

# Correlation between macroscopic and microscopic relaxation dynamics of water: Evidence for two liquid forms

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## ABSTRACT

Water is vital for life, and without it, biomolecules and cells cannot maintain their structures and functions. The remarkable properties of water originate from its ability to form hydrogen-bonding networks and dynamics, which the connectivity constantly alters because of the orientation rotation of individual water molecules. Experimental investigation of the dynamics of water, however, has proven challenging due to the strong absorption of water at terahertz frequencies. In response, by employing a high-precision terahertz spectrometer, we have measured and characterized the terahertz dielectric response of water from supercooled liquid to near the boiling point to explore the motions. The response reveals dynamic relaxation processes corresponding to the collective orientation, single-molecule rotation, and structural rearrangements resulting from breaking and reforming hydrogen bonds in water. We have observed the direct relationship between the macroscopic and microscopic relaxation dynamics of water, and the results have provided evidence of two liquid forms in water with different transition temperatures and thermal activation energies. The results reported here thus provide an unprecedented opportunity to directly test microscopic computational models of water dynamics.

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## INTRODUCTION

Water is a lubricant for life and affects virtually every aspect of our lives at different levels of complexity from molecules and cells to organisms.<sup>1–6</sup> Specifically, all nucleic acids and proteins are active in water, and interactions between water and biomolecules control their structure, dynamics, flexibility, structural stability, and biological functions.<sup>3</sup> Thus, the dynamics and structure of water establish a central subject in natural sciences.<sup>3–6</sup> In chemical/biological systems, water establishes the environment for chemical/biological activities by mediating and supporting bio-chemical reactions. The interactions between water and biomolecules at the molecular level are also a subject of major interest for understanding biological and chemical processes in aqueous solutions and with the goal of revealing cellular functions. Thus, water is the most studied chemical system with enormous theoretical and experimental studies. However, despite the wide interest and tremendous research efforts on water,

we still do not fully understand many roles of its participation at the molecular level.<sup>7,8</sup>

Water shows many anomalous physical properties, and it has been often speculated that life depends on anomalous properties, including unusually high melting and boiling points, large heat capacity, remarkably high surface tension, self-diffusivity, thermal conductivity, and maximum density at 277 K (only a few examples).<sup>1–3,9</sup> Although the anomalies occur in the supercooled region, they also appear at ambient conditions where most of important chemical, biological, and physical processes happen. The anomalous properties must be originated in molecular interactions between water molecules and local arrangements. A fundamental question to investigate the properties of water is if the hydrogen-bonding network of water consists of two liquid forms with different densities, including low- and high-density liquid water. The local low-density liquid (LDL) form of water favors through maximizing hydrogen-bond formation in the near tetrahedral configuration,

limiting the number of neighbors. The high-density liquid (HDL) configuration occurs in disordered structures, squeezing water molecules tighter by distorting or breaking hydrogen bonds.<sup>5</sup> A liquid–liquid phase transition (LLPT) between the two liquid forms,<sup>4,5,10–12</sup> terminating at a liquid–liquid critical point (LLCP) located at high pressures and supercooled regions,<sup>13</sup> has been considered for these anomalies.<sup>4</sup> To test the proposal, we need to perform experiments in a wide range of temperatures. However, the rapid crystallization occurring below the crystal homogeneous nucleation temperature ( $T_H \sim 235$  K) has challenged investigations of the liquid or amorphous states beyond this point.<sup>1</sup>

To understand physical and biochemical processes that take place in water, knowledge about the orientation relaxation of water is crucial. The orientation motions of water molecules in liquid forms have been broadly studied, including nuclear magnetic resonance,<sup>14</sup> dielectric relaxation,<sup>15–19</sup> terahertz spectroscopy,<sup>15,19–21</sup> mid-infrared pump–probe experiments,<sup>22</sup> neutron scattering,<sup>23</sup> Raman-induced, and optical Kerr-effect spectroscopy.<sup>24</sup> These experimental techniques have probed specific orientation motions in a certain range of frequencies and temperatures of the liquid.<sup>15–21</sup> The dielectric spectra from megahertz to terahertz frequencies of water reveal several orientation relaxation processes,<sup>15,16,19–21</sup> including the typical signatures of relaxation processes of bulk water, single-water molecular rotation, and the breaking and forming of hydrogen bonds. At high temperatures, the dielectric response of water shifts to terahertz frequencies, resulting in extremely strong absorption of water in this region. Thus, experimental investigation of these dynamics has proven challenging. In response, we have employed a high-precision terahertz frequency-domain spectrometer to explore these motions in a wide range of temperatures from supercooled liquid to near the boiling point of water and a wide frequency range from megahertz to terahertz region. Careful analysis of water dynamics allows us to understand the relationship between the macroscopic and microscopic relaxation processes and obtain evidence of the co-existence of two liquid forms of water. We then employ the results to directly test microscopic computational models of water dynamics at the megahertz to terahertz frequencies.

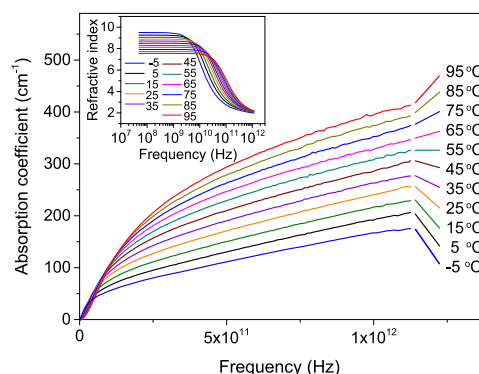
## EXPERIMENTAL METHODS AND RESULTS

To clarify the relaxation dynamics of water, it is necessary to consider a wide range of frequencies from microwave to terahertz regions. The broadband dielectric spectra of pure, de-ionized water (resistivity of 18 M $\Omega$  cm) have been obtained in a wide range of frequencies from 50 MHz to 1.2 THz (0.002–40.03 cm<sup>-1</sup>). By employing a vector network analyzer (Agilent PNA N5225A) together with frequency extenders, our systems allow us to simultaneously measure the absorption and refractive index (i.e., the dielectric dispersion and loss) of pure water. For the megahertz to gigahertz frequency range, an open-end reflection probe (Agilent 85070E) and a transmission test cell combined with the vector network analyzer have been used.<sup>19,25</sup> The open-end reflection probe was calibrated with three standard measurements, including pure water, air, and mercury for short circuits. The transmission test cell consists of a coaxial line in a circular cylindrical waveguide containing water.<sup>25</sup> The dielectric response, including the real and imaginary components, was obtained directly from these systems. Water temperature can be

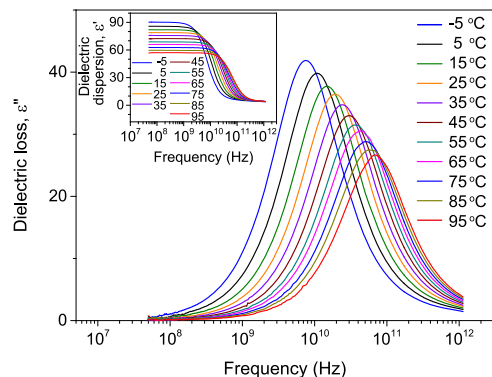
precisely controlled with an accuracy of  $\pm 0.02$  °C from  $-5$  to  $95$  °C using a Lakeshore 336 temperature controller.

At high frequencies, the dielectric response of water has been studied using a gigahertz to terahertz spectrometer based on frequency extenders from Virginia Diodes together with the above vector network analyzer. In brief, our experimental setup<sup>20,25,26</sup> consists of a number of rectangular waveguides, a variable-thickness sample cell, and the above temperature controller. We can accurately measure changes in the transmitted power and phase of a liquid as a function of the path-length,  $d$ , of a sample. Fitting these data to Beer's law,  $I(d, \nu) = I_0(\nu) \exp(-\alpha(\nu) \cdot d)$ , with  $I_0(\nu)$  corresponding to the incident intensity at the frequency,  $\nu$ , provides precise measurements. At the same time, the refractive index of the sample,  $n$ , is determined with the fitting of the observed phase shift to a linear function of the sample path-length,  $\phi(d, \nu) = \phi_0(\nu) + n(\nu) \cdot d \cdot 2\pi\nu/c$ , with  $c$  being the speed of light. Without the need for precise measurements of absolute path-lengths of the sample, standard errors of the mean of replicate measurements are smaller than 0.2% of the absorption coefficient and refractive index of the sample at a specific frequency. Optical properties of water, including absorbance and refractive index, vary strongly with rising frequency over the spectral range, monotonically increasing and decreasing, respectively. The results have been employed to determine the complex index of refraction,  $n^*(\nu) = n(\nu) + i\alpha(\nu) \cdot c/(4\pi\nu)$ . Figure 1 shows the absorption coefficient and refractive index of water at selected temperatures from  $-5$  to  $95$  °C. For all investigated temperatures, the results are presented in Fig. S1 of the supplementary material. We note that the results have been collected by a single research group from our broad-band dielectric spectrometer with improved signal-to-noise ratio for a wide range of temperatures for water, not including any data from the literature. As a resource for researchers investigating the water dynamics at different temperatures, we provide the results from  $-5$  to  $95$  °C with the step of temperature of  $5$  °C in the supplementary material.

To determine the complete description of interactions of water with electromagnetic wave as a function of temperature, it is proper to represent the complex refractive index of water in the form



**FIG. 1.** Interaction between water and electromagnetic wave in the megahertz to terahertz frequencies reveals the dynamics of water molecules. Absorption (a) and refractive index (b) spectra of water collected at different temperatures from supercooled liquid ( $-5$  °C) to near the boiling point of water ( $95$  °C) increase and decrease with rising frequency, respectively.



**FIG. 2.** Complex dielectric response, including dielectric loss and dielectric dispersion spectra of water at different temperatures, has been obtained from the absorption and refractive index spectra.

of the complex dielectric response,  $n^*(\nu) = \sqrt{\epsilon^*(\nu)}$ , including the real,  $\epsilon'_{\text{sol}}(\nu)$ , and imaginary components,  $\epsilon''_{\text{sol}}(\nu)$ , or the dielectric dispersion and loss, respectively,<sup>26</sup>

$$\begin{aligned} \epsilon'_{\text{sol}}(\nu) &= n^2(\nu) - (c\alpha(\nu)/(4\pi\nu))^2, \\ \epsilon''_{\text{sol}}(\nu) &= 2n(\nu)c\alpha(\nu)/(4\pi\nu). \end{aligned} \quad (1)$$

Employing this approach, we determine the dielectric dispersion and loss of the complex permittivity of water over a wide range of frequencies from megahertz to terahertz frequencies with unprecedented precision and resolution (Fig. 2). At a certain temperature, the dielectric dispersion reduces with increasing frequency. The curves shift to the terahertz frequency with rising temperature. The dielectric loss has a maximum centered at  $\sim 20$  GHz at room temperature. The main peak moves to the terahertz frequency when the temperature increases.

## DISCUSSION

### Terahertz spectroscopy

The dielectric response of water at megahertz to terahertz frequencies provides information on the dynamics of water. The main peak of the dielectric relaxation spectra obeys the Debye law, corresponding to the collective orientation dynamics or cooperative relaxation of water.<sup>15,16,19,21</sup> At higher frequencies, damped harmonic oscillators at  $\sim 60$ , 180, 400, and 700  $\text{cm}^{-1}$  or  $\sim 1.8$ , 5.4, 12, and 21 THz,<sup>17,27–29</sup> respectively, are outside the scope of this paper. As reported in the literature, one Debye term and the four above oscillators are not enough to describe the dielectric spectra of water. To explain the dielectric response in the sub-terahertz frequency range at room temperature, an additional Debye term with a relaxation time of  $\sim 1.1$  ps has been included.<sup>15–17,19,21,29</sup> However, results from dielectric response spectra collected with the terahertz time-domain spectroscopy [ $0.1 < \nu$  (THz)  $< 2$ ] have yielded another fast Debye process of  $\sim 0.18$  ps for water at room temperature.<sup>20,21</sup> This technique provides insufficient frequency to cover the gigahertz frequency region, neglecting the  $\sim 1.1$  ps Debye component. To cover

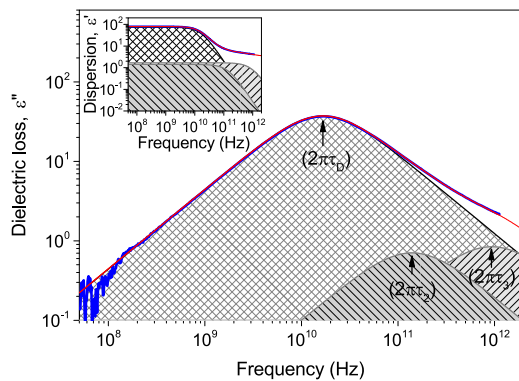
the frequency from megahertz to terahertz, the complex dielectric response,  $\epsilon^*_{\text{sol}}(\nu) = \epsilon'_{\text{sol}}(\nu) + i\epsilon''_{\text{sol}}(\nu)$ , of water can be characterized as a sum of three Debye relaxation components,<sup>15,19,30,31</sup>

$$\epsilon^*_{\text{sol}}(\nu) = \epsilon_{\infty} + \frac{\epsilon_s - \epsilon_1}{1 + i2\pi\nu\tau_D} + \frac{\epsilon_1 - \epsilon_2}{1 + i2\pi\nu\tau_2} + \frac{\epsilon_2 - \epsilon_{\infty}}{1 + i2\pi\nu\tau_3}, \quad (2)$$

where  $\Delta\epsilon_1 = \epsilon_s - \epsilon_1$ ,  $\Delta\epsilon_2 = \epsilon_1 - \epsilon_2$ , and  $\Delta\epsilon_3 = \epsilon_2 - \epsilon_{\infty}$  are dielectric contributions of individual relaxation processes with corresponding relaxation times,  $\tau_D$ ,  $\tau_2$ , and  $\tau_3$ , respectively, to the total dielectric response of water. We employ here  $\tau_D$  to denote  $\tau_1$  (the first Debye process) for consistency with the expression in the literature. The relaxation process represents the collective orientation motion of water molecules in the liquid state. Two faster dynamic processes have constant times of  $\tau_2$  and  $\tau_3$ .  $\epsilon_{\infty}$  captures contributions to the dielectric response of water from molecular oscillation processes at frequencies much higher than our spectral range, including previously reported modes at  $\sim 1.8$ , 5.4, 12, and 21 THz.<sup>17,27,28,31</sup>  $\epsilon_s = \epsilon_{\infty} + \sum_{i=1}^3 \Delta\epsilon_i$  is the static dielectric constant, for example, at 25 °C,  $\epsilon_s = 78.38$  for pure water.<sup>15,16,18</sup>

Employing the method, the spectra of dielectric response at different temperatures, including the real,  $\epsilon'_{\text{sol}}(\nu)$ , and imaginary parts,  $\epsilon''_{\text{sol}}(\nu)$ , are fitted at the same time to Eq. (2). To achieve the best fit, all six parameters are altered concurrently, except the static dielectric constant,  $\epsilon_s$ , which is changed after a few iterations. As an example, Fig. 3 shows such fit for water at 20 °C, which confirms that Eq. (2) can sufficiently describe the dielectric response of water. If we use a similar model to Eq. (2) but only one or two Debye terms are used, residuals are obviously distinguishable between the measured response and the fit. As reported in the literature, the two-Debye model is insufficient to describe the relaxation dynamics of water, and a model with three Debye components has been suggested earlier by Vij *et al.*,<sup>31</sup> Ellison,<sup>15</sup> Beneduci,<sup>30</sup> and our previous work.<sup>19</sup> Therefore, to obtain the strength and relaxation time of each mode, we employ Eq. (2) to fit the dielectric response results. At temperatures above 80 °C, the dielectric spectra shift to higher frequencies at the terahertz region. The maximum dielectric response of the fastest water dynamics ( $\tau_3$ ) will be out from our frequency range. Thus, two Debye terms are employed to evaluate the dielectric response of water.

The measured complex dielectric response is fitted to the three-Debye model with the least-square method. Individual data points collected with the frequency in logarithmic scale are weighted equally in the whole spectrum from megahertz to terahertz frequencies. Three constant times,  $\tau_D$ ,  $\tau_2$ , and  $\tau_3$ , have been observed, Fig. 3. The slow relaxation time for water,  $\tau_D$ , at 20 °C is found to be  $9.52 \pm 0.05$  ps ( $16.72 \pm 0.08$  GHz),<sup>15</sup> representing the collective orientation motion of water molecules in the liquid state. The two faster constant times are  $\tau_2 = 1.14 \pm 0.07$  ps ( $139.61 \pm 8.61$  GHz) and  $\tau_3 = 170 \pm 18$  fs ( $936.2 \pm 99.5$  GHz), which are separated for the orientation of single-water molecules and the structural rearrangements as a result of breaking and reforming hydrogen bonds in pure water, respectively.<sup>19,23,32–34</sup> The corresponding times of water dynamics characterized as  $\tau_2$  and  $\tau_3$  are faster when compared with those of the collective orientation motion of water molecules with factors of  $\sim 8$  and  $\sim 40$ , respectively. Fitting dielectric spectra to Eq. (2) also provides the dielectric strength of each relaxation

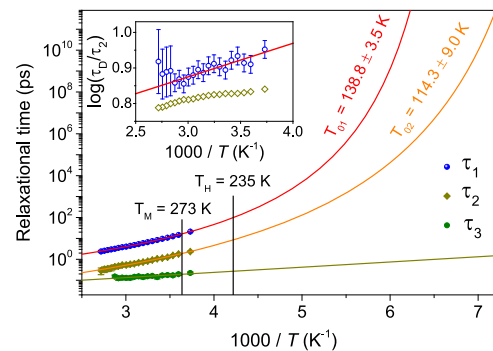


**FIG. 3.** Dielectric response pure water at 20 °C provides insights into the water dynamics over the femtosecond to picosecond timescale. Dielectric dispersion,  $\epsilon'_s(\nu)$  in the inset, and the dielectric loss,  $\epsilon''_s(\nu)$ , spectra are deconvoluted into three dynamic processes of water. The red curves are fits of the real and imaginary components of the complex dielectric response.

mode, which quantifies the contribution from each group to the overall dielectric response of water. For pure water at 20 °C, we have obtained the contribution of each dynamic process,  $\Delta\epsilon_1 = 74.06 \pm 0.25$ ,  $\Delta\epsilon_2 = 1.41 \pm 0.15$ , and  $\Delta\epsilon_3 = 1.69 \pm 0.15$ . The fitted values of the time constant and dielectric strength of water at different temperatures are included in Table I and plotted in Figs. 4 and 5. Note that the dielectric response of water reported in the literature using the megahertz to gigahertz radiation can only provide the dielectric response up to 65 °C. The temperature dependence of the collective orientation process,  $\tau_D$ , obtained from our terahertz dielectric response below 65 °C is very similar to previous observations.<sup>16,35,36</sup>

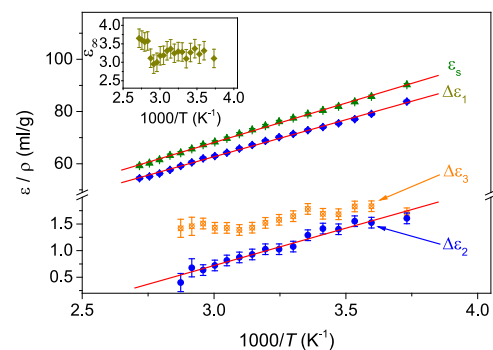
**TABLE I.** Dielectric parameters of water at different temperatures from supercooled liquid to near the boiling point of water.

T (°C)	$\tau_D$ (ps)	$\tau_2$ (ps)	$\tau_3$ (ps)	$\epsilon_s$	$\Delta\epsilon_1$	$\Delta\epsilon_2$	$\Delta\epsilon_3$	$\epsilon_\infty$
-5	21.05	2.35	0.22	90.16	83.81	1.61	1.70	3.10
5	14.62	1.80	0.19	85.76	79.09	1.53	1.83	3.31
10	12.59	1.53	0.18	83.68	77.10	1.55	1.83	3.22
15	10.79	1.26	0.18	81.89	75.51	1.40	1.68	3.37
20	9.52	1.14	0.17	80.29	74.06	1.41	1.69	3.27
25	8.35	1.07	0.14	78.81	72.86	1.29	1.78	3.10
30	7.41	0.93	0.16	77.12	71.44	1.08	1.65	3.28
35	6.64	0.81	0.16	75.65	70.19	1.03	1.58	3.29
40	5.95	0.74	0.14	73.97	68.73	1.03	1.52	3.24
45	5.35	0.69	0.16	72.25	67.21	0.93	1.43	3.36
50	4.85	0.62	0.15	70.58	65.82	0.87	1.39	3.31
55	4.40	0.58	0.13	68.70	64.22	0.82	1.43	3.19
60	4.03	0.54	0.13	67.18	62.95	0.72	1.43	3.18
65	3.80	0.53	0.13	65.95	62.06	0.63	1.51	3.00
70	3.51	0.47	0.13	64.22	60.53	0.68	1.46	2.95
75	3.20	0.44	0.15	62.56	59.16	0.40	1.42	3.11
80	2.98	0.38		61.40	57.66			3.57
85	2.78	0.36		59.58	56.25			3.55
90	2.56	0.34		58.13	55.16			3.60
95	2.37	0.29		56.98	54.45			3.65



**FIG. 4.** The temperature dependence behaviors of orientation relaxation dynamics of water reveal the relationship between the macroscopic and microscopic dynamics of water and provide evidence of two liquid forms existing in water at ambient conditions. The temperature dependence of collective motions of water follows the VFT function and starts to diverge at  $\sim 138$  K. The relaxation time of single-water molecules also obeys the VFT temperature with the transition temperature of  $\sim 114$  K. Vertical lines indicate the melting temperature,  $T_M$ , and the crystal homogeneous nucleation temperature,  $T_H$ . (Inset) The logarithmic ratios between the collective and single-molecule orientation relaxation times,  $\log(\tau_D/\tau_2)$ , are plotted as a function of temperature. Dark open yellow diamonds are the  $\log(\tau_D/\tau_2)$  ratios estimated from  $\epsilon_s$ ,  $\epsilon_\infty$ , and  $\mu$  using Eq. (3). The ratios provide direct evidence of the relationship between the macroscopic and microscopic relaxation processes in water.

Terahertz spectroscopy allows us to characterize the relaxation dynamics of water in a wide range of temperatures. As demonstrated, when the temperature increases, the main peak of the dielectric loss moves to the terahertz frequencies (Fig. 2). Without terahertz radiation, we cannot characterize the dynamics of water at high temperatures. The absorption of water increases significantly at high temperatures, preventing an accurate determination of the relationship between the macroscopic and microscopic dynamics. Thus, relaxation times of single-water molecules have intrinsically large error bars by using a terahertz time-domain system.<sup>20,21,37</sup> The high dynamical range of our terahertz frequency-domain setup<sup>25</sup> allows us to explore the dynamics of the fast components at the terahertz



**FIG. 5.** The large dielectric constant of water,  $\epsilon_s(T)$ , originates from the large dipole moment in each molecule and the strong correlation between dipole moments of its molecules. The values are strongly depending on temperature. When the temperature increases, water increases activities; thus, the dielectric strength and the extent of the hydrogen-bonding decrease.

frequency. These relaxation processes accelerate and become faster when the temperature increases (Fig. 4), confirming the presence of these fast processes. The dielectric strength of the  $\tau_2$  relaxation process reduces at high temperatures, following a similar trend as the collective orientation process. However, the dielectric strength of the  $\tau_3$  dynamic process weakly depends on temperature.

### Relationship between macroscopic and microscopic orientation relaxation dynamics of water

The relationship between the collective (macroscopic) and single-molecule (microscopic) orientation relaxation times of water has been a subject of much discussion.<sup>38–48</sup> In a strongly polar liquid, such as water, intermolecular interactions play an important role in identifying the dynamics of collective relaxation processes rather than intramolecular dynamics. However, single-molecular dynamics are essential in determining the microscopic structure of the dense liquid. Many reports on the microscopic theory have been proposed to investigate the relationship between the macro- and microscopic relaxation processes, intermolecular interactions as well as the microscopic structure of the polar liquid. The relationship between modes in a strong polar liquid was first proposed by Debye using his continuum theory of dielectric relaxation,  $\tau_D/\tau_2 = (\epsilon_S + 2)/(\epsilon_\infty + 2)$ .<sup>38</sup> The ratio was estimated about 15 for water at room temperature using macroscopic dielectric constants from the literature.<sup>16,19,36</sup> However, the Debye method is inappropriate for strongly polar solvents, such as water. Glarum<sup>48</sup> and Powles<sup>39</sup> provided an alternative relation based on Onsager's model of static dielectric constant and obtained the ratio of 1.5 for water at room temperature. Later, by employing an analysis of Kirkwood's factor for the radial distribution function of dipolar liquids, Madden and Kivelson<sup>42,44</sup> estimated the ratio of 0.006. The theoretical results do not agree with each other, and high-precision experimental results are essential to test the computational models.

The megahertz to terahertz spectroscopy provides complex dielectric response of water to an oscillating electric field, where intermolecular processes play an essential role. As a result of a finite relaxation process, the electrical field within the dielectric material retards behind the external electric field with underlying exponential dynamics. The strong interactions between water molecules lead to a slow motion of collective relaxation process in a cluster of water molecules, characterized by the megahertz to gigahertz spectroscopy with the time constant of  $\tau_D$ . The fast relaxation time,  $\tau_2$ , corresponding to the single-water molecule reorientation can be detected under terahertz radiation. Accordingly, the terahertz time-domain spectroscopy of water yields two components,<sup>20,21</sup> including a slow component close to,  $\tau_D \sim 8$  ps, and a faster time constant  $\sim 170$  fs at room temperature. The fast relaxation time with large errors in these measurements differs from the single-molecule relaxation time of water closed to  $\sim 1$  ps reported by the gigahertz as well as terahertz frequency-domain spectroscopy.<sup>15,16,19</sup> By employing the terahertz frequency-domain spectroscopy with high precision, we are able to explore the relaxation time processes in water.

We have characterized the relaxation times of the macroscopic and microscopic processes as a function of temperature with high precision (Table I). Logarithmic ratios (blue open circles) between the collective,  $\tau_D$ , and single-molecule,  $\tau_2$ , orientation times ( $\tau_D/\tau_2$ ) are plotted in a wide range of temperatures from supercooled water

to 95 °C (Fig. 4, inset). The ratio shows an increase with decreasing temperature (or as a function of  $1000/T$ ). The experimental results for the macroscopic and microscopic relaxation processes have revealed correlation activities, indicating a strong temperature effect. The fast process,  $\tau_2$ , is coupled to the collective motion through large water clusters, and the temperature dependence is similar to that of  $\tau_D$ . As temperature increases, the sizes of water clusters reduce, resulting in the decrease of the relaxation times. Thus, the relaxation time ratio,  $\tau_D/\tau_2$ , between these modes strongly depends on temperature. The red curve is a fitting of the experimental ratios in the logarithmic form to a linear function with a slope of 0.095 and an intercept of 0.592.

Two relaxation processes are sensitive to different microscopic modes, but they connect each other through large water clusters. As mentioned above, a number of theoretical approaches have been proposed to explore the relationship between the macro- and microscopic relaxation processes, but they do not agree with each other. Recently, Chandra and Bagchi<sup>45</sup> and Arkhipov and Agmon<sup>46</sup> suggested a behavior between these relaxation modes by employing microscopic theory. Using the Mori-Zwanzig projection operator formalism, Arkhipov and Agmon,<sup>46</sup> derived a relationship between the macro- and microscopic processes and obtained an estimation of the number of water molecules involved in the orientation processes,

$$\frac{\tau_D}{\tau_2} = \frac{3k_B T m_0 (\epsilon_S - \epsilon_\infty)(2\epsilon_S + \epsilon_\infty)}{4\pi\mu^2 \rho_c \epsilon_S}, \quad (3)$$

where  $k_B$  is the Boltzmann constant,  $T$  is the absolute temperature in K,  $m_0$  is the molecular weight,  $\rho_c = Nm_0/V$  is the density of a cluster with volume of  $V$  and cluster size of  $N$ , and  $\mu$  is the molecular dipole moment. From the theoretical approach, they estimated a ratio between the collective,  $\tau_D$ , and the single-molecule,  $\tau_2$ , orientation times of  $\tau_D/\tau_2 \approx 8$  at room temperature for a number of water molecules of  $\sim 9$  in a cluster. The number is derived from the "tetrahedral displacement mechanism"<sup>6,49</sup> and an assumption of a coordination number of four around one water molecule, in which the translation involves four old and four new neighboring water molecules. The collective orientation relaxation time involves the breaking of the hydrogen-bonding network with old water molecules, rotating and reforming hydrogen bonds with new water molecules. At 20 °C, we have observed the dynamics of the collective orientation time of water of 9.52 ps and the orientation relaxation time of single-water molecules of 1.14 ps. The relaxation time ratio,  $\tau_D/\tau_2$ , between these modes is 8.35, indicating good agreement between the experimental observation and theoretical estimation.

We use our fitting parameters to test the model and recalculate the  $\tau_D/\tau_2$  ratio. Following the above approach, we estimate the  $\tau_D/\tau_2$  ratios from  $\epsilon_S$ ,  $\epsilon_\infty$ , and  $\mu = 2.6$  D<sup>50</sup> in cgs unit (Fig. 4, dark yellow open diamonds). The ratios depend only on the macroscopic dielectric constants and do not contain microscopic parameters. The behavior of the relaxation ratios in the logarithmic form has the same trend as the direct ratios estimated from relaxation times. The results indicate that the fast relaxation mode of single-water molecules,  $\tau_2$ , participates in the slow collective orientation motion,  $\tau_D$ , through large water clusters, in which the slow motion happens to be localized. The single-water molecules have weak hydrogen

bonds to neighboring water molecules, rotating with a small activation energy. In contrast, water molecules with strong hydrogen bonds in the near tetrahedral configuration will have to wait for the hydrogen-bond strength to be weakened before being able to rotate, giving a slow relaxation time. Both types of water molecules correlate with each other but possess their own microscopic structure. In the hydrogen-bonding network and at a certain time, one water molecule can have up to four hydrogen bonds. Statically, we can consider two types of water molecules happening in the liquid state. The experimental results show a continuous trend from the liquid state to the supercooled water, and no abrupt change has been observed. We can expect a continuous rearrangement between two types of water dynamics.

### Dynamic properties of supercooled water

It has been postulated that bulk water is composed of a mixture of two distinct liquids (LDL and HDL) with different local hydrogen-bonding networks, densities, and microscopic structures.<sup>4,11,22</sup> Computational simulations have demonstrated that the liquid form of the LDL occurs in a high degree of the local tetrahedral configuration, which is not very different from crystalline ice, though obviously lacking long-range order.<sup>6</sup> However, the form of the HDL has been experimentally identified as a disordered local configuration with a higher coordination number, in which, on average, each water also has four hydrogen bonds, but a fifth water molecule has entered the first coordination shell.<sup>51</sup> Based on results of molecular dynamics simulations,<sup>4,5</sup> these liquid forms are metastable with respect to crystallization in free-energy basins, and the existence of a liquid–liquid phase transition between two metastable liquids terminates at the liquid–liquid critical point in deeply supercooled regions. Thus, there is the coexistence line (Widom line) along which the liquid phases of LDL and HDL coexist,<sup>7</sup> providing the fundamental explanation for the anomalous nature of water. The forms of water (LDL and HDL) are related to their counterparts in glassy states of amorphous forms, including the low-density amorphous (LDA) and high-density amorphous (HDA) ices, respectively, of the phase diagram.<sup>11</sup> A large number of methods were employed to produce amorphous ices with densities varying from 0.3 to 1.3 g/cm<sup>3</sup>,<sup>52</sup> and transformations between amorphous ices have been experimentally reported. The glass–liquid transition,  $T_{g1}$ , in LDA has been experimentally characterized around  $\sim 136$  K.<sup>10,53–57</sup> In addition, an identification for the glass–liquid transition in HDA at ambient pressure and elevated pressures has been provided at  $T_{g2} \sim 116$  K.<sup>53,58</sup>

Monitoring the relaxation times of water, including the collective orientation motions, rotations of single-water molecules, and the structural rearrangements as a result of breaking and reforming hydrogen bonds in the liquid state, reveals the dynamic properties of water.<sup>59–61</sup> The frequency of the dielectric loss provides an estimation of the average relaxation time, enabling a measure for the mobility of water molecules as a function of temperature. We analyze the relaxation times by fitting the data to the empirical Vogel–Fulcher–Tammann (VFT)<sup>62</sup> equation,

$$\nu(T) = \frac{1}{2\pi\tau(T)} = \frac{1}{2\pi\tau_\infty} \exp\left(\frac{-DT_0}{T - T_0}\right), \quad (4)$$

where  $\tau_\infty$  is the relaxation time at high-temperature limit,  $T_0$  denotes the fitted temperature parameter or the VFT temperature at which the orientation relaxation time,  $\tau$ , of water starts to diverge, and  $D$  describes the deviation from an Arrhenius behavior of the temperature dependence and corresponds to the fragile temperature characteristics,<sup>62–64</sup>

$$\nu(T) = \frac{1}{2\pi\tau(T)} = \frac{1}{2\pi\tau_\infty} \exp\left(\frac{-E_A}{k_B T}\right), \quad (5)$$

where  $E_A$  describes the thermal activation energy of the orientation process.

The temperature dependence of the collective orientation dynamics in water obeys the VFT-type or non-Arrhenius behavior. We obtain the best fit with  $\tau_\infty = 0.155 \times 10^{-12}$  s,  $D = 4.57$ , and  $T_0 = 138.8 \pm 3.5$  K (Fig. 4, red curve) for the collective orientation relaxation time as a function of temperature. Similarly, the temperature dependence of the orientation relaxation time of single-water molecules is well characterized by the non-Arrhenius relation. The best-fit values of  $\tau_\infty = 0.015 \times 10^{-12}$  s,  $D = 0.049$ , and  $T_0 = 114.3 \pm 9.0$  K have been obtained for the temperature dependence of the relaxation time (Fig. 4, orange curve). The observation suggests that the dynamics of the water molecules having a weak interaction with neighboring molecules follows a similar behavior of water molecules in the collective relaxation motion. The  $T_0$  temperature for single-water molecules is lower than that of water molecules in the collective arrangement in water. When the temperature of supercooled water decreases, water molecules move more and more slowly, and the viscosity increases. At a certain temperature, the water molecules will move so slowly that they do not have a chance to rearrange their positions, at which the viscosity or the relaxation time diverges. Finally, the temperature dependence of the fastest dynamics of water follows the Arrhenius behavior with  $\tau_\infty = 0.025 \times 10^{-12}$  s and  $E_A = 0.049$  meV (Fig. 4, dark yellow curve).

There is not necessarily a one-to-one correspondence between the two relaxation times of two kinds of water and two liquid forms in bulk water because the possibility cannot be excluded that each water in the HDL also has four hydrogen-bonds, but a fifth water molecule has entered the first coordination shell.<sup>65</sup> It is clear that water molecules with strong hydrogen-bonds can only relax through the collective orientation process, including breaking hydrogen bonds, rotating molecules, and reforming hydrogen bonds. The relaxation process happens in both liquid forms. However, in the HDL, the dynamics of the fifth water molecule accommodated in the first coordination shell with some broken or weakened hydrogen bonds<sup>65</sup> will contribute considerably to the single-water molecular process. Thus, regarding the orientation dynamics, two distinct forms of water molecules exist in bulk water, and the dielectric response of the two liquid forms of water differs in the extra contribution of the single-molecule relaxation process. The relaxation times as a function of temperature show a divergence at the supercooled regime for the collective reorientation and single-water molecular rotation processes happened at  $\sim 138.8$  and  $\sim 114.3$  K, respectively. The  $T_0$  values for these water molecules do not correspond to glass transitions.<sup>63,64</sup> Specifically, the  $T_0$  values should be lower than their  $T_g$  values as reported  $\sim 50$  K in the polymer community.<sup>66</sup> However, we observe here a little difference between

them; this result may be resulted from dynamics of water molecules in local regions, which contain a mixing of two kinds of waters.<sup>7,8</sup> The  $D$  value of the collective relaxation process of water indicates the fragile property of liquid water; additionally, the value for the single-water molecule process suggests a strong fragile property of the water molecules in HDL clusters.<sup>63,64</sup>

The fastest of the three dynamic processes we observe, which indicates  $\sim 170$  fs time constant at room temperature, is also reported via terahertz time-domain spectroscopy.<sup>20,21</sup> Calculations using quantum mechanics or molecular dynamics suggest that this phase arises due to the breaking and reforming of individual hydrogen bonds.<sup>33,34,67</sup> This dynamic process may correlate with water molecules that slightly liberate from their most stable geometry in the hydrogen-bonding network, breaking a single hydrogen bond and returning to the same position. This observation has been proposed in the jumping model.<sup>33</sup> Water molecules do not have enough energy to change their position, or the rotation process of water molecules does not have enough amplitude for the jumps. The process follows the Arrhenius behavior, reflected from the temperature dependence of the fastest dynamics of water.

### Temperature effects on the collective relaxation dynamics

The temperature dependence of the collective orientation relaxation time,  $\tau_D$ , is expected to connect to the viscosity of water,  $\eta$ , via the Einstein–Stock–Debye relation. In this model, a water molecule with an electrical dipole is considered as a sphere, in which the rotation of the water molecule in response to an oscillating electric field is opposed by the hydrodynamic friction of the surrounding water molecules. The relaxation time of a spherical molecule is given by<sup>49</sup>

$$\tau_D = \frac{4\pi R^3 \eta(T)}{k_B T}, \quad (6)$$

where  $R$  is the hydrodynamic radius of a rotating molecule. We have characterized the collective orientation dynamics in a wide range of temperatures from supercooled liquid to near the boiling point of water with high precision. The results provide us a great estimation of the viscosity of water.

To investigate the relationship between the viscosity and collective orientation relaxation time,  $\tau_D$ , of water, we have plotted our results vs the viscosity divided by temperature, in which the viscosity data were taken from the literature (Fig. S3).<sup>36</sup> Indeed, our

data for the collective relaxation time scale linearly with the viscosity of water divided by temperature in a wide range of temperatures from supercooled liquid to near the boiling point. We have obtained the hydrodynamic radius of a rotating molecule,  $R$ , of 1.42 Å, corresponding to a hydrodynamic volume for a rotating molecule of  $1.19 \times 10^{-23} \text{ cm}^3$ . The hydrodynamic volume is smaller than the volume of each water molecule of  $\sim 2.99 \times 10^{-23} \text{ cm}^3$  at room temperature. The rotation of water molecules is caused by a tetrahedral displacement,<sup>49</sup> including a rotation and a translation from one site to a neighboring site. For the process, water molecules have less than four hydrogen bonds; thus, effectively, the hydrodynamic volume of water molecules is smaller. Additionally, the viscosity of water is an average of two kinds of water molecules (water molecules with four hydrogen bonds and single-water molecules). We expect here a smaller value of the hydrodynamic volume of water molecules. The view agrees with the postulation that the structure of water has a random network of hydrogen bonds with frequently strained and broken bonds, continuously subject to spontaneous restructuring.<sup>68</sup>

To quantify the thermal activation of the orientation relaxation processes, we employ the Eyring theory,<sup>69</sup> assuming that the relaxation pathway occurs through a thermally activated transition state,

$$\tau_D = \frac{h}{k_B T} \exp\left(\frac{\Delta H^\ddagger - T\Delta S^\ddagger}{RT}\right), \quad (7)$$

where  $h$ ,  $R$ ,  $\Delta S^\ddagger$ , and  $\Delta H^\ddagger$  are the Planck, gas constants, entropy, and enthalpy of the activation energy, respectively. Our plot of experimental results,  $\ln(\tau_D k_B T/h)$  vs  $1/T$ , deviates from linear behavior (Fig. S4), indicating the temperature dependence of entropy and enthalpy by the isobaric heat capacity,  $\Delta c_p^\ddagger$ ,<sup>16,36</sup>

$$\begin{aligned} \Delta H^\ddagger - T\Delta S^\ddagger &= \Delta H_{298}^\ddagger + \Delta c_p^\ddagger (T - T^*) \\ &\quad - T\left(\Delta S_{298}^\ddagger + \Delta c_p^\ddagger \ln \frac{T}{T^*}\right), \end{aligned} \quad (8)$$

where  $\Delta S_{298}^\ddagger$  and  $\Delta H_{298}^\ddagger$  are activation parameters at  $T^* = 298.15$  K. We have obtained fitted parameters for the enthalpy, entropy, and isobaric heat capacity of thermal activation for the collective orientation and single-water molecule relaxation processes. The extracted values are provided in Table II. The results for the collective relaxation process are in line with previous literature results for water.<sup>16,36</sup>

**TABLE II.** Fitted values of the enthalpy,  $\Delta H_{298}^\ddagger$ , entropy,  $\Delta S_{298}^\ddagger$ , and heat capacity,  $\Delta c_p^\ddagger$ , of thermal activation for the collective orientation and single-water molecule relaxation processes of water.

Modes	$T_0$ (K)	$\Delta H_{298}^\ddagger$ (kJ mol <sup>-1</sup> )	$\Delta S_{298}^\ddagger$ (J mol <sup>-1</sup> K)	$\Delta c_p^\ddagger$ (J mol <sup>-1</sup> K <sup>-1</sup> )	Reference
Collective relaxation	138.8 ± 3.5	16.353 ± 0.085	22.1 ± 0.3	-108 ± 7	This work
		15.9 ± 0.2	20.4 ± 0.7	-160 ± 22	16
		16.1 ± 0.2	21.1 ± 0.7	-94 ± 12	36
Single-molecule	114.3 ± 9.0	14.690 ± 0.229	33.8 ± 0.8	-74 ± 17	This work

## Temperature dependence of the static dielectric constant

The large value of the static dielectric constant,  $\epsilon_s(T)$ , of pure water originates not only from the polarity of individual water molecules and the number of dipoles per unit volume but also from the correlated mutual orientations of these molecules. The static dielectric constants,  $\epsilon_s(T)$ , of liquid and supercooled water have been reported by several research groups, and the values are consistent with each other.<sup>15,18</sup> To seek a realistic physical function that describes the interaction of electromagnetic field with water molecules, several functions have been provided. Polynomial functions have been proposed for the temperature dependence of the static dielectric constant over the temperature range 0–100 °C.<sup>15,18,70</sup> By employing the most precise measurements, Hamelin *et al.* yielded a function,  $\epsilon_s(t) = 87.9144 - 0.404399t + 9.58726 \times 10^{-4}t^2 - 1.32892 \times 10^{-6}t^3$ , with 0 °C <  $t$  < 145 °C.<sup>70</sup> The estimated standard deviation of the static dielectric constant is small but may not work for temperatures outside the range. In particular, the large dielectric constant of water arises from both the large dipole moment in each molecule and the strong angular correlation between dipole moments of its molecules, strongly depending on temperature. For such a highly polar substance, Kirkwood's equation sheds light on the inverse relationship between the static dielectric constant and temperature that originated from the opposition of the thermal excitation to the alignment of electrical dipole moments in the direction of the applied field. Thus, the random network model can describe the static dielectric property of water, in which hydrogen bonding in water is continuous, although distorted, throughout configurations occupied in the liquid state. The static dielectric constant from 100 °C down to the supercooled range is a function of the inverse absolute temperature ( $1/T$ ), Kirkwood correlation factor ( $g_K$ ), density of water ( $\rho$ ), and molecular dipole moment ( $\mu$ ).<sup>71</sup> The temperature dependence of the static dielectric constant is described by an empirical equation,<sup>15,71</sup>

$$\epsilon_s(T) = A + B \frac{\rho g_K \mu^2}{T}. \quad (9)$$

Estimating the static dielectric constant of water depends on several parameters, which are also temperature dependent. The parameters are well predicted by theoretical calculations or experimental phenomena fitting functions. The density of water at the standard atmospheric pressure is well known from precise measurements in the range from 239 to 423 K.<sup>72,73</sup> The density of water can be obtained in the form of rational functions  $\rho = \sum_{n=0}^5 a_n t^n / (1 + bt)$ , with  $a_0 = 0.99983952$ ,  $a_1 = 16.945176$ ,  $a_2 = -7.9870401 \times 10^{-3}$ ,  $a_3 = -46.170461 \times 10^{-6}$ ,  $a_4 = 105.56302 \times 10^{-9}$ ,  $a_5 = -280.54253 \times 10^{-12}$ , and  $b = 16.879850 \times 10^{-3}$  for  $-30$  °C <  $t$  < 150 °C.<sup>72</sup> The theoretical Kirkwood correlation factor,  $g_K$ , of water is basically independent of temperature.<sup>74</sup> Déjardin *et al.* found that  $g_K = 2.73$  and 2.72 at  $T = 0$  and 83 °C, respectively. The dipole moment of water molecules has been estimated using molecular dynamics simulations.<sup>50,75</sup> We have plotted the static dielectric constant divided by the density,  $\epsilon_s(T)/\rho$ , as a function of inverse absolute temperature,  $1000/T$ , and we find a linear dependence (Fig. 5). The red line is fitting of experimental data to Eq. (9), and we have obtained  $A/\rho = -22.34$  and  $Bg_K\mu^2 = 30.163$ . The results in a large range of temperatures are in

support a continuity of state of hydrogen bonding between liquid and supercooled water as described in the random network model.<sup>71</sup>

When the temperature increases, water increases the activity; thus, the dielectric strength and the extent of the hydrogen-bonding decrease. Dielectric dispersion and loss spectra of water between  $-5$  and 95 °C from megahertz to terahertz frequencies exhibit the effect of increasing temperature (Fig. 2). The dielectric dispersion of water becomes lower at higher temperature, lessening the difficulty of the movement of the water dipole moment, and so, allowing water molecules to oscillate at higher frequencies. As the result, the force between hydrogen bonds reduces, lowering the friction and, hence, the dielectric loss. Note that the dielectric constant at high frequencies,  $\epsilon_\infty$ , changes slightly with temperature (Fig. 5, inset). We have employed the empirical equation [Eq. (9)] to fit the dielectric strength of each relaxation process and obtained fitting parameters,  $A_1/\rho = -22.28$  and  $B_1g_K\mu^2/\rho = 28.323$  for the collective orientation process, together with  $A_2/\rho = -3.48$ ,  $B_2g_K\mu^2/\rho = 1.401$  for the single-molecule rotation process. The dielectric strength for the structural rearrangement due to breaking and reforming hydrogen bonds in the pure water changes slightly with temperature and does not follow the  $1/T$  behavior.

