43	83.27	83.43
143	83.35	83.09	82.97	82.86	82.85	82.92	83.04	83.06	83.23	83.17	83.63	83.51	83.27	83.45
143.5	83.40	83.12	82.99	82.94	82.87	82.80	82.91	83.05	83.33	83.19	83.68	83.57	83.28	83.44
144	83.40	83.14	82.94	83.00	82.92	82.87	82.89	83.04	83.28	83.22	83.72	83.59	83.28	83.49
144.5	83.38	83.13	82.98	82.98	82.94	82.93	83.00	83.07	83.30	83.16	83.74	83.55	83.42	83.54
145	83.42	83.17	82.99	82.96	82.96	82.93	83.03	83.09	83.30	83.21	83.76	83.64	83.13	83.56
145.5	83.39	83.20	83.04	82.99	82.92	82.90	83.04	83.11	83.35	83.28	83.79	83.62	83.43	83.56
146	83.38	83.14	83.02	82.93	82.89	82.86	83.01	83.12	83.29	83.27	83.76	83.62	83.42	83.52
146.5	83.42	83.18	83.02	82.91	82.83	82.78	83.01	83.11	83.30	83.31	83.75	83.63	83.14	83.56
147	83.52	83.25	83.08	82.98	82.92	82.92	83.09	83.19	83.36	83.31	83.76	83.65	83.42	83.55
147.5	83.52	83.29	83.18	83.05	82.99	82.99	83.10	83.22	83.35	83.29	83.77	83.67	83.42	83.55
148	83.49	83.25	83.12	83.01	82.99	82.98	83.07	83.20	83.43	83.29	83.84	83.69	83.57	83.54
148.5	83.43	83.15	83.06	82.94	82.97	82.92	83.08	83.15	83.37	83.27	83.79	83.72	83.43	83.59
149	83.48	83.28	83.12	82.97	82.91	82.98	83.12	83.18	83.35	83.26	83.79	83.71	83.43	83.58
149.5	83.49	83.22	83.13	83.03	82.93	83.05	83.14	83.21	83.37	83.25	83.78	83.67	83.43	83.62
150	83.45	83.22	83.12	83.08	83.01	83.04	83.14	83.23	83.39	83.31	83.83	83.68	83.56	83.58
150.5	83.47	83.19	83.08	83.06	83.01	83.00	83.09	83.10	83.32	83.27	83.82	83.68	83.56	83.62
151	83.54	83.25	83.12	83.05	83.05	83.04	83.14	83.19	83.35	83.30	83.80	83.67	83.71	83.61
151.5	83.52	83.26	83.18	83.14	83.09	83.10	83.15	83.20	83.45	83.36	83.88	83.74	83.72	83.64
152	83.53	83.24	83.16	83.13	83.14	83.17	83.22	83.30	83.47	83.39	83.91	83.76	83.57	83.72
152.5	83.50	83.24	83.19	83.14	83.13	83.15	83.26	83.34	83.53	83.39	83.92	83.76	83.55	83.70
153	83.54	83.29	83.20	83.13	83.11	83.07	83.19	83.24	83.45	83.35	83.97	83.82	83.41	83.72
153.5	83.67	83.35	83.20	83.10	83.07	83.05	83.15	83.20	83.37	83.35	83.93	83.83	83.43	83.69
154	83.75	83.43	83.29	83.17	83.09	83.04	83.18	83.22	83.38	83.35	83.87	83.79	83.57	83.66
154.5	83.69	83.42	83.32	83.22	83.14	83.22	83.23	83.26	83.42	83.42	83.87	83.74	83.42	83.67
155	83.63	83.38	83.29	83.23	83.17	83.25	83.35	83.35	83.50	83.42	83.88	83.79	83.43	83.73
155.5	83.57	83.29	83.23	83.17	83.16	83.24	83.34	83.39	83.54	83.44	83.94	83.80	83.55	83.73
156	83.59	83.35	83.26	83.20	83.17	83.20	83.25	83.40	83.59	83.45	84.00	83.86	83.71	83.76
156.5	83.55	83.30	83.22	83.18	83.16	83.23	83.27	83.39	83.56	83.40	83.98	83.88	83.56	83.75
157	83.60	83.35	83.23	83.20	83.20	83.21	83.30	83.38	83.59	83.44	83.98	83.89	83.57	83.73
157.5	83.62	83.38	83.26	83.16	83.16	83.22	83.28	83.41	83.56	83.44	83.94	83.88	83.43	83.73
158	83.70	83.40	83.29	83.17	83.17	83.24	83.30	83.41	83.54	83.39	83.97	83.85	83.57	83.79
158.5	83.66	83.41	83.32	83.20	83.19	83.22	83.30	83.41	83.56	83.50	83.97	83.85	83.71	83.76
159	83.68	83.36	83.29	83.25	83.22	83.16	83.32	83.42	83.56	83.56	83.98	83.86	83.56	83.75
159.5	83.72	83.43	83.30	83.27	83.13	83.12	83.27	83.40	83.56	83.50	84.00	83.94	83.71	83.85
160	83.68	83.39	83.28	83.23	83.22	83.26	83.36	83.46	83.61	83.49	83.95	83.97	83.56	83.91
160.5	83.69	83.41	83.33	83.26	83.21	83.30	83.44	83.52	83.69	83.60	84.01	83.95	83.57	83.89
161	83.67	83.44	83.29	83.27	83.30	83.31	83.45	83.54	83.73	83.58	84.04	83.94	83.71	83.89
161.5	83.85	83.54	83.36	83.29	83.33	83.32	83.44	83.50	83.73	83.55	84.07	83.98	83.71	83.89

162	83.86	83.56	83.43	83.34	83.31	83.35	83.40	83.52	83.73	83.65	84.15	84.01	83.57	83.92
162.5	83.82	83.58	83.46	83.38	83.32	83.34	83.35	83.43	83.64	83.64	84.18	84.04	83.56	83.93
163	83.82	83.56	83.48	83.38	83.34	83.35	83.40	83.49	83.67	83.63	84.24	84.09	83.87	83.97
163.5	83.78	83.52	83.44	83.36	83.36	83.36	83.50	83.54	83.72	83.63	84.18	84.03	83.71	83.96
164	83.75	83.55	83.45	83.39	83.36	83.34	83.47	83.57	83.78	83.69	84.18	84.09	83.71	83.97
164.5	83.80	83.57	83.47	83.40	83.39	83.37	83.47	83.52	83.73	83.74	84.17	84.04	83.86	84.00
165	83.83	83.57	83.46	83.41	83.40	83.41	83.45	83.51	83.77	83.75	84.20	84.02	83.86	83.98
165.5	83.83	83.54	83.43	83.40	83.35	83.36	83.44	83.54	83.73	83.74	84.23	84.11	83.84	84.04
166	83.87	83.58	83.49	83.44	83.46	83.44	83.50	83.62	83.80	83.77	84.29	84.15	84.15	84.10
166.5	83.86	83.63	83.49	83.41	83.36	83.48	83.51	83.64	83.85	83.78	84.33	84.20	83.86	84.07
167	83.89	83.57	83.49	83.40	83.40	83.44	83.50	83.61	83.86	83.75	84.36	84.21	84.00	84.07
167.5	83.88	83.58	83.48	83.38	83.42	83.44	83.47	83.62	83.88	83.73	84.33	84.19	83.85	84.06
168	83.95	83.64	83.52	83.40	83.43	83.48	83.54	83.65	83.92	83.74	84.32	84.21	83.86	84.11
168.5	83.99	83.68	83.56	83.46	83.46	83.40	83.47	83.60	83.85	83.79	84.33	84.19	83.85	84.12
169	83.94	83.63	83.51	83.48	83.45	83.36	83.47	83.62	83.86	83.79	84.35	84.15	83.99	84.07
169.5	83.89	83.58	83.49	83.50	83.43	83.39	83.52	83.69	83.90	83.82	84.26	84.14	83.70	84.02
170	83.87	83.63	83.50	83.48	83.41	83.37	83.44	83.62	83.96	83.80	84.28	84.18	83.86	84.10
170.5	83.89	83.63	83.54	83.46	83.47	83.47	83.53	83.67	83.95	83.81	84.28	84.23	84.00	84.10
171	83.87	83.60	83.53	83.50	83.41	83.31	83.44	83.62	83.98	83.88	84.32	84.20	84.00	84.08
171.5	83.95	83.68	83.55	83.48	83.42	83.30	83.37	83.56	83.87	83.87	84.33	84.18	84.14	84.09
172	83.96	83.67	83.57	83.50	83.47	83.42	83.44	83.64	83.87	83.82	84.28	84.15	84.00	84.13
172.5	83.93	83.70	83.60	83.53	83.49	83.48	83.51	83.62	83.90	83.78	84.22	84.15	83.71	84.10
173	83.96	83.67	83.59	83.50	83.45	83.44	83.49	83.66	83.86	83.81	84.27	84.17	83.99	84.12
173.5	83.97	83.73	83.57	83.48	83.44	83.58	83.67	83.74	83.92	83.82	84.33	84.21	84.00	84.14
174	83.92	83.64	83.62	83.52	83.49	83.55	83.61	83.76	84.00	83.85	84.36	84.25	84.16	84.14
174.5	83.92	83.68	83.56	83.39	83.41	83.47	83.58	83.72	84.00	83.87	84.34	84.22	83.85	84.13
175	83.99	83.71	83.56	83.46	83.38	83.50	83.58	83.69	83.89	83.82	84.37	84.22	83.99	84.12
175.5	83.97	83.72	83.59	83.49	83.43	83.43	83.59	83.70	83.89	83.83	84.37	84.25	83.99	84.15
176	83.97	83.71	83.61	83.52	83.45	83.49	83.62	83.73	83.92	83.83	84.36	84.20	84.14	84.13
176.5	83.99	83.75	83.64	83.58	83.55	83.59	83.65	83.80	83.95	83.85	84.37	84.19	83.99	84.13
177	84.01	83.78	83.63	83.55	83.50	83.46	83.62	83.76	83.96	83.81	84.36	84.21	83.84	84.15
177.5	83.96	83.73	83.63	83.53	83.47	83.45	83.58	83.72	84.00	83.84	84.36	84.24	83.99	84.12
178	83.97	83.73	83.65	83.56	83.49	83.47	83.62	83.72	84.02	83.89	84.38	84.26	83.99	84.16
178.5	84.04	83.75	83.65	83.58	83.51	83.50	83.60	83.76	84.07	83.96	84.41	84.28	83.85	84.18
179	83.92	83.68	83.65	83.60	83.55	83.56	83.66	83.77	84.02	83.95	84.41	84.25	84.14	84.16
179.5	83.96	83.70	83.67	83.63	83.57	83.54	83.66	83.81	84.02	83.91	84.39	84.29	84.00	84.17
180	83.96	83.71	83.66	83.61	83.60	83.57	83.64	83.81	84.02	83.90	84.36	84.30	84.00	84.16
180.5	83.98	83.72	83.65	83.53	83.49	83.46	83.58	83.77	83.84	83.72	84.33	84.22	83.99	84.16
181	84.04	83.78	83.67	83.52	83.42	83.47	83.56	83.62	83.78	83.69	84.34	84.20	84.14	84.12
181.5	84.06	83.79	83.72	83.54	83.47	83.50	83.61	83.71	83.87	83.75	84.35	84.11	84.00	84.11
182	84.04	83.78	83.69	83.52	83.46	83.53	83.65	83.74	83.97	83.82	84.33	84.18	83.85	84.13

182.5	84.02	83.74	83.66	83.54	83.50	83.58	83.55	83.74	83.98	83.91	84.33	84.20	84.00	84.13
183	84.07	83.75	83.68	83.56	83.53	83.52	83.58	83.82	83.98	83.92	84.33	84.23	83.99	84.19
183.5	84.10	83.81	83.70	83.56	83.54	83.54	83.57	83.74	83.93	83.80	84.32	84.26	84.00	84.16
184	84.10	83.84	83.72	83.63	83.63	83.71	83.73	83.82	83.99	83.85	84.38	84.27	84.00	84.23
184.5	84.08	83.83	83.72	83.58	83.62	83.64	83.69	83.80	84.04	83.90	84.41	84.29	83.99	84.22
185	84.03	83.78	83.64	83.58	83.55	83.49	83.67	83.79	84.06	83.94	84.43	84.27	83.84	84.21
185.5	84.04	83.78	83.67	83.55	83.51	83.48	83.71	83.88	84.07	83.99	84.42	84.33	83.99	84.15
186	84.06	83.84	83.73	83.58	83.53	83.54	83.73	83.88	84.11	83.98	84.51	84.36	84.00	84.20
186.5	84.07	83.83	83.74	83.60	83.55	83.60	83.69	83.83	84.08	83.96	84.47	84.34	83.99	84.23
187	84.04	83.81	83.74	83.61	83.61	83.55	83.68	83.85	84.07	83.99	84.49	84.34	84.13	84.23
187.5	84.07	83.87	83.77	83.68	83.67	83.62	83.65	83.85	84.05	83.95	84.46	84.37	83.84	84.26
188	84.08	83.86	83.79	83.68	83.63	83.59	83.62	83.83	84.04	83.92	84.43	84.35	84.14	84.23
188.5	84.04	83.84	83.73	83.65	83.57	83.58	83.61	83.79	84.02	83.89	84.41	84.22	84.13	84.18
189	84.07	83.82	83.72	83.59	83.55	83.52	83.60	83.79	84.07	83.95	84.43	84.23	83.99	84.19
189.5	84.03	83.78	83.67	83.55	83.57	83.49	83.57	83.82	84.00	83.88	84.42	84.24	83.84	84.20
190	84.00	83.70	83.66	83.57	83.57	83.55	83.62	83.81	84.02	83.88	84.48	84.30	83.99	84.21
190.5	84.01	83.76	83.71	83.58	83.56	83.43	83.60	83.82	84.01	83.90	84.44	84.31	84.28	84.21
191	84.09	83.81	83.69	83.53	83.44	83.46	83.64	83.76	84.00	83.92	84.45	84.25	83.99	84.20
191.5	84.02	83.76	83.68	83.55	83.52	83.56	83.67	83.78	84.04	83.96	84.46	84.20	84.12	84.22
192	84.06	83.75	83.73	83.55	83.55	83.45	83.64	83.79	84.06	83.91	84.46	84.28	83.84	84.24
192.5	84.07	83.79	83.72	83.60	83.54	83.48	83.67	83.77	84.06	83.95	84.50	84.33	84.00	84.23
193	84.09	83.83	83.74	83.64	83.57	83.62	83.67	83.81	84.09	83.94	84.43	84.31	83.99	84.23
193.5	84.04	83.81	83.77	83.63	83.63	83.64	83.72	83.89	84.08	83.99	84.44	84.32	84.14	84.25
194	84.07	83.80	83.74	83.64	83.61	83.59	83.71	83.88	84.02	83.94	84.51	84.34	83.84	84.24
194.5	84.10	83.84	83.76	83.60	83.56	83.58	83.70	83.84	84.02	83.90	84.47	84.33	84.29	84.26
195	84.09	83.81	83.74	83.60	83.64	83.65	83.73	83.87	84.12	83.97	84.48	84.33	84.00	84.23
195.5	84.15	83.91	83.82	83.70	83.65	83.66	83.75	83.84	84.07	83.99	84.47	84.34	83.85	84.22
196	84.14	83.87	83.80	83.70	83.65	83.52	83.68	83.82	84.07	83.94	84.46	84.37	83.99	84.17
196.5	84.02	83.75	83.71	83.62	83.62	83.57	83.65	83.83	84.08	83.97	84.50	84.35	83.99	84.21
197	84.05	83.77	83.72	83.61	83.63	83.67	83.70	83.81	84.09	83.95	84.50	84.34	84.00	84.23
197.5	84.10	83.81	83.76	83.57	83.56	83.42	83.64	83.82	84.11	84.01	84.48	84.33	84.15	84.18
198	84.07	83.77	83.76	83.57	83.54	83.50	83.54	83.82	84.15	84.01	84.47	84.33	84.15	84.26
198.5	84.07	83.82	83.69	83.60	83.53	83.47	83.49	83.87	84.11	83.99	84.47	84.31	84.14	84.21
199	84.02	83.80	83.63	83.54	83.50	83.48	83.54	83.78	84.06	83.98	84.48	84.36	84.15	84.18
199.5	83.99	83.72	83.62	83.52	83.52	83.52	83.59	83.77	84.05	83.93	84.44	84.34	83.99	84.21
200	83.99	83.75	83.64	83.55	83.55	83.50	83.59	83.79	84.07	83.96	84.47	84.31	83.99	84.21
200.5	83.99	83.73	83.66	83.54	83.53	83.52	83.58	83.76	84.10	83.98	84.48	84.33	84.13	84.18
201	84.02	83.73	83.68	83.56	83.52	83.52	83.56	83.77	84.11	84.02	84.49	84.34	83.99	84.19
201.5	84.02	83.78	83.65	83.52	83.48	83.46	83.58	83.77	84.08	83.93	84.44	84.26	83.99	84.15
202	84.04	83.76	83.64	83.53	83.45	83.53	83.60	83.79	84.02	83.87	84.38	84.23	84.14	84.18
202.5	84.09	83.85	83.69	83.56	83.53	83.59	83.62	83.80	84.00	83.90	84.41	84.19	83.85	84.10

203	84.09	83.81	83.72	83.58	83.53	83.56	83.62	83.74	84.00	83.87	84.40	84.25	83.85	84.09
203.5	84.07	83.81	83.67	83.53	83.49	83.40	83.52	83.67	83.95	83.86	84.41	84.26	83.85	84.07
204	84.05	83.76	83.59	83.43	83.48	83.44	83.46	83.63	83.88	83.86	84.36	84.22	83.85	84.05
204.5	84.01	83.76	83.65	83.50	83.52	83.52	83.52	83.66	83.97	83.85	84.33	84.18	83.85	84.06
205	84.04	83.78	83.64	83.48	83.52	83.57	83.60	83.76	84.00	83.85	84.31	84.19	83.99	84.07
205.5	83.96	83.73	83.63	83.49	83.49	83.50	83.49	83.60	83.89	83.83	84.35	84.22	83.83	84.04
206	83.99	83.71	83.71	83.54	83.48	83.52	83.52	83.66	83.90	83.87	84.41	84.22	83.70	84.02
206.5	83.97	83.71	83.59	83.50	83.44	83.42	83.51	83.65	83.94	83.85	84.32	84.21	83.70	84.04
207	83.94	83.72	83.64	83.49	83.42	83.36	83.39	83.56	83.98	83.77	84.25	84.16	83.85	83.99
207.5	83.94	83.60	83.52	83.49	83.41	83.37	83.35	83.49	83.98	83.69	84.25	84.12	83.99	83.99
208	83.97	83.63	83.59	83.46	83.43	83.42	83.44	83.57	83.92	83.75	84.28	84.10	83.86	83.97
208.5	83.93	83.68	83.59	83.47	83.44	83.39	83.42	83.54	83.83	83.77	84.25	84.11	83.70	83.96
209	83.97	83.68	83.59	83.45	83.43	83.41	83.42	83.49	83.74	83.64	84.23	84.08	83.99	83.93
209.5	83.94	83.71	83.65	83.49	83.43	83.49	83.47	83.52	83.78	83.67	84.24	84.04	83.71	83.97
210	83.92	83.66	83.58	83.43	83.40	83.43	83.40	83.50	83.82	83.70	84.19	84.04	83.69	83.93
210.5	83.88	83.66	83.56	83.36	83.39	83.37	83.34	83.54	83.85	83.70	84.21	84.04	83.98	83.91
211	83.92	83.59	83.54	83.35	83.35	83.36	83.40	83.56	83.89	83.73	84.27	84.06	83.56	83.97
211.5	83.93	83.65	83.51	83.35	83.27	83.22	83.32	83.42	83.77	83.68	84.23	84.06	83.84	83.95
212	83.85	83.62	83.49	83.35	83.32	83.29	83.33	83.46	83.79	83.69	84.20	84.07	83.71	83.96
212.5	83.89	83.60	83.51	83.38	83.37	83.35	83.31	83.48	83.77	83.68	84.19	84.02	83.84	83.93
213	83.94	83.69	83.58	83.45	83.38	83.29	83.27	83.52	83.82	83.72	84.20	84.00	83.71	83.94
213.5	83.89	83.68	83.62	83.48	83.41	83.32	83.30	83.50	83.84	83.70	84.15	84.04	83.71	83.96
214	83.91	83.69	83.55	83.45	83.38	83.32	83.37	83.49	83.75	83.67	84.17	84.02	83.85	83.93
214.5	83.90	83.65	83.57	83.41	83.37	83.32	83.37	83.51	83.76	83.72	84.16	84.01	83.70	83.93
215	83.93	83.71	83.59	83.37	83.38	83.42	83.44	83.58	83.80	83.69	84.16	84.02	83.70	83.92
215.5	83.94	83.68	83.58	83.42	83.45	83.44	83.50	83.64	83.85	83.73	84.20	84.07	83.85	83.93
216	83.87	83.63	83.56	83.43	83.31	83.44	83.42	83.58	83.84	83.75	84.20	84.08	83.84	83.95
216.5	83.84	83.58	83.54	83.36	83.31	83.33	83.39	83.52	83.79	83.77	84.22	84.07	83.71	83.93
217	83.80	83.58	83.53	83.40	83.29	83.27	83.34	83.57	83.83	83.71	84.19	84.01	83.71	83.92
217.5	83.81	83.56	83.46	83.37	83.29	83.30	83.27	83.50	83.81	83.64	84.06	83.97	83.69	83.88
218	83.87	83.58	83.49	83.38	83.33	83.32	83.33	83.46	83.81	83.62	84.08	83.99	83.85	83.90
218.5	83.89	83.63	83.49	83.36	83.31	83.32	83.33	83.49	83.75	83.64	84.12	84.03	83.85	83.90
219	83.88	83.63	83.52	83.36	83.32	83.29	83.35	83.52	83.69	83.63	84.17	84.06	83.56	83.89
219.5	83.82	83.58	83.52	83.40	83.30	83.22	83.34	83.52	83.73	83.65	84.19	84.04	83.86	83.88
220	83.75	83.41	83.47	83.34	83.24	83.25	83.35	83.47	83.77	83.62	84.20	84.07	83.71	83.89
220.5	83.69	83.38	83.43	83.29	83.27	83.28	83.27	83.50	83.82	83.65	84.19	84.01	83.71	83.88
221	83.71	83.44	83.43	83.30	83.27	83.26	83.28	83.51	83.76	83.66	84.17	84.02	83.55	83.89
221.5	83.75	83.50	83.43	83.34	83.29	83.21	83.27	83.42	83.73	83.62	84.03	83.98	83.57	83.82
222	83.77	83.54	83.49	83.33	83.28	83.26	83.28	83.45	83.66	83.56	83.94	83.92	83.70	83.82
222.5	83.78	83.53	83.46	83.32	83.28	83.23	83.30	83.49	83.71	83.57	83.98	83.94	83.71	83.80
223	83.78	83.48	83.45	83.31	83.21	83.19	83.32	83.50	83.72	83.59	84.09	83.96	83.56	83.80

223.5	83.74	83.48	83.43	83.28	83.20	83.22	83.32	83.48	83.71	83.62	84.07	83.93	83.55	83.82
224	83.80	83.57	83.49	83.30	83.27	83.22	83.32	83.48	83.66	83.64	84.04	83.90	83.84	83.82
224.5	83.77	83.57	83.50	83.31	83.26	83.24	83.31	83.44	83.73	83.62	84.06	83.95	83.70	83.88
225	83.79	83.55	83.43	83.28	83.18	83.19	83.31	83.46	83.71	83.66	84.08	83.96	83.70	83.82
225.5	83.74	83.49	83.45	83.29	83.28	83.24	83.27	83.43	83.72	83.59	84.06	83.93	83.85	83.86
226	83.74	83.49	83.39	83.31	83.23	83.12	83.22	83.44	83.71	83.57	84.06	84.00	83.85	83.86
226.5	83.74	83.50	83.41	83.30	83.20	83.18	83.25	83.48	83.71	83.61	84.08	83.99	83.70	83.88
227	83.74	83.51	83.43	83.31	83.24	83.25	83.31	83.51	83.74	83.59	84.00	83.90	83.55	83.80
227.5	83.75	83.55	83.46	83.33	83.29	83.30	83.35	83.50	83.62	83.53	84.01	83.96	83.71	83.84
228	83.78	83.56	83.42	83.28	83.25	83.23	83.32	83.39	83.62	83.50	84.02	83.96	83.71	83.81
228.5	83.69	83.40	83.37	83.27	83.20	83.15	83.19	83.31	83.58	83.56	84.04	83.93	83.41	83.79
229	83.78	83.49	83.38	83.22	83.16	83.19	83.23	83.36	83.62	83.59	84.05	83.94	83.56	83.77
229.5	83.80	83.52	83.41	83.21	83.14	83.22	83.24	83.38	83.63	83.54	84.03	83.93	83.70	83.75
230	83.77	83.49	83.42	83.22	83.16	83.19	83.22	83.36	83.56	83.50	83.98	83.91	83.71	83.75
230.5	83.75	83.45	83.39	83.26	83.14	83.12	83.13	83.30	83.55	83.50	84.01	83.93	83.56	83.72
231	83.72	83.40	83.38	83.25	83.16	83.16	83.12	83.29	83.58	83.49	83.99	83.91	83.56	83.74
231.5	83.69	83.37	83.36	83.21	83.14	83.09	83.16	83.34	83.54	83.46	83.97	83.88	83.55	83.69
232	83.73	83.42	83.31	83.18	83.11	83.07	83.09	83.35	83.58	83.44	83.94	83.82	83.55	83.66
232.5	83.76	83.51	83.40	83.20	83.09	83.04	83.09	83.24	83.48	83.38	83.91	83.83	83.57	83.69
233	83.73	83.50	83.43	83.21	83.10	83.12	83.05	83.28	83.47	83.35	83.91	83.78	83.43	83.66
233.5	83.69	83.47	83.41	83.22	83.08	82.93	83.07	83.27	83.47	83.38	83.87	83.77	83.40	83.58
234	83.66	83.45	83.33	83.20	83.10	83.01	83.05	83.28	83.47	83.41	83.82	83.77	83.41	83.57
234.5	83.63	83.42	83.30	83.14	83.08	83.02	82.95	83.25	83.48	83.39	83.88	83.77	83.41	83.57
235	83.64	83.35	83.25	83.12	83.06	83.06	82.96	83.24	83.45	83.34	83.83	83.70	83.42	83.58
235.5	83.60	83.27	83.21	83.07	82.93	82.87	82.88	83.09	83.40	83.34	83.78	83.66	83.41	83.54
236	83.64	83.34	83.20	83.05	82.98	82.97	82.96	83.11	83.35	83.38	83.79	83.73	83.27	83.60
236.5	83.67	83.40	83.31	83.12	82.99	82.93	82.94	83.24	83.43	83.36	83.80	83.70	83.56	83.61
237	83.56	83.29	83.21	83.05	82.96	82.82	82.86	83.14	83.35	83.26	83.82	83.67	83.41	83.61
237.5	83.53	83.24	83.10	82.95	82.88	82.88	82.89	83.09	83.34	83.23	83.78	83.69	83.41	83.51
238	83.50	83.19	83.11	82.90	82.90	82.92	82.93	83.18	83.38	83.28	83.76	83.70	83.41	83.50
238.5	83.51	83.24	83.17	83.01	82.90	82.92	82.92	83.11	83.38	83.32	83.81	83.75	83.41	83.54
239	83.54	83.22	83.19	83.00	82.96	82.91	82.91	83.06	83.38	83.29	83.79	83.70	83.27	83.51
239.5	83.49	83.22	83.11	82.98	82.91	82.88	82.89	83.11	83.42	83.35	83.82	83.70	83.41	83.48
240	83.55	83.27	83.14	82.97	82.93	82.91	82.97	83.14	83.40	83.38	83.82	83.69	83.43	83.50
240.5	83.55	83.26	83.19	82.96	82.98	82.95	82.96	83.17	83.40	83.33	83.79	83.64	83.56	83.52
241	83.46	83.19	83.13	82.95	82.93	82.99	82.93	83.15	83.40	83.35	83.76	83.63	83.12	83.51
241.5	83.40	83.15	83.11	82.95	82.94	82.94	82.95	83.15	83.37	83.32	83.70	83.63	83.12	83.48
242	83.40	83.17	83.04	82.94	82.90	82.82	82.91	83.08	83.37	83.29	83.72	83.63	83.41	83.47
242.5	83.39	83.17	83.03	82.88	82.88	82.88	82.88	83.08	83.31	83.22	83.70	83.59	83.27	83.44
243	83.31	83.12	82.99	82.88	82.85	82.79	82.84	83.04	83.27	83.14	83.73	83.58	83.42	83.43
243.5	83.34	83.11	83.03	82.90	82.83	82.75	82.88	83.06	83.27	83.16	83.72	83.50	83.27	83.40

244	83.35	83.13	83.02	82.89	82.82	82.83	82.83	83.06	83.32	83.20	83.71	83.56	83.13	83.33
244.5	83.34	83.09	83.02	82.91	82.85	82.90	82.84	83.09	83.33	83.19	83.70	83.56	83.27	83.30
245	83.34	83.08	83.00	82.88	82.84	82.88	82.86	83.08	83.31	83.15	83.68	83.47	83.27	83.34
245.5	83.38	83.07	82.98	82.88	82.84	82.79	82.81	83.04	83.29	83.16	83.71	83.49	83.27	83.36
246	83.36	83.11	82.99	82.87	82.84	82.77	82.78	83.02	83.29	83.19	83.65	83.50	83.27	83.37
246.5	83.36	83.09	83.00	82.78	82.79	82.84	82.79	82.96	83.28	83.15	83.66	83.56	83.27	83.41
247	83.41	83.09	83.02	82.89	82.82	82.86	82.83	82.97	83.26	83.16	83.71	83.51	83.13	83.38
247.5	83.41	83.17	83.07	82.90	82.90	82.79	82.79	82.99	83.28	83.19	83.69	83.54	83.27	83.37
248	83.39	83.14	83.06	82.88	82.89	82.86	82.86	83.03	83.30	83.16	83.71	83.56	83.42	83.40
248.5	83.37	83.07	83.09	82.90	82.84	82.77	82.74	82.90	83.34	83.21	83.69	83.62	83.28	83.40
249	83.34	83.08	83.01	82.88	82.84	82.78	82.78	82.99	83.34	83.19	83.70	83.59	83.41	83.38
249.5	83.39	83.09	83.02	82.88	82.84	82.82	82.83	82.99	83.27	83.16	83.65	83.55	83.27	83.35
250	83.41	83.15	83.04	82.88	82.86	82.79	82.78	82.92	83.22	83.13	83.63	83.50	83.12	83.37
250.5	83.39	83.15	83.04	82.88	82.86	82.81	82.75	82.96	83.28	83.19	83.62	83.50	83.27	83.41
251	83.39	83.15	83.03	82.86	82.81	82.75	82.73	82.95	83.32	83.18	83.65	83.48	83.12	83.38
251.5	83.41	83.13	83.05	82.89	82.82	82.83	82.83	82.94	83.26	83.19	83.68	83.54	83.27	83.39
252	83.42	83.07	83.01	82.82	82.82	82.77	82.71	82.90	83.21	83.20	83.67	83.46	83.40	83.43
252.5	83.45	83.14	83.04	82.86	82.78	82.67	82.78	82.97	83.26	83.24	83.68	83.48	83.13	83.38
253	83.49	83.22	83.09	82.89	82.86	82.75	82.80	83.02	83.27	83.16	83.68	83.46	82.99	83.36
253.5	83.52	83.25	83.15	82.96	82.91	82.87	82.83	83.03	83.32	83.16	83.68	83.49	83.13	83.33
254	83.49	83.24	83.16	83.03	82.91	82.85	82.83	83.05	83.34	83.19	83.68	83.53	83.12	83.37
254.5	83.44	83.17	83.06	82.96	82.88	82.86	82.87	83.03	83.35	83.21	83.68	83.54	83.27	83.40
255	83.44	83.12	83.04	82.89	82.89	82.92	82.93	83.10	83.36	83.23	83.68	83.61	83.27	83.46
255.5	83.49	83.20	83.09	82.92	82.85	82.86	82.83	83.10	83.36	83.21	83.70	83.56	83.42	83.46
256	83.49	83.24	83.14	82.93	82.87	82.81	82.85	82.99	83.28	83.12	83.70	83.56	83.12	83.43
256.5	83.44	83.12	83.03	82.86	82.77	82.71	82.80	82.99	83.24	83.11	83.66	83.51	83.27	83.41
257	83.43	83.14	83.01	82.86	82.83	82.84	82.88	83.01	83.28	83.18	83.66	83.54	83.27	83.37
257.5	83.40	83.15	83.01	82.86	82.86	82.78	82.88	83.01	83.27	83.18	83.70	83.54	83.27	83.37
258	83.41	83.17	83.00	82.84	82.84	82.77	82.88	83.05	83.27	83.13	83.68	83.53	83.27	83.40
258.5	83.43	83.18	82.99	82.87	82.81	82.81	82.86	83.04	83.18	83.12	83.63	83.56	83.12	83.37
259	83.44	83.15	83.09	82.95	82.88	82.84	82.80	83.01	83.22	83.11	83.60	83.50	83.27	83.34
259.5	83.49	83.18	83.07	82.91	82.86	82.78	82.78	82.96	83.19	83.08	83.59	83.44	82.98	83.25
260	83.43	83.19	83.07	82.87	82.84	82.81	82.78	82.95	83.17	83.02	83.57	83.44	83.12	83.31
260.5	83.42	83.17	83.12	82.93	82.89	82.85	82.88	83.04	83.24	83.11	83.61	83.46	83.43	83.34
261	83.43	83.11	83.06	82.90	82.88	82.85	82.89	83.05	83.21	83.13	83.60	83.48	83.27	83.35
261.5	83.37	83.09	83.06	82.88	82.82	82.80	82.81	83.03	83.23	83.13	83.65	83.51	83.27	83.35
262	83.40	83.06	82.97	82.84	82.81	82.85	82.83	83.01	83.24	83.11	83.63	83.47	83.27	83.32
262.5	83.40	83.18	83.09	82.84	82.80	82.84	82.78	83.04	83.31	83.15	83.59	83.44	82.98	83.28
263	83.43	83.18	83.11	82.95	82.86	82.78	82.73	82.99	83.25	83.21	83.60	83.48	83.12	83.31
263.5	83.38	83.07	83.03	82.86	82.82	82.73	82.77	82.98	83.19	83.14	83.64	83.49	83.40	83.31
264	83.39	83.06	83.00	82.87	82.74	82.74	82.70	83.04	83.24	83.13	83.62	83.53	83.27	83.35

264.5	83.37	83.12	83.03	82.83	82.79	82.77	82.75	82.99	83.28	83.15	83.65	83.51	83.12	83.38
265	83.40	83.08	83.03	82.84	82.77	82.71	82.73	82.96	83.29	83.16	83.66	83.51	83.12	83.37
265.5	83.42	83.12	83.02	82.85	82.79	82.77	82.80	83.03	83.25	83.19	83.64	83.55	83.27	83.42
266	83.35	83.06	82.99	82.85	82.84	82.79	82.80	82.99	83.30	83.23	83.68	83.55	83.27	83.43
266.5	83.38	83.12	83.02	82.88	82.88	82.85	82.87	83.07	83.36	83.20	83.65	83.54	83.42	83.49
267	83.41	83.14	83.01	82.88	82.91	82.87	82.78	83.04	83.38	83.16	83.68	83.55	83.27	83.42
267.5	83.29	83.08	83.04	82.91	82.88	82.84	82.76	82.99	83.31	83.15	83.70	83.54	83.27	83.35
268	83.29	83.04	83.04	82.91	82.81	82.72	82.81	82.97	83.25	83.11	83.67	83.54	83.27	83.32
268.5	83.33	83.08	82.97	82.86	82.74	82.68	82.70	82.88	83.27	83.16	83.63	83.50	83.12	83.31
269	83.31	83.02	82.99	82.77	82.70	82.67	82.73	82.94	83.27	83.18	83.60	83.51	83.27	83.32
269.5	83.30	83.02	83.01	82.78	82.69	82.81	82.85	83.01	83.25	83.21	83.62	83.50	83.27	83.40
270	83.26	83.08	82.99	82.81	82.71	82.78	82.82	83.05	83.34	83.22	83.70	83.56	83.12	83.40
270.5	83.35	83.06	82.93	82.73	82.71	82.69	82.74	83.00	83.27	83.24	83.70	83.56	83.40	83.37
271	83.39	83.16	82.99	82.85	82.77	82.77	82.74	83.00	83.29	83.19	83.68	83.51	83.27	83.36
271.5	83.36	83.14	83.03	82.91	82.81	82.81	82.79	83.05	83.25	83.09	83.69	83.54	83.12	83.38
272	83.35	83.12	82.99	82.89	82.85	82.87	82.83	83.04	83.22	83.09	83.65	83.52	83.13	83.38
272.5	83.32	83.07	83.02	82.88	82.79	82.85	82.84	83.02	83.20	83.09	83.64	83.52	83.27	83.40
273	83.30	83.04	82.97	82.81	82.77	82.78	82.76	82.99	83.22	83.11	83.62	83.51	83.12	83.38
273.5	83.33	83.08	83.03	82.86	82.80	82.77	82.80	82.96	83.29	83.15	83.60	83.51	83.12	83.29
274	83.29	83.10	83.05	82.88	82.74	82.62	82.71	82.94	83.23	83.19	83.68	83.52	82.99	83.30
274.5	83.32	83.07	83.02	82.85	82.75	82.73	82.78	82.96	83.19	83.16	83.63	83.51	83.13	83.35
275	83.29	83.02	82.99	82.83	82.80	82.78	82.82	82.98	83.22	83.13	83.68	83.51	83.12	83.32
275.5	83.38	83.13	83.05	82.88	82.79	82.80	82.83	82.99	83.23	83.11	83.67	83.45	83.13	83.36
276	83.41	83.16	83.06	82.86	82.84	82.80	82.78	82.94	83.17	83.07	83.68	83.48	83.13	83.32
276.5	83.39	83.08	83.04	82.84	82.77	82.75	82.75	82.92	83.15	83.06	83.68	83.45	83.27	83.32
277	83.38	83.13	83.02	82.85	82.78	82.69	82.71	82.92	83.19	83.03	83.63	83.46	83.13	83.39
277.5	83.41	83.11	83.02	82.85	82.83	82.77	82.77	82.90	83.17	83.03	83.61	83.45	83.11	83.36
278	83.37	83.14	83.05	82.91	82.86	82.80	82.77	82.97	83.26	83.11	83.65	83.51	83.13	83.32
278.5	83.39	83.09	83.00	82.84	82.84	82.75	82.78	82.92	83.24	83.12	83.69	83.54	83.27	83.35
279	83.36	83.11	83.05	82.82	82.69	82.67	82.75	82.96	83.27	83.10	83.64	83.46	83.11	83.29
279.5	83.35	83.09	83.04	82.78	82.71	82.70	82.78	82.89	83.17	83.06	83.60	83.45	83.27	83.30
280	83.39	83.14	82.99	82.78	82.75	82.77	82.78	82.90	83.20	83.13	83.54	83.45	83.27	83.32
280.5	83.42	83.17	83.02	82.80	82.78	82.77	82.78	82.98	83.20	83.11	83.54	83.37	83.11	83.29
281	83.40	83.12	83.03	82.81	82.80	82.87	82.79	83.01	83.24	83.09	83.52	83.43	83.12	83.31
281.5	83.31	83.09	83.03	82.83	82.80	82.79	82.76	82.94	83.22	83.01	83.56	83.44	83.27	83.28
282	83.29	83.04	83.01	82.81	82.76	82.75	82.76	82.98	83.22	83.05	83.53	83.43	83.12	83.25
282.5	83.30	83.08	82.96	82.78	82.76	82.74	82.76	82.92	83.11	83.05	83.54	83.45	83.27	83.34
283	83.30	83.04	82.94	82.81	82.76	82.71	82.70	82.85	83.14	83.11	83.50	83.43	83.12	83.35
283.5	83.37	83.06	82.96	82.78	82.69	82.64	82.62	82.78	83.14	83.15	83.53	83.44	83.12	83.31
284	83.34	83.09	82.99	82.79	82.72	82.70	82.70	82.89	83.19	83.14	83.57	83.45	83.13	83.30
284.5	83.36	83.01	83.00	82.78	82.76	82.75	82.72	82.82	83.04	83.06	83.56	83.38	83.12	83.31

285	83.34	83.12	83.04	82.78	82.73	82.69	82.72	82.86	83.06	83.06	83.59	83.45	83.27	83.29
285.5	83.31	83.06	82.97	82.74	82.64	82.58	82.59	82.78	83.11	83.06	83.57	83.43	83.12	83.27
286	83.33	83.07	82.95	82.69	82.65	82.64	82.61	82.78	83.06	83.03	83.54	83.40	83.11	83.24
286.5	83.30	83.05	83.00	82.83	82.73	82.69	82.63	82.84	83.08	83.01	83.50	83.35	82.98	83.18
287	83.26	83.04	82.99	82.83	82.66	82.67	82.62	82.77	82.98	82.88	83.38	83.30	83.11	83.15
287.5	83.28	83.04	82.97	82.79	82.69	82.63	82.66	82.77	82.96	82.88	83.42	83.27	83.13	83.13
288	83.24	82.96	82.96	82.77	82.71	82.62	82.57	82.71	83.01	82.91	83.46	83.27	83.12	83.12
288.5	83.25	83.00	82.92	82.75	82.73	82.60	82.58	82.76	83.07	82.97	83.43	83.29	82.97	83.10
289	83.31	83.11	82.96	82.78	82.66	82.58	82.56	82.76	83.05	82.96	83.44	83.35	82.98	83.12
289.5	83.35	83.08	82.99	82.79	82.62	82.63	82.64	82.81	83.10	82.95	83.42	83.33	82.97	83.14
290	83.29	83.02	82.97	82.75	82.68	82.66	82.66	82.84	83.13	82.96	83.49	83.32	83.27	83.17
290.5	83.30	83.05	82.93	82.70	82.66	82.67	82.55	82.89	83.14	83.01	83.47	83.35	82.98	83.15
291	83.24	83.01	82.93	82.68	82.59	82.58	82.59	82.85	83.17	82.99	83.52	83.35	82.98	83.18
291.5	83.21	82.97	82.94	82.72	82.61	82.65	82.61	82.89	83.17	82.99	83.49	83.32	82.84	83.20
292	83.24	83.00	82.91	82.72	82.65	82.62	82.68	82.86	83.12	82.99	83.49	83.38	82.99	83.19
292.5	83.27	82.99	82.94	82.76	82.72	82.68	82.74	82.85	83.14	83.01	83.52	83.43	83.28	83.25
293	83.24	82.97	82.94	82.79	82.71	82.72	82.68	82.87	83.09	83.04	83.55	83.42	83.27	83.16
293.5	83.16	82.96	82.93	82.76	82.71	82.62	82.62	82.76	83.05	82.98	83.47	83.31	82.98	83.13
294	83.11	82.91	82.88	82.65	82.59	82.52	82.55	82.77	83.13	82.98	83.42	83.27	82.97	83.14
294.5	83.15	82.91	82.84	82.65	82.57	82.69	82.60	82.83	83.09	82.97	83.45	83.32	82.99	83.20
295	83.18	82.97	82.88	82.72	82.62	82.62	82.63	82.83	83.14	83.04	83.49	83.36	82.99	83.22
295.5	83.22	82.92	82.90	82.74	82.65	82.63	82.65	82.82	83.10	82.98	83.53	83.43	83.14	83.19
296	83.16	82.86	82.79	82.61	82.53	82.50	82.55	82.78	83.04	82.98	83.49	83.35	83.12	83.10
296.5	83.19	82.89	82.73	82.63	82.62	82.55	82.58	82.71	83.07	83.02	83.50	83.31	82.99	83.17
297	83.24	82.99	82.91	82.74	82.66	82.55	82.50	82.69	83.01	83.01	83.43	83.28	82.83	83.12
297.5	83.26	82.99	82.89	82.74	82.69	82.58	82.58	82.77	83.12	83.05	83.50	83.28	83.14	83.19
298	83.17	82.90	82.88	82.72	82.64	82.50	82.54	82.83	83.07	83.01	83.48	83.30	83.27	83.22
298.5	83.18	82.93	82.81	82.61	82.55	82.42	82.47	82.77	83.07	83.00	83.52	83.32	83.27	83.19
299	83.15	82.88	82.79	82.62	82.54	82.47	82.44	82.74	83.08	82.95	83.46	83.29	82.97	83.10
299.5	83.18	82.89	82.81	82.64	82.59	82.46	82.45	82.77	83.10	82.94	83.45	83.26	82.84	83.13
300	83.17	82.95	82.81	82.63	82.49	82.44	82.50	82.74	83.08	82.92	83.41	83.24	82.83	83.06
300.5	83.18	82.94	82.81	82.56	82.54	82.53	82.51	82.73	83.10	82.94	83.38	83.24	83.13	83.07
301	83.14	82.92	82.84	82.60	82.53	82.42	82.45	82.68	83.04	82.92	83.43	83.18	82.69	83.03
301.5	83.07	82.91	82.79	82.59	82.49	82.48	82.45	82.67	83.03	82.91	83.39	83.24	82.84	83.04
302	83.06	82.82	82.76	82.61	82.50	82.60	82.50	82.68	82.98	82.89	83.35	83.24	83.12	83.06
302.5	83.07	82.81	82.77	82.61	82.52	82.46	82.47	82.69	82.97	82.88	83.36	83.22	82.70	83.08
303	83.04	82.81	82.73	82.57	82.46	82.41	82.40	82.68	82.98	82.88	83.34	83.16	82.83	83.03
303.5	83.04	82.77	82.67	82.52	82.48	82.50	82.43	82.57	82.93	82.84	83.35	83.17	82.84	83.04
304	82.99	82.71	82.59	82.53	82.44	82.40	82.37	82.68	82.95	82.88	83.34	83.19	82.83	83.05
304.5	82.90	82.68	82.63	82.47	82.40	82.41	82.42	82.71	82.96	82.83	83.35	83.18	82.83	82.96
305	82.90	82.63	82.60	82.44	82.37	82.41	82.39	82.62	82.92	82.73	83.31	83.13	82.98	82.90

305.5	82.90	82.60	82.54	82.46	82.37	82.34	82.32	82.58	82.89	82.80	83.31	83.13	82.83	82.93
306	82.90	82.65	82.60	82.44	82.32	82.27	82.29	82.55	82.79	82.83	83.27	83.05	82.69	82.90
306.5	82.82	82.60	82.55	82.38	82.29	82.22	82.25	82.48	82.80	82.74	83.24	83.04	82.82	82.92
307	82.84	82.60	82.57	82.41	82.32	82.27	82.27	82.51	82.85	82.73	83.19	83.02	82.83	82.90
307.5	82.83	82.53	82.50	82.36	82.29	82.20	82.22	82.44	82.75	82.68	83.16	83.03	82.83	82.90
308	82.80	82.49	82.43	82.23	82.12	82.03	82.12	82.35	82.67	82.63	83.15	83.02	82.83	82.84
308.5	82.78	82.45	82.38	82.16	82.09	82.15	82.15	82.34	82.67	82.58	83.08	83.02	82.82	82.78
309	82.79	82.46	82.41	82.19	82.09	82.08	82.12	82.36	82.57	82.62	83.09	82.99	82.83	82.74
309.5	82.74	82.48	82.44	82.21	82.10	82.13	82.04	82.35	82.63	82.62	83.09	82.93	82.54	82.68
310	82.67	82.42	82.39	82.23	82.13	82.10	82.06	82.29	82.62	82.63	83.08	82.87	82.26	82.68
310.5	82.69	82.45	82.34	82.24	82.10	82.05	82.10	82.32	82.66	82.63	83.08	82.84	82.69	82.70
311	82.63	82.38	82.32	82.19	82.11	82.06	82.05	82.30	82.61	82.57	83.04	82.86	82.68	82.63
311.5	82.65	82.34	82.29	82.18	82.15	82.08	82.02	82.36	82.63	82.51	83.01	82.87	82.70	82.63
312	82.59	82.33	82.30	82.19	82.06	82.04	82.06	82.21	82.53	82.49	82.98	82.83	82.69	82.62
312.5	82.57	82.25	82.27	82.11	82.00	81.85	81.90	82.08	82.49	82.46	82.98	82.83	82.54	82.62
313	82.60	82.27	82.19	82.04	81.99	81.93	81.90	82.12	82.49	82.46	82.98	82.79	82.40	82.58
313.5	82.53	82.31	82.26	82.08	82.02	81.99	82.01	82.20	82.49	82.42	82.89	82.75	82.25	82.59
314	82.48	82.27	82.28	82.13	82.05	82.03	81.99	82.21	82.52	82.47	82.91	82.73	82.39	82.60
314.5	82.46	82.25	82.23	82.13	82.04	82.05	81.99	82.18	82.48	82.47	82.94	82.76	82.54	82.62
315	82.46	82.25	82.23	82.10	82.02	81.95	81.94	82.19	82.47	82.49	82.92	82.76	82.69	82.62
315.5	82.40	82.22	82.16	82.04	81.96	82.01	81.96	82.16	82.46	82.43	82.86	82.79	82.40	82.54
316	82.45	82.21	82.18	82.05	82.00	82.05	81.98	82.22	82.44	82.38	82.90	82.74	82.41	82.56
316.5	82.45	82.21	82.16	82.01	81.92	81.95	81.92	82.17	82.38	82.34	82.88	82.73	82.25	82.60
317	82.46	82.17	82.10	81.99	81.90	81.91	81.89	82.09	82.39	82.36	82.80	82.68	82.40	82.51
317.5	82.47	82.21	82.15	82.01	81.93	81.91	81.81	82.09	82.42	82.33	82.76	82.66	82.26	82.53
318	82.54	82.28	82.19	82.02	81.93	81.89	81.81	82.10	82.44	82.37	82.79	82.66	82.41	82.56
318.5	82.51	82.28	82.22	81.98	81.94	81.86	81.82	82.09	82.45	82.40	82.79	82.72	82.54	82.53
319	82.52	82.29	82.22	81.98	81.89	81.90	81.92	82.14	82.46	82.41	82.79	82.68	82.39	82.57
319.5	82.48	82.23	82.21	82.01	81.97	81.95	81.94	82.22	82.48	82.44	82.87	82.69	82.41	82.59
320	82.43	82.18	82.12	82.02	81.94	81.95	81.95	82.18	82.48	82.40	82.84	82.69	82.39	82.59
320.5	82.42	82.21	82.12	81.99	81.91	81.82	81.94	82.23	82.52	82.43	82.90	82.75	82.55	82.63
321	82.39	82.07	82.06	81.91	81.83	81.85	81.93	82.19	82.47	82.32	82.83	82.71	82.40	82.58
321.5	82.44	82.14	82.07	81.91	81.93	81.94	82.01	82.19	82.42	82.30	82.83	82.70	82.40	82.54
322	82.43	82.19	82.13	81.95	81.94	81.95	81.96	82.16	82.41	82.29	82.78	82.65	82.39	82.49
322.5	82.45	82.24	82.16	81.99	81.95	81.96	81.91	82.20	82.33	82.34	82.73	82.60	82.25	82.43
323	82.44	82.17	82.20	82.01	81.96	81.97	81.90	82.11	82.27	82.37	82.70	82.64	82.40	82.46
323.5	82.47	82.21	82.14	81.95	81.90	81.86	81.86	82.12	82.37	82.31	82.71	82.68	82.26	82.47
324	82.39	82.15	82.06	81.95	81.88	81.85	81.89	82.09	82.38	82.28	82.68	82.62	82.25	82.43
324.5	82.35	82.12	82.08	81.95	81.89	81.83	81.88	82.11	82.35	82.24	82.69	82.62	82.39	82.46
325	82.32	82.06	82.08	81.96	81.89	81.79	81.83	82.07	82.35	82.27	82.70	82.60	82.25	82.44
325.5	82.35	82.09	82.05	81.95	81.88	81.87	81.82	82.01	82.29	82.28	82.72	82.65	82.39	82.44

326	82.39	82.12	82.07	81.83	81.85	81.81	81.83	82.06	82.34	82.29	82.77	82.67	82.40	82.49
326.5	82.39	82.12	82.07	81.84	81.80	81.80	81.97	82.16	82.39	82.27	82.71	82.58	82.26	82.44
327	82.39	82.14	82.10	81.93	81.82	81.73	81.80	82.11	82.46	82.29	82.71	82.57	82.40	82.44
327.5	82.38	82.09	82.06	81.89	81.80	81.73	81.76	82.04	82.39	82.29	82.68	82.56	82.25	82.41
328	82.35	82.11	82.08	81.88	81.83	81.82	81.84	82.03	82.41	82.28	82.72	82.58	82.12	82.44
328.5	82.29	82.04	82.06	81.92	81.85	81.85	81.82	82.00	82.26	82.22	82.70	82.52	82.25	82.43
329	82.31	82.06	82.04	81.89	81.87	81.83	81.77	81.99	82.23	82.17	82.60	82.47	82.26	82.41
329.5	82.37	82.13	82.09	81.89	81.85	81.80	81.77	81.95	82.24	82.20	82.60	82.52	82.26	82.38
330	82.34	82.12	82.03	81.83	81.76	81.73	81.74	81.96	82.27	82.15	82.61	82.51	81.97	82.26
330.5	82.34	82.07	82.00	81.80	81.76	81.75	81.77	81.95	82.26	82.17	82.64	82.51	82.26	82.25
331	82.23	82.00	81.96	81.79	81.70	81.67	81.68	81.94	82.27	82.19	82.65	82.47	82.11	82.29
331.5	82.27	81.95	81.97	81.78	81.73	81.76	81.71	81.94	82.31	82.20	82.62	82.45	82.26	82.34
332	82.24	81.95	81.92	81.79	81.75	81.78	81.71	81.94	82.31	82.15	82.68	82.50	82.12	82.30
332.5	82.25	81.95	81.88	81.74	81.71	81.69	81.60	81.91	82.22	82.11	82.59	82.43	81.96	82.22
333	82.27	81.99	81.93	81.73	81.72	81.71	81.67	81.86	82.16	82.15	82.60	82.48	82.26	82.26
333.5	82.28	82.02	81.91	81.74	81.74	81.72	81.69	81.90	82.13	82.08	82.60	82.41	82.10	82.22
334	82.26	81.97	81.96	81.74	81.72	81.60	81.64	81.82	82.16	82.10	82.52	82.39	82.11	82.20
334.5	82.27	82.00	81.90	81.67	81.68	81.56	81.57	81.81	82.18	81.99	82.45	82.35	81.97	82.23
335	82.29	82.02	81.90	81.67	81.59	81.47	81.50	81.76	82.17	82.00	82.42	82.38	82.11	82.23
335.5	82.24	82.00	81.94	81.70	81.62	81.51	81.48	81.76	82.14	82.03	82.48	82.41	81.95	82.24
336	82.21	81.99	81.89	81.68	81.61	81.58	81.55	81.79	82.16	82.02	82.49	82.43	81.96	82.22
336.5	82.17	81.93	81.86	81.67	81.68	81.73	81.66	81.86	82.20	82.06	82.55	82.42	81.97	82.20
337	82.17	81.89	81.81	81.69	81.59	81.67	81.74	81.94	82.11	82.09	82.55	82.41	82.11	82.22
337.5	82.16	81.87	81.86	81.70	81.59	81.56	81.57	81.85	82.16	82.07	82.54	82.35	81.97	82.26
338	82.16	81.82	81.79	81.59	81.55	81.49	81.55	81.83	82.10	82.01	82.49	82.31	81.96	82.19
338.5	82.16	81.89	81.81	81.64	81.60	81.60	81.60	81.89	82.10	82.01	82.50	82.36	82.25	82.19
339	82.19	81.91	81.85	81.69	81.64	81.58	81.64	81.92	82.15	82.02	82.47	82.36	81.83	82.23
339.5	82.14	81.93	81.84	81.69	81.62	81.61	81.64	81.89	82.16	82.02	82.48	82.35	82.26	82.25
340	82.13	81.87	81.83	81.67	81.62	81.68	81.70	81.88	82.16	82.05	82.51	82.38	81.97	82.25
340.5	82.19	81.91	81.82	81.68	81.67	81.63	81.68	81.89	82.18	82.05	82.44	82.34	81.98	82.24
341	82.13	81.80	81.81	81.66	81.62	81.63	81.70	81.96	82.20	82.03	82.44	82.36	81.97	82.23
341.5	82.11	81.83	81.77	81.60	81.58	81.60	81.64	81.98	82.21	82.07	82.48	82.39	81.97	82.30
342	82.10	81.83	81.76	81.64	81.58	81.54	81.61	81.96	82.27	82.13	82.55	82.44	82.26	82.32
342.5	82.17	81.89	81.79	81.66	81.63	81.56	81.60	81.88	82.23	82.09	82.55	82.48	82.26	82.30
343	82.21	81.96	81.83	81.62	81.65	81.64	81.58	81.86	82.17	82.05	82.54	82.44	82.11	82.28
343.5	82.20	81.96	81.84	81.67	81.66	81.67	81.64	81.92	82.18	82.10	82.52	82.36	82.11	82.23
344	82.19	81.94	81.90	81.70	81.70	81.68	81.71	81.95	82.24	82.09	82.46	82.38	81.97	82.25
344.5	82.21	81.91	81.88	81.71	81.63	81.71	81.69	81.96	82.19	82.10	82.47	82.40	81.98	82.23
345	82.19	81.89	81.87	81.67	81.62	81.67	81.68	81.95	82.23	82.05	82.48	82.35	81.97	82.25
345.5	82.21	81.94	81.89	81.69	81.64	81.65	81.64	81.96	82.19	82.07	82.46	82.36	82.12	82.23
346	82.18	81.97	81.91	81.72	81.67	81.68	81.66	81.90	82.14	82.07	82.50	82.37	81.98	82.21

346.5	82.17	81.96	81.87	81.76	81.72	81.71	81.61	81.86	82.14	82.05	82.51	82.39	82.11	82.19
347	82.14	81.90	81.89	81.74	81.70	81.70	81.54	81.72	82.17	82.07	82.52	82.39	81.97	82.19
347.5	82.17	81.92	81.90	81.72	81.70	81.58	81.63	81.79	82.20	82.10	82.51	82.39	82.11	82.19
348	82.20	81.94	81.86	81.67	81.66	81.54	81.61	81.84	82.20	82.09	82.55	82.29	81.97	82.14
348.5	82.18	81.92	81.87	81.58	81.58	81.51	81.59	81.83	82.15	82.05	82.47	82.30	81.83	82.17
349	82.13	81.85	81.85	81.59	81.54	81.55	81.59	81.85	82.13	82.01	82.42	82.34	81.94	82.18
349.5	82.11	81.81	81.84	81.66	81.62	81.64	81.63	81.86	82.17	82.03	82.45	82.38	81.97	82.20
350	82.17	81.89	81.84	81.68	81.68	81.62	81.58	81.87	82.11	82.02	82.47	82.42	81.98	82.21
350.5	82.17	81.91	81.85	81.68	81.68	81.65	81.66	81.83	82.03	81.94	82.43	82.36	81.98	82.20
351	82.13	81.92	81.86	81.69	81.68	81.57	81.66	81.85	82.07	81.96	82.39	82.34	82.11	82.16
351.5	82.15	81.91	81.85	81.71	81.70	81.66	81.66	81.84	82.12	82.05	82.44	82.31	82.10	82.22
352	82.20	81.90	81.90	81.74	81.73	81.70	81.64	81.81	82.11	82.05	82.49	82.38	81.97	82.23
352.5	82.23	81.93	81.89	81.74	81.68	81.70	81.66	81.82	82.11	82.05	82.41	82.44	82.26	82.23
353	82.23	81.94	81.93	81.76	81.72	81.71	81.66	81.82	82.08	82.06	82.46	82.44	81.97	82.28
353.5	82.22	81.98	81.95	81.78	81.68	81.56	81.56	81.83	82.15	82.05	82.46	82.41	82.10	82.25
354	82.21	81.92	81.88	81.75	81.65	81.60	81.53	81.73	82.15	82.04	82.47	82.41	82.10	82.24
354.5	82.21	81.87	81.88	81.74	81.67	81.69	81.65	81.87	82.21	82.08	82.52	82.40	81.98	82.24
355	82.18	81.86	81.86	81.75	81.67	81.72	81.72	81.87	82.15	82.08	82.49	82.39	82.10	82.25
355.5	82.13	81.87	81.84	81.72	81.66	81.70	81.68	81.89	82.13	82.06	82.48	82.41	82.11	82.28
356	82.11	81.89	81.85	81.74	81.65	81.70	81.70	81.93	82.19	82.02	82.43	82.43	82.10	82.31
356.5	82.13	81.83	81.80	81.70	81.65	81.60	81.70	81.82	82.18	82.00	82.45	82.45	82.11	82.32
357	82.17	81.87	81.80	81.64	81.60	81.57	81.64	81.78	82.10	81.95	82.48	82.39	81.97	82.28
357.5	82.13	81.89	81.86	81.62	81.62	81.63	81.67	81.85	82.13	82.00	82.44	82.36	81.97	82.29
358	82.10	81.87	81.84	81.66	81.68	81.68	81.78	81.92	82.16	82.00	82.44	82.39	82.11	82.28
358.5	82.12	81.88	81.82	81.71	81.60	81.54	81.75	81.96	82.18	82.05	82.50	82.45	82.26	82.28
359	82.09	81.87	81.77	81.64	81.59	81.58	81.66	81.84	82.16	82.02	82.51	82.39	81.82	82.30
359.5	82.09	81.81	81.79	81.59	81.60	81.56	81.70	81.82	82.14	82.07	82.52	82.41	81.97	82.29
360	82.03	81.80	81.78	81.63	81.59	81.60	81.62	81.81	82.05	82.06	82.42	82.35	82.10	82.29
360.5	82.02	81.78	81.74	81.59	81.64	81.66	81.69	81.84	82.13	82.01	82.40	82.33	82.25	82.28
361	82.08	81.81	81.76	81.66	81.65	81.62	81.68	81.79	82.12	81.98	82.41	82.31	81.82	82.15
361.5	82.10	81.81	81.80	81.66	81.62	81.56	81.58	81.79	82.16	81.99	82.39	82.32	82.11	82.16
362	82.14	81.86	81.77	81.63	81.60	81.48	81.61	81.85	82.13	81.99	82.38	82.31	82.11	82.23
362.5	82.09	81.87	81.81	81.63	81.53	81.44	81.51	81.79	82.14	82.00	82.42	82.25	82.11	82.19
363	82.10	81.83	81.76	81.63	81.58	81.53	81.63	81.84	82.07	81.97	82.45	82.29	81.97	82.16
363.5	82.11	81.86	81.74	81.60	81.56	81.53	81.64	81.82	82.08	81.99	82.44	82.29	81.97	82.19
364	82.13	81.86	81.80	81.64	81.62	81.56	81.60	81.81	82.04	81.96	82.39	82.25	81.82	82.19
364.5	82.12	81.88	81.84	81.68	81.60	81.59	81.59	81.77	81.90	81.91	82.39	82.27	81.98	82.12
365	82.18	81.92	81.85	81.67	81.63	81.63	81.56	81.73	81.93	81.94	82.34	82.23	81.98	82.11
365.5	82.14	81.89	81.81	81.69	81.66	81.60	81.54	81.75	81.97	81.90	82.36	82.22	81.97	82.07
366	82.09	81.81	81.75	81.55	81.57	81.52	81.49	81.73	81.99	81.91	82.41	82.27	81.96	82.06
366.5	82.04	81.80	81.71	81.53	81.52	81.56	81.54	81.76	82.10	81.96	82.44	82.34	81.97	82.19

367	81.96	81.71	81.64	81.49	81.49	81.53	81.56	81.75	82.11	82.03	82.41	82.32	82.11	82.23
367.5	82.03	81.76	81.71	81.56	81.53	81.54	81.51	81.76	82.10	82.05	82.46	82.35	81.97	82.23
368	82.05	81.81	81.71	81.58	81.57	81.48	81.43	81.69	82.06	82.01	82.43	82.33	82.26	82.15
368.5	81.95	81.77	81.71	81.52	81.54	81.41	81.46	81.69	82.06	82.04	82.39	82.30	81.83	82.11
369	81.96	81.73	81.69	81.49	81.43	81.53	81.54	81.72	82.13	82.00	82.38	82.26	81.97	82.13
369.5	81.96	81.69	81.64	81.46	81.44	81.55	81.52	81.74	82.12	81.97	82.35	82.28	82.10	82.11
370	82.04	81.71	81.68	81.54	81.51	81.48	81.49	81.76	82.09	81.95	82.43	82.31	82.26	82.17
370.5	82.06	81.80	81.73	81.56	81.46	81.44	81.41	81.59	82.05	81.95	82.41	82.28	82.11	82.14
371	82.05	81.83	81.80	81.54	81.52	81.44	81.41	81.60	81.99	81.91	82.40	82.30	81.99	82.14
371.5	82.03	81.80	81.74	81.53	81.46	81.38	81.43	81.57	81.88	81.92	82.39	82.31	81.97	82.13
372	82.01	81.76	81.71	81.56	81.48	81.54	81.51	81.61	81.87	81.90	82.33	82.32	81.82	82.12
372.5	82.14	81.87	81.81	81.57	81.43	81.45	81.58	81.73	81.93	81.92	82.37	82.31	81.98	82.09
373	82.12	81.89	81.81	81.58	81.41	81.45	81.61	81.77	81.96	81.88	82.37	82.31	82.12	82.11
373.5	82.09	81.88	81.79	81.62	81.43	81.49	81.55	81.76	81.99	81.87	82.40	82.28	81.96	82.12
374	82.11	81.89	81.86	81.69	81.50	81.53	81.57	81.75	81.98	81.92	82.38	82.28	81.82	82.12
374.5	82.11	81.89	81.82	81.65	81.57	81.53	81.65	81.80	82.02	81.92	82.38	82.28	81.96	82.17
375	82.07	81.79	81.74	81.62	81.53	81.54	81.60	81.79	82.05	81.95	82.41	82.28	81.97	82.17
375.5	82.16	81.89	81.73	81.56	81.46	81.48	81.54	81.76	82.08	81.96	82.42	82.32	81.97	82.16
376	82.11	81.86	81.76	81.57	81.49	81.50	81.53	81.75	82.08	81.93	82.39	82.28	81.97	82.16
376.5	82.11	81.89	81.76	81.57	81.52	81.53	81.47	81.74	82.05	81.93	82.39	82.25	82.11	82.16
377	82.06	81.80	81.76	81.60	81.56	81.60	81.63	81.78	82.08	81.99	82.36	82.28	81.97	82.17
377.5	82.08	81.84	81.75	81.62	81.58	81.62	81.68	81.79	82.01	81.98	82.43	82.31	82.12	82.17
378	82.06	81.76	81.74	81.59	81.50	81.46	81.60	81.76	82.06	81.99	82.41	82.37	81.96	82.12
378.5	82.07	81.77	81.70	81.62	81.52	81.50	81.54	81.79	82.03	81.89	82.38	82.25	81.68	82.07
379	82.01	81.75	81.68	81.57	81.48	81.42	81.51	81.76	81.93	81.84	82.30	82.13	81.83	82.05
379.5	81.97	81.74	81.64	81.54	81.49	81.60	81.57	81.74	81.94	81.83	82.28	82.12	81.82	82.06
380	81.99	81.76	81.69	81.55	81.55	81.58	81.63	81.84	81.99	81.81	82.28	82.12	81.82	82.02
380.5	82.04	81.77	81.74	81.58	81.60	81.61	81.66	81.84	82.02	81.87	82.31	82.20	81.83	82.09
381	82.04	81.76	81.74	81.60	81.59	81.60	81.67	81.84	81.98	81.89	82.30	82.26	81.82	82.12
381.5	82.13	81.84	81.79	81.59	81.60	81.58	81.64	81.84	82.05	81.93	82.36	82.28	82.11	82.16
382	82.19	81.94	81.81	81.64	81.64	81.63	81.65	81.83	82.02	81.94	82.35	82.24	81.82	82.19
382.5	82.19	81.93	81.87	81.66	81.62	81.64	81.61	81.86	82.10	81.95	82.36	82.32	81.97	82.23
383	82.21	81.94	81.82	81.69	81.63	81.69	81.66	81.87	82.11	82.01	82.46	82.37	82.12	82.33
383.5	82.13	81.90	81.86	81.72	81.63	81.57	81.70	81.92	82.14	82.05	82.49	82.42	82.11	82.33
384	82.24	81.96	81.89	81.70	81.70	81.74	81.71	81.94	82.18	82.07	82.49	82.42	81.82	82.35
384.5	82.23	82.00	81.91	81.73	81.66	81.56	81.66	81.88	82.21	82.09	82.51	82.44	81.97	82.33
385	82.21	81.99	81.89	81.76	81.72	81.66	81.76	81.91	82.21	82.09	82.49	82.42	81.82	82.36
385.5	82.25	81.97	81.92	81.75	81.73	81.82	81.82	81.99	82.25	82.11	82.55	82.49	82.41	82.34
386	82.23	81.98	81.95	81.75	81.75	81.79	81.70	81.90	82.22	82.09	82.54	82.47	82.10	82.33
386.5	82.29	82.02	81.99	81.83	81.73	81.67	81.67	81.89	82.24	82.13	82.55	82.45	82.11	82.26
387	82.36	82.06	81.98	81.76	81.71	81.62	81.63	81.81	82.22	82.05	82.53	82.44	81.96	82.25