## CONCLUSIONS

In conclusion, we have performed terahertz spectroscopy for water in a wide range of temperatures from the supercooled state to near the boiling point. We have observed three dynamic processes, including the collective orientation dynamics, single-water molecule mode, and structural rearrangement resulting from breaking and reforming hydrogen bonds. The observation shows a relationship between the macroscopic and microscopic relaxation dynamics of water, providing evidence of two liquid forms at ambient conditions. The temperature dependence of the dynamics of the two orientation processes follows the VFT behavior, related to the two liquid forms in water of LDL and HDL. The temperature dependence of the fastest process obeys the Arrhenius-type. From the temperature dependence of the relaxation times, we have estimated experimental values for the enthalpy, entropy, and heat capacity of thermal activation for the collective orientation and single-water molecule relaxation processes of water, as well as provided an alternative approach to evaluate the temperature dependence of the static dielectric constant. The results provide direct evidence of water dynamics related to the two liquid forms in different local environments.

## SUPPLEMENTARY MATERIAL

See supplementary material for details of terahertz spectroscopy of water at different temperatures.

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## AUTHOR DECLARATIONS

## Conflict of Interest

The authors have no conflicts to disclose.

## Author Contributions

**Nguyen Q. Vinh:** Conceptualization (lead); Data curation (equal); Supervision (lead); Writing – original draft (lead); Writing – review & editing (lead). **Luan C. Doan:** Data curation (equal). **Ngoc L. H. Hoang:** Writing – original draft (equal). **Jiarong R. Cui:** Data curation (equal). **Ben Sindle:** Data curation (equal).

## DATA AVAILABILITY

The data that support the findings of this study are available within the article and its supplementary material.

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# Correlation between Macroscopic and Microscopic Relaxation Dynamics of Water: Evidence for Two Liquid Forms

## Supplementary Material

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### Absorption and refractive index measurements

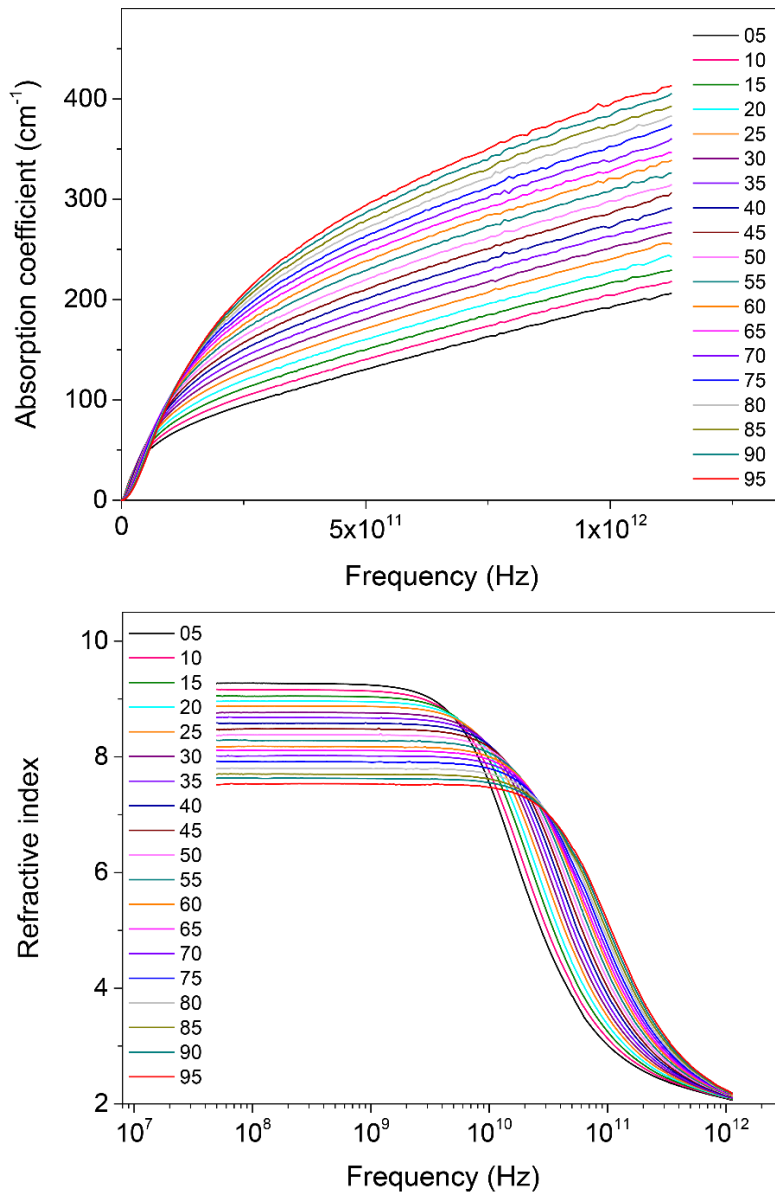
We have employed a highly sensitive spectrometer capable of measuring both the absorption and refractive index of strongly absorbing liquids, such as water, over the range 50 MHz to 1.2 THz (0.002 to 40.030 cm<sup>-1</sup>). Our spectrometer employs a commercial Agilent Vector Network Analyzer, the PNA N5225A, which covers the frequency range from 10 MHz to 50 GHz. The microwave output of the PNA N5225A is translated to the higher frequencies via photomixing in a set of frequency multipliers and then is detected using a matched set of harmonic detectors after photomixing back to lower frequencies. The system comprised of the frequency multipliers and the matched harmonic detectors was developed by Virginia Diodes, Inc. (Charlottesville, VA).<sup>1,2</sup>

We have used a variable path-length cell setup consisting of two parallel windows, one immobile and the other mounted on an ultra-precise linear translation stage (relative accuracy 80 nm). The cell walls were fixed in aluminum holders to minimize the leakage of stray radiation. These holders were mounted on Peltier temperature control plates, allowing precise control of the temperature of the sample. The absorbance and refractive index of water are temperature dependent and thus all experiments carried out at 25.00 ± 0.02 °C using this device. The liquid sample was held between two parallel windows in the sample cell. The distance between the two windows, as thus the sample pathlength, was adjusted using the linear stage. At each frequency we examined an average of 200 different path-lengths, with increments ranging from 0.5 to 5 μm depending on the absorption strength of the sample. To mitigate problems associated with multiple reflections of the incident light (standing waves, etalon effect), the thickness of our shortest path length was selected to be long enough to insure strong attenuation of the incident radiation. We determined the absorption coefficients,  $\alpha$ , and refractive index,  $n$ , of our samples from linear fits of the change in

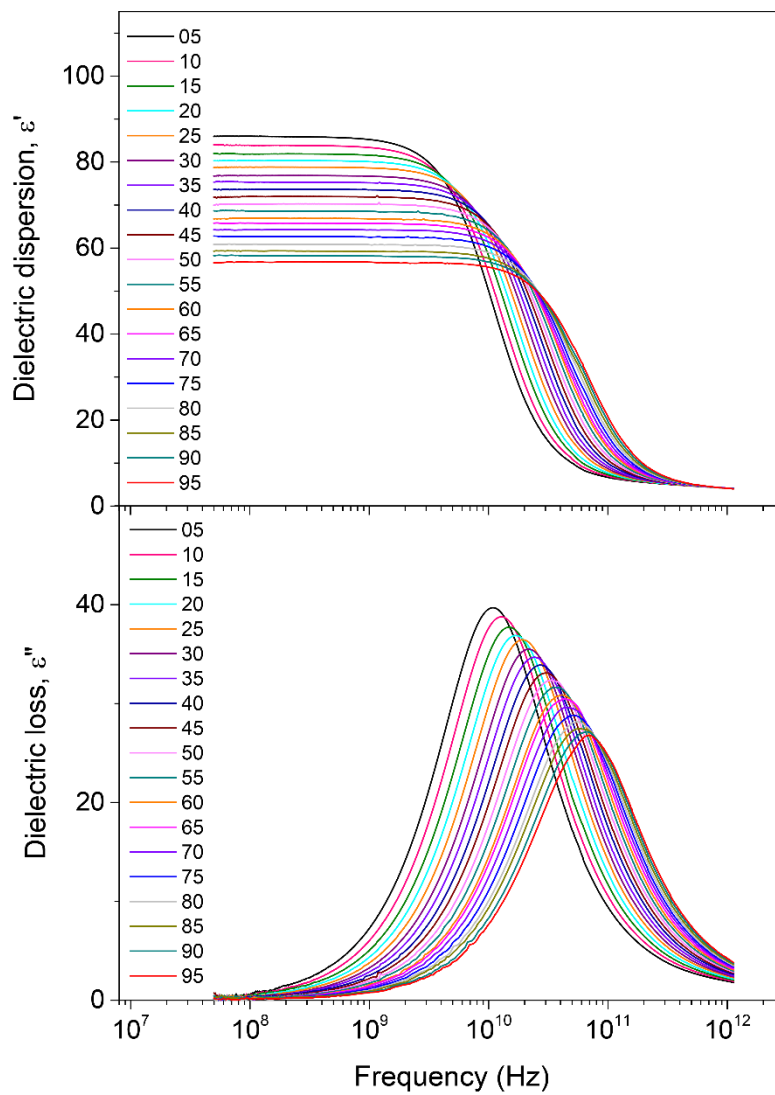
absorbance,  $\Delta A$ , and the unwrapped phase shift,  $\Delta\theta_{\text{transmission}}$ , respectively, with changing path length,  $\Delta l$ , as a function of frequency,  $\nu$ .<sup>3-14</sup>

$$\begin{cases} \Delta A = \Delta(-\ln[I_{\text{transmission}}]) = \alpha \cdot \Delta l \\ \Delta(\theta_{\text{transmission}}) = \frac{n \cdot 2\pi \cdot \nu}{c} \cdot \Delta l \end{cases} \quad (1)$$

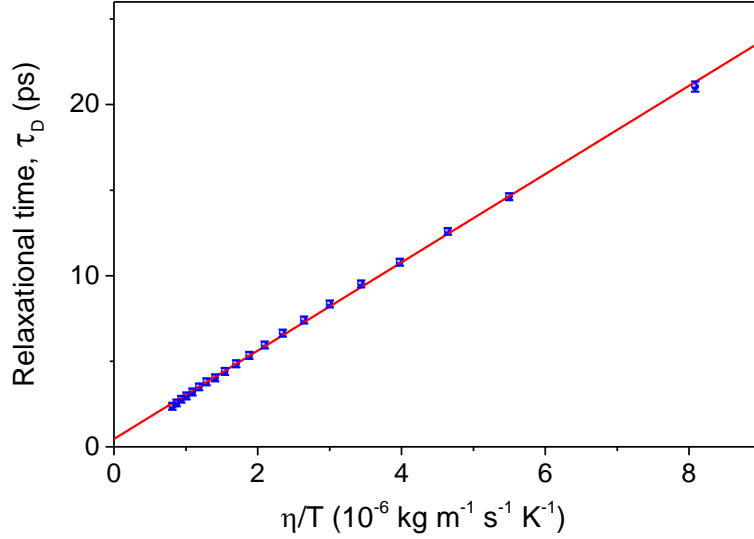
where  $I_{\text{transmission}}$ ,  $\theta_{\text{transmission}}$  are the transmitted intensity and phase,  $c$  is the velocity of light. This method supports the precise determination of absorption coefficients and refractive indexes without the need for precise (and difficult to obtain) measurements of the absolute pathlength and the intrinsic optical properties of the sample cell. All experiments were repeated approximately ten times to estimate confident limits.



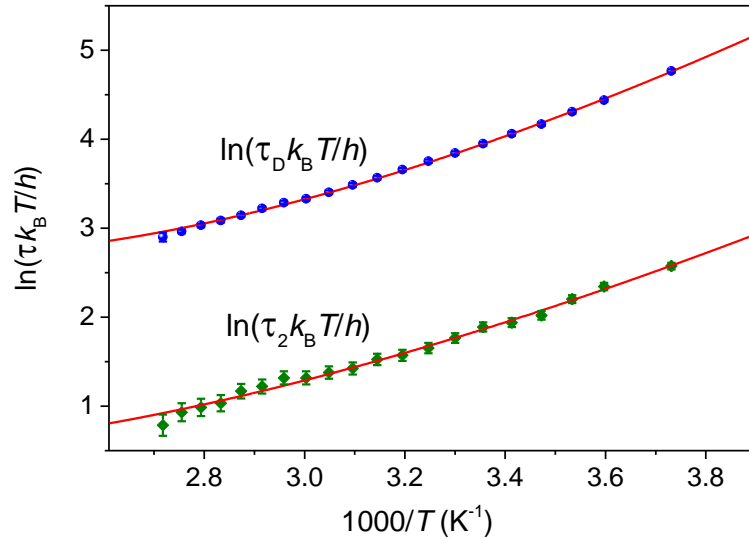
**FIG. S1.** The absorption and refractive index of water at different temperatures from -5 to 95 °C.



**FIG. S2.** The dielectric response including the dielectric dispersion (real part) and dielectric loss (imaginary part) of liquid water at different temperatures from -5 to 95 °C.



**FIG. S3.** The temperature dependence of the collective orientation relaxation dynamics,  $\tau_D$ , connects to the viscosity of water,  $\eta$ , via the Einstein-Stock-Debye relation. The collective orientation relaxation time scale linearly with the viscosity of water divided by temperature,  $\eta/T$ , from supercooled liquid to near the boiling point. Symbols represent experimental data, while the solid red line is the results of the fits,  $\tau_D = a + b\eta/T$ , with  $a = 4.1 \times 10^{-13}$  (s);  $b = 2.58 \times 10^{-6}$  ( $s^2 \cdot m \cdot K / kg$ ).



**FIG. S4.** Activation-energy plots for relaxation times of the collective orientations,  $\tau_D$ , and single-molecule motions,  $\tau_2$ , deviate from linear behavior. Symbols represent the experimental results, and solid red lines are the results of the fits using Eyring equation.

Freq (GHz)	Water at -5 °C		Water at 5 °C		Water at 10 °C		Water at 15 °C		Water at 20 °C		Water at 25 °C	
	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n
0.05000	0.00029	9.496	0.00028	9.259	0.00035	9.158	0.00022	9.057	0.00016	8.960	0.00017	8.876
0.05058	0.00033	9.498	0.00027	9.260	0.00021	9.158	0.00023	9.057	0.00017	8.960	0.00022	8.874
0.05117	0.00041	9.495	0.00027	9.259	0.00026	9.155	0.00023	9.055	0.00016	8.962	0.00036	8.875
0.05176	0.00039	9.495	0.00034	9.259	0.00038	9.155	0.00014	9.057	0.00024	8.960	0.00036	8.877
0.05236	0.00048	9.497	0.00025	9.259	0.00023	9.155	0.00007	9.054	0.00034	8.960	0.00035	8.876
0.05297	0.00041	9.501	0.00023	9.260	0.00030	9.156	0.00025	9.053	0.00037	8.960	0.00028	8.876
0.05358	0.00046	9.504	0.00035	9.260	0.00031	9.155	0.00039	9.054	0.00029	8.962	0.00024	8.879
0.05420	0.00056	9.504	0.00030	9.259	0.00040	9.154	0.00033	9.051	0.00025	8.959	0.00032	8.877
0.05483	0.00049	9.502	0.00021	9.259	0.00057	9.159	0.00050	9.049	0.00034	8.959	0.00029	8.874
0.05546	0.00062	9.501	0.00034	9.259	0.00024	9.157	0.00032	9.049	0.00041	8.962	0.00024	8.874
0.05610	0.00063	9.498	0.00038	9.260	0.00024	9.156	0.00036	9.048	0.00030	8.962	0.00036	8.876
0.05675	0.00078	9.500	0.00042	9.261	0.00031	9.155	0.00008	9.051	0.00016	8.962	0.00031	8.879
0.05741	0.00076	9.503	0.00051	9.260	0.00046	9.155	0.00020	9.049	0.00012	8.961	0.00041	8.877
0.05808	0.00073	9.501	0.00043	9.259	0.00013	9.156	0.00035	9.056	0.00013	8.961	0.00038	8.877
0.05875	0.00071	9.502	0.00036	9.260	0.00020	9.155	0.00051	9.057	0.00027	8.963	0.00048	8.879
0.05943	0.00064	9.499	0.00032	9.262	0.00038	9.156	0.00027	9.053	0.00025	8.964	0.00046	8.876
0.06012	0.00074	9.496	0.00039	9.261	0.00037	9.156	0.00030	9.051	0.00031	8.962	0.00043	8.878
0.06081	0.00072	9.502	0.00032	9.260	0.00033	9.152	0.00060	9.052	0.00044	8.964	0.00050	8.879
0.06152	0.00079	9.497	0.00036	9.262	0.00052	9.149	0.00045	9.052	0.00049	8.963	0.00054	8.878
0.06223	0.00085	9.501	0.00044	9.261	0.00055	9.152	0.00051	9.053	0.00052	8.963	0.00062	8.875
0.06295	0.00083	9.502	0.00032	9.260	0.00047	9.152	0.00056	9.054	0.00045	8.962	0.00057	8.882
0.06368	0.00081	9.502	0.00021	9.261	0.00062	9.154	0.00070	9.054	0.00036	8.960	0.00053	8.877
0.06442	0.00084	9.501	0.00037	9.261	0.00050	9.155	0.00048	9.053	0.00051	8.962	0.00046	8.875
0.06516	0.00083	9.502	0.00042	9.260	0.00054	9.153	0.00053	9.051	0.00050	8.964	0.00058	8.879
0.06592	0.00091	9.500	0.00040	9.260	0.00069	9.152	0.00072	9.054	0.00036	8.962	0.00066	8.877
0.06668	0.00100	9.502	0.00052	9.261	0.00064	9.153	0.00064	9.052	0.00041	8.964	0.00062	8.876
0.06745	0.00080	9.498	0.00054	9.261	0.00073	9.150	0.00072	9.055	0.00022	8.965	0.00066	8.879
0.06823	0.00100	9.498	0.00048	9.260	0.00062	9.151	0.00069	9.053	0.00003	8.964	0.00072	8.880
0.06902	0.00108	9.499	0.00049	9.260	0.00055	9.153	0.00057	9.053	0.00019	8.963	0.00067	8.878
0.06982	0.00119	9.498	0.00043	9.260	0.00073	9.150	0.00057	9.052	0.00026	8.963	0.00075	8.880
0.07063	0.00126	9.499	0.00050	9.261	0.00072	9.151	0.00047	9.051	0.00025	8.963	0.00073	8.878
0.07145	0.00136	9.502	0.00061	9.261	0.00062	9.150	0.00072	9.055	0.00031	8.964	0.00070	8.879
0.07228	0.00125	9.497	0.00049	9.261	0.00064	9.151	0.00078	9.052	0.00020	8.962	0.00063	8.878
0.07311	0.00130	9.502	0.00061	9.260	0.00059	9.153	0.00070	9.055	0.00019	8.961	0.00070	8.880
0.07396	0.00136	9.499	0.00078	9.260	0.00055	9.150	0.00071	9.054	0.00039	8.963	0.00055	8.878
0.07482	0.00137	9.497	0.00083	9.260	0.00056	9.152	0.00066	9.052	0.00043	8.962	0.00069	8.880
0.07568	0.00132	9.499	0.00096	9.260	0.00054	9.152	0.00052	9.049	0.00031	8.961	0.00066	8.879
0.07656	0.00136	9.501	0.00100	9.261	0.00060	9.155	0.00066	9.051	0.00022	8.961	0.00061	8.878
0.07745	0.00133	9.498	0.00084	9.260	0.00056	9.153	0.00072	9.050	0.00034	8.960	0.00049	8.880
0.07834	0.00139	9.499	0.00079	9.260	0.00062	9.152	0.00055	9.051	0.00049	8.962	0.00067	8.878
0.07925	0.00148	9.500	0.00081	9.260	0.00072	9.152	0.00062	9.049	0.00054	8.963	0.00064	8.879
0.08017	0.00157	9.500	0.00083	9.260	0.00077	9.151	0.00059	9.049	0.00048	8.963	0.00078	8.879
0.08110	0.00161	9.500	0.00079	9.260	0.00073	9.153	0.00073	9.048	0.00055	8.963	0.00066	8.880
0.08204	0.00164	9.500	0.00079	9.259	0.00080	9.153	0.00064	9.051	0.00057	8.963	0.00079	8.880
0.08299	0.00185	9.499	0.00077	9.260	0.00072	9.153	0.00064	9.049	0.00057	8.963	0.00077	8.880

0.08395	0.00197	9.500	0.00070	9.260	0.00080	9.152	0.00079	9.048	0.00056	8.964	0.00083	8.879
0.08492	0.00178	9.500	0.00078	9.260	0.00085	9.151	0.00097	9.049	0.00057	8.964	0.00078	8.879
0.08590	0.00195	9.501	0.00082	9.260	0.00078	9.150	0.00073	9.049	0.00072	8.963	0.00072	8.877
0.08690	0.00197	9.498	0.00092	9.260	0.00085	9.151	0.00079	9.048	0.00059	8.963	0.00068	8.878
0.08790	0.00212	9.498	0.00107	9.260	0.00085	9.152	0.00089	9.047	0.00043	8.963	0.00071	8.879
0.08892	0.00195	9.497	0.00111	9.260	0.00087	9.152	0.00079	9.047	0.00043	8.963	0.00064	8.878
0.08995	0.00208	9.497	0.00105	9.260	0.00079	9.150	0.00087	9.047	0.00054	8.963	0.00072	8.878
0.09099	0.00199	9.497	0.00107	9.261	0.00102	9.151	0.00088	9.047	0.00067	8.964	0.00089	8.879
0.09204	0.00198	9.497	0.00104	9.261	0.00105	9.151	0.00097	9.048	0.00075	8.965	0.00085	8.879
0.09311	0.00192	9.497	0.00103	9.261	0.00128	9.151	0.00101	9.048	0.00078	8.963	0.00099	8.880
0.09419	0.00206	9.496	0.00111	9.261	0.00114	9.152	0.00093	9.048	0.00068	8.961	0.00098	8.880
0.09528	0.00204	9.498	0.00125	9.260	0.00115	9.151	0.00108	9.048	0.00064	8.962	0.00099	8.879
0.09638	0.00219	9.497	0.00136	9.260	0.00106	9.153	0.00105	9.048	0.00062	8.962	0.00093	8.879
0.09750	0.00222	9.496	0.00135	9.261	0.00123	9.152	0.00116	9.048	0.00062	8.963	0.00101	8.878
0.09863	0.00233	9.498	0.00128	9.261	0.00138	9.151	0.00130	9.049	0.00071	8.963	0.00088	8.879
0.09977	0.00235	9.497	0.00130	9.261	0.00143	9.150	0.00125	9.047	0.00081	8.962	0.00090	8.880
0.10093	0.00234	9.497	0.00147	9.262	0.00109	9.152	0.00119	9.048	0.00090	8.962	0.00087	8.880
0.10209	0.00250	9.497	0.00161	9.261	0.00134	9.150	0.00126	9.048	0.00089	8.962	0.00085	8.879
0.10328	0.00250	9.496	0.00168	9.260	0.00142	9.148	0.00115	9.049	0.00082	8.963	0.00094	8.879
0.10447	0.00242	9.496	0.00165	9.260	0.00131	9.150	0.00121	9.051	0.00083	8.964	0.00093	8.878
0.10568	0.00251	9.498	0.00165	9.259	0.00112	9.149	0.00132	9.048	0.00104	8.964	0.00104	8.879
0.10691	0.00258	9.497	0.00183	9.260	0.00126	9.148	0.00129	9.048	0.00104	8.962	0.00108	8.878
0.10814	0.00277	9.497	0.00187	9.260	0.00120	9.150	0.00136	9.048	0.00088	8.962	0.00103	8.877
0.10940	0.00291	9.497	0.00195	9.259	0.00128	9.149	0.00147	9.048	0.00098	8.962	0.00107	8.878
0.11066	0.00296	9.497	0.00221	9.260	0.00149	9.149	0.00147	9.048	0.00123	8.963	0.00092	8.879
0.11194	0.00296	9.495	0.00229	9.259	0.00140	9.150	0.00158	9.047	0.00126	8.963	0.00101	8.880
0.11324	0.00306	9.496	0.00224	9.259	0.00144	9.150	0.00161	9.048	0.00110	8.962	0.00106	8.879
0.11455	0.00317	9.497	0.00231	9.260	0.00145	9.150	0.00166	9.048	0.00104	8.962	0.00111	8.879
0.11588	0.00333	9.497	0.00235	9.259	0.00191	9.150	0.00159	9.048	0.00109	8.962	0.00123	8.879
0.11722	0.00339	9.498	0.00228	9.258	0.00187	9.150	0.00157	9.048	0.00119	8.962	0.00132	8.879
0.11858	0.00351	9.496	0.00236	9.259	0.00202	9.149	0.00175	9.047	0.00123	8.962	0.00134	8.878
0.11995	0.00353	9.497	0.00242	9.260	0.00205	9.149	0.00187	9.048	0.00127	8.963	0.00130	8.879
0.12134	0.00354	9.497	0.00236	9.260	0.00201	9.151	0.00195	9.049	0.00144	8.963	0.00127	8.878
0.12274	0.00349	9.496	0.00239	9.260	0.00220	9.150	0.00199	9.048	0.00150	8.962	0.00130	8.878
0.12417	0.00348	9.496	0.00246	9.260	0.00240	9.150	0.00212	9.049	0.00150	8.962	0.00136	8.879
0.12560	0.00364	9.495	0.00255	9.260	0.00235	9.148	0.00194	9.048	0.00168	8.962	0.00143	8.879
0.12706	0.00371	9.495	0.00263	9.259	0.00237	9.149	0.00207	9.049	0.00176	8.962	0.00136	8.879
0.12853	0.00385	9.496	0.00271	9.259	0.00241	9.150	0.00220	9.048	0.00177	8.962	0.00155	8.879
0.13002	0.00407	9.495	0.00289	9.259	0.00257	9.149	0.00219	9.049	0.00171	8.962	0.00156	8.880
0.13152	0.00426	9.495	0.00289	9.259	0.00232	9.149	0.00230	9.048	0.00161	8.961	0.00156	8.879
0.13305	0.00427	9.495	0.00285	9.259	0.00233	9.149	0.00233	9.050	0.00164	8.961	0.00171	8.880
0.13459	0.00440	9.494	0.00286	9.259	0.00247	9.150	0.00210	9.049	0.00167	8.962	0.00172	8.879
0.13614	0.00455	9.495	0.00284	9.259	0.00263	9.150	0.00211	9.049	0.00179	8.962	0.00175	8.879
0.13772	0.00466	9.496	0.00283	9.259	0.00256	9.150	0.00236	9.049	0.00197	8.962	0.00171	8.879
0.13932	0.00477	9.494	0.00283	9.259	0.00272	9.151	0.00238	9.049	0.00212	8.963	0.00171	8.880
0.14093	0.00483	9.495	0.00287	9.258	0.00257	9.151	0.00245	9.049	0.00216	8.963	0.00182	8.879
0.14256	0.00489	9.496	0.00306	9.257	0.00271	9.150	0.00257	9.050	0.00231	8.963	0.00177	8.880

0.14421	0.00492	9.495	0.00324	9.257	0.00268	9.150	0.00290	9.049	0.00233	8.964	0.00188	8.880
0.14588	0.00516	9.495	0.00341	9.257	0.00270	9.149	0.00279	9.049	0.00232	8.964	0.00196	8.879
0.14757	0.00530	9.495	0.00352	9.257	0.00283	9.150	0.00269	9.050	0.00244	8.964	0.00199	8.880
0.14928	0.00553	9.495	0.00342	9.258	0.00309	9.151	0.00282	9.050	0.00242	8.964	0.00205	8.880
0.15101	0.00565	9.494	0.00341	9.257	0.00303	9.151	0.00294	9.050	0.00248	8.963	0.00217	8.880
0.15276	0.00567	9.494	0.00348	9.257	0.00305	9.151	0.00295	9.050	0.00260	8.963	0.00222	8.880
0.15453	0.00573	9.494	0.00352	9.257	0.00320	9.151	0.00281	9.050	0.00260	8.963	0.00231	8.880
0.15631	0.00600	9.495	0.00363	9.257	0.00343	9.151	0.00297	9.050	0.00257	8.963	0.00230	8.880
0.15812	0.00618	9.495	0.00379	9.257	0.00340	9.151	0.00305	9.051	0.00268	8.964	0.00232	8.879
0.15996	0.00623	9.495	0.00387	9.257	0.00330	9.152	0.00303	9.050	0.00284	8.964	0.00225	8.879
0.16181	0.00632	9.494	0.00405	9.257	0.00332	9.152	0.00291	9.051	0.00288	8.964	0.00232	8.879
0.16368	0.00660	9.494	0.00439	9.257	0.00361	9.151	0.00306	9.051	0.00299	8.964	0.00241	8.879
0.16558	0.00677	9.495	0.00447	9.257	0.00361	9.152	0.00325	9.050	0.00311	8.965	0.00244	8.879
0.16749	0.00693	9.495	0.00449	9.257	0.00358	9.151	0.00330	9.050	0.00314	8.964	0.00252	8.879
0.16943	0.00703	9.495	0.00460	9.257	0.00388	9.152	0.00330	9.050	0.00309	8.965	0.00256	8.879
0.17140	0.00719	9.494	0.00482	9.257	0.00381	9.152	0.00334	9.049	0.00303	8.965	0.00272	8.879
0.17338	0.00740	9.494	0.00504	9.256	0.00405	9.152	0.00357	9.050	0.00326	8.965	0.00276	8.879
0.17539	0.00757	9.493	0.00519	9.256	0.00409	9.151	0.00368	9.050	0.00336	8.965	0.00275	8.879
0.17742	0.00774	9.494	0.00518	9.256	0.00416	9.150	0.00389	9.050	0.00334	8.965	0.00289	8.879
0.17947	0.00780	9.495	0.00541	9.256	0.00414	9.150	0.00387	9.050	0.00342	8.965	0.00283	8.879
0.18155	0.00794	9.495	0.00561	9.256	0.00440	9.150	0.00396	9.050	0.00351	8.965	0.00299	8.880
0.18365	0.00823	9.495	0.00582	9.256	0.00450	9.151	0.00395	9.051	0.00359	8.965	0.00303	8.879
0.18578	0.00841	9.494	0.00601	9.256	0.00462	9.150	0.00413	9.051	0.00361	8.966	0.00307	8.879
0.18793	0.00857	9.494	0.00618	9.256	0.00472	9.151	0.00424	9.051	0.00364	8.965	0.00335	8.879
0.19011	0.00880	9.495	0.00634	9.256	0.00475	9.151	0.00460	9.050	0.00379	8.964	0.00341	8.879
0.19231	0.00904	9.494	0.00640	9.256	0.00485	9.151	0.00455	9.050	0.00387	8.964	0.00341	8.879
0.19454	0.00913	9.494	0.00646	9.255	0.00529	9.151	0.00465	9.050	0.00399	8.964	0.00336	8.879
0.19679	0.00946	9.494	0.00656	9.255	0.00557	9.151	0.00472	9.051	0.00403	8.964	0.00351	8.880
0.19907	0.00962	9.494	0.00663	9.255	0.00537	9.151	0.00487	9.051	0.00406	8.964	0.00350	8.879
0.20137	0.00986	9.494	0.00688	9.255	0.00573	9.151	0.00513	9.051	0.00424	8.964	0.00352	8.879
0.20370	0.01008	9.494	0.00714	9.256	0.00585	9.151	0.00530	9.052	0.00442	8.964	0.00373	8.879
0.20606	0.01046	9.494	0.00719	9.255	0.00586	9.151	0.00536	9.052	0.00444	8.964	0.00386	8.879
0.20845	0.01068	9.494	0.00719	9.255	0.00608	9.150	0.00551	9.052	0.00440	8.964	0.00388	8.879
0.21086	0.01083	9.494	0.00749	9.256	0.00612	9.151	0.00551	9.052	0.00445	8.964	0.00391	8.879
0.21330	0.01099	9.494	0.00766	9.255	0.00625	9.150	0.00561	9.051	0.00460	8.964	0.00399	8.879
0.21577	0.01137	9.494	0.00784	9.255	0.00632	9.150	0.00586	9.051	0.00479	8.964	0.00411	8.879
0.21827	0.01165	9.494	0.00808	9.255	0.00656	9.150	0.00585	9.051	0.00493	8.964	0.00422	8.879
0.22080	0.01179	9.493	0.00828	9.255	0.00692	9.149	0.00602	9.051	0.00506	8.964	0.00435	8.879
0.22336	0.01203	9.494	0.00838	9.255	0.00701	9.150	0.00611	9.050	0.00505	8.964	0.00427	8.879
0.22594	0.01241	9.494	0.00854	9.255	0.00709	9.150	0.00634	9.051	0.00503	8.964	0.00440	8.879
0.22856	0.01284	9.493	0.00884	9.255	0.00728	9.150	0.00644	9.052	0.00509	8.964	0.00452	8.879
0.23121	0.01302	9.493	0.00907	9.254	0.00732	9.150	0.00648	9.052	0.00533	8.964	0.00461	8.879
0.23388	0.01323	9.493	0.00923	9.255	0.00740	9.150	0.00659	9.051	0.00567	8.964	0.00481	8.879
0.23659	0.01344	9.493	0.00942	9.255	0.00765	9.150	0.00697	9.051	0.00575	8.964	0.00494	8.879
0.23933	0.01377	9.493	0.00963	9.255	0.00784	9.150	0.00693	9.051	0.00586	8.964	0.00504	8.879
0.24210	0.01425	9.493	0.00984	9.255	0.00776	9.150	0.00719	9.051	0.00598	8.965	0.00531	8.879
0.24491	0.01455	9.493	0.01002	9.255	0.00834	9.149	0.00741	9.051	0.00596	8.964	0.00537	8.879



0.24774	0.01496	9.492	0.01019	9.254	0.00841	9.149	0.00752	9.051	0.00616	8.964	0.00556	8.878
0.25061	0.01541	9.493	0.01043	9.254	0.00862	9.148	0.00784	9.050	0.00649	8.965	0.00572	8.879
0.25351	0.01570	9.492	0.01074	9.254	0.00871	9.149	0.00789	9.051	0.00665	8.964	0.00590	8.879
0.25645	0.01592	9.493	0.01101	9.254	0.00913	9.149	0.00785	9.051	0.00665	8.964	0.00604	8.878
0.25942	0.01633	9.492	0.01116	9.254	0.00927	9.149	0.00811	9.051	0.00672	8.964	0.00611	8.879
0.26242	0.01665	9.493	0.01141	9.254	0.00954	9.149	0.00832	9.051	0.00686	8.964	0.00625	8.879
0.26546	0.01713	9.492	0.01187	9.254	0.00968	9.149	0.00853	9.051	0.00715	8.964	0.00642	8.878
0.26853	0.01740	9.492	0.01221	9.254	0.01007	9.148	0.00900	9.051	0.00734	8.964	0.00647	8.878
0.27164	0.01807	9.492	0.01251	9.254	0.01009	9.149	0.00907	9.050	0.00754	8.964	0.00668	8.879
0.27479	0.01843	9.492	0.01279	9.254	0.01043	9.149	0.00911	9.050	0.00791	8.964	0.00687	8.878
0.27797	0.01871	9.492	0.01300	9.254	0.01056	9.150	0.00941	9.050	0.00810	8.964	0.00692	8.878
0.28119	0.01920	9.491	0.01322	9.254	0.01104	9.149	0.00932	9.050	0.00805	8.964	0.00710	8.878
0.28445	0.01967	9.491	0.01353	9.254	0.01123	9.148	0.00953	9.050	0.00830	8.964	0.00717	8.878
0.28774	0.02011	9.491	0.01389	9.254	0.01126	9.149	0.00981	9.050	0.00852	8.964	0.00732	8.878
0.29107	0.02070	9.491	0.01420	9.254	0.01173	9.149	0.00999	9.050	0.00862	8.964	0.00752	8.878
0.29444	0.02105	9.491	0.01466	9.253	0.01176	9.149	0.01020	9.050	0.00896	8.964	0.00776	8.878
0.29785	0.02166	9.490	0.01502	9.253	0.01198	9.149	0.01054	9.050	0.00928	8.964	0.00801	8.879
0.30130	0.02215	9.491	0.01527	9.253	0.01253	9.149	0.01074	9.050	0.00935	8.964	0.00816	8.879
0.30479	0.02259	9.491	0.01548	9.253	0.01248	9.149	0.01101	9.050	0.00939	8.964	0.00836	8.878
0.30832	0.02325	9.490	0.01581	9.253	0.01300	9.149	0.01127	9.050	0.00947	8.963	0.00871	8.879
0.31189	0.02379	9.490	0.01614	9.253	0.01320	9.148	0.01147	9.050	0.00991	8.963	0.00883	8.879
0.31550	0.02424	9.490	0.01649	9.253	0.01338	9.148	0.01172	9.050	0.01028	8.963	0.00909	8.878
0.31915	0.02485	9.490	0.01700	9.253	0.01389	9.148	0.01213	9.050	0.01030	8.963	0.00938	8.878
0.32285	0.02544	9.490	0.01739	9.252	0.01424	9.149	0.01246	9.050	0.01057	8.963	0.00941	8.878
0.32659	0.02610	9.490	0.01775	9.252	0.01452	9.148	0.01265	9.050	0.01096	8.964	0.00961	8.878
0.33037	0.02664	9.489	0.01815	9.252	0.01506	9.149	0.01319	9.050	0.01130	8.963	0.00982	8.878
0.33420	0.02733	9.489	0.01859	9.252	0.01543	9.148	0.01365	9.050	0.01156	8.963	0.01009	8.879
0.33806	0.02789	9.489	0.01922	9.252	0.01571	9.148	0.01383	9.050	0.01186	8.963	0.01018	8.879
0.34198	0.02856	9.489	0.01980	9.252	0.01629	9.148	0.01417	9.050	0.01202	8.963	0.01054	8.878
0.34594	0.02918	9.489	0.02020	9.252	0.01647	9.148	0.01460	9.050	0.01213	8.963	0.01071	8.878
0.34995	0.03000	9.489	0.02052	9.252	0.01666	9.148	0.01462	9.050	0.01243	8.963	0.01099	8.878
0.35400	0.03085	9.488	0.02099	9.252	0.01716	9.148	0.01475	9.050	0.01272	8.963	0.01121	8.878
0.35810	0.03145	9.488	0.02156	9.251	0.01764	9.148	0.01538	9.049	0.01315	8.963	0.01147	8.878
0.36224	0.03235	9.488	0.02201	9.251	0.01810	9.148	0.01567	9.050	0.01356	8.963	0.01182	8.878
0.36644	0.03298	9.488	0.02260	9.252	0.01841	9.147	0.01580	9.050	0.01385	8.963	0.01208	8.878
0.37068	0.03373	9.488	0.02290	9.251	0.01879	9.148	0.01612	9.049	0.01414	8.963	0.01224	8.878
0.37497	0.03445	9.487	0.02344	9.251	0.01930	9.148	0.01662	9.050	0.01443	8.963	0.01264	8.878
0.37931	0.03517	9.487	0.02414	9.251	0.01984	9.147	0.01677	9.049	0.01479	8.963	0.01293	8.878
0.38371	0.03616	9.487	0.02472	9.250	0.02030	9.147	0.01723	9.049	0.01524	8.963	0.01332	8.878
0.38815	0.03682	9.486	0.02517	9.250	0.02063	9.147	0.01794	9.049	0.01553	8.963	0.01352	8.878
0.39264	0.03785	9.487	0.02585	9.251	0.02118	9.147	0.01837	9.049	0.01594	8.963	0.01388	8.878
0.39719	0.03849	9.486	0.02648	9.251	0.02184	9.147	0.01879	9.049	0.01628	8.963	0.01427	8.878
0.40179	0.03952	9.486	0.02700	9.251	0.02215	9.147	0.01896	9.049	0.01665	8.963	0.01456	8.878
0.40644	0.04045	9.486	0.02779	9.250	0.02260	9.146	0.01964	9.049	0.01712	8.962	0.01485	8.878
0.41115	0.04150	9.486	0.02849	9.250	0.02321	9.146	0.01994	9.049	0.01741	8.962	0.01524	8.878
0.41591	0.04238	9.485	0.02913	9.251	0.02383	9.147	0.02033	9.049	0.01783	8.963	0.01550	8.877
0.42073	0.04326	9.485	0.02966	9.250	0.02432	9.146	0.02098	9.049	0.01817	8.962	0.01586	8.878