387.5	82.37	82.03	81.99	81.81	81.72	81.64	81.64	81.79	82.13	82.07	82.54	82.44	82.11	82.23
388	82.29	82.03	81.96	81.77	81.73	81.67	81.70	81.86	82.13	82.06	82.51	82.39	81.82	82.28
388.5	82.24	82.00	81.90	81.76	81.73	81.81	81.81	81.91	82.16	82.06	82.45	82.38	82.26	82.26
389	82.21	81.96	81.90	81.76	81.73	81.73	81.78	81.96	82.21	82.09	82.49	82.45	82.11	82.35
389.5	82.24	81.97	81.94	81.74	81.70	81.71	81.78	81.96	82.24	82.09	82.61	82.51	82.11	82.32
390	82.25	82.02	81.92	81.69	81.70	81.65	81.73	81.93	82.25	82.04	82.57	82.49	82.10	82.31
390.5	82.21	82.00	81.93	81.76	81.69	81.68	81.73	81.96	82.21	82.04	82.48	82.44	81.81	82.27
391	82.21	81.94	81.96	81.76	81.75	81.66	81.76	81.99	82.21	82.09	82.49	82.42	82.11	82.28
391.5	82.23	81.99	81.93	81.70	81.65	81.64	81.70	81.89	82.23	82.07	82.51	82.42	82.11	82.29
392	82.24	82.01	81.98	81.74	81.63	81.62	81.61	81.83	82.25	82.11	82.53	82.37	81.83	82.23
392.5	82.21	81.97	81.94	81.73	81.66	81.67	81.64	81.85	82.16	82.05	82.49	82.35	81.97	82.23
393	82.19	81.92	81.86	81.72	81.61	81.65	81.59	81.83	82.10	81.99	82.49	82.33	82.25	82.17
393.5	82.16	81.92	81.83	81.70	81.56	81.53	81.68	81.88	82.11	82.00	82.46	82.36	81.82	82.20
394	82.12	81.88	81.78	81.69	81.57	81.60	81.75	81.91	82.19	82.02	82.47	82.31	82.25	82.21
394.5	82.05	81.76	81.74	81.72	81.65	81.65	81.73	81.96	82.12	82.02	82.51	82.36	81.96	82.22
395	82.10	81.80	81.76	81.66	81.65	81.67	81.70	81.91	82.18	82.06	82.52	82.36	82.11	82.14
395.5	82.07	81.84	81.78	81.60	81.61	81.68	81.65	81.87	82.19	82.04	82.44	82.30	81.83	82.09
396	82.07	81.80	81.76	81.54	81.55	81.61	81.60	81.75	82.17	81.97	82.39	82.22	81.68	82.09
396.5	82.05	81.81	81.77	81.55	81.51	81.46	81.53	81.74	82.18	82.04	82.39	82.21	81.69	82.12
397	82.08	81.85	81.82	81.61	81.53	81.48	81.52	81.73	82.08	81.91	82.37	82.23	81.69	82.09
397.5	82.01	81.78	81.75	81.62	81.55	81.53	81.53	81.73	82.03	81.85	82.34	82.24	81.67	81.99
398	81.99	81.76	81.74	81.64	81.53	81.47	81.48	81.72	81.88	81.70	82.32	82.23	81.97	82.01
398.5	81.98	81.75	81.69	81.55	81.53	81.54	81.53	81.70	81.89	81.72	82.33	82.23	81.83	82.08
399	81.94	81.71	81.64	81.52	81.52	81.51	81.50	81.71	81.97	81.77	82.30	82.16	81.68	82.07
399.5	81.93	81.70	81.64	81.47	81.45	81.47	81.47	81.71	81.98	81.76	82.29	82.10	81.82	82.03
400	81.96	81.66	81.66	81.51	81.47	81.49	81.46	81.71	81.99	81.81	82.30	82.15	81.82	81.99
400.5	81.87	81.63	81.64	81.47	81.39	81.41	81.44	81.69	82.02	81.81	82.29	82.16	81.81	81.92
401	81.82	81.61	81.62	81.45	81.40	81.28	81.43	81.61	82.00	81.81	82.27	82.11	81.96	81.84
401.5	81.81	81.53	81.55	81.38	81.34	81.19	81.30	81.59	81.89	81.79	82.27	82.07	81.67	81.80
402	81.79	81.55	81.47	81.35	81.33	81.36	81.35	81.63	81.89	81.80	82.21	82.04	81.54	81.88
402.5	81.76	81.48	81.47	81.33	81.35	81.31	81.35	81.59	81.91	81.79	82.23	82.06	81.68	81.93
403	81.71	81.47	81.44	81.32	81.26	81.13	81.15	81.44	81.80	81.69	82.03	81.99	81.82	81.88
403.5	81.65	81.45	81.39	81.30	81.26	81.22	81.19	81.44	81.70	81.57	82.02	81.98	81.54	81.82
404	81.70	81.43	81.39	81.27	81.28	81.24	81.24	81.47	81.74	81.59	82.00	81.91	81.68	81.88
404.5	81.57	81.40	81.36	81.25	81.25	81.23	81.22	81.45	81.77	81.67	82.06	81.96	81.68	81.88
405	81.51	81.23	81.24	81.18	81.28	81.28	81.27	81.43	81.79	81.65	82.08	81.94	81.53	81.87
405.5	81.50	81.26	81.26	81.15	81.27	81.24	81.26	81.47	81.78	81.65	82.18	82.02	81.70	81.87
406	81.53	81.28	81.29	81.16	81.19	81.23	81.20	81.39	81.72	81.62	82.10	81.99	81.82	81.81
406.5	81.64	81.32	81.29	81.18	81.14	81.11	81.16	81.44	81.77	81.64	82.11	81.98	81.54	81.72
407	81.59	81.32	81.29	81.19	81.16	81.03	81.14	81.49	81.66	81.49	82.00	81.94	81.53	81.68
407.5	81.59	81.30	81.24	81.19	81.05	80.92	81.17	81.29	81.48	81.30	81.93	81.81	81.25	81.74

408	81.59	81.27	81.29	81.12	81.08	81.13	81.18	81.34	81.44	81.27	81.90	81.70	81.39	81.68
408.5	81.56	81.30	81.24	81.12	81.11	81.21	81.23	81.43	81.54	81.42	81.87	81.78	81.53	81.66
409	81.53	81.35	81.27	81.17	81.18	81.27	81.27	81.45	81.67	81.54	81.97	81.87	81.39	81.72
409.5	81.54	81.30	81.27	81.16	81.19	81.21	81.28	81.49	81.74	81.59	82.04	81.91	81.54	81.77
410	81.52	81.29	81.24	81.14	81.11	81.19	81.30	81.49	81.69	81.61	82.06	81.92	81.53	81.82
410.5	81.55	81.33	81.28	81.15	81.14	81.34	81.42	81.59	81.73	81.64	82.05	81.94	81.83	81.82
411	81.54	81.31	81.28	81.11	81.05	81.21	81.25	81.53	81.72	81.60	82.10	81.97	81.52	81.82
411.5	81.52	81.29	81.31	81.17	81.19	81.24	81.19	81.43	81.65	81.57	82.06	82.01	81.69	81.80
412	81.49	81.23	81.32	81.17	81.18	81.12	81.12	81.34	81.64	81.48	81.95	81.89	81.67	81.73
412.5	81.52	81.23	81.29	81.14	81.19	81.21	81.13	81.32	81.67	81.50	81.95	81.89	81.69	81.70
413	81.51	81.25	81.27	81.20	81.15	81.27	81.15	81.37	81.67	81.49	81.97	81.80	81.54	81.80
413.5	81.49	81.28	81.29	81.17	81.22	81.17	81.15	81.37	81.67	81.53	81.95	81.89	81.54	81.75
414	81.51	81.26	81.29	81.15	81.14	81.07	81.10	81.42	81.70	81.60	81.99	81.91	81.69	81.79
414.5	81.48	81.22	81.24	81.11	81.10	81.08	81.00	81.24	81.67	81.61	81.95	81.92	81.82	81.76
415	81.50	81.27	81.23	81.12	81.08	81.10	81.11	81.35	81.72	81.64	82.01	81.93	81.54	81.77
415.5	81.50	81.25	81.23	81.11	81.05	81.06	81.06	81.36	81.61	81.63	82.02	81.88	81.37	81.78
416	81.54	81.25	81.28	81.15	81.11	81.13	81.10	81.29	81.61	81.58	82.00	81.91	81.67	81.76
416.5	81.52	81.22	81.22	81.14	81.06	80.98	81.10	81.34	81.60	81.52	81.89	81.85	81.53	81.76
417	81.53	81.21	81.23	81.12	81.09	81.10	81.12	81.39	81.68	81.59	81.91	81.81	81.54	81.75
417.5	81.50	81.23	81.26	81.15	81.14	81.17	81.17	81.34	81.61	81.62	81.94	81.87	81.82	81.74
418	81.44	81.27	81.27	81.15	81.06	81.10	81.11	81.31	81.56	81.57	81.98	81.94	81.82	81.77
418.5	81.46	81.21	81.20	81.12	81.08	81.11	81.10	81.32	81.59	81.62	81.97	81.93	81.39	81.71
419	81.32	81.13	81.17	81.05	81.06	81.06	81.05	81.35	81.65	81.59	81.97	81.91	81.68	81.74
419.5	81.37	81.13	81.22	81.10	81.11	81.17	81.03	81.26	81.60	81.60	81.98	81.94	81.69	81.75
420	81.41	81.18	81.22	81.05	81.08	80.89	80.89	81.17	81.58	81.50	81.98	81.93	81.54	81.77
420.5	81.41	81.20	81.22	81.03	81.02	81.01	80.98	81.19	81.61	81.56	82.03	81.96	81.68	81.80
421	81.40	81.18	81.17	81.07	81.02	81.19	81.08	81.32	81.67	81.57	82.01	81.91	81.54	81.71
421.5	81.39	81.17	81.17	81.06	81.02	80.99	81.04	81.32	81.67	81.59	82.01	81.84	81.39	81.68
422	81.38	81.16	81.15	81.03	80.96	80.91	81.05	81.30	81.65	81.58	82.04	81.86	81.69	81.69
422.5	81.43	81.17	81.14	81.02	80.94	80.87	80.97	81.28	81.59	81.54	81.98	81.84	81.39	81.74
423	81.52	81.31	81.17	81.05	80.97	80.97	80.95	81.27	81.62	81.60	82.01	81.86	81.69	81.72
423.5	81.59	81.33	81.30	81.10	81.01	81.00	81.01	81.25	81.68	81.53	81.93	81.87	81.54	81.72
424	81.61	81.36	81.29	81.10	81.09	81.12	81.06	81.33	81.59	81.41	81.88	81.88	81.69	81.80
424.5	81.61	81.39	81.34	81.13	81.09	81.09	81.15	81.42	81.62	81.50	81.92	81.86	81.54	81.86
425	81.60	81.37	81.33	81.13	81.09	81.17	81.15	81.42	81.67	81.56	81.97	81.91	81.68	81.78
425.5	81.59	81.34	81.29	81.13	81.15	81.21	81.22	81.45	81.71	81.59	82.00	81.96	81.54	81.93
426	81.59	81.33	81.30	81.16	81.11	81.26	81.25	81.48	81.74	81.64	82.04	81.97	81.82	81.93
426.5	81.61	81.34	81.34	81.17	81.16	81.30	81.28	81.52	81.77	81.72	82.07	82.00	81.82	81.91
427	81.62	81.38	81.36	81.18	81.17	81.21	81.32	81.54	81.82	81.76	82.14	81.98	81.53	81.86
427.5	81.64	81.43	81.37	81.26	81.32	81.31	81.31	81.52	81.84	81.76	82.19	82.02	81.68	81.88
428	81.66	81.43	81.42	81.32	81.33	81.29	81.30	81.47	81.84	81.73	82.16	82.00	81.68	81.91

428.5	81.59	81.38	81.40	81.29	81.33	81.29	81.35	81.55	81.84	81.72	82.17	82.05	81.68	81.96
429	81.59	81.38	81.42	81.30	81.31	81.24	81.39	81.62	81.88	81.81	82.17	82.07	81.69	81.96
429.5	81.60	81.38	81.36	81.30	81.23	81.27	81.33	81.66	81.94	81.80	82.19	82.07	81.39	81.97
430	81.65	81.42	81.41	81.28	81.26	81.22	81.35	81.63	81.93	81.82	82.24	82.08	81.98	81.95
430.5	81.63	81.41	81.42	81.26	81.25	81.23	81.30	81.58	81.91	81.77	82.19	82.10	81.82	81.96
431	81.63	81.44	81.39	81.22	81.23	81.30	81.28	81.64	81.82	81.72	82.14	82.07	81.68	81.96
431.5	81.82	81.60	81.50	81.29	81.28	81.34	81.34	81.65	81.87	81.73	82.20	82.05	81.98	81.96
432	81.81	81.60	81.57	81.33	81.31	81.36	81.37	81.57	81.90	81.77	82.25	82.10	81.82	81.97
432.5	81.79	81.56	81.54	81.33	81.23	81.24	81.38	81.58	81.85	81.72	82.14	82.13	81.82	82.01
433	81.75	81.56	81.56	81.38	81.29	81.42	81.36	81.58	81.78	81.72	82.18	82.11	81.98	82.04
433.5	81.77	81.57	81.53	81.36	81.36	81.38	81.30	81.52	81.87	81.70	82.20	82.13	81.68	82.04
434	81.84	81.56	81.57	81.38	81.37	81.29	81.36	81.54	81.90	81.71	82.21	82.16	81.69	82.02
434.5	81.79	81.57	81.51	81.34	81.35	81.33	81.27	81.54	81.95	81.76	82.13	82.10	81.68	82.03
435	81.79	81.56	81.56	81.39	81.39	81.46	81.40	81.64	81.97	81.80	82.17	82.09	81.82	82.06
435.5	81.70	81.51	81.54	81.37	81.39	81.38	81.43	81.66	81.78	81.74	82.26	82.18	81.82	82.10
436	81.83	81.56	81.53	81.39	81.38	81.34	81.50	81.74	81.87	81.77	82.23	82.18	81.97	82.17
436.5	81.81	81.62	81.58	81.44	81.43	81.39	81.49	81.76	81.96	81.90	82.30	82.21	81.83	82.11
437	81.80	81.56	81.50	81.37	81.38	81.36	81.35	81.65	81.87	81.86	82.32	82.18	81.97	82.14
437.5	81.86	81.60	81.51	81.36	81.37	81.34	81.31	81.58	81.85	81.77	82.35	82.16	81.81	82.10
438	81.83	81.61	81.54	81.33	81.32	81.36	81.33	81.64	81.95	81.82	82.33	82.16	81.97	82.14
438.5	81.79	81.55	81.52	81.40	81.36	81.41	81.38	81.67	82.03	81.90	82.34	82.18	81.98	82.12
439	81.71	81.57	81.59	81.44	81.49	81.63	81.60	81.78	82.04	81.92	82.32	82.19	81.97	82.10
439.5	81.84	81.61	81.61	81.48	81.58	81.75	81.71	81.84	82.08	81.95	82.31	82.27	81.83	82.15
440	81.81	81.61	81.61	81.49	81.48	81.55	81.65	81.83	82.03	82.01	82.31	82.28	82.10	82.15
440.5	81.77	81.54	81.57	81.44	81.48	81.50	81.58	81.76	82.05	81.95	82.33	82.28	81.97	82.20
441	81.86	81.56	81.57	81.52	81.50	81.57	81.63	81.85	82.04	81.93	82.36	82.29	81.68	82.19
441.5	81.87	81.66	81.54	81.44	81.42	81.46	81.64	81.86	82.08	81.95	82.42	82.35	81.97	82.20
442	81.99	81.74	81.62	81.47	81.47	81.56	81.69	81.86	82.11	81.95	82.41	82.36	81.98	82.21
442.5	81.98	81.79	81.71	81.54	81.58	81.63	81.65	81.86	82.03	81.98	82.34	82.29	81.98	82.18
443	81.92	81.74	81.65	81.54	81.54	81.62	81.65	81.89	82.06	82.01	82.36	82.31	81.98	82.25
443.5	81.86	81.70	81.66	81.53	81.65	81.63	81.68	81.91	82.11	82.05	82.44	82.38	82.40	82.23
444	81.87	81.67	81.70	81.59	81.69	81.67	81.63	81.94	82.16	82.06	82.42	82.38	82.26	82.26
444.5	81.91	81.68	81.68	81.65	81.66	81.65	81.62	81.94	82.09	82.01	82.43	82.42	82.12	82.30
445	81.91	81.71	81.70	81.60	81.62	81.60	81.61	81.88	82.08	81.97	82.44	82.36	81.97	82.28
445.5	81.97	81.77	81.74	81.57	81.52	81.56	81.63	81.89	82.08	81.97	82.38	82.36	82.11	82.26
446	81.94	81.73	81.71	81.59	81.60	81.64	81.68	81.92	82.11	81.96	82.36	82.29	81.97	82.28
446.5	81.92	81.73	81.74	81.62	81.62	81.60	81.63	81.90	82.16	82.05	82.40	82.36	81.96	82.21
447	81.93	81.70	81.74	81.56	81.55	81.60	81.71	81.94	82.17	82.06	82.49	82.39	82.26	82.26
447.5	82.09	81.83	81.76	81.56	81.56	81.60	81.74	81.99	82.23	82.12	82.52	82.42	82.26	82.38
448	82.18	81.98	81.88	81.71	81.65	81.69	81.75	81.99	82.22	82.14	82.59	82.40	82.25	82.37
448.5	82.17	81.97	81.91	81.77	81.69	81.73	81.71	81.96	82.24	82.17	82.65	82.52	82.11	82.41

449	82.14	81.89	81.90	81.77	81.72	81.81	81.77	81.99	82.23	82.15	82.67	82.58	82.26	82.46
449.5	82.09	81.90	81.87	81.76	81.79	81.98	81.93	82.15	82.29	82.19	82.68	82.61	82.40	82.58
450	82.16	81.87	81.87	81.77	81.70	81.74	81.87	82.14	82.17	82.12	82.67	82.66	82.54	82.57
450.5	82.20	81.90	81.86	81.72	81.70	81.81	81.93	82.12	82.21	82.16	82.70	82.64	82.11	82.58
451	82.17	81.94	81.96	81.90	81.87	81.94	81.99	82.19	82.31	82.26	82.71	82.61	82.40	82.58
451.5	82.17	81.95	81.98	81.95	81.95	82.03	81.92	82.09	82.31	82.23	82.72	82.69	82.55	82.56
452	82.22	81.95	81.96	81.86	81.84	82.00	81.83	81.96	82.25	82.25	82.70	82.65	82.25	82.53
452.5	82.23	82.02	82.01	81.86	81.88	82.00	81.85	82.11	82.36	82.31	82.68	82.59	82.25	82.57
453	82.26	82.04	82.01	81.87	81.95	81.93	81.94	82.11	82.40	82.32	82.74	82.64	82.26	82.61
453.5	82.32	82.05	82.01	81.89	81.91	81.98	82.02	82.22	82.39	82.30	82.72	82.72	82.41	82.65
454	82.33	82.07	82.01	81.84	81.92	81.87	81.94	82.26	82.47	82.35	82.77	82.74	82.54	82.68
454.5	82.28	82.02	82.01	81.86	81.88	81.92	81.93	82.17	82.49	82.42	82.84	82.72	82.39	82.69
455	82.27	82.09	82.07	81.96	82.06	82.17	82.12	82.29	82.55	82.46	82.86	82.79	82.54	82.70
455.5	82.34	82.13	82.11	81.96	81.99	82.01	81.94	82.25	82.59	82.49	82.92	82.83	82.40	82.77
456	82.36	82.19	82.13	81.98	81.97	82.00	82.04	82.28	82.64	82.51	82.92	82.88	82.54	82.79
456.5	82.36	82.15	82.15	81.98	81.98	82.00	82.11	82.18	82.64	82.51	82.95	82.86	82.54	82.78
457	82.37	82.19	82.14	82.00	82.06	82.10	82.20	82.34	82.63	82.53	82.96	82.90	82.54	82.80
457.5	82.37	82.20	82.17	82.00	82.06	82.10	82.17	82.31	82.66	82.58	83.00	82.93	82.54	82.78
458	82.43	82.23	82.17	82.00	82.07	82.21	82.30	82.46	82.69	82.59	83.03	82.92	82.83	82.89
458.5	82.46	82.25	82.23	82.03	82.15	82.15	82.25	82.53	82.74	82.61	83.04	82.85	82.68	82.86
459	82.37	82.19	82.20	82.09	82.10	82.25	82.26	82.55	82.75	82.60	83.06	82.92	82.54	82.87
459.5	82.44	82.23	82.16	82.09	82.14	82.41	82.36	82.59	82.79	82.68	83.03	82.90	82.54	82.89
460	82.56	82.29	82.21	82.14	82.16	82.35	82.36	82.61	82.72	82.62	83.02	82.93	82.69	82.84
460.5	82.52	82.29	82.26	82.15	82.14	82.24	82.26	82.53	82.68	82.51	83.04	82.97	82.82	82.89
461	82.53	82.34	82.23	82.12	82.08	82.12	82.09	82.41	82.62	82.60	83.07	82.97	82.68	82.88
461.5	82.58	82.42	82.33	82.15	82.11	82.10	82.11	82.40	82.62	82.65	83.08	82.97	82.68	82.85
462	82.56	82.39	82.30	82.21	82.29	82.31	82.20	82.48	82.70	82.60	83.08	82.96	82.69	82.87
462.5	82.54	82.30	82.30	82.17	82.19	82.11	82.29	82.56	82.80	82.73	83.15	83.08	82.83	82.94
463	82.57	82.30	82.27	82.21	82.22	82.37	82.46	82.68	82.89	82.82	83.22	83.16	82.98	83.02
463.5	82.52	82.22	82.28	82.13	82.12	82.17	82.45	82.66	82.84	82.80	83.23	83.16	82.82	83.01
464	82.59	82.31	82.28	82.05	82.11	82.19	82.39	82.66	82.84	82.80	83.21	83.14	82.97	82.98
464.5	82.61	82.41	82.32	82.12	82.12	82.19	82.31	82.56	82.91	82.80	83.24	83.14	82.97	83.02
465	82.61	82.40	82.31	82.19	82.14	82.14	82.30	82.52	82.79	82.80	83.24	83.12	82.83	83.05
465.5	82.54	82.37	82.33	82.19	82.19	82.17	82.35	82.51	82.86	82.85	83.22	83.08	82.83	83.00
466	82.46	82.21	82.21	82.26	82.18	82.15	82.28	82.57	82.84	82.85	83.24	83.08	82.82	82.95
466.5	82.47	82.24	82.21	82.19	82.14	82.36	82.38	82.57	82.91	82.88	83.25	83.16	82.70	82.97
467	82.66	82.37	82.27	82.13	82.14	82.25	82.36	82.64	82.96	82.80	83.22	83.15	82.83	82.99
467.5	82.63	82.38	82.29	82.16	82.12	82.23	82.37	82.70	82.93	82.78	83.17	83.11	82.82	82.99
468	82.66	82.42	82.34	82.21	82.16	82.22	82.36	82.75	82.88	82.75	83.19	83.12	83.12	83.03
468.5	82.61	82.41	82.42	82.32	82.29	82.34	82.42	82.73	82.90	82.78	83.20	83.10	82.82	83.10
469	82.58	82.37	82.39	82.32	82.28	82.33	82.38	82.73	82.94	82.78	83.19	83.14	83.11	83.11

469.5	82.59	82.44	82.39	82.29	82.25	82.25	82.38	82.69	82.91	82.84	83.22	83.20	82.84	83.06
470	82.59	82.35	82.34	82.19	82.20	82.13	82.36	82.56	82.73	82.65	83.19	83.18	82.83	83.03
470.5	82.63	82.42	82.39	82.21	82.20	82.24	82.36	82.58	82.80	82.66	83.15	83.13	82.98	83.00
471	82.75	82.48	82.45	82.26	82.20	82.13	82.24	82.57	82.81	82.74	83.20	83.13	82.70	83.07
471.5	82.77	82.46	82.44	82.33	82.29	82.42	82.37	82.58	82.83	82.80	83.28	83.15	82.98	83.10
472	82.75	82.44	82.49	82.45	82.44	82.52	82.45	82.66	82.87	82.80	83.33	83.17	82.84	83.06
472.5	82.73	82.53	82.47	82.41	82.43	82.28	82.43	82.71	82.89	82.79	83.31	83.16	82.83	83.02
473	82.64	82.46	82.46	82.38	82.37	82.34	82.49	82.69	82.95	82.80	83.22	83.15	82.83	83.00
473.5	82.65	82.48	82.48	82.38	82.36	82.49	82.44	82.73	82.94	82.85	83.27	83.13	82.82	83.01
474	82.67	82.49	82.44	82.40	82.32	82.38	82.37	82.65	82.82	82.88	83.31	83.16	82.83	83.03
474.5	82.74	82.40	82.37	82.26	82.30	82.34	82.42	82.68	82.82	82.75	83.16	83.05	82.83	82.97
475	82.64	82.41	82.43	82.33	82.33	82.28	82.40	82.58	82.86	82.76	83.20	83.08	82.85	82.96
475.5	82.67	82.45	82.41	82.29	82.30	82.34	82.36	82.62	82.92	82.80	83.19	83.11	82.83	82.93
476	82.69	82.48	82.44	82.34	82.31	82.33	82.37	82.62	82.93	82.81	83.22	83.11	82.84	82.94
476.5	82.67	82.45	82.43	82.29	82.23	82.18	82.23	82.54	82.88	82.82	83.24	83.09	82.69	82.87
477	82.63	82.45	82.43	82.23	82.18	82.23	82.22	82.53	82.85	82.85	83.23	83.07	82.68	82.91
477.5	82.60	82.38	82.39	82.20	82.26	82.30	82.39	82.61	82.89	82.76	83.21	83.05	82.71	82.93
478	82.54	82.36	82.37	82.23	82.23	82.15	82.27	82.56	82.86	82.76	83.14	83.05	82.69	82.90
478.5	82.50	82.32	82.30	82.20	82.20	82.20	82.20	82.59	82.89	82.75	83.15	83.03	82.83	82.93
479	82.60	82.38	82.36	82.24	82.23	82.28	82.28	82.52	82.92	82.79	83.14	83.08	82.85	82.96
479.5	82.57	82.39	82.36	82.20	82.19	82.22	82.27	82.54	82.85	82.69	83.18	83.05	82.69	82.90
480	82.57	82.36	82.33	82.21	82.23	82.20	82.33	82.61	82.89	82.72	83.12	83.08	82.54	82.96
480.5	82.56	82.35	82.33	82.31	82.26	82.35	82.36	82.64	82.86	82.69	83.09	83.08	82.69	82.99
481	82.51	82.35	82.31	82.29	82.32	82.37	82.38	82.54	82.84	82.70	83.13	83.02	82.54	82.95
481.5	82.59	82.37	82.31	82.27	82.32	82.41	82.36	82.56	82.80	82.72	83.16	83.09	82.69	82.93
482	82.63	82.45	82.39	82.26	82.33	82.37	82.29	82.51	82.80	82.59	83.12	83.11	82.69	82.93
482.5	82.70	82.45	82.31	82.21	82.23	82.28	82.35	82.51	82.76	82.59	83.06	83.06	82.98	82.97
483	82.65	82.47	82.35	82.16	82.18	82.22	82.19	82.41	82.81	82.65	83.10	82.98	82.39	82.92
483.5	82.61	82.44	82.33	82.16	82.21	82.19	82.29	82.46	82.85	82.72	83.13	83.05	82.54	82.94
484	82.54	82.31	82.29	82.18	82.11	82.03	82.14	82.40	82.77	82.74	83.16	83.08	82.84	82.94
484.5	82.48	82.27	82.23	82.18	82.18	82.17	82.19	82.44	82.75	82.77	83.19	83.05	82.68	82.91
485	82.50	82.25	82.29	82.29	82.26	82.22	82.30	82.54	82.78	82.72	83.12	83.11	82.83	82.94
485.5	82.50	82.35	82.31	82.27	82.23	82.28	82.35	82.58	82.80	82.75	83.15	83.08	82.69	83.00
486	82.66	82.42	82.37	82.24	82.27	82.40	82.36	82.54	82.83	82.79	83.15	83.12	82.69	82.99
486.5	82.72	82.48	82.41	82.26	82.30	82.35	82.47	82.53	82.80	82.74	83.19	83.16	82.99	82.98
487	82.71	82.42	82.32	82.13	82.15	82.12	82.28	82.41	82.83	82.78	83.23	83.11	82.82	82.99
487.5	82.70	82.48	82.40	82.17	82.09	82.17	82.37	82.48	82.88	82.75	83.19	83.08	82.83	83.02
488	82.75	82.47	82.45	82.26	82.32	82.42	82.47	82.63	82.87	82.80	83.22	83.07	82.70	82.98
488.5	82.71	82.48	82.41	82.29	82.36	82.47	82.47	82.58	82.91	82.70	83.22	83.11	82.69	82.96
489	82.67	82.42	82.37	82.31	82.37	82.42	82.46	82.59	82.86	82.75	83.21	83.09	82.83	82.94
489.5	82.63	82.39	82.37	82.26	82.29	82.22	82.29	82.59	82.85	82.66	83.16	83.09	82.83	82.92

490	82.64	82.40	82.34	82.18	82.16	82.08	82.17	82.49	82.82	82.69	83.16	83.09	82.67	82.87
490.5	82.60	82.35	82.27	82.26	82.20	82.20	82.19	82.42	82.70	82.69	83.21	83.06	82.83	82.92
491	82.62	82.39	82.42	82.34	82.23	82.27	82.26	82.52	82.76	82.74	83.20	83.08	82.85	82.90
491.5	82.61	82.40	82.37	82.30	82.24	82.37	82.30	82.54	82.79	82.65	83.15	83.00	82.69	82.87
492	82.59	82.35	82.38	82.28	82.24	82.36	82.26	82.53	82.77	82.68	83.10	82.97	82.68	82.86
492.5	82.60	82.39	82.36	82.26	82.26	82.24	82.20	82.49	82.76	82.72	83.15	83.02	82.54	82.87
493	82.58	82.34	82.33	82.11	82.18	82.13	82.21	82.43	82.78	82.67	83.10	83.00	82.82	82.81
493.5	82.59	82.35	82.31	82.14	82.13	82.03	82.16	82.44	82.76	82.66	83.05	82.92	82.69	82.81
494	82.58	82.34	82.34	82.12	82.05	82.01	82.14	82.43	82.80	82.58	83.10	82.90	82.84	82.79
494.5	82.51	82.27	82.29	82.14	82.14	82.17	82.07	82.48	82.75	82.58	83.03	82.95	82.54	82.78
495	82.53	82.30	82.21	82.10	82.19	82.27	82.26	82.51	82.73	82.62	83.00	82.96	82.69	82.81
495.5	82.42	82.21	82.21	82.09	82.17	82.06	82.15	82.57	82.80	82.61	83.01	82.94	82.82	82.89
496	82.45	82.25	82.19	82.06	82.09	82.19	82.26	82.56	82.77	82.60	83.08	82.97	82.68	82.85
496.5	82.41	82.23	82.21	82.04	82.07	82.17	82.24	82.53	82.72	82.60	83.00	82.94	82.38	82.78
497	82.37	82.20	82.19	82.01	82.09	82.18	82.19	82.51	82.72	82.63	83.05	82.99	82.54	82.77
497.5	82.39	82.19	82.20	82.04	82.09	82.25	82.22	82.32	82.72	82.60	83.06	82.99	82.83	82.81
498	82.36	82.18	82.15	82.03	82.04	82.10	82.12	82.36	82.52	82.51	83.01	82.94	82.54	82.78
498.5	82.37	82.17	82.16	82.11	82.10	82.15	82.13	82.29	82.59	82.42	83.03	82.95	82.69	82.73
499	82.41	82.24	82.18	82.08	82.17	82.22	82.25	82.42	82.64	82.50	83.04	82.91	82.55	82.72
499.5	82.41	82.22	82.21	82.07	82.06	82.03	82.14	82.38	82.65	82.55	83.05	82.83	82.54	82.70
500	82.37	82.25	82.23	82.13	82.06	81.97	82.14	82.34	82.65	82.58	82.90	82.80	82.54	82.71
500.5	82.41	82.24	82.15	82.03	81.88	81.87	82.01	82.24	82.62	82.52	82.86	82.81	82.54	82.63
501	82.46	82.21	82.16	81.95	81.88	81.92	81.98	82.33	82.65	82.51	82.89	82.84	82.68	82.70
501.5	82.41	82.14	82.14	81.89	81.85	81.91	81.85	82.14	82.60	82.51	82.95	82.84	82.55	82.68
502	82.39	82.20	82.14	81.89	81.75	81.88	81.98	82.22	82.52	82.44	82.90	82.82	82.41	82.65
502.5	82.39	82.13	82.13	81.93	81.80	81.90	81.96	82.19	82.47	82.46	82.89	82.80	82.40	82.61
503	82.33	82.11	82.10	81.90	81.92	81.95	82.00	82.18	82.46	82.42	82.90	82.77	82.38	82.58
503.5	82.37	82.13	82.04	81.89	81.86	81.75	81.97	82.16	82.50	82.45	82.86	82.80	82.69	82.61
504	82.35	82.15	82.12	81.89	81.85	81.82	81.98	82.17	82.55	82.43	82.82	82.78	82.55	82.60
504.5	82.26	82.10	82.09	81.94	81.87	81.84	81.93	82.14	82.53	82.45	82.86	82.71	82.54	82.55
505	82.21	82.04	82.06	81.91	81.82	81.78	81.76	82.02	82.52	82.46	82.86	82.73	82.54	82.58
505.5	82.24	82.07	82.04	81.88	81.77	81.75	81.82	82.10	82.51	82.48	82.94	82.77	82.55	82.57
506	82.17	81.99	82.00	81.84	81.78	81.87	81.87	82.12	82.50	82.40	82.87	82.71	82.40	82.58
506.5	82.13	81.94	81.88	81.78	81.80	81.85	81.90	82.22	82.51	82.34	82.83	82.73	82.38	82.56
507	82.18	82.01	81.98	81.82	81.84	81.93	81.92	82.23	82.55	82.35	82.79	82.76	82.39	82.56
507.5	82.25	82.02	82.03	81.88	81.78	81.73	81.83	82.04	82.46	82.37	82.79	82.68	82.39	82.47
508	82.21	81.96	81.95	81.78	81.82	81.87	81.89	82.07	82.41	82.37	82.79	82.59	82.25	82.41
508.5	82.27	82.01	81.99	81.82	81.75	81.81	81.95	82.13	82.47	82.35	82.76	82.66	82.26	82.46
509	82.17	82.00	81.97	81.84	81.85	81.79	81.82	82.09	82.35	82.30	82.76	82.66	82.26	82.47
509.5	81.95	81.84	81.95	81.85	81.87	81.82	81.84	82.10	82.35	82.28	82.75	82.66	82.12	82.43
510	81.94	81.79	81.84	81.77	81.82	81.85	81.87	82.11	82.33	82.22	82.70	82.61	82.40	82.44

510.5	82.07	81.81	81.84	81.81	81.83	81.80	81.84	81.98	82.37	82.25	82.64	82.63	82.26	82.32
511	81.95	81.79	81.89	81.74	81.72	81.72	81.72	81.94	82.33	82.17	82.56	82.57	82.25	82.34
511.5	81.93	81.69	81.83	81.73	81.73	81.74	81.74	81.89	82.21	82.09	82.57	82.54	82.11	82.30
512	81.94	81.74	81.77	81.70	81.76	81.60	81.70	81.86	82.08	82.03	82.57	82.48	82.26	82.28
512.5	81.98	81.75	81.75	81.65	81.67	81.69	81.65	81.86	82.09	82.04	82.53	82.39	81.96	82.30
513	82.00	81.71	81.71	81.60	81.64	81.68	81.71	81.96	82.18	82.10	82.56	82.44	82.10	82.26
513.5	82.03	81.76	81.74	81.56	81.49	81.66	81.76	82.06	82.24	82.16	82.60	82.47	82.11	82.28
514	81.93	81.74	81.76	81.59	81.53	81.68	81.67	81.95	82.30	82.23	82.61	82.47	82.26	82.28
514.5	81.89	81.74	81.68	81.62	81.54	81.66	81.69	81.90	82.27	82.13	82.56	82.46	82.12	82.28
515	81.91	81.69	81.69	81.61	81.46	81.63	81.66	81.94	82.22	82.15	82.50	82.37	81.83	82.23
515.5	81.87	81.69	81.69	81.52	81.46	81.54	81.67	82.01	82.29	82.17	82.51	82.39	82.26	82.16
516	81.89	81.68	81.59	81.45	81.34	81.44	81.55	81.89	82.24	82.13	82.56	82.34	82.12	82.18
516.5	81.90	81.66	81.61	81.50	81.48	81.54	81.61	81.88	82.17	82.07	82.49	82.29	81.97	82.16
517	81.75	81.55	81.64	81.50	81.47	81.51	81.62	81.86	82.19	82.05	82.50	82.31	81.98	82.12
517.5	81.71	81.58	81.59	81.49	81.42	81.48	81.53	81.85	82.21	82.06	82.52	82.34	81.97	82.09
518	81.76	81.60	81.56	81.42	81.36	81.41	81.61	81.86	82.11	82.06	82.45	82.35	82.26	82.09
518.5	81.76	81.61	81.57	81.44	81.38	81.43	81.48	81.72	82.08	82.02	82.41	82.31	82.11	82.09
519	81.66	81.50	81.55	81.44	81.38	81.42	81.43	81.66	81.97	82.01	82.34	82.25	81.82	82.03
519.5	81.67	81.48	81.50	81.42	81.70	81.37	81.38	81.66	81.98	81.86	82.30	82.18	81.97	82.00
520	81.73	81.51	81.54	81.42	81.69	81.44	81.48	81.72	81.97	81.90	82.32	82.22	81.82	81.98
520.5	81.73	81.54	81.57	81.50	81.68	81.50	81.48	81.66	82.00	81.90	82.32	82.25	81.68	82.01
521	81.77	81.57	81.60	81.47	81.60	81.46	81.45	81.76	82.04	81.95	82.36	82.28	81.82	82.06
521.5	81.86	81.63	81.64	81.50	81.58	81.38	81.44	81.71	82.05	81.96	82.38	82.28	81.82	82.07
522	81.82	81.62	81.61	81.48	81.57	81.32	81.39	81.69	81.96	81.82	82.35	82.21	81.82	82.08
522.5	81.79	81.61	81.58	81.46	81.58	81.43	81.40	81.69	81.92	81.85	82.31	82.23	81.67	81.98
523	81.79	81.60	81.59	81.47	81.60	81.47	81.44	81.68	81.98	81.84	82.36	82.19	81.97	82.00
523.5	81.81	81.57	81.57	81.40	81.52	81.43	81.37	81.59	82.01	81.83	82.26	82.18	81.82	82.03
524	81.85	81.68	81.61	81.44	81.60	81.48	81.39	81.60	81.87	81.75	82.28	82.15	81.67	82.02
524.5	81.85	81.63	81.62	81.51	81.58	81.39	81.39	81.61	81.80	81.65	82.27	82.11	81.82	81.98
525	81.84	81.64	81.56	81.46	81.53	81.50	81.44	81.65	81.87	81.72	82.25	82.13	81.68	81.98
525.5	81.83	81.58	81.56	81.44	81.48	81.31	81.38	81.69	81.90	81.79	82.25	82.16	81.97	82.06
526	81.87	81.64	81.59	81.43	81.52	81.34	81.37	81.69	81.94	81.82	82.30	82.15	81.97	82.03
526.5	81.88	81.66	81.58	81.48	81.56	81.29	81.35	81.63	81.96	81.87	82.28	82.17	81.83	82.02
527	81.85	81.65	81.59	81.47	81.51	81.26	81.25	81.52	81.93	81.88	82.28	82.21	81.83	82.04
527.5	81.89	81.66	81.59	81.39	81.46	81.36	81.31	81.59	81.94	81.83	82.25	82.20	81.97	82.00
528	81.89	81.67	81.63	81.40	81.55	81.37	81.41	81.61	81.91	81.80	82.25	82.15	81.68	82.00
528.5	81.86	81.64	81.61	81.50	81.53	81.40	81.41	81.57	81.95	81.86	82.30	82.18	82.11	82.07
529	81.82	81.61	81.58	81.42	81.48	81.43	81.43	81.66	82.00	81.89	82.30	82.17	81.67	82.05
529.5	81.87	81.62	81.59	81.45	81.51	81.32	81.41	81.66	82.06	81.97	82.31	82.24	81.83	82.07
530	81.81	81.61	81.60	81.46	81.50	81.44	81.43	81.69	82.01	81.92	82.33	82.22	81.97	82.07
530.5	81.79	81.58	81.59	81.44	81.53	81.53	81.48	81.74	82.00	81.97	82.35	82.23	81.97	82.09

531	81.89	81.63	81.64	81.43	81.59	81.50	81.48	81.71	81.97	81.84	82.32	82.25	81.97	82.07
531.5	81.96	81.73	81.69	81.49	81.58	81.44	81.44	81.66	81.94	81.84	82.28	82.22	81.68	82.04
532	81.90	81.74	81.71	81.53	81.59	81.43	81.40	81.64	81.97	81.83	82.29	82.20	81.97	82.04
532.5	81.87	81.70	81.69	81.54	81.59	81.51	81.50	81.75	82.00	81.87	82.32	82.26	81.82	82.09
533	81.93	81.71	81.67	81.53	81.62	81.56	81.53	81.79	82.03	81.95	82.39	82.34	81.97	82.17
533.5	81.96	81.75	81.67	81.54	81.64	81.54	81.48	81.81	82.02	81.93	82.42	82.35	81.81	82.17
534	82.03	81.77	81.71	81.53	81.65	81.50	81.47	81.76	82.03	81.99	82.42	82.35	81.97	82.14
534.5	82.06	81.81	81.73	81.56	81.66	81.43	81.47	81.75	82.00	81.96	82.39	82.31	81.82	82.17
535	82.16	81.89	81.71	81.56	81.65	81.40	81.47	81.75	82.07	81.99	82.41	82.32	81.97	82.17
535.5	82.06	81.92	81.80	81.63	81.66	81.41	81.44	81.68	82.11	81.99	82.39	82.32	81.97	82.16
536	82.09	81.87	81.77	81.62	81.68	81.56	81.45	81.76	82.12	82.04	82.41	82.39	82.12	82.25
536.5	82.09	81.87	81.77	81.62	81.69	81.51	81.57	81.85	82.16	82.06	82.48	82.39	82.11	82.28
537	82.07	81.85	81.79	81.64	81.71	81.63	81.64	81.89	82.15	82.10	82.50	82.47	81.98	82.27
537.5	82.09	81.89	81.83	81.70	81.81	81.64	81.64	81.91	82.11	82.08	82.54	82.47	82.13	82.32
538	82.06	81.86	81.83	81.67	81.76	81.57	81.60	81.92	82.16	82.06	82.49	82.41	81.97	82.29
538.5	82.09	81.90	81.86	81.67	81.78	81.64	81.60	81.90	82.16	82.06	82.51	82.44	81.70	82.29
539	82.03	81.89	81.84	81.66	81.80	81.63	81.54	81.85	82.11	82.06	82.49	82.42	82.11	82.29
539.5	82.04	81.84	81.83	81.67	81.80	81.74	81.64	81.81	82.10	82.09	82.51	82.41	81.97	82.25
540	82.11	81.89	81.88	81.71	81.77	81.73	81.72	81.90	82.12	82.04	82.53	82.47	81.98	82.25
540.5	82.15	81.88	81.91	81.71	81.83	81.71	81.69	81.92	82.19	82.05	82.52	82.47	82.12	82.25
541	82.07	81.84	81.86	81.67	81.85	81.67	81.63	81.86	82.16	82.02	82.51	82.42	82.11	82.22
541.5	82.05	81.88	81.87	81.74	81.71	81.59	81.59	81.77	82.21	82.01	82.50	82.42	81.98	82.18
542	82.09	81.88	81.82	81.69	81.67	81.61	81.64	81.80	82.19	81.98	82.46	82.43	82.26	82.18
542.5	82.11	81.89	81.81	81.69	81.69	81.58	81.61	81.88	82.13	81.96	82.44	82.39	81.97	82.20
543	82.12	81.92	81.87	81.72	81.74	81.54	81.71	81.94	82.08	82.00	82.43	82.37	81.98	82.21
543.5	82.11	81.86	81.82	81.69	81.74	81.56	81.59	81.87	82.13	82.05	82.47	82.34	82.10	82.19
544	82.17	81.88	81.88	81.69	81.70	81.54	81.62	81.87	82.15	82.08	82.47	82.40	82.12	82.27
544.5	82.20	82.00	81.93	81.77	81.70	81.51	81.61	81.86	82.14	82.10	82.52	82.44	82.26	82.26
545	82.13	81.97	81.93	81.76	81.78	81.63	81.61	81.91	82.18	82.10	82.55	82.48	81.97	82.29
545.5	81.99	81.83	81.86	81.74	81.78	81.62	81.70	81.91	82.23	82.12	82.56	82.46	81.96	82.31
546	82.05	81.82	81.81	81.71	81.75	81.73	81.72	81.99	82.25	82.15	82.58	82.46	82.26	82.31
546.5	82.03	81.83	81.80	81.70	81.70	81.56	81.78	82.05	82.29	82.15	82.58	82.47	82.11	82.32
547	82.02	81.82	81.78	81.67	81.77	81.66	81.74	82.09	82.28	82.18	82.60	82.50	82.12	82.36
547.5	81.97	81.80	81.80	81.67	81.82	81.73	81.70	81.94	82.21	82.19	82.61	82.52	82.26	82.26
548	82.08	81.87	81.79	81.61	81.68	81.51	81.58	81.93	82.27	82.21	82.58	82.50	82.26	82.30
548.5	82.07	81.86	81.83	81.67	81.73	81.60	81.70	82.04	82.30	82.16	82.57	82.54	82.26	82.33
549	82.04	81.81	81.83	81.64	81.76	81.67	81.73	82.04	82.30	82.17	82.58	82.50	82.26	82.33
549.5	82.05	81.82	81.82	81.71	81.74	81.56	81.70	81.96	82.15	82.11	82.57	82.47	82.10	82.38
550	82.07	81.84	81.81	81.68	81.74	81.63	81.74	81.96	82.18	82.04	82.58	82.47	81.98	82.28
550.5	82.07	81.83	81.79	81.66	81.75	81.67	81.73	81.88	82.11	81.99	82.54	82.42	82.11	82.33
551	82.13	81.96	81.86	81.70	81.78	81.73	81.70	81.88	82.11	81.95	82.49	82.34	81.97	82.19

551.5	82.19	81.91	81.85	81.74	81.80	81.70	81.66	81.89	82.12	81.97	82.44	82.39	82.10	82.15
552	82.13	81.90	81.86	81.66	81.73	81.56	81.70	81.94	82.16	82.03	82.48	82.39	81.97	82.22
552.5	82.01	81.78	81.75	81.61	81.74	81.65	81.66	81.96	82.19	82.11	82.49	82.46	82.10	82.22
553	81.98	81.81	81.76	81.58	81.67	81.40	81.52	81.81	82.19	82.07	82.49	82.41	82.25	82.24
553.5	81.98	81.77	81.75	81.54	81.66	81.54	81.59	81.96	82.22	82.10	82.56	82.47	82.26	82.33
554	81.92	81.75	81.66	81.52	81.60	81.39	81.49	81.94	82.19	82.12	82.50	82.44	81.96	82.30
554.5	81.96	81.75	81.69	81.55	81.61	81.45	81.46	81.86	82.19	82.15	82.53	82.40	82.10	82.21
555	81.99	81.76	81.71	81.57	81.65	81.47	81.51	81.79	82.16	82.06	82.49	82.41	81.97	82.17
555.5	82.01	81.80	81.67	81.54	81.69	81.60	81.58	81.81	82.14	82.06	82.46	82.39	81.97	82.12
556	82.01	81.77	81.71	81.58	81.66	81.59	81.53	81.79	82.01	82.04	82.52	82.45	81.98	82.21
556.5	81.99	81.77	81.69	81.53	81.63	81.44	81.43	81.58	82.07	82.05	82.52	82.44	81.97	82.22
557	81.96	81.76	81.66	81.50	81.62	81.50	81.41	81.61	82.10	82.02	82.51	82.44	82.26	82.19
557.5	81.95	81.72	81.68	81.51	81.60	81.48	81.47	81.74	82.15	82.08	82.47	82.33	81.96	82.06
558	81.94	81.71	81.70	81.57	81.63	81.50	81.40	81.69	82.07	82.05	82.46	82.36	81.97	82.07
558.5	81.91	81.63	81.68	81.56	81.58	81.46	81.45	81.67	81.99	81.99	82.44	82.33	82.10	82.08
559	81.87	81.61	81.58	81.47	81.53	81.41	81.48	81.68	81.98	82.01	82.42	82.32	81.95	82.11
559.5	81.81	81.59	81.58	81.39	81.48	81.29	81.36	81.73	82.09	81.97	82.35	82.28	81.96	82.12
560	81.82	81.55	81.56	81.38	81.50	81.25	81.39	81.69	82.09	81.98	82.37	82.31	81.96	82.14
560.5	81.83	81.60	81.51	81.36	81.46	81.30	81.44	81.72	82.08	81.97	82.38	82.34	81.97	82.12
561	81.90	81.60	81.51	81.40	81.43	81.30	81.37	81.69	82.05	81.97	82.39	82.35	81.82	82.13
561.5	81.92	81.72	81.65	81.44	81.48	81.40	81.46	81.70	82.06	81.98	82.40	82.30	82.10	82.11
562	81.86	81.70	81.67	81.50	81.55	81.47	81.51	81.69	82.08	81.92	82.42	82.28	81.97	82.06
562.5	81.71	81.61	81.64	81.52	81.52	81.44	81.57	81.76	82.07	81.90	82.44	82.25	81.97	82.09
563	81.77	81.57	81.61	81.42	81.46	81.31	81.45	81.69	82.04	81.90	82.41	82.23	82.11	82.06
563.5	81.78	81.55	81.57	81.50	81.53	81.35	81.35	81.72	82.11	81.92	82.40	82.21	81.69	82.04
564	81.75	81.53	81.55	81.41	81.45	81.35	81.30	81.66	82.08	81.92	82.40	82.21	81.82	82.00
564.5	81.74	81.56	81.56	81.39	81.41	81.17	81.30	81.68	82.08	81.96	82.33	82.20	81.68	81.96
565	81.76	81.55	81.51	81.31	81.39	81.18	81.28	81.58	82.05	81.90	82.24	82.19	81.95	81.98
565.5	81.76	81.57	81.53	81.42	81.41	81.23	81.30	81.61	82.08	81.83	82.20	82.19	81.82	82.06
566	81.75	81.52	81.56	81.34	81.37	81.26	81.32	81.60	81.99	81.85	82.22	82.17	81.67	82.02
566.5	81.74	81.48	81.49	81.34	81.44	81.38	81.42	81.70	82.00	81.85	82.28	82.18	81.96	82.02
567	81.75	81.51	81.51	81.35	81.48	81.36	81.36	81.70	81.99	81.92	82.27	82.16	81.83	82.04
567.5	81.77	81.50	81.50	81.33	81.43	81.44	81.41	81.71	81.94	81.92	82.29	82.16	81.82	82.01
568	81.79	81.58	81.52	81.34	81.43	81.33	81.42	81.64	81.95	81.85	82.27	82.18	81.82	82.06
568.5	81.79	81.59	81.54	81.37	81.47	81.42	81.48	81.74	81.99	81.87	82.31	82.27	81.98	82.09
569	81.80	81.57	81.51	81.40	81.49	81.38	81.45	81.74	81.98	81.89	82.33	82.26	81.97	82.14
569.5	81.70	81.53	81.53	81.39	81.55	81.47	81.35	81.62	82.00	81.93	82.36	82.35	82.11	82.14
570	81.66	81.53	81.47	81.43	81.56	81.51	81.37	81.68	82.07	81.93	82.36	82.32	81.97	82.10
570.5	81.71	81.50	81.51	81.39	81.46	81.44	81.44	81.74	82.10	81.99	82.38	82.26	81.97	82.07
571	81.81	81.57	81.53	81.37	81.43	81.33	81.35	81.72	82.08	81.95	82.35	82.22	81.82	81.98
571.5	81.86	81.56	81.47	81.34	81.48	81.27	81.22	81.59	82.03	81.87	82.33	82.20	81.82	81.93

572	81.88	81.58	81.52	81.29	81.44	81.35	81.26	81.50	81.96	81.85	82.27	82.12	81.82	81.93
572.5	81.81	81.56	81.51	81.33	81.45	81.36	81.30	81.61	81.93	81.83	82.25	82.07	81.97	81.97
573	81.77	81.54	81.51	81.36	81.48	81.38	81.22	81.59	81.84	81.77	82.28	82.12	81.68	82.00
573.5	81.83	81.60	81.54	81.34	81.43	81.33	81.30	81.55	81.87	81.74	82.22	82.18	81.97	82.01
574	81.75	81.58	81.55	81.39	81.41	81.31	81.25	81.56	81.82	81.76	82.19	82.15	81.96	81.98
574.5	81.73	81.53	81.50	81.32	81.42	81.26	81.22	81.52	81.78	81.80	82.22	82.10	81.97	82.00
575	81.66	81.46	81.46	81.27	81.43	81.38	81.31	81.59	81.85	81.79	82.22	82.12	81.82	81.93
575.5	81.66	81.43	81.35	81.24	81.40	81.36	81.23	81.63	81.89	81.78	82.21	82.11	81.82	81.98
576	81.72	81.52	81.41	81.27	81.41	81.32	81.28	81.59	81.92	81.82	82.20	82.13	81.83	81.99
576.5	81.66	81.48	81.47	81.29	81.33	81.20	81.25	81.52	81.95	81.83	82.20	82.13	81.68	81.90
577	81.66	81.46	81.42	81.22	81.33	81.11	81.21	81.54	81.91	81.74	82.19	82.06	81.68	81.88
577.5	81.63	81.44	81.40	81.22	81.28	81.10	81.30	81.57	81.91	81.73	82.13	82.03	81.68	81.85
578	81.64	81.43	81.40	81.23	81.31	81.20	81.25	81.61	81.91	81.72	82.13	82.07	81.82	81.91
578.5	81.59	81.38	81.34	81.23	81.33	81.23	81.21	81.59	81.93	81.77	82.16	82.05	81.68	81.90
579	81.59	81.36	81.26	81.17	81.24	81.22	81.20	81.60	81.87	81.71	82.08	82.01	81.67	81.84
579.5	81.56	81.34	81.30	81.23	81.38	81.20	81.30	81.59	81.85	81.66	82.07	81.97	81.54	81.82
580	81.52	81.33	81.31	81.17	81.30	81.01	81.14	81.51	81.79	81.59	82.11	82.01	81.53	81.82
580.5	81.56	81.30	81.33	81.15	81.21	81.06	81.05	81.41	81.72	81.56	82.06	82.02	81.82	81.81
581	81.61	81.39	81.37	81.21	81.26	81.04	81.08	81.37	81.65	81.48	82.09	81.94	81.54	81.82
581.5	81.64	81.39	81.35	81.20	81.29	81.11	81.18	81.42	81.62	81.54	82.02	81.97	81.54	81.80
582	81.59	81.34	81.33	81.17	81.28	81.10	81.15	81.34	81.71	81.60	82.04	81.89	81.68	81.77
582.5	81.51	81.28	81.26	81.15	81.23	81.13	81.22	81.39	81.80	81.63	82.00	81.94	81.68	81.80
583	81.47	81.29	81.27	81.15	81.26	81.22	81.28	81.52	81.82	81.64	82.06	82.01	81.69	81.79
583.5	81.50	81.27	81.29	81.17	81.25	81.16	81.22	81.57	81.87	81.69	82.04	81.96	81.39	81.78
584	81.54	81.30	81.26	81.15	81.22	81.10	81.14	81.45	81.74	81.63	82.11	81.99	81.68	81.75
584.5	81.59	81.34	81.27	81.05	81.12	80.97	81.05	81.32	81.67	81.46	82.13	81.99	81.54	81.68
585	81.54	81.34	81.27	81.07	81.15	81.06	81.15	81.34	81.69	81.59	82.07	81.91	81.39	81.65
585.5	81.57	81.35	81.33	81.10	81.18	81.01	81.07	81.29	81.68	81.63	81.97	81.84	81.54	81.66
586	81.54	81.33	81.34	81.13	81.21	81.04	81.09	81.32	81.63	81.57	81.99	81.82	81.40	81.66
586.5	81.49	81.28	81.29	81.07	81.14	80.94	81.10	81.44	81.67	81.50	81.91	81.83	81.68	81.65
587	81.45	81.26	81.28	81.11	81.13	81.02	81.06	81.37	81.65	81.58	81.92	81.84	81.40	81.66
587.5	81.42	81.23	81.21	81.08	81.06	81.03	80.91	81.23	81.61	81.54	81.93	81.83	81.38	81.63
588	81.39	81.21	81.19	81.06	81.08	80.96	80.95	81.24	81.48	81.52	81.87	81.78	81.39	81.61
588.5	81.34	81.17	81.13	81.02	81.09	80.94	80.95	81.17	81.42	81.34	81.66	81.70	81.39	81.56
589	81.30	81.14	81.12	80.96	81.08	80.99	81.01	81.18	81.38	81.27	81.72	81.64	81.39	81.53
589.5	81.34	81.10	81.07	80.98	81.11	80.97	80.95	81.17	81.39	81.37	81.77	81.66	81.40	81.48
590	81.38	81.18	81.12	81.00	81.03	80.88	80.92	81.17	81.39	81.41	81.77	81.66	81.26	81.50
590.5	81.39	81.16	81.15	80.97	80.97	80.82	80.86	81.16	81.46	81.44	81.79	81.71	81.26	81.53
591	81.40	81.14	81.16	80.96	81.02	80.92	80.91	81.22	81.54	81.44	81.82	81.73	81.39	81.55
591.5	81.29	81.10	81.11	81.00	81.06	80.92	81.00	81.23	81.54	81.45	81.88	81.71	81.40	81.53
592	81.29	81.02	81.09	80.97	80.97	80.82	80.91	81.20	81.53	81.44	81.89	81.72	81.53	81.50

592.5	81.27	81.07	81.06	80.93	80.99	80.82	80.88	81.14	81.49	81.42	81.84	81.74	81.54	81.53
593	81.23	81.04	81.03	80.92	81.02	80.80	80.88	81.18	81.52	81.40	81.79	81.73	81.54	81.48
593.5	81.23	81.04	81.04	80.89	81.01	80.80	80.78	81.08	81.41	81.40	81.85	81.73	81.39	81.50
594	81.29	81.07	81.07	80.93	80.96	80.77	80.89	81.11	81.41	81.42	81.82	81.65	81.25	81.49
594.5	81.25	81.05	81.02	80.94	80.97	80.77	80.85	81.17	81.43	81.44	81.82	81.69	81.26	81.45
595	81.26	81.02	81.04	80.96	80.91	80.80	80.89	81.17	81.32	81.36	81.81	81.70	81.39	81.42
595.5	81.18	81.02	80.97	80.93	80.94	80.99	80.97	81.17	81.39	81.37	81.85	81.72	81.40	81.44
596	81.14	80.92	80.99	80.88	80.96	80.96	80.91	81.21	81.48	81.39	81.79	81.70	81.25	81.48
596.5	81.17	80.91	80.99	80.88	80.94	80.82	80.92	81.19	81.42	81.39	81.81	81.71	81.39	81.46
597	81.27	81.04	81.03	80.90	80.98	80.80	80.78	81.04	81.38	81.39	81.74	81.64	81.39	81.43
597.5	81.24	81.06	81.05	80.91	80.93	80.76	80.79	81.00	81.40	81.35	81.70	81.59	81.38	81.38
598	81.23	81.02	81.06	80.90	80.95	80.80	80.81	81.01	81.41	81.31	81.66	81.52	81.39	81.37
598.5	81.22	80.98	81.02	80.88	80.99	80.66	80.74	81.04	81.38	81.34	81.66	81.52	81.25	81.43
599	81.14	80.98	80.89	80.79	80.95	80.94	80.87	81.08	81.41	81.40	81.66	81.57	80.96	81.40
599.5	81.18	81.00	80.89	80.75	80.89	80.88	80.83	81.20	81.46	81.38	81.71	81.60	81.24	81.39
600	81.18	80.94	80.92	80.77	80.89	80.78	80.79	81.11	81.44	81.41	81.73	81.66	81.24	81.42
600.5	81.17	80.95	80.92	80.82	80.94	80.76	80.74	80.99	81.38	81.39	81.72	81.58	81.25	81.46
601	81.14	80.90	80.89	80.81	80.96	80.79	80.73	81.06	81.31	81.29	81.71	81.60	81.10	81.39
601.5	81.12	80.90	80.97	80.87	81.02	80.80	80.72	81.00	81.39	81.28	81.67	81.55	81.26	81.35
602	81.09	80.92	80.99	80.82	80.94	80.64	80.66	80.94	81.33	81.27	81.66	81.51	81.25	81.32
602.5	81.09	80.92	80.89	80.74	80.84	80.57	80.61	80.87	81.25	81.24	81.64	81.50	81.24	81.38
603	81.13	80.90	80.92	80.73	80.84	80.70	80.68	80.91	81.31	81.24	81.60	81.49	81.25	81.34
603.5	81.14	80.86	80.91	80.72	80.80	80.55	80.58	80.94	81.34	81.19	81.67	81.51	80.95	81.22
604	81.11	80.84	80.84	80.65	80.80	80.67	80.57	80.84	81.27	81.15	81.61	81.50	81.24	81.26
604.5	81.18	80.92	80.87	80.68	80.80	80.68	80.60	80.80	81.26	81.15	81.64	81.46	81.11	81.31
605	81.17	80.91	80.86	80.65	80.69	80.56	80.56	80.84	81.23	81.14	81.59	81.43	81.09	81.28
605.5	81.14	80.88	80.76	80.62	80.71	80.50	80.58	80.82	81.23	81.19	81.66	81.44	81.10	81.26
606	81.13	80.84	80.76	80.56	80.69	80.57	80.72	80.89	81.25	81.19	81.60	81.44	81.25	81.29
606.5	81.01	80.79	80.75	80.53	80.76	80.67	80.70	80.90	81.27	81.24	81.66	81.50	81.26	81.31
607	81.02	80.77	80.76	80.59	80.75	80.67	80.71	80.88	81.16	81.17	81.62	81.52	81.39	81.32
607.5	81.00	80.78	80.77	80.59	80.75	80.66	80.64	80.88	81.13	81.19	81.63	81.46	81.25	81.34
608	80.99	80.77	80.77	80.65	80.79	80.64	80.61	80.84	81.15	81.16	81.60	81.55	81.10	81.32
608.5	81.00	80.74	80.79	80.63	80.75	80.60	80.59	80.89	81.16	81.14	81.56	81.57	81.39	81.33
609	81.03	80.81	80.80	80.62	80.71	80.52	80.59	80.92	81.22	81.16	81.59	81.52	81.10	81.39
609.5	81.09	80.87	80.84	80.68	80.77	80.69	80.77	81.01	81.28	81.16	81.60	81.51	81.25	81.43
610	81.14	80.87	80.86	80.72	80.81	80.68	80.79	80.99	81.27	81.19	81.60	81.53	81.10	81.38
610.5	81.13	80.90	80.90	80.75	80.84	80.66	80.69	80.97	81.28	81.23	81.59	81.48	81.25	81.30
611	81.15	80.90	80.89	80.75	80.89	80.75	80.69	80.89	81.17	81.15	81.48	81.44	80.81	81.21
611.5	81.12	80.92	80.90	80.76	80.85	80.76	80.72	80.88	81.15	81.06	81.43	81.35	80.96	81.18
612	81.16	80.95	80.89	80.75	80.82	80.66	80.65	80.89	81.09	81.04	81.47	81.36	81.10	81.17
612.5	81.13	80.92	80.89	80.69	80.82	80.72	80.66	80.89	81.06	81.07	81.47	81.41	81.10	81.20

613	81.01	80.85	80.86	80.69	80.78	80.57	80.66	80.94	81.12	81.13	81.49	81.43	81.23	81.28
613.5	80.95	80.76	80.85	80.68	80.83	80.65	80.64	80.97	81.17	81.18	81.53	81.41	81.26	81.29
614	80.97	80.77	80.79	80.66	80.78	80.57	80.64	80.91	81.19	81.14	81.58	81.48	81.25	81.21
614.5	80.98	80.76	80.81	80.65	80.76	80.68	80.63	80.87	81.17	81.15	81.52	81.41	81.24	81.25
615	81.04	80.85	80.81	80.67	80.79	80.71	80.70	80.82	81.14	81.19	81.54	81.37	81.26	81.25
615.5	80.99	80.76	80.78	80.64	80.79	80.59	80.60	80.84	81.11	81.13	81.60	81.40	81.10	81.23
616	80.98	80.82	80.80	80.67	80.81	80.56	80.45	80.74	81.04	81.10	81.56	81.46	81.09	81.27
616.5	81.03	80.82	80.83	80.70	80.77	80.52	80.44	80.71	81.10	81.13	81.58	81.46	81.10	81.21
617	81.01	80.80	80.82	80.64	80.70	80.62	80.51	80.69	81.11	81.13	81.60	81.49	81.10	81.22
617.5	81.09	80.82	80.83	80.65	80.68	80.50	80.64	80.85	81.12	81.13	81.49	81.41	81.10	81.29
618	81.10	80.90	80.87	80.67	80.67	80.61	80.66	80.93	81.10	81.09	81.48	81.39	81.11	81.31
618.5	81.06	80.83	80.86	80.67	80.73	80.65	80.69	80.93	80.97	81.12	81.48	81.35	81.10	81.29
619	81.03	80.80	80.86	80.72	80.81	80.67	80.62	80.94	80.96	81.09	81.52	81.39	81.10	81.29
619.5	81.12	80.90	80.85	80.74	80.90	80.75	80.73	81.03	81.11	81.17	81.54	81.37	80.97	81.29
620	81.12	80.92	80.89	80.72	80.92	80.79	80.75	81.08	81.08	80.89	81.39	81.44	81.25	81.33
620.5	81.08	80.90	80.89	80.75	80.81	80.74	80.67	80.97	81.08	80.96	81.38	81.41	81.10	81.29
621	81.05	80.86	80.86	80.68	80.80	80.72	80.76	81.00	81.15	81.06	81.45	81.37	80.95	81.31
621.5	81.01	80.86	80.87	80.71	80.83	80.71	80.64	80.89	81.20	81.08	81.50	81.39	81.11	81.29
622	81.01	80.83	80.82	80.70	80.84	80.67	80.64	80.89	81.18	81.12	81.55	81.43	81.11	81.27
622.5	81.06	80.80	80.79	80.68	80.79	80.69	80.68	80.94	81.18	81.16	81.56	81.46	81.10	81.26
623	81.05	80.83	80.82	80.64	80.75	80.62	80.67	80.85	81.18	81.08	81.57	81.49	81.11	81.31
623.5	81.04	80.81	80.83	80.66	80.72	80.64	80.68	80.92	81.16	81.06	81.49	81.44	81.10	81.30
624	81.04	80.82	80.81	80.57	80.65	80.57	80.64	80.90	81.13	81.07	81.53	81.44	81.11	81.28
624.5	81.05	80.83	80.81	80.61	80.69	80.60	80.60	80.80	81.10	81.09	81.53	81.41	81.26	81.29
625	80.96	80.72	80.77	80.62	80.71	80.49	80.54	80.78	81.12	81.14	81.52	81.44	81.10	81.23
625.5	80.97	80.73	80.78	80.66	80.73	80.48	80.53	80.85	81.16	81.15	81.54	81.44	80.97	81.21
626	81.03	80.77	80.77	80.62	80.65	80.55	80.54	80.92	81.15	81.10	81.44	81.44	81.10	81.21
626.5	81.07	80.81	80.82	80.61	80.70	80.63	80.61	80.97	81.15	81.15	81.48	81.45	81.12	81.29
627	81.08	80.77	80.81	80.60	80.69	80.64	80.64	80.99	81.11	81.12	81.53	81.47	81.11	81.28
627.5	81.14	80.81	80.82	80.62	80.68	80.64	80.66	81.02	81.13	81.10	81.50	81.46	81.10	81.34
628	81.19	80.91	80.87	80.63	80.72	80.57	80.54	80.91	81.22	81.16	81.53	81.44	81.10	81.26
628.5	81.14	80.90	80.82	80.63	80.71	80.50	80.45	80.79	81.16	81.20	81.53	81.44	81.10	81.24
629	81.02	80.79	80.79	80.64	80.66	80.44	80.47	80.80	81.05	81.16	81.49	81.49	81.10	81.26
629.5	80.97	80.80	80.79	80.66	80.75	80.59	80.55	80.87	81.09	81.14	81.52	81.48	81.10	81.33
630	80.98	80.77	80.74	80.70	80.79	80.58	80.57	80.87	81.14	81.13	81.54	81.50	80.95	81.29
630.5	80.98	80.77	80.78	80.64	80.80	80.68	80.63	80.92	81.20	81.15	81.60	81.59	81.26	81.37
631	81.09	80.78	80.77	80.62	80.79	80.64	80.62	80.92	81.23	81.20	81.59	81.54	81.25	81.33
631.5	81.06	80.81	80.79	80.65	80.78	80.50	80.45	80.77	81.26	81.24	81.62	81.49	81.25	81.32
632	81.02	80.76	80.79	80.62	80.74	80.62	80.54	80.76	81.21	81.21	81.61	81.46	81.10	81.25
632.5	81.04	80.82	80.81	80.62	80.71	80.58	80.61	80.83	81.14	81.19	81.49	81.49	80.95	81.28
633	81.03	80.80	80.79	80.63	80.77	80.62	80.56	80.79	81.15	81.19	81.53	81.52	81.10	81.32

633.5	81.04	80.79	80.75	80.66	80.77	80.68	80.63	80.82	81.14	81.18	81.57	81.50	81.26	81.29
634	80.99	80.72	80.73	80.60	80.79	80.64	80.71	80.88	81.12	81.13	81.50	81.46	81.10	81.24
634.5	80.98	80.73	80.75	80.63	80.76	80.54	80.64	80.86	81.11	81.12	81.53	81.46	81.11	81.22
635	81.00	80.75	80.73	80.59	80.74	80.63	80.62	80.82	81.10	81.06	81.50	81.35	80.96	81.17
635.5	81.09	80.82	80.76	80.59	80.69	80.63	80.56	80.94	81.13	81.03	81.52	81.29	80.96	81.14
636	81.13	80.87	80.83	80.62	80.71	80.74	80.66	80.95	81.15	81.01	81.47	81.33	81.10	81.24
636.5	81.04	80.84	80.82	80.68	80.75	80.69	80.68	80.98	81.18	81.06	81.43	81.32	81.10	81.20
637	81.06	80.77	80.80	80.70	80.81	80.74	80.72	80.89	81.13	81.10	81.49	81.41	80.96	81.30
637.5	81.07	80.81	80.79	80.72	80.75	80.55	80.56	80.78	81.12	81.06	81.46	81.45	80.96	81.33
638	81.06	80.82	80.78	80.62	80.70	80.58	80.66	80.87	81.18	81.08	81.48	81.44	81.10	81.35
638.5	81.09	80.84	80.81	80.65	80.77	80.76	80.76	80.99	81.18	81.13	81.54	81.49	81.24	81.36
639	81.11	80.86	80.84	80.70	80.77	80.74	80.76	81.00	81.21	81.08	81.55	81.49	81.10	81.29
639.5	81.12	80.86	80.85	80.71	80.76	80.61	80.60	80.81	81.11	81.05	81.57	81.51	81.10	81.38
640	81.13	80.88	80.80	80.69	80.81	80.56	80.55	80.82	81.15	81.10	81.53	81.52	81.10	81.36
640.5	81.14	80.90	80.83	80.68	80.79	80.70	80.71	80.98	81.18	81.10	81.55	81.57	81.10	81.33
641	81.14	80.93	80.88	80.72	80.86	80.72	80.77	80.97	81.24	81.18	81.57	81.51	80.95	81.36
641.5	81.13	80.88	80.87	80.73	80.84	80.67	80.69	81.02	81.25	81.27	81.63	81.60	81.10	81.34
642	81.17	80.93	80.92	80.74	80.82	80.70	80.60	80.93	81.20	81.27	81.63	81.56	81.26	81.37
642.5	81.22	80.96	80.92	80.78	80.91	80.79	80.76	81.04	81.24	81.24	81.58	81.51	81.10	81.32
643	81.27	81.05	81.00	80.88	80.94	80.78	80.74	81.05	81.30	81.22	81.60	81.52	81.11	81.37
643.5	81.24	81.04	81.00	80.90	80.95	80.79	80.84	81.04	81.33	81.30	81.60	81.54	81.25	81.40
644	81.22	81.06	80.98	80.87	80.94	80.78	80.80	81.07	81.33	81.26	81.65	81.59	81.24	81.41
644.5	81.24	81.04	80.99	80.88	80.98	80.87	80.87	81.11	81.33	81.31	81.68	81.62	81.25	81.48
645	81.29	81.09	81.04	80.91	81.03	80.88	80.86	81.15	81.33	81.37	81.70	81.66	81.26	81.50
645.5	81.29	81.07	81.04	80.92	80.98	80.89	80.87	81.13	81.25	81.24	81.63	81.66	81.24	81.48
646	81.33	81.08	81.09	80.95	81.05	80.92	80.91	81.15	81.31	81.27	81.63	81.64	81.39	81.49
646.5	81.36	81.11	81.12	80.95	81.02	80.86	80.81	81.05	81.33	81.34	81.69	81.64	81.54	81.49
647	81.33	81.11	81.10	80.89	81.01	80.87	80.85	81.04	81.35	81.33	81.71	81.65	81.25	81.46
647.5	81.34	81.09	81.08	80.93	81.03	80.88	80.93	81.19	81.41	81.34	81.74	81.65	81.40	81.51
648	81.34	81.08	81.07	80.89	81.01	80.84	80.87	81.19	81.44	81.33	81.72	81.68	81.54	81.48
648.5	81.36	81.13	81.07	80.90	81.02	80.99	80.91	81.15	81.45	81.37	81.75	81.67	81.25	81.49
649	81.35	81.10	81.08	80.91	80.99	80.91	80.95	81.12	81.41	81.34	81.76	81.65	81.40	81.48
649.5	81.37	81.14	81.09	80.92	81.06	80.93	80.92	81.19	81.41	81.36	81.75	81.71	81.39	81.43
650	81.37	81.11	81.10	80.92	81.05	80.93	80.88	81.14	81.39	81.36	81.75	81.71	81.39	81.48
650.5	81.36	81.14	81.06	80.86	81.04	81.00	80.91	81.21	81.44	81.34	81.75	81.71	81.39	81.49
651	81.32	81.08	81.09	80.92	81.01	80.94	80.87	81.19	81.46	81.33	81.75	81.67	81.39	81.52
651.5	81.32	81.13	81.11	81.00	81.10	81.05	80.93	81.16	81.46	81.39	81.80	81.71	81.40	81.53
652	81.33	81.14	81.13	81.00	81.04	80.89	80.89	81.17	81.46	81.42	81.78	81.65	81.54	81.50
652.5	81.34	81.13	81.13	80.99	80.99	80.80	80.84	81.15	81.48	81.34	81.75	81.70	81.54	81.52
653	81.39	81.15	81.13	80.97	81.02	80.87	80.88	81.19	81.44	81.37	81.75	81.71	81.39	81.52
653.5	81.44	81.14	81.13	80.97	80.96	80.79	80.78	81.18	81.45	81.30	81.79	81.74	81.25	81.43