0.42560	0.04457	9.485	0.03030	9.250	0.02502	9.146	0.02149	9.049	0.01858	8.962	0.01627	8.878
0.43053	0.04538	9.485	0.03112	9.250	0.02581	9.146	0.02187	9.049	0.01903	8.962	0.01664	8.878
0.43551	0.04658	9.484	0.03204	9.250	0.02629	9.146	0.02234	9.049	0.01941	8.962	0.01709	8.878
0.44055	0.04765	9.484	0.03280	9.250	0.02669	9.146	0.02273	9.049	0.02015	8.962	0.01744	8.878
0.44566	0.04865	9.484	0.03349	9.249	0.02744	9.146	0.02326	9.049	0.02073	8.962	0.01785	8.878
0.45082	0.04978	9.484	0.03435	9.249	0.02815	9.146	0.02374	9.048	0.02108	8.962	0.01824	8.878
0.45604	0.05099	9.484	0.03522	9.249	0.02868	9.146	0.02425	9.048	0.02150	8.962	0.01856	8.878
0.46132	0.05196	9.483	0.03582	9.249	0.02945	9.146	0.02491	9.048	0.02197	8.962	0.01891	8.877
0.46666	0.05319	9.483	0.03663	9.249	0.03011	9.146	0.02550	9.048	0.02244	8.962	0.01947	8.877
0.47206	0.05448	9.483	0.03752	9.249	0.03101	9.145	0.02622	9.048	0.02297	8.962	0.01995	8.877
0.47753	0.05589	9.482	0.03842	9.249	0.03161	9.145	0.02677	9.048	0.02345	8.962	0.02033	8.877
0.48306	0.05724	9.482	0.03927	9.249	0.03224	9.145	0.02747	9.048	0.02378	8.962	0.02079	8.877
0.48865	0.05842	9.482	0.04009	9.248	0.03312	9.145	0.02802	9.048	0.02438	8.962	0.02132	8.877
0.49431	0.05977	9.481	0.04090	9.248	0.03388	9.145	0.02855	9.048	0.02496	8.962	0.02190	8.877
0.50003	0.06119	9.481	0.04185	9.248	0.03446	9.144	0.02928	9.048	0.02535	8.961	0.02228	8.877
0.50582	0.06280	9.481	0.04281	9.248	0.03539	9.145	0.02999	9.048	0.02601	8.961	0.02288	8.877
0.51168	0.06391	9.480	0.04385	9.248	0.03610	9.144	0.03091	9.048	0.02661	8.961	0.02344	8.877
0.51761	0.06542	9.480	0.04482	9.247	0.03717	9.144	0.03140	9.048	0.02733	8.962	0.02401	8.877
0.52360	0.06696	9.480	0.04588	9.247	0.03785	9.144	0.03208	9.048	0.02799	8.961	0.02423	8.877
0.52966	0.06845	9.479	0.04704	9.247	0.03882	9.144	0.03283	9.048	0.02877	8.961	0.02496	8.877
0.53580	0.06995	9.479	0.04800	9.246	0.03973	9.144	0.03356	9.047	0.02944	8.961	0.02575	8.877
0.54200	0.07159	9.478	0.04906	9.246	0.04060	9.143	0.03438	9.047	0.03009	8.961	0.02641	8.877
0.54828	0.07343	9.478	0.05023	9.246	0.04161	9.143	0.03504	9.048	0.03082	8.961	0.02673	8.877
0.55463	0.07516	9.477	0.05149	9.246	0.04269	9.143	0.03609	9.047	0.03142	8.961	0.02761	8.877
0.56105	0.07716	9.477	0.05268	9.246	0.04372	9.143	0.03706	9.047	0.03218	8.961	0.02809	8.877
0.56754	0.07865	9.477	0.05389	9.246	0.04457	9.143	0.03782	9.047	0.03314	8.961	0.02875	8.876
0.57412	0.08091	9.476	0.05507	9.246	0.04566	9.143	0.03886	9.047	0.03367	8.961	0.02941	8.876
0.58076	0.08269	9.476	0.05644	9.246	0.04673	9.143	0.03959	9.047	0.03431	8.961	0.03012	8.876
0.58749	0.08442	9.475	0.05777	9.245	0.04792	9.143	0.04054	9.047	0.03523	8.960	0.03087	8.876
0.59429	0.08652	9.475	0.05908	9.245	0.04914	9.142	0.04144	9.046	0.03609	8.960	0.03163	8.876
0.60117	0.08841	9.475	0.06038	9.245	0.04995	9.142	0.04233	9.046	0.03700	8.960	0.03238	8.876
0.60814	0.09052	9.474	0.06184	9.245	0.05131	9.142	0.04324	9.046	0.03783	8.960	0.03311	8.876
0.61518	0.09253	9.474	0.06332	9.245	0.05239	9.142	0.04433	9.046	0.03874	8.960	0.03384	8.876
0.62230	0.09471	9.473	0.06462	9.244	0.05383	9.142	0.04532	9.046	0.03957	8.960	0.03471	8.876
0.62951	0.09697	9.472	0.06611	9.244	0.05501	9.141	0.04646	9.046	0.04043	8.960	0.03543	8.876
0.63680	0.09940	9.472	0.06780	9.243	0.05645	9.141	0.04759	9.046	0.04135	8.960	0.03618	8.876
0.64417	0.10154	9.471	0.06928	9.243	0.05747	9.141	0.04885	9.046	0.04237	8.960	0.03697	8.876
0.65163	0.10357	9.470	0.07090	9.243	0.05893	9.141	0.05003	9.045	0.04338	8.959	0.03793	8.876
0.65917	0.10613	9.470	0.07269	9.243	0.06029	9.140	0.05114	9.045	0.04429	8.959	0.03891	8.876
0.66681	0.10865	9.469	0.07440	9.243	0.06162	9.140	0.05234	9.045	0.04532	8.959	0.03954	8.875
0.67453	0.11096	9.469	0.07615	9.242	0.06304	9.140	0.05355	9.045	0.04629	8.959	0.04061	8.875
0.68234	0.11383	9.468	0.07779	9.242	0.06470	9.140	0.05467	9.045	0.04738	8.959	0.04140	8.875
0.69024	0.11643	9.467	0.07972	9.242	0.06598	9.140	0.05600	9.045	0.04876	8.959	0.04232	8.875
0.69823	0.11904	9.467	0.08158	9.241	0.06743	9.139	0.05737	9.045	0.05014	8.959	0.04339	8.875
0.70632	0.12170	9.466	0.08342	9.241	0.06903	9.139	0.05880	9.044	0.05115	8.959	0.04438	8.875
0.71450	0.12468	9.465	0.08549	9.241	0.07064	9.139	0.06001	9.044	0.05221	8.958	0.04542	8.875
0.72277	0.12785	9.465	0.08723	9.240	0.07254	9.139	0.06134	9.044	0.05344	8.958	0.04659	8.875

0.73114	0.13026	9.464	0.08923	9.240	0.07405	9.138	0.06276	9.044	0.05466	8.958	0.04748	8.874
0.73961	0.13341	9.463	0.09147	9.240	0.07574	9.138	0.06417	9.044	0.05626	8.958	0.04868	8.874
0.74817	0.13670	9.463	0.09352	9.239	0.07761	9.138	0.06579	9.044	0.05756	8.958	0.04978	8.874
0.75683	0.13962	9.462	0.09576	9.239	0.07922	9.138	0.06725	9.043	0.05871	8.958	0.05098	8.874
0.76560	0.14290	9.461	0.09803	9.239	0.08104	9.137	0.06872	9.043	0.05992	8.958	0.05213	8.874
0.77446	0.14614	9.460	0.10036	9.238	0.08305	9.137	0.07028	9.043	0.06110	8.958	0.05331	8.874
0.78343	0.14952	9.459	0.10265	9.238	0.08487	9.137	0.07204	9.043	0.06246	8.957	0.05473	8.874
0.79250	0.15323	9.459	0.10502	9.238	0.08685	9.136	0.07376	9.043	0.06404	8.957	0.05562	8.874
0.80168	0.15660	9.458	0.10756	9.237	0.08909	9.136	0.07549	9.042	0.06564	8.957	0.05695	8.873
0.81096	0.16026	9.457	0.11000	9.237	0.09111	9.136	0.07723	9.042	0.06717	8.957	0.05829	8.873
0.82035	0.16387	9.456	0.11234	9.236	0.09294	9.135	0.07907	9.042	0.06852	8.957	0.05960	8.873
0.82985	0.16755	9.455	0.11501	9.236	0.09553	9.135	0.08094	9.042	0.07023	8.957	0.06108	8.874
0.83946	0.17152	9.454	0.11774	9.235	0.09747	9.135	0.08285	9.041	0.07201	8.956	0.06230	8.874
0.84918	0.17536	9.453	0.12034	9.235	0.09988	9.134	0.08472	9.041	0.07362	8.956	0.06361	8.875
0.85901	0.17962	9.452	0.12308	9.234	0.10229	9.134	0.08688	9.041	0.07531	8.956	0.06548	8.875
0.86896	0.18341	9.451	0.12593	9.234	0.10471	9.134	0.08876	9.041	0.07702	8.956	0.06708	8.875
0.87902	0.18768	9.450	0.12883	9.234	0.10699	9.133	0.09074	9.040	0.07876	8.956	0.06897	8.876
0.88920	0.19227	9.449	0.13171	9.233	0.10967	9.133	0.09292	9.040	0.08065	8.955	0.07142	8.876
0.89950	0.19664	9.448	0.13467	9.233	0.11199	9.133	0.09513	9.040	0.08253	8.955	0.07314	8.874
0.90991	0.20110	9.447	0.13786	9.232	0.11443	9.132	0.09715	9.040	0.08435	8.955	0.07476	8.873
0.92045	0.20589	9.446	0.14112	9.232	0.11739	9.132	0.09934	9.039	0.08665	8.955	0.07645	8.872
0.93111	0.21040	9.445	0.14425	9.231	0.12020	9.131	0.10169	9.039	0.08873	8.954	0.07795	8.871
0.94189	0.21524	9.443	0.14754	9.230	0.12282	9.131	0.10389	9.039	0.09054	8.954	0.07941	8.871
0.95280	0.22063	9.442	0.15114	9.230	0.12559	9.130	0.10652	9.038	0.09256	8.954	0.08124	8.871
0.96383	0.22547	9.441	0.15474	9.229	0.12843	9.130	0.10902	9.038	0.09472	8.954	0.08308	8.871
0.97499	0.23080	9.440	0.15835	9.229	0.13143	9.129	0.11125	9.038	0.09688	8.954	0.08482	8.871
0.98628	0.23614	9.439	0.16207	9.228	0.13482	9.129	0.11376	9.037	0.09928	8.953	0.08684	8.871
0.99770	0.24149	9.437	0.16560	9.227	0.13782	9.129	0.11648	9.037	0.10180	8.953	0.08903	8.870
1.00925	0.24701	9.436	0.16938	9.227	0.14081	9.128	0.11940	9.037	0.10417	8.953	0.09089	8.870
1.02094	0.25280	9.435	0.17351	9.226	0.14446	9.128	0.12246	9.036	0.10640	8.953	0.09317	8.870
1.03276	0.25869	9.433	0.17750	9.226	0.14780	9.127	0.12505	9.036	0.10881	8.952	0.09521	8.870
1.04472	0.26465	9.432	0.18159	9.225	0.15107	9.126	0.12779	9.036	0.11129	8.952	0.09729	8.870
1.05682	0.27079	9.430	0.18586	9.224	0.15427	9.126	0.13085	9.035	0.11381	8.951	0.09981	8.869
1.06905	0.27692	9.429	0.19015	9.224	0.15794	9.125	0.13393	9.035	0.11642	8.951	0.10207	8.869
1.08143	0.28328	9.427	0.19439	9.223	0.16193	9.125	0.13663	9.035	0.11910	8.951	0.10441	8.869
1.09396	0.28998	9.426	0.19877	9.222	0.16575	9.124	0.13975	9.034	0.12183	8.951	0.10680	8.869
1.10662	0.29620	9.424	0.20345	9.221	0.16944	9.123	0.14325	9.034	0.12455	8.950	0.10914	8.869
1.11944	0.30290	9.422	0.20797	9.221	0.17338	9.123	0.14566	9.034	0.12740	8.950	0.11172	8.868
1.13240	0.31002	9.421	0.21289	9.220	0.17750	9.122	0.14963	9.035	0.13045	8.950	0.11430	8.868
1.14551	0.31725	9.419	0.21798	9.219	0.18172	9.121	0.15368	9.035	0.13323	8.949	0.11689	8.868
1.15878	0.32445	9.417	0.22308	9.218	0.18570	9.121	0.15813	9.036	0.13600	8.950	0.11982	8.868
1.17220	0.33190	9.416	0.22835	9.218	0.19001	9.121	0.16164	9.033	0.13922	8.950	0.12249	8.867
1.18577	0.33966	9.414	0.23343	9.217	0.19435	9.120	0.16591	9.032	0.14297	8.951	0.12533	8.867
1.19950	0.34739	9.412	0.23874	9.216	0.19882	9.120	0.16933	9.031	0.14684	8.951	0.12822	8.867
1.21339	0.35534	9.410	0.24420	9.215	0.20366	9.118	0.17291	9.030	0.15084	8.950	0.13132	8.867
1.22744	0.36307	9.408	0.24979	9.214	0.20847	9.119	0.17692	9.029	0.15452	8.948	0.13413	8.866
1.24165	0.37154	9.406	0.25570	9.213	0.21344	9.117	0.18064	9.029	0.15821	8.947	0.13704	8.866

1.25603	0.38027	9.404	0.26158	9.212	0.21837	9.117	0.18531	9.028	0.16201	8.946	0.14032	8.866
1.27057	0.38904	9.402	0.26754	9.211	0.22327	9.115	0.18943	9.028	0.16532	8.946	0.14368	8.865
1.28529	0.39800	9.400	0.27398	9.210	0.22944	9.114	0.19365	9.028	0.16892	8.945	0.14693	8.865
1.30017	0.40699	9.398	0.28037	9.209	0.23428	9.113	0.19814	9.027	0.17298	8.945	0.15009	8.865
1.31522	0.41612	9.395	0.28677	9.208	0.23960	9.112	0.20244	9.026	0.17695	8.944	0.15377	8.865
1.33045	0.42556	9.393	0.29333	9.207	0.24485	9.112	0.20742	9.026	0.18087	8.944	0.15751	8.865
1.34586	0.43538	9.391	0.29985	9.205	0.25050	9.111	0.21224	9.025	0.18490	8.943	0.16149	8.865
1.36144	0.44557	9.388	0.30650	9.204	0.25614	9.110	0.21713	9.025	0.18907	8.943	0.16543	8.864
1.37721	0.45567	9.386	0.31368	9.203	0.26186	9.109	0.22178	9.024	0.19349	8.943	0.16929	8.863
1.39316	0.46592	9.383	0.32088	9.202	0.26787	9.108	0.22693	9.024	0.19779	8.942	0.17334	8.863
1.40929	0.47669	9.381	0.32827	9.200	0.27440	9.107	0.23214	9.023	0.20237	8.942	0.17714	8.862
1.42561	0.48801	9.378	0.33589	9.199	0.28062	9.106	0.23753	9.022	0.20725	8.941	0.18112	8.862
1.44212	0.49885	9.375	0.34350	9.198	0.28692	9.105	0.24291	9.022	0.21238	8.941	0.18527	8.861
1.45881	0.51010	9.373	0.35133	9.197	0.29405	9.104	0.24856	9.021	0.21712	8.940	0.18955	8.861
1.47571	0.52191	9.370	0.35936	9.196	0.30043	9.103	0.25457	9.020	0.22193	8.940	0.19380	8.860
1.49279	0.53345	9.367	0.36769	9.194	0.30756	9.102	0.26021	9.019	0.22692	8.939	0.19847	8.860
1.51008	0.54592	9.364	0.37620	9.193	0.31460	9.101	0.26627	9.019	0.23216	8.938	0.20290	8.859
1.52757	0.55799	9.361	0.38479	9.192	0.32174	9.100	0.27234	9.018	0.23755	8.938	0.20743	8.859
1.54525	0.57092	9.358	0.39359	9.190	0.32934	9.099	0.27861	9.017	0.24289	8.937	0.21218	8.859
1.56315	0.58377	9.355	0.40273	9.189	0.33693	9.097	0.28496	9.016	0.24853	8.937	0.21716	8.858
1.58125	0.59683	9.352	0.41213	9.187	0.34480	9.096	0.29185	9.015	0.25425	8.936	0.22201	8.858
1.59956	0.61052	9.349	0.42145	9.186	0.35282	9.095	0.29857	9.015	0.26012	8.935	0.22720	8.857
1.61808	0.62417	9.346	0.43091	9.184	0.36081	9.094	0.30520	9.014	0.26625	8.935	0.23216	8.857
1.63682	0.63827	9.342	0.44089	9.183	0.36910	9.092	0.31248	9.013	0.27251	8.934	0.23764	8.857
1.65577	0.65278	9.339	0.45107	9.181	0.37772	9.091	0.31969	9.012	0.27887	8.933	0.24300	8.857
1.67494	0.66757	9.335	0.46122	9.179	0.38609	9.090	0.32719	9.011	0.28525	8.933	0.24861	8.856
1.69434	0.68252	9.332	0.47167	9.178	0.39494	9.089	0.33492	9.010	0.29185	8.932	0.25448	8.856
1.71396	0.69798	9.328	0.48238	9.176	0.40411	9.087	0.34249	9.009	0.29863	8.931	0.26083	8.856
1.73380	0.71366	9.324	0.49346	9.174	0.41329	9.086	0.35011	9.008	0.30558	8.930	0.26750	8.856
1.75388	0.72985	9.320	0.50486	9.172	0.42271	9.084	0.35818	9.007	0.31284	8.930	0.27444	8.855
1.77419	0.74637	9.316	0.51652	9.170	0.43265	9.083	0.36667	9.006	0.32005	8.929	0.28115	8.854
1.79473	0.76318	9.312	0.52809	9.169	0.44272	9.081	0.37496	9.005	0.32732	8.928	0.28757	8.852
1.81552	0.78027	9.308	0.54032	9.167	0.45299	9.080	0.38367	9.004	0.33487	8.927	0.29405	8.851
1.83654	0.79762	9.304	0.55283	9.165	0.46304	9.078	0.39272	9.003	0.34272	8.926	0.30043	8.850
1.85780	0.81573	9.300	0.56550	9.163	0.47363	9.076	0.40180	9.002	0.35048	8.925	0.30733	8.849
1.87932	0.83404	9.295	0.57855	9.161	0.48485	9.075	0.41086	9.001	0.35847	8.924	0.31428	8.849
1.90108	0.85233	9.291	0.59167	9.159	0.49590	9.073	0.42038	9.000	0.36709	8.923	0.32144	8.848
1.92309	0.87188	9.286	0.60500	9.157	0.50714	9.071	0.43029	8.998	0.37555	8.922	0.32883	8.847
1.94536	0.89125	9.282	0.61878	9.154	0.51896	9.069	0.43990	8.997	0.38393	8.922	0.33623	8.846
1.96789	0.91109	9.277	0.63295	9.152	0.53100	9.067	0.45005	8.996	0.39270	8.921	0.34408	8.846
1.99067	0.93173	9.272	0.64741	9.150	0.54309	9.066	0.46056	8.995	0.40182	8.920	0.35195	8.845
2.01372	0.95245	9.267	0.66207	9.147	0.55561	9.064	0.47108	8.994	0.41104	8.919	0.36001	8.844
2.03704	0.97339	9.262	0.67731	9.145	0.56836	9.062	0.48170	8.992	0.42071	8.918	0.36832	8.843
2.06063	0.99508	9.257	0.69271	9.143	0.58116	9.060	0.49308	8.991	0.43038	8.917	0.37677	8.843
2.08449	1.01721	9.252	0.70833	9.140	0.59477	9.058	0.50461	8.990	0.44031	8.916	0.38547	8.842
2.10863	1.03991	9.246	0.72442	9.138	0.60821	9.056	0.51627	8.988	0.45054	8.915	0.39420	8.841
2.13304	1.06311	9.241	0.74085	9.135	0.62196	9.053	0.52828	8.987	0.46071	8.913	0.40337	8.840

2.15774	1.08671	9.235	0.75757	9.132	0.63625	9.051	0.54042	8.985	0.47141	8.912	0.41232	8.839
2.18273	1.11081	9.229	0.77475	9.130	0.65062	9.049	0.55301	8.984	0.48238	8.911	0.42190	8.839
2.20800	1.13545	9.223	0.79230	9.127	0.66571	9.047	0.56571	8.982	0.49324	8.910	0.43181	8.838
2.23357	1.16039	9.218	0.81039	9.124	0.68130	9.045	0.57865	8.981	0.50471	8.909	0.44185	8.837
2.25944	1.18604	9.211	0.82899	9.121	0.69684	9.042	0.59209	8.979	0.51652	8.907	0.45195	8.836
2.28560	1.21214	9.205	0.84782	9.118	0.71253	9.040	0.60553	8.977	0.52844	8.906	0.46262	8.835
2.31206	1.23756	9.199	0.86690	9.115	0.72869	9.037	0.61950	8.976	0.54053	8.905	0.47324	8.834
2.33884	1.26449	9.192	0.88633	9.112	0.74559	9.035	0.63370	8.974	0.55285	8.903	0.48405	8.833
2.36592	1.29245	9.186	0.90628	9.109	0.76270	9.032	0.64802	8.972	0.56567	8.902	0.49548	8.832
2.39332	1.32070	9.179	0.92661	9.105	0.77996	9.029	0.66313	8.970	0.57893	8.901	0.50666	8.830
2.42103	1.34959	9.172	0.94733	9.102	0.79771	9.027	0.67857	8.968	0.59235	8.899	0.51802	8.829
2.44906	1.37774	9.165	0.96869	9.099	0.81617	9.024	0.69380	8.966	0.60613	8.898	0.53002	8.828
2.47742	1.40812	9.158	0.99071	9.095	0.83443	9.021	0.71001	8.964	0.61998	8.896	0.54218	8.827
2.50611	1.43733	9.150	1.01302	9.092	0.85346	9.018	0.72621	8.962	0.63416	8.894	0.55469	8.826
2.53513	1.46840	9.143	1.03578	9.088	0.87278	9.015	0.74274	8.960	0.64873	8.893	0.56735	8.825
2.56448	1.50037	9.135	1.05895	9.084	0.89291	9.012	0.75958	8.958	0.66351	8.891	0.58077	8.824
2.59418	1.53304	9.127	1.08252	9.080	0.91323	9.009	0.77669	8.956	0.67875	8.889	0.59447	8.823
2.62422	1.56622	9.120	1.10680	9.076	0.93385	9.006	0.79458	8.954	0.69445	8.887	0.60833	8.822
2.65461	1.60051	9.111	1.13170	9.072	0.95519	9.002	0.81272	8.951	0.71042	8.886	0.62250	8.820
2.68534	1.63504	9.103	1.15690	9.068	0.97646	8.999	0.83127	8.949	0.72657	8.884	0.63723	8.819
2.71644	1.67010	9.095	1.18263	9.064	0.99876	8.996	0.85026	8.947	0.74316	8.882	0.65202	8.817
2.74789	1.70596	9.086	1.20910	9.060	1.02125	8.992	0.86940	8.944	0.76004	8.880	0.66684	8.815
2.77971	1.74261	9.078	1.23613	9.056	1.04459	8.989	0.88893	8.942	0.77719	8.878	0.68222	8.814
2.81190	1.78029	9.069	1.26361	9.051	1.06794	8.985	0.90928	8.939	0.79515	8.876	0.69748	8.812
2.84446	1.81861	9.060	1.29171	9.047	1.09280	8.981	0.92985	8.937	0.81331	8.874	0.71349	8.811
2.87740	1.85762	9.050	1.32024	9.043	1.11678	8.978	0.95136	8.934	0.83198	8.872	0.73011	8.809
2.91072	1.89720	9.041	1.34970	9.038	1.14241	8.974	0.97272	8.931	0.85116	8.870	0.74647	8.807
2.94442	1.93797	9.032	1.37970	9.033	1.16780	8.970	0.99487	8.929	0.87049	8.868	0.76357	8.806
2.97852	1.97882	9.022	1.41050	9.029	1.19397	8.966	1.01798	8.926	0.89013	8.866	0.78121	8.804
3.01301	2.01944	9.012	1.44186	9.024	1.22107	8.962	1.04116	8.923	0.91050	8.864	0.79933	8.802
3.04789	2.06232	9.001	1.47382	9.019	1.24844	8.958	1.06443	8.920	0.93143	8.861	0.81733	8.801
3.08319	2.10626	8.991	1.50659	9.014	1.27661	8.953	1.08837	8.917	0.95256	8.859	0.83624	8.799
3.11889	2.15047	8.981	1.53987	9.008	1.30538	8.949	1.11314	8.914	0.97445	8.857	0.85521	8.797
3.15500	2.19609	8.970	1.57400	9.003	1.33477	8.945	1.13871	8.911	0.99651	8.854	0.87462	8.795
3.19154	2.24230	8.959	1.60891	8.997	1.36470	8.940	1.16445	8.908	1.01883	8.852	0.89470	8.793
3.22849	2.28966	8.948	1.64449	8.992	1.39492	8.935	1.19052	8.905	1.04220	8.849	0.91521	8.791
3.26588	2.33717	8.937	1.68055	8.986	1.42647	8.931	1.21710	8.901	1.06594	8.846	0.93605	8.789
3.30370	2.38611	8.926	1.71724	8.980	1.45832	8.926	1.24507	8.898	1.09024	8.844	0.95743	8.787
3.34195	2.43633	8.914	1.75482	8.974	1.49095	8.921	1.27262	8.894	1.11485	8.841	0.97923	8.785
3.38065	2.48711	8.902	1.79368	8.968	1.52387	8.916	1.30101	8.891	1.13984	8.838	1.00183	8.783
3.41979	2.53827	8.890	1.83319	8.961	1.55780	8.912	1.33093	8.887	1.16611	8.835	1.02466	8.781
3.45939	2.59046	8.878	1.87312	8.955	1.59183	8.910	1.36099	8.883	1.19285	8.833	1.04804	8.779
3.49945	2.64323	8.865	1.91391	8.948	1.62687	8.906	1.39159	8.880	1.21964	8.830	1.07225	8.776
3.53997	2.69763	8.852	1.95542	8.942	1.66357	8.900	1.42291	8.876	1.24731	8.827	1.09660	8.774
3.58096	2.75069	8.839	1.99805	8.935	1.70026	8.896	1.45502	8.872	1.27543	8.824	1.12163	8.772
3.62243	2.80687	8.826	2.04175	8.928	1.73791	8.890	1.48732	8.868	1.30428	8.821	1.14723	8.769
3.66438	2.86415	8.813	2.08609	8.921	1.77678	8.883	1.52050	8.864	1.33386	8.817	1.17332	8.767

3.70681	2.92252	8.799	2.13136	8.914	1.81577	8.878	1.55515	8.860	1.36405	8.814	1.19998	8.764
3.74973	2.98202	8.785	2.17732	8.906	1.85604	8.872	1.58997	8.855	1.39515	8.811	1.22687	8.762
3.79315	3.04236	8.771	2.22430	8.899	1.89687	8.868	1.62554	8.851	1.42667	8.807	1.25477	8.759
3.83707	3.10419	8.757	2.27211	8.891	1.93846	8.863	1.66176	8.847	1.45863	8.804	1.28380	8.756
3.88150	3.16661	8.742	2.32077	8.883	1.98088	8.856	1.69829	8.842	1.49144	8.800	1.31245	8.753
3.92645	3.23022	8.728	2.37051	8.876	2.02437	8.851	1.73669	8.837	1.52544	8.796	1.34228	8.750
3.97192	3.29505	8.713	2.42136	8.867	2.06885	8.845	1.77496	8.833	1.55968	8.792	1.37277	8.748
4.01791	3.35803	8.697	2.47337	8.859	2.11469	8.837	1.81456	8.828	1.59485	8.789	1.40346	8.745
4.06443	3.42500	8.682	2.52674	8.851	2.16145	8.830	1.85575	8.823	1.63084	8.785	1.43582	8.742
4.11150	3.49285	8.666	2.58051	8.842	2.20774	8.826	1.89624	8.818	1.66757	8.781	1.46786	8.739
4.15911	3.56252	8.650	2.63519	8.833	2.25613	8.819	1.93861	8.813	1.70504	8.776	1.50114	8.735
4.20727	3.63132	8.634	2.69100	8.824	2.30533	8.811	1.98218	8.807	1.74295	8.772	1.53513	8.732
4.25598	3.70245	8.617	2.74802	8.815	2.35560	8.804	2.02553	8.802	1.78162	8.768	1.56986	8.729
4.30527	3.77564	8.600	2.80620	8.806	2.40742	8.796	2.07024	8.796	1.82169	8.764	1.60538	8.725
4.35512	3.84944	8.584	2.86570	8.796	2.46003	8.788	2.11642	8.790	1.86321	8.759	1.64151	8.722
4.40555	3.92224	8.566	2.92626	8.787	2.51330	8.780	2.16207	8.785	1.90477	8.755	1.67854	8.718
4.45656	3.99826	8.548	2.98785	8.777	2.56766	8.772	2.21050	8.779	1.94674	8.750	1.71629	8.715
4.50817	4.07623	8.531	3.05087	8.767	2.62229	8.767	2.25928	8.773	1.99020	8.745	1.75519	8.711
4.56037	4.15441	8.513	3.11445	8.757	2.67864	8.759	2.30871	8.767	2.03439	8.740	1.79466	8.707
4.61318	4.23441	8.495	3.17949	8.746	2.73676	8.750	2.35911	8.761	2.07943	8.736	1.83495	8.703
4.66659	4.31530	8.476	3.24586	8.736	2.79606	8.741	2.41128	8.755	2.12564	8.731	1.87618	8.700
4.72063	4.39559	8.457	3.31323	8.725	2.85598	8.733	2.46423	8.748	2.17269	8.725	1.91861	8.695
4.77529	4.47857	8.438	3.38163	8.714	2.91746	8.724	2.51799	8.742	2.22041	8.720	1.96104	8.691
4.83059	4.56360	8.419	3.45144	8.703	2.97923	8.717	2.57329	8.735	2.26985	8.715	2.00490	8.686
4.88652	4.65004	8.400	3.52278	8.692	3.04337	8.705	2.62925	8.728	2.32068	8.709	2.05023	8.682
4.94311	4.73628	8.380	3.59547	8.680	3.10841	8.698	2.68664	8.721	2.37258	8.704	2.09611	8.677
5.00035	4.82437	8.360	3.66937	8.669	3.17510	8.686	2.74480	8.714	2.42465	8.698	2.14304	8.672
5.05825	4.91488	8.340	3.74436	8.657	3.24279	8.676	2.80454	8.706	2.47798	8.692	2.19054	8.668
5.11682	5.00600	8.319	3.82099	8.644	3.31014	8.669	2.86581	8.699	2.53257	8.686	2.23950	8.663
5.17607	5.09810	8.298	3.89883	8.632	3.38008	8.660	2.92801	8.691	2.58793	8.680	2.28954	8.657
5.23600	5.19144	8.277	3.97809	8.620	3.45188	8.650	2.99106	8.684	2.64516	8.674	2.34054	8.653
5.29663	5.28627	8.256	4.05877	8.607	3.52453	8.639	3.05540	8.676	2.70333	8.667	2.39269	8.648
5.35797	5.38284	8.235	4.14059	8.594	3.59979	8.628	3.12184	8.668	2.76239	8.661	2.44607	8.642
5.42001	5.47999	8.213	4.22420	8.581	3.67499	8.617	3.18826	8.659	2.82255	8.654	2.50070	8.637
5.48277	5.57867	8.191	4.30906	8.567	3.75313	8.605	3.25680	8.651	2.88397	8.648	2.55583	8.631
5.54626	5.67905	8.169	4.39445	8.554	3.83006	8.597	3.32636	8.643	2.94698	8.641	2.61212	8.626
5.61048	5.77974	8.146	4.48215	8.540	3.91093	8.584	3.39813	8.634	3.01147	8.634	2.66999	8.620
5.67545	5.88185	8.123	4.57168	8.526	3.99129	8.575	3.47071	8.625	3.07722	8.627	2.72887	8.615
5.74116	5.98747	8.100	4.66243	8.512	4.07273	8.564	3.54518	8.616	3.14403	8.620	2.78900	8.609
5.80764	6.09113	8.077	4.75430	8.497	4.15713	8.551	3.62007	8.607	3.21218	8.612	2.85090	8.603
5.87489	6.19743	8.053	4.84834	8.483	4.24419	8.537	3.69674	8.598	3.28100	8.605	2.91319	8.597
5.94292	6.30451	8.029	4.94431	8.468	4.33133	8.526	3.77450	8.588	3.35171	8.597	2.97948	8.590
6.01174	6.41368	8.005	5.04113	8.453	4.41903	8.515	3.85458	8.578	3.42449	8.589	3.04469	8.584
6.08135	6.52593	7.981	5.13949	8.437	4.51051	8.502	3.93629	8.569	3.49848	8.581	3.11231	8.577
6.15177	6.63802	7.956	5.23921	8.421	4.60285	8.488	4.01975	8.559	3.57402	8.573	3.18030	8.571
6.22300	6.75034	7.932	5.34087	8.405	4.69689	8.474	4.10370	8.549	3.65109	8.565	3.25001	8.564
6.29506	6.86529	7.906	5.44447	8.389	4.79268	8.461	4.19002	8.538	3.72939	8.556	3.32066	8.557

6.36796	6.98129	7.881	5.54968	8.373	4.89006	8.447	4.27692	8.528	3.80868	8.548	3.39387	8.549
6.44169	7.09769	7.856	5.65630	8.356	4.98891	8.433	4.36661	8.517	3.88980	8.539	3.46787	8.542
6.51628	7.21692	7.830	5.76442	8.339	5.08926	8.420	4.45750	8.506	3.97295	8.530	3.54296	8.535
6.59174	7.33693	7.804	5.87452	8.322	5.19204	8.407	4.55027	8.495	4.05777	8.521	3.61938	8.528
6.66807	7.45846	7.778	5.98635	8.304	5.29700	8.390	4.64381	8.483	4.14368	8.512	3.69851	8.520
6.74528	7.58077	7.751	6.09959	8.287	5.40260	8.375	4.74088	8.472	4.23103	8.502	3.77904	8.512
6.82339	7.70458	7.725	6.21448	8.269	5.50952	8.361	4.83928	8.460	4.32071	8.493	3.85980	8.505
6.90240	7.82985	7.698	6.33097	8.251	5.61834	8.348	4.93860	8.448	4.41235	8.483	3.94367	8.498
6.98232	7.95639	7.671	6.44916	8.232	5.72950	8.332	5.03998	8.436	4.50514	8.473	4.02812	8.490
7.06318	8.08405	7.644	6.56886	8.213	5.84410	8.314	5.14394	8.423	4.60005	8.463	4.11487	8.481
7.14496	8.21327	7.617	6.69056	8.195	5.95888	8.299	5.24779	8.411	4.69644	8.452	4.20504	8.474
7.22770	8.34302	7.589	6.81435	8.175	6.07503	8.283	5.35500	8.398	4.79497	8.442	4.29466	8.465
7.31139	8.47536	7.561	6.93983	8.156	6.19500	8.266	5.46384	8.385	4.89528	8.431	4.38671	8.456
7.39605	8.60787	7.533	7.06729	8.136	6.31402	8.251	5.57479	8.372	4.99723	8.420	4.48002	8.447
7.48170	8.74201	7.505	7.19625	8.116	6.43731	8.234	5.68774	8.359	5.10144	8.409	4.57557	8.439
7.56833	8.87825	7.477	7.32676	8.096	6.56216	8.216	5.80191	8.345	5.20771	8.398	4.67309	8.429
7.65597	9.01469	7.448	7.45922	8.075	6.68778	8.199	5.91926	8.331	5.31581	8.386	4.77254	8.420
7.74462	9.15162	7.420	7.59364	8.055	6.81610	8.182	6.03724	8.317	5.42494	8.375	4.87315	8.411
7.83430	9.29154	7.391	7.73013	8.034	6.94488	8.166	6.15823	8.302	5.53668	8.363	4.97413	8.401
7.92501	9.43232	7.361	7.86795	8.013	7.07777	8.148	6.28096	8.288	5.65068	8.351	5.07915	8.391
8.01678	9.57274	7.333	8.00670	7.991	7.20570	8.136	6.40584	8.273	5.76642	8.338	5.18677	8.381
8.10961	9.71521	7.303	8.14815	7.969	7.34720	8.113	6.53188	8.258	5.88377	8.326	5.29725	8.371
8.20352	9.85950	7.273	8.29135	7.948	7.48468	8.095	6.66083	8.243	6.00372	8.313	5.40673	8.361
8.29851	10.0049	7.244	8.43592	7.925	7.62455	8.077	6.79059	8.227	6.12644	8.300	5.51933	8.350
8.39460	10.1501	7.214	8.58327	7.903	7.76610	8.058	6.92536	8.212	6.25121	8.287	5.63589	8.340
8.49180	10.2978	7.184	8.73171	7.880	7.91320	8.035	7.06064	8.196	6.37681	8.274	5.75065	8.328
8.59014	10.4466	7.154	8.88202	7.857	8.05932	8.017	7.19760	8.180	6.50398	8.260	5.86854	8.317
8.68960	10.5957	7.124	9.03391	7.834	8.21568	7.989	7.33635	8.163	6.63456	8.246	5.99010	8.306
8.79023	10.7464	7.094	9.18765	7.811	8.36252	7.974	7.47742	8.146	6.76863	8.232	6.11562	8.294
8.89201	10.8987	7.063	9.34364	7.787	8.51458	7.953	7.62202	8.129	6.90489	8.218	6.24076	8.282
8.99498	11.0517	7.033	9.50068	7.763	8.67133	7.931	7.76970	8.112	7.04183	8.204	6.36975	8.271
9.09913	11.2057	7.002	9.66019	7.739	8.82462	7.914	7.91791	8.095	7.18014	8.189	6.50008	8.258
9.20450	11.3601	6.972	9.82184	7.715	8.97889	7.897	8.06799	8.078	7.32238	8.174	6.63298	8.246
9.31108	11.5165	6.940	9.98503	7.690	9.13534	7.880	8.21981	8.059	7.46737	8.158	6.76884	8.234
9.41890	11.6742	6.910	10.1500	7.665	9.29599	7.861	8.37422	8.041	7.61423	8.143	6.90631	8.221
9.52796	11.8320	6.879	10.3167	7.640	9.46401	7.837	8.53241	8.023	7.76380	8.128	7.04682	8.208
9.63829	11.9915	6.848	10.4852	7.615	9.63226	7.813	8.69393	8.005	7.91433	8.112	7.18879	8.195
9.74990	12.1511	6.816	10.6554	7.589	9.80269	7.791	8.85585	7.986	8.06801	8.096	7.33470	8.181
9.86279	12.3121	6.785	10.8268	7.563	9.97543	7.767	9.01988	7.966	8.22628	8.079	7.48185	8.168
9.97700	12.4745	6.754	11.0008	7.537	10.1498	7.745	9.18587	7.947	8.38546	8.063	7.63230	8.154
10.0925	12.6372	6.723	11.1767	7.511	10.3276	7.721	9.35704	7.928	8.54592	8.046	7.78589	8.140
10.2094	12.8007	6.691	11.3544	7.485	10.5003	7.702	9.52861	7.908	8.70976	8.029	7.94121	8.126
10.3276	12.9697	6.660	11.5335	7.459	10.6813	7.677	9.70145	7.888	8.87654	8.011	8.09909	8.111
10.4472	13.1352	6.629	11.7136	7.432	10.8643	7.653	9.87813	7.867	9.04611	7.994	8.25868	8.097
10.5682	13.3091	6.598	11.8966	7.405	11.0496	7.629	10.0573	7.847	9.21780	7.976	8.42378	8.081
10.6905	13.4780	6.567	12.0812	7.378	11.2390	7.604	10.2396	7.826	9.39127	7.958	8.59065	8.066
10.8143	13.6456	6.535	12.2668	7.350	11.4287	7.579	10.4221	7.806	9.56696	7.939	8.75863	8.051

10.9396	13.8158	6.504	12.4543	7.323	11.6194	7.554	10.6069	7.784	9.74754	7.921	8.93003	8.035
11.0662	13.9859	6.472	12.6442	7.295	11.8150	7.529	10.7946	7.762	9.93037	7.903	9.10412	8.019
11.1944	14.1567	6.440	12.8357	7.267	12.0098	7.504	10.9895	7.741	10.1135	7.884	9.28101	8.003
11.3240	14.3284	6.409	13.0291	7.239	12.2083	7.478	11.1826	7.719	10.2995	7.864	9.46152	7.987
11.4551	14.5010	6.377	13.2234	7.211	12.3947	7.460	11.3766	7.697	10.4907	7.845	9.64472	7.970
11.5878	14.6824	6.346	13.4192	7.182	12.5970	7.434	11.5732	7.674	10.6851	7.825	9.83026	7.954
11.7220	14.8539	6.315	13.6173	7.154	12.8036	7.407	11.7767	7.651	10.8799	7.806	#####	7.936
11.8577	15.0280	6.283	13.8159	7.125	13.0084	7.382	11.9811	7.629	11.0770	7.785	10.2096	7.919
11.9950	15.2037	6.251	14.0169	7.096	13.2178	7.355	12.1829	7.606	11.2781	7.765	10.4031	7.901
12.1339	15.3833	6.220	14.2194	7.067	13.4284	7.328	12.3901	7.582	11.4825	7.744	10.6008	7.884
12.2744	15.5605	6.189	14.4237	7.038	13.6412	7.301	12.6042	7.559	11.6873	7.724	10.8006	7.866
12.4165	15.7385	6.158	14.6290	7.009	13.8544	7.275	12.8179	7.535	11.8950	7.702	11.0071	7.847
12.5603	15.9211	6.126	14.8358	6.980	14.0722	7.247	13.0302	7.511	12.1074	7.681	11.2105	7.829
12.7057	16.0997	6.095	15.0439	6.950	14.2911	7.219	13.2469	7.486	12.3235	7.659	11.4212	7.810
12.8529	16.2817	6.063	15.2537	6.921	14.5129	7.192	13.4706	7.462	12.5401	7.638	11.6324	7.791
13.0017	16.4604	6.032	15.4656	6.891	14.7350	7.164	13.6945	7.438	12.7581	7.615	11.8473	7.772
13.1522	16.6435	6.001	15.6789	6.861	14.9587	7.136	13.9135	7.413	12.9829	7.593	12.0653	7.753
13.3045	16.8253	5.970	15.8937	6.831	15.1854	7.108	14.1397	7.387	13.2096	7.571	12.2879	7.733
13.4586	17.0100	5.939	16.1099	6.801	15.4147	7.080	14.3754	7.363	13.4354	7.548	12.5102	7.713
13.6144	17.1992	5.909	16.3271	6.771	15.6286	7.060	14.6049	7.337	13.6677	7.524	12.7382	7.693
13.7721	17.3885	5.878	16.5446	6.741	15.8616	7.030	14.8365	7.311	13.9039	7.501	12.9704	7.673
13.9316	17.5743	5.847	16.7642	6.711	16.0945	7.002	15.0787	7.285	14.1369	7.478	13.2030	7.652
14.0929	17.7594	5.817	16.9859	6.680	16.3301	6.974	15.3197	7.260	14.3726	7.454	13.4402	7.631
14.2561	17.9518	5.787	17.2106	6.650	16.5679	6.945	15.5537	7.233	14.6173	7.430	13.6797	7.610
14.4212	18.1405	5.757	17.4340	6.619	16.8086	6.916	15.8003	7.207	14.8618	7.407	13.9230	7.589
14.5881	18.3365	5.727	17.6580	6.588	17.0314	6.894	16.0519	7.181	15.1061	7.382	14.1682	7.567
14.7571	18.5195	5.697	17.8851	6.558	17.2916	6.857	16.2941	7.154	15.3592	7.357	14.4180	7.545
14.9279	18.7082	5.666	18.1134	6.527	17.5172	6.837	16.5443	7.126	15.6126	7.333	14.6722	7.523
15.1008	18.9056	5.637	18.3431	6.496	17.7626	6.807	16.8052	7.100	15.8642	7.308	14.9283	7.500
15.2757	19.0947	5.607	18.5823	6.466	18.0117	6.778	17.0537	7.073	16.1235	7.283	15.1866	7.478
15.4525	19.2855	5.577	18.8253	6.436	18.2601	6.748	17.3083	7.045	16.3872	7.258	15.4478	7.455
15.6315	19.4758	5.548	19.0579	6.405	18.5126	6.719	17.5745	7.018	16.6489	7.232	15.7138	7.432
15.8125	19.6749	5.519	19.2912	6.375	18.7659	6.689	17.8335	6.991	16.9163	7.206	15.9826	7.409
15.9956	19.8636	5.489	19.5247	6.344	19.0183	6.660	18.0922	6.962	17.1861	7.181	16.2537	7.386
16.1808	20.0623	5.460	19.7604	6.313	19.2738	6.630	18.3672	6.934	17.4534	7.155	16.5281	7.362
16.3682	20.2571	5.431	20.0092	6.283	19.5337	6.600	18.6311	6.907	17.7275	7.129	16.8053	7.338
16.5577	20.4483	5.402	20.2627	6.252	19.7926	6.570	18.8975	6.878	18.0081	7.103	17.0841	7.315
16.7494	20.6440	5.373	20.5033	6.222	20.0544	6.541	19.1790	6.850	18.2852	7.076	17.3667	7.291
16.9434	20.8429	5.345	20.7495	6.191	20.3158	6.511	19.4471	6.822	18.5681	7.048	17.6557	7.267
17.1396	21.0364	5.316	21.0044	6.162	20.5787	6.481	19.7192	6.792	18.8537	7.022	17.9459	7.242
17.3380	21.2307	5.287	21.2582	6.132	20.8451	6.451	20.0079	6.764	19.1351	6.994	18.2372	7.217
17.5388	21.4274	5.259	21.5012	6.101	21.1132	6.421	20.2792	6.736	19.4274	6.967	18.5369	7.192
17.7419	21.6273	5.231	21.7382	6.069	21.3795	6.391	20.5621	6.706	19.7176	6.940	18.8311	7.169
17.9473	21.8245	5.203	21.9732	6.038	21.6503	6.361	20.8565	6.678	20.0115	6.912	19.1347	7.143
18.1552	22.0168	5.176	22.2218	6.008	21.9225	6.330	21.1276	6.648	20.3141	6.885	19.4413	7.117
18.3654	22.2185	5.148	22.4888	5.978	22.1927	6.300	21.4240	6.619	20.6053	6.857	19.7449	7.092
18.5780	22.4201	5.120	22.7350	5.947	22.4658	6.270	21.7176	6.591	20.9085	6.829	20.0581	7.066



18.7932	22.6152	5.093	22.9700	5.916	22.7413	6.240	21.9968	6.560	21.2149	6.802	20.3714	7.041
19.0108	22.8132	5.065	23.2471	5.887	23.0164	6.209	22.3070	6.532	21.5174	6.773	20.6885	7.014
19.2309	23.0196	5.039	23.5081	5.858	23.2916	6.180	22.5829	6.503	21.8336	6.745	21.0059	6.989
19.4536	23.2250	5.012	23.7466	5.829	23.5692	6.150	22.8880	6.472	22.1385	6.716	21.3252	6.963
19.6789	23.4933	4.990	24.0101	5.801	23.8495	6.120	23.1898	6.444	22.4549	6.688	21.6528	6.936
19.9067	23.6942	4.963	24.2574	5.770	24.1285	6.090	23.4741	6.413	22.7687	6.660	21.9804	6.910
20.1372	23.9019	4.938	24.5184	5.740	24.4128	6.060	23.8009	6.384	23.0827	6.630	22.3112	6.884
20.3704	24.1079	4.912	24.7821	5.710	24.6931	6.030	24.0785	6.355	23.4065	6.602	22.6417	6.857
20.6063	24.3074	4.886	25.0280	5.682	24.9765	6.000	24.4077	6.324	23.7233	6.573	22.9808	6.829
20.8449	24.5206	4.860	25.2938	5.654	25.2618	5.970	24.7032	6.296	24.0543	6.544	23.3178	6.803
21.0863	24.7243	4.835	25.5668	5.628	25.5462	5.940	25.0191	6.264	24.3762	6.515	23.6640	6.775
21.3304	24.9299	4.809	25.8395	5.601	25.8327	5.911	25.3325	6.236	24.7073	6.486	24.0036	6.748
21.5774	25.1504	4.785	26.1150	5.571	26.1192	5.881	25.6285	6.205	25.0403	6.457	24.3533	6.721
21.8273	25.3523	4.760	26.3920	5.541	26.4099	5.851	25.9631	6.176	25.3773	6.428	24.7061	6.693
22.0800	25.5784	4.736	26.6788	5.512	26.6983	5.822	26.2589	6.146	25.7112	6.398	25.0553	6.665
22.3357	25.7870	4.711	26.9475	5.484	26.9884	5.792	26.5929	6.116	26.0487	6.369	25.4126	6.636
22.5944	25.9916	4.687	27.2252	5.457	27.2795	5.762	26.8820	6.087	26.3880	6.339	25.7658	6.608
22.8560	26.2069	4.663	27.4925	5.433	27.5709	5.733	27.2275	6.057	26.7271	6.310	26.1221	6.581
23.1206	26.4274	4.639	27.7487	5.406	27.8579	5.704	27.5333	6.028	27.0687	6.281	26.4881	6.552
23.3884	26.6305	4.615	28.0212	5.377	28.1594	5.674	27.8654	5.997	27.4120	6.251	26.8550	6.524
23.6592	26.8354	4.591	28.2978	5.347	28.4506	5.645	28.1727	5.969	27.7587	6.222	27.2252	6.494
23.9332	27.0545	4.568	28.5759	5.317	28.7461	5.616	28.5051	5.938	28.1076	6.192	27.5880	6.467
24.2103	27.2673	4.544	28.8336	5.290	29.0438	5.588	28.8239	5.909	28.4552	6.162	27.9701	6.438
24.4906	27.4780	4.521	29.0930	5.264	29.3395	5.559	29.1599	5.878	28.8045	6.133	28.3406	6.409
24.7742	27.6870	4.498	29.3535	5.237	29.6319	5.530	29.4779	5.850	29.1617	6.103	28.7098	6.382
25.0611	27.8890	4.475	29.6162	5.209	29.9311	5.501	29.8153	5.819	29.5123	6.074	29.0827	6.355
25.3513	28.0973	4.452	29.8781	5.183	30.2404	5.472	30.1363	5.791	29.8646	6.044	29.4641	6.326
25.6448	28.3140	4.429	30.1492	5.155	30.5321	5.445	30.4756	5.761	30.2280	6.014	29.8550	6.297
25.9418	28.5161	4.406	30.4249	5.127	30.8334	5.416	30.7965	5.733	30.5760	5.985	30.2268	6.271
26.2422	28.7463	4.385	30.6728	5.104	31.1299	5.388	31.1512	5.702	30.9462	5.956	30.6201	6.241
26.5461	28.9444	4.362	30.9358	5.078	31.4334	5.360	31.4471	5.674	31.2926	5.926	30.9976	6.212
26.8534	29.1592	4.341	31.2058	5.050	31.7288	5.332	31.8258	5.644	31.6641	5.897	31.3940	6.182
27.1644	29.3888	4.320	31.4759	5.023	32.0165	5.304	32.1112	5.616	32.0298	5.867	31.7871	6.153
27.4789	29.5928	4.298	31.7494	4.996	32.3281	5.276	32.4931	5.588	32.3897	5.838	32.1915	6.124
27.7971	29.8194	4.277	32.0364	4.967	32.6278	5.249	32.7995	5.557	32.7720	5.808	32.5900	6.094
28.1190	30.0261	4.255	32.3111	4.940	32.9307	5.221	33.1380	5.532	33.1213	5.779	32.9942	6.064
28.4446	30.2558	4.235	32.5698	4.916	33.2345	5.194	33.5117	5.499	33.5092	5.750	33.3978	6.036
28.7740	30.4679	4.214	32.8047	4.895	33.5308	5.166	33.8027	5.472	33.8775	5.719	33.7961	6.006
29.1072	30.6697	4.192	33.0639	4.871	33.8427	5.140	34.1973	5.444	34.2401	5.691	34.2013	5.977
29.4442	30.8975	4.172	33.3438	4.844	34.1392	5.113	34.5057	5.413	34.6370	5.662	34.6069	5.949
29.7852	31.1416	4.152	33.6195	4.818	34.4407	5.086	34.8407	5.388	34.9938	5.633	35.0162	5.920
30.1301	31.3432	4.132	33.8826	4.794	34.7515	5.060	35.2249	5.358	35.3735	5.605	35.4171	5.891
30.4789	31.6039	4.114	34.1494	4.770	35.1299	5.036	35.5165	5.330	35.7648	5.575	35.8396	5.864
30.8319	31.7947	4.093	34.4216	4.744	35.4403	5.011	35.8947	5.304	36.1215	5.546	36.2486	5.835
31.1889	32.0266	4.074	34.7054	4.718	35.7429	4.984	36.2439	5.273	36.5164	5.518	36.6725	5.806
31.5500	32.2527	4.055	34.9762	4.693	36.0461	4.958	36.5463	5.248	36.8923	5.488	37.0771	5.777
31.9154	32.4793	4.034	35.2778	4.670	36.3604	4.932	36.9431	5.220	37.2441	5.461	37.4941	5.749

32.2849	32.6999	4.015	35.6034	4.648	36.6667	4.906	37.2773	5.190	37.6664	5.433	37.9023	5.720
32.6588	32.9119	3.996	35.8718	4.624	36.9575	4.880	37.5750	5.166	38.0529	5.403	38.3163	5.692
33.0370	33.1470	3.978	36.1461	4.599	37.2741	4.855	37.9864	5.139	38.3874	5.376	38.7570	5.662
33.4195	33.3560	3.958	36.4333	4.575	37.5921	4.830	38.3095	5.108	38.7993	5.349	39.1774	5.634
33.8065	33.5654	3.939	36.7248	4.553	37.8922	4.805	38.5813	5.085	39.2225	5.319	39.6250	5.605
34.1979	33.7971	3.921	37.0136	4.531	38.2046	4.780	38.9992	5.060	39.5636	5.290	40.0552	5.577
34.5939	34.0190	3.903	37.3079	4.509	38.6048	4.758	39.3946	5.029	39.9274	5.264	40.4886	5.548
34.9945	34.2699	3.885	37.6138	4.487	38.9085	4.734	39.6588	5.003	40.3699	5.237	40.9292	5.520
35.3997	34.4809	3.867	37.8807	4.463	39.2134	4.709	39.9978	4.980	40.7755	5.207	41.3554	5.491
35.8096	34.6979	3.849	38.1799	4.441	39.5230	4.685	40.4316	4.952	41.1119	5.181	41.7947	5.462
36.2243	34.9094	3.832	38.4917	4.420	39.8298	4.662	40.7723	4.923	41.5108	5.155	42.2115	5.434
36.6438	35.1258	3.814	38.7516	4.398	40.1440	4.637	41.0559	4.899	41.9632	5.127	42.6359	5.407
37.0681	35.3665	3.798	39.0299	4.376	40.4522	4.614	41.4256	4.877	42.3515	5.098	43.0817	5.379
37.4973	35.5889	3.781	39.3505	4.355	40.7605	4.590	41.8507	4.849	42.6718	5.071	43.5065	5.351
37.9315	35.8045	3.762	39.6295	4.333	41.0730	4.567	42.2108	4.819	43.0185	5.048	43.9582	5.323
38.3707	36.0475	3.747	39.8830	4.311	41.4924	4.548	42.4714	4.794	43.4531	5.024	44.3890	5.296
38.8150	36.2707	3.730	40.1895	4.291	41.7980	4.524	42.7544	4.773	43.9287	4.995	44.8414	5.269
39.2645	36.5219	3.714	40.5083	4.271	42.1121	4.501	43.1430	4.750	44.3636	4.964	45.2858	5.240
39.7192	36.7609	3.697	40.7831	4.249	42.4268	4.478	43.5931	4.725	44.7165	4.937	45.7388	5.214
40.1791	36.9761	3.679	41.0891	4.229	42.7443	4.456	44.0007	4.697	45.0381	4.912	46.2000	5.187
40.6443	37.2048	3.663	41.4038	4.209	43.0406	4.434	44.3105	4.670	45.4113	4.889	46.6399	5.159
41.1150	37.4114	3.647	41.6794	4.188	43.4814	4.415	44.6136	4.646	45.8384	4.864	47.1083	5.132
41.5911	37.6359	3.631	41.9803	4.169	43.7862	4.393	44.9257	4.624	46.2921	4.839	47.5634	5.105
42.0727	37.8805	3.616	42.2318	4.148	44.1047	4.371	45.2915	4.603	46.7383	4.812	48.0583	5.079
42.5598	38.1140	3.600	42.4910	4.128	44.4109	4.350	45.6834	4.580	47.1478	4.784	48.4884	5.052
43.0527	38.3685	3.586	42.8579	4.111	44.7210	4.328	46.1061	4.554	47.5226	4.757	48.9474	5.026
43.5512	38.5812	3.570	43.1732	4.092	45.0310	4.307	46.4884	4.528	47.8887	4.732	49.4069	4.999
44.0555	38.8147	3.554	43.4324	4.071	45.3414	4.286	46.8380	4.503	48.2744	4.708	49.8497	4.973
44.5656	39.0312	3.538	43.6907	4.051	45.6479	4.265	47.1741	4.478	48.6551	4.684	50.3137	4.947
45.0817	39.2685	3.523	44.0377	4.034	45.9617	4.244	47.4925	4.456	49.0465	4.662	50.7590	4.920
45.6037	39.5341	3.509	44.3128	4.015	46.2724	4.223	47.8182	4.433	49.4371	4.639	51.2016	4.894
46.1318	39.7599	3.494	44.5476	3.994	46.5910	4.203	48.1318	4.412	49.8443	4.616	51.6799	4.869
46.6659	39.9693	3.479	44.8257	3.976	46.8865	4.182	48.4726	4.390	50.2726	4.592	52.1317	4.844
47.2063	40.2557	3.464	45.1938	3.958	47.2118	4.162	48.8071	4.368	50.6963	4.569	52.6134	4.820
47.7529	40.4878	3.451	45.4992	3.935	47.5116	4.142	49.1830	4.346	51.1035	4.546	53.0529	4.795
48.3059	40.6796	3.435	45.7531	3.914	47.8369	4.122	49.5132	4.324	51.5052	4.521	53.5085	4.773
48.8652	40.9194	3.421	46.0550	3.896	48.1608	4.102	49.8878	4.301	51.9356	4.496	53.9473	4.748
49.4311	41.1823	3.407	46.3484	3.878	48.5259	4.078	50.2610	4.279	52.3744	4.471	54.4119	4.725
50.0035	41.3918	3.393	46.6472	3.864	48.9747	4.044	50.5167	4.256	52.8951	4.439	54.8581	4.700
51.1682	41.8192	3.364	47.3165	3.845	49.6950	4.012	51.3967	4.216	53.9391	4.405	55.8468	4.653
52.3600	42.3024	3.337	47.8746	3.800	50.3206	3.969	52.2109	4.170	54.8959	4.361	56.7167	4.609
53.5797	42.7651	3.311	48.6267	3.762	51.0236	3.932	53.1407	4.129	55.8244	4.319	57.6492	4.561
54.8277	43.2994	3.285	49.3323	3.726	51.7828	3.892	54.0037	4.080	56.6889	4.274	58.5810	4.515
56.1048	43.7313	3.261	50.0623	3.694	52.4982	3.858	54.9227	4.040	57.6963	4.234	59.5367	4.468
57.4116	44.1673	3.235	50.7111	3.654	53.2821	3.818	55.7535	4.003	58.5251	4.195	60.4626	4.423
58.7489	44.6046	3.209	51.1088	3.620	54.0567	3.780	56.6192	3.962	59.3857	4.152	61.4269	4.378
60.1174	44.9367	3.184	51.7249	3.584	54.8575	3.741	57.5601	3.923	60.3084	4.111	62.3870	4.330

61.5177	45.4005	3.160	52.3523	3.551	55.4760	3.709	58.6063	3.892	61.2234	4.076	63.3933	4.284
62.2300	45.7812	3.151	52.3661	3.527	55.8088	3.692	58.9495	3.870	61.6174	4.059	63.8696	4.262
62.9506	45.9802	3.139	52.6552	3.506	56.1625	3.679	59.2674	3.858	62.0775	4.040	64.3606	4.240
63.6796	46.1756	3.127	52.9882	3.491	56.5356	3.663	59.7468	3.839	62.5442	4.020	64.9008	4.218
64.4169	46.3492	3.115	53.2982	3.477	56.8798	3.645	60.1222	3.821	62.9625	3.999	65.3597	4.197
65.1628	46.5466	3.104	53.5940	3.464	57.2086	3.632	60.4885	3.806	63.3487	3.980	65.8613	4.174
65.9174	46.7834	3.094	53.9228	3.448	57.5750	3.614	60.9047	3.786	63.8178	3.963	66.3818	4.151
66.6807	46.8808	3.082	54.2227	3.434	57.9573	3.598	61.3394	3.768	64.2894	3.942	66.9146	4.128
67.4528	47.1576	3.073	54.4852	3.420	58.2328	3.582	61.6447	3.751	64.6638	3.923	67.3796	4.107
68.2339	47.3035	3.062	54.8171	3.410	58.6000	3.570	62.0540	3.737	65.1393	3.907	67.8213	4.090
69.0240	47.5685	3.052	55.1689	3.396	58.9902	3.554	62.4923	3.720	65.5838	3.889	68.3671	4.068
69.8232	47.8123	3.043	55.4554	3.380	59.3019	3.536	62.8572	3.700	66.0275	3.869	68.8798	4.046
70.6318	48.0285	3.033	55.7152	3.369	59.6177	3.523	63.2040	3.685	66.4065	3.851	69.3258	4.027
71.4496	48.2530	3.022	56.0294	3.356	59.9718	3.509	63.6090	3.670	66.8785	3.833	69.8216	4.008
72.2770	48.4052	3.012	56.3786	3.341	60.3714	3.493	64.0484	3.651	67.3507	3.815	70.3358	3.987
73.1139	48.6452	3.002	56.6329	3.329	60.6627	3.479	64.3808	3.636	67.7319	3.797	70.8269	3.970
73.9605	48.8140	2.992	56.9715	3.317	61.0359	3.465	64.8007	3.621	68.1866	3.780	71.3005	3.951
74.8170	49.0393	2.981	57.3178	3.303	61.4188	3.450	65.2251	3.604	68.6563	3.762	71.8142	3.931
75.6833	49.2137	2.971	57.5768	3.290	61.7240	3.436	65.5596	3.589	69.0673	3.744	72.2973	3.912
76.5597	49.4758	2.962	57.9120	3.278	62.0946	3.423	65.9734	3.574	69.5059	3.728	72.7989	3.896
77.4462	49.7082	2.954	58.2402	3.266	62.4749	3.408	66.4139	3.557	69.9585	3.711	73.3284	3.874
78.3430	49.8980	2.944	58.5092	3.254	62.7739	3.395	66.7500	3.543	70.3451	3.694	73.8031	3.859
79.2501	50.1841	2.937	58.8337	3.242	63.1322	3.381	67.1593	3.528	70.8369	3.678	74.3186	3.841
80.1678	50.4547	2.925	59.1700	3.231	63.5285	3.368	67.5736	3.512	71.2448	3.660	74.8510	3.823
81.0961	50.7478	2.916	59.4482	3.217	63.8284	3.354	67.9370	3.497	71.6846	3.645	75.3194	3.807
82.0352	50.9836	2.907	59.7561	3.205	64.1781	3.342	68.3030	3.484	72.0058	3.630	75.7532	3.790
82.9851	51.2311	2.897	60.0729	3.193	64.5556	3.328	68.7582	3.469	72.6025	3.613	76.2361	3.774
83.9460	51.5379	2.888	60.4137	3.182	64.9384	3.315	69.1787	3.454	73.0763	3.596	76.7495	3.757
84.9180	51.8275	2.878	60.7416	3.169	65.2955	3.301	69.5770	3.439	73.5271	3.580	77.3030	3.736
85.9014	51.9321	2.868	61.0242	3.159	65.6356	3.290	69.9683	3.426	73.9435	3.565	77.7809	3.722
86.8960	52.3037	2.858	61.3531	3.148	65.9728	3.277	70.3795	3.411	74.3279	3.548	78.2986	3.703
87.9023	52.4836	2.849	61.6655	3.136	66.3185	3.264	70.7142	3.397	74.8023	3.534	78.7817	3.685
88.9201	52.7487	2.840	61.9326	3.126	66.6574	3.253	71.1269	3.385	75.2281	3.519	79.2255	3.673
89.9498	52.9157	2.829	62.3535	3.116	67.1499	3.242	71.5853	3.374	75.6480	3.504	79.7869	3.652
90.9913	53.1467	2.824	62.5784	3.103	67.3629	3.227	71.9222	3.356	76.1122	3.487	80.2913	3.636
92.0450	53.2934	2.815	62.9259	3.094	67.7758	3.216	72.3795	3.344	76.6017	3.474	80.7815	3.622
93.1108	53.6528	2.808	63.2510	3.084	68.1489	3.205	72.7785	3.331	77.0576	3.460	81.2919	3.606
94.1890	53.9307	2.798	63.5526	3.072	68.4627	3.192	73.1214	3.317	77.4778	3.446	81.8041	3.589
95.2796	54.2422	2.789	63.8942	3.062	68.8701	3.181	73.6004	3.304	77.9505	3.430	82.3396	3.573
96.3829	54.2769	2.782	64.2933	3.053	69.2937	3.171	74.0558	3.294	78.4736	3.417	82.8589	3.557
97.4990	54.5516	2.775	64.5327	3.041	69.5973	3.157	74.4182	3.278	78.8821	3.402	83.3280	3.542
98.6279	54.8924	2.765	64.9119	3.031	69.9962	3.146	74.8790	3.266	79.2983	3.388	83.8812	3.526
99.7700	55.1041	2.759	65.3221	3.021	70.4429	3.134	75.3504	3.252	79.8757	3.372	84.3949	3.508
100.925	55.3286	2.750	65.5202	3.011	70.6976	3.123	75.6209	3.240	80.2258	3.359	84.8367	3.495
102.094	55.6959	2.745	65.8972	2.999	71.1211	3.110	76.0919	3.226	80.8033	3.344	85.3781	3.478
103.276	55.9171	2.737	66.2483	2.991	71.5046	3.100	76.5158	3.215	81.1759	3.333	85.9180	3.462
104.472	56.1504	2.726	66.5302	2.981	71.8164	3.090	76.8848	3.203	81.5890	3.319	86.3675	3.450

105.682	56.3808	2.718	66.8829	2.971	72.2286	3.079	77.3280	3.191	82.0953	3.305	86.8935	3.434
106.905	56.6123	2.716	67.2297	2.962	72.5776	3.068	77.7106	3.179	82.5181	3.292	87.4127	3.419
108.143	56.9453	2.710	67.5110	2.953	72.9143	3.059	78.1356	3.168	83.0298	3.279	87.8701	3.406
109.396	57.1176	2.700	67.8628	2.942	73.3154	3.046	78.5631	3.154	83.4950	3.265	88.3963	3.390
110.662	57.3720	2.693	68.1788	2.935	73.6180	3.034	78.8770	3.142	83.7327	3.253	88.7273	3.374
111.944	57.7840	2.686	68.5587	2.927	74.0253	3.025	79.3704	3.131	84.2576	3.242	89.3125	3.359
113.240	57.9622	2.680	68.8080	2.918	74.3107	3.015	79.7032	3.120	84.6333	3.228	89.7698	3.347
114.551	58.2447	2.673	69.0957	2.909	74.6450	3.004	80.0760	3.108	85.0617	3.216	90.2742	3.333
115.878	58.4525	2.666	69.4787	2.899	75.0918	2.993	80.5433	3.096	85.5512	3.203	90.7080	3.320
117.220	58.7763	2.659	69.7981	2.892	75.4275	2.985	80.9169	3.087	85.9874	3.192	91.2419	3.307
118.577	59.0315	2.651	70.0717	2.883	75.7545	2.975	81.3107	3.075	86.4150	3.181	91.7524	3.294
119.950	59.2959	2.644	70.3812	2.875	76.0924	2.965	81.6815	3.064	86.8573	3.168	92.2368	3.282
121.339	59.5363	2.638	70.7406	2.866	76.5018	2.956	82.1383	3.054	87.3425	3.156	92.8088	3.269
122.744	59.7363	2.631	71.0998	2.858	76.9012	2.947	82.5994	3.044	87.8409	3.145	93.2928	3.256
124.165	60.0097	2.624	71.4947	2.852	77.3452	2.938	83.0524	3.034	88.4133	3.134	93.9120	3.242
125.603	60.2169	2.608	71.7138	2.843	77.7305	2.930	83.5083	3.026	88.8576	3.126	94.3653	3.231
127.057	60.5171	2.602	72.0787	2.834	77.9648	2.921	83.7952	3.014	89.2155	3.114	94.9417	3.218
128.529	60.7667	2.596	72.4767	2.827	78.4048	2.912	84.2845	3.004	89.7088	3.101	95.4137	3.205
130.017	60.9979	2.591	72.7813	2.819	78.7774	2.903	84.6691	2.994	90.1742	3.090	95.9650	3.193
131.522	61.2292	2.583	73.0436	2.810	79.0434	2.893	85.1337	2.984	90.6689	3.079	96.4513	3.181
133.045	61.6667	2.578	73.5215	2.803	79.5835	2.885	85.5560	2.974	91.1583	3.067	96.9996	3.168
134.586	61.9274	2.570	73.8631	2.795	79.9794	2.876	86.0255	2.964	91.6531	3.056	97.5133	3.156
136.144	62.2461	2.565	74.2388	2.788	80.3642	2.868	86.4324	2.955	92.1354	3.047	98.0745	3.145
137.721	62.5029	2.559	74.5600	2.779	80.6919	2.859	86.8453	2.946	92.5572	3.036	98.5954	3.132
139.316	62.8917	2.553	74.9982	2.773	81.2390	2.851	87.3547	2.936	93.0966	3.022	99.1713	3.121
140.929	63.1357	2.547	75.3333	2.765	81.5744	2.842	87.8066	2.926	93.5747	3.013	99.7165	3.109
142.561	63.3418	2.541	75.6584	2.757	81.9462	2.833	88.1593	2.917	93.9886	3.004	100.204	3.097
144.212	63.7662	2.536	75.9926	2.750	82.3279	2.826	88.6100	2.908	94.4789	2.994	100.736	3.086
145.881	64.1039	2.531	76.3673	2.743	82.7638	2.817	89.1056	2.898	95.0415	2.983	101.277	3.075
147.571	64.4091	2.524	76.6858	2.736	83.1426	2.810	89.5297	2.890	95.4535	2.973	101.781	3.064
149.279	64.8042	2.518	77.0624	2.729	83.5426	2.801	89.9535	2.881	95.9463	2.963	102.335	3.053
151.008	64.9163	2.513	77.4165	2.722	83.9343	2.793	90.4169	2.872	96.4519	2.953	102.848	3.042
152.757	65.3577	2.508	77.7928	2.715	84.3221	2.785	90.7894	2.863	96.9063	2.944	103.365	3.031
154.525	65.6678	2.502	78.1753	2.708	84.7523	2.778	91.2877	2.854	97.4062	2.934	103.928	3.021
156.315	65.9410	2.497	78.5460	2.702	85.1556	2.770	91.7372	2.846	97.8835	2.925	104.526	3.010
158.125	66.3176	2.491	78.8980	2.694	85.5439	2.762	92.1517	2.837	98.4095	2.915	105.019	3.000
159.956	66.4692	2.487	79.2236	2.688	85.9482	2.755	92.5930	2.829	98.8570	2.906	105.585	2.989
161.808	66.8083	2.480	79.7592	2.682	86.5467	2.750	93.2029	2.821	99.6342	2.896	106.127	2.978
163.682	67.3567	2.475	80.0815	2.675	86.8815	2.743	93.4794	2.813	100.016	2.888	106.639	2.968
165.577	67.5673	2.470	80.4072	2.668	87.3065	2.734	94.0605	2.803	100.614	2.877	107.189	2.957
167.494	67.7857	2.465	80.9583	2.661	87.8074	2.727	94.5101	2.794	101.040	2.867	107.752	2.949
169.434	68.1752	2.461	81.1570	2.657	88.1568	2.723	95.0018	2.789	101.697	2.861	108.278	2.938
171.396	68.3863	2.456	81.5614	2.650	88.5500	2.714	95.3962	2.780	102.111	2.850	108.876	2.928
173.380	68.8199	2.451	81.9601	2.645	88.9287	2.709	95.9001	2.775	102.649	2.844	109.390	2.919
175.388	69.0973	2.445	82.3499	2.637	89.3834	2.700	96.2991	2.764	103.058	2.833	109.923	2.908
177.419	69.4775	2.441	82.7307	2.631	89.8258	2.693	96.8258	2.757	103.644	2.825	110.469	2.899
179.473	69.8207	2.436	83.1051	2.625	90.2462	2.686	97.2519	2.749	104.105	2.816	111.019	2.890

181.552	70.0683	2.432	83.4354	2.619	90.5732	2.679	97.6516	2.741	104.560	2.808	111.557	2.880
183.654	70.5899	2.427	83.8935	2.613	91.0998	2.673	98.1948	2.734	105.151	2.800	112.142	2.870
185.780	70.7725	2.422	84.2468	2.607	91.5074	2.666	98.6494	2.727	105.673	2.791	112.662	2.861
187.932	71.2744	2.416	84.6646	2.601	91.9055	2.660	99.0640	2.719	106.088	2.783	113.200	2.853
190.108	71.4933	2.412	84.8379	2.597	92.2300	2.654	99.5060	2.712	106.575	2.774	113.797	2.844
192.309	71.9423	2.407	85.4493	2.591	92.7815	2.648	100.076	2.705	107.147	2.767	114.385	2.835
194.536	72.2973	2.404	85.7991	2.585	93.1108	2.642	100.361	2.699	107.556	2.760	114.894	2.826
196.789	72.6161	2.400	86.1306	2.579	93.5865	2.634	100.985	2.691	108.205	2.751	115.494	2.818
199.067	73.0722	2.396	86.6996	2.574	94.1629	2.628	101.618	2.684	108.916	2.744	116.084	2.809
201.372	73.3478	2.392	87.0991	2.569	94.4750	2.623	101.785	2.678	109.035	2.737	116.644	2.800
203.704	73.8049	2.388	87.4967	2.563	94.9752	2.616	102.392	2.671	109.629	2.729	117.225	2.792
206.063	74.2281	2.383	87.9505	2.557	95.4771	2.610	102.984	2.663	110.300	2.721	117.788	2.783
208.449	74.4166	2.379	88.3237	2.551	95.9297	2.603	103.519	2.656	110.906	2.713	118.396	2.775
210.863	74.7045	2.376	88.7682	2.546	96.4136	2.597	103.944	2.649	111.410	2.705	118.965	2.766
213.304	75.0332	2.371	89.2023	2.541	96.8477	2.591	104.441	2.643	111.821	2.698	119.484	2.758
215.774	75.5860	2.366	89.6726	2.536	97.2788	2.585	104.822	2.635	112.392	2.690	120.068	2.751
218.273	75.9019	2.364	90.0787	2.531	97.7524	2.578	105.381	2.628	112.974	2.682	120.600	2.743
220.800	76.2926	2.361	90.4704	2.526	98.1933	2.572	105.848	2.621	113.512	2.675	121.196	2.735
223.357	76.6480	2.356	90.9272	2.521	98.6658	2.567	106.405	2.615	114.080	2.668	121.783	2.727
225.944	76.9449	2.354	91.3203	2.515	99.1584	2.561	106.938	2.609	114.752	2.661	122.372	2.719
228.560	77.3222	2.349	91.7958	2.510	99.6792	2.554	107.416	2.601	115.138	2.653	122.983	2.711
231.206	77.7199	2.345	92.2106	2.505	100.099	2.549	107.941	2.596	115.756	2.646	123.560	2.704
233.884	78.0592	2.341	92.5805	2.501	100.469	2.544	108.326	2.589	116.208	2.640	124.117	2.697
236.592	78.3420	2.339	93.0732	2.496	100.993	2.538	108.838	2.584	116.692	2.634	124.709	2.689
239.332	78.8272	2.335	93.4564	2.491	101.393	2.533	109.331	2.577	117.292	2.625	125.302	2.681
242.103	79.1659	2.330	93.9766	2.486	101.999	2.527	110.003	2.571	118.033	2.619	125.858	2.674
244.906	79.5548	2.327	94.3766	2.481	102.422	2.523	110.405	2.566	118.426	2.613	126.466	2.667
247.742	79.8879	2.323	94.9000	2.476	103.041	2.516	111.087	2.559	119.095	2.605	127.034	2.660
250.611	80.2156	2.319	95.3974	2.472	103.524	2.512	111.555	2.554	119.634	2.600	127.690	2.653
253.513	80.7648	2.315	95.7623	2.467	103.868	2.507	111.926	2.549	120.061	2.594	128.249	2.646
256.448	81.0363	2.312	96.1427	2.461	104.319	2.500	112.472	2.541	120.791	2.585	128.891	2.639
259.418	81.4930	2.308	96.6107	2.458	104.832	2.495	113.005	2.535	121.288	2.579	129.443	2.632
262.422	81.9256	2.305	97.1186	2.453	105.322	2.491	113.527	2.531	121.839	2.574	129.949	2.625
265.461	82.2834	2.302	97.5569	2.448	105.821	2.485	114.030	2.524	122.423	2.567	130.616	2.618
268.534	82.7284	2.298	97.9649	2.443	106.218	2.481	114.467	2.520	122.839	2.561	131.149	2.613
271.644	83.1997	2.294	98.2821	2.439	106.679	2.476	114.994	2.513	123.359	2.555	131.744	2.606
274.789	83.6254	2.291	98.9960	2.436	107.212	2.472	115.356	2.510	123.844	2.551	132.397	2.600
277.971	84.0432	2.287	99.3663	2.431	107.722	2.466	116.082	2.503	124.597	2.543	132.875	2.593
281.190	84.4727	2.284	99.8067	2.426	108.180	2.461	116.596	2.497	125.117	2.538	133.565	2.588
284.446	84.8202	2.281	100.250	2.423	108.655	2.458	117.024	2.494	125.637	2.533	134.325	2.582
287.740	85.3194	2.279	100.757	2.420	109.220	2.454	117.735	2.489	126.352	2.528	134.711	2.576
291.072	85.7422	2.276	100.953	2.416	109.678	2.448	118.287	2.484	127.070	2.522	135.550	2.570
294.442	86.0603	2.272	101.657	2.412	110.057	2.444	118.733	2.478	127.635	2.516	136.322	2.564
297.852	86.0280	2.270	102.264	2.407	110.846	2.440	119.478	2.473	128.212	2.511	136.826	2.560
301.301	86.5791	2.267	102.818	2.404	111.349	2.436	119.888	2.470	128.671	2.506	137.557	2.551
304.789	87.0259	2.263	103.352	2.400	111.948	2.432	120.463	2.465	129.210	2.502	138.187	2.546
308.319	87.4469	2.260	103.786	2.397	112.389	2.428	121.096	2.460	130.111	2.497	138.858	2.541

311.889	87.9268	2.257	104.254	2.392	112.843	2.422	121.616	2.454	130.641	2.489	139.824	2.536
315.500	88.2862	2.253	105.058	2.388	113.708	2.418	122.445	2.450	131.511	2.485	140.266	2.531
319.154	89.0217	2.250	105.357	2.385	114.164	2.415	122.950	2.445	132.100	2.478	140.790	2.524
322.849	89.3637	2.247	105.339	2.380	114.225	2.413	123.176	2.445	131.560	2.478	141.523	2.509
326.588	89.8755	2.244	105.749	2.373	114.391	2.404	123.390	2.437	132.076	2.470	142.252	2.506
330.370	90.1558	2.240	106.745	2.373	115.568	2.402	124.557	2.436	133.396	2.469	142.630	2.500
334.195	90.7514	2.237	107.578	2.367	116.303	2.397	125.450	2.430	134.261	2.462	143.384	2.494
338.065	91.0987	2.234	108.139	2.363	116.881	2.392	126.017	2.424	135.115	2.455	144.364	2.491
341.979	91.5901	2.231	108.703	2.358	117.646	2.387	126.840	2.419	135.758	2.449	145.047	2.486
345.939	91.9649	2.228	109.000	2.356	118.293	2.385	127.327	2.417	136.122	2.449	145.742	2.478
349.945	92.5835	2.224	109.901	2.352	118.787	2.379	127.661	2.410	136.985	2.442	146.455	2.474
353.997	93.0270	2.221	109.889	2.349	119.100	2.376	128.318	2.406	137.238	2.437	147.164	2.469
358.096	93.4444	2.218	110.277	2.345	119.292	2.373	128.461	2.402	137.905	2.431	147.959	2.462
362.243	94.0642	2.215	111.506	2.345	120.647	2.372	129.886	2.401	139.330	2.429	148.644	2.457
366.438	94.4413	2.212	112.170	2.339	121.136	2.367	130.665	2.395	139.789	2.425	149.359	2.452
370.681	95.1500	2.210	112.563	2.336	121.677	2.364	130.906	2.392	140.358	2.420	149.915	2.449
374.973	95.8147	2.207	113.099	2.332	122.385	2.359	131.628	2.388	140.803	2.416	150.846	2.443
379.315	96.3229	2.204	114.003	2.329	123.286	2.355	132.687	2.384	141.976	2.410	151.655	2.437
383.707	97.0427	2.200	114.476	2.325	123.801	2.351	133.144	2.379	142.553	2.406	152.253	2.432
388.150	97.5639	2.198	114.988	2.320	124.311	2.346	133.520	2.374	142.825	2.400	153.033	2.428
392.645	98.0556	2.195	115.861	2.318	125.136	2.344	134.664	2.371	144.319	2.396	153.875	2.422
397.192	98.5034	2.192	116.442	2.313	125.673	2.338	135.012	2.365	144.583	2.391	154.398	2.418
401.791	99.3549	2.189	116.640	2.315	126.017	2.337	135.605	2.365	145.044	2.392	155.391	2.412
406.443	99.6806	2.186	117.601	2.308	127.023	2.332	136.576	2.358	146.384	2.383	155.957	2.409
411.150	100.177	2.184	118.481	2.307	127.945	2.330	137.399	2.357	146.757	2.382	156.889	2.403
415.911	100.824	2.181	118.718	2.302	128.099	2.325	137.790	2.351	147.243	2.375	157.656	2.400
420.727	101.429	2.178	119.751	2.300	129.204	2.322	138.893	2.348	148.315	2.371	158.232	2.393
425.598	102.085	2.176	120.405	2.296	129.767	2.317	139.378	2.343	148.736	2.368	159.292	2.389
430.527	102.688	2.173	120.182	2.291	129.672	2.311	139.481	2.335	149.797	2.359	159.993	2.385
435.512	103.057	2.170	121.490	2.288	131.185	2.309	140.717	2.335	150.698	2.358	160.735	2.381
440.555	103.730	2.167	122.159	2.286	131.685	2.308	141.653	2.332	151.428	2.355	161.556	2.376
445.656	104.535	2.165	122.764	2.283	132.575	2.305	142.429	2.329	151.984	2.353	162.492	2.371
450.817	105.199	2.162	123.989	2.282	133.659	2.302	143.492	2.325	153.641	2.348	163.429	2.367
456.037	106.081	2.159	125.021	2.278	134.459	2.299	144.129	2.321	154.309	2.344	164.221	2.363
461.318	106.694	2.157	125.305	2.275	135.079	2.294	145.023	2.317	155.091	2.340	164.974	2.358
466.659	107.455	2.153	126.028	2.271	135.925	2.292	145.798	2.314	155.604	2.335	165.906	2.354
472.063	108.025	2.152	126.807	2.268	136.254	2.288	146.113	2.310	156.220	2.330	166.705	2.349
477.529	108.699	2.148	127.424	2.265	137.133	2.284	147.181	2.306	157.334	2.326	167.648	2.345
483.059	109.078	2.146	128.412	2.263	137.988	2.284	148.366	2.303	158.066	2.322	168.336	2.341
488.652	109.772	2.143	129.060	2.259	139.118	2.279	148.856	2.300	158.903	2.319	169.197	2.337
494.311	110.787	2.140	129.615	2.257	139.512	2.276	148.990	2.297	159.304	2.314	170.365	2.335
500.035	111.294	2.137	130.359	2.253	140.308	2.273	149.878	2.292	160.269	2.311	171.006	2.333
505.825	112.108	2.135	131.138	2.250	140.873	2.269	150.962	2.289	160.908	2.308	172.060	2.327
511.682	112.570	2.124	131.762	2.247	142.074	2.266	151.969	2.285	161.640	2.303	172.787	2.323
517.607	113.245	2.122	132.819	2.244	142.624	2.263	152.688	2.281	163.022	2.299	173.708	2.320
523.600	113.978	2.119	133.520	2.241	143.603	2.259	153.569	2.278	163.601	2.296	174.381	2.316
529.663	114.865	2.117	134.619	2.238	144.241	2.256	154.696	2.274	164.636	2.292	175.607	2.312

535.797	115.482	2.115	135.323	2.236	145.198	2.253	155.296	2.272	165.496	2.289	176.555	2.307
542.001	116.356	2.113	135.860	2.232	146.195	2.250	156.034	2.268	166.396	2.284	177.342	2.303
548.277	117.075	2.111	137.002	2.230	147.047	2.247	156.684	2.264	167.282	2.280	178.296	2.300
554.626	117.814	2.109	137.942	2.227	147.859	2.243	157.931	2.261	168.108	2.276	179.372	2.296
561.048	118.593	2.106	138.553	2.224	148.674	2.240	158.844	2.257	168.770	2.273	180.211	2.293
567.545	119.264	2.104	139.631	2.221	149.322	2.237	160.180	2.255	169.981	2.269	181.195	2.288
574.116	120.139	2.101	139.985	2.218	150.063	2.234	160.316	2.252	171.192	2.266	182.333	2.284
580.764	120.952	2.099	141.263	2.215	151.605	2.231	161.792	2.248	172.083	2.262	183.291	2.280
587.489	121.738	2.097	141.754	2.213	152.098	2.228	162.664	2.245	172.754	2.258	184.154	2.277
594.292	122.545	2.094	142.772	2.209	153.480	2.226	162.763	2.242	173.488	2.255	184.902	2.273
601.174	123.460	2.092	143.812	2.206	154.022	2.223	164.227	2.238	174.659	2.251	186.046	2.270
608.135	124.439	2.088	144.371	2.204	154.862	2.219	165.387	2.235	176.175	2.248	187.187	2.266
615.177	124.964	2.087	145.791	2.201	155.876	2.217	166.208	2.232	176.270	2.245	188.225	2.262
622.300	126.004	2.085	146.663	2.198	156.794	2.214	167.630	2.229	177.818	2.241	189.138	2.259
629.506	126.817	2.083	147.644	2.196	157.908	2.210	168.498	2.226	178.853	2.238	189.949	2.255
636.796	127.624	2.081	148.194	2.192	158.703	2.209	169.154	2.223	179.924	2.235	191.281	2.252
644.169	128.840	2.079	149.736	2.190	159.545	2.205	170.624	2.220	180.813	2.231	192.295	2.248
651.628	129.501	2.076	150.266	2.187	160.859	2.202	171.266	2.218	182.259	2.229	193.515	2.245
659.174	130.094	2.073	151.026	2.184	161.680	2.199	171.675	2.213	183.164	2.224	194.372	2.241
666.807	131.144	2.071	152.463	2.181	162.953	2.197	173.475	2.211	183.598	2.222	195.556	2.237
674.528	132.184	2.068	153.850	2.179	163.665	2.194	174.047	2.208	185.303	2.217	196.863	2.234
682.339	132.927	2.066	154.315	2.176	165.042	2.190	175.425	2.204	186.150	2.214	198.046	2.232
690.240	133.489	2.065	154.939	2.174	165.609	2.188	176.677	2.202	187.935	2.212	198.926	2.228
698.232	134.648	2.063	156.613	2.171	166.981	2.184	177.810	2.198	188.880	2.209	199.926	2.225
706.318	135.408	2.061	157.253	2.168	168.406	2.181	178.355	2.195	190.087	2.206	201.528	2.220
714.496	136.567	2.059	158.160	2.166	168.883	2.179	180.411	2.193	190.970	2.202	202.248	2.217
722.770	137.217	2.058	159.038	2.163	170.299	2.177	180.489	2.189	192.310	2.199	203.139	2.214
731.139	138.346	2.055	160.554	2.159	171.168	2.174	182.754	2.187	192.968	2.195	204.784	2.211
739.605	139.365	2.053	161.970	2.158	172.237	2.171	183.053	2.185	194.057	2.193	205.475	2.207
748.170	139.985	2.051	163.059	2.154	173.417	2.168	184.835	2.181	195.556	2.188	206.835	2.204
756.833	140.919	2.048	163.778	2.151	174.183	2.165	185.162	2.178	196.772	2.188	208.704	2.200
765.597	141.447	2.047	163.806	2.152	175.049	2.166	185.872	2.177	197.129	2.188	210.863	2.199
774.462	142.717	2.045	166.447	2.147	177.586	2.162	187.977	2.171	199.327	2.179	210.318	2.195
783.430	143.622	2.043	166.605	2.148	177.159	2.161	188.724	2.167	199.265	2.179	211.926	2.193
792.501	144.694	2.041	168.143	2.144	178.748	2.154	189.929	2.161	201.328	2.176	213.851	2.189
801.678	146.029	2.038	169.277	2.142	180.127	2.156	191.447	2.161	202.617	2.174	214.287	2.187
810.961	146.835	2.036	169.973	2.138	181.147	2.151	192.661	2.160	203.052	2.170	215.914	2.184
820.352	148.095	2.033	171.592	2.136	182.977	2.148	193.849	2.155	204.543	2.167	217.096	2.179
829.851	148.916	2.031	173.312	2.133	184.140	2.147	195.236	2.153	205.952	2.164	218.048	2.177
839.460	149.833	2.028	174.180	2.130	185.882	2.142	196.053	2.148	207.171	2.157	219.453	2.174
849.180	150.956	2.027	174.966	2.128	186.290	2.141	197.391	2.147	207.274	2.158	220.860	2.172
859.014	152.244	2.025	175.792	2.125	187.712	2.138	198.367	2.145	209.571	2.153	222.163	2.168
868.960	153.128	2.023	177.215	2.123	188.446	2.135	199.247	2.142	210.861	2.149	223.211	2.166
879.023	154.454	2.020	179.005	2.120	191.012	2.132	201.667	2.139	212.286	2.147	224.752	2.163
889.201	155.571	2.019	179.964	2.119	191.070	2.131	202.419	2.137	213.657	2.144	226.690	2.158
899.498	156.509	2.017	181.540	2.115	193.015	2.127	203.762	2.133	215.073	2.140	227.754	2.155
909.913	157.889	2.015	182.316	2.113	193.632	2.126	205.246	2.132	216.059	2.137	229.011	2.153