654	81.45	81.16	81.11	80.91	80.93	80.78	80.81	81.07	81.41	81.25	81.70	81.70	81.24	81.42
654.5	81.41	81.17	81.12	80.95	80.98	80.84	80.88	81.14	81.44	81.29	81.71	81.67	81.25	81.46
655	81.35	81.16	81.11	80.97	81.00	80.94	80.89	81.13	81.44	81.34	81.71	81.62	81.24	81.47
655.5	81.39	81.15	81.11	80.97	80.98	80.89	80.87	81.14	81.46	81.39	81.71	81.64	81.24	81.52
656	81.41	81.19	81.15	80.95	81.04	80.91	80.91	81.13	81.47	81.38	81.71	81.64	81.38	81.52
656.5	81.40	81.17	81.16	81.02	81.06	80.96	80.95	81.18	81.48	81.34	81.72	81.67	81.25	81.50
657	81.47	81.24	81.16	81.03	81.12	80.94	80.95	81.15	81.44	81.29	81.74	81.67	81.25	81.50
657.5	81.47	81.22	81.18	81.04	81.09	80.94	80.90	81.13	81.39	81.29	81.73	81.71	81.40	81.53
658	81.46	81.15	81.13	80.99	81.01	80.92	80.94	81.11	81.38	81.34	81.74	81.71	81.39	81.59
658.5	81.44	81.15	81.09	80.99	81.04	80.99	80.97	81.17	81.47	81.34	81.76	81.72	81.38	81.54
659	81.34	81.15	81.15	81.01	81.04	81.01	80.97	81.17	81.47	81.35	81.77	81.72	81.38	81.51
659.5	81.35	81.13	81.18	81.03	81.07	81.04	81.05	81.29	81.54	81.38	81.80	81.73	81.26	81.56
660	81.42	81.19	81.17	81.00	81.09	80.92	80.95	81.33	81.56	81.42	81.85	81.76	81.54	81.63
660.5	81.44	81.24	81.18	81.02	81.05	80.90	80.88	81.13	81.53	81.46	81.86	81.77	81.52	81.59
661	81.45	81.22	81.24	81.08	81.07	80.94	80.93	81.16	81.46	81.50	81.92	81.82	81.40	81.60
661.5	81.39	81.17	81.17	81.09	81.12	80.99	80.97	81.15	81.46	81.50	81.85	81.77	81.54	81.61
662	81.34	81.12	81.14	81.02	81.14	80.89	80.91	81.20	81.51	81.51	81.87	81.79	81.53	81.61
662.5	81.37	81.19	81.14	81.00	81.08	80.88	80.83	81.26	81.53	81.46	81.86	81.75	81.37	81.57
663	81.41	81.22	81.14	80.97	81.04	80.94	80.86	81.17	81.56	81.51	81.87	81.76	81.53	81.55
663.5	81.49	81.27	81.20	81.00	80.99	80.93	80.89	81.25	81.58	81.53	81.90	81.81	81.54	81.59
664	81.47	81.25	81.23	81.02	81.09	80.94	80.94	81.27	81.62	81.52	81.85	81.75	81.39	81.58
664.5	81.47	81.27	81.22	81.02	81.05	80.96	80.92	81.25	81.56	81.49	81.85	81.75	81.68	81.65
665	81.44	81.19	81.16	80.99	81.10	80.91	80.86	81.11	81.46	81.51	81.86	81.79	81.53	81.58
665.5	81.39	81.15	81.11	81.00	81.06	80.99	80.89	81.16	81.47	81.54	81.86	81.82	81.40	81.63
666	81.36	81.15	81.12	80.99	81.07	80.89	80.91	81.26	81.53	81.51	81.84	81.80	81.38	81.67
666.5	81.36	81.15	81.06	80.90	81.03	80.94	80.90	81.19	81.51	81.48	81.84	81.79	81.53	81.66
667	81.40	81.14	81.14	80.96	81.08	80.93	80.88	81.09	81.42	81.36	81.81	81.77	81.39	81.68
667.5	81.46	81.23	81.19	81.00	81.09	80.94	80.87	81.12	81.41	81.37	81.75	81.75	81.54	81.61
668	81.47	81.23	81.20	81.03	81.12	80.92	80.87	81.14	81.38	81.39	81.79	81.77	81.39	81.59
668.5	81.39	81.17	81.14	81.00	81.06	80.94	80.95	81.15	81.39	81.40	81.79	81.78	81.39	81.61
669	81.40	81.17	81.14	81.05	81.14	81.04	80.97	81.15	81.38	81.42	81.82	81.75	81.39	81.59
669.5	81.39	81.17	81.16	81.05	81.14	80.94	80.91	81.06	81.23	81.38	81.81	81.79	81.53	81.52
670	81.38	81.19	81.19	81.07	81.10	80.98	80.93	81.11	81.37	81.42	81.83	81.75	81.38	81.58
670.5	81.40	81.20	81.19	81.05	81.08	81.01	81.00	81.12	81.46	81.49	81.85	81.78	81.39	81.58
671	81.39	81.18	81.14	81.00	81.12	81.06	81.04	81.19	81.44	81.49	81.85	81.81	81.25	81.61
671.5	81.39	81.17	81.16	80.99	81.09	80.99	81.04	81.27	81.47	81.45	81.88	81.87	81.26	81.62
672	81.42	81.15	81.15	81.00	81.06	80.87	80.90	81.20	81.49	81.41	81.83	81.82	81.69	81.63

Appendix C

Additional Geochemical Results

Table XIII provides the major ion chemistry and SiO_2 concentrations for Bat Pool Source and Outflow for 2010 and 2011, which were plotted in Figure 19.

TABLE XIII
BAT POOL MAJOR ION CHEMISTRY AND SILICA CONCENTRATIONS: PLOTTED IN FIGURE 19

Sample Location	SiO_2 [M]	Cl^- [M]	SO_4^{-2} [M]	Na^+ [M]	K^+ [M]	Ca^{+2} [M]	Li^+ [M]	Br^- [M]
Bat Pool Source [2010]	9.03E-03	1.19E-05	1.36E-06	2.16E-05	5.89E-07		4.96E-07	1.38E-08
Bat Pool Outflow [2010]	1.07E-02	1.23E-05	1.42E-06	2.25E-05	6.24E-07	2.12E-08	5.11E-07	1.45E-08
Bat Pool Source [2011]	5.40E-03	1.08E-05	1.31E-06	2.24E-05	6.42E-07	6.75E-08	5.05E-07	1.21E-08
Bat Pool Outflow [2011]		1.10E-05	1.30E-06	2.22E-05	6.31E-07	5.98E-08	5.02E-07	1.50E-08

Appendix C (continued)

Table XIV provides the sulfate and chloride concentrations for the Bat Pool Source and Bat Pool Outflow points that are highlighted by red symbols in Figure 21.

TABLE XIV
BAT POOL CHLORIDE AND SULFATE CONCENTRATIONS: PLOTTED IN FIGURE 21

	Cl^- [ppm]	**SO_4^{-2} [ppm]**
Bat Pool Source [2010]	420.70	131.10
Bat Pool Outflow [2010]	437.50	136.70
Bat Pool Source [2011]	384.2	125.6
Bat Pool Outflow 1 [2011]	391	125.36

Appendix C (continued)

Table XV contains the geochemical data for the multi-basin dataset, which consists of pH, temperature, and conductivity measurements, along with spectrophotometry data for dissolved oxygen, nitrate, ammonium, ferrous iron, sulfide, and silica. This table also provides latitude and longitude coordinates for each of the sampling locations.

TABLE XV
MULTI-BASIN GEOCHEMICAL DATA

	pH	pH Temp	Conductivity	Cond. Temp	Latitude	Longitude	D.O.	NO_3^-	NH_4^+	Fe^{+2}	S^{-2}	SiO_2
Sample Location		**°C**	**uS**	**°C**	**x**	**y**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**ug/L**	**mg/L**
Flat Cone Spring OF 1	8.324	70.5	2836	74.5	0510833	4935023	2.70	1.3	bdl	0.01	87	331.6
MLS OF1	7.915	78.2	4150	81.0	0511912	4932621	0.60	2.6	nd	nd	31	327.5
Spindle Geyser	8.120	92.3	3650	92.5	0516179	4931010						
Octopus Spring OF1	7.900	84.3	3519	85.4	0516054	4931221	0.40	1.90	0.04	-0.02	14.0	318.8
Bison Pool OF1	7.640	error	3204	80.4	0510713	4935158	0.30	24.00	UR	0.02	70.0	261.5
SB Source	7.860	76.7	3013	76.7	0515159	4918065	0.84	1.80	0.13	0.02	bdl	228.4
Bat Pool OF1	8.268	78.6	4949	78.4	0521525	4948240						

Appendix C (continued)

Table XVI provides thermocouple data for the multi-basin sampling locations which provides temperature data over an extended period of time, ranging from ~4-214 hours depending on the location.

TABLE XVI
MULTI-BASIN THERMOCOUPLE TEMPERATURE DATA

Location	Temp Avg.	Temp Max	Temp Min	Temp Range	Periodicity	Periodicity S.D.	# Measurements	Duration
					(avg, min)	(min)		(hours)
Flat Cone Spring OF 1	63.8	89.5	17.0	72.5	135.3	48.2	4502	37.5
MLS OF1	69.1	90.0	12.5	77.5	89.2	7.8	5791	48.3
Spindle Geyser	82.3	90.5	60.5	30.0	3.5	0.3	577	4.8
Octopus Spring OF1	84.3	87.5	80.5	7.0	5.3	0.4	680	5.7
Bison Pool OF1	79.6	84.5	66.0	18.5	3.7	1.1	25644	213.7
SB Source								
Bat Pool OF1								

Appendix D

TABLE XVII
QIIME RESULTS: NUMBER OF SEQUENCES (ARCHAEA & BACTERIA) PER SAMPLE

Bat Pool Illumina QIIME Results		
Sample ID	**# of Archaeal Seqs**	**# of Bacterial Seqs**
KMWS9-SBC1	809	38022
K7-SBC	3661	40299
KMWS9-SBC2	622	35728
K8-SBC1	723	42557
KMWS5-IL	288	31414
KMW32A	3637	31897
K8	1970	19773
K8-SBC2	863	45949
KMW32B	4428	34761
K9-SBC	40	32636
KMW37	2310	22503
K10A	2610	34228
K10-SBC	763	38496
KMW42	5409	21657
K10B	2657	32633
K12-SBC	935	33713
KMWS7	3572	31924
K11	4595	26570
KMWS8	993	40971
K12	3752	32640
KMW4-IL	1903	28340
KMW32Arch-1:10	40665	479
KMW32Arch-1:100	20240	739
KMWS9Arch-1:10	33053	420
KMWS9Arch-1:100	30869	905
Bat Pool 454 Pyrotag Sequencing QIIME Results		
Sample ID	**# of Archaeal Seqs**	**# of Bacterial Seqs**
KMW1	3266	2398
KMW2	4193	44050
KMW3	1082	7629
KMW4	3398	67050
KMW13	5824	22215
KMW14	1165	5382

KMW18	3619	17687
KMW19	3246	20196
KMW26	2838	32423
KMW30	1631	7161
KMWS2		3826
KMWS4	1013	2398
KMWS5	1260	4554
Multi-Basin Pyrotag Sequencing QIIME Results		
Sample ID	**# of Archaeal Seqs**	**# of Bacterial Seqs**
DA2 - Bat Pool		12532
JH2 - Flat Cone	2811	4834
JH6 - ‘Mitch’s Last Stand’ (MLS)	2951	6108
JH17 - Spindle Geyser	5490	7653
JH18 - Octopus Spring	2948	5392
JH25 - ‘Bison Pool’	3363	13552
JH56 - SB		7036
Bat Pool & Multi-Basin Pyrotag Sequencing QIIME Results		
Sample ID	**# of Archaeal Seqs**	**# of Bacterial Seqs**
KMW1	3265	2398
KMW2	4193	44053
KMW3	1082	7630
KMW4	3398	67049
KMW13	5824	22211
KMW14	1165	5382
KMW18	3619	17685
KMW19	3246	20196
KMW26	2838	32422
KMW30	1631	7162
KMWS2		3825
KMWS4	1013	2398
KMWS5	1260	4554
DA2 - Bat Pool		12532
JH2 - Flat Cone	2813	4834
JH6 - ‘Mitch’s Last Stand’ (MLS)	2950	6108
JH17 - Spindle Geyser	5488	7652
JH18 - Octopus Spring	2948	5391
JH25 - ‘Bison Pool’	3363	13552
JH56 - SB		7036

APPENDIX E

TABLE XVIII
BAT POOL PYROTAG SEQUENCING - ARCHAEA - BRAY CURTIS DISSIMILARITY DISTANCE MATRIX

	KMW19	KMW26	KMW1	KMW2	KMW13	KMW18	KMW4	KMW30	KMW14	KMWS4	KMW3	KMWS5
KMW19	0.0000	0.3070	0.6127	0.4349	0.4662	0.4019	0.4088	0.6613	0.7003	0.6708	0.6941	0.6551
KMW26	0.3070	0.0000	0.6402	0.4442	0.4962	0.4028	0.3900	0.6661	0.6942	0.6406	0.6806	0.6198
KMW1	0.6127	0.6402	0.0000	0.6994	0.7307	0.6895	0.6687	0.4078	0.5541	0.6251	0.5428	0.5802
KMW2	0.4349	0.4442	0.6994	0.0000	0.3797	0.2325	0.2420	0.7284	0.7510	0.7230	0.7445	0.7114
KMW13	0.4662	0.4962	0.7307	0.3797	0.0000	0.4286	0.4622	0.7693	0.7805	0.7669	0.7860	0.7405
KMW18	0.4019	0.4028	0.6895	0.2325	0.4286	0.0000	0.2136	0.7154	0.7333	0.6913	0.7116	0.6712
KMW4	0.4088	0.3900	0.6687	0.2420	0.4622	0.2136	0.0000	0.6942	0.7142	0.6590	0.7000	0.6496
KMW30	0.6613	0.6661	0.4078	0.7284	0.7693	0.7154	0.6942	0.0000	0.3126	0.5015	0.2879	0.4867
KMW14	0.7003	0.6942	0.5541	0.7510	0.7805	0.7333	0.7142	0.3126	0.0000	0.4417	0.2755	0.4433
KMWS4	0.6708	0.6406	0.6251	0.7230	0.7669	0.6913	0.6590	0.5015	0.4417	0.0000	0.4138	0.2257
KMW3	0.6941	0.6806	0.5428	0.7445	0.7860	0.7116	0.7000	0.2879	0.2755	0.4138	0.0000	0.4227
KMWS5	0.6551	0.6198	0.5802	0.7114	0.7405	0.6712	0.6496	0.4867	0.4433	0.2257	0.4227	0.0000

TABLE XIX
BAT POOL PYROTAG SEQUENCING - BACTERIA - BRAY CURTIS DISSIMILARITY DISTANCE MATRIX

	KMW4	KMW18	KMW2	KMW3	KMW19	KMW30	KMW26	KMW13	KMW14	KMWS5	KMWS2	KMW1	KMWS4
KMW4	0.0000	0.5930	0.4163	0.8038	0.5618	0.8127	0.7132	0.5137	0.8575	0.8856	0.9465	0.9650	0.9357
KMW18	0.5930	0.0000	0.7034	0.4351	0.2939	0.4478	0.6365	0.3551	0.5612	0.6444	0.8411	0.8815	0.7841
KMW2	0.4163	0.7034	0.0000	0.7237	0.5439	0.7269	0.6307	0.4652	0.7905	0.8293	0.9280	0.9471	0.9032
KMW3	0.8038	0.4351	0.7237	0.0000	0.4752	0.1335	0.6503	0.5139	0.2107	0.3578	0.6993	0.7628	0.5722
KMW19	0.5618	0.2939	0.5439	0.4752	0.0000	0.4957	0.5169	0.2081	0.5974	0.6768	0.8582	0.8679	0.8051
KMW30	0.8127	0.4478	0.7269	0.1335	0.4957	0.0000	0.6518	0.5308	0.2348	0.3441	0.6845	0.7487	0.5430
KMW26	0.7132	0.6365	0.6307	0.6503	0.5169	0.6518	0.0000	0.4922	0.7306	0.7832	0.9036	0.9307	0.8734
KMW13	0.5137	0.3551	0.4652	0.5139	0.2081	0.5308	0.4922	0.0000	0.6281	0.6976	0.8691	0.9005	0.8190
KMW14	0.8575	0.5612	0.7905	0.2107	0.5974	0.2348	0.7306	0.6281	0.0000	0.2772	0.6236	0.6954	0.4522
KMWS5	0.8856	0.6444	0.8293	0.3578	0.6768	0.3441	0.7832	0.6976	0.2772	0.0000	0.5945	0.7043	0.3478
KMWS2	0.9465	0.8411	0.9280	0.6993	0.8582	0.6845	0.9036	0.8691	0.6236	0.5945	0.0000	0.6880	0.4643
KMW1	0.9650	0.8815	0.9471	0.7628	0.8679	0.7487	0.9307	0.9005	0.6954	0.7043	0.6880	0.0000	0.5738
KMWS4	0.9357	0.7841	0.9032	0.5722	0.8051	0.5430	0.8734	0.8190	0.4522	0.3478	0.4643	0.5738	0.0000

APPENDIX E (continued)

TABLE XX
BAT POOL ILLUMINA - ARCHAEA - BRAY CURTIS DISSIMILATORY DISTANCE MATRIX

	S9A 100	S9A 10	K8 S2	S7	32A 10	42	K 11	32A 100	K10 A	32B	S8	K12 S	K8 S1	S9 S1	S5 IL	37	K10 S	K7S	K10 B	4IL	32A	S9 S2	K12	K8
S9A 100	0.00	0.07	0.95	0.80	0.38	0.88	0.78	0.51	0.87	0.79	0.94	0.94	0.96	0.95	0.98	0.89	0.95	0.80	0.86	0.90	0.83	0.96	0.81	0.91
S9 A10	0.07	0.00	0.95	0.82	0.39	0.88	0.80	0.52	0.88	0.81	0.94	0.95	0.96	0.95	0.98	0.89	0.96	0.81	0.87	0.91	0.84	0.96	0.82	0.91
K8 S2	0.95	0.95	0.00	0.64	0.96	0.84	0.71	0.93	0.54	0.69	0.39	0.16	0.17	0.16	0.57	0.51	0.30	0.64	0.55	0.43	0.65	0.22	0.64	0.50
S7	0.80	0.82	0.64	0.00	0.85	0.59	0.57	0.72	0.31	0.36	0.59	0.61	0.69	0.65	0.87	0.44	0.67	0.56	0.27	0.40	0.29	0.71	0.27	0.50
32A 10	0.38	0.39	0.96	0.85	0.00	0.84	0.82	0.34	0.89	0.83	0.95	0.96	0.97	0.96	0.99	0.91	0.97	0.84	0.89	0.92	0.86	0.97	0.85	0.92
42	0.88	0.88	0.84	0.59	0.84	0.00	0.69	0.73	0.56	0.53	0.74	0.84	0.87	0.84	0.92	0.64	0.81	0.83	0.59	0.76	0.50	0.87	0.60	0.58
K11	0.78	0.80	0.71	0.57	0.82	0.69	0.00	0.69	0.55	0.32	0.72	0.70	0.75	0.72	0.90	0.45	0.74	0.27	0.53	0.49	0.41	0.77	0.44	0.54
32A 100	0.51	0.52	0.93	0.72	0.34	0.73	0.69	0.00	0.80	0.70	0.91	0.92	0.94	0.93	0.98	0.83	0.93	0.75	0.80	0.86	0.74	0.94	0.73	0.86
K10A	0.87	0.88	0.54	0.31	0.89	0.56	0.55	0.80	0.00	0.37	0.48	0.50	0.60	0.56	0.83	0.35	0.59	0.57	0.13	0.33	0.29	0.64	0.31	0.37
32B	0.79	0.81	0.69	0.36	0.83	0.53	0.32	0.70	0.37	0.00	0.65	0.67	0.73	0.71	0.89	0.35	0.72	0.43	0.34	0.45	0.17	0.76	0.22	0.47
S8	0.94	0.94	0.39	0.59	0.95	0.74	0.72	0.91	0.48	0.65	0.00	0.38	0.43	0.34	0.63	0.46	0.23	0.67	0.48	0.49	0.59	0.39	0.60	0.37
K12 S	0.94	0.95	0.16	0.61	0.96	0.84	0.70	0.92	0.50	0.67	0.38	0.00	0.20	0.14	0.59	0.48	0.30	0.62	0.51	0.38	0.61	0.26	0.62	0.47
K8 S1	0.96	0.96	0.17	0.69	0.97	0.87	0.75	0.94	0.60	0.73	0.43	0.20	0.00	0.16	0.55	0.56	0.34	0.68	0.60	0.49	0.69	0.17	0.69	0.53
S9 S1	0.95	0.95	0.16	0.65	0.96	0.84	0.72	0.93	0.56	0.71	0.34	0.14	0.16	0.00	0.56	0.52	0.25	0.66	0.56	0.45	0.66	0.20	0.66	0.47
S5 IL	0.98	0.98	0.57	0.87	0.99	0.92	0.90	0.98	0.83	0.89	0.63	0.59	0.55	0.56	0.00	0.81	0.55	0.87	0.83	0.77	0.87	0.49	0.87	0.78
37	0.89	0.89	0.51	0.44	0.91	0.64	0.45	0.83	0.35	0.35	0.46	0.48	0.56	0.52	0.81	0.00	0.55	0.55	0.33	0.33	0.32	0.60	0.46	0.30
K10 S	0.95	0.96	0.30	0.67	0.97	0.81	0.74	0.93	0.59	0.72	0.23	0.30	0.34	0.25	0.55	0.55	0.00	0.67	0.59	0.47	0.68	0.29	0.68	0.50
K7S	0.80	0.81	0.64	0.56	0.84	0.83	0.27	0.75	0.57	0.43	0.67	0.62	0.68	0.66	0.87	0.55	0.67	0.00	0.53	0.45	0.50	0.72	0.39	0.65
K10B	0.86	0.87	0.55	0.27	0.89	0.59	0.53	0.80	0.13	0.34	0.48	0.51	0.60	0.56	0.83	0.33	0.59	0.53	0.00	0.30	0.25	0.64	0.26	0.37
4 IL	0.90	0.91	0.43	0.40	0.92	0.76	0.49	0.86	0.33	0.45	0.49	0.38	0.49	0.45	0.77	0.33	0.47	0.45	0.30	0.00	0.35	0.54	0.39	0.39
32A	0.83	0.84	0.65	0.29	0.86	0.50	0.41	0.74	0.29	0.17	0.59	0.61	0.69	0.66	0.87	0.32	0.68	0.50	0.25	0.35	0.00	0.72	0.24	0.37
S9 S2	0.96	0.96	0.22	0.71	0.97	0.87	0.77	0.94	0.64	0.76	0.39	0.26	0.17	0.20	0.49	0.60	0.29	0.72	0.64	0.54	0.72	0.00	0.72	0.55
K12	0.81	0.82	0.64	0.27	0.85	0.60	0.44	0.73	0.31	0.22	0.60	0.62	0.69	0.66	0.87	0.46	0.68	0.39	0.26	0.39	0.24	0.72	0.00	0.51
K8	0.91	0.91	0.50	0.50	0.92	0.58	0.54	0.86	0.37	0.47	0.37	0.47	0.53	0.47	0.78	0.30	0.50	0.65	0.37	0.39	0.37	0.55	0.51	0.00

APPENDIX E (continued)

TABLE XXI
BAT POOL ILLUMINA - BACTERIA - BRAY CURTIS DISSIMILATORY DISTANCE MATRIX

	K9S	K8 S2	S7	42	K11	K10 A	32B	S8	K12S	K8 S1	S 9S1	S5 IL	37	K10S	K7S	K10 B	4 IL	32A	S9 S2	K12	K8
K9S	0.00	0.21	0.14	0.45	0.44	0.60	0.20	0.14	0.08	0.17	0.11	0.05	0.45	0.16	0.14	0.58	0.25	0.27	0.09	0.53	0.53
K8S2	0.21	0.00	0.27	0.56	0.54	0.65	0.32	0.11	0.20	0.06	0.14	0.21	0.55	0.23	0.16	0.63	0.37	0.38	0.16	0.57	0.62
S7	0.14	0.27	0.00	0.37	0.36	0.51	0.12	0.23	0.12	0.24	0.20	0.14	0.35	0.19	0.21	0.49	0.17	0.19	0.19	0.43	0.44
42	0.45	0.56	0.37	0.00	0.17	0.34	0.34	0.52	0.45	0.54	0.50	0.46	0.15	0.50	0.49	0.31	0.31	0.28	0.49	0.27	0.15
K11	0.44	0.54	0.36	0.17	0.00	0.35	0.25	0.50	0.43	0.52	0.48	0.44	0.20	0.48	0.47	0.37	0.30	0.20	0.47	0.27	0.26
K10A	0.60	0.65	0.51	0.34	0.35	0.00	0.47	0.64	0.56	0.64	0.62	0.61	0.37	0.49	0.61	0.08	0.49	0.43	0.62	0.23	0.37
32B	0.20	0.32	0.12	0.34	0.25	0.47	0.00	0.28	0.20	0.30	0.25	0.20	0.32	0.25	0.25	0.48	0.19	0.10	0.24	0.39	0.43
S8	0.14	0.11	0.23	0.52	0.50	0.64	0.28	0.00	0.17	0.07	0.07	0.15	0.51	0.23	0.13	0.62	0.33	0.34	0.10	0.57	0.59
K12S	0.08	0.20	0.12	0.45	0.43	0.56	0.20	0.17	0.00	0.16	0.14	0.07	0.45	0.11	0.15	0.54	0.24	0.26	0.12	0.49	0.53
K8S1	0.17	0.06	0.24	0.54	0.52	0.64	0.30	0.07	0.16	0.00	0.10	0.17	0.53	0.20	0.13	0.62	0.34	0.36	0.12	0.56	0.61
S9S1	0.11	0.14	0.20	0.50	0.48	0.62	0.25	0.07	0.14	0.10	0.00	0.11	0.50	0.20	0.10	0.61	0.30	0.32	0.05	0.55	0.58
S5IL	0.05	0.21	0.14	0.46	0.44	0.61	0.20	0.15	0.07	0.17	0.11	0.00	0.46	0.14	0.14	0.59	0.25	0.27	0.08	0.52	0.54
37	0.45	0.55	0.35	0.15	0.20	0.37	0.32	0.51	0.45	0.53	0.50	0.46	0.00	0.50	0.48	0.38	0.30	0.26	0.48	0.31	0.24
K10S	0.16	0.23	0.19	0.50	0.48	0.49	0.25	0.23	0.11	0.20	0.20	0.14	0.50	0.00	0.19	0.51	0.30	0.32	0.18	0.39	0.58
K7S	0.14	0.16	0.21	0.49	0.47	0.61	0.25	0.13	0.15	0.13	0.10	0.14	0.48	0.19	0.00	0.60	0.30	0.31	0.08	0.53	0.56
K10B	0.58	0.63	0.49	0.31	0.37	0.08	0.48	0.62	0.54	0.62	0.61	0.59	0.38	0.51	0.60	0.00	0.47	0.45	0.60	0.28	0.34
4IL	0.25	0.37	0.17	0.31	0.30	0.49	0.19	0.33	0.24	0.34	0.30	0.25	0.30	0.30	0.30	0.47	0.00	0.15	0.28	0.42	0.38
32A	0.27	0.38	0.19	0.28	0.20	0.43	0.10	0.34	0.26	0.36	0.32	0.27	0.26	0.32	0.31	0.45	0.15	0.00	0.30	0.36	0.36
S9S2	0.09	0.16	0.19	0.49	0.47	0.62	0.24	0.10	0.12	0.12	0.05	0.08	0.48	0.18	0.08	0.60	0.28	0.30	0.00	0.54	0.57
K12	0.53	0.57	0.43	0.27	0.27	0.23	0.39	0.57	0.49	0.56	0.55	0.52	0.31	0.39	0.53	0.28	0.42	0.36	0.54	0.00	0.37
K8	0.53	0.62	0.44	0.15	0.26	0.37	0.43	0.59	0.53	0.61	0.58	0.54	0.24	0.58	0.56	0.34	0.38	0.36	0.57	0.37	0.00

APPENDIX E (continued)

TABLE XXII
BAT POOL & MULTI-BASIN 454 PYROTAG SEQUENCING- ARCHAEA - BRAY CURTIS DISSIMILARITY DISTANCE MATRIX

	FC	KMW 19	KMW 18	SG	KMW 1	KMW 2	KMW 13	KMW 4	KMW 30	KMW 14	KMW S4	KMW 3	MLS	OS	BP	KMW 26	KMW S5
Flat	0.00	1.00	1.00	0.68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.29	0.38	0.94	1.00	1.00
KMW19	1.00	0.00	0.40	1.00	0.61	0.43	0.47	0.41	0.66	0.70	0.67	0.69	1.00	1.00	1.00	0.31	0.66
KMW18	1.00	0.40	0.00	1.00	0.69	0.23	0.43	0.21	0.72	0.73	0.69	0.71	1.00	1.00	1.00	0.40	0.67
Spindle	0.68	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.46	0.30	1.00	1.00
KMW1	1.00	0.61	0.69	1.00	0.00	0.70	0.73	0.67	0.41	0.55	0.63	0.54	1.00	1.00	1.00	0.64	0.58
KMW2	1.00	0.43	0.23	1.00	0.70	0.00	0.38	0.24	0.73	0.75	0.72	0.74	1.00	1.00	1.00	0.44	0.71
KMW13	1.00	0.47	0.43	1.00	0.73	0.38	0.00	0.46	0.77	0.78	0.77	0.79	1.00	1.00	1.00	0.50	0.74
KMW4	1.00	0.41	0.21	1.00	0.67	0.24	0.46	0.00	0.69	0.71	0.66	0.70	1.00	1.00	1.00	0.39	0.65
KMW30	1.00	0.66	0.72	1.00	0.41	0.73	0.77	0.69	0.00	0.31	0.50	0.29	1.00	1.00	1.00	0.67	0.49
KMW14	1.00	0.70	0.73	1.00	0.55	0.75	0.78	0.71	0.31	0.00	0.44	0.28	1.00	1.00	1.00	0.69	0.44
KMWS4	1.00	0.67	0.69	1.00	0.63	0.72	0.77	0.66	0.50	0.44	0.00	0.41	1.00	1.00	1.00	0.64	0.23
KMW3	1.00	0.69	0.71	1.00	0.54	0.74	0.79	0.70	0.29	0.28	0.41	0.00	1.00	1.00	1.00	0.68	0.42
MLS	0.29	1.00	1.00	0.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.43	0.99	1.00	1.00
Octopus	0.38	1.00	1.00	0.46	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.43	0.00	0.65	1.00	1.00
'Bison'	0.94	1.00	1.00	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.65	0.00	1.00	1.00
KMW26	1.00	0.31	0.40	1.00	0.64	0.44	0.50	0.39	0.67	0.69	0.64	0.68	1.00	1.00	1.00	0.00	0.62
KMWS5	1.00	0.66	0.67	1.00	0.58	0.71	0.74	0.65	0.49	0.44	0.23	0.42	1.00	1.00	1.00	0.62	0.00

APPENDIX E (continued)

TABLE XXIII
BAT POOL & MULTI-BASIN 454 PYROTAG SEQUENCING- BACTERIA - BRAY CURTIS DISSIMILARITY DISTANCE MATRIX

	KMW 4	KMW 18	KMW 2	KMW 3	KMW 19	SG	Bat	KMW 30	KMW 26	KMW 13	KMW 14	BP	OS	MLS	KMW S2	FC	SB	KMW S5	KMW 1	KMW S4
KMW4	0.00	0.59	0.42	0.80	0.56	0.92	0.98	0.81	0.71	0.51	0.86	0.81	0.95	0.98	0.95	0.97	1.00	0.89	0.96	0.94
KMW18	0.59	0.00	0.70	0.43	0.29	0.79	0.99	0.45	0.64	0.35	0.56	0.60	0.88	0.95	0.84	0.93	1.00	0.64	0.88	0.78
KMW2	0.42	0.70	0.00	0.72	0.54	0.88	1.00	0.73	0.63	0.47	0.79	0.73	0.93	0.97	0.93	0.96	1.00	0.83	0.95	0.90
KMW3	0.80	0.43	0.72	0.00	0.48	0.66	0.99	0.13	0.65	0.51	0.21	0.55	0.78	0.91	0.70	0.88	1.00	0.36	0.76	0.57
KMW19	0.56	0.29	0.54	0.48	0.00	0.80	0.99	0.50	0.52	0.21	0.60	0.58	0.88	0.95	0.86	0.94	1.00	0.68	0.87	0.81
Spindle	0.92	0.79	0.88	0.66	0.80	0.00	1.00	0.64	0.87	0.81	0.60	0.58	0.62	0.90	0.75	0.83	1.00	0.58	0.84	0.65
Bat	0.98	0.99	1.00	0.99	0.99	1.00	0.00	1.00	0.93	0.99	1.00	1.00	1.00	1.00	0.83	1.00	1.00	1.00	1.00	1.00
KMW30	0.81	0.45	0.73	0.13	0.50	0.64	1.00	0.00	0.65	0.53	0.23	0.49	0.77	0.91	0.68	0.87	1.00	0.34	0.75	0.54
KMW26	0.71	0.64	0.63	0.65	0.52	0.87	0.93	0.65	0.00	0.49	0.73	0.69	0.92	0.97	0.90	0.96	1.00	0.78	0.93	0.87
KMW13	0.51	0.35	0.47	0.51	0.21	0.81	0.99	0.53	0.49	0.00	0.63	0.59	0.88	0.95	0.87	0.94	1.00	0.70	0.90	0.82
KMW14	0.86	0.56	0.79	0.21	0.60	0.60	1.00	0.23	0.73	0.63	0.00	0.64	0.73	0.90	0.62	0.86	1.00	0.27	0.70	0.45
'Bison'	0.81	0.60	0.73	0.55	0.58	0.58	1.00	0.49	0.69	0.59	0.64	0.00	0.72	0.92	0.83	0.84	1.00	0.65	0.89	0.77
Octopus	0.95	0.88	0.93	0.78	0.88	0.62	1.00	0.77	0.92	0.88	0.73	0.72	0.00	0.88	0.71	0.79	1.00	0.73	0.80	0.65
MLS	0.98	0.95	0.97	0.91	0.95	0.90	1.00	0.91	0.97	0.95	0.90	0.92	0.88	0.00	0.89	0.82	1.00	0.88	0.86	0.85
KMWS2	0.95	0.84	0.93	0.70	0.86	0.75	0.83	0.68	0.90	0.87	0.62	0.83	0.71	0.89	0.00	0.86	1.00	0.59	0.69	0.46
Flat	0.97	0.93	0.96	0.88	0.94	0.83	1.00	0.87	0.96	0.94	0.86	0.84	0.79	0.82	0.86	0.00	1.00	0.84	0.82	0.81
SB	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
KMWS5	0.89	0.64	0.83	0.36	0.68	0.58	1.00	0.34	0.78	0.70	0.27	0.65	0.73	0.88	0.59	0.84	1.00	0.00	0.70	0.35
KMW1	0.96	0.88	0.95	0.76	0.87	0.84	1.00	0.75	0.93	0.90	0.70	0.89	0.80	0.86	0.69	0.82	1.00	0.70	0.00	0.57
KMWS4	0.94	0.78	0.90	0.57	0.81	0.65	1.00	0.54	0.87	0.82	0.45	0.77	0.65	0.85	0.46	0.81	1.00	0.35	0.57	0.00