920.450	159.150	2.013	183.784	2.112	195.417	2.123	206.678	2.127	217.675	2.135	230.345	2.150
931.108	160.256	2.011	184.892	2.108	196.493	2.120	207.894	2.126	218.878	2.132	231.798	2.148
941.890	161.380	2.009	187.004	2.106	198.007	2.118	209.302	2.123	220.940	2.130	233.112	2.144
952.796	162.482	2.007	188.156	2.104	199.367	2.115	210.462	2.118	222.290	2.125	234.838	2.140
963.829	163.356	2.005	188.801	2.101	200.348	2.112	211.559	2.117	222.675	2.125	236.374	2.138
974.990	164.636	2.003	190.397	2.099	200.779	2.110	213.173	2.117	223.601	2.123	237.327	2.135
986.279	165.966	2.001	191.623	2.097	203.726	2.108	214.416	2.113	225.661	2.119	238.361	2.133
997.700	167.040	1.998	191.451	2.093	204.549	2.106	216.485	2.111	227.413	2.119	239.783	2.129
1009.25	166.962	1.996	193.891	2.092	204.511	2.103	217.746	2.110	228.879	2.118	241.333	2.129
1020.94	168.378	1.994	195.156	2.089	206.369	2.101	217.923	2.107	230.011	2.114	242.921	2.123
1032.76	169.463	1.992	196.220	2.084	207.889	2.096	218.976	2.102	230.365	2.109	245.216	2.123
1044.72	171.006	1.989	197.824	2.084	209.319	2.096	222.305	2.100	234.113	2.108	246.531	2.119
1056.82	171.483	1.987	198.953	2.081	211.431	2.093	222.561	2.098	234.993	2.108	247.929	2.118
1069.05	172.528	1.985	200.741	2.077	212.313	2.088	223.223	2.099	234.609	2.109	249.341	2.115
1081.43	171.666	1.981	200.113	2.073	213.385	2.082	224.599	2.094	236.967	2.103	250.986	2.108
1093.96	172.245	1.979	202.175	2.073	214.211	2.087	226.168	2.090	239.381	2.104	254.390	2.109
1106.62	173.935	1.977	204.592	2.069	216.052	2.083	227.808	2.093	242.203	2.101	255.830	2.106
1119.44	175.342	1.974	205.376	2.069	216.863	2.077	228.331	2.088	244.021	2.096	256.347	2.099
1124.60	175.088	1.973	206.291	2.066	218.008	2.081	229.245	2.085	242.705	2.094	255.156	2.100



Freq (GHz)	Water at 30 °C		Water at 35 °C		Water at 40 °C		Water at 45 °C		Water at 50 °C		Water at 55 °C		Water at 60 °C	
	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n
0.05000	0.00010	8.778	0.00048	8.703	0.00010	8.608	0.00090	8.497	0.00017	8.389	0.00055	8.295	0.00013	8.193
0.05058	0.00013	8.779	0.00050	8.703	0.00014	8.607	0.00080	8.496	0.00028	8.387	0.00047	8.294	0.00010	8.194
0.05117	0.00016	8.780	0.00035	8.703	0.00011	8.605	0.00087	8.497	0.00026	8.388	0.00053	8.292	0.00007	8.195
0.05176	0.00012	8.780	0.00035	8.706	0.00014	8.602	0.00070	8.496	0.00008	8.393	0.00044	8.295	0.00004	8.196
0.05236	0.00008	8.780	0.00042	8.710	0.00018	8.599	0.00044	8.486	0.00007	8.397	0.00030	8.293	0.00007	8.195
0.05297	0.00013	8.784	0.00054	8.706	0.00011	8.597	0.00059	8.489	0.00005	8.396	0.00012	8.291	0.00013	8.191
0.05358	0.00014	8.783	0.00055	8.708	0.00007	8.600	0.00045	8.495	0.00006	8.391	0.00027	8.294	0.00011	8.192
0.05420	0.00019	8.780	0.00038	8.708	0.00001	8.602	0.00050	8.498	0.00011	8.388	0.00044	8.295	0.00006	8.196
0.05483	0.00022	8.785	0.00025	8.706	0.00004	8.600	0.00038	8.493	0.00005	8.395	0.00054	8.295	0.00007	8.197
0.05546	0.00011	8.786	0.00038	8.708	0.00005	8.600	0.00060	8.496	0.00015	8.397	0.00060	8.294	0.00006	8.195
0.05610	0.00007	8.784	0.00033	8.710	0.00003	8.599	0.00053	8.490	0.00012	8.397	0.00053	8.297	0.00008	8.193
0.05675	0.00009	8.783	0.00029	8.704	0.00006	8.597	0.00050	8.493	0.00028	8.402	0.00053	8.299	0.00015	8.193
0.05741	0.00008	8.783	0.00029	8.704	0.00008	8.597	0.00054	8.502	0.00025	8.402	0.00039	8.296	0.00016	8.195
0.05808	0.00003	8.780	0.00033	8.706	0.00003	8.601	0.00064	8.492	0.00044	8.397	0.00049	8.297	0.00015	8.196
0.05875	0.00003	8.782	0.00038	8.703	0.00003	8.604	0.00043	8.497	0.00009	8.398	0.00047	8.301	0.00014	8.197
0.05943	0.00011	8.783	0.00046	8.707	0.00004	8.601	0.00041	8.498	0.00027	8.396	0.00050	8.300	0.00015	8.196
0.06012	0.00018	8.782	0.00060	8.709	0.00005	8.603	0.00032	8.494	0.00015	8.396	0.00039	8.299	0.00019	8.197
0.06081	0.00022	8.784	0.00055	8.707	0.00006	8.603	0.00032	8.498	0.00010	8.400	0.00043	8.298	0.00019	8.197
0.06152	0.00018	8.784	0.00051	8.706	0.00011	8.603	0.00030	8.498	0.00027	8.403	0.00058	8.296	0.00017	8.196
0.06223	0.00029	8.784	0.00037	8.707	0.00019	8.605	0.00046	8.503	0.00039	8.396	0.00061	8.302	0.00011	8.194
0.06295	0.00021	8.782	0.00034	8.712	0.00015	8.605	0.00011	8.493	0.00011	8.400	0.00056	8.301	0.00009	8.192
0.06368	0.00022	8.784	0.00029	8.711	0.00014	8.605	0.00021	8.495	0.00023	8.401	0.00054	8.298	0.00016	8.192
0.06442	0.00015	8.785	0.00034	8.710	0.00019	8.603	0.00008	8.501	0.00063	8.397	0.00056	8.297	0.00033	8.194
0.06516	0.00016	8.784	0.00028	8.710	0.00032	8.604	0.00018	8.498	0.00035	8.401	0.00065	8.298	0.00045	8.195
0.06592	0.00022	8.783	0.00039	8.711	0.00036	8.605	0.00037	8.497	0.00023	8.403	0.00056	8.298	0.00044	8.196
0.06668	0.00028	8.785	0.00042	8.708	0.00031	8.603	0.00025	8.501	0.00032	8.404	0.00051	8.297	0.00032	8.198
0.06745	0.00024	8.784	0.00045	8.708	0.00018	8.597	0.00027	8.499	0.00054	8.401	0.00051	8.297	0.00028	8.201
0.06823	0.00027	8.784	0.00049	8.709	0.00011	8.599	0.00051	8.501	0.00035	8.400	0.00051	8.299	0.00025	8.200
0.06902	0.00029	8.785	0.00046	8.706	0.00012	8.600	0.00045	8.502	0.00033	8.401	0.00053	8.296	0.00011	8.198
0.06982	0.00014	8.783	0.00051	8.707	0.00033	8.601	0.00015	8.498	0.00035	8.401	0.00046	8.297	0.00008	8.199
0.07063	0.00009	8.784	0.00037	8.707	0.00038	8.601	0.00025	8.499	0.00033	8.399	0.00062	8.299	0.00017	8.200
0.07145	0.00021	8.785	0.00037	8.708	0.00027	8.600	0.00023	8.501	0.00035	8.401	0.00051	8.299	0.00023	8.200
0.07228	0.00024	8.784	0.00044	8.706	0.00020	8.602	0.00022	8.501	0.00044	8.396	0.00046	8.297	0.00021	8.200
0.07311	0.00021	8.785	0.00052	8.707	0.00028	8.601	0.00027	8.501	0.00040	8.398	0.00049	8.297	0.00019	8.200
0.07396	0.00024	8.783	0.00058	8.709	0.00045	8.602	0.00052	8.501	0.00032	8.401	0.00069	8.297	0.00010	8.201
0.07482	0.00031	8.785	0.00065	8.705	0.00047	8.603	0.00034	8.503	0.00020	8.398	0.00077	8.297	0.00006	8.201
0.07568	0.00023	8.784	0.00047	8.706	0.00049	8.603	0.00044	8.501	0.00012	8.399	0.00084	8.296	0.00011	8.203
0.07656	0.00037	8.783	0.00046	8.707	0.00057	8.601	0.00051	8.502	0.00035	8.399	0.00077	8.294	0.00014	8.202
0.07745	0.00041	8.784	0.00066	8.706	0.00063	8.600	0.00048	8.502	0.00018	8.400	0.00071	8.295	0.00010	8.201
0.07834	0.00037	8.783	0.00064	8.707	0.00046	8.600	0.00033	8.504	0.00011	8.400	0.00067	8.296	0.00017	8.201
0.07925	0.00032	8.781	0.00070	8.706	0.00032	8.600	0.00036	8.500	0.00030	8.401	0.00072	8.296	0.00031	8.202
0.08017	0.00034	8.782	0.00072	8.705	0.00040	8.602	0.00028	8.501	0.00033	8.401	0.00077	8.296	0.00027	8.200
0.08110	0.00034	8.782	0.00055	8.704	0.00043	8.603	0.00031	8.501	0.00022	8.403	0.00074	8.295	0.00013	8.200
0.08204	0.00045	8.784	0.00041	8.704	0.00035	8.602	0.00046	8.501	0.00071	8.401	0.00059	8.296	0.00014	8.201
0.08299	0.00038	8.785	0.00055	8.704	0.00024	8.602	0.00036	8.501	0.00055	8.400	0.00051	8.296	0.00015	8.200

0.08395	0.00049	8.785	0.00068	8.705	0.00027	8.601	0.00038	8.504	0.00035	8.402	0.00058	8.297	0.00011	8.200
0.08492	0.00042	8.784	0.00051	8.705	0.00040	8.601	0.00048	8.503	0.00032	8.403	0.00048	8.297	0.00015	8.200
0.08590	0.00048	8.784	0.00045	8.704	0.00045	8.601	0.00029	8.505	0.00023	8.403	0.00043	8.297	0.00022	8.201
0.08690	0.00054	8.783	0.00046	8.703	0.00040	8.601	0.00039	8.506	0.00058	8.400	0.00045	8.297	0.00020	8.201
0.08790	0.00057	8.784	0.00063	8.704	0.00035	8.600	0.00031	8.505	0.00045	8.403	0.00051	8.297	0.00016	8.201
0.08892	0.00056	8.784	0.00064	8.704	0.00049	8.602	0.00026	8.504	0.00041	8.402	0.00055	8.296	0.00020	8.202
0.08995	0.00047	8.784	0.00056	8.702	0.00052	8.602	0.00029	8.505	0.00043	8.402	0.00078	8.296	0.00023	8.203
0.09099	0.00052	8.784	0.00062	8.702	0.00057	8.602	0.00030	8.504	0.00035	8.402	0.00069	8.295	0.00024	8.203
0.09204	0.00048	8.783	0.00067	8.703	0.00072	8.602	0.00030	8.503	0.00033	8.402	0.00057	8.292	0.00026	8.202
0.09311	0.00052	8.783	0.00055	8.701	0.00079	8.601	0.00030	8.506	0.00018	8.402	0.00054	8.293	0.00025	8.202
0.09419	0.00060	8.783	0.00069	8.702	0.00071	8.601	0.00032	8.505	0.00051	8.400	0.00047	8.292	0.00025	8.202
0.09528	0.00075	8.783	0.00087	8.702	0.00061	8.601	0.00030	8.505	0.00060	8.401	0.00046	8.293	0.00032	8.202
0.09638	0.00068	8.783	0.00090	8.702	0.00071	8.601	0.00056	8.507	0.00049	8.400	0.00052	8.292	0.00042	8.202
0.09750	0.00066	8.784	0.00095	8.701	0.00075	8.601	0.00050	8.508	0.00048	8.400	0.00057	8.291	0.00044	8.202
0.09863	0.00077	8.783	0.00091	8.701	0.00079	8.601	0.00051	8.508	0.00062	8.399	0.00069	8.290	0.00043	8.203
0.09977	0.00077	8.784	0.00092	8.701	0.00072	8.601	0.00057	8.509	0.00045	8.401	0.00074	8.291	0.00046	8.203
0.10093	0.00065	8.785	0.00081	8.700	0.00062	8.601	0.00068	8.508	0.00051	8.400	0.00080	8.291	0.00044	8.204
0.10209	0.00060	8.785	0.00087	8.701	0.00069	8.601	0.00046	8.507	0.00052	8.401	0.00067	8.290	0.00041	8.203
0.10328	0.00068	8.784	0.00083	8.701	0.00079	8.602	0.00061	8.509	0.00058	8.400	0.00059	8.290	0.00056	8.202
0.10447	0.00080	8.783	0.00088	8.702	0.00076	8.602	0.00037	8.507	0.00055	8.399	0.00068	8.290	0.00073	8.203
0.10568	0.00086	8.784	0.00089	8.700	0.00070	8.602	0.00068	8.507	0.00050	8.400	0.00065	8.290	0.00078	8.203
0.10691	0.00082	8.784	0.00106	8.701	0.00073	8.601	0.00051	8.508	0.00047	8.400	0.00055	8.291	0.00081	8.202
0.10814	0.00075	8.785	0.00109	8.702	0.00077	8.601	0.00055	8.507	0.00058	8.400	0.00056	8.290	0.00085	8.202
0.10940	0.00080	8.784	0.00102	8.701	0.00084	8.602	0.00040	8.507	0.00071	8.398	0.00066	8.291	0.00083	8.203
0.11066	0.00102	8.785	0.00093	8.701	0.00096	8.601	0.00046	8.506	0.00062	8.399	0.00069	8.291	0.00074	8.202
0.11194	0.00112	8.784	0.00104	8.703	0.00112	8.603	0.00039	8.508	0.00069	8.399	0.00084	8.291	0.00075	8.203
0.11324	0.00111	8.784	0.00089	8.703	0.00116	8.604	0.00061	8.507	0.00064	8.401	0.00094	8.291	0.00084	8.203
0.11455	0.00105	8.783	0.00084	8.703	0.00111	8.604	0.00054	8.506	0.00053	8.402	0.00092	8.291	0.00080	8.203
0.11588	0.00094	8.783	0.00094	8.703	0.00111	8.603	0.00048	8.504	0.00065	8.400	0.00096	8.291	0.00072	8.203
0.11722	0.00106	8.784	0.00105	8.703	0.00117	8.603	0.00037	8.506	0.00054	8.402	0.00100	8.291	0.00079	8.203
0.11858	0.00107	8.784	0.00100	8.702	0.00118	8.603	0.00060	8.504	0.00063	8.401	0.00108	8.292	0.00088	8.203
0.11995	0.00113	8.784	0.00105	8.702	0.00120	8.604	0.00085	8.504	0.00081	8.401	0.00104	8.290	0.00085	8.203
0.12134	0.00119	8.783	0.00108	8.703	0.00132	8.605	0.00068	8.506	0.00067	8.401	0.00096	8.290	0.00081	8.204
0.12274	0.00120	8.783	0.00117	8.703	0.00135	8.605	0.00063	8.505	0.00071	8.401	0.00103	8.291	0.00076	8.203
0.12417	0.00110	8.783	0.00122	8.702	0.00127	8.604	0.00084	8.505	0.00057	8.401	0.00117	8.291	0.00073	8.203
0.12560	0.00113	8.783	0.00116	8.702	0.00119	8.603	0.00078	8.505	0.00075	8.401	0.00105	8.291	0.00075	8.202
0.12706	0.00113	8.784	0.00120	8.702	0.00114	8.604	0.00081	8.505	0.00074	8.401	0.00096	8.292	0.00075	8.202
0.12853	0.00118	8.783	0.00124	8.701	0.00121	8.604	0.00070	8.505	0.00094	8.401	0.00096	8.292	0.00071	8.203
0.13002	0.00132	8.784	0.00114	8.702	0.00124	8.604	0.00075	8.504	0.00090	8.401	0.00099	8.292	0.00065	8.202
0.13152	0.00130	8.784	0.00114	8.701	0.00117	8.604	0.00081	8.504	0.00081	8.400	0.00100	8.292	0.00054	8.202
0.13305	0.00134	8.784	0.00126	8.701	0.00118	8.603	0.00073	8.504	0.00060	8.400	0.00107	8.291	0.00051	8.201
0.13459	0.00138	8.784	0.00144	8.702	0.00122	8.604	0.00092	8.503	0.00087	8.401	0.00098	8.291	0.00058	8.201
0.13614	0.00158	8.784	0.00141	8.702	0.00125	8.604	0.00091	8.503	0.00095	8.401	0.00111	8.291	0.00067	8.201
0.13772	0.00167	8.784	0.00146	8.702	0.00124	8.603	0.00091	8.504	0.00096	8.401	0.00124	8.291	0.00074	8.201
0.13932	0.00164	8.784	0.00142	8.701	0.00124	8.603	0.00096	8.504	0.00095	8.402	0.00117	8.292	0.00080	8.202
0.14093	0.00173	8.784	0.00148	8.702	0.00117	8.604	0.00106	8.504	0.00104	8.402	0.00123	8.292	0.00080	8.202
0.14256	0.00168	8.784	0.00143	8.702	0.00120	8.604	0.00124	8.505	0.00099	8.402	0.00129	8.292	0.00080	8.201

0.14421	0.00167	8.783	0.00144	8.702	0.00140	8.604	0.00109	8.505	0.00111	8.402	0.00110	8.292	0.00079	8.201
0.14588	0.00178	8.784	0.00146	8.701	0.00153	8.604	0.00108	8.505	0.00128	8.402	0.00106	8.292	0.00078	8.201
0.14757	0.00180	8.784	0.00158	8.701	0.00164	8.603	0.00113	8.504	0.00133	8.402	0.00117	8.292	0.00086	8.201
0.14928	0.00173	8.784	0.00167	8.702	0.00175	8.603	0.00138	8.505	0.00138	8.402	0.00112	8.291	0.00087	8.201
0.15101	0.00180	8.784	0.00162	8.701	0.00172	8.604	0.00150	8.506	0.00142	8.402	0.00113	8.292	0.00074	8.200
0.15276	0.00189	8.785	0.00161	8.701	0.00174	8.604	0.00108	8.506	0.00132	8.402	0.00115	8.292	0.00074	8.200
0.15453	0.00198	8.785	0.00165	8.701	0.00186	8.604	0.00135	8.506	0.00119	8.401	0.00120	8.291	0.00086	8.200
0.15631	0.00198	8.784	0.00174	8.701	0.00196	8.604	0.00125	8.506	0.00131	8.402	0.00132	8.292	0.00099	8.201
0.15812	0.00207	8.784	0.00180	8.702	0.00196	8.603	0.00124	8.507	0.00146	8.404	0.00122	8.292	0.00106	8.201
0.15996	0.00214	8.784	0.00177	8.701	0.00195	8.603	0.00136	8.507	0.00136	8.403	0.00116	8.291	0.00102	8.200
0.16181	0.00211	8.783	0.00172	8.701	0.00189	8.603	0.00136	8.508	0.00143	8.403	0.00121	8.291	0.00104	8.200
0.16368	0.00219	8.784	0.00174	8.701	0.00175	8.603	0.00163	8.508	0.00131	8.403	0.00124	8.291	0.00114	8.200
0.16558	0.00234	8.784	0.00176	8.700	0.00171	8.603	0.00165	8.508	0.00143	8.403	0.00121	8.291	0.00113	8.201
0.16749	0.00227	8.784	0.00189	8.700	0.00180	8.604	0.00173	8.509	0.00136	8.404	0.00139	8.292	0.00113	8.201
0.16943	0.00225	8.784	0.00197	8.700	0.00189	8.603	0.00177	8.507	0.00145	8.403	0.00146	8.292	0.00114	8.200
0.17140	0.00224	8.784	0.00191	8.699	0.00196	8.603	0.00171	8.507	0.00162	8.404	0.00154	8.292	0.00123	8.200
0.17338	0.00223	8.785	0.00192	8.699	0.00206	8.603	0.00174	8.507	0.00166	8.405	0.00172	8.292	0.00127	8.200
0.17539	0.00225	8.785	0.00197	8.700	0.00210	8.604	0.00205	8.507	0.00173	8.405	0.00172	8.291	0.00121	8.200
0.17742	0.00227	8.785	0.00213	8.700	0.00210	8.603	0.00162	8.507	0.00173	8.404	0.00169	8.292	0.00117	8.200
0.17947	0.00227	8.785	0.00212	8.700	0.00208	8.603	0.00184	8.507	0.00189	8.405	0.00179	8.292	0.00128	8.200
0.18155	0.00247	8.784	0.00212	8.700	0.00214	8.603	0.00186	8.507	0.00181	8.404	0.00174	8.292	0.00137	8.200
0.18365	0.00267	8.785	0.00211	8.700	0.00222	8.604	0.00202	8.507	0.00161	8.404	0.00183	8.291	0.00132	8.200
0.18578	0.00274	8.785	0.00216	8.700	0.00218	8.604	0.00204	8.508	0.00176	8.404	0.00188	8.292	0.00138	8.200
0.18793	0.00268	8.784	0.00248	8.700	0.00222	8.604	0.00206	8.507	0.00167	8.405	0.00187	8.292	0.00148	8.200
0.19011	0.00266	8.785	0.00249	8.700	0.00240	8.604	0.00216	8.508	0.00183	8.406	0.00177	8.291	0.00153	8.200
0.19231	0.00277	8.785	0.00252	8.700	0.00243	8.603	0.00223	8.508	0.00177	8.405	0.00185	8.292	0.00154	8.200
0.19454	0.00292	8.785	0.00258	8.700	0.00236	8.603	0.00232	8.508	0.00195	8.405	0.00188	8.292	0.00152	8.200
0.19679	0.00295	8.784	0.00260	8.701	0.00234	8.603	0.00231	8.507	0.00203	8.404	0.00189	8.291	0.00150	8.200
0.19907	0.00300	8.785	0.00251	8.700	0.00246	8.602	0.00247	8.507	0.00200	8.404	0.00202	8.291	0.00155	8.200
0.20137	0.00315	8.785	0.00264	8.700	0.00261	8.602	0.00244	8.507	0.00185	8.404	0.00188	8.292	0.00165	8.200
0.20370	0.00318	8.785	0.00272	8.700	0.00269	8.602	0.00251	8.507	0.00200	8.404	0.00183	8.292	0.00180	8.200
0.20606	0.00329	8.784	0.00280	8.700	0.00263	8.602	0.00256	8.507	0.00220	8.403	0.00190	8.292	0.00187	8.199
0.20845	0.00323	8.785	0.00279	8.700	0.00264	8.602	0.00273	8.507	0.00217	8.404	0.00194	8.292	0.00181	8.199
0.21086	0.00334	8.785	0.00293	8.700	0.00273	8.603	0.00267	8.506	0.00199	8.405	0.00189	8.292	0.00180	8.199
0.21330	0.00353	8.785	0.00300	8.700	0.00285	8.603	0.00279	8.507	0.00242	8.405	0.00199	8.292	0.00187	8.199
0.21577	0.00365	8.785	0.00317	8.700	0.00294	8.603	0.00302	8.507	0.00235	8.404	0.00207	8.292	0.00189	8.199
0.21827	0.00367	8.785	0.00325	8.700	0.00297	8.603	0.00299	8.507	0.00231	8.405	0.00206	8.291	0.00186	8.198
0.22080	0.00385	8.785	0.00339	8.700	0.00297	8.604	0.00303	8.508	0.00249	8.404	0.00210	8.291	0.00185	8.198
0.22336	0.00383	8.785	0.00357	8.700	0.00302	8.603	0.00298	8.507	0.00244	8.404	0.00227	8.291	0.00183	8.199
0.22594	0.00391	8.785	0.00372	8.699	0.00321	8.603	0.00301	8.506	0.00254	8.404	0.00240	8.291	0.00183	8.200
0.22856	0.00395	8.785	0.00377	8.700	0.00340	8.604	0.00308	8.506	0.00265	8.404	0.00253	8.292	0.00186	8.199
0.23121	0.00414	8.785	0.00389	8.701	0.00350	8.604	0.00318	8.506	0.00276	8.405	0.00252	8.291	0.00191	8.199
0.23388	0.00432	8.785	0.00396	8.701	0.00366	8.605	0.00302	8.506	0.00298	8.405	0.00255	8.292	0.00197	8.200
0.23659	0.00430	8.785	0.00402	8.700	0.00378	8.605	0.00318	8.506	0.00284	8.405	0.00268	8.292	0.00197	8.199
0.23933	0.00438	8.785	0.00420	8.700	0.00379	8.604	0.00324	8.507	0.00293	8.405	0.00280	8.292	0.00188	8.199
0.24210	0.00453	8.785	0.00422	8.700	0.00388	8.604	0.00328	8.507	0.00298	8.405	0.00277	8.292	0.00182	8.199
0.24491	0.00455	8.785	0.00443	8.700	0.00396	8.604	0.00333	8.506	0.00317	8.405	0.00282	8.292	0.00194	8.199

0.24774	0.00469	8.785	0.00451	8.701	0.00387	8.604	0.00332	8.507	0.00310	8.405	0.00290	8.291	0.00211	8.199
0.25061	0.00479	8.785	0.00451	8.701	0.00399	8.604	0.00368	8.507	0.00332	8.405	0.00301	8.291	0.00225	8.199
0.25351	0.00491	8.785	0.00453	8.701	0.00427	8.604	0.00373	8.507	0.00326	8.406	0.00302	8.292	0.00232	8.199
0.25645	0.00502	8.785	0.00473	8.701	0.00435	8.604	0.00384	8.507	0.00335	8.405	0.00306	8.292	0.00230	8.199
0.25942	0.00508	8.785	0.00479	8.701	0.00446	8.604	0.00391	8.507	0.00363	8.405	0.00319	8.292	0.00217	8.200
0.26242	0.00523	8.785	0.00480	8.701	0.00469	8.604	0.00390	8.506	0.00372	8.405	0.00335	8.292	0.00220	8.199
0.26546	0.00552	8.785	0.00503	8.701	0.00469	8.603	0.00408	8.507	0.00354	8.405	0.00341	8.292	0.00245	8.199
0.26853	0.00554	8.785	0.00510	8.701	0.00472	8.604	0.00401	8.506	0.00349	8.405	0.00326	8.292	0.00254	8.199
0.27164	0.00567	8.785	0.00514	8.701	0.00481	8.604	0.00401	8.507	0.00365	8.405	0.00334	8.292	0.00262	8.199
0.27479	0.00588	8.785	0.00538	8.700	0.00494	8.604	0.00420	8.506	0.00399	8.405	0.00349	8.292	0.00279	8.199
0.27797	0.00593	8.785	0.00564	8.700	0.00511	8.604	0.00410	8.506	0.00366	8.405	0.00351	8.292	0.00287	8.199
0.28119	0.00616	8.785	0.00567	8.700	0.00528	8.604	0.00426	8.506	0.00378	8.405	0.00361	8.292	0.00298	8.200
0.28445	0.00621	8.785	0.00567	8.700	0.00542	8.604	0.00461	8.506	0.00374	8.405	0.00379	8.291	0.00314	8.200
0.28774	0.00633	8.785	0.00585	8.700	0.00552	8.604	0.00464	8.506	0.00394	8.405	0.00390	8.291	0.00325	8.199
0.29107	0.00649	8.785	0.00607	8.700	0.00555	8.604	0.00459	8.506	0.00417	8.405	0.00392	8.292	0.00330	8.200
0.29444	0.00672	8.785	0.00587	8.700	0.00553	8.604	0.00469	8.506	0.00409	8.405	0.00403	8.291	0.00327	8.199
0.29785	0.00684	8.784	0.00602	8.700	0.00579	8.604	0.00485	8.506	0.00420	8.405	0.00427	8.291	0.00326	8.199
0.30130	0.00705	8.785	0.00621	8.700	0.00606	8.604	0.00504	8.506	0.00430	8.405	0.00432	8.291	0.00340	8.199
0.30479	0.00713	8.785	0.00644	8.700	0.00608	8.604	0.00517	8.506	0.00473	8.405	0.00427	8.292	0.00356	8.199
0.30832	0.00728	8.785	0.00658	8.700	0.00616	8.604	0.00538	8.506	0.00481	8.405	0.00437	8.292	0.00362	8.199
0.31189	0.00747	8.785	0.00649	8.701	0.00639	8.604	0.00550	8.506	0.00494	8.405	0.00432	8.291	0.00368	8.199
0.31550	0.00764	8.785	0.00682	8.700	0.00659	8.603	0.00552	8.505	0.00506	8.404	0.00434	8.291	0.00374	8.199
0.31915	0.00781	8.785	0.00701	8.700	0.00666	8.603	0.00594	8.506	0.00501	8.404	0.00441	8.291	0.00382	8.199
0.32285	0.00802	8.785	0.00722	8.700	0.00669	8.604	0.00565	8.506	0.00524	8.405	0.00457	8.291	0.00388	8.199
0.32659	0.00831	8.785	0.00724	8.700	0.00688	8.604	0.00584	8.506	0.00521	8.405	0.00486	8.291	0.00392	8.199
0.33037	0.00845	8.785	0.00755	8.700	0.00721	8.604	0.00602	8.506	0.00528	8.404	0.00497	8.291	0.00405	8.199
0.33420	0.00870	8.785	0.00780	8.700	0.00738	8.604	0.00627	8.506	0.00527	8.405	0.00511	8.291	0.00419	8.199
0.33806	0.00904	8.785	0.00823	8.700	0.00746	8.604	0.00643	8.506	0.00566	8.405	0.00524	8.291	0.00425	8.199
0.34198	0.00911	8.785	0.00837	8.700	0.00764	8.604	0.00635	8.507	0.00566	8.405	0.00529	8.291	0.00433	8.199
0.34594	0.00922	8.784	0.00852	8.700	0.00778	8.604	0.00645	8.506	0.00586	8.405	0.00537	8.291	0.00441	8.199
0.34995	0.00944	8.785	0.00870	8.700	0.00788	8.604	0.00658	8.506	0.00594	8.405	0.00555	8.291	0.00451	8.199
0.35400	0.00980	8.784	0.00904	8.700	0.00802	8.604	0.00688	8.506	0.00607	8.405	0.00564	8.291	0.00471	8.199
0.35810	0.01009	8.785	0.00922	8.700	0.00829	8.604	0.00713	8.506	0.00628	8.405	0.00594	8.291	0.00488	8.199
0.36224	0.01028	8.785	0.00938	8.700	0.00845	8.604	0.00730	8.505	0.00626	8.405	0.00609	8.291	0.00504	8.199
0.36644	0.01043	8.785	0.00963	8.700	0.00863	8.604	0.00722	8.505	0.00646	8.405	0.00609	8.291	0.00523	8.199
0.37068	0.01078	8.785	0.00977	8.700	0.00876	8.604	0.00764	8.506	0.00656	8.405	0.00620	8.291	0.00528	8.199
0.37497	0.01082	8.785	0.00995	8.700	0.00898	8.604	0.00779	8.506	0.00659	8.405	0.00632	8.291	0.00533	8.199
0.37931	0.01125	8.785	0.01014	8.700	0.00912	8.604	0.00795	8.506	0.00696	8.405	0.00656	8.291	0.00556	8.199
0.38371	0.01138	8.784	0.01037	8.699	0.00926	8.604	0.00827	8.506	0.00723	8.405	0.00673	8.291	0.00572	8.199
0.38815	0.01169	8.784	0.01054	8.699	0.00962	8.604	0.00829	8.506	0.00728	8.405	0.00696	8.291	0.00575	8.199
0.39264	0.01192	8.784	0.01073	8.699	0.00999	8.604	0.00853	8.506	0.00775	8.405	0.00705	8.291	0.00592	8.199
0.39719	0.01221	8.784	0.01108	8.699	0.01013	8.604	0.00859	8.506	0.00799	8.405	0.00723	8.291	0.00627	8.199
0.40179	0.01243	8.784	0.01130	8.699	0.01023	8.604	0.00875	8.506	0.00783	8.405	0.00743	8.291	0.00639	8.199
0.40644	0.01282	8.784	0.01170	8.699	0.01051	8.604	0.00902	8.506	0.00835	8.405	0.00743	8.291	0.00643	8.199
0.41115	0.01302	8.784	0.01184	8.699	0.01068	8.604	0.00931	8.505	0.00857	8.405	0.00753	8.291	0.00663	8.199
0.41591	0.01331	8.784	0.01212	8.699	0.01088	8.604	0.00941	8.506	0.00869	8.405	0.00778	8.291	0.00687	8.199
0.42073	0.01362	8.784	0.01239	8.699	0.01116	8.604	0.00978	8.505	0.00850	8.405	0.00797	8.291	0.00707	8.199

0.42560	0.01400	8.784	0.01281	8.699	0.01148	8.604	0.00998	8.505	0.00897	8.405	0.00808	8.291	0.00730	8.199
0.43053	0.01441	8.784	0.01301	8.699	0.01169	8.604	0.01020	8.505	0.00912	8.404	0.00817	8.291	0.00748	8.199
0.43551	0.01469	8.784	0.01334	8.699	0.01194	8.604	0.01049	8.506	0.00946	8.404	0.00840	8.291	0.00761	8.199
0.44055	0.01501	8.784	0.01382	8.699	0.01234	8.604	0.01059	8.506	0.00986	8.405	0.00859	8.291	0.00774	8.199
0.44566	0.01545	8.784	0.01405	8.699	0.01263	8.604	0.01052	8.505	0.01008	8.405	0.00886	8.291	0.00790	8.199
0.45082	0.01576	8.784	0.01431	8.699	0.01289	8.604	0.01103	8.505	0.01012	8.404	0.00907	8.291	0.00817	8.199
0.45604	0.01629	8.784	0.01480	8.699	0.01328	8.604	0.01139	8.505	0.01020	8.405	0.00941	8.291	0.00836	8.199
0.46132	0.01652	8.784	0.01505	8.699	0.01357	8.604	0.01163	8.505	0.01058	8.405	0.00957	8.291	0.00859	8.199
0.46666	0.01688	8.784	0.01524	8.699	0.01391	8.604	0.01201	8.505	0.01073	8.405	0.00977	8.291	0.00881	8.199
0.47206	0.01733	8.784	0.01571	8.699	0.01413	8.604	0.01200	8.505	0.01098	8.404	0.00997	8.291	0.00896	8.199
0.47753	0.01773	8.784	0.01606	8.699	0.01431	8.604	0.01256	8.505	0.01104	8.404	0.01018	8.291	0.00913	8.199
0.48306	0.01801	8.784	0.01655	8.699	0.01453	8.604	0.01285	8.505	0.01130	8.404	0.01040	8.291	0.00933	8.199
0.48865	0.01851	8.784	0.01688	8.699	0.01487	8.604	0.01277	8.505	0.01141	8.404	0.01085	8.290	0.00955	8.199
0.49431	0.01906	8.784	0.01731	8.699	0.01524	8.604	0.01352	8.504	0.01155	8.404	0.01104	8.291	0.00971	8.199
0.50003	0.01971	8.784	0.01755	8.699	0.01561	8.603	0.01345	8.504	0.01195	8.404	0.01116	8.290	0.00998	8.199
0.50582	0.02008	8.784	0.01801	8.699	0.01592	8.603	0.01396	8.505	0.01221	8.404	0.01139	8.290	0.01029	8.199
0.51168	0.02039	8.784	0.01833	8.699	0.01617	8.603	0.01422	8.505	0.01249	8.404	0.01169	8.291	0.01052	8.199
0.51761	0.02080	8.783	0.01881	8.699	0.01660	8.603	0.01469	8.504	0.01301	8.404	0.01187	8.291	0.01074	8.200
0.52360	0.02132	8.783	0.01939	8.698	0.01709	8.603	0.01490	8.505	0.01324	8.404	0.01213	8.290	0.01104	8.200
0.52966	0.02181	8.783	0.01985	8.698	0.01751	8.603	0.01539	8.505	0.01356	8.404	0.01239	8.291	0.01136	8.199
0.53580	0.02238	8.783	0.02013	8.699	0.01797	8.603	0.01559	8.504	0.01372	8.404	0.01273	8.291	0.01162	8.199
0.54200	0.02284	8.783	0.02053	8.699	0.01832	8.603	0.01592	8.504	0.01414	8.404	0.01296	8.291	0.01178	8.199
0.54828	0.02329	8.783	0.02104	8.698	0.01858	8.603	0.01636	8.505	0.01442	8.404	0.01333	8.291	0.01211	8.199
0.55463	0.02382	8.783	0.02155	8.698	0.01903	8.603	0.01669	8.504	0.01483	8.404	0.01350	8.291	0.01255	8.199
0.56105	0.02436	8.783	0.02208	8.698	0.01963	8.603	0.01729	8.504	0.01497	8.404	0.01365	8.291	0.01266	8.199
0.56754	0.02513	8.783	0.02270	8.698	0.02003	8.603	0.01740	8.504	0.01565	8.404	0.01400	8.291	0.01278	8.199
0.57412	0.02568	8.783	0.02313	8.698	0.02035	8.603	0.01792	8.504	0.01591	8.404	0.01428	8.291	0.01310	8.199
0.58076	0.02623	8.783	0.02357	8.698	0.02087	8.603	0.01836	8.504	0.01634	8.404	0.01475	8.291	0.01348	8.200
0.58749	0.02692	8.783	0.02402	8.698	0.02131	8.603	0.01866	8.504	0.01673	8.403	0.01530	8.291	0.01373	8.200
0.59429	0.02753	8.783	0.02469	8.698	0.02188	8.603	0.01903	8.504	0.01709	8.404	0.01563	8.291	0.01408	8.199
0.60117	0.02820	8.783	0.02520	8.698	0.02243	8.603	0.01953	8.504	0.01774	8.404	0.01615	8.291	0.01457	8.199
0.60814	0.02876	8.782	0.02599	8.698	0.02303	8.603	0.02004	8.504	0.01791	8.404	0.01649	8.291	0.01501	8.199
0.61518	0.02953	8.782	0.02632	8.698	0.02347	8.603	0.02033	8.504	0.01842	8.404	0.01680	8.291	0.01541	8.199
0.62230	0.03019	8.782	0.02703	8.698	0.02388	8.602	0.02111	8.504	0.01885	8.404	0.01701	8.291	0.01567	8.199
0.62951	0.03093	8.782	0.02772	8.698	0.02437	8.602	0.02142	8.504	0.01923	8.404	0.01730	8.291	0.01582	8.199
0.63680	0.03164	8.782	0.02818	8.698	0.02501	8.602	0.02212	8.504	0.01974	8.404	0.01778	8.291	0.01615	8.199
0.64417	0.03231	8.782	0.02889	8.698	0.02566	8.602	0.02220	8.503	0.02017	8.403	0.01830	8.291	0.01649	8.199
0.65163	0.03303	8.782	0.02960	8.698	0.02612	8.602	0.02314	8.503	0.02077	8.404	0.01878	8.290	0.01677	8.199
0.65917	0.03371	8.782	0.03032	8.698	0.02653	8.602	0.02378	8.504	0.02094	8.403	0.01925	8.290	0.01714	8.199
0.66681	0.03461	8.782	0.03092	8.697	0.02718	8.602	0.02438	8.504	0.02160	8.404	0.01963	8.290	0.01756	8.199
0.67453	0.03547	8.782	0.03178	8.697	0.02797	8.602	0.02455	8.503	0.02197	8.403	0.02008	8.290	0.01806	8.199
0.68234	0.03621	8.782	0.03258	8.697	0.02869	8.602	0.02520	8.503	0.02265	8.403	0.02058	8.290	0.01851	8.199
0.69024	0.03707	8.782	0.03325	8.697	0.02936	8.602	0.02596	8.503	0.02327	8.403	0.02093	8.290	0.01888	8.199
0.69823	0.03793	8.781	0.03412	8.697	0.03002	8.602	0.02648	8.503	0.02345	8.403	0.02146	8.290	0.01932	8.199
0.70632	0.03901	8.781	0.03489	8.697	0.03065	8.602	0.02715	8.503	0.02435	8.403	0.02204	8.290	0.01980	8.199
0.71450	0.03980	8.781	0.03557	8.697	0.03137	8.602	0.02748	8.503	0.02469	8.403	0.02247	8.290	0.02026	8.199
0.72277	0.04066	8.781	0.03645	8.697	0.03209	8.602	0.02813	8.503	0.02540	8.403	0.02298	8.290	0.02071	8.199

0.73114	0.04169	8.781	0.03742	8.697	0.03282	8.602	0.02871	8.503	0.02616	8.403	0.02356	8.290	0.02113	8.198
0.73961	0.04256	8.781	0.03822	8.697	0.03351	8.602	0.02935	8.503	0.02686	8.403	0.02401	8.290	0.02158	8.198
0.74817	0.04358	8.781	0.03921	8.697	0.03423	8.602	0.03038	8.503	0.02721	8.403	0.02451	8.290	0.02210	8.198
0.75683	0.04455	8.781	0.04015	8.697	0.03503	8.601	0.03096	8.503	0.02794	8.403	0.02522	8.290	0.02255	8.198
0.76560	0.04569	8.781	0.04097	8.697	0.03588	8.601	0.03185	8.503	0.02835	8.403	0.02592	8.290	0.02305	8.198
0.77446	0.04675	8.781	0.04165	8.697	0.03675	8.601	0.03267	8.503	0.02890	8.403	0.02636	8.290	0.02356	8.198
0.78343	0.04780	8.780	0.04266	8.697	0.03755	8.601	0.03339	8.503	0.02976	8.403	0.02689	8.290	0.02406	8.198
0.79250	0.04888	8.780	0.04379	8.696	0.03850	8.601	0.03421	8.503	0.03018	8.402	0.02742	8.290	0.02460	8.197
0.80168	0.04993	8.780	0.04486	8.696	0.03940	8.601	0.03483	8.502	0.03148	8.402	0.02805	8.290	0.02499	8.197
0.81096	0.05114	8.781	0.04580	8.696	0.04008	8.601	0.03559	8.502	0.03200	8.403	0.02894	8.290	0.02532	8.197
0.82035	0.05232	8.781	0.04668	8.696	0.04100	8.601	0.03646	8.502	0.03272	8.402	0.02959	8.290	0.02579	8.197
0.82985	0.05336	8.781	0.04800	8.696	0.04193	8.601	0.03711	8.502	0.03337	8.402	0.03007	8.290	0.02622	8.196
0.83946	0.05476	8.781	0.04897	8.696	0.04273	8.601	0.03834	8.502	0.03407	8.402	0.03079	8.290	0.02672	8.196
0.84918	0.05610	8.781	0.05007	8.696	0.04362	8.601	0.03920	8.502	0.03489	8.402	0.03168	8.290	0.02732	8.196
0.85901	0.05740	8.781	0.05106	8.696	0.04435	8.601	0.04022	8.502	0.03538	8.402	0.03254	8.290	0.02810	8.196
0.86896	0.05900	8.781	0.05225	8.696	0.04501	8.602	0.04103	8.502	0.03632	8.402	0.03322	8.289	0.02900	8.196
0.87902	0.06058	8.781	0.05367	8.696	0.04572	8.604	0.04224	8.502	0.03746	8.402	0.03386	8.289	0.02976	8.196
0.88920	0.06203	8.780	0.05499	8.696	0.04720	8.607	0.04302	8.502	0.03812	8.402	0.03465	8.289	0.03044	8.196
0.89950	0.06350	8.779	0.05596	8.695	0.04953	8.609	0.04393	8.502	0.03910	8.402	0.03536	8.289	0.03132	8.196
0.90991	0.06500	8.779	0.05742	8.695	0.05196	8.607	0.04480	8.502	0.03999	8.402	0.03633	8.289	0.03231	8.195
0.92045	0.06640	8.779	0.05886	8.695	0.05375	8.604	0.04590	8.502	0.04114	8.402	0.03717	8.289	0.03328	8.195
0.93111	0.06794	8.779	0.06015	8.695	0.05485	8.602	0.04679	8.502	0.04190	8.402	0.03792	8.289	0.03430	8.195
0.94189	0.06932	8.779	0.06155	8.695	0.05603	8.601	0.04783	8.502	0.04300	8.402	0.03901	8.289	0.03523	8.195
0.95280	0.07096	8.779	0.06303	8.695	0.05733	8.600	0.04901	8.502	0.04425	8.401	0.03996	8.289	0.03605	8.195
0.96383	0.07257	8.778	0.06467	8.695	0.05847	8.599	0.05038	8.502	0.04493	8.401	0.04070	8.289	0.03703	8.194
0.97499	0.07422	8.778	0.06599	8.694	0.05931	8.599	0.05128	8.501	0.04583	8.401	0.04152	8.289	0.03818	8.194
0.98628	0.07590	8.778	0.06752	8.694	0.06027	8.598	0.05281	8.501	0.04702	8.401	0.04240	8.289	0.03938	8.193
0.99770	0.07771	8.778	0.06887	8.694	0.06141	8.599	0.05392	8.501	0.04820	8.401	0.04351	8.289	0.04056	8.193
1.00925	0.07962	8.778	0.07068	8.694	0.06275	8.599	0.05499	8.501	0.04900	8.401	0.04450	8.288	0.04159	8.193
1.02094	0.08144	8.778	0.07233	8.694	0.06413	8.599	0.05635	8.501	0.05027	8.401	0.04549	8.288	0.04252	8.193
1.03276	0.08335	8.778	0.07383	8.694	0.06567	8.599	0.05764	8.501	0.05158	8.401	0.04629	8.288	0.04335	8.193
1.04472	0.08549	8.777	0.07568	8.694	0.06724	8.599	0.05889	8.500	0.05264	8.401	0.04761	8.288	0.04409	8.193
1.05682	0.08737	8.777	0.07745	8.693	0.06867	8.599	0.06028	8.500	0.05358	8.400	0.04892	8.288	0.04490	8.193
1.06905	0.08930	8.777	0.07918	8.693	0.07032	8.599	0.06157	8.500	0.05506	8.400	0.05009	8.288	0.04583	8.194
1.08143	0.09146	8.777	0.08093	8.693	0.07195	8.598	0.06240	8.499	0.05621	8.400	0.05120	8.287	0.04684	8.194
1.09396	0.09362	8.777	0.08285	8.693	0.07354	8.598	0.06365	8.499	0.05747	8.399	0.05213	8.287	0.04774	8.194
1.10662	0.09564	8.777	0.08456	8.693	0.07519	8.598	0.06478	8.499	0.05877	8.399	0.05323	8.287	0.04871	8.194
1.11944	0.09790	8.776	0.08655	8.692	0.07692	8.598	0.06523	8.499	0.06000	8.399	0.05429	8.286	0.04978	8.195
1.13240	0.10025	8.776	0.08861	8.692	0.07882	8.598	0.06565	8.501	0.06089	8.398	0.05558	8.286	0.05078	8.195
1.14551	0.10253	8.776	0.09054	8.692	0.08064	8.598	0.06568	8.507	0.06212	8.398	0.05667	8.285	0.05198	8.195
1.15878	0.10488	8.776	0.09248	8.692	0.08253	8.598	0.06921	8.516	0.06259	8.398	0.05762	8.284	0.05320	8.195
1.17220	0.10745	8.775	0.09446	8.692	0.08455	8.598	0.07637	8.517	0.06286	8.400	0.05858	8.283	0.05443	8.195
1.18577	0.10982	8.775	0.09604	8.692	0.08634	8.598	0.08253	8.510	0.06257	8.408	0.05917	8.282	0.05590	8.195
1.19950	0.11238	8.775	0.09785	8.694	0.08828	8.598	0.08355	8.501	0.06204	8.420	0.05979	8.281	0.05720	8.195
1.21339	0.11505	8.775	0.10075	8.697	0.09037	8.597	0.08393	8.497	0.06631	8.422	0.06160	8.279	0.05837	8.195
1.22744	0.11781	8.775	0.10487	8.700	0.09245	8.597	0.08423	8.497	0.07648	8.410	0.06366	8.278	0.05971	8.195
1.24165	0.12011	8.775	0.10919	8.697	0.09463	8.597	0.08496	8.497	0.08303	8.400	0.06566	8.279	0.06121	8.195

1.25603	0.12358	8.775	0.11222	8.693	0.09696	8.597	0.08630	8.497	0.08314	8.396	0.06823	8.281	0.06260	8.195
1.27057	0.12685	8.775	0.11425	8.691	0.09928	8.597	0.08836	8.497	0.08225	8.396	0.07065	8.281	0.06395	8.195
1.28529	0.12951	8.773	0.11599	8.690	0.10150	8.597	0.09009	8.497	0.08233	8.396	0.07280	8.281	0.06547	8.195
1.30017	0.13237	8.773	0.11835	8.689	0.10385	8.597	0.09196	8.498	0.08299	8.397	0.07496	8.281	0.06687	8.195
1.31522	0.13528	8.773	0.12060	8.689	0.10621	8.597	0.09443	8.498	0.08441	8.397	0.07693	8.281	0.06829	8.195
1.33045	0.13834	8.773	0.12304	8.689	0.10855	8.596	0.09630	8.498	0.08606	8.397	0.07902	8.280	0.06996	8.195
1.34586	0.14142	8.772	0.12584	8.689	0.11104	8.596	0.09861	8.498	0.08767	8.398	0.08064	8.277	0.07162	8.194
1.36144	0.14475	8.772	0.12860	8.689	0.11366	8.596	0.10086	8.498	0.08967	8.398	0.08275	8.277	0.07327	8.194
1.37721	0.14818	8.772	0.13179	8.689	0.11624	8.596	0.10285	8.498	0.09142	8.398	0.08568	8.279	0.07510	8.194
1.39316	0.15173	8.772	0.13500	8.689	0.11906	8.596	0.10536	8.497	0.09376	8.398	0.08814	8.281	0.07694	8.194
1.40929	0.15509	8.771	0.13815	8.689	0.12187	8.595	0.10751	8.497	0.09568	8.398	0.08982	8.281	0.07881	8.194
1.42561	0.15868	8.771	0.14117	8.688	0.12448	8.595	0.11003	8.497	0.09813	8.398	0.09127	8.282	0.08073	8.194
1.44212	0.16250	8.771	0.14443	8.688	0.12721	8.595	0.11295	8.497	0.10025	8.398	0.09269	8.283	0.08255	8.194
1.45881	0.16626	8.770	0.14777	8.688	0.13024	8.595	0.11541	8.497	0.10271	8.397	0.09446	8.283	0.08436	8.194
1.47571	0.17006	8.770	0.15119	8.688	0.13340	8.594	0.11821	8.497	0.10492	8.397	0.09648	8.283	0.08630	8.193
1.49279	0.17411	8.769	0.15484	8.687	0.13652	8.594	0.12045	8.497	0.10780	8.397	0.09874	8.284	0.08833	8.193
1.51008	0.17820	8.769	0.15811	8.687	0.13965	8.594	0.12372	8.496	0.11000	8.397	0.10087	8.284	0.09026	8.193
1.52757	0.18230	8.769	0.16173	8.687	0.14294	8.594	0.12658	8.496	0.11259	8.397	0.10325	8.284	0.09211	8.193
1.54525	0.18624	8.768	0.16555	8.687	0.14620	8.593	0.12949	8.496	0.11539	8.397	0.10553	8.284	0.09413	8.192
1.56315	0.19063	8.768	0.16954	8.686	0.14947	8.593	0.13260	8.496	0.11792	8.397	0.10803	8.284	0.09613	8.192
1.58125	0.19525	8.768	0.17332	8.686	0.15305	8.593	0.13563	8.496	0.12051	8.397	0.11052	8.284	0.09808	8.192
1.59956	0.19969	8.767	0.17747	8.686	0.15658	8.592	0.13873	8.496	0.12368	8.396	0.11275	8.283	0.10021	8.192
1.61808	0.20436	8.767	0.18155	8.685	0.16017	8.592	0.14173	8.495	0.12637	8.396	0.11506	8.283	0.10248	8.192
1.63682	0.20911	8.767	0.18566	8.685	0.16370	8.592	0.14510	8.495	0.12913	8.396	0.11752	8.283	0.10464	8.191
1.65577	0.21393	8.767	0.19009	8.685	0.16710	8.592	0.14841	8.495	0.13235	8.396	0.12035	8.283	0.10671	8.191
1.67494	0.21894	8.767	0.19459	8.684	0.17061	8.591	0.15177	8.495	0.13550	8.396	0.12298	8.283	0.10875	8.190
1.69434	0.22409	8.766	0.19901	8.684	0.17398	8.592	0.15509	8.495	0.13840	8.396	0.12556	8.283	0.11037	8.190
1.71396	0.22962	8.766	0.20369	8.684	0.17733	8.592	0.15905	8.494	0.14151	8.395	0.12848	8.283	0.11151	8.189
1.73380	0.23508	8.765	0.20854	8.683	0.18136	8.594	0.16260	8.494	0.14503	8.395	0.13144	8.283	0.11259	8.189
1.75388	0.24074	8.764	0.21326	8.683	0.18648	8.597	0.16638	8.494	0.14836	8.395	0.13436	8.283	0.11446	8.189
1.77419	0.24624	8.763	0.21797	8.683	0.19329	8.598	0.17014	8.494	0.15159	8.395	0.13743	8.283	0.11779	8.190
1.79473	0.25174	8.763	0.22319	8.682	0.20066	8.596	0.17419	8.493	0.15502	8.395	0.14055	8.282	0.12160	8.190
1.81552	0.25758	8.762	0.22872	8.682	0.20618	8.592	0.17795	8.493	0.15880	8.394	0.14380	8.282	0.12573	8.190
1.83654	0.26329	8.762	0.23395	8.681	0.21050	8.590	0.18236	8.493	0.16223	8.394	0.14724	8.282	0.13142	8.189
1.85780	0.26958	8.761	0.23898	8.681	0.21439	8.588	0.18656	8.492	0.16641	8.394	0.15062	8.282	0.13755	8.189
1.87932	0.27583	8.761	0.24480	8.680	0.21818	8.587	0.19085	8.492	0.16965	8.394	0.15420	8.282	0.14205	8.187
1.90108	0.28202	8.760	0.25031	8.680	0.22252	8.587	0.19512	8.492	0.17386	8.393	0.15752	8.281	0.14586	8.184
1.92309	0.28867	8.759	0.25607	8.680	0.22735	8.587	0.19937	8.491	0.17785	8.393	0.16129	8.281	0.15017	8.183
1.94536	0.29528	8.759	0.26222	8.679	0.23235	8.587	0.20447	8.491	0.18193	8.393	0.16507	8.281	0.15437	8.183
1.96789	0.30186	8.758	0.26821	8.679	0.23763	8.586	0.20854	8.490	0.18637	8.392	0.16877	8.281	0.15740	8.184
1.99067	0.30892	8.758	0.27448	8.678	0.24313	8.586	0.21327	8.490	0.19042	8.392	0.17282	8.280	0.15955	8.185
2.01372	0.31611	8.757	0.28078	8.678	0.24864	8.586	0.21774	8.490	0.19511	8.392	0.17679	8.280	0.16215	8.186
2.03704	0.32334	8.757	0.28706	8.677	0.25426	8.585	0.22252	8.490	0.19912	8.391	0.18068	8.280	0.16532	8.186
2.06063	0.33104	8.756	0.29353	8.677	0.25988	8.585	0.22687	8.491	0.20341	8.391	0.18460	8.279	0.16894	8.186
2.08449	0.33852	8.755	0.30032	8.677	0.26590	8.585	0.23273	8.492	0.20784	8.391	0.18825	8.279	0.17262	8.187
2.10863	0.34666	8.755	0.30730	8.676	0.27206	8.584	0.23903	8.492	0.21204	8.392	0.19190	8.278	0.17644	8.187
2.13304	0.35462	8.754	0.31439	8.675	0.27802	8.584	0.24611	8.491	0.21663	8.393	0.19509	8.278	0.18034	8.187

2.15774	0.36280	8.753	0.32157	8.675	0.28447	8.583	0.25179	8.490	0.22274	8.393	0.19855	8.280	0.18424	8.187
2.18273	0.37103	8.753	0.32914	8.674	0.29103	8.583	0.25743	8.489	0.22910	8.392	0.20333	8.282	0.18816	8.186
2.20800	0.37977	8.752	0.33691	8.674	0.29769	8.583	0.26326	8.489	0.23443	8.391	0.20981	8.283	0.19208	8.186
2.23357	0.38872	8.751	0.34469	8.673	0.30487	8.583	0.26905	8.488	0.24032	8.390	0.21604	8.282	0.19594	8.186
2.25944	0.39758	8.750	0.35274	8.672	0.31230	8.582	0.27513	8.488	0.24545	8.390	0.22173	8.281	0.19964	8.186
2.28560	0.40668	8.750	0.36070	8.672	0.31957	8.582	0.28155	8.488	0.25095	8.390	0.22698	8.280	0.20344	8.186
2.31206	0.41607	8.749	0.36877	8.671	0.32693	8.581	0.28817	8.488	0.25652	8.389	0.23218	8.279	0.20781	8.187
2.33884	0.42580	8.748	0.37743	8.671	0.33447	8.581	0.29488	8.488	0.26232	8.389	0.23697	8.279	0.21290	8.189
2.36592	0.43561	8.747	0.38604	8.671	0.34217	8.580	0.30210	8.488	0.26833	8.390	0.24201	8.278	0.21882	8.189
2.39332	0.44556	8.746	0.39537	8.670	0.35014	8.580	0.31042	8.488	0.27399	8.391	0.24707	8.277	0.22510	8.189
2.42103	0.45583	8.745	0.40526	8.670	0.35816	8.579	0.31834	8.486	0.28039	8.392	0.25139	8.277	0.23107	8.189
2.44906	0.46645	8.745	0.41524	8.669	0.36650	8.578	0.32615	8.485	0.28828	8.391	0.25563	8.277	0.23673	8.188
2.47742	0.47731	8.744	0.42497	8.667	0.37499	8.578	0.33354	8.483	0.29743	8.389	0.26131	8.279	0.24229	8.188
2.50611	0.48834	8.743	0.43469	8.666	0.38342	8.577	0.34064	8.483	0.30543	8.387	0.26861	8.284	0.24784	8.187
2.53513	0.49970	8.742	0.44452	8.665	0.39206	8.576	0.34770	8.482	0.31243	8.385	0.27626	8.291	0.25364	8.187
2.56448	0.51107	8.741	0.45468	8.665	0.40112	8.576	0.35554	8.481	0.31859	8.385	0.28267	8.295	0.25966	8.186
2.59418	0.52275	8.740	0.46495	8.664	0.41041	8.575	0.36379	8.481	0.32517	8.384	0.28990	8.291	0.26559	8.186
2.62422	0.53512	8.739	0.47560	8.663	0.41962	8.575	0.37196	8.480	0.33248	8.384	0.29909	8.283	0.27154	8.185
2.65461	0.54764	8.738	0.48672	8.662	0.42908	8.574	0.37996	8.480	0.33952	8.383	0.30833	8.277	0.27741	8.185
2.68534	0.56024	8.737	0.49807	8.661	0.43925	8.574	0.38879	8.479	0.34735	8.383	0.31764	8.274	0.28297	8.185
2.71644	0.57335	8.735	0.50935	8.660	0.44978	8.574	0.39772	8.479	0.35517	8.383	0.32669	8.273	0.28823	8.185
2.74789	0.58654	8.734	0.52088	8.659	0.46106	8.574	0.40704	8.478	0.36346	8.382	0.33375	8.273	0.29339	8.186
2.77971	0.59971	8.733	0.53282	8.658	0.47285	8.573	0.41630	8.478	0.37186	8.382	0.34023	8.272	0.29911	8.188
2.81190	0.61344	8.732	0.54506	8.658	0.48424	8.571	0.42581	8.477	0.38025	8.381	0.34710	8.272	0.30747	8.192
2.84446	0.62764	8.731	0.55771	8.657	0.49556	8.570	0.43565	8.477	0.38885	8.381	0.35458	8.272	0.32041	8.194
2.87740	0.64220	8.729	0.57077	8.656	0.50664	8.569	0.44565	8.476	0.39752	8.380	0.36265	8.272	0.33471	8.192
2.91072	0.65687	8.728	0.58375	8.655	0.51801	8.568	0.45597	8.476	0.40699	8.380	0.37057	8.272	0.34512	8.187
2.94442	0.67190	8.727	0.59714	8.654	0.52981	8.567	0.46663	8.475	0.41618	8.379	0.37903	8.271	0.35155	8.183
2.97852	0.68709	8.725	0.61085	8.653	0.54168	8.566	0.47750	8.474	0.42574	8.379	0.38782	8.271	0.35714	8.180
3.01301	0.70303	8.724	0.62477	8.652	0.55410	8.565	0.48868	8.474	0.43602	8.378	0.39686	8.271	0.36335	8.179
3.04789	0.71955	8.723	0.63961	8.650	0.56691	8.564	0.49952	8.473	0.44625	8.378	0.40618	8.271	0.37045	8.179
3.08319	0.73570	8.721	0.65444	8.649	0.57976	8.563	0.51168	8.472	0.45648	8.377	0.41614	8.270	0.37838	8.179
3.11889	0.75277	8.720	0.66951	8.648	0.59299	8.562	0.52343	8.471	0.46705	8.376	0.42672	8.270	0.38668	8.178
3.15500	0.76996	8.718	0.68468	8.647	0.60644	8.561	0.53546	8.471	0.47750	8.376	0.43679	8.268	0.39509	8.178
3.19154	0.78766	8.717	0.70008	8.646	0.62028	8.560	0.54770	8.470	0.48877	8.375	0.44680	8.267	0.40365	8.177
3.22849	0.80593	8.715	0.71658	8.644	0.63456	8.559	0.56025	8.469	0.49993	8.374	0.45676	8.266	0.41252	8.177
3.26588	0.82443	8.714	0.73331	8.643	0.64938	8.558	0.57346	8.468	0.51159	8.373	0.46653	8.265	0.42188	8.176
3.30370	0.84299	8.712	0.75015	8.642	0.66431	8.557	0.58614	8.467	0.52346	8.373	0.47677	8.265	0.43134	8.176
3.34195	0.86256	8.711	0.76696	8.640	0.67963	8.556	0.59998	8.466	0.53550	8.372	0.48714	8.264	0.44069	8.175
3.38065	0.88241	8.709	0.78426	8.639	0.69531	8.555	0.61368	8.466	0.54746	8.371	0.49742	8.264	0.44983	8.174
3.41979	0.90273	8.707	0.80242	8.638	0.71110	8.554	0.62736	8.465	0.56032	8.371	0.50869	8.263	0.45883	8.174
3.45939	0.92339	8.705	0.82093	8.636	0.72726	8.554	0.64179	8.464	0.57300	8.370	0.52037	8.262	0.46805	8.174
3.49945	0.94443	8.704	0.83990	8.635	0.74415	8.553	0.65601	8.463	0.58604	8.369	0.53164	8.262	0.47770	8.175
3.53997	0.96608	8.702	0.85901	8.634	0.76143	8.552	0.67106	8.463	0.59952	8.369	0.54336	8.261	0.48836	8.176
3.58096	0.98821	8.700	0.87865	8.632	0.77909	8.550	0.68741	8.462	0.61248	8.368	0.55555	8.260	0.50028	8.177
3.62243	1.01069	8.698	0.89913	8.631	0.79736	8.549	0.70425	8.461	0.62660	8.368	0.56773	8.260	0.51317	8.177
3.66438	1.03380	8.696	0.91994	8.629	0.81621	8.548	0.72088	8.460	0.64157	8.367	0.57987	8.259	0.52676	8.177



3.70681	1.05774	8.694	0.94069	8.627	0.83505	8.546	0.73770	8.459	0.65705	8.366	0.59272	8.259	0.54088	8.177
3.74973	1.08167	8.692	0.96237	8.626	0.85422	8.545	0.75439	8.458	0.67230	8.366	0.60601	8.259	0.55555	8.177
3.79315	1.10665	8.690	0.98423	8.624	0.87382	8.543	0.77214	8.457	0.68801	8.365	0.61868	8.259	0.57040	8.176
3.83707	1.13194	8.688	1.00731	8.622	0.89416	8.542	0.79059	8.456	0.70411	8.364	0.63216	8.259	0.58495	8.174
3.88150	1.15779	8.685	1.03078	8.621	0.91482	8.541	0.80902	8.455	0.72114	8.364	0.64705	8.259	0.59893	8.173
3.92645	1.18423	8.683	1.05424	8.619	0.93569	8.539	0.82815	8.453	0.73859	8.362	0.66233	8.260	0.61256	8.171
3.97192	1.21163	8.681	1.07880	8.617	0.95738	8.538	0.84748	8.451	0.75593	8.361	0.67864	8.260	0.62617	8.170
4.01791	1.23917	8.678	1.10411	8.615	0.97951	8.536	0.86667	8.450	0.77502	8.360	0.69636	8.261	0.63992	8.169
4.06443	1.26748	8.676	1.12934	8.613	1.00205	8.534	0.88642	8.448	0.79266	8.358	0.71493	8.262	0.65428	8.168
4.11150	1.29603	8.674	1.15506	8.611	1.02520	8.532	0.90677	8.446	0.81203	8.356	0.73500	8.261	0.66941	8.167
4.15911	1.32542	8.671	1.18095	8.609	1.04846	8.531	0.92699	8.445	0.83043	8.355	0.75672	8.260	0.68473	8.165
4.20727	1.35530	8.668	1.20765	8.606	1.07174	8.529	0.94788	8.444	0.84887	8.353	0.77779	8.257	0.69933	8.164
4.25598	1.38596	8.666	1.23547	8.604	1.09598	8.527	0.96905	8.442	0.86727	8.352	0.79802	8.254	0.71340	8.163
4.30527	1.41780	8.663	1.26357	8.602	1.12116	8.526	0.99051	8.441	0.88607	8.351	0.81554	8.250	0.72797	8.163
4.35512	1.44967	8.660	1.29210	8.600	1.14693	8.524	1.01297	8.440	0.90614	8.350	0.83312	8.248	0.74379	8.163
4.40555	1.48263	8.657	1.32140	8.598	1.17307	8.522	1.03659	8.438	0.92625	8.348	0.84994	8.246	0.76108	8.163
4.45656	1.51619	8.655	1.35125	8.595	1.20004	8.521	1.05943	8.437	0.94710	8.347	0.86801	8.244	0.77952	8.163
4.50817	1.55043	8.652	1.38191	8.593	1.22737	8.519	1.08334	8.436	0.96874	8.346	0.88642	8.243	0.79814	8.162
4.56037	1.58561	8.649	1.41358	8.591	1.25516	8.517	1.10788	8.435	0.99049	8.345	0.90528	8.241	0.81640	8.161
4.61318	1.62164	8.646	1.44536	8.588	1.28416	8.515	1.13399	8.434	1.01223	8.344	0.92371	8.240	0.83473	8.160
4.66659	1.65838	8.642	1.47804	8.586	1.31376	8.513	1.16100	8.432	1.03508	8.344	0.94274	8.238	0.85360	8.159
4.72063	1.69539	8.639	1.51160	8.583	1.34391	8.511	1.18831	8.431	1.05825	8.343	0.96193	8.237	0.87338	8.159
4.77529	1.73367	8.636	1.54592	8.581	1.37469	8.509	1.21613	8.430	1.08273	8.342	0.98152	8.237	0.89461	8.160
4.83059	1.77331	8.633	1.58146	8.578	1.40610	8.507	1.24554	8.427	1.10867	8.341	1.00205	8.237	0.91747	8.159
4.88652	1.81312	8.629	1.61750	8.575	1.43801	8.504	1.27478	8.425	1.13579	8.339	1.02407	8.237	0.94178	8.158
4.94311	1.85395	8.626	1.65442	8.573	1.47060	8.502	1.30389	8.423	1.16285	8.337	1.04807	8.237	0.96593	8.156
5.00035	1.89622	8.622	1.69200	8.570	1.50391	8.499	1.33320	8.421	1.19115	8.336	1.07430	8.237	0.98837	8.153
5.05825	1.93886	8.619	1.73085	8.567	1.53777	8.497	1.36358	8.419	1.21834	8.334	1.10063	8.236	1.00966	8.151
5.11682	1.98255	8.615	1.76972	8.564	1.57285	8.495	1.39450	8.416	1.24677	8.332	1.12739	8.235	1.03147	8.150
5.17607	2.02715	8.611	1.80963	8.560	1.60842	8.492	1.42642	8.414	1.27608	8.330	1.15432	8.234	1.05417	8.148
5.23600	2.07231	8.607	1.85052	8.557	1.64462	8.490	1.45734	8.412	1.30449	8.328	1.18215	8.233	1.07738	8.147
5.29663	2.11908	8.603	1.89246	8.554	1.68178	8.487	1.48995	8.410	1.33441	8.326	1.21040	8.231	1.10064	8.146
5.35797	2.16644	8.599	1.93500	8.551	1.72023	8.485	1.52359	8.408	1.36457	8.324	1.23959	8.230	1.12443	8.145
5.42001	2.21481	8.595	1.97801	8.547	1.75975	8.482	1.55816	8.406	1.39536	8.322	1.26927	8.228	1.14922	8.144
5.48277	2.26448	8.591	2.02287	8.544	1.79939	8.479	1.59421	8.404	1.42625	8.320	1.29983	8.226	1.17478	8.143
5.54626	2.31497	8.586	2.06850	8.540	1.84007	8.477	1.62981	8.402	1.45897	8.318	1.33046	8.224	1.20155	8.143
5.61048	2.36638	8.582	2.11487	8.537	1.88199	8.474	1.66766	8.400	1.49170	8.317	1.36057	8.221	1.22992	8.142
5.67545	2.41951	8.578	2.16232	8.533	1.92477	8.471	1.70569	8.397	1.52526	8.315	1.38993	8.219	1.25965	8.141
5.74116	2.47315	8.573	2.21053	8.530	1.96791	8.468	1.74448	8.395	1.55983	8.313	1.42076	8.218	1.29065	8.140
5.80764	2.52830	8.568	2.26075	8.526	2.01263	8.465	1.78482	8.393	1.59585	8.311	1.45338	8.216	1.32189	8.138
5.87489	2.58484	8.563	2.31112	8.522	2.05884	8.461	1.82536	8.390	1.63261	8.309	1.48571	8.214	1.35297	8.137
5.94292	2.64215	8.559	2.36258	8.518	2.10479	8.458	1.86723	8.388	1.66995	8.307	1.51848	8.212	1.38463	8.135
6.01174	2.70082	8.554	2.41608	8.514	2.15229	8.455	1.90955	8.385	1.70850	8.305	1.55209	8.210	1.41657	8.133
6.08135	2.76080	8.549	2.46993	8.510	2.20146	8.451	1.95284	8.382	1.74792	8.303	1.58737	8.209	1.44844	8.131
6.15177	2.82202	8.543	2.52526	8.506	2.25106	8.448	1.99732	8.379	1.78836	8.300	1.62283	8.207	1.48072	8.129
6.22300	2.88439	8.538	2.58128	8.501	2.30119	8.445	2.04370	8.376	1.82884	8.298	1.65980	8.206	1.51337	8.127
6.29506	2.94821	8.533	2.63948	8.497	2.35278	8.441	2.08833	8.373	1.87130	8.295	1.69959	8.204	1.54673	8.126

6.36796	3.01302	8.527	2.69834	8.492	2.40679	8.437	2.13581	8.370	1.91322	8.293	1.73846	8.202	1.58153	8.124
6.44169	3.07964	8.522	2.75877	8.488	2.46103	8.434	2.18432	8.367	1.95643	8.290	1.77770	8.200	1.61789	8.123
6.51628	3.14743	8.516	2.82078	8.483	2.51628	8.430	2.23414	8.364	2.00239	8.288	1.81923	8.198	1.65527	8.121
6.59174	3.21646	8.510	2.88305	8.478	2.57304	8.426	2.28438	8.361	2.04730	8.285	1.86109	8.196	1.69331	8.120
6.66807	3.28730	8.504	2.94695	8.473	2.63081	8.422	2.33496	8.358	2.09354	8.282	1.90438	8.194	1.73231	8.118
6.74528	3.35909	8.498	3.01244	8.468	2.68912	8.418	2.38841	8.355	2.14061	8.280	1.94911	8.191	1.77233	8.116
6.82339	3.43343	8.492	3.07939	8.463	2.74887	8.414	2.44169	8.351	2.18871	8.277	1.99287	8.189	1.81367	8.114
6.90240	3.50874	8.485	3.14821	8.458	2.81099	8.410	2.49687	8.348	2.23815	8.274	2.03760	8.186	1.85586	8.112
6.98232	3.58514	8.479	3.21773	8.453	2.87399	8.405	2.55349	8.344	2.28930	8.271	2.08313	8.184	1.89825	8.110
7.06318	3.66355	8.472	3.28848	8.447	2.93822	8.401	2.61144	8.341	2.34190	8.268	2.12925	8.181	1.94164	8.108
7.14496	3.74331	8.466	3.36100	8.442	3.00400	8.396	2.67114	8.337	2.39412	8.265	2.17760	8.179	1.98576	8.106
7.22770	3.82521	8.459	3.43561	8.436	3.07097	8.392	2.73005	8.333	2.44894	8.262	2.22739	8.176	2.03035	8.103
7.31139	3.90808	8.452	3.51068	8.430	3.13895	8.387	2.79187	8.330	2.50422	8.259	2.27814	8.174	2.07616	8.101
7.39605	3.99267	8.445	3.58830	8.424	3.20841	8.382	2.85403	8.326	2.56018	8.256	2.32903	8.171	2.12314	8.099
7.48170	4.07914	8.437	3.66671	8.418	3.28022	8.377	2.91722	8.321	2.61870	8.252	2.38271	8.169	2.17126	8.097
7.56833	4.16769	8.430	3.74744	8.412	3.35337	8.372	2.98326	8.317	2.67684	8.249	2.43569	8.166	2.22102	8.095
7.65597	4.25820	8.422	3.83007	8.406	3.42779	8.367	3.05085	8.313	2.73892	8.245	2.49339	8.164	2.27205	8.093
7.74462	4.34964	8.414	3.91298	8.400	3.50308	8.362	3.11914	8.309	2.79985	8.242	2.55089	8.161	2.32382	8.090
7.83430	4.44318	8.407	3.99821	8.393	3.58000	8.357	3.18859	8.305	2.86326	8.238	2.60891	8.157	2.37687	8.088
7.92501	4.53905	8.398	4.08653	8.387	3.65960	8.351	3.25896	8.301	2.92660	8.235	2.66811	8.154	2.43145	8.085
8.01678	4.63567	8.390	4.17626	8.380	3.74131	8.346	3.33149	8.296	2.99180	8.231	2.72769	8.151	2.48706	8.082
8.10961	4.73525	8.382	4.26652	8.373	3.82388	8.340	3.40606	8.291	3.06037	8.227	2.79021	8.147	2.54343	8.080
8.20352	4.83639	8.374	4.35915	8.366	3.90771	8.335	3.48298	8.287	3.12906	8.223	2.85089	8.144	2.60079	8.077
8.29851	4.93951	8.365	4.45327	8.359	3.99388	8.329	3.55949	8.282	3.20074	8.219	2.91422	8.141	2.65947	8.074
8.39460	5.04520	8.356	4.54904	8.352	4.08137	8.323	3.63916	8.277	3.27145	8.215	2.97930	8.138	2.71946	8.071
8.49180	5.15255	8.347	4.64788	8.344	4.17087	8.316	3.71953	8.272	3.34392	8.211	3.04585	8.135	2.78080	8.068
8.59014	5.26219	8.338	4.74908	8.336	4.26277	8.310	3.80121	8.267	3.41897	8.207	3.11523	8.131	2.84403	8.065
8.68960	5.37336	8.329	4.85129	8.329	4.35545	8.304	3.88500	8.262	3.49595	8.202	3.18571	8.128	2.90889	8.063
8.79023	5.48650	8.319	4.95537	8.321	4.45035	8.297	3.97090	8.256	3.57405	8.198	3.25767	8.124	2.97471	8.059
8.89201	5.60266	8.310	5.06145	8.313	4.54823	8.291	4.05896	8.251	3.65416	8.193	3.33147	8.120	3.04190	8.056
8.99498	5.72089	8.300	5.17012	8.304	4.64698	8.284	4.14826	8.245	3.73448	8.188	3.40659	8.116	3.11094	8.053
9.09913	5.84067	8.290	5.28082	8.296	4.74737	8.277	4.23977	8.239	3.81982	8.184	3.48347	8.113	3.18117	8.050
9.20450	5.96387	8.279	5.39315	8.288	4.85079	8.270	4.33368	8.234	3.90305	8.179	3.56251	8.108	3.25246	8.047
9.31108	6.08871	8.269	5.50903	8.279	4.95676	8.263	4.42899	8.228	3.99079	8.174	3.64136	8.104	3.32507	8.043
9.41890	6.21560	8.259	5.62603	8.270	5.06335	8.256	4.52565	8.222	4.07843	8.169	3.72145	8.100	3.39924	8.040
9.52796	6.34586	8.248	5.74503	8.261	5.17287	8.248	4.62567	8.216	4.16947	8.163	3.80461	8.095	3.47605	8.036
9.63829	6.47748	8.237	5.86681	8.252	5.28576	8.241	4.72580	8.210	4.26267	8.158	3.88873	8.091	3.55479	8.032
9.74990	6.61158	8.226	5.99138	8.243	5.39921	8.233	4.83050	8.203	4.35799	8.153	3.97495	8.087	3.63423	8.029
9.86279	6.74865	8.214	6.11660	8.233	5.51509	8.225	4.93537	8.196	4.45187	8.147	4.06466	8.082	3.71525	8.025
9.97700	6.88724	8.203	6.24655	8.223	5.63415	8.217	5.04496	8.190	4.55100	8.142	4.15558	8.078	3.79857	8.021
10.0925	7.0294	8.191	6.37733	8.214	5.75535	8.209	5.15430	8.183	4.64999	8.136	4.24839	8.074	3.88378	8.017
10.2094	7.1738	8.179	6.51249	8.204	5.87817	8.201	5.26609	8.176	4.75312	8.130	4.34250	8.069	3.97099	8.013
10.3276	7.3203	8.167	6.64892	8.193	6.00304	8.192	5.37942	8.169	4.85838	8.124	4.43880	8.064	4.05953	8.009
10.4472	7.4691	8.155	6.78856	8.183	6.13022	8.184	5.49542	8.162	4.96482	8.118	4.53708	8.059	4.15030	8.004
10.5682	7.6213	8.142	6.92913	8.172	6.26162	8.175	5.61423	8.155	5.07396	8.112	4.63817	8.054	4.24408	8.000
10.6905	7.7759	8.129	7.07348	8.161	6.39517	8.166	5.73579	8.147	5.18550	8.106	4.74206	8.049	4.33913	7.996
10.8143	7.9345	8.116	7.21928	8.151	6.52974	8.157	5.85717	8.140	5.30028	8.099	4.84534	8.043	4.43474	7.992

10.9396	8.0946	8.103	7.36813	8.139	6.66795	8.147	5.98586	8.132	5.41438	8.093	4.95170	8.038	4.53170	7.987
11.0662	8.2567	8.090	7.51958	8.128	6.80946	8.138	6.11464	8.124	5.53238	8.086	5.06172	8.032	4.63224	7.982
11.1944	8.4219	8.076	7.67461	8.117	6.95328	8.128	6.24485	8.116	5.65349	8.079	5.17423	8.026	4.73607	7.978
11.3240	8.5890	8.063	7.83411	8.105	7.09889	8.118	6.37834	8.108	5.77614	8.072	5.28679	8.020	4.84078	7.973
11.4551	8.7623	8.049	7.99325	8.093	7.24704	8.108	6.51562	8.100	5.90370	8.065	5.40092	8.015	4.94691	7.968
11.5878	8.9365	8.034	8.15564	8.081	7.39807	8.098	6.65379	8.091	6.03060	8.058	5.51977	8.009	5.05602	7.962
11.7220	9.1130	8.020	8.32367	8.068	7.55306	8.088	6.79412	8.082	6.16224	8.051	5.63970	8.003	5.16886	7.957
11.8577	9.2942	8.005	8.49345	8.056	7.71061	8.077	6.94018	8.073	6.29536	8.043	5.76185	7.997	5.28351	7.952
11.9950	9.4775	7.990	8.66483	8.043	7.86964	8.066	7.08712	8.064	6.43082	8.036	5.88772	7.990	5.39946	7.947
12.1339	9.6623	7.975	8.84068	8.030	8.03391	8.055	7.23811	8.055	6.56835	8.028	6.01603	7.984	5.51762	7.941
12.2744	9.8518	7.960	9.01957	8.017	8.20135	8.044	7.38879	8.046	6.70914	8.020	6.14734	7.977	5.63836	7.936
12.4165	10.0439	7.944	9.20173	8.004	8.36989	8.033	7.54605	8.036	6.85423	8.012	6.28190	7.970	5.76220	7.930
12.5603	10.2395	7.928	9.38390	7.990	8.54146	8.021	7.70485	8.027	7.00396	8.003	6.41839	7.963	5.88881	7.924
12.7057	10.4373	7.912	9.56978	7.977	8.71526	8.010	7.86426	8.017	7.15297	7.995	6.55568	7.956	6.01828	7.917
12.8529	10.6380	7.896	9.76033	7.963	8.89498	7.998	8.03193	8.007	7.30591	7.986	6.69569	7.949	6.15006	7.911
13.0017	10.8429	7.879	9.95539	7.949	9.07769	7.986	8.20127	7.997	7.46306	7.978	6.84087	7.942	6.28356	7.905
13.1522	11.0503	7.862	10.1533	7.934	9.26345	7.973	8.37246	7.986	7.62227	7.969	6.99043	7.935	6.42048	7.899
13.3045	11.2609	7.845	10.3524	7.919	9.45289	7.961	8.54631	7.976	7.78105	7.959	7.13984	7.927	6.56226	7.892
13.4586	11.4759	7.828	10.5558	7.904	9.64430	7.948	8.72588	7.965	7.94892	7.951	7.29198	7.919	6.70578	7.886
13.6144	11.6949	7.811	10.7623	7.889	9.83873	7.935	8.90228	7.954	8.11760	7.941	7.44879	7.911	6.84952	7.879
13.7721	11.9135	7.793	10.9729	7.873	#####	7.922	9.08626	7.943	8.29000	7.931	7.60724	7.904	6.99741	7.872
13.9316	12.1377	7.775	11.1883	7.858	10.2382	7.909	9.27746	7.932	8.46482	7.922	7.76981	7.896	7.15015	7.865
14.0929	12.3654	7.757	11.4032	7.842	10.4436	7.895	9.46553	7.920	8.64273	7.912	7.93967	7.887	7.30402	7.858
14.2561	12.5951	7.739	11.6213	7.826	10.6528	7.881	9.66061	7.908	8.82256	7.902	8.11023	7.878	7.46080	7.851
14.4212	12.8299	7.720	11.8492	7.810	10.8644	7.867	9.86038	7.896	9.00687	7.891	8.28246	7.869	7.62233	7.843
14.5881	13.0667	7.701	12.0737	7.794	11.0803	7.853	10.0606	7.884	9.19568	7.881	8.45717	7.860	7.78644	7.836
14.7571	13.3063	7.682	12.3022	7.777	11.2999	7.839	10.2617	7.871	9.38649	7.870	8.63256	7.852	7.95414	7.828
14.9279	13.5511	7.663	12.5434	7.760	11.5230	7.824	10.4729	7.859	9.58041	7.859	8.81215	7.843	8.12667	7.820
15.1008	13.7979	7.643	12.7818	7.743	11.7481	7.809	10.6869	7.846	9.78486	7.849	8.99896	7.834	8.30008	7.812
15.2757	14.0504	7.623	13.0207	7.725	11.9774	7.794	10.9031	7.833	9.9858	7.837	9.18956	7.824	8.47536	7.804
15.4525	14.3032	7.603	13.2644	7.708	12.2114	7.779	11.1210	7.820	10.1918	7.826	9.38694	7.814	8.65847	7.796
15.6315	14.5602	7.583	13.5131	7.690	12.4485	7.763	11.3452	7.807	10.3998	7.814	9.58407	7.805	8.84451	7.788
15.8125	14.8213	7.562	13.7631	7.672	12.6891	7.748	11.5703	7.793	10.6159	7.802	9.78366	7.794	9.03074	7.779
15.9956	15.0848	7.542	14.0208	7.654	12.9355	7.731	11.8040	7.779	10.8312	7.790	9.9889	7.784	9.22188	7.770
16.1808	15.3535	7.520	14.2822	7.635	13.1866	7.715	12.0352	7.765	11.0514	7.779	10.1933	7.774	9.41770	7.761
16.3682	15.6245	7.499	14.5418	7.616	13.4376	7.698	12.2760	7.751	11.2766	7.766	10.4050	7.763	9.61463	7.752
16.5577	15.8997	7.477	14.8119	7.597	13.6937	7.682	12.5188	7.737	11.5036	7.753	10.6195	7.753	9.81693	7.743
16.7494	16.1784	7.456	15.0809	7.578	13.9545	7.665	12.7656	7.722	11.7415	7.741	10.8382	7.742	10.0245	7.734
16.9434	16.4596	7.434	15.3529	7.558	14.2193	7.647	13.0168	7.707	11.9805	7.727	11.0604	7.730	10.2344	7.724
17.1396	16.7423	7.412	15.6336	7.538	14.4893	7.630	13.2732	7.692	12.2139	7.714	11.2905	7.719	10.4503	7.714
17.3380	17.0335	7.390	15.9156	7.518	14.7622	7.612	13.5314	7.677	12.4675	7.701	11.5212	7.708	10.6681	7.704
17.5388	17.3236	7.367	16.2002	7.497	15.0388	7.594	13.7965	7.661	12.7144	7.687	11.7569	7.696	10.8886	7.694
17.7419	17.6198	7.344	16.4916	7.477	15.3204	7.577	14.0603	7.646	12.9653	7.673	11.9992	7.684	11.1147	7.684
17.9473	17.9199	7.321	16.7797	7.457	15.6045	7.558	14.3326	7.629	13.2311	7.659	12.2425	7.672	11.3433	7.674
18.1552	18.2190	7.298	17.0833	7.436	15.8940	7.539	14.6055	7.613	13.4884	7.645	12.4895	7.660	11.5774	7.663
18.3654	18.5246	7.275	17.3824	7.415	16.1878	7.520	14.8834	7.596	13.7593	7.631	12.7443	7.648	11.8168	7.652
18.5780	18.8344	7.251	17.6821	7.393	16.4827	7.501	15.1684	7.579	14.0290	7.615	13.0022	7.635	12.0582	7.641