APPENDIX F

TABLE XXIV
TAXONOMIC ABUNDANCE FOR BAT POOL 454 PYROTAG SEQUENCING ARCHAEA DATASET (FIGURES 22 & 24)

	Sample Name: KMW#											
Taxon	**S5**	**S4**	**3**	**14**	**30**	**1**	**13**	**4**	**18**	**2**	**26**	**19**
p__Crenarchaeota;c__Thermoprotei;Other	0.32	0.00	3.79	6.01	6.01	12.43	4.43	6.68	7.99	7.35	10.29	9.83
p__Crenarchaeota;c__Thermoprotei;o__	0.00	0.00	2.03	3.78	5.76	7.65	1.15	2.94	3.12	2.00	7.19	3.79
p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales	98.33	100.00	82.90	77.34	70.82	67.33	90.88	86.76	80.27	85.86	78.54	78.10
p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales	1.27	0.00	8.04	10.90	13.24	8.39	2.75	2.15	6.55	3.27	2.22	5.67
p__Crenarchaeota;c__pSL4;o__	0.00	0.00	2.59	1.12	2.64	3.67	0.22	0.41	1.35	1.03	1.27	2.09
Other	0.08	0.00	0.65	0.86	1.53	0.52	0.57	1.06	0.72	0.50	0.49	0.52
k__Bacteria;Other;Other;Other	0.00	0.00	0.09	0.26	0.12	0.06	0.02	0.03	0.03	0.02	0.00	0.00
p__Crenarchaeota;Other;Other	0.00	0.00	0.09	0.00	0.31	0.24	0.10	0.50	0.36	0.26	0.18	0.40
p__Crenarchaeota;c__Thaumarchaeota;o__Nitrososphaerales	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.15	0.06	0.00	0.00	0.00
p__Euryarchaeota;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
p__Euryarchaeota;c__Archaeoglobi;o__Archaeoglobales	0.00	0.00	0.00	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Euryarchaeota;c__Halobacteria;o__Halobacteriales	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00
p__Euryarchaeota;c__Methanobacteria;o__Methanobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00
p__Nanoarchaeota;c__[Nanoarchaeoti];o__[Nanoarchaeotales]	0.08	0.00	0.37	0.60	0.00	0.00	0.43	0.38	0.28	0.21	0.28	0.12

APPENDIX F (continued)

TABLE XXV: TAXONOMIC ABUNDANCE FOR BAT POOL 454 PYROTAG SEQUENCING BACTERIA DATASET (FIGURES 23 & 25)

	Sample Name: KMW#Bac												
Taxon	**1**	**S2**	**S4**	**S5**	**14**	**30**	**3**	**26**	**13**	**19**	**18**	**2**	**4**
p__Aquificae;c__Aquificae;o__Aquificales	43.87	45.24	98.87	99.78	73.45	85.43	74.48	37.75	67.76	54.94	41.71	78.22	39.45
p__Chlorobi;c__Ignavibacteria;o__Ignavibacteriales	0.00	0.00	0.00	0.00	0.00	0.00	2.86	0.00	4.65	6.26	11.28	0.00	13.77
p__Chloroflexi;c__Anaerolineae;o__GCA004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	4.46	9.36	14.38	0.00	12.81
p__Deferribacteres;c__Deferribacteres;o__Deferribacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.28	3.36	3.02	0.00	5.34
p__Firmicutes;c__Bacilli;o__Bacillales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.64	0.00	0.88	0.00	0.07	0.06
p__Nitrospirae;c__Nitrospira;o__Nitrospirales	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	5.05	2.26	16.06	0.07	13.91
p__Proteobacteria;c__Betaproteobacteria;o__Burkholderiales	0.38	8.73	0.00	0.02	1.08	0.53	1.19	17.73	0.37	1.22	0.52	0.06	0.85
p__Proteobacteria;c__Gammaproteobacteria;Other	6.34	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.10	0.01	0.00	0.01
p__Proteobacteria;c__Gammaproteobacteria;o__Chromatiales	40.24	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	1.36	0.00	0.00	0.01
p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales	0.17	37.38	0.00	0.02	0.17	0.00	0.00	9.71	0.01	0.00	0.00	0.00	0.31
p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales	0.00	0.00	0.00	0.00	0.02	0.00	0.00	14.64	0.00	0.00	0.01	0.00	0.00
p__Thermodesulfobacteria;c__Thermodesulfobacteria; o__Thermodesulfobacteriales	7.46	0.08	0.04	0.04	22.37	11.90	17.53	5.44	10.98	16.91	9.42	18.23	8.25
Other	1.54	8.57	1.04	0.13	2.92	2.14	3.84	8.07	3.44	3.34	3.59	3.36	5.24
k__Bacteria;Other;Other;Other	0.13	0.34	0.13	0.09	0.32	0.17	0.12	0.06	0.20	0.15	0.23	0.19	0.23
p__Acidobacteria;c__Acidobacteria-2;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
p__Acidobacteria;c__Acidobacteria-6;o__iii1-15	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
p__Acidobacteria;c__OS-K;o__	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Actinobacteria;c__Acidimicrobiia;o__Acidimicrobiales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
p__Actinobacteria;c__Actinobacteria;o__Actinomycetales	0.04	0.31	0.00	0.00	0.06	0.00	0.05	2.17	0.00	0.01	0.33	0.00	0.00
p__Bacteroidetes;c__Bacteroidia;o__Bacteroidales	0.00	2.69	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
p__Bacteroidetes;c__Flavobacteriia;o__Flavobacteriales	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00
p__Bacteroidetes;c__Sphingobacteriia;o__Sphingobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
p__Chlorobi;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.45	0.00	0.05
p__Chlorobi;c__Ignavibacteria;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.05	0.00	0.04
p__Chloroflexi;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
p__Chloroflexi;c__Anaerolineae;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.40	0.65	0.00	0.26
p__Chloroflexi;c__Anaerolineae;o__A31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__Caldilineales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__SBR1031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.69	0.63	0.00	0.91
p__Chloroflexi;c__Chloroflexi;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
p__Chloroflexi;c__Chloroflexi;o__Chloroflexales	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Chloroflexi;o__Roseiflexales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.05	0.14	0.00	0.17
p__Cyanobacteria;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.03	2.70	0.01	0.00	0.00	0.00	0.02
p__Cyanobacteria;c__Chloroplast;o__Streptophyta	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.06	0.00	0.01	0.00

p__Cyanobacteria;c__Gloeobacterophycideae;o__Gloeobacterales	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Nostocophycideae;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Nostocophycideae;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
p__Cyanobacteria;c__Oscillatoriophycideae;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Oscillatoriophycideae;o__Chroococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.00	0.00	0.00	0.18
p__Cyanobacteria;c__S15B-MN24;o__	0.04	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.01	0.11
p__Cyanobacteria;c__Synechococcophycideae;o__Pseudanabaenales	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.05	0.00	0.21
p__EM3;c__;o__	0.75	0.00	0.88	0.02	1.37	0.96	1.27	0.06	1.32	0.72	0.28	1.81	1.33
p__Firmicutes;Other;Other	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;o__Exiguobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;o__Gemellales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;o__Lactobacillales	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.04	0.00	0.00	0.01	0.00	0.02
p__Firmicutes;c__Clostridia;Other	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Clostridia;o__Clostridiales	0.00	4.57	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.03
p__Nitrospirae;c__Nitrospira;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__OP1;c__OPB14;o__	0.46	0.00	0.00	0.00	0.39	0.82	0.89	0.59	0.05	0.23	0.40	0.95	0.07
p__OctSpA1-106;c__;o__	0.04	0.00	0.00	0.00	0.02	0.07	0.07	1.05	0.07	0.23	0.05	0.05	0.02
p__Proteobacteria;Other;Other	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01
p__Proteobacteria;c__Alphaproteobacteria;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
p__Proteobacteria;c__Alphaproteobacteria;o__Caulobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.01	0.00	0.04
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodospirillales	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.10	0.00	0.00	0.10
p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales	0.00	0.29	0.00	0.00	0.00	0.00	0.01	0.11	0.02	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Betaproteobacteria;Other	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01
p__Proteobacteria;c__Betaproteobacteria;o__Hydrogenophilales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00
p__Proteobacteria;c__Betaproteobacteria;o__Rhodocyclales	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.16
p__Proteobacteria;c__Deltaproteobacteria;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Deltaproteobacteria;o__Myxococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
p__Proteobacteria;c__Gammaproteobacteria;o__Aeromonadales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.19
p__Proteobacteria;c__Gammaproteobacteria;o__Methylococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Xanthomonadales	0.00	0.00	0.04	0.00	0.04	0.00	0.00	0.03	0.05	0.33	0.01	0.08	0.02
p__Thermi;c__Deinococci;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Thermi;c__Deinococci;o__Deinococcales	0.00	0.00	0.00	0.00	0.43	0.07	0.64	0.00	0.00	0.13	0.01	0.00	0.74
p__Thermi;c__Deinococci;o__Thermales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Verrucomicrobia;c__[Pedosphaerae];o__[Pedosphaerales]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
p__WS6;c__SC72;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.20

APPENDIX F (continued)

TABLE XXVI
TAXONOMIC ABUNDANCE FOR BAT POOL ILLUMINA ARCHAEA DATASET (FIGURES 26 & 28 & 30)

Taxon	42	K7-SBC	K11	4-IL	K8	37	K12	32A	32B	K10B	K10A	S7
k__Archaea;p__Crenarchaeota;c__Thermoprotei;Other	34.55	0.63	3.57	0.26	2.18	0.48	1.95	4.29	4.99	4.40	5.33	2.02
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__	5.68	0.00	0.11	2.15	0.76	0.00	1.12	1.21	0.25	2.75	7.82	0.00
k__Archaea;p__Crenarchaeota;c__Thermoprotei; o__Desulfurococcales	40.86	14.89	37.67	34.31	58.48	56.62	41.92	52.38	48.55	47.95	48.62	63.47
k__Archaea;p__Crenarchaeota;c__Thermoprotei; o__Thermoproteales	7.25	84.27	58.39	63.16	33.60	42.77	54.61	41.30	45.55	44.26	38.12	34.21
k__Archaea;p__Crenarchaeota;c__pSL4;o__	11.46	0.08	0.20	0.00	4.92	0.04	0.32	0.74	0.43	0.56	0.04	0.06
Other	0.20	0.14	0.07	0.11	0.05	0.09	0.08	0.08	0.23	0.08	0.08	0.25
k__Archaea;Other;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
k__Archaea;p__Crenarchaeota;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
k__Archaea;p__Crenarchaeota;c__Thaumarchaeota; o__Cenarchaeales	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
k__Archaea;p__Crenarchaeota;c__Thaumarchaeota; o__Nitrososphaerales	0.00	0.03	0.02	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;c__Archaeoglobi; o__Archaeoglobales	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;c__Methanobacteria ;o__Methanobacteriales	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.03
k__Archaea;p__Euryarchaeota;c__Methanomicrobia; o__Methanosarcinales	0.07	0.03	0.02	0.00	0.00	0.00	0.03	0.00	0.11	0.00	0.08	0.06
k__Archaea;p__Euryarchaeota;c__Thermoplasmata; Other	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;c__Thermoplasmata; o__E2	0.06	0.05	0.02	0.11	0.00	0.04	0.03	0.00	0.07	0.04	0.00	0.17
k__Archaea;p__Euryarchaeota;c__[Parvarchaea]; o__YLA114	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Taxon	**S5-IL**	**K10-SBC**	**S8**	**S9-SBC2**	**K8-SBC1**	**S9-SBC1**	**K12-SBC**	**K8-SBC2**	**32Arch 1:100**	**32Arch 1:10**	**S9Arch 1:10**	**S9Arch 1:100**
k__Archaea;p__Crenarchaeota;c__Thermoprotei;Other	0.35	0.52	0.30	0.00	0.55	0.62	0.21	1.16	6.20	6.86	2.12	0.42
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.41	3.31	0.00	0.00
k__Archaea;p__Crenarchaeota;c__Thermoprotei; o__Desulfurococcales	22.92	50.59	61.93	29.26	26.00	34.73	29.09	29.78	71.75	68.16	58.93	57.54
k__Archaea;p__Crenarchaeota;c__Thermoprotei; o__Thermoproteales	69.44	47.97	36.15	70.10	73.17	63.91	70.16	67.21	12.67	17.14	38.71	41.88
k__Archaea;p__Crenarchaeota;c__pSL4;o__	0.00	0.26	0.20	0.16	0.00	0.25	0.00	0.58	5.94	4.45	0.18	0.11
Other	7.29	0.66	1.41	0.48	0.28	0.49	0.53	1.27	0.03	0.07	0.06	0.04
k__Archaea;Other;Other;Other	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
k__Archaea;p__Crenarchaeota;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00

k__Archaea;p__Crenarchaeota;c__Thaumarchaeota; o__Cenarchaeales	1.74	0.13	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.02	0.01	0.00
k__Archaea;p__Crenarchaeota;c__Thaumarchaeota; o__Nitrososphaerales	0.35	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
k__Archaea;p__Euryarchaeota;c__Archaeoglobi; o__Archaeoglobales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;c__Methanobacteria; o__Methanobacteriales	0.35	0.13	0.50	0.00	0.00	0.12	0.21	0.12	0.00	0.01	0.00	0.01
k__Archaea;p__Euryarchaeota;c__Methanomicrobia; o__Methanosarcinales	0.69	0.13	0.20	0.16	0.00	0.25	0.11	0.46	0.00	0.00	0.02	0.01
k__Archaea;p__Euryarchaeota;c__Thermoplasmata ;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;c__Thermoplasmata; o__E2	0.00	0.26	0.60	0.32	0.14	0.12	0.11	0.46	0.01	0.01	0.02	0.01
k__Archaea;p__Euryarchaeota;c__[Parvarchaea] ;o__YLA114	3.82	0.00	0.10	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00

APPENDIX F (continued)

TABLE XXVII:
TAXONOMIC ABUNDANCE FOR BAT POOL ILLUMINA BACTERIA DATASET (FIGURES 27 & 29 & 31)*

Taxon	K12	K10B	K10A	K8	K11	37	42	4-IL	32A	32B	S7
p__Aquificae;c__Aquificae;o__Aquificales	47.44	40.39	37.98	59.66	61.43	65.48	67.13	80.40	72.94	76.53	86.09
p__EM3;c__;o__	2.46	1.02	1.00	0.54	0.49	1.00	0.04	1.20	1.16	1.15	0.91
p__Firmicutes;c__Bacilli;o__Bacillales	0.11	0.42	0.35	2.25	0.48	4.00	0.49	0.89	0.41	0.15	1.34
p__Firmicutes;c__Clostridia;o__Clostridiales	0.29	2.28	1.31	5.37	2.54	5.76	4.20	2.47	3.22	1.42	1.32
p__OP1;c__OPB14;o__	12.25	33.61	31.56	11.51	8.30	2.39	10.92	1.49	3.07	2.16	0.10
p__Thermi;c__Deinococci;o__Thermales	22.22	10.65	13.36	0.00	0.00	0.05	0.05	0.00	0.00	0.00	1.61
p__Thermodesulfobacteria;c__Thermodesulfobacteria; o__Thermodesulfobacteriales	12.89	8.81	12.08	13.04	25.21	17.66	13.81	6.30	17.55	16.83	6.67
Other	2.34	2.82	2.37	7.63	1.55	3.66	3.37	7.25	1.64	1.76	1.96
k__Bacteria;Other;Other;Other	0.35	0.52	0.31	0.28	0.44	0.45	0.71	0.50	0.52	1.04	0.81
p__Acidobacteria;c__Acidobacteria-6;o__iii1-15	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
p__Acidobacteria;c__Chloracidobacteria;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.01	0.00
p__Actinobacteria;c__Acidimicrobiia;o__Acidimicrobiales	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
p__Actinobacteria;c__Actinobacteria;o__Actinomycetales	0.01	0.08	0.09	1.69	0.03	1.39	0.02	0.36	0.32	0.00	0.02
p__Actinobacteria;c__MB-A2-108;o__0319-7L14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Actinobacteria;c__Rubrobacteria;o__Rubrobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00
p__Actinobacteria;c__Thermoleophilia;o__Gaiellales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Actinobacteria;c__Thermoleophilia;o__Solirubrobacterales	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00
p__Armatimonadetes;c__OS-L;o__	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Bacteroidetes;c__Bacteroidia;o__Bacteroidales	0.22	0.40	0.00	1.03	0.06	0.00	0.00	0.01	0.02	0.01	0.00
p__Bacteroidetes;c__Flavobacteriia;o__Flavobacteriales	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.02	0.01	0.01
p__Bacteroidetes;c__Sphingobacteriia;o__Sphingobacteriales	0.06	0.01	0.02	0.03	0.01	0.84	0.01	0.05	0.03	0.03	0.03
p__Chlorobi;c__Ignavibacteria;o__Ignavibacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	0.00	0.00
p__Chloroflexi;Other;Other	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__	0.10	0.33	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__GCA004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__SBR1031	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Ellin6529;o__	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Ktedonobacteria;o__Thermogemmatisporales	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__TK17;o__S085	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
p__Cyanobacteria;Other;Other	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Chloroplast;o__Streptophyta	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Gloeobacterophycideae;o__Gloeobacterales	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Oscillatoriophycideae;o__Chroococcales	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00

p__Cyanobacteria;c__Synechococcophycideae;o__Pseudanabaenales	0.00	0.08	0.03	0.21	0.00	0.00	0.16	0.00	0.00	0.00	0.00
p__Deferribacteres;c__Deferribacteres;o__Deferribacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.00	0.00	0.00
p__Firmicutes;Other;Other	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;Other	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
p__Firmicutes;c__Bacilli;o__Lactobacillales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
p__Firmicutes;c__Clostridia;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00
p__Firmicutes;c__Clostridia;o__Coriobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
p__Firmicutes;c__Erysipelotrichi;o__Erysipelotrichales	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00
p__Fusobacteria;c__Fusobacteria;o__Fusobacteriales	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Gemmatimonadetes;c__Gemm-1;o__	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
p__Gemmatimonadetes;c__Gemmatimonadetes;o__C114	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__NC10;c__12-24;o__JH-WHS47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__NC10;c__12-24;o__Methylomirabiliales	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Nitrospirae;c__Nitrospira;o__Nitrospirales	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.74	0.02	0.02	0.00
p__OD1;c__;o__	0.03	0.12	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__OP9;c__OPB46;o__OPB72	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__OctSpA1-106;c__;o__	0.01	0.04	0.02	0.02	0.03	0.00	0.06	0.00	0.01	0.00	0.00
p__Planctomycetes;c__Phycisphaerae;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Planctomycetes;c__Planctomycetia;Other	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Planctomycetes;c__Planctomycetia;o__Gemmatales	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Planctomycetes;c__Planctomycetia;o__Pirellulales	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Planctomycetes;c__Planctomycetia;o__Planctomycetales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
p__Proteobacteria;Other;Other	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.65
p__Proteobacteria;c__Alphaproteobacteria;Other	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02
p__Proteobacteria;c__Alphaproteobacteria;o__Caulobacterales	0.00	0.00	0.00	0.00	0.01	0.77	0.00	0.00	0.00	0.01	0.01
p__Proteobacteria;c__Alphaproteobacteria;o__RF32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales	0.19	0.17	0.21	0.01	0.01	0.01	0.01	0.02	0.01	0.03	0.04
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodospirillales	0.00	0.22	0.05	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.01
p__Proteobacteria;c__Alphaproteobacteria;o__Rickettsiales	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales	0.01	0.01	0.01	0.02	0.00	0.01	0.01	0.02	0.02	0.03	0.03
p__Proteobacteria;c__Betaproteobacteria;Other	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.01	0.03
p__Proteobacteria;c__Betaproteobacteria;o__Burkholderiales	0.04	0.06	0.03	0.11	0.18	0.04	0.42	0.37	0.04	0.06	0.06
p__Proteobacteria;c__Betaproteobacteria;o__Ellin6067	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00
p__Proteobacteria;c__Betaproteobacteria;o__IS-44	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
p__Proteobacteria;c__Betaproteobacteria;o__MND1	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Betaproteobacteria;o__MWH-UniP1	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Betaproteobacteria;o__Methylophilales	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01
p__Proteobacteria;c__Betaproteobacteria;o__Neisseriales	0.04	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.05	0.00	0.00

p__Proteobacteria;c__Betaproteobacteria;o__Rhodocyclales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00
p__Proteobacteria;c__Betaproteobacteria;o__SC-I-84	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Deltaproteobacteria;o__Bdellovibrionales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Deltaproteobacteria;o__Myxococcales	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Deltaproteobacteria;o__NB1-j	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Deltaproteobacteria;o__Syntrophobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
p__Proteobacteria;c__Epsilonproteobacteria;o__Campylobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
p__Proteobacteria;c__Gammaproteobacteria;Other	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01
p__Proteobacteria;c__Gammaproteobacteria;o__Aeromonadales	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Alteromonadales	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales	0.00	0.00	0.00	2.36	0.00	0.00	1.33	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Legionellales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales	0.06	0.01	0.01	1.04	0.41	0.01	0.02	0.02	0.01	0.01	0.01
p__Proteobacteria;c__Gammaproteobacteria;o__Xanthomonadales	0.01	0.03	0.01	0.02	0.02	0.00	0.02	0.00	0.02	0.02	0.01
p__TM6;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__TM6;c__SJA-4;o__	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Thermi;c__Deinococci;o__Deinococcales	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.18	0.00	0.00
p__Thermotogae;c__Thermotogae;o__Thermotogales	0.94	0.00	0.27	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
p__Verrucomicrobia;Other;Other	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Verrucomicrobia;c__Verrucomicrobiae;o__Verrucomicrobiales	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.03	0.01
p__Verrucomicrobia;c__[Pedosphaerae];o__[Pedosphaerales]	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__WS3;c__PRR-12;o__Sediment-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxon	**K7-SBC**	**S9-SBC2**	**S9-SBC1**	**S8**	**K8-SBC1**	**K8-SBC2**	**K10-SBC**	**K12-SBC**	**S5-IL**	**K9-SBC**	
p__Aquificae;c__Aquificae;o__Aquificales	91.66	97.49	96.96	96.29	91.26	91.28	78.92	90.32	98.99	96.61	
p__EM3;c__;o__	3.84	1.21	1.28	0.33	6.18	5.42	5.30	3.16	0.14	0.01	
p__Firmicutes;c__Bacilli;o__Bacillales	0.03	0.09	0.07	0.23	0.01	0.01	0.01	0.49	0.01	0.51	
p__Firmicutes;c__Clostridia;o__Clostridiales	0.11	0.30	0.58	0.73	0.03	0.05	0.08	1.58	0.08	1.58	
p__OP1;c__OPB14;o__	0.00	0.00	0.00	0.01	0.03	0.01	0.08	0.00	0.00	0.00	
p__Thermi;c__Deinococci;o__Thermales	0.03	0.01	0.00	0.02	0.93	0.96	13.38	2.51	0.01	0.09	
p__Thermodesulfobacteria;c__Thermodesulfobacteria;o__Thermodesulfobacteriales	3.34	0.19	0.47	0.83	1.04	1.21	1.44	1.02	0.06	0.10	
Other	1.00	0.71	0.63	1.55	0.53	1.07	0.79	0.93	0.72	1.10	
k__Bacteria;Other;Other;Other	0.60	0.27	0.42	1.02	0.34	0.70	0.37	0.44	0.30	0.63	
p__Acidobacteria;c__Acidobacteria-6;o__iii1-15	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.02	0.01	
p__Acidobacteria;c__Chloracidobacteria;o__	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	
p__Actinobacteria;c__Acidimicrobiia;o__Acidimicrobiales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Actinobacteria;c__Actinobacteria;o__Actinomycetales	0.01	0.03	0.02	0.09	0.01	0.02	0.01	0.02	0.08	0.06	
p__Actinobacteria;c__MB-A2-108;o__0319-7L14	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	
p__Actinobacteria;c__Rubrobacteria;o__Rubrobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

p__Actinobacteria;c__Thermoleophilia;o__Gaiellales	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Actinobacteria;c__Thermoleophilia;o__Solirubrobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
p__Armatimonadetes;c__OS-L;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Bacteroidetes;c__Bacteroidia;o__Bacteroidales	0.04	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.07	
p__Bacteroidetes;c__Flavobacteriia;o__Flavobacteriales	0.00	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.02	
p__Bacteroidetes;c__Sphingobacteriia;o__Sphingobacteriales	0.01	0.08	0.01	0.02	0.01	0.02	0.02	0.02	0.01	0.01	
p__Chlorobi;c__Ignavibacteria;o__Ignavibacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Chloroflexi;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Chloroflexi;c__Anaerolineae;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Chloroflexi;c__Anaerolineae;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Chloroflexi;c__Anaerolineae;o__GCA004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Chloroflexi;c__Anaerolineae;o__SBR1031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Chloroflexi;c__Ellin6529;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	
p__Chloroflexi;c__Ktedonobacteria;o__Thermogemmatisporales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Chloroflexi;c__TK17;o__S085	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
p__Cyanobacteria;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Cyanobacteria;c__Chloroplast;o__Streptophyta	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Cyanobacteria;c__Gloeobacterophycideae;o__Gloeobacterales	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
p__Cyanobacteria;c__Oscillatoriophycideae;o__Chroococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Cyanobacteria;c__Synechococcophycideae;o__Pseudanabaenales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Deferribacteres;c__Deferribacteres;o__Deferribacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Firmicutes;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Firmicutes;c__Bacilli;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Firmicutes;c__Bacilli;o__Lactobacillales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Firmicutes;c__Clostridia;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	
p__Firmicutes;c__Clostridia;o__Coriobacteriales	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Firmicutes;c__Erysipelotrichi;o__Erysipelotrichales	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	
p__Fusobacteria;c__Fusobacteria;o__Fusobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Gemmatimonadetes;c__Gemm-1;o__	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
p__Gemmatimonadetes;c__Gemmatimonadetes;o__C114	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__NC10;c__12-24;o__JH-WHS47	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
p__NC10;c__12-24;o__Methylomirabiliales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	
p__Nitrospirae;c__Nitrospira;o__Nitrospirales	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.00	
p__OD1;c__;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__OP9;c__OPB46;o__OPB72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__OctSpA1-106;c__;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Planctomycetes;c__Phycisphaerae;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
p__Planctomycetes;c__Planctomycetia;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Planctomycetes;c__Planctomycetia;o__Gemmatales	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	

p__Planctomycetes;c__Planctomycetia;o__Pirellulales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	
p__Planctomycetes;c__Planctomycetia;o__Planctomycetales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;Other;Other	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Alphaproteobacteria;Other	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Alphaproteobacteria;o__Caulobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	
p__Proteobacteria;c__Alphaproteobacteria;o__RF32	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales	0.03	0.00	0.01	0.03	0.02	0.03	0.02	0.02	0.03	0.02	
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodospirillales	0.03	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	
p__Proteobacteria;c__Alphaproteobacteria;o__Rickettsiales	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales	0.02	0.01	0.01	0.04	0.01	0.03	0.02	0.01	0.01	0.02	
p__Proteobacteria;c__Betaproteobacteria;Other	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	
p__Proteobacteria;c__Betaproteobacteria;o__Burkholderiales	0.04	0.10	0.07	0.06	0.02	0.04	0.02	0.01	0.02	0.04	
p__Proteobacteria;c__Betaproteobacteria;o__Ellin6067	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Betaproteobacteria;o__IS-44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Betaproteobacteria;o__MND1	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	
p__Proteobacteria;c__Betaproteobacteria;o__MWH-UniP1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Betaproteobacteria;o__Methylophilales	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	
p__Proteobacteria;c__Betaproteobacteria;o__Neisseriales	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Betaproteobacteria;o__Rhodocyclales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Betaproteobacteria;o__SC-I-84	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Deltaproteobacteria;o__Bdellovibrionales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	
p__Proteobacteria;c__Deltaproteobacteria;o__Myxococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Deltaproteobacteria;o__NB1-j	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Deltaproteobacteria;o__Syntrophobacterales	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	
p__Proteobacteria;c__Epsilonproteobacteria;o__Campylobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Gammaproteobacteria;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	
p__Proteobacteria;c__Gammaproteobacteria;o__Aeromonadales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Gammaproteobacteria;o__Alteromonadales	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	
p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Gammaproteobacteria;o__Legionellales	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.02	0.01	0.08	
p__Proteobacteria;c__Gammaproteobacteria;o__Xanthomonadales	0.02	0.01	0.01	0.01	0.00	0.03	0.01	0.03	0.01	0.02	
p__TM6;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
p__TM6;c__SJA-4;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Thermi;c__Deinococci;o__Deinococcales	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Thermotogae;c__Thermotogae;o__Thermotogales	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	
p__Verrucomicrobia;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__Verrucomicrobia;c__Verrucomicrobiae;o__Verrucomicrobiales	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	

p__Verrucomicrobia;c__[Pedosphaerae];o__[Pedosphaerales]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
p__WS3;c__PRR-12;o__Sediment-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
***Due to the high volume of order level taxonomic information for the Bat Pool Illumina - Bacteria run, only the taxa with values ≥ 0.01% were included. If a particular taxa had values < 0.01% for all samples it was not included in this table.**											

APPENDIX F (continued)

TABLE XVIII
TAXONOMIC ABUNDANCE FOR BAT POOL & MULTI-BASIN 454 PYROTAG SEQUENCING ARCHAEA DATASET (FIGURES 32 &34)

Taxon	Flat Cone	KMW19 Arch	KMW18 Arch	Spindle Geyser	KMW1 Arch	KMW2 Arch	KMW13 Arch	KMW4 Arch	KMW30 Arch
k__Archaea;p__Crenarchaeota;c__Thermoprotei;Other	0.14	9.52	7.65	0.02	12.31	7.30	4.26	6.27	6.25
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__	0.00	4.19	3.43	0.27	7.66	2.03	1.24	3.21	5.64
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales	0.64	78.07	80.35	0.05	67.50	85.83	90.97	86.90	70.75
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales	5.40	5.61	6.52	74.00	8.36	3.27	2.75	2.15	13.24
k__Archaea;p__Crenarchaeota;c__pSL4;o__	93.07	2.09	1.35	24.20	3.68	1.00	0.22	0.41	2.64
Other	0.75	0.52	0.69	1.46	0.49	0.57	0.57	1.06	1.47
k__Archaea;Other;Other;Other	0.18	0.00	0.03	0.18	0.03	0.02	0.03	0.03	0.06
k__Archaea;p__Crenarchaeota;Other;Other	0.36	0.40	0.33	1.20	0.25	0.33	0.10	0.53	0.31
k__Archaea;p__Crenarchaeota;c__MCG;o__pGrfC26	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Crenarchaeota;c__Thaumarchaeota;o__Nitrosocaldales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Crenarchaeota;c__Thaumarchaeota;o__Nitrososphaerales	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.12	0.00
k__Archaea;p__Crenarchaeota;c__pISA9;o__	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;Other;Other	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;c__Archaeoglobi;o__Archaeoglobales	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	1.10
k__Archaea;p__Euryarchaeota;c__Halobacteria;o__Halobacteriales	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;c__Methanobacteria;o__Methanobacteriales	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;c__Thermoplasmata;o__Thermoplasmatales	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Euryarchaeota;c__[Micrarchaea];o__[Micrarchaeles]	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
k__Archaea;p__Nanoarchaeota;c__[Nanoarchaeoti];o__[Nanoarchaeotales]	0.00	0.12	0.28	0.00	0.00	0.21	0.43	0.38	0.00

Taxon	KMW14 Arch	KMWS4 Arch	KMW3 Arch	MLS	Octopus Spring	'Bison Pool'	KMW26 Arch	KMWS5 Arch	
k__Archaea;p__Crenarchaeota;c__Thermoprotei;Other	6.27	0.00	3.70	0.88	0.14	0.06	9.73	0.24	
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__	3.95	0.00	2.13	5.56	0.47	0.00	7.96	0.08	
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales	77.17	100.00	82.90	0.00	0.03	0.03	78.29	98.33	
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales	10.90	0.00	8.04	0.44	37.48	98.22	2.22	1.27	
k__Archaea;p__Crenarchaeota;c__pSL4;o__	1.12	0.00	2.59	91.83	60.28	1.04	1.27	0.00	
Other	0.60	0.00	0.65	1.29	1.59	0.65	0.53	0.08	
k__Archaea;Other;Other;Other	0.00	0.00	0.09	0.07	0.00	0.30	0.00	0.00	
k__Archaea;p__Crenarchaeota;Other;Other	0.00	0.00	0.09	0.37	1.59	0.30	0.21	0.00	
k__Archaea;p__Crenarchaeota;c__MCG;o__pGrfC26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
k__Archaea;p__Crenarchaeota;c__Thaumarchaeota;o__Nitrosocaldales	0.00	0.00	0.00	0.85	0.00	0.00	0.00	0.00	
k__Archaea;p__Crenarchaeota;c__Thaumarchaeota;o__Nitrososphaerales	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	
k__Archaea;p__Crenarchaeota;c__pISA9;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
k__Archaea;p__Euryarchaeota;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
k__Archaea;p__Euryarchaeota;c__Archaeoglobi;o__Archaeoglobales	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	
k__Archaea;p__Euryarchaeota;c__Halobacteria;o__Halobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
k__Archaea;p__Euryarchaeota;c__Methanobacteria;o__Methanobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	
k__Archaea;p__Euryarchaeota;c__Thermoplasmata;o__Thermoplasmatales	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	
k__Archaea;p__Euryarchaeota;c__[Micrarchaea];o__[Micrarchaeles]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
k__Archaea;p__Nanoarchaeota;c__[Nanoarchaeoti];o__[Nanoarchaeotales]	0.60	0.00	0.37	0.00	0.00	0.00	0.28	0.08	

APPENDIX F (continued)

TABLE XXIX
TAXONOMIC ABUNDANCE FOR BAT POOL & MULTI-BASIN 454 PYROTAG SEQUENCING BACTERIA DATASET (FIGURES 33 & 35)