18.7932	19.1455	7.227	17.9940	7.371	16.7827	7.482	15.4617	7.562	14.3036	7.601	13.2639	7.622	12.3061	7.630
19.0108	19.4668	7.203	18.2986	7.349	17.0895	7.463	15.7478	7.546	14.5882	7.585	13.5253	7.610	12.5579	7.618
19.2309	19.7835	7.179	18.6244	7.327	17.4013	7.443	16.0501	7.528	14.8602	7.570	13.7932	7.597	12.8161	7.606
19.4536	20.1081	7.154	18.9377	7.305	17.7117	7.423	16.3488	7.511	15.1600	7.555	14.0629	7.583	13.0797	7.595
19.6789	20.4326	7.130	19.2617	7.282	18.0278	7.402	16.6582	7.492	15.4558	7.539	14.3405	7.570	13.3451	7.583
19.9067	20.7626	7.105	19.5945	7.260	18.3501	7.382	16.9635	7.475	15.7478	7.523	14.6268	7.555	13.6164	7.571
20.1372	21.0958	7.080	19.9198	7.237	18.6796	7.361	17.2814	7.456	16.0577	7.507	14.9170	7.541	13.8895	7.558
20.3704	21.4314	7.055	20.2614	7.214	19.0117	7.340	17.5980	7.438	16.3534	7.490	15.2122	7.527	14.1685	7.545
20.6063	21.7735	7.029	20.5900	7.191	19.3430	7.319	17.9304	7.419	16.6814	7.475	15.5099	7.512	14.4526	7.533
20.8449	22.1132	7.004	20.9372	7.167	19.6839	7.298	18.2532	7.400	16.9844	7.457	15.8126	7.498	14.7411	7.520
21.0863	22.4650	6.978	21.2795	7.144	20.0219	7.278	18.5774	7.382	17.3226	7.440	16.1277	7.482	15.0341	7.507
21.3304	22.8104	6.952	21.6362	7.120	20.3612	7.258	18.9144	7.361	17.6360	7.422	16.4400	7.467	15.3293	7.494
21.5774	23.1640	6.926	21.9906	7.096	20.7130	7.236	19.2555	7.342	17.9775	7.405	16.7550	7.451	15.6342	7.480
21.8273	23.5197	6.900	22.3524	7.071	21.0670	7.214	19.6046	7.322	18.3161	7.386	17.0777	7.435	15.9472	7.466
22.0800	23.8785	6.873	22.7180	7.047	21.4237	7.192	19.9593	7.302	18.6588	7.369	17.4089	7.420	16.2669	7.452
22.3357	24.2441	6.847	23.0773	7.022	21.7890	7.170	20.3081	7.281	19.0013	7.350	17.7423	7.404	16.5851	7.438
22.5944	24.6062	6.820	23.4484	6.998	22.1610	7.147	20.6742	7.261	19.3549	7.332	18.0812	7.388	16.9087	7.423
22.8560	24.9732	6.793	23.8122	6.972	22.5355	7.124	21.0376	7.240	19.7204	7.314	18.4208	7.371	17.2398	7.408
23.1206	25.3439	6.766	24.1929	6.948	22.9118	7.101	21.4055	7.219	20.0786	7.294	18.7688	7.354	17.5751	7.393
23.3884	25.7232	6.739	24.5736	6.922	23.2863	7.078	21.7820	7.198	20.4479	7.275	19.1222	7.337	17.9145	7.378
23.6592	26.0995	6.712	24.9660	6.897	23.6676	7.055	22.1611	7.176	20.8166	7.256	19.4806	7.320	18.2595	7.363
23.9332	26.4782	6.684	25.3511	6.871	24.0539	7.031	22.5388	7.155	21.2037	7.236	19.8460	7.303	18.6090	7.348
24.2103	26.8584	6.657	25.7527	6.845	24.4458	7.007	22.9306	7.133	21.5721	7.217	20.2170	7.285	18.9604	7.333
24.4906	27.2454	6.629	26.1399	6.819	24.8411	6.984	23.3216	7.110	21.9672	7.196	20.5920	7.267	19.3248	7.316
24.7742	27.6404	6.601	26.5378	6.793	25.2481	6.960	23.7264	7.088	22.3445	7.177	20.9671	7.250	19.6959	7.300
25.0611	28.0336	6.574	26.9318	6.766	25.6523	6.935	24.1116	7.065	22.7570	7.155	21.3516	7.231	20.0701	7.284
25.3513	28.4271	6.546	27.3436	6.740	26.0631	6.911	24.5270	7.043	23.1503	7.135	21.7456	7.212	20.4509	7.267
25.6448	28.8229	6.518	27.7522	6.713	26.4823	6.887	24.9249	7.021	23.5638	7.113	22.1473	7.194	20.8350	7.251
25.9418	29.2302	6.489	28.1654	6.688	26.9001	6.862	25.3601	6.996	23.9804	7.094	22.5437	7.175	21.2229	7.234
26.2422	29.6255	6.462	28.5907	6.660	27.3222	6.836	25.7848	6.973	24.3834	7.071	22.9595	7.155	21.6232	7.216
26.5461	30.0367	6.433	28.9872	6.634	27.7472	6.811	26.2124	6.949	24.8247	7.052	23.3655	7.136	22.0245	7.199
26.8534	30.4387	6.405	29.4268	6.606	28.1765	6.785	26.6327	6.926	25.2478	7.029	23.7824	7.116	22.4330	7.181
27.1644	30.8594	6.376	29.8345	6.579	28.6073	6.759	27.0567	6.902	25.6786	7.006	24.2223	7.096	22.8439	7.163
27.4789	31.2698	6.348	30.2677	6.551	29.0532	6.733	27.5082	6.877	26.1205	6.984	24.6584	7.076	23.2610	7.146
27.7971	31.6828	6.320	30.6967	6.523	29.4930	6.707	27.9550	6.852	26.5509	6.961	25.0845	7.056	23.6872	7.127
28.1190	32.1129	6.290	31.1088	6.496	29.9346	6.681	28.3925	6.828	27.0296	6.940	25.5264	7.034	24.1095	7.108
28.4446	32.5292	6.262	31.5713	6.468	30.3881	6.655	28.8539	6.804	27.4493	6.916	25.9855	7.013	24.5504	7.090
28.7740	32.9551	6.233	32.0007	6.440	30.8377	6.629	29.2896	6.778	27.9234	6.893	26.4193	6.994	24.9862	7.070
29.1072	33.3837	6.204	32.4429	6.413	31.2939	6.602	29.7626	6.754	28.3839	6.871	26.8732	6.973	25.4255	7.050
29.4442	33.8042	6.176	32.9079	6.384	31.7592	6.574	30.2277	6.730	28.8386	6.846	27.3346	6.951	25.8841	7.031
29.7852	34.2440	6.146	33.3403	6.356	32.2200	6.547	30.6896	6.703	29.3506	6.824	27.7936	6.929	26.3372	7.011
30.1301	34.6676	6.118	33.7989	6.328	32.6850	6.521	31.1814	6.678	29.8055	6.801	28.2636	6.908	26.8007	6.991
30.4789	35.1087	6.089	34.2589	6.300	33.1471	6.493	31.6657	6.653	30.3044	6.775	28.7424	6.885	27.2760	6.971
30.8319	35.5577	6.060	34.7027	6.273	33.6139	6.467	32.1479	6.627	30.8039	6.752	29.2273	6.863	27.7520	6.951
31.1889	35.9886	6.031	35.1777	6.244	34.0929	6.441	32.6343	6.601	31.2729	6.729	29.7163	6.840	28.2430	6.931
31.5500	36.4294	6.003	35.6384	6.215	34.5743	6.412	33.1296	6.575	31.7847	6.702	30.2185	6.819	28.7324	6.909
31.9154	36.8799	5.973	36.0792	6.189	35.0663	6.384	33.5934	6.550	32.3025	6.679	30.7041	6.796	29.2230	6.889

32.2849	37.3186	5.945	36.5823	6.162	35.5587	6.358	34.1129	6.524	32.7794	6.655	31.2064	6.772	29.7319	6.867
32.6588	37.7618	5.916	37.0606	6.132	36.0402	6.330	34.6156	6.497	33.3166	6.629	31.7316	6.748	30.2286	6.844
33.0370	38.2228	5.886	37.4884	6.104	36.5305	6.303	35.0996	6.468	33.8597	6.602	32.2441	6.726	30.7253	6.822
33.4195	38.6678	5.857	37.9747	6.077	37.0426	6.275	35.6662	6.443	34.3720	6.579	32.7682	6.701	31.2644	6.801
33.8065	39.1153	5.830	38.5058	6.047	37.5475	6.247	36.1622	6.416	34.8622	6.553	33.3229	6.677	31.8045	6.778
34.1979	39.5810	5.801	38.9682	6.021	38.0477	6.219	36.6886	6.388	35.4242	6.526	33.8516	6.654	32.3078	6.755
34.5939	40.0455	5.771	39.4401	5.991	38.5598	6.192	37.2125	6.361	35.9968	6.498	34.3766	6.630	32.8290	6.734
34.9945	40.5017	5.743	39.9579	5.964	39.0754	6.166	37.7610	6.333	36.5063	6.475	34.9367	6.605	33.3863	6.712
35.3997	40.9592	5.716	40.4718	5.936	39.5877	6.137	38.2883	6.307	37.0176	6.448	35.4927	6.579	33.9336	6.688
35.8096	41.4322	5.686	40.9615	5.905	40.0978	6.109	38.7918	6.281	37.6351	6.422	36.0267	6.555	34.4901	6.663
36.2243	41.9019	5.656	41.4431	5.876	40.6062	6.080	39.3762	6.251	38.2090	6.394	36.5883	6.530	35.0924	6.642
36.6438	42.3618	5.628	41.9806	5.848	41.1367	6.050	39.9040	6.226	38.7856	6.368	37.1681	6.504	35.6690	6.619
37.0681	42.8207	5.601	42.5023	5.821	41.6888	6.021	40.4532	6.199	39.4314	6.340	37.7113	6.478	36.2244	6.593
37.4973	43.3026	5.573	43.0063	5.792	42.2290	5.994	40.9739	6.169	40.0021	6.312	38.3135	6.454	36.8083	6.568
37.9315	43.7942	5.544	43.4770	5.765	42.7558	5.964	41.5523	6.135	40.6222	6.284	38.8932	6.427	37.4159	6.541
38.3707	44.2694	5.515	44.0070	5.738	43.3145	5.934	42.0817	6.116	41.2217	6.262	39.4911	6.400	38.0165	6.516
38.8150	44.7375	5.486	44.5139	5.708	43.8658	5.907	42.6157	6.085	41.7551	6.236	40.1361	6.375	38.6337	6.492
39.2645	45.2152	5.458	45.0734	5.678	44.3757	5.879	43.1910	6.058	42.3629	6.208	40.7285	6.350	39.2343	6.469
39.7192	45.6953	5.433	45.5368	5.650	44.9114	5.851	43.7377	6.031	42.9408	6.185	41.3357	6.326	39.8887	6.445
40.1791	46.1870	5.404	46.0497	5.622	45.4460	5.822	44.2990	6.003	43.5317	6.161	41.9675	6.300	40.5293	6.421
40.6443	46.6791	5.374	46.5913	5.592	45.9791	5.795	44.8388	5.977	44.0702	6.134	42.5740	6.273	41.1726	6.395
41.1150	47.1853	5.346	47.0823	5.563	46.5119	5.766	45.4245	5.944	44.6617	6.108	43.1935	6.248	41.8070	6.371
41.5911	47.6722	5.318	47.5922	5.537	47.0513	5.737	46.0807	5.915	45.2702	6.083	43.8151	6.222	42.4367	6.347
42.0727	48.1672	5.290	48.1345	5.509	47.6290	5.707	46.6589	5.885	45.8717	6.054	44.4448	6.197	43.0748	6.323
42.5598	48.6611	5.263	48.6653	5.481	48.1820	5.678	47.2376	5.861	46.4555	6.023	45.0699	6.171	43.7182	6.299
43.0527	49.1439	5.236	49.1902	5.452	48.7404	5.650	47.8401	5.832	47.0638	5.998	45.6796	6.144	44.3822	6.273
43.5512	49.6362	5.210	49.7060	5.425	49.3160	5.622	48.3779	5.804	47.6995	5.969	46.3192	6.117	45.0687	6.246
44.0555	50.1372	5.182	50.2649	5.395	49.8847	5.594	49.0126	5.775	48.3299	5.941	46.9640	6.091	45.7391	6.221
44.5656	50.6323	5.154	50.7671	5.370	50.4614	5.566	49.6013	5.748	48.9677	5.914	47.6089	6.064	46.4167	6.195
45.0817	51.1369	5.125	51.2920	5.343	51.0496	5.539	50.2058	5.719	49.5902	5.886	48.2594	6.038	47.0952	6.169
45.6037	51.6443	5.097	51.8290	5.310	51.6160	5.511	50.8168	5.691	50.2346	5.858	48.9104	6.011	47.7756	6.143
46.1318	52.1447	5.068	52.3421	5.283	52.1952	5.483	51.4386	5.663	50.8604	5.830	49.5746	5.984	48.4612	6.117
46.6659	52.6457	5.041	52.8958	5.255	52.7750	5.456	52.0429	5.635	51.5096	5.803	50.2411	5.956	49.1500	6.091
47.2063	53.1780	5.015	53.3721	5.231	53.3762	5.428	52.6431	5.607	52.1597	5.775	50.9072	5.929	49.8409	6.065
47.7529	53.6443	4.990	53.9454	5.202	53.9967	5.398	53.2722	5.579	52.8057	5.748	51.5868	5.902	50.5347	6.039
48.3059	54.1788	4.965	54.4959	5.175	54.5829	5.371	53.8745	5.551	53.4631	5.720	52.2625	5.874	51.2236	6.013
48.8652	54.6961	4.936	55.0298	5.148	55.1565	5.342	54.5032	5.523	54.1105	5.693	52.9439	5.848	51.9114	5.989
49.4311	55.2075	4.912	55.6215	5.120	55.7279	5.316	55.1324	5.492	54.7356	5.669	53.6271	5.823	52.6205	5.963
50.0035	55.7391	4.885	56.2361	5.090	56.3274	5.290	55.7210	5.469	55.4520	5.642	54.3004	5.799	53.3108	5.939
51.1682	56.7207	4.833	57.4650	5.026	57.5147	5.237	57.2155	5.410	56.9024	5.593	55.9847	5.753	54.6367	5.896
52.3600	57.7571	4.783	58.5662	4.972	58.6949	5.182	58.5322	5.351	58.3002	5.533	57.4473	5.695	56.2050	5.838
53.5797	58.8219	4.732	59.6065	4.921	59.9260	5.129	59.8431	5.299	59.7062	5.479	58.9512	5.639	57.6178	5.790
54.8277	59.8054	4.684	60.6962	4.869	61.1128	5.078	61.0675	5.246	61.1067	5.423	60.4090	5.588	59.0964	5.737
56.1048	60.8527	4.638	61.8294	4.819	62.3729	5.019	62.3177	5.193	62.5168	5.367	61.8440	5.538	60.6634	5.685
57.4116	61.9034	4.589	62.9978	4.769	63.6460	4.969	63.7168	5.136	63.7750	5.315	63.3081	5.485	62.1491	5.629
58.7489	63.0157	4.542	64.1710	4.718	64.9556	4.917	64.9589	5.082	65.1831	5.254	64.6823	5.425	63.6363	5.577
60.1174	64.1745	4.500	65.2202	4.669	66.1204	4.865	66.4374	5.038	66.5240	5.200	66.0126	5.368	65.1671	5.520

61.5177	65.2181	4.450	66.3829	4.618	67.5332	4.811	67.8419	4.988	68.0060	5.149	67.5518	5.338	66.7354	5.469
62.2300	65.7726	4.430	66.8738	4.596	68.1365	4.780	68.4705	4.962	68.7208	5.116	68.1938	5.277	67.4013	5.442
62.9506	66.2231	4.408	67.4139	4.574	68.7583	4.759	69.1598	4.931	69.3255	5.099	68.9688	5.258	68.1936	5.416
63.6796	66.8427	4.385	68.1513	4.547	69.4941	4.735	69.9336	4.909	70.1639	5.072	69.8957	5.233	69.0328	5.391
64.4169	67.3254	4.357	68.7266	4.524	70.1105	4.708	70.5751	4.879	70.8746	5.049	70.6041	5.213	69.8657	5.361
65.1628	67.8153	4.338	69.2189	4.501	70.6902	4.685	71.2060	4.854	71.5118	5.023	71.2935	5.183	70.7295	5.337
65.9174	68.3911	4.316	69.8413	4.477	71.3506	4.659	71.9179	4.828	72.3015	4.996	72.1148	5.158	71.5662	5.311
66.6807	68.9446	4.292	70.4590	4.454	72.0083	4.635	72.6239	4.805	73.0401	4.972	72.9232	5.136	72.4156	5.287
67.4528	69.3922	4.269	70.9937	4.433	72.5721	4.611	73.2335	4.778	73.7144	4.945	73.6306	5.109	73.1819	5.259
68.2339	69.9478	4.250	71.5778	4.413	73.1928	4.591	73.9214	4.757	74.4430	4.923	74.4094	5.086	73.9842	5.236
69.0240	70.5148	4.228	72.2274	4.389	73.8917	4.567	74.6479	4.731	75.2312	4.897	75.2421	5.059	74.8601	5.210
69.8232	71.0630	4.205	72.7845	4.365	74.5159	4.540	75.3112	4.704	75.9404	4.869	76.0033	5.028	75.6733	5.178
70.6318	71.4642	4.186	73.2520	4.344	75.0486	4.520	75.8470	4.682	76.5546	4.844	76.6640	5.004	76.3831	5.152
71.4496	72.0844	4.164	73.9161	4.321	75.7078	4.495	76.6441	4.656	77.3942	4.819	77.5979	4.980	77.3119	5.132
72.2770	72.6623	4.140	74.5540	4.298	76.4248	4.471	77.3806	4.631	78.1660	4.794	78.3578	4.955	78.1416	5.104
73.1139	72.9446	4.120	74.9091	4.276	76.8666	4.446	77.9141	4.603	78.7013	4.765	78.9370	4.922	78.7868	5.072
73.9605	73.6592	4.101	75.6605	4.256	77.6086	4.426	78.6717	4.584	79.5722	4.745	79.8978	4.904	79.7465	5.052
74.8170	74.1944	4.080	76.2485	4.232	78.2685	4.401	79.3807	4.558	80.3237	4.717	80.6747	4.876	80.6195	5.023
75.6833	74.7551	4.061	76.8176	4.214	78.9007	4.381	80.0572	4.537	81.0097	4.697	81.4093	4.853	81.3692	4.998
76.5597	75.3068	4.042	77.3847	4.191	79.5074	4.358	80.7309	4.513	81.7441	4.671	82.1788	4.827	82.2276	4.973
77.4462	75.8140	4.019	77.9515	4.169	80.1156	4.333	81.4219	4.487	82.5078	4.645	82.9240	4.802	83.0460	4.948
78.3430	76.3182	4.002	78.5127	4.151	80.7312	4.314	82.0464	4.467	83.1751	4.623	83.7074	4.778	83.8322	4.922
79.2501	76.7308	3.983	79.0943	4.127	81.3468	4.292	82.6609	4.443	83.8842	4.596	84.4429	4.746	84.6237	4.890
80.1678	77.3610	3.964	79.6367	4.107	81.9747	4.269	83.3878	4.420	84.6155	4.572	85.2930	4.724	85.5316	4.870
81.0961	77.8419	3.944	80.1994	4.086	82.5786	4.247	84.0482	4.396	85.3191	4.548	86.0313	4.701	86.3098	4.844
82.0352	78.4014	3.927	80.7510	4.068	83.1980	4.226	84.7389	4.375	86.0348	4.527	86.8396	4.678	87.1536	4.823
82.9851	78.9587	3.907	81.4104	4.048	83.8897	4.206	85.4688	4.354	86.8587	4.505	87.6877	4.658	88.0569	4.802
83.9460	79.5081	3.890	82.0181	4.028	84.5803	4.185	86.2262	4.333	87.6725	4.484	88.5540	4.636	88.9799	4.780
84.9180	80.1251	3.869	82.6532	4.007	85.2366	4.161	86.9392	4.309	88.4334	4.457	89.3368	4.609	89.8223	4.751
85.9014	80.6890	3.853	83.2533	3.988	85.8733	4.142	87.6082	4.288	89.1933	4.439	90.1086	4.587	90.6940	4.729
86.8960	81.2549	3.830	83.8783	3.963	86.5518	4.117	88.3869	4.261	89.9321	4.410	91.0551	4.568	91.6562	4.706
87.9023	81.7021	3.815	84.3572	3.947	87.1199	4.100	88.9660	4.243	90.5997	4.388	91.6925	4.535	92.3352	4.675
88.9201	82.2896	3.799	84.9335	3.930	87.7326	4.081	89.6213	4.223	91.3135	4.366	92.4784	4.511	93.1436	4.651
89.9498	82.8788	3.779	85.5955	3.909	88.4550	4.058	90.4242	4.199	92.1683	4.343	93.3762	4.488	94.1167	4.628
90.9913	83.2958	3.762	86.0660	3.891	88.9973	4.038	91.0025	4.177	92.7978	4.321	94.0537	4.464	94.8811	4.602
92.0450	83.9239	3.745	86.7550	3.872	89.7075	4.020	91.8008	4.160	93.6265	4.302	94.9686	4.446	95.8276	4.583
93.1108	84.4156	3.729	87.3049	3.855	90.3356	4.001	92.4729	4.139	94.3755	4.279	95.7442	4.421	96.6528	4.556
94.1890	84.9316	3.710	87.8490	3.835	90.9172	3.980	93.1000	4.116	95.0412	4.256	96.4805	4.396	97.4529	4.532
95.2796	85.6223	3.694	88.5428	3.818	91.6702	3.960	93.9156	4.096	95.9148	4.234	97.3781	4.374	98.4291	4.510
96.3829	86.1555	3.678	89.1596	3.801	92.3569	3.942	94.6610	4.076	96.7583	4.214	98.2948	4.351	99.3795	4.486
97.4990	86.6786	3.661	89.7209	3.782	92.9197	3.922	95.2678	4.056	97.3945	4.193	98.9579	4.330	100.090	4.463
98.6279	87.2366	3.644	90.2974	3.763	93.5856	3.902	95.9735	4.033	98.1615	4.168	99.7965	4.302	101.024	4.435
99.7700	87.8901	3.627	90.9866	3.746	94.3431	3.883	96.8069	4.013	99.0297	4.147	100.719	4.283	102.014	4.415
100.925	88.3054	3.610	91.5092	3.728	94.9003	3.865	97.3885	3.994	99.7113	4.128	101.437	4.261	102.778	4.392
102.094	89.0203	3.592	92.3071	3.708	95.7409	3.843	98.3580	3.972	100.722	4.108	102.603	4.237	103.818	4.372
103.276	89.5222	3.578	92.8031	3.692	96.3045	3.827	98.9722	3.954	101.330	4.087	103.162	4.219	104.604	4.347
104.472	90.0758	3.562	93.3600	3.675	96.9309	3.808	99.6110	3.935	102.009	4.068	103.853	4.196	105.374	4.324

105.682	90.5711	3.546	93.9211	3.657	97.5359	3.789	100.257	3.913	102.835	4.040	104.834	4.170	106.389	4.299
106.905	91.2532	3.529	94.6888	3.640	98.3851	3.769	101.145	3.893	103.647	4.015	105.876	4.144	107.303	4.284
108.143	91.5279	3.517	94.9042	3.627	98.6567	3.756	101.555	3.877	104.060	4.001	106.193	4.127	107.830	4.253
109.396	92.2139	3.498	95.6495	3.608	99.4422	3.735	102.370	3.856	104.986	3.979	107.124	4.105	108.900	4.230
110.662	92.7626	3.480	96.5724	3.595	100.286	3.727	103.334	3.847	105.936	3.968	108.131	4.088	109.872	4.207
111.944	93.4207	3.466	97.2958	3.580	101.035	3.711	104.146	3.829	106.817	3.950	109.054	4.069	110.845	4.186
113.240	93.8203	3.452	97.7582	3.564	101.562	3.694	104.736	3.811	107.459	3.931	109.745	4.049	111.606	4.165
114.551	94.3423	3.436	98.2859	3.548	102.177	3.676	105.407	3.793	108.187	3.911	110.538	4.029	112.438	4.144
115.878	94.9919	3.421	99.0141	3.531	102.918	3.658	106.207	3.773	109.038	3.891	111.445	4.007	113.401	4.121
117.220	95.5447	3.407	99.6049	3.516	103.559	3.642	106.932	3.757	109.802	3.873	112.275	3.989	114.273	4.101
118.577	96.0427	3.394	100.146	3.501	104.188	3.625	107.593	3.739	110.538	3.855	113.087	3.969	115.160	4.081
119.950	96.5766	3.380	100.736	3.487	104.790	3.610	108.223	3.723	111.239	3.837	113.811	3.950	115.968	4.062
121.339	97.1573	3.364	101.376	3.470	105.515	3.593	109.012	3.704	112.064	3.818	114.698	3.930	116.885	4.040
122.744	97.7231	3.351	101.987	3.455	106.197	3.576	109.768	3.686	112.887	3.798	115.592	3.909	117.848	4.019
124.165	98.4715	3.340	102.795	3.442	107.012	3.562	110.669	3.669	113.876	3.780	116.590	3.891	119.000	4.000
125.603	98.9221	3.324	103.285	3.426	107.560	3.545	111.209	3.652	114.457	3.763	117.276	3.872	119.625	3.980
127.057	99.3871	3.311	103.777	3.413	108.210	3.530	111.932	3.636	115.213	3.746	118.120	3.853	120.519	3.960
128.529	99.9973	3.298	104.491	3.398	108.934	3.515	112.708	3.620	116.048	3.728	118.977	3.836	121.491	3.941
130.017	100.543	3.284	105.072	3.383	109.547	3.498	113.370	3.603	116.815	3.711	119.765	3.817	122.308	3.922
131.522	101.031	3.270	105.600	3.369	110.176	3.483	113.991	3.587	117.435	3.693	120.490	3.798	123.083	3.902
133.045	101.749	3.257	106.397	3.353	110.998	3.467	114.953	3.569	118.459	3.674	121.581	3.778	124.218	3.882
134.586	102.311	3.243	107.008	3.339	111.617	3.452	115.628	3.552	119.211	3.657	122.385	3.761	125.065	3.863
136.144	102.868	3.232	107.628	3.327	112.331	3.438	116.422	3.538	120.031	3.641	123.272	3.744	125.972	3.846
137.721	103.495	3.219	108.249	3.313	113.073	3.422	117.142	3.521	120.806	3.624	124.087	3.726	126.902	3.827
139.316	104.013	3.206	108.855	3.299	113.685	3.408	117.900	3.505	121.656	3.607	124.969	3.708	127.861	3.808
140.929	104.671	3.194	109.526	3.286	114.432	3.394	118.671	3.491	122.464	3.591	125.913	3.691	128.839	3.789
142.561	105.203	3.182	110.084	3.273	115.102	3.379	119.334	3.475	123.263	3.574	126.682	3.673	129.761	3.771
144.212	105.823	3.169	110.803	3.260	115.779	3.365	120.094	3.460	124.035	3.558	127.559	3.656	130.595	3.752
145.881	106.405	3.156	111.412	3.245	116.465	3.350	120.820	3.444	124.801	3.541	128.410	3.638	131.541	3.734
147.571	106.900	3.144	111.935	3.232	117.128	3.336	121.518	3.429	125.537	3.525	129.203	3.621	132.373	3.717
149.279	107.512	3.133	112.611	3.220	117.815	3.322	122.327	3.414	126.405	3.510	130.078	3.605	133.339	3.699
151.008	108.097	3.121	113.295	3.206	118.516	3.308	123.051	3.399	127.220	3.493	130.965	3.587	134.290	3.680
152.757	108.709	3.109	113.967	3.194	119.197	3.295	123.834	3.384	128.040	3.478	131.797	3.572	135.223	3.663
154.525	109.292	3.098	114.603	3.182	119.898	3.281	124.601	3.370	128.849	3.463	132.708	3.555	136.160	3.646
156.315	109.860	3.086	115.232	3.169	120.640	3.267	125.414	3.355	129.689	3.446	133.661	3.537	137.128	3.628
158.125	110.326	3.076	115.650	3.159	121.103	3.256	125.899	3.343	130.311	3.433	134.242	3.524	137.862	3.612
159.956	110.951	3.064	116.429	3.145	122.071	3.241	126.894	3.326	131.348	3.415	135.378	3.505	139.007	3.595
161.808	111.756	3.055	117.377	3.138	122.943	3.226	127.594	3.313	131.776	3.398	135.864	3.487	139.472	3.576
163.682	112.322	3.044	118.000	3.126	123.677	3.213	128.424	3.300	132.967	3.383	137.050	3.470	140.743	3.560
165.577	112.916	3.032	118.638	3.112	124.294	3.199	129.105	3.286	133.623	3.370	138.037	3.457	141.879	3.547
167.494	113.560	3.021	119.347	3.100	125.095	3.186	129.789	3.272	134.509	3.352	138.610	3.439	142.563	3.524
169.434	114.147	3.011	119.982	3.089	125.776	3.174	130.654	3.257	135.249	3.336	139.670	3.419	143.386	3.508
171.396	114.684	2.999	120.565	3.077	126.393	3.160	131.317	3.244	135.852	3.322	140.049	3.407	143.752	3.486
173.380	115.298	2.989	121.233	3.066	127.131	3.149	132.078	3.232	136.729	3.309	141.169	3.390	145.066	3.477
175.388	115.875	2.979	121.819	3.055	127.762	3.136	132.768	3.218	137.621	3.294	142.138	3.379	146.226	3.464
177.419	116.494	2.968	122.505	3.044	128.490	3.125	133.661	3.204	138.384	3.280	142.782	3.361	147.165	3.443
179.473	117.043	2.957	123.058	3.032	129.149	3.111	134.189	3.191	139.087	3.265	143.824	3.348	147.775	3.431

181.552	117.609	2.948	123.782	3.021	129.893	3.101	135.118	3.179	140.115	3.255	144.820	3.337	149.144	3.412
183.654	118.276	2.939	124.448	3.010	130.603	3.089	135.857	3.167	140.737	3.242	145.407	3.319	149.565	3.400
185.780	118.960	2.928	125.195	2.998	131.345	3.075	136.638	3.152	141.611	3.225	146.425	3.306	150.506	3.386
187.932	119.455	2.918	125.745	2.989	132.058	3.065	137.356	3.141	142.273	3.215	147.069	3.294	151.487	3.373
190.108	120.142	2.909	126.411	2.979	132.672	3.055	137.992	3.130	143.129	3.203	148.009	3.279	152.373	3.358
192.309	120.741	2.899	127.145	2.967	133.454	3.043	138.698	3.118	144.147	3.189	149.374	3.266	153.934	3.342
194.536	121.215	2.890	127.636	2.957	134.098	3.032	139.597	3.105	144.906	3.176	150.096	3.253	154.705	3.328
196.789	121.914	2.880	128.259	2.947	134.710	3.022	140.397	3.094	145.723	3.163	150.781	3.240	155.640	3.314
199.067	122.541	2.871	129.058	2.938	135.495	3.011	141.036	3.083	146.278	3.152	151.779	3.226	156.303	3.303
201.372	123.210	2.861	129.743	2.927	136.301	2.999	141.967	3.069	147.578	3.138	152.997	3.210	157.551	3.282
203.704	123.847	2.852	130.494	2.916	137.164	2.988	142.769	3.057	148.273	3.126	153.597	3.199	158.747	3.266
206.063	124.398	2.843	131.078	2.907	137.798	2.977	143.685	3.046	149.216	3.113	154.703	3.183	159.693	3.252
208.449	125.076	2.834	131.763	2.896	138.452	2.966	144.439	3.034	150.097	3.099	155.529	3.168	160.179	3.239
210.863	125.634	2.825	132.293	2.887	138.927	2.957	145.105	3.024	150.826	3.089	156.353	3.159	161.217	3.226
213.304	126.267	2.816	133.109	2.877	139.855	2.945	145.801	3.011	151.492	3.076	157.145	3.145	162.293	3.213
215.774	127.047	2.810	133.887	2.869	140.652	2.933	146.829	2.997	152.842	3.064	157.975	3.129	162.414	3.203
218.273	127.674	2.801	134.577	2.859	141.409	2.923	147.640	2.986	153.601	3.053	158.888	3.116	163.347	3.190
220.800	128.343	2.791	135.259	2.849	142.073	2.912	148.415	2.975	154.467	3.040	159.761	3.103	164.065	3.174
223.357	128.972	2.783	135.921	2.840	142.793	2.902	149.216	2.964	155.371	3.029	160.670	3.090	165.355	3.158
225.944	129.646	2.774	136.681	2.831	143.558	2.893	150.008	2.954	156.198	3.017	161.445	3.077	166.117	3.147
228.560	130.165	2.766	137.312	2.822	144.347	2.883	150.863	2.943	157.048	3.006	162.325	3.066	167.179	3.133
231.206	130.838	2.758	137.937	2.812	144.972	2.873	151.642	2.932	157.926	2.994	163.478	3.054	168.038	3.123
233.884	131.399	2.750	138.538	2.804	145.669	2.863	152.305	2.922	158.745	2.984	164.312	3.043	169.333	3.113
236.592	132.114	2.742	139.282	2.795	146.473	2.853	153.120	2.912	159.548	2.972	165.161	3.030	170.140	3.100
239.332	132.707	2.733	139.949	2.786	147.158	2.844	153.816	2.901	160.199	2.961	165.828	3.019	171.110	3.085
242.103	133.598	2.724	141.052	2.776	148.296	2.833	155.077	2.889	161.518	2.948	167.066	3.005	172.078	3.072
244.906	133.938	2.719	141.391	2.769	148.765	2.825	155.503	2.881	162.157	2.939	167.960	2.994	173.109	3.063
247.742	134.742	2.709	142.209	2.759	149.634	2.814	156.375	2.871	163.047	2.928	168.809	2.982	174.700	3.046
250.611	135.411	2.701	143.033	2.751	150.463	2.805	157.520	2.860	164.186	2.917	170.123	2.972	175.171	3.037
253.513	136.181	2.692	143.687	2.742	151.059	2.797	157.880	2.852	164.704	2.908	170.391	2.963	176.287	3.029
256.448	136.521	2.685	144.022	2.733	151.485	2.788	158.687	2.840	165.691	2.895	171.787	2.949	177.585	3.010
259.418	137.514	2.677	145.113	2.725	152.676	2.777	159.712	2.831	166.554	2.886	172.622	2.939	177.897	2.999
262.422	137.966	2.671	145.676	2.717	153.399	2.769	160.530	2.821	167.433	2.875	173.693	2.926	179.205	2.988
265.461	138.682	2.661	146.390	2.708	154.021	2.760	161.251	2.811	168.219	2.865	174.298	2.917	179.777	2.977
268.534	139.267	2.655	147.131	2.700	154.764	2.751	161.974	2.803	168.930	2.855	174.997	2.906	180.811	2.965
271.644	139.825	2.648	147.648	2.693	155.494	2.743	162.786	2.794	169.854	2.846	176.154	2.898	181.968	2.955
274.789	140.650	2.641	148.565	2.685	156.477	2.734	163.995	2.783	171.293	2.834	177.889	2.884	183.442	2.943
277.971	141.307	2.635	149.243	2.677	157.199	2.726	164.634	2.775	171.604	2.829	178.318	2.876	184.690	2.926
281.190	141.707	2.627	149.626	2.670	157.466	2.718	165.068	2.767	172.347	2.818	178.723	2.865	185.099	2.916
284.446	142.403	2.620	150.432	2.662	158.342	2.710	165.862	2.759	173.016	2.810	179.629	2.855	185.364	2.907
287.740	143.063	2.615	151.114	2.657	159.190	2.703	166.954	2.750	174.122	2.801	180.846	2.847	186.578	2.901
291.072	143.750	2.607	151.869	2.649	159.831	2.695	167.615	2.741	174.900	2.791	181.769	2.836	187.611	2.893
294.442	144.348	2.599	152.727	2.640	161.038	2.684	168.966	2.730	176.550	2.779	183.239	2.823	189.807	2.872
297.852	145.105	2.594	153.230	2.634	161.523	2.679	169.143	2.725	176.362	2.773	183.186	2.815	189.383	2.869
301.301	145.721	2.587	153.984	2.627	162.510	2.671	170.389	2.716	177.681	2.764	184.692	2.808	191.043	2.857
304.789	146.536	2.581	154.821	2.620	163.068	2.664	170.959	2.708	178.525	2.757	185.478	2.799	191.158	2.848
308.319	146.960	2.576	155.240	2.614	163.682	2.657	171.695	2.699	179.480	2.747	186.561	2.786	192.036	2.835



311.889	147.833	2.568	156.076	2.606	164.497	2.649	172.462	2.692	180.176	2.739	186.895	2.781	193.012	2.831
315.500	148.821	2.562	157.158	2.599	165.652	2.641	173.706	2.684	181.390	2.729	188.474	2.772	193.803	2.818
319.154	149.342	2.555	157.926	2.592	166.477	2.633	174.600	2.676	182.407	2.721	189.321	2.759	194.620	2.807
322.849	149.940	2.549	158.572	2.587	167.142	2.627	175.409	2.668	182.202	2.705	189.846	2.750	196.598	2.795
326.588	150.701	2.544	159.437	2.579	167.847	2.618	176.448	2.659	183.217	2.699	190.885	2.743	197.681	2.790
330.370	151.212	2.538	160.118	2.572	168.571	2.611	176.693	2.650	184.312	2.690	192.210	2.734	198.900	2.780
334.195	151.897	2.531	160.742	2.565	169.483	2.604	177.941	2.640	184.797	2.679	193.358	2.726	199.977	2.771
338.065	152.763	2.527	161.502	2.560	170.274	2.598	178.896	2.636	185.918	2.676	194.170	2.719	201.059	2.763
341.979	153.011	2.520	162.014	2.554	170.665	2.591	179.602	2.627	186.884	2.668	195.129	2.713	202.420	2.756
345.939	153.985	2.514	162.591	2.549	171.778	2.585	180.284	2.619	187.630	2.659	196.101	2.702	202.822	2.745
349.945	155.017	2.508	163.805	2.543	172.790	2.577	181.634	2.613	188.936	2.650	197.364	2.693	204.359	2.736
353.997	155.609	2.503	164.934	2.535	173.571	2.569	182.336	2.604	190.035	2.643	198.247	2.683	205.325	2.725
358.096	156.546	2.498	165.355	2.529	174.329	2.563	183.297	2.596	190.872	2.637	199.041	2.676	206.134	2.718
362.243	157.445	2.493	166.406	2.523	175.088	2.555	184.170	2.588	191.541	2.627	200.156	2.667	207.457	2.709
366.438	157.945	2.486	166.817	2.516	175.790	2.549	184.750	2.582	192.655	2.621	200.840	2.657	208.001	2.697
370.681	158.538	2.482	167.249	2.513	175.961	2.547	185.001	2.579	193.516	2.614	201.847	2.652	209.346	2.694
374.973	159.392	2.477	168.584	2.509	177.544	2.540	186.151	2.572	194.491	2.606	202.998	2.641	210.479	2.680
379.315	160.578	2.470	169.745	2.501	178.428	2.533	187.474	2.565	195.567	2.599	203.679	2.635	211.172	2.673
383.707	161.151	2.465	170.228	2.494	179.147	2.525	188.116	2.559	196.339	2.591	204.862	2.626	212.527	2.665
388.150	162.105	2.461	171.423	2.490	180.353	2.520	189.256	2.550	197.686	2.583	206.211	2.618	214.020	2.655
392.645	162.760	2.455	172.055	2.483	180.997	2.514	189.676	2.544	198.606	2.576	207.099	2.611	214.651	2.649
397.192	163.162	2.450	172.321	2.479	181.568	2.510	190.811	2.540	199.387	2.569	207.932	2.604	215.943	2.640
401.791	164.319	2.443	173.609	2.472	182.873	2.501	191.821	2.531	200.545	2.562	209.222	2.596	216.987	2.632
406.443	164.998	2.440	174.400	2.467	183.533	2.499	192.924	2.527	201.401	2.555	210.095	2.589	218.337	2.625
411.150	165.957	2.434	175.511	2.461	184.434	2.490	193.460	2.519	202.556	2.548	211.317	2.580	219.277	2.617
415.911	166.884	2.429	176.351	2.458	185.865	2.486	194.733	2.513	203.458	2.539	212.623	2.574	220.513	2.608
420.727	167.597	2.425	176.907	2.450	186.217	2.480	195.336	2.510	204.480	2.533	213.415	2.567	221.545	2.601
425.598	168.501	2.419	177.995	2.445	187.189	2.473	196.111	2.501	205.358	2.527	214.352	2.558	222.514	2.592
430.527	169.226	2.415	178.805	2.442	188.392	2.468	197.659	2.496	206.110	2.519	215.627	2.553	223.781	2.586
435.512	170.155	2.409	179.813	2.435	189.490	2.463	198.387	2.491	206.964	2.512	216.384	2.546	224.679	2.578
440.555	170.917	2.405	180.531	2.431	190.374	2.459	199.731	2.485	208.424	2.508	217.358	2.539	225.670	2.571
445.656	171.669	2.400	181.546	2.425	191.336	2.452	200.670	2.478	209.136	2.501	218.653	2.531	226.906	2.563
450.817	172.782	2.395	182.553	2.419	192.132	2.444	201.630	2.471	210.253	2.495	219.489	2.524	228.069	2.556
456.037	173.446	2.390	183.348	2.415	192.951	2.441	202.714	2.467	211.461	2.488	220.830	2.518	229.380	2.548
461.318	174.491	2.386	184.280	2.410	194.063	2.436	203.775	2.461	212.359	2.481	222.100	2.511	230.678	2.542
466.659	175.122	2.381	185.331	2.405	195.104	2.430	204.746	2.454	213.523	2.476	223.168	2.505	231.756	2.535
472.063	176.222	2.376	186.305	2.399	195.971	2.424	205.679	2.448	214.012	2.470	224.328	2.498	232.980	2.528
477.529	177.134	2.371	187.284	2.395	196.985	2.418	206.679	2.443	215.507	2.464	225.192	2.492	233.804	2.521
483.059	177.847	2.365	187.072	2.388	197.507	2.410	206.849	2.432	216.297	2.458	225.607	2.479	235.181	2.512
488.652	178.647	2.361	188.762	2.384	198.887	2.406	208.188	2.428	217.156	2.452	226.666	2.476	236.555	2.505
494.311	179.710	2.355	189.139	2.377	199.512	2.398	208.424	2.422	218.675	2.445	228.005	2.469	237.551	2.498
500.035	180.580	2.352	190.481	2.374	200.588	2.395	209.938	2.416	219.551	2.440	228.844	2.465	238.473	2.492
505.825	181.431	2.348	191.018	2.369	201.300	2.390	211.029	2.411	220.863	2.434	230.055	2.458	239.130	2.483
511.682	182.609	2.342	192.662	2.364	202.570	2.383	211.919	2.405	221.917	2.428	231.608	2.451	239.859	2.477
517.607	183.445	2.339	193.412	2.360	203.581	2.379	213.167	2.400	222.740	2.422	232.213	2.447	241.256	2.472
523.600	184.549	2.334	194.298	2.355	205.071	2.374	214.638	2.395	224.327	2.416	233.651	2.438	243.017	2.463
529.663	185.716	2.330	195.648	2.349	205.212	2.369	215.793	2.390	225.535	2.411	235.027	2.434	243.956	2.459