Taxon	SB	Bat Pool	MLS	Flat Cone	Octopus Spring	'Bison Pool'	Spindle Geyser	KMW1 Bac	KMWS2 Bac	KMWS4 Bac
k__Bacteria;Other;Other;Other	0.00	0.27	5.88	3.04	1.95	0.34	0.30	0.13	0.13	0.13
p__Acidobacteria;c__O1aA90;o__	0.00	0.00	25.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Aquificae;c__Aquificae;o__Aquificales	0.01	36.42	36.98	27.35	48.14	86.13	84.12	43.87	45.25	98.87
p__Chlorobi;c__Ignavibacteria;o__Ignavibacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__GCA004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Chloroflexi;o__Roseiflexales	34.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Deferribacteres;c__Deferribacteres;o__Deferribacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__EM19;c__;o__	0.00	0.00	4.94	4.32	7.53	0.01	0.09	0.00	0.00	0.00
p__EM3;c__;o__	0.00	0.00	4.88	4.57	42.18	12.06	15.46	0.75	0.00	0.88
p__Firmicutes;c__Bacilli;o__Bacillales	20.18	2.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Clostridia;o__Clostridiales	0.00	2.35	0.00	0.00	0.00	0.00	0.00	0.00	4.58	0.00
p__Nitrospirae;c__Nitrospira;o__Nitrospirales	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Betaproteobacteria;o__Burkholderiales	0.03	24.70	1.33	0.00	0.00	0.00	0.00	0.38	8.73	0.00
p__Proteobacteria;c__Gammaproteobacteria;Other	0.01	0.22	0.00	0.00	0.00	0.00	0.00	6.26	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Chromatiales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.33	0.00	0.04
p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales	0.00	27.11	0.00	0.00	0.00	0.00	0.01	0.17	37.39	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales	45.47	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Xanthomonadales	0.07	1.35	4.32	0.08	0.06	0.00	0.00	0.00	0.00	0.04
p__Thermi;c__Deinococci;o__Thermales	0.00	0.00	10.30	50.62	0.02	1.45	0.00	0.00	0.00	0.00
p__Thermodesulfobacteria;c__Thermodesulfobacteria;o__Thermodesulfobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.46	0.08	0.04
p__Thermotogae;c__Thermotogae;o__Thermotogales	0.00	0.00	0.00	4.34	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.03	4.68	5.98	5.50	0.13	0.01	0.01	0.67	3.84	0.00
p__Acidobacteria;c__Acidobacteria-2;o__	0.00	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Acidobacteria;c__Acidobacteria-6;o__iii1-15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Acidobacteria;c__OS-K;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
p__Actinobacteria;c__Acidimicrobiia;o__Acidimicrobiales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Actinobacteria;c__Actinobacteria;o__Actinomycetales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.31	0.00
p__Actinobacteria;c__OPB41;o__	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00
p__Armatimonadetes;c__OS-L;o__	0.00	0.00	0.13	0.48	0.00	0.01	0.00	0.00	0.00	0.00
p__Bacteroidetes;c__Bacteroidia;o__Bacteroidales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.69	0.00
p__Bacteroidetes;c__Flavobacteriia;o__Flavobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00

p__Bacteroidetes;c__Sphingobacteriia;o__Sphingobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chlorobi;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chlorobi;c__Ignavibacteria;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;Other;Other	0.00	0.00	0.02	0.39	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__	0.00	0.00	0.67	0.17	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__A31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__Anaerolineales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__Caldilineales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__SBR1031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Chloroflexi;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Chloroflexi;o__Chloroflexales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Thermomicrobia;o__Thermomicrobiales	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Chloroplast;o__	0.03	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Chloroplast;o__Streptophyta	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Gloeobacterophycideae;o__Gloeobacterales	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Nostocophycideae;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Nostocophycideae;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Oscillatoriophycideae;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Oscillatoriophycideae;o__Chroococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__S15B-MN24;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
p__Cyanobacteria;c__Synechococcophycideae;o__Pseudanabaenales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Synechococcophycideae;o__Synechococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
p__Dictyoglomi;c__Dictyoglomia;o__Dictyoglomales	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;Other;Other	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00
p__Firmicutes;c__Bacilli;Other	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;o__Exiguobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;o__Gemellales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;o__Lactobacillales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Clostridia;Other	0.00	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00
p__Firmicutes;c__Clostridia;o__	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Clostridia;o__Thermoanaerobacterales	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
p__GAL15;c__;o__	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__OD1;c__;o__	0.00	0.00	1.80	1.53	0.00	0.00	0.00	0.00	0.00	0.00
p__OP1;c__OPB14;o__	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.46	0.00	0.00
p__OP9;c__OPB46;o__OPB72	0.00	0.00	0.00	1.49	0.00	0.00	0.00	0.00	0.00	0.00

p__OctSpA1-106;c__;o__	0.00	0.00	2.23	0.25	0.11	0.00	0.00	0.04	0.00	0.00
p__Proteobacteria;Other;Other	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Caulobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales	0.00	0.13	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodospirillales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria; o__Sphingomonadales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00
p__Proteobacteria;c__Betaproteobacteria;Other	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
p__Proteobacteria;c__Betaproteobacteria;o__Hydrogenophilales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Betaproteobacteria;o__Rhodocyclales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Deltaproteobacteria;o__Myxococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Aeromonadales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Alteromonadales	0.00	0.00	0.77	0.00	0.02	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Methylococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Pasteurellales	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Thermi;c__Deinococci;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Thermi;c__Deinococci;o__Deinococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Verrucomicrobia;c__[Pedosphaerae];o__[Pedosphaerales]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__WS6;c__SC72;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sample Name: KMW#Bac									
Taxon	**KMWS5**	**KMW14**	**KMW30**	**KMW3**	**KMW26**	**KMW13**	**KMW19**	**KMW18**	**KMW2**	**KMW4**
k__Bacteria;Other;Other;Other	0.07	0.32	0.18	0.16	0.07	0.21	0.16	0.23	0.19	0.23
p__Acidobacteria;c__O1aA90;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Aquificae;c__Aquificae;o__Aquificales	99.80	73.45	85.44	74.47	37.75	67.77	54.94	41.72	78.21	39.45
p__Chlorobi;c__Ignavibacteria;o__Ignavibacteriales	0.00	0.00	0.00	2.86	0.00	4.65	6.27	11.29	0.00	13.77
p__Chloroflexi;c__Anaerolineae;o__GCA004	0.00	0.00	0.00	0.00	0.01	4.46	9.36	14.40	0.00	12.81
p__Chloroflexi;c__Chloroflexi;o__Roseiflexales	0.00	0.00	0.00	0.00	0.00	0.18	0.05	0.14	0.00	0.17
p__Deferribacteres;c__Deferribacteres;o__Deferribacterales	0.00	0.00	0.00	0.00	0.00	3.27	3.37	3.02	0.00	5.34
p__EM19;c__;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__EM3;c__;o__	0.02	1.37	0.95	1.27	0.06	1.32	0.72	0.28	1.81	1.33
p__Firmicutes;c__Bacilli;o__Bacillales	0.00	0.00	0.00	0.00	6.64	0.00	0.88	0.00	0.07	0.06
p__Firmicutes;c__Clostridia;o__Clostridiales	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.03

p__Nitrospirae;c__Nitrospira;o__Nitrospirales	0.00	0.00	0.00	0.10	0.00	5.05	2.26	16.06	0.07	13.91
p__Proteobacteria;c__Betaproteobacteria;o__Burkholderiales	0.02	1.08	0.53	1.19	17.73	0.37	1.22	0.52	0.06	0.85
p__Proteobacteria;c__Gammaproteobacteria;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.01	0.00	0.01
p__Proteobacteria;c__Gammaproteobacteria;o__Chromatiales	0.00	0.00	0.00	0.00	0.00	0.00	1.37	0.00	0.00	0.01
p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales	0.02	0.17	0.00	0.00	9.71	0.01	0.00	0.00	0.00	0.31
p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales	0.00	0.02	0.00	0.00	14.64	0.00	0.00	0.01	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Xanthomonadales	0.00	0.04	0.00	0.00	0.03	0.05	0.33	0.01	0.08	0.02
p__Thermi;c__Deinococci;o__Thermales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Thermodesulfobacteria;c__Thermodesulfobacteria;o__Thermodesulfobacteriales	0.04	22.37	11.90	17.52	5.43	10.97	16.91	9.42	18.23	8.25
p__Thermotogae;c__Thermotogae;o__Thermotogales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.02	1.19	1.01	2.42	7.93	1.65	2.06	2.90	1.28	3.45
p__Acidobacteria;c__Acidobacteria-2;o__	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
p__Acidobacteria;c__Acidobacteria-6;o__iii1-15	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
p__Acidobacteria;c__OS-K;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Actinobacteria;c__Acidimicrobiia;o__Acidimicrobiales	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
p__Actinobacteria;c__Actinobacteria;o__Actinomycetales	0.00	0.06	0.00	0.05	2.17	0.00	0.01	0.33	0.00	0.00
p__Actinobacteria;c__OPB41;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Armatimonadetes;c__OS-L;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Bacteroidetes;c__Bacteroidia;o__Bacteroidales	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
p__Bacteroidetes;c__Flavobacteriia;o__Flavobacteriales	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00
p__Bacteroidetes;c__Sphingobacteriia;o__Sphingobacteriales	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
p__Chlorobi;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.45	0.00	0.05
p__Chlorobi;c__Ignavibacteria;Other	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.03	0.00	0.04
p__Chloroflexi;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
p__Chloroflexi;c__Anaerolineae;Other	0.00	0.00	0.00	0.00	0.00	0.21	0.40	0.63	0.00	0.25
p__Chloroflexi;c__Anaerolineae;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__A31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__Anaerolineales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__Caldilineales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00
p__Chloroflexi;c__Anaerolineae;o__SBR1031	0.00	0.00	0.00	0.00	0.00	0.51	0.69	0.63	0.00	0.91
p__Chloroflexi;c__Chloroflexi;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
p__Chloroflexi;c__Chloroflexi;o__Chloroflexales	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Chloroflexi;c__Thermomicrobia;o__Thermomicrobiales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;Other;Other	0.00	0.00	0.00	0.03	2.71	0.01	0.00	0.00	0.00	0.02
p__Cyanobacteria;c__Chloroplast;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Chloroplast;o__Streptophyta	0.00	0.00	0.00	0.00	0.00	0.09	0.06	0.00	0.01	0.00

p__Cyanobacteria;c__Gloeobacterophycideae;o__Gloeobacterales	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Nostocophycideae;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Nostocophycideae;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
p__Cyanobacteria;c__Oscillatoriophycideae;Other	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00
p__Cyanobacteria;c__Oscillatoriophycideae;o__Chroococcales	0.00	0.00	0.00	0.09	0.01	0.09	0.00	0.00	0.00	0.18
p__Cyanobacteria;c__S15B-MN24;o__	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.01	0.11
p__Cyanobacteria;c__Synechococcophycideae;o__Pseudanabaenales	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.05	0.00	0.21
p__Cyanobacteria;c__Synechococcophycideae;o__Synechococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Dictyoglomi;c__Dictyoglomia;o__Dictyoglomales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;Other;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;Other	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;o__Exiguobacterales	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;o__Gemellales	0.00	0.00	0.00	0.00	1.03	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Bacilli;o__Lactobacillales	0.00	0.06	0.00	0.00	0.04	0.00	0.00	0.01	0.00	0.02
p__Firmicutes;c__Clostridia;Other	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
p__Firmicutes;c__Clostridia;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Firmicutes;c__Clostridia;o__Thermoanaerobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__GAL15;c__;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__OD1;c__;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__OP1;c__OPB14;o__	0.00	0.39	0.82	0.89	0.59	0.05	0.23	0.40	0.95	0.07
p__OP9;c__OPB46;o__OPB72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__OctSpA1-106;c__;o__	0.00	0.02	0.07	0.07	1.05	0.07	0.23	0.05	0.05	0.02
p__Proteobacteria;Other;Other	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;Other	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01
p__Proteobacteria;c__Alphaproteobacteria;o__	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
p__Proteobacteria;c__Alphaproteobacteria;o__Caulobacterales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Rhizobiales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodobacterales	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.01	0.00	0.03
p__Proteobacteria;c__Alphaproteobacteria;o__Rhodospirillales	0.00	0.00	0.00	0.14	0.00	0.00	0.10	0.00	0.00	0.10
p__Proteobacteria;c__Alphaproteobacteria;o__Sphingomonadales	0.00	0.00	0.00	0.01	0.11	0.02	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Betaproteobacteria;Other	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01
p__Proteobacteria;c__Betaproteobacteria;o__Hydrogenophilales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00
p__Proteobacteria;c__Betaproteobacteria;o__Rhodocyclales	0.02	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.16
p__Proteobacteria;c__Deltaproteobacteria;o__Myxococcales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02

p__Proteobacteria;c__Gammaproteobacteria;o__Aeromonadales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.19
p__Proteobacteria;c__Gammaproteobacteria;o__Alteromonadales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Methylococcales	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
p__Proteobacteria;c__Gammaproteobacteria;o__Pasteurellales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Thermi;c__Deinococci;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p__Thermi;c__Deinococci;o__Deinococcales	0.00	0.43	0.07	0.64	0.00	0.00	0.13	0.01	0.00	0.74
p__Verrucomicrobia;c__[Pedosphaerae];o__[Pedosphaerales]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
p__WS6;c__SC72;Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.20

APPENDIX G

OTU Heatmaps

The following results are the OTU heatmaps; the color scheme for the heatmaps is as follows: blue indicates a low number of OTUs per sample and red indicates a high number of OTUs per sample. There are heatmaps for both Archaea and Bacteria, at levels of filtering chosen to incorporate all of the OTUs, which contain the highest number of sequences, for each of the various datasets that were run through QIIME. Table XXX outlines the list of all the tables of OTU heatmaps; the name of each table indicates which dataset it portrays, whether it is for Archaea or Bacteria, and the minimum number of counts per OTU at which the table was filtered. The order in which the OTUs are presented in is a result of UPGMA hierarchical clustering. The accompanying taxonomic information for each OTU is provided following the OTU heatmap. In the following tables, for the taxonomic information k = kingdom, p = phylum, c = class, o = order, f = family, g = genus, and s = species.

TABLE XXX
LIST OF OTU HEATMAP TABLE NAMES

Table Number	Table Name
Table XXXI	Bat Pool 454 Pyrotag Sequencing - Archaea (200 counts per OTU)
Table XXXII	Bat Pool 454 Pyrotag Sequencing - Bacteria (1000 counts per OTU)
Table XXXIII	Bat Pool Illumina - Archaea (300 counts per OTU)
Table XXXIV	Bat Pool Illumina - Bacteria (4000 counts per OTU)
Table XXXV	Bat Pool & Multi-Basin 454 Pyrotag Sequencing - Archaea (200 counts per OTU)
Table XXXVI	Bat Pool & Multi-Basin 454 Pyrotag Sequencing - Bacteria (2000 counts per OTU)

APPENDIX G (continued)

TABLE XXXI
BAT POOL 454 PYROTAG SEQUENCING - ARCHAEA (200 COUNTS PER OTU)

#OTU ID	430	489	927	1564	1571	1592	1609	2736	2832	3001	3184	3426	3586	3682	3816
KMW19	45	113	5	24	146	120	7	1271	5	23	120	40	36	60	41
KMW26	29	78	31	20	63	37	8	1368	7	11	78	25		30	25
KMW1	234	48	98	81	270	13	13	673	118	223	47	144	70	21	6
KMW2	22	27	3	10	73	57	281	2264	32	34	63	14	16	26	28
KMW13	28	138	6	7	56	98	32	3712	34	30	69	115	20	28	85
KMW18	15	35	8	19	30	103	250	1892	18	37	35	25	9	28	20
KMW4	18	14	7	5	63	21	282	1750	43	19	40	25	9	27	29
KMW30	50	6	26	31	88	7	12	447	87	169	16	87	19	10	3
KMW14	36	9	11	4	57	2	4	384	57	105	7	97	15	3	7
KMWS4		2			2		6	602	45		1	73			6
KMW3	29	4	11	18	38	3	6	430	84	74	4	74	8		3
KMWS5	2	1			12			663	68	8		98			8

Consensus Lineage	OTU
k__Archaea;p__Crenarchaeota;c__Thermoprotei	430
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales; f__Desulfurococcaceae;g__;s__	489
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__;f__;g__;s__	927
k__Archaea;p__Crenarchaeota;c__pSL4;o__;f__;g__;s__	1564
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales; f__Desulfurococcaceae;g__;s__	1571
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales ;f__Thermofilaceae;g__;s__	1592
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales; f__Desulfurococcaceae;g__;s__	1609
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales; f__Desulfurococcaceae;g__;s__	2736
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales; f__Desulfurococcaceae;g__;s__	2832
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales; f__Thermofilaceae;g__;s__	3001
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales ;f__Desulfurococcaceae;g__;s__	3184
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales; f__Desulfurococcaceae;g__;s__	3426
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales; f__Desulfurococcaceae;g__;s__	3586
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__;f__;g__;s__	3682
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales; f__Desulfurococcaceae;g__;s__	3816

APPENDIX G (continued)

TABLE XXXII
BAT POOL 454 PYROTAG SEQUENCING - BACTERIA (1000 COUNTS PER OTU)

#OTU ID	75	227	449	498	660	864	895	1140	1666	2293	2496	2774	3431	3433	3437	3587	3723	3762	4007
KMW4		186	739	298	4		2268		9174	4867		3416	2650	360	9117	21704		234	6301
KMW18			39	116			969		1991	1433		513	724	83	2740	6001		97	1574
KMW2			680	507						6933			3390	16	29	28159		381	
KMW3			74	165					199	1106			704	28	6	4568		40	
KMW19			126	247	274		690		1261	2925		653	1105	77	435	9092	1	118	1198
KMW30			60	82						726			576	1		5026		37	
KMW26	2123		18	126		1040		3075		1524	2516		1332	4333	1	9953	1957	136	2
KMW13		3	246	169			142		1025	2078		692	1498	68	1095	12437		147	848
KMW14			64	133						1012			412	9		3197		33	
KMWS5			1							2			733			3015		6	
KMWS2		1400								3			150	9		1427		6	
KMW1		3	16	18	945					133			151	6		746		2	
KMWS4			16		1					1			309			1671		4	

Consensus Lineage	#OTU ID
k__Bacteria;p__Firmicutes;c__Bacilli;o__Bacillales;f__Staphylococcaceae;g__Staphylococcus	75
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales;f__Enterobacteriaceae;g__Enterobacter;s__hormaechei	227
k__Bacteria;p__EM3;c__;o__;f__;g__;s__	449
k__Bacteria;p__Thermodesulfobacteria;c__Thermodesulfobacteria;o__Thermodesulfobacteriales; f__Thermodesulfobacteriaceae;g__Geothermobacterium;s__	498
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Chromatiales;f__Chromatiaceae	660
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__Burkholderiales;f__Oxalobacteraceae;g__;s__	864
k__Bacteria;p__Chloroflexi;c__Anaerolineae;o__GCA004;f__;g__;s__	895
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales;f__Enterobacteriaceae	1140
k__Bacteria;p__Chlorobi;c__Ignavibacteria;o__Ignavibacteriales;f__;g__;s__	1666

#OTU ID	75	227	449	498	660	864	895	1140	1666	2293	2496	2774	3431	3433	3437	3587	3723	3762	4007
k__Bacteria;p__Thermodesulfobacteria;c__Thermodesulfobacteria;o__Thermodesulfobacteriales; f__Thermodesulfobacteriaceae;g__Geothermobacterium;s__																			2293
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales;f__Pseudomonadaceae;g__Pseudomonas																			2496
k__Bacteria;p__Deferribacteres;c__Deferribacteres;o__Deferribacterales;f__Deferribacteraceae;g__E4;s__																			2774
k__Bacteria;p__Aquificae;c__Aquificae;o__Aquificales;f__Aquificaceae;g__;s__																			3431
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__Burkholderiales;f__Oxalobacteraceae;g__Ralstonia;s__																			3433
k__Bacteria;p__Nitrospirae;c__Nitrospira;o__Nitrospirales;f__Thermodesulfovibrionaceae;g__LCP-6;s__																			3437
k__Bacteria;p__Aquificae;c__Aquificae;o__Aquificales;f__Aquificaceae;g__;s__																			3587
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales;f__Moraxellaceae;g__Acinetobacter;s__lwoffii																			3723
k__Bacteria;p__Aquificae;c__Aquificae;o__Aquificales;f__Aquificaceae;g__;s__																			3762
k__Bacteria;p__Chloroflexi;c__Anaerolineae;o__GCA004;f__;g__;s__																			4007

APPENDIX G (continued)

TABLE XXXIII
BAT POOL ILLUMINA - ARCHAEA (300 COUNTS PER OTU)

#OTU ID	666	1115	1373	1499	1592	2260	3001	3381	3472	3637	3677	6418	6547	6727	7804	8058	8297	8324	8456	9233
S9Arch-1:100	32		89	33	23		34	15856				9	11656		101	1130	13		30	
S9Arch-1:10	52		136	58	33	1	270	16923				13	11143		125	1337	6		232	1
K8-SBC2	5		4		1		2	219	1			13	473			16	6	3	1	
S7	1				4			1943	19		33	17	974	28	7	220	17			1
32Arch-1:10	1762	107	268	227	253		69	13615	15	1262	78	1	6148	909	78	12401	3	1338	31	
42	609	150		5	3	376		1286	111	307	352	2	202	13	2	518	3	278	1	77
K11	9	84	15	10	15	4	3	393	92	5	16	1	2344	83	3	796	4	18	1	323
32Arch-1:100	1182	23	127	100	106		5	8372		673	94	8	2313	354	50	5384	1	669	1	
K10A	1	18		3	3	4		954		204	22	26	747	68	5	205	23	1		36
32B	18	11	3	9	15	3	2	1098	267	3	15	22	1616	14	1	638	22	161		59
S8	2			1				542	3			4	279		5	51	8	2		
K12-SBC								260				14	506		2	2	12		1	
K8-SBC1			1				6	175				5	436			3	7		1	
S9-SBC1	2		9					259				4	420		2	6	10		3	
S5-IL			1					59				4	139			5	1			
37	1	58	15	7	10			519	274		1	14	778	2	2	448	8			10
K10-SBC	2		4				1	346	6			7	279		1	10	9			
K7-SBC	2		7	3	3		7	369	13		4	7	2718	4	1	82	9		2	
K10B	15	41	8	3	2	1		968		73	34	27	852	56	5	210	25			1
4-IL				3	6			342	18	41		23	931	3	1	157	19			92
32A	27	7	2	9	13	2		1113	141	44	7	29	1152	23	4	477	28	86		101
S9-SBC2	1		1					162				8	361		2	11	5			
K12	12	1	5	7	6	2	8	1264	8	42	4	53	1547	23	5	173	51	3	3	8
K8	94	79		8	9	2		606	79	15	1	19	406	1	4	306	27	26		99
Consensus Lineage																				#OTU ID

#OTU ID	666	1115	1373	1499	1592	2260	3001	3381	3472	3637	3677	6418	6547	6727	7804	8058	8297	8324	8456	9233
k__Archaea;p__Crenarchaeota;c__pSL4;o__;f__;g__;s__																				666
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermofilaceae;g__;s__																				1115
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__Aeropyrum;s__																				1373
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__Aeropyrum;s__																				1499
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__Aeropyrum;s__																				1592
k__Archaea;p__Crenarchaeota;c__Thermoprotei																				2260
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermoproteaceae;g__Pyrobaculum;s__																				3001
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae																				3381
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae																				3472
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__;f__;g__;s__																				3637
k__Archaea;p__Crenarchaeota;c__Thermoprotei																				3677
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermoproteaceae;g__Pyrobaculum;s__																				6418
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermoproteaceae;g__Pyrobaculum;s__																				6547
k__Archaea;p__Crenarchaeota;c__Thermoprotei																				6727
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae																				7804
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__Aeropyrum;s__																				8058
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermoproteaceae;g__Pyrobaculum;s__																				8297
k__Archaea;p__Crenarchaeota;c__Thermoprotei																				8324
k__Archaea;p__Crenarchaeota;c__Thermoprotei																				8456
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae																				9233

APPENDIX G (continued)

TABLE XXXIV
BAT POOL ILLUMINA - BACTERIA (4000 COUNTS PER OTU)

#OTU ID	30	4674	5040	5760	8459	8732	9542
K9-SBC	429	26	30053	3		30	461
K8-SBC2	557	394	39939	2274	4	464	21
S7	427	485	26378	285	32	1924	417
42	180	10	14027	8	2189	2698	898
K11	216		15707	119	2072	6007	667
K10A	153	4334	12556	326	9997	3723	439
32B	311		25731	387	687	5231	486
S8	470	7	37145	129	6	307	300
K12-SBC	449	788	29320	1010		309	436
K8-SBC1	497	355	37033	2337	10	378	4
S9-SBC1	444		34413	466	1	153	217
S5-IL	398	1	29483	41		15	23
37	160	11	14118	221	512	3577	1284
K10-SBC	423	4612	29149	1354	28	478	32
K7-SBC	387	10	33000	1333		1196	40
K10B	200	3240	12668	322	10067	2562	582
4-IL	313		21855	332	392	1604	691
32A	325		22409	357	921	5023	1008
S9-SBC2	388	3	32741	407		64	89
K12	199	6740	14840	498	3625	3734	91
K8	156		11416	107	2102	2339	1044

Consensus Lineage	OTU
k__Bacteria;p__Aquificae;c__Aquificae;o__Aquificales;f__Aquificaceae;g__;s__	30
k__Bacteria;p__Thermi;c__Deinococci;o__Thermales;f__Thermaceae;g__Thermus;s__	4674
k__Bacteria;p__Aquificae;c__Aquificae;o__Aquificales;f__Aquificaceae;g__;s__	5040

#OTU ID	30	4674	5040	5760	8459	8732	9542
k__Bacteria;p__EM3;c__;o__;f__;g__;s__							5760
k__Bacteria;p__OP1;c__OPB14;o__;f__;g__;s__							8459
k__Bacteria;p__Thermodesulfobacteria;c__Thermodesulfobacteria;o__Thermodesulfobacteriales; f__Thermodesulfobacteriaceae;g__Geothermobacterium;s__							8732
k__Bacteria;p__Firmicutes;c__Clostridia;o__Clostridiales;f__Clostridiaceae;g__Anaerococcus;s__							9542

APPENDIX G (continued)

TABLE XXXV
BAT POOL & MULTI-BASIN 454 PYROTAG SEQUENCING - ARCHAEA (200 COUNTS PER OTU)

#OTU ID	340	591	663	1135	1678	1683	1689	1925	1933	1961	1982	3077	3399	3718	3944	4254	4380	4451	4575	4738
Flat Cone			1505		138	2	492										4			
KMW19Arch	5	113		5				24	146	120	7	45	1271	23	120	40		36	60	41
KMW18Arch	18	35		8				19	30	103	250	15	1892	37	35	25		9	28	20
Spindle Geyser			954		3433	168	1										213			
KMW1Arch	118	48		98	2			81	270	13	13	234	673	223	47	144		70	21	6
KMW2Arch	32	27		3				10	73	57	281	22	2264	34	63	14		16	26	28
KMW13Arch	34	138		6				7	56	98	32	28	3712	30	69	115		20	28	85
KMW4Arch	43	14		7				5	63	21	282	18	1750	19	40	25		9	27	29
KMW30Arch	87	6		26	10			31	88	7	12	50	447	169	16	87		19	10	3
KMW14Arch	57	9		11				4	57	2	4	36	384	105	7	97		15	3	7
KMWS4Arch	45	2							2		6		602		1	73				6
KMW3Arch	84	4		11				18	38	3	6	29	430	74	4	74		8		3
MLS			1947		11		237													
Octopus Spring			1443		957	42											22			
'Bison Pool'			16		2677	287	2										22			
KMW26Arch	7	78		31				20	63	37	8	29	1368	11	78	25			30	25
KMWS5Arch	68	1			5				12			2	663	8		98				8

Consensus Lineage	#OTU ID
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__;s__	340
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__;s__	591
k__Archaea;p__Crenarchaeota;c__pSL4;o__;f__;g__;s__	663
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__;f__;g__;s__	1135
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermoproteaceae;g__Pyrobaculum;s__	1678
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermoproteaceae;g__Pyrobaculum;s__	1683
k__Archaea;p__Crenarchaeota;c__pSL4;o__;f__;g__;s__	1689

#OTU ID	340	591	663	1135	1678	1683	1689	1925	1933	1961	1982	3077	3399	3718	3944	4254	4380	4451	4575	4738
k__Archaea;p__Crenarchaeota;c__pSL4;o__;f__;g__;s__																				1925
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__;s__																				1933
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermofilaceae;g__;s__																				1961
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__;s__																				1982
k__Archaea;p__Crenarchaeota;c__Thermoprotei																				3077
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__;s__																				3399
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermofilaceae;g__;s__																				3718
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__;s__																				3944
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__;s__																				4254
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Thermoproteales;f__Thermoproteaceae;g__Pyrobaculum;s__																				4380
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__;s__																				4451
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__;f__;g__;s__																				4575
k__Archaea;p__Crenarchaeota;c__Thermoprotei;o__Desulfurococcales;f__Desulfurococcaceae;g__;s__																				4738

APPENDIX G (continued)

TABLE XXXVI
BAT POOL & MULTI-BASIN 454 PYROTAG SEQUENCING - BACTERIA (2000 COUNTS PER OTU)

#OTU ID	287	332	544	1091	1399	1699	1737	2856	2910	3103	3445	3510	3562	3860	4259	4261	4265	4339	4453
KMW4Bac	153	8	741	2268				4867			3416	9174		6301	2641	357	9117	40	21684
KMW18Bac		7	37	969				1433			513	1991		1574	725	85	2740	8	5994
KMW2Bac		34	677					6933					1		3390	15	29		28118
KMW3Bac		5	73					1106				199			702	28	6		4561
KMW19Bac		5	126	690				2925			653	1261		1198	1103	76	435	5	9082
Spindle Geyser	1	1736	175												3				2464
Bat Pool	1439								3807							1547			
KMW30Bac		21	60					726							574	1			5005
KMW26Bac		7	18		3075		2123	1524		2516				2	1329	4318	1		9948
KMW13Bac		13	243	142				2078			692	1025		848	1497	68	1095	15	12418
KMW14Bac		9	63					1012							411	9			3193
'Bison Pool'		113	625										151		24				6788
Octopus Spring		211	292												7				1285
MLS		12	10										76		3	2			554
KMWS2Bac	1400	3						3							148	9			1423
Flat Cone		9	43										1966		4				598
SB						2676												2210	
KMWS5Bac		2	1					2							731				3013
KMW1Bac	2	2	16					133							149	5			743
KMWS4Bac			16					1							308				1672

Consensus Lineage	#OTU ID
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales;f__Enterobacteriaceae;g__Enterobacter;s__hormaechei	287
k__Bacteria;p__Aquificae;c__Aquificae;o__Aquificales;f__Aquificaceae;g__;s__	332
k__Bacteria;p__EM3;c__;o__;f__;g__;s__	544
k__Bacteria;p__Chloroflexi;c__Anaerolineae;o__GCA004;f__;g__;s__	1091

#OTU ID	287	332	544	1091	1399	1699	1737	2856	2910	3103	3445	3510	3562	3860	4259	4261	4265	4339	4453
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Enterobacteriales;f__Enterobacteriaceae																			1399
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales;f__Pseudomonadaceae;g__Azorhizophilus;s__																			1699
k__Bacteria;p__Firmicutes;c__Bacilli;o__Bacillales;f__Staphylococcaceae;g__Staphylococcus																			1737
k__Bacteria;p__Thermodesulfobacteria;c__Thermodesulfobacteria;o__Thermodesulfobacteriales;f__Thermodesulfobacteriaceae; g__Geothermobacterium;s__																			2856
k__Bacteria;p__Aquificae;c__Aquificae;o__Aquificales;f__Aquificaceae;g__Hydrogenobaculum;s__																			2910
k__Bacteria;p__Proteobacteria;c__Gammaproteobacteria;o__Pseudomonadales;f__Pseudomonadaceae;g__Pseudomonas																			3103
k__Bacteria;p__Deferribacteres;c__Deferribacteres;o__Deferribacterales;f__Deferribacteraceae;g__E4;s__																			3445
k__Bacteria;p__Chlorobi;c__Ignavibacteria;o__Ignavibacteriales;f__;g__;s__																			3510
k__Bacteria;p__Thermi;c__Deinococci;o__Thermales;f__Thermaceae;g__Thermus;s__																			3562
k__Bacteria;p__Chloroflexi;c__Anaerolineae;o__GCA004;f__;g__;s__																			3860
k__Bacteria;p__Aquificae;c__Aquificae;o__Aquificales;f__Aquificaceae;g__;s__																			4259
k__Bacteria;p__Proteobacteria;c__Betaproteobacteria;o__Burkholderiales;f__Oxalobacteraceae;g__Ralstonia;s__																			4261
k__Bacteria;p__Nitrospirae;c__Nitrospira;o__Nitrospirales;f__Thermodesulfovibrionaceae;g__LCP-6;s__																			4265
k__Bacteria;p__Chloroflexi;c__Chloroflexi;o__Roseiflexales;f__Roseiflexaceae;g__Roseiflexus;s__																			4339
k__Bacteria;p__Aquificae;c__Aquificae;o__Aquificales;f__Aquificaceae;g__;s__																			4453

APPENDIX H

Core Microbiome Concept

Figure 21 illustrates the number of OTUs present across 50%-100% of the samples for the various datasets processed in QIIME. The accompanying data for this figure is in Table XXIV. When comparing the Core Microbiome data to the OTU heatmaps data, it is important to note that the OTU heatmaps do not display all of the OTUs present within the samples. The OTU heatmaps were filtered so as to include all of the OTUs with the highest percentage of sequences. There were many OTUs that had less than the minimum cutoff for filtering that were not displayed in the OTU heatmaps figures. The total number of OTUs observed per sample is indicated in the Table XXV in the "Observed" column.

APPENDIX H (continued)

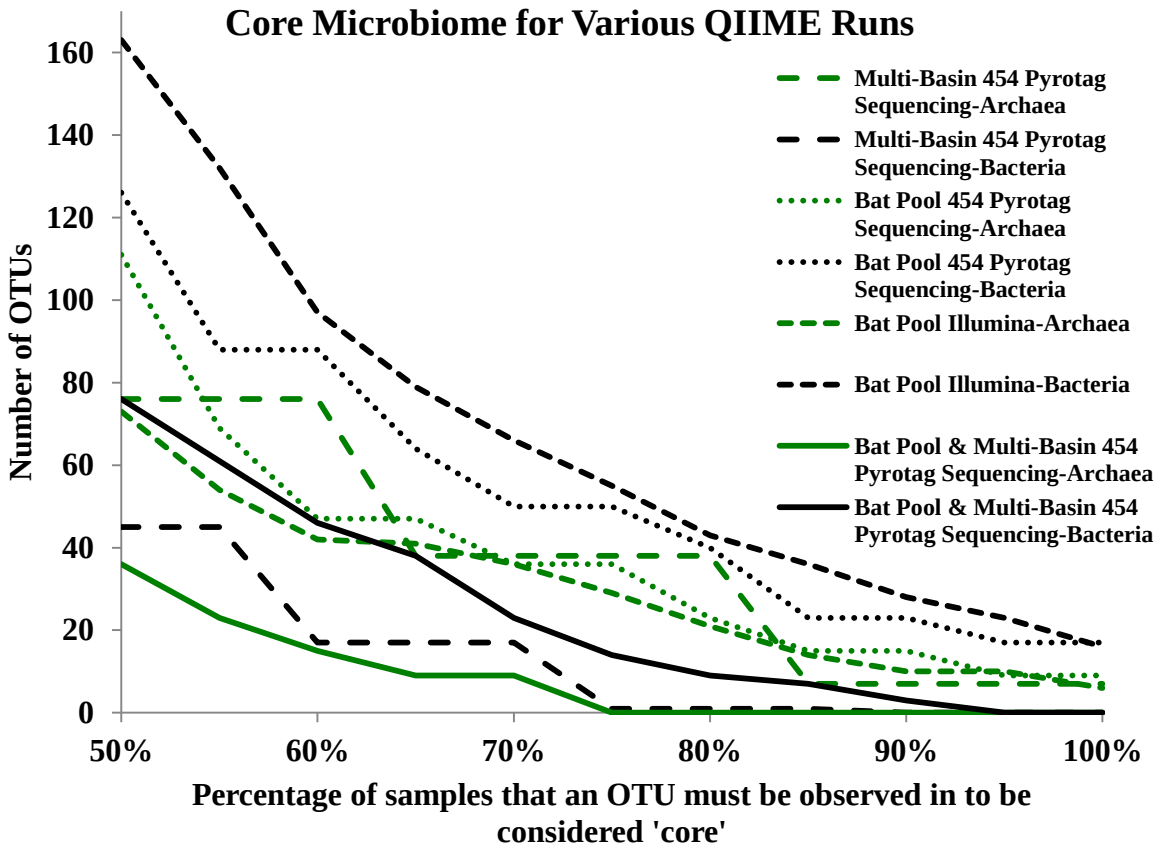


Figure 36. Percentage of samples in which common OTUs are observed: ranging from 50% of samples to 100% of samples.

APPENDIX H (continued)

TABLE XXXVII
CORE MICROBIOME DATA: PLOTTED IN FIGURE 36

	Number of OTUs Observed for 50-100% of Samples										
Percentage	**50**	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**95**	**100**
Bat Pool Illumina-Archaea	73	54	42	41	36	29	21	14	10	10	6
Bat Pool Illumina-Bacteria	163	132	97	79	66	55	43	36	28	23	16
Bat Pool 454 Pyrotag Sequencing-Archaea	111	69	47	47	36	36	23	15	15	9	9
Bat Pool 454 Pyrotag Sequencing-Bacteria	126	88	88	64	50	50	40	23	23	17	17
Multi-Basin 454 Pyrotag Sequencing-Archaea	76	76	76	38	38	38	38	7	7	7	7
Multi-Basin 454 Pyrotag Sequencing-Bacteria	45	45	17	17	17	1	1	1	0	0	0
Bat Pool & Multi-Basin 454 Pyrotag Sequencing-Archaea	36	23	15	9	9	0	0	0	0	0	0
Bat Pool & Multi-Basin 454 Pyrotag Sequencing -Bacteria	76	61	46	38	23	14	9	7	3	0	0

APPENDIX I

Alpha Diversity Metrics

Table XXV presents the alpha diversity results produced in QIIME for the four datasets. The metrics included in this table are: observed (the number of OTUs observed in a sample), Chao1, coverage (the ratio of observed OTUs to chao1), Dominance, singles (the number of OTUs with only one sequence), doubles (the number of OTUs with only two sequences), Shannon, Simpson (1-Dominance), and Faith's Phylogenetic Diversity (PD). The Chao1 index estimates species richness by taking into account the number of singles and doubles within a community by using the following formula: $S_{chao1} = S_{obs} + n_1(n_1-1)/2(n_2+1)$ where S_{chao1} is the estimated richness, S_{obs} is the number of species observed or in this case the number of OTUs (operational taxonomic units), n_1 is the number of OTUs with only one sequence, and n_2 is the number of OTUs with only two sequences. Species richness is measured by the number of observed OTUs in a sample measured at the 97% cutoff level. Coverage provides a ratio of observed species richness to estimated richness, which indicates how well represented the diversity of the community is. The Shannon index is calculated using the formula $H' = -\sum p_i \ln(p_i)$ where p_i represents the number of sequences in a certain OTU divided by the total number of sequences for the sample. The Shannon index is a measure of entropy and provides "the uncertainty in the outcome of a sampling process" (Jost, 2006). Higher values for the Shannon index represent a more diverse community. In QIIME, the Simpson index is a measure of evenness, which is calculated as 1- the Dominance index, where the Dominance index is calculated using the formula $\sum p_i^2$, which is traditional calculation for the Simpson index as is outlined in Jost (2006). The Dominance index gives more weight to dominant OTUs, meaning that the overall diversity will not be as affected by rare taxa.

As with the Shannon index, a higher Dominance index represents a more diverse community. Evenness indices range in value from 0-1, where a low evenness value indicates a community where the species differ widely in abundance, while a high evenness value indicates a community where each species is equally abundant (Smith & Wilson, 1996). Faith's Phylogenetic Diversity (PD) is a diversity index based on the phylogenetic tree produced in QIIME, which adds the branch lengths of the tree as a measure of diversity. Faith (1992) defines Phylogenetic Diversity as "the sum of the lengths of all those branches that are members of the corresponding minimum spanning path". Typically, larger PD values indicate greater potential for future diversity.

APPENDIX I (continued)

TABLE XXXVIII
ALPHA DIVERSITY RESULTS

Bat Pool Illumina - Archaea Alpha Diversity Metrics										
Sample ID	**Observed**	**Chao1**	**Coverage**	**Dominance**	**Percent Single**	**Singles**	**Doubles**	**Shannon**	**Simpson**	**PD**
S9-SBC1	67	149	45	0.37	61.19	41	9	2.34	0.63	3.85
K7-SBC	202	409	49	0.56	58.91	119	33	2.10	0.44	8.32
S9-SBC2	52	132	39	0.41	65.38	34	6	2.20	0.59	3.29
K8-SBC1	67	150	45	0.42	67.16	45	11	2.23	0.58	3.62
S5-IL	50	84	60	0.28	58.00	29	11	3.12	0.72	3.19
32A	179	401	45	0.21	61.45	110	26	3.28	0.79	7.19
K8	113	359	32	0.17	65.49	74	10	3.50	0.83	4.95
K8-SBC2	87	294	30	0.37	66.67	58	7	2.60	0.63	4.62
32B	202	372	54	0.22	54.95	111	35	3.21	0.78	8.22
37	108	193	56	0.22	58.33	63	22	2.91	0.78	5.40
K10A	139	259	54	0.23	56.12	78	24	3.18	0.77	6.39
K10-SBC	80	225	36	0.34	71.25	57	10	2.54	0.66	4.30
42	248	545	46	0.10	54.03	134	29	4.48	0.90	9.38
K10B	163	553	29	0.24	64.42	105	13	3.21	0.76	6.91
K12-SBC	82	196	42	0.37	67.07	55	12	2.47	0.63	3.69
S7	154	387	40	0.37	62.99	97	19	2.37	0.63	6.37
K11	191	431	44	0.30	57.59	110	24	2.88	0.70	7.92
S8	75	173	43	0.38	65.33	49	11	2.29	0.62	4.07
K12	213	494	43	0.29	55.87	119	24	3.07	0.71	8.87
4-IL	129	334	39	0.28	61.24	79	14	3.09	0.72	5.13
32Arch-1:10	698	1561	45	0.23	59.89	418	100	2.97	0.77	24.01

32Arch-1:100	388	1095	35	0.26	67.27	261	47	2.74	0.74	15.03
S9Arch-1:10	710	1536	46	0.38	58.45	415	103	2.37	0.62	23.50
S9Arch-1:100	599	1389	43	0.41	57.93	347	75	2.05	0.59	19.67
Bat Pool Illumina - Bacteria Alpha Diversity Metrics										
Sample ID	**Observed**	**Chao1**	**Coverage**	**Dominance**	**Percent Single**	**Singles**	**Doubles**	**Shannon**	**Simpson**	**PD**
S9-SBC1	901	2952	31	0.82	73.58	663	106	1.05	0.18	32.10
K7-SBC	1140	3352	34	0.67	68.33	779	136	1.74	0.33	40.91
S9-SBC2	769	2272	34	0.84	71.00	546	98	0.95	0.16	29.54
K8-SBC1	847	2549	33	0.76	75.21	637	118	1.17	0.24	33.95
S5-IL	667	2027	33	0.88	74.66	498	90	0.74	0.12	28.17
32A	841	2984	28	0.52	76.34	642	95	1.94	0.48	32.85
K8	523	1988	26	0.36	76.86	402	54	2.62	0.64	24.44
K8-SBC2	1157	3699	31	0.76	77.27	894	156	1.25	0.24	43.63
32B	1024	3305	31	0.57	77.54	794	137	1.78	0.43	39.48
K9-SBC	806	2792	29	0.85	79.03	637	101	0.91	0.15	31.31
37	644	2438	26	0.42	77.33	498	68	2.39	0.58	26.11
K10A	863	2562	34	0.25	68.95	595	103	2.86	0.75	34.90
K10-SBC	800	2721	29	0.59	76.38	611	96	1.70	0.41	32.33
42	691	2888	24	0.45	80.90	559	70	2.22	0.55	28.72
K10B	956	2829	34	0.26	70.19	671	119	2.95	0.74	37.86
K12-SBC	730	3047	24	0.76	80.82	590	74	1.21	0.24	29.30
S7	879	3647	24	0.69	81.68	718	92	1.52	0.31	35.34
K11	735	2657	28	0.41	75.51	555	79	2.24	0.59	29.00
S8	1117	3380	33	0.82	75.02	838	154	1.09	0.18	41.11
K12	923	2604	35	0.28	69.45	641	121	2.87	0.72	36.77
4-IL	672	3011	22	0.60	80.21	539	61	1.92	0.40	29.60

Bat Pool 454 Pyrotag Sequencing - Archaea Alpha Diversity Metrics										
Sample ID	**Observed**	**Chao1**	**Coverage**	**Dominance**	**Percent Single**	**Singles**	**Doubles**	**Shannon**	**Simpson**	**PD**
KMW1Arch	468	1169	40	0.07	64.10	300	63	5.71	0.93	14.22
KMW2Arch	460	873	53	0.30	54.57	251	75	4.25	0.70	14.51
KMW3Arch	149	468	32	0.18	63.76	95	13	4.28	0.82	6.86
KMW4Arch	416	954	44	0.27	59.13	246	55	4.37	0.73	12.92
KMW13Arch	428	822	52	0.41	54.21	232	67	3.50	0.59	13.62
KMW14Arch	204	633	32	0.13	69.12	141	22	4.79	0.87	7.34
KMW18Arch	384	643	60	0.28	49.74	191	69	4.30	0.72	11.64
KMW19Arch	451	898	50	0.16	56.76	256	72	5.26	0.84	13.52
KMW26Arch	338	560	60	0.24	50.00	169	63	4.63	0.76	10.33
KMW30Arch	261	604	43	0.10	62.84	164	38	5.21	0.90	8.70
KMWS4Arch	119	220	54	0.36	58.82	70	23	3.16	0.64	3.12
KMWS5Arch	150	344	44	0.29	63.33	95	22	3.57	0.71	5.12
Bat Pool 454 Pyrotag Sequencing - Bacteria Alpha Diversity Metrics										
Sample ID	**Observed**	**Chao1**	**Coverage**	**Dominance**	**Percent Single**	**Singles**	**Doubles**	**Shannon**	**Simpson**	**PD**
KMW1Bac	134	253	53	0.26	58.96	79	25	2.92	0.74	5.41
KMW2Bac	693	1197	58	0.44	49.64	344	116	2.33	0.56	21.97
KMW3Bac	229	457	50	0.39	58.52	134	38	2.51	0.61	10.08
KMW4Bac	929	1842	50	0.16	55.44	515	144	3.60	0.84	31.35
KMW13Bac	502	1104	45	0.33	59.96	301	74	2.94	0.67	17.14
KMW14Bac	226	580	39	0.40	66.81	151	31	2.44	0.60	9.10
KMW18Bac	370	833	44	0.17	60.00	222	52	3.46	0.83	14.66
KMW19Bac	481	1076	45	0.24	59.67	287	68	3.40	0.76	16.80
KMW26Bac	519	1073	48	0.14	57.80	300	80	3.77	0.86	17.76
KMW30Bac	245	559	44	0.51	64.08	157	38	2.08	0.49	8.88

KMWS2Bac	116	320	36	0.28	65.52	76	13	2.62	0.72	5.48
KMWS4Bac	134	266	50	0.50	59.70	80	23	2.19	0.50	4.83
KMWS5Bac	179	344	52	0.47	53.07	95	26	2.30	0.53	5.92
Multi-Basin 454 Pyrotag Sequencing - Archaea Alpha Diversity Metrics										
Sample ID	**Observed**	**Chao1**	**Coverage**	**Dominance**	**Percent Single**	**Singles**	**Doubles**	**Shannon**	**Simpson**	**PD**
Flat Cone	131	262	50	0.32	46.56	61	13	3.04	0.68	4.22
MLS	114	214	53	0.45	50.00	57	15	2.50	0.55	3.36
Spindle Geyser	155	239	65	0.42	43.87	68	26	2.40	0.58	4.19
Octopus Spring	123	230	53	0.35	47.97	59	15	2.58	0.65	3.41
'Bison Pool'	79	128	62	0.64	49.37	39	14	1.48	0.36	2.39
Multi-Basin 454 Pyrotag Sequencing - Bacteria Alpha Diversity Metrics										
Sample ID	**Observed**	**Chao1**	**Coverage**	**Dominance**	**Percent Single**	**Singles**	**Doubles**	**Shannon**	**Simpson**	**PD**
Bat Pool	289	449	64	0.17	41.18	119	43	3.79	0.83	9.99
Flat Cone	156	225	69	0.19	36.54	57	22	3.97	0.81	5.48
MLS	144	197	73	0.17	29.86	43	16	3.84	0.83	5.03
Spindle Geyser	185	246	75	0.11	31.35	58	26	4.31	0.89	5.14
Octopus Spring	163	245	66	0.17	38.04	62	22	3.87	0.83	4.83
'Bison Pool'	222	289	77	0.25	29.73	66	31	3.51	0.75	5.35
SB	63	76	83	0.27	28.57	18	11	2.41	0.73	2.00
Bat Pool & Multi-Basin 454 Pyrotag Sequencing - Archaea Alpha Diversity Metrics										
Sample ID	**Observed**	**Chao1**	**Coverage**	**Dominance**	**Percent Single**	**Singles**	**Doubles**	**Shannon**	**Simpson**	**PD**
Flat Cone	139	322	43	0.32	51.80	72	13	3.05	0.68	5.05
MLS	113	209	54	0.45	49.56	56	15	2.50	0.55	3.26
Spindle Geyser	154	236	65	0.42	43.51	67	26	2.40	0.58	3.94
Octopus Spring	123	230	53	0.35	47.97	59	15	2.58	0.65	3.47
'Bison Pool'	79	128	62	0.64	49.37	39	14	1.48	0.36	2.31

KMW1Arch	464	1131	41	0.07	63.58	295	64	5.71	0.93	14.14
KMW2Arch	460	873	53	0.30	54.57	251	75	4.25	0.70	14.90
KMW3Arch	149	468	32	0.18	63.76	95	13	4.28	0.82	7.08
KMW4Arch	416	954	44	0.27	59.13	246	55	4.37	0.73	13.37
KMW13Arch	428	822	52	0.41	54.21	232	67	3.50	0.59	14.12
KMW14Arch	204	633	32	0.13	69.12	141	22	4.79	0.87	7.19
KMW18Arch	384	643	60	0.28	49.74	191	69	4.30	0.72	12.04
KMW19Arch	451	898	50	0.16	56.76	256	72	5.26	0.84	13.84
KMW26Arch	338	560	60	0.24	50.00	169	63	4.63	0.76	10.62
KMW30Arch	259	606	43	0.10	62.93	163	37	5.21	0.90	8.71
KMWS4Arch	119	220	54	0.36	58.82	70	23	3.16	0.64	3.24
KMWS5Arch	150	344	44	0.29	63.33	95	22	3.57	0.71	5.12
Bat Pool & Multi-Basin 454 Pyrotag Sequencing Bacteria Alpha Diversity Metrics										
Sample ID	**Observed**	**Chao1**	**Coverage**	**Dominance**	**Percent Single**	**Singles**	**Doubles**	**Shannon**	**Simpson**	**PD**
Bat Pool	307	462	66	0.14	39.09	120	45	4.08	0.86	11.14
Flat Cone	225	483	47	0.19	45.33	102	19	4.29	0.81	7.42
MLS	136	211	64	0.10	31.62	43	11	4.28	0.90	4.58
Spindle Geyser	283	388	73	0.16	35.69	101	47	4.16	0.84	7.62
Octopus Spring	228	342	67	0.16	41.67	95	38	4.01	0.84	6.58
'Bison Pool'	355	549	65	0.27	38.59	137	47	3.80	0.73	9.76
SB	65	78	84	0.27	27.69	18	11	2.42	0.73	2.03
KMW1Bac	139	254	55	0.26	58.99	82	28	2.94	0.74	5.68
KMW2Bac	677	1192	57	0.44	48.89	331	105	2.34	0.56	22.51
KMW3Bac	229	444	52	0.39	56.77	130	38	2.53	0.61	10.30
KMW4Bac	901	1656	54	0.16	53.05	478	150	3.61	0.84	31.95
KMW13Bac	495	1073	46	0.33	58.79	291	72	2.94	0.67	17.59

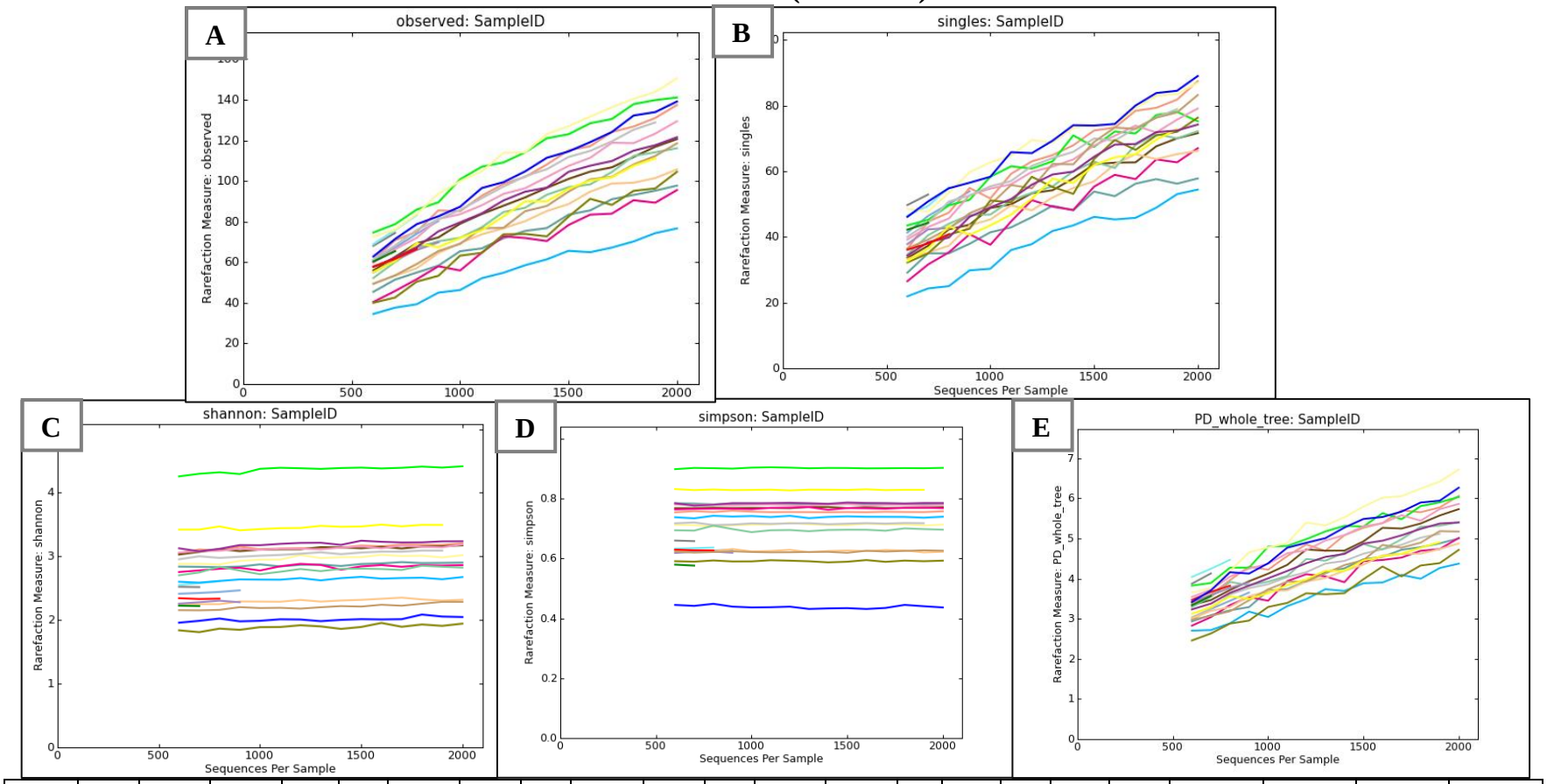
KMW14Bac	223	517	43	0.39	64.57	144	34	2.45	0.61	9.39
KMW18Bac	366	773	47	0.17	58.47	214	55	3.46	0.83	14.64
KMW19Bac	479	1033	46	0.24	58.25	279	69	3.40	0.76	17.18
KMW26Bac	520	1016	51	0.14	56.92	296	87	3.78	0.86	18.31
KMW30Bac	242	560	43	0.51	63.64	154	36	2.11	0.49	8.85
KMWS2Bac	116	291	40	0.28	62.93	73	14	2.63	0.72	5.71
KMWS4Bac	132	269	49	0.50	59.09	78	21	2.19	0.50	4.67
KMWS5Bac	175	321	54	0.46	52.00	91	27	2.31	0.54	5.99

APPENDIX J

Rarefaction Curves

Rarefaction curves were produced in QIIME for the Bat Pool Illumina Archaea and Bacteria datasets. The x-axis of each curve represents the particular sampling depth (how many sequences were chosen from each sample). For Archaea, the command was run for sampling depths ranging from 600-2,000 sequences; for Bacteria, the command was run for sampling depths ranging from 19,000-45,000. The y-axis represents a subset of the various alpha diversity metrics that were run on the dataset: the number of observed OTUs, the number of OTUs observed only once (singles), the Shannon index, the Simpson index, and the Phylogenetic Diversity (PD) index. The rarefaction curves were generated with the alpha diversity metric plotted for the individual samples and with samples grouped by location (grid or outflow channel) and by sample type (sediment or SBC). The color scheme for the plots with the samples grouped by sediment type is as follows: blue represents sediment samples and red represents SBC samples. Two sets of plots will be presented for Archaea (Figure 37 and Figure 39) and two sets of plots will be presented for Bacteria (Figure 38 and Figure 40), accounting for a total of four sets of rarefaction plots: the rarefaction curves generated for samples grouped by location are not shown here. Note that the legend for the Archaea figures and the Bacteria figures are different: the same color does not correspond to the same sample.

APPENDIX J (continued)



S9 SBC1	K7 SBC	S9 SBC2	K8 SBC1	32A	K8	K8 SBC2	32B	37	K10A	K10 SBC	42	K10B	K12 SBC	S7	K11	S8	K12	4-IL	32Arch 1:10	32Arch 1:100	S9Arch 1:10	S9Arch 1:100

Figure 37. Rarefaction curves produced in QIIME for Bat Pool Illumina - Archaea dataset. The graphs show the alpha diversity metrics for the individual samples. A) Observed species, B) number of singles, C) Shannon, D) Simpson, and E) Phylogenetic Diversity. All graphs have the sample x axis (sequences per sample) which ranges from 0-2,000; the y axis scale varies based on the values of the particular alpha diversity metric being graphed.

APPENDIX J (continued)

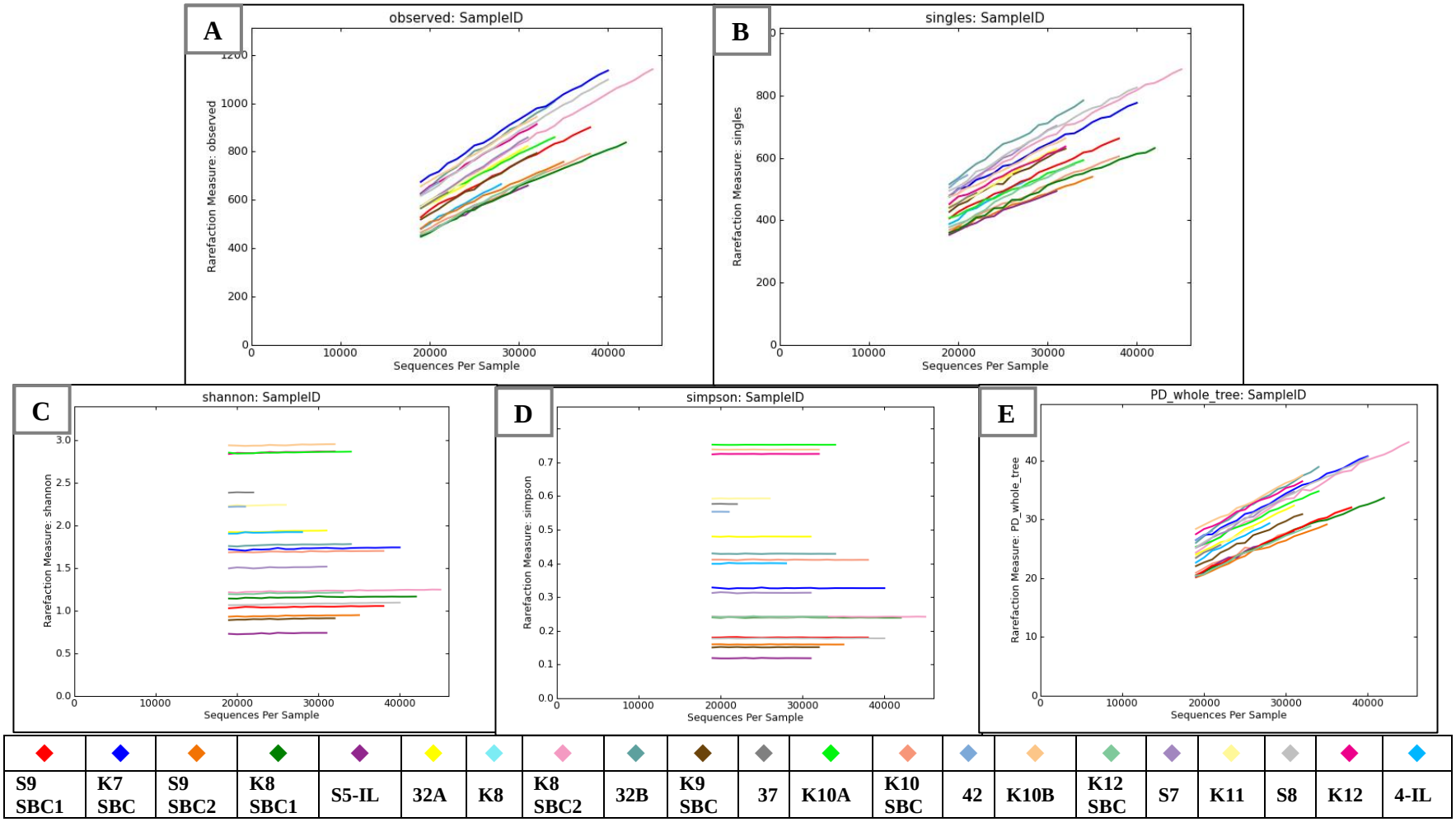
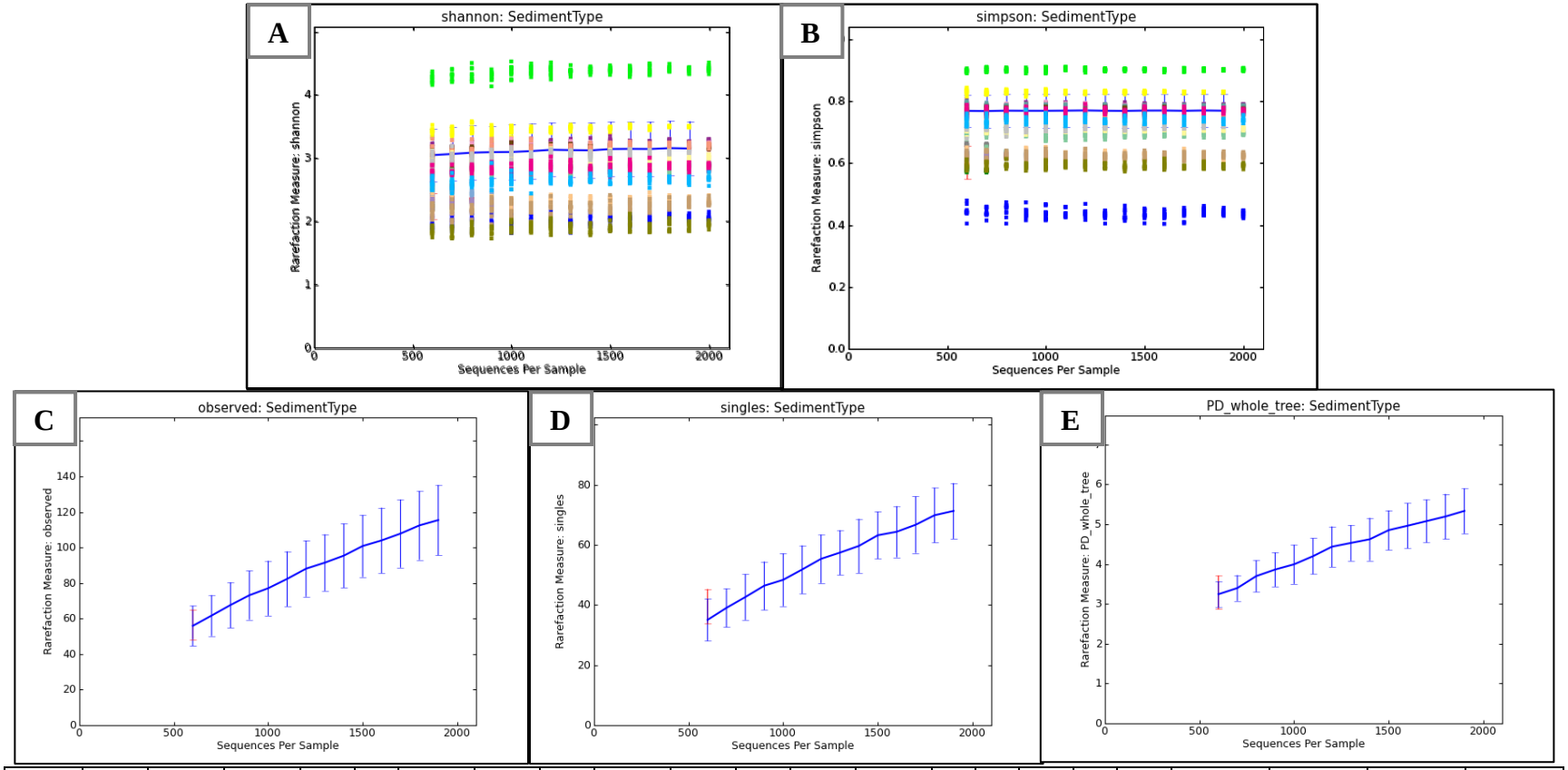


Figure 38. Rarefaction curves produced in QIIME for Bat Pool Illumina - Bacteria dataset. The graphs show the alpha diversity metrics for the individual samples. A) Observed species, B) number of singles, C) Shannon, D) Simpson, and E) Phylogenetic Diversity. All graphs have the sample x axis (sequences per sample) which ranges from 0-40,000; the y axis scale varies based on the values of the particular alpha diversity metric being graphed.

APPENDIX J (continued)

In looking at Figure 37 and Figure 38, an upward trend is observed for number of observed species (Figures 37A and 38A), number of singles (Figures 37B and 38B), and Phylogenetic Diversity (Figures 37E and 38E). The number of species as well as the number of singles observed increases with increased sampling depth as would be expected. The Phylogenetic Diversity also increases with increased sampling depth. These increasing trends do not plateau, indicating that greater sampling depth is still required in order to gain a sense of the complete diversity among these samples. For these metrics, the samples group together with no major outliers. For the Shannon (Figures 37C and 38C) and Simpson (Figures 37D and 38D) rarefaction plots, the curves are flat lying, indicating that regardless of sampling depth, the Shannon and Simpson indices remain the same. There is a wide distribution in values for both of these indices, particularly for the Bacteria dataset (Figures 38C and 38D). There are also some samples with particularly high or particularly low Shannon and Simpson values. For Figure 37C, 42 has a noticeably higher Shannon index than the other samples. For Figure 37D, K7-SBC has a lower Simpson index (or evenness) than the other samples. For Figures 38C and 38D, K10A, K10B, and K12 are the three samples with the highest Shannon and Simpson indices. These samples are all sediment outflow channel samples. After those three samples, 37, 42, and K11 are the samples with the next highest values.

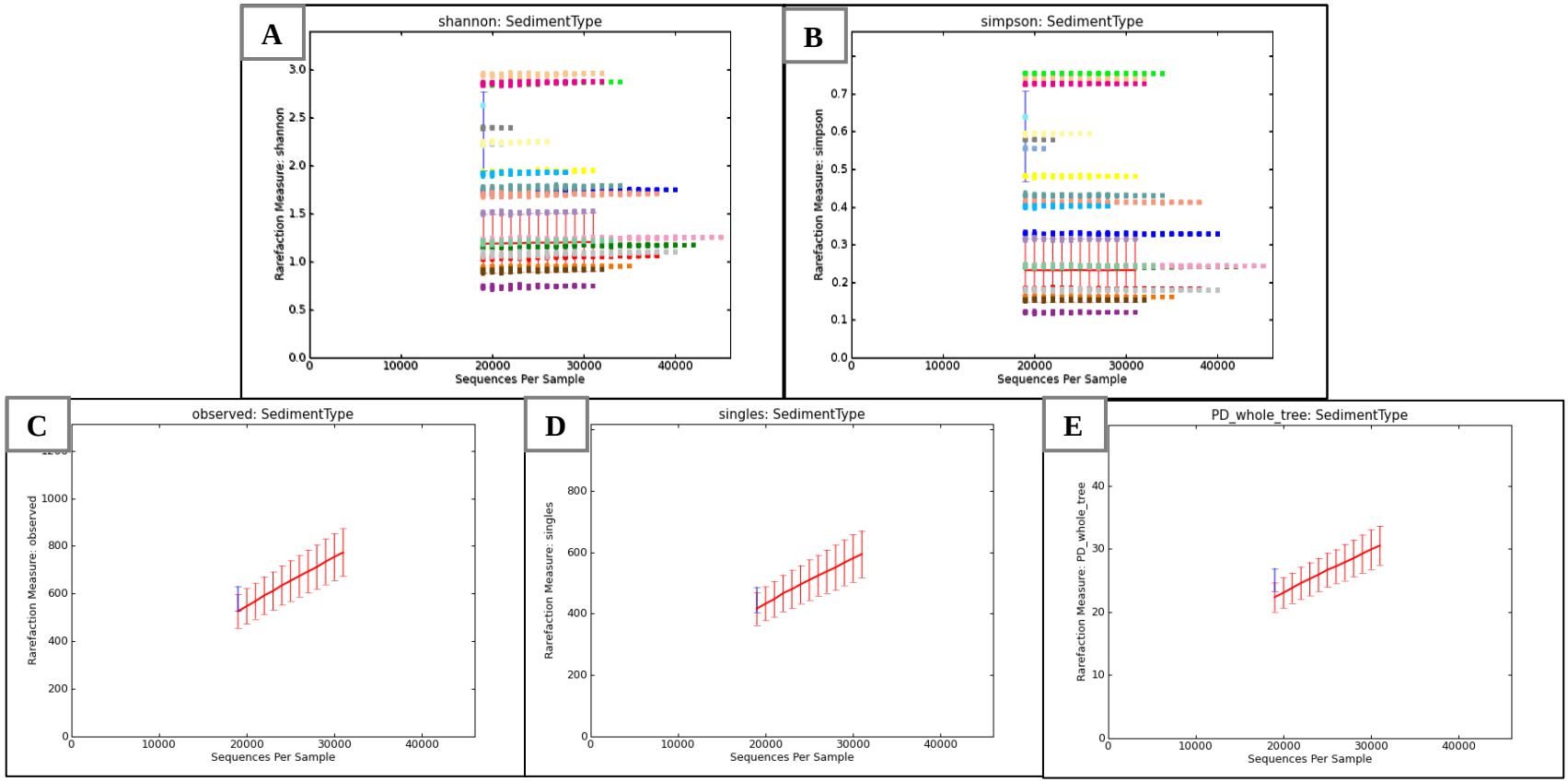
APPENDIX J (continued)



S9 SBC1	K7 SBC	S9 SBC2	K8 SBC1	32 A	K 8	K8 SBC2	32B	37	K10A	K10 SBC	42	K10 B	K12 SBC	S 7	K 1 1	S8	K 1 2	4-IL	32Arch 1:10	32Arch 1:100	S9Arch 1:10	S9Arch 1:100

Figure 39. Rarefaction curves produced in QIIME for Bat Pool Illumina - Archaea dataset. The graphs show the alpha diversity metrics for sediment samples vs. SBC samples. The red bars indicate SBC samples and the blue bars represent sediment samples. A) Shannon, B) Simpson, C) observed species, D) number of singles, and E) Phylogenetic Diversity. All graphs have the sample x-axis (sequences per sample) which ranges from 0-2,000; the y-axis scale varies based on the values of the particular alpha diversity metric being graphed.

APPENDIX J (continued)



S9 SBC1	K7 SBC	S9 SBC2	K8 SBC1	S5-IL	32A	K8	K8 SBC2	32B	K9 SBC	37	K10A	K10 SBC	42	K10B	K12 SBC	S7	K11	S8	K12	4-IL

Figure 40. Rarefaction curves produced in QIIME for Bat Pool Illumina - Bacteria dataset. The graphs show the alpha diversity metrics for sediment samples vs. SBC samples. The red bars indicate SBC samples and the blue bars represent sediment samples. A) Shannon, B) Simpson, C) observed species, D) number of singles, and E) Phylogenetic Diversity. All graphs have the sample x axis (sequences per sample) which ranges from 0-40,000; the y axis scale varies based on the values of the particular alpha diversity metric being graphed.

APPENDIX J (continued)

In examining Figure 39 and Figure 40, a pattern can be discerned for the Shannon and Simpson indices between SBC and sediment samples, for both the Archaea and Bacteria datasets. The blue bars represent the sediment samples and the red bars represent the SBC samples. For both the Archaea and Bacteria datasets, sediment samples have higher values for both the Shannon and Simpson indices. This accounts for a greater difference among the Bacteria dataset than the Archaea dataset. The other metrics: the number of observed species, the number of singles, and the Phylogenetic Diversity (Figure 39C-E and Figure 40C-E) do not show any measurable difference between sediment and SBC samples.

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