535.797	186.575	2.325	196.451	2.345	206.574	2.364	216.177	2.383	226.197	2.404	235.710	2.426	244.956	2.452
542.001	187.572	2.321	197.072	2.341	207.747	2.359	217.353	2.379	227.108	2.399	237.086	2.421	246.304	2.446
548.277	188.499	2.318	198.670	2.337	208.645	2.356	218.840	2.374	228.413	2.395	238.643	2.417	247.786	2.441
554.626	189.139	2.313	199.274	2.332	210.130	2.350	219.561	2.368	229.894	2.389	239.443	2.410	249.275	2.433
561.048	190.466	2.309	200.213	2.327	210.868	2.344	220.929	2.364	230.962	2.384	241.003	2.405	250.017	2.428
567.545	191.201	2.306	201.671	2.323	211.799	2.341	221.672	2.359	231.596	2.378	241.790	2.399	251.193	2.422
574.116	192.036	2.300	202.363	2.318	213.337	2.336	223.179	2.354	232.792	2.373	243.159	2.393	252.516	2.417
580.764	193.432	2.297	203.260	2.314	213.885	2.331	223.998	2.349	234.074	2.369	244.056	2.388	254.136	2.411
587.489	194.599	2.293	204.337	2.310	215.063	2.327	225.170	2.345	235.658	2.363	245.158	2.382	255.181	2.405
594.292	195.563	2.290	205.994	2.306	216.757	2.323	226.977	2.340	236.991	2.359	246.513	2.373	256.796	2.395
601.174	196.404	2.285	206.619	2.302	217.254	2.317	227.437	2.334	238.026	2.352	247.782	2.371	257.913	2.394
608.135	197.438	2.281	207.408	2.297	218.797	2.313	229.068	2.329	239.130	2.347	249.236	2.366	258.682	2.387
615.177	198.702	2.277	208.584	2.292	219.229	2.307	229.924	2.323	240.598	2.341	250.410	2.361	259.905	2.381
622.300	199.496	2.273	209.689	2.289	220.481	2.303	230.894	2.319	241.300	2.336	251.940	2.354	261.312	2.377
629.506	200.734	2.269	210.721	2.285	221.283	2.299	232.869	2.314	242.650	2.331	252.944	2.349	263.295	2.371
636.796	201.518	2.264	212.283	2.279	223.053	2.294	233.100	2.310	243.997	2.326	254.797	2.345	263.363	2.364
644.169	202.661	2.261	213.118	2.276	224.112	2.291	234.609	2.306	245.416	2.322	255.127	2.339	265.255	2.359
651.628	203.610	2.257	214.141	2.272	224.880	2.285	235.858	2.301	246.933	2.316	256.544	2.335	267.234	2.353
659.174	205.060	2.254	215.640	2.268	226.146	2.282	236.878	2.297	247.900	2.312	258.446	2.329	268.076	2.349
666.807	205.847	2.250	216.650	2.262	227.210	2.276	237.416	2.292	248.297	2.307	258.615	2.322	269.140	2.344
674.528	207.460	2.247	217.431	2.259	228.304	2.272	239.866	2.286	250.187	2.300	260.994	2.317	270.914	2.338
682.339	207.974	2.244	218.154	2.257	229.767	2.270	240.421	2.284	251.580	2.299	262.311	2.315	271.896	2.334
690.240	209.281	2.240	219.965	2.253	231.153	2.267	242.066	2.280	252.362	2.295	263.039	2.310	273.930	2.329
698.232	210.376	2.237	221.241	2.249	231.757	2.263	243.349	2.276	254.497	2.289	263.674	2.304	274.929	2.323
706.318	211.464	2.234	222.133	2.246	233.639	2.258	244.290	2.272	255.371	2.285	265.379	2.301	276.513	2.318
714.496	212.815	2.230	223.445	2.242	234.655	2.255	245.730	2.267	256.042	2.281	267.156	2.294	277.370	2.314
722.770	213.381	2.226	224.450	2.237	236.003	2.250	246.901	2.263	256.699	2.276	268.092	2.288	278.831	2.310
731.139	214.826	2.223	225.295	2.234	237.160	2.247	248.167	2.259	258.786	2.271	269.445	2.284	279.378	2.302
739.605	216.222	2.220	227.224	2.230	237.860	2.244	249.583	2.257	259.355	2.268	270.831	2.279	281.872	2.299
748.170	217.256	2.216	228.041	2.228	238.420	2.239	250.285	2.253	261.008	2.262	273.334	2.274	284.121	2.294
756.833	219.316	2.212	229.419	2.224	241.211	2.237	251.292	2.248	263.042	2.260	273.721	2.270	284.545	2.290
765.597	218.100	2.208	232.260	2.221	242.016	2.232	254.275	2.246	263.126	2.257	274.831	2.265	285.459	2.283
774.462	220.260	2.202	232.134	2.213	242.743	2.228	253.813	2.241	264.731	2.254	274.546	2.265	284.995	2.280
783.430	221.883	2.199	234.136	2.213	247.107	2.227	256.438	2.241	267.983	2.253	279.666	2.260	287.984	2.276
792.501	223.523	2.198	235.395	2.210	245.907	2.221	257.003	2.236	268.056	2.243	278.229	2.257	289.500	2.271
801.678	224.653	2.189	236.682	2.204	246.451	2.219	258.996	2.229	267.866	2.239	280.226	2.254	289.488	2.266
810.961	226.820	2.189	237.339	2.201	247.811	2.213	260.654	2.225	269.570	2.234	281.613	2.247	292.523	2.258
820.352	227.559	2.184	239.789	2.198	250.447	2.209	260.984	2.223	272.198	2.232	282.306	2.244	292.178	2.255
829.851	228.669	2.183	239.735	2.195	250.486	2.205	263.699	2.221	273.247	2.228	284.308	2.236	294.608	2.248
839.460	229.914	2.176	242.083	2.192	252.380	2.202	264.011	2.216	274.812	2.224	286.315	2.231	295.694	2.245
849.180	232.279	2.176	243.153	2.186	254.114	2.195	265.705	2.210	276.381	2.217	287.585	2.229	297.055	2.245
859.014	232.798	2.170	244.334	2.185	255.276	2.193	266.562	2.207	277.942	2.212	288.299	2.226	298.310	2.240
868.960	234.082	2.168	244.857	2.181	257.002	2.191	268.653	2.204	278.923	2.212	289.626	2.222	299.555	2.235
879.023	235.346	2.165	246.941	2.178	257.502	2.187	269.405	2.202	279.533	2.208	291.642	2.218	301.577	2.231
889.201	236.886	2.159	247.289	2.175	259.308	2.184	271.172	2.195	281.924	2.203	293.302	2.214	303.835	2.229
899.498	238.398	2.159	250.414	2.170	259.717	2.180	272.748	2.193	282.702	2.200	294.859	2.209	305.943	2.222
909.913	239.379	2.155	251.728	2.167	261.515	2.178	274.270	2.190	284.620	2.194	295.454	2.207	307.155	2.216

920.450	241.805	2.151	252.918	2.165	263.336	2.173	275.998	2.185	287.124	2.191	297.538	2.202	308.792	2.212
931.108	242.984	2.150	254.190	2.161	265.372	2.170	277.545	2.181	288.039	2.186	299.846	2.199	309.604	2.208
941.890	243.696	2.147	255.462	2.158	266.415	2.168	279.335	2.179	290.070	2.185	300.435	2.194	312.380	2.205
952.796	244.468	2.144	257.619	2.156	268.516	2.164	280.405	2.175	291.202	2.180	302.388	2.188	313.413	2.203
963.829	246.638	2.142	258.962	2.151	270.367	2.160	282.327	2.169	292.155	2.176	303.606	2.186	314.961	2.198
974.990	248.239	2.136	260.147	2.148	271.572	2.156	283.103	2.168	293.215	2.172	304.494	2.186	317.871	2.194
986.279	249.579	2.133	262.255	2.145	272.941	2.155	283.602	2.164	295.956	2.169	306.787	2.182	316.441	2.192
997.700	250.695	2.130	262.938	2.145	271.423	2.151	285.117	2.162	298.175	2.163	307.462	2.175	321.027	2.191
1009.25	253.067	2.127	263.455	2.141	273.749	2.146	288.098	2.159	298.113	2.164	310.880	2.173	320.640	2.182
1020.94	254.566	2.125	265.765	2.138	277.204	2.141	290.042	2.153	299.656	2.161	311.139	2.169	320.835	2.181
1032.76	255.218	2.126	267.283	2.133	278.889	2.139	291.920	2.148	302.822	2.156	312.146	2.163	324.263	2.175
1044.72	256.339	2.115	267.569	2.132	280.016	2.137	291.982	2.149	304.038	2.155	317.019	2.161	326.608	2.171
1056.82	257.291	2.112	270.254	2.130	279.266	2.136	293.878	2.142	306.030	2.150	316.630	2.162	328.904	2.167
1069.05	259.449	2.112	270.845	2.122	283.448	2.131	296.412	2.137	307.500	2.145	317.371	2.159	328.349	2.162
1081.43	261.299	2.114	272.629	2.119	284.531	2.131	297.642	2.135	309.208	2.142	321.427	2.150	332.971	2.157
1093.96	263.065	2.111	273.814	2.117	286.214	2.129	301.343	2.134	309.977	2.141	322.316	2.151	333.115	2.154
1106.62	264.701	2.106	275.326	2.117	288.691	2.123	303.195	2.131	311.372	2.139	321.427	2.145	337.444	2.152
1119.44	266.327	2.101	276.479	2.113	290.543	2.125	303.507	2.129	312.912	2.137	325.563	2.142	337.444	2.150
1124.60	266.651	2.098	276.571	2.110	291.313	2.122	306.129	2.127	314.307	2.135	326.188	2.142	338.527	2.148

Freq (GHz)	Water at 65 °C		Water at 70 °C		Water at 75 °C		Water at 80 °C		Water at 85 °C		Water at 90 °C		Water at 95 °C	
	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n	a (cm <sup>-1</sup> )	n
0.05000	0.00016	8.123	0.00014	8.017	0.00015	7.924	0.00008	7.815	0.00030	7.718	0.00015	7.630	0.00027	7.540
0.05058	0.00018	8.124	0.00014	8.016	0.00020	7.924	0.00006	7.815	0.00034	7.720	0.00014	7.632	0.00023	7.540
0.05117	0.00020	8.125	0.00013	8.015	0.00023	7.924	0.00005	7.814	0.00038	7.722	0.00015	7.633	0.00018	7.540
0.05176	0.00021	8.126	0.00013	8.015	0.00019	7.924	0.00005	7.814	0.00042	7.724	0.00016	7.634	0.00014	7.540
0.05236	0.00022	8.126	0.00012	8.014	0.00015	7.924	0.00006	7.813	0.00044	7.724	0.00016	7.635	0.00014	7.540
0.05297	0.00022	8.126	0.00012	8.014	0.00011	7.923	0.00009	7.812	0.00044	7.724	0.00016	7.636	0.00015	7.540
0.05358	0.00022	8.127	0.00011	8.014	0.00007	7.922	0.00012	7.811	0.00044	7.723	0.00015	7.637	0.00016	7.540
0.05420	0.00021	8.126	0.00011	8.013	0.00010	7.921	0.00014	7.811	0.00045	7.722	0.00014	7.638	0.00016	7.541
0.05483	0.00020	8.125	0.00010	8.014	0.00014	7.920	0.00015	7.811	0.00048	7.722	0.00013	7.638	0.00016	7.541
0.05546	0.00018	8.124	0.00010	8.014	0.00018	7.921	0.00016	7.810	0.00055	7.722	0.00014	7.638	0.00015	7.542
0.05610	0.00016	8.123	0.00010	8.015	0.00021	7.921	0.00017	7.810	0.00063	7.723	0.00018	7.638	0.00014	7.543
0.05675	0.00016	8.122	0.00010	8.016	0.00019	7.921	0.00018	7.811	0.00071	7.723	0.00023	7.637	0.00013	7.544
0.05741	0.00017	8.122	0.00011	8.015	0.00016	7.921	0.00021	7.812	0.00075	7.724	0.00029	7.637	0.00013	7.545
0.05808	0.00017	8.121	0.00015	8.014	0.00014	7.920	0.00025	7.812	0.00073	7.724	0.00031	7.636	0.00018	7.545
0.05875	0.00018	8.121	0.00021	8.014	0.00012	7.919	0.00029	7.813	0.00069	7.723	0.00028	7.636	0.00023	7.545
0.05943	0.00018	8.121	0.00027	8.013	0.00020	7.918	0.00030	7.813	0.00066	7.723	0.00022	7.635	0.00029	7.546
0.06012	0.00017	8.120	0.00031	8.015	0.00029	7.917	0.00026	7.813	0.00062	7.723	0.00016	7.635	0.00034	7.546
0.06081	0.00016	8.120	0.00029	8.017	0.00038	7.917	0.00018	7.812	0.00059	7.722	0.00013	7.634	0.00028	7.547
0.06152	0.00015	8.120	0.00025	8.019	0.00044	7.916	0.00009	7.812	0.00056	7.721	0.00018	7.634	0.00022	7.547
0.06223	0.00013	8.121	0.00021	8.019	0.00042	7.915	0.00004	7.813	0.00052	7.721	0.00024	7.634	0.00016	7.548
0.06295	0.00010	8.121	0.00021	8.018	0.00040	7.916	0.00002	7.813	0.00051	7.722	0.00031	7.634	0.00011	7.549
0.06368	0.00008	8.122	0.00023	8.016	0.00038	7.918	0.00002	7.814	0.00050	7.723	0.00032	7.634	0.00017	7.551
0.06442	0.00008	8.122	0.00026	8.015	0.00036	7.920	0.00002	7.815	0.00050	7.725	0.00027	7.634	0.00024	7.554
0.06516	0.00008	8.121	0.00027	8.015	0.00034	7.921	0.00002	7.817	0.00049	7.726	0.00021	7.634	0.00030	7.556
0.06592	0.00008	8.120	0.00022	8.016	0.00032	7.920	0.00002	7.818	0.00048	7.725	0.00016	7.634	0.00032	7.558
0.06668	0.00008	8.120	0.00017	8.017	0.00030	7.918	0.00002	7.819	0.00047	7.724	0.00014	7.636	0.00027	7.557
0.06745	0.00007	8.120	0.00011	8.017	0.00025	7.917	0.00004	7.819	0.00045	7.723	0.00013	7.637	0.00021	7.556
0.06823	0.00007	8.120	0.00012	8.016	0.00021	7.918	0.00008	7.818	0.00045	7.723	0.00012	7.637	0.00015	7.556
0.06902	0.00008	8.120	0.00014	8.015	0.00018	7.919	0.00012	7.817	0.00045	7.723	0.00012	7.638	0.00014	7.555
0.06982	0.00012	8.121	0.00016	8.014	0.00023	7.920	0.00015	7.816	0.00045	7.723	0.00012	7.638	0.00013	7.554
0.07063	0.00016	8.121	0.00018	8.014	0.00028	7.919	0.00014	7.816	0.00046	7.723	0.00011	7.638	0.00012	7.553
0.07145	0.00017	8.122	0.00018	8.014	0.00033	7.918	0.00012	7.816	0.00048	7.723	0.00012	7.638	0.00012	7.551
0.07228	0.00016	8.122	0.00019	8.013	0.00033	7.917	0.00010	7.817	0.00051	7.722	0.00013	7.637	0.00012	7.550
0.07311	0.00014	8.121	0.00017	8.012	0.00031	7.916	0.00007	7.817	0.00052	7.722	0.00014	7.637	0.00011	7.548
0.07396	0.00015	8.122	0.00013	8.011	0.00029	7.916	0.00004	7.818	0.00049	7.723	0.00015	7.636	0.00011	7.546
0.07482	0.00019	8.122	0.00009	8.011	0.00029	7.915	0.00002	7.818	0.00045	7.723	0.00015	7.635	0.00013	7.548
0.07568	0.00024	8.123	0.00010	8.011	0.00029	7.915	0.00005	7.817	0.00043	7.723	0.00014	7.635	0.00014	7.550
0.07656	0.00025	8.124	0.00013	8.012	0.00029	7.915	0.00012	7.816	0.00043	7.722	0.00014	7.635	0.00016	7.552
0.07745	0.00025	8.124	0.00017	8.012	0.00034	7.915	0.00017	7.816	0.00044	7.721	0.00013	7.636	0.00015	7.552
0.07834	0.00024	8.124	0.00016	8.013	0.00039	7.915	0.00016	7.816	0.00046	7.721	0.00013	7.636	0.00014	7.552
0.07925	0.00023	8.124	0.00014	8.013	0.00045	7.916	0.00010	7.816	0.00051	7.722	0.00015	7.636	0.00013	7.553
0.08017	0.00022	8.125	0.00012	8.014	0.00044	7.916	0.00005	7.816	0.00057	7.723	0.00024	7.635	0.00013	7.553
0.08110	0.00021	8.126	0.00011	8.014	0.00043	7.917	0.00005	7.815	0.00058	7.723	0.00036	7.634	0.00013	7.553
0.08204	0.00022	8.126	0.00010	8.014	0.00041	7.917	0.00007	7.815	0.00054	7.722	0.00044	7.633	0.00013	7.553
0.08299	0.00023	8.126	0.00011	8.014	0.00040	7.917	0.00007	7.815	0.00047	7.720	0.00045	7.632	0.00024	7.553

0.08395	0.00025	8.126	0.00015	8.014	0.00039	7.916	0.00006	7.816	0.00045	7.720	0.00042	7.632	0.00036	7.552
0.08492	0.00028	8.126	0.00020	8.014	0.00038	7.915	0.00003	7.817	0.00046	7.721	0.00040	7.632	0.00048	7.552
0.08590	0.00030	8.125	0.00020	8.014	0.00038	7.916	0.00004	7.816	0.00047	7.722	0.00039	7.633	0.00045	7.554
0.08690	0.00028	8.125	0.00018	8.014	0.00037	7.917	0.00010	7.816	0.00050	7.723	0.00039	7.633	0.00042	7.556
0.08790	0.00025	8.125	0.00016	8.015	0.00035	7.917	0.00016	7.816	0.00053	7.723	0.00046	7.633	0.00040	7.557
0.08892	0.00025	8.125	0.00016	8.016	0.00032	7.917	0.00017	7.816	0.00055	7.723	0.00059	7.632	0.00039	7.555
0.08995	0.00027	8.124	0.00015	8.016	0.00032	7.917	0.00016	7.816	0.00054	7.723	0.00067	7.632	0.00038	7.554
0.09099	0.00029	8.124	0.00018	8.016	0.00038	7.916	0.00014	7.816	0.00053	7.724	0.00066	7.633	0.00045	7.553
0.09204	0.00030	8.124	0.00023	8.016	0.00044	7.916	0.00014	7.816	0.00046	7.724	0.00060	7.633	0.00059	7.553
0.09311	0.00031	8.124	0.00026	8.016	0.00042	7.915	0.00015	7.816	0.00037	7.723	0.00051	7.632	0.00072	7.553
0.09419	0.00033	8.125	0.00026	8.016	0.00041	7.916	0.00020	7.816	0.00035	7.723	0.00039	7.632	0.00066	7.553
0.09528	0.00034	8.125	0.00026	8.016	0.00041	7.917	0.00029	7.816	0.00043	7.723	0.00033	7.632	0.00060	7.553
0.09638	0.00035	8.125	0.00026	8.016	0.00042	7.917	0.00032	7.816	0.00054	7.723	0.00037	7.632	0.00051	7.552
0.09750	0.00034	8.125	0.00027	8.016	0.00043	7.918	0.00030	7.815	0.00055	7.723	0.00046	7.632	0.00039	7.551
0.09863	0.00033	8.125	0.00027	8.016	0.00045	7.918	0.00027	7.814	0.00052	7.723	0.00048	7.632	0.00027	7.551
0.09977	0.00032	8.125	0.00026	8.016	0.00047	7.918	0.00024	7.814	0.00049	7.723	0.00044	7.632	0.00037	7.551
0.10093	0.00030	8.125	0.00026	8.016	0.00048	7.917	0.00021	7.814	0.00046	7.723	0.00040	7.631	0.00047	7.551
0.10209	0.00030	8.125	0.00026	8.016	0.00049	7.917	0.00021	7.815	0.00044	7.723	0.00036	7.631	0.00048	7.551
0.10328	0.00031	8.125	0.00026	8.016	0.00050	7.916	0.00024	7.815	0.00043	7.722	0.00033	7.631	0.00044	7.551
0.10447	0.00033	8.125	0.00026	8.016	0.00051	7.916	0.00027	7.816	0.00043	7.722	0.00031	7.631	0.00040	7.551
0.10568	0.00034	8.124	0.00025	8.016	0.00053	7.917	0.00030	7.817	0.00044	7.722	0.00031	7.631	0.00036	7.551
0.10691	0.00036	8.124	0.00024	8.016	0.00050	7.917	0.00033	7.817	0.00044	7.722	0.00032	7.631	0.00032	7.550
0.10814	0.00035	8.124	0.00023	8.016	0.00046	7.917	0.00036	7.817	0.00045	7.722	0.00032	7.631	0.00031	7.550
0.10940	0.00035	8.124	0.00023	8.016	0.00043	7.917	0.00038	7.817	0.00047	7.722	0.00033	7.631	0.00031	7.551
0.11066	0.00034	8.124	0.00029	8.016	0.00039	7.916	0.00041	7.817	0.00050	7.722	0.00037	7.630	0.00032	7.551
0.11194	0.00033	8.124	0.00035	8.016	0.00037	7.916	0.00043	7.817	0.00053	7.722	0.00043	7.630	0.00032	7.551
0.11324	0.00033	8.124	0.00041	8.016	0.00042	7.915	0.00044	7.817	0.00056	7.722	0.00048	7.629	0.00032	7.551
0.11455	0.00033	8.123	0.00047	8.016	0.00046	7.915	0.00042	7.817	0.00060	7.722	0.00053	7.629	0.00037	7.552
0.11588	0.00033	8.123	0.00053	8.016	0.00050	7.914	0.00040	7.816	0.00065	7.722	0.00055	7.629	0.00042	7.552
0.11722	0.00034	8.123	0.00058	8.016	0.00054	7.914	0.00038	7.816	0.00069	7.721	0.00051	7.628	0.00048	7.553
0.11858	0.00035	8.123	0.00064	8.016	0.00055	7.914	0.00036	7.816	0.00074	7.721	0.00048	7.628	0.00053	7.553
0.11995	0.00037	8.123	0.00069	8.016	0.00057	7.914	0.00034	7.816	0.00075	7.721	0.00044	7.627	0.00055	7.554
0.12134	0.00039	8.123	0.00067	8.016	0.00058	7.914	0.00034	7.816	0.00075	7.721	0.00043	7.627	0.00051	7.554
0.12274	0.00041	8.123	0.00062	8.015	0.00059	7.914	0.00033	7.817	0.00073	7.721	0.00047	7.627	0.00047	7.555
0.12417	0.00047	8.123	0.00057	8.015	0.00062	7.914	0.00033	7.816	0.00071	7.721	0.00053	7.627	0.00044	7.555
0.12560	0.00054	8.123	0.00051	8.015	0.00065	7.914	0.00034	7.816	0.00071	7.721	0.00059	7.627	0.00041	7.555
0.12706	0.00062	8.123	0.00050	8.015	0.00068	7.914	0.00038	7.816	0.00073	7.721	0.00065	7.627	0.00047	7.554
0.12853	0.00069	8.123	0.00049	8.015	0.00070	7.914	0.00041	7.816	0.00075	7.720	0.00069	7.627	0.00053	7.552
0.13002	0.00069	8.123	0.00049	8.015	0.00072	7.914	0.00043	7.816	0.00078	7.720	0.00074	7.627	0.00059	7.551
0.13152	0.00068	8.123	0.00049	8.016	0.00073	7.914	0.00042	7.816	0.00079	7.720	0.00078	7.628	0.00065	7.550
0.13305	0.00067	8.123	0.00051	8.016	0.00074	7.914	0.00040	7.816	0.00079	7.721	0.00078	7.627	0.00069	7.550
0.13459	0.00066	8.123	0.00053	8.017	0.00076	7.914	0.00038	7.816	0.00078	7.721	0.00072	7.627	0.00073	7.549
0.13614	0.00066	8.122	0.00055	8.017	0.00079	7.914	0.00036	7.816	0.00077	7.721	0.00063	7.627	0.00078	7.549
0.13772	0.00065	8.122	0.00059	8.017	0.00082	7.914	0.00034	7.816	0.00079	7.721	0.00055	7.628	0.00080	7.549
0.13932	0.00065	8.122	0.00064	8.018	0.00085	7.914	0.00033	7.816	0.00081	7.721	0.00051	7.628	0.00072	7.548
0.14093	0.00067	8.122	0.00070	8.018	0.00083	7.914	0.00031	7.816	0.00084	7.722	0.00051	7.629	0.00063	7.548
0.14256	0.00071	8.122	0.00074	8.018	0.00079	7.914	0.00031	7.816	0.00087	7.722	0.00052	7.629	0.00055	7.548

0.14421	0.00074	8.122	0.00076	8.018	0.00076	7.914	0.00030	7.816	0.00090	7.722	0.00053	7.629	0.00050	7.548
0.14588	0.00079	8.122	0.00076	8.018	0.00075	7.914	0.00030	7.816	0.00094	7.723	0.00054	7.630	0.00051	7.548
0.14757	0.00084	8.122	0.00077	8.018	0.00079	7.915	0.00029	7.816	0.00098	7.724	0.00056	7.630	0.00052	7.547
0.14928	0.00089	8.122	0.00079	8.018	0.00082	7.914	0.00028	7.816	0.00098	7.724	0.00057	7.631	0.00053	7.547
0.15101	0.00093	8.122	0.00081	8.018	0.00086	7.914	0.00027	7.816	0.00095	7.724	0.00060	7.631	0.00054	7.547
0.15276	0.00096	8.122	0.00083	8.018	0.00089	7.914	0.00027	7.816	0.00092	7.724	0.00063	7.631	0.00055	7.547
0.15453	0.00100	8.122	0.00085	8.018	0.00092	7.914	0.00030	7.816	0.00093	7.723	0.00067	7.631	0.00057	7.548
0.15631	0.00101	8.122	0.00086	8.019	0.00095	7.914	0.00034	7.815	0.00097	7.724	0.00070	7.631	0.00059	7.548
0.15812	0.00100	8.123	0.00088	8.019	0.00101	7.914	0.00038	7.815	0.00102	7.724	0.00071	7.631	0.00063	7.549
0.15996	0.00099	8.123	0.00088	8.019	0.00108	7.914	0.00044	7.815	0.00106	7.724	0.00073	7.631	0.00067	7.550
0.16181	0.00098	8.123	0.00089	8.019	0.00116	7.914	0.00051	7.815	0.00110	7.724	0.00074	7.631	0.00070	7.551
0.16368	0.00098	8.123	0.00089	8.019	0.00117	7.915	0.00057	7.815	0.00113	7.724	0.00075	7.631	0.00071	7.551
0.16558	0.00097	8.123	0.00089	8.019	0.00117	7.915	0.00062	7.815	0.00117	7.724	0.00076	7.631	0.00072	7.551
0.16749	0.00100	8.123	0.00089	8.018	0.00117	7.914	0.00066	7.815	0.00120	7.724	0.00077	7.631	0.00073	7.551
0.16943	0.00105	8.123	0.00090	8.018	0.00112	7.914	0.00068	7.814	0.00124	7.724	0.00081	7.631	0.00074	7.552
0.17140	0.00111	8.123	0.00083	8.019	0.00106	7.914	0.00063	7.814	0.00122	7.724	0.00086	7.631	0.00075	7.552
0.17338	0.00112	8.123	0.00075	8.019	0.00101	7.915	0.00053	7.813	0.00112	7.723	0.00090	7.631	0.00076	7.553
0.17539	0.00112	8.123	0.00069	8.019	0.00113	7.915	0.00048	7.814	0.00099	7.723	0.00092	7.631	0.00081	7.553
0.17742	0.00115	8.124	0.00085	8.019	0.00126	7.915	0.00055	7.814	0.00096	7.723	0.00094	7.631	0.00085	7.554
0.17947	0.00124	8.123	0.00106	8.019	0.00135	7.915	0.00070	7.814	0.00102	7.723	0.00096	7.631	0.00090	7.554
0.18155	0.00134	8.123	0.00121	8.019	0.00130	7.915	0.00077	7.814	0.00111	7.723	0.00098	7.631	0.00092	7.554
0.18365	0.00138	8.122	0.00127	8.020	0.00126	7.915	0.00070	7.814	0.00115	7.723	0.00101	7.631	0.00093	7.554
0.18578	0.00138	8.122	0.00133	8.020	0.00124	7.915	0.00059	7.814	0.00115	7.723	0.00106	7.631	0.00095	7.555
0.18793	0.00137	8.122	0.00136	8.020	0.00125	7.915	0.00058	7.814	0.00115	7.723	0.00113	7.632	0.00098	7.555
0.19011	0.00139	8.122	0.00139	8.020	0.00127	7.915	0.00071	7.815	0.00125	7.723	0.00121	7.632	0.00101	7.555
0.19231	0.00142	8.122	0.00140	8.020	0.00130	7.915	0.00081	7.815	0.00139	7.723	0.00123	7.632	0.00105	7.555
0.19454	0.00144	8.123	0.00136	8.021	0.00134	7.915	0.00085	7.814	0.00144	7.723	0.00121	7.632	0.00113	7.555
0.19679	0.00144	8.123	0.00132	8.021	0.00141	7.915	0.00084	7.814	0.00140	7.723	0.00121	7.632	0.00121	7.555
0.19907	0.00145	8.123	0.00126	8.020	0.00151	7.915	0.00088	7.815	0.00133	7.723	0.00125	7.632	0.00122	7.554
0.20137	0.00147	8.123	0.00119	8.020	0.00161	7.915	0.00101	7.815	0.00137	7.723	0.00131	7.632	0.00120	7.554
0.20370	0.00149	8.123	0.00118	8.020	0.00161	7.915	0.00112	7.815	0.00147	7.722	0.00135	7.632	0.00118	7.554
0.20606	0.00151	8.123	0.00122	8.020	0.00159	7.915	0.00113	7.814	0.00155	7.722	0.00137	7.631	0.00124	7.554
0.20845	0.00153	8.123	0.00128	8.020	0.00161	7.915	0.00108	7.814	0.00161	7.722	0.00138	7.631	0.00130	7.555
0.21086	0.00156	8.123	0.00134	8.020	0.00166	7.915	0.00106	7.814	0.00167	7.722	0.00137	7.631	0.00134	7.555
0.21330	0.00162	8.123	0.00140	8.020	0.00171	7.915	0.00107	7.814	0.00169	7.722	0.00136	7.631	0.00136	7.556
0.21577	0.00168	8.123	0.00144	8.020	0.00176	7.915	0.00108	7.814	0.00171	7.722	0.00136	7.631	0.00138	7.556
0.21827	0.00174	8.123	0.00147	8.020	0.00181	7.915	0.00109	7.814	0.00172	7.722	0.00136	7.631	0.00137	7.556
0.22080	0.00180	8.123	0.00150	8.020	0.00182	7.915	0.00110	7.814	0.00174	7.722	0.00137	7.631	0.00135	7.555
0.22336	0.00186	8.123	0.00152	8.020	0.00181	7.915	0.00113	7.814	0.00176	7.722	0.00138	7.631	0.00135	7.555
0.22594	0.00189	8.122	0.00155	8.020	0.00180	7.915	0.00119	7.814	0.00181	7.722	0.00139	7.631	0.00136	7.555
0.22856	0.00193	8.122	0.00158	8.020	0.00179	7.915	0.00125	7.814	0.00188	7.722	0.00142	7.631	0.00137	7.555
0.23121	0.00197	8.122	0.00163	8.020	0.00178	7.915	0.00131	7.814	0.00195	7.722	0.00147	7.631	0.00137	7.555
0.23388	0.00201	8.122	0.00167	8.020	0.00178	7.915	0.00136	7.814	0.00202	7.722	0.00152	7.631	0.00138	7.555
0.23659	0.00203	8.122	0.00172	8.019	0.00177	7.915	0.00140	7.814	0.00206	7.722	0.00157	7.631	0.00142	7.555
0.23933	0.00206	8.122	0.00177	8.019	0.00176	7.915	0.00142	7.814	0.00205	7.721	0.00162	7.631	0.00146	7.556
0.24210	0.00208	8.122	0.00187	8.019	0.00175	7.915	0.00145	7.814	0.00203	7.721	0.00165	7.631	0.00151	7.556
0.24491	0.00211	8.122	0.00197	8.019	0.00178	7.915	0.00147	7.814	0.00201	7.721	0.00168	7.631	0.00156	7.556

0.24774	0.00219	8.122	0.00207	8.019	0.00188	7.915	0.00150	7.814	0.00198	7.721	0.00171	7.631	0.00161	7.556
0.25061	0.00230	8.122	0.00217	8.019	0.00198	7.915	0.00153	7.814	0.00205	7.721	0.00174	7.631	0.00164	7.556
0.25351	0.00241	8.122	0.00223	8.019	0.00208	7.915	0.00156	7.815	0.00215	7.721	0.00175	7.631	0.00167	7.556
0.25645	0.00253	8.122	0.00226	8.020	0.00218	7.916	0.00159	7.815	0.00226	7.721	0.00175	7.631	0.00170	7.556
0.25942	0.00260	8.122	0.00230	8.020	0.00226	7.916	0.00164	7.815	0.00237	7.721	0.00174	7.631	0.00173	7.556
0.26242	0.00265	8.122	0.00234	8.020	0.00234	7.916	0.00172	7.815	0.00244	7.721	0.00173	7.631	0.00175	7.556
0.26546	0.00270	8.122	0.00241	8.020	0.00242	7.916	0.00182	7.815	0.00247	7.721	0.00174	7.631	0.00174	7.556
0.26853	0.00275	8.122	0.00250	8.020	0.00250	7.916	0.00192	7.815	0.00249	7.721	0.00177	7.631	0.00173	7.556
0.27164	0.00282	8.122	0.00258	8.020	0.00254	7.916	0.00200	7.815	0.00252	7.721	0.00181	7.630	0.00172	7.556
0.27479	0.00290	8.122	0.00267	8.020	0.00258	7.915	0.00203	7.815	0.00254	7.720	0.00185	7.630	0.00172	7.556
0.27797	0.00298	8.122	0.00275	8.020	0.00262	7.915	0.00204	7.814	0.00254	7.720	0.00189	7.630	0.00176	7.556
0.28119	0.00306	8.122	0.00282	8.019	0.00266	7.915	0.00205	7.814	0.00255	7.720	0.00194	7.630	0.00180	7.556
0.28445	0.00314	8.122	0.00290	8.019	0.00268	7.915	0.00207	7.814	0.00256	7.720	0.00200	7.630	0.00184	7.555
0.28774	0.00322	8.122	0.00297	8.019	0.00270	7.915	0.00213	7.814	0.00262	7.720	0.00205	7.631	0.00188	7.555
0.29107	0.00330	8.123	0.00302	8.019	0.00273	7.915	0.00221	7.814	0.00271	7.720	0.00208	7.631	0.00193	7.555
0.29444	0.00339	8.123	0.00305	8.020	0.00278	7.915	0.00228	7.814	0.00282	7.721	0.00206	7.631	0.00199	7.555
0.29785	0.00347	8.123	0.00309	8.020	0.00287	7.915	0.00236	7.814	0.00293	7.721	0.00203	7.631	0.00204	7.555
0.30130	0.00355	8.123	0.00312	8.020	0.00296	7.915	0.00242	7.814	0.00298	7.721	0.00200	7.631	0.00208	7.555
0.30479	0.00363	8.123	0.00314	8.020	0.00305	7.915	0.00249	7.815	0.00302	7.721	0.00201	7.631	0.00205	7.556
0.30832	0.00369	8.123	0.00316	8.020	0.00313	7.915	0.00256	7.815	0.00305	7.721	0.00205	7.631	0.00203	7.556
0.31189	0.00374	8.123	0.00320	8.020	0.00320	7.915	0.00262	7.814	0.00307	7.721	0.00209	7.631	0.00200	7.556
0.31550	0.00379	8.123	0.00330	8.019	0.00328	7.915	0.00269	7.814	0.00306	7.721	0.00214	7.631	0.00200	7.556
0.31915	0.00390	8.123	0.00340	8.019	0.00334	7.914	0.00276	7.814	0.00305	7.720	0.00223	7.631	0.00204	7.555
0.32285	0.00404	8.123	0.00351	8.019	0.00339	7.914	0.00284	7.814	0.00304	7.720	0.00234	7.631	0.00208	7.555
0.32659	0.00418	8.123	0.00361	8.020	0.00345	7.915	0.00293	7.814	0.00312	7.720	0.00246	7.630	0.00212	7.555
0.33037	0.00425	8.123	0.00371	8.020	0.00351	7.915	0.00302	7.814	0.00325	7.720	0.00256	7.630	0.00222	7.555
0.33420	0.00428	8.123	0.00381	8.020	0.00363	7.915	0.00311	7.814	0.00338	7.720	0.00265	7.630	0.00233	7.555
0.33806	0.00429	8.122	0.00394	8.020	0.00376	7.915	0.00319	7.814	0.00345	7.720	0.00275	7.630	0.00244	7.555
0.34198	0.00437	8.122	0.00409	8.020	0.00388	7.915	0.00326	7.814	0.00348	7.720	0.00284	7.630	0.00255	7.555
0.34594	0.00449	8.122	0.00423	8.020	0.00390	7.915	0.00334	7.815	0.00351	7.720	0.00294	7.630	0.00264	7.555
0.34995	0.00463	8.122	0.00427	8.020	0.00391	7.915	0.00340	7.815	0.00357	7.720	0.00303	7.630	0.00274	7.555
0.35400	0.00475	8.122	0.00426	8.020	0.00392	7.915	0.00346	7.815	0.00369	7.720	0.00312	7.630	0.00283	7.555
0.35810	0.00487	8.123	0.00424	8.020	0.00403	7.915	0.00352	7.815	0.00382	7.720	0.00320	7.630	0.00292	7.555
0.36224	0.00500	8.123	0.00430	8.019	0.00417	7.915	0.00358	7.815	0.00392	7.720	0.00328	7.630	0.00301	7.555
0.36644	0.00513	8.123	0.00439	8.019	0.00430	7.915	0.00362	7.815	0.00396	7.720	0.00337	7.630	0.00310	7.555
0.37068	0.00528	8.122	0.00449	8.019	0.00440	7.915	0.00368	7.815	0.00398	7.720	0.00346	7.630	0.00319	7.555
0.37497	0.00542	8.122	0.00461	8.019	0.00451	7.915	0.00375	7.815	0.00406	7.719	0.00355	7.630	0.00327	7.555
0.37931	0.00553	8.122	0.00474	8.020	0.00461	7.915	0.00385	7.815	0.00421	7.719	0.00363	7.630	0.00335	7.555
0.38371	0.00563	8.122	0.00487	8.020	0.00465	7.915	0.00395	7.815	0.00439	7.719	0.00367	7.630	0.00345	7.556
0.38815	0.00573	8.122	0.00501	8.019	0.00469	7.915	0.00404	7.815	0.00449	7.719	0.00369	7.630	0.00354	7.556
0.39264	0.00586	8.122	0.00514	8.019	0.00475	7.915	0.00413	7.814	0.00450	7.719	0.00372	7.630	0.00363	7.557
0.39719	0.00599	8.122	0.00529	8.020	0.00484	7.915	0.00422	7.814	0.00449	7.719	0.00377	7.630	0.00365	7.556
0.40179	0.00616	8.122	0.00544	8.020	0.00493	7.915	0.00430	7.814	0.00454	7.719	0.00382	7.630	0.00367	7.556
0.40644	0.00637	8.122	0.00560	8.019	0.00509	7.915	0.00438	7.814	0.00462	7.719	0.00389	7.630	0.00370	7.556
0.41115	0.00657	8.122	0.00570	8.019	0.00529	7.915	0.00447	7.814	0.00471	7.719	0.00398	7.630	0.00375	7.556
0.41591	0.00669	8.122	0.00579	8.019	0.00549	7.915	0.00458	7.815	0.00484	7.719	0.00407	7.630	0.00381	7.556
0.42073	0.00680	8.122	0.00591	8.019	0.00563	7.915	0.00470	7.815	0.00499	7.719	0.00419	7.630	0.00387	7.556

0.42560	0.00695	8.122	0.00610	8.019	0.00576	7.915	0.00483	7.815	0.00509	7.719	0.00433	7.629	0.00396	7.556
0.43053	0.00713	8.122	0.00631	8.020	0.00589	7.915	0.00497	7.815	0.00514	7.719	0.00442	7.629	0.00405	7.556
0.43551	0.00731	8.122	0.00645	8.020	0.00600	7.915	0.00512	7.815	0.00518	7.718	0.00440	7.630	0.00417	7.556
0.44055	0.00748	8.122	0.00656	8.020	0.00611	7.915	0.00528	7.815	0.00531	7.718	0.00435	7.630	0.00431	7.556
0.44566	0.00766	8.122	0.00669	8.020	0.00627	7.915	0.00542	7.815	0.00548	7.718	0.00443	7.630	0.00444	7.555
0.45082	0.00783	8.122	0.00683	8.020	0.00642	7.915	0.00551	7.815	0.00565	7.718	0.00462	7.630	0.00439	7.555
0.45604	0.00801	8.122	0.00697	8.020	0.00658	7.915	0.00556	7.815	0.00583	7.718	0.00479	7.630	0.00433	7.555
0.46132	0.00819	8.122	0.00711	8.020	0.00674	7.915	0.00567	7.815	0.00600	7.718	0.00495	7.629	0.00441	7.555
0.46666	0.00837	8.122	0.00726	8.020	0.00690	7.915	0.00584	7.815	0.00616	7.718	0.00509	7.629	0.00460	7.555
0.47206	0.00854	8.122	0.00743	8.019	0.00706	7.915	0.00602	7.815	0.00632	7.718	0.00518	7.629	0.00478	7.555
0.47753	0.00872	8.122	0.00763	8.019	0.00723	7.915	0.00620	7.815	0.00647	7.718	0.00525	7.629	0.00493	7.555
0.48306	0.00890	8.122	0.00783	8.019	0.00736	7.915	0.00638	7.815	0.00663	7.718	0.00531	7.629	0.00507	7.555
0.48865	0.00911	8.122	0.00804	8.019	0.00747	7.915	0.00657	7.815	0.00678	7.718	0.00538	7.629	0.00516	7.555
0.49431	0.00933	8.122	0.00825	8.019	0.00758	7.915	0.00678	7.815	0.00692	7.718	0.00547	7.629	0.00523	7.555
0.50003	0.00956	8.122	0.00846	8.019	0.00770	7.915	0.00699	7.815	0.00705	7.718	0.00570	7.629	0.00529	7.555
0.50582	0.00979	8.122	0.00867	8.019	0.00781	7.915	0.00720	7.815	0.00719	7.718	0.00604	7.629	0.00536	7.555
0.51168	0.01002	8.122	0.00888	8.019	0.00806	7.915	0.00740	7.815	0.00733	7.718	0.00638	7.629	0.00543	7.555
0.51761	0.01025	8.122	0.00910	8.019	0.00832	7.915	0.00756	7.815	0.00747	7.718	0.00672	7.629	0.00568	7.555
0.52360	0.01047	8.122	0.00930	8.019	0.00858	7.915	0.00769	7.815	0.00761	7.718	0.00698	7.629	0.00601	7.555
0.52966	0.01070	8.122	0.00948	8.019	0.00885	7.915	0.00781	7.814	0.00775	7.718	0.00705	7.629	0.00635	7.555
0.53580	0.01092	8.122	0.00966	8.019	0.00908	7.915	0.00794	7.814	0.00790	7.718	0.00702	7.629	0.00669	7.555
0.54200	0.01116	8.122	0.00984	8.019	0.00924	7.915	0.00809	7.814	0.00805	7.718	0.00700	7.629	0.00704	7.555
0.54828	0.01140	8.122	0.01002	8.019	0.00941	7.915	0.00827	7.814	0.00825	7.718	0.00697	7.629	0.00702	7.555
0.55463	0.01164	8.122	0.01029	8.019	0.00958	7.915	0.00846	7.814	0.00848	7.718	0.00704	7.629	0.00700	7.555
0.56105	0.01189	8.121	0.01058	8.019	0.00976	7.915	0.00865	7.814	0.00871	7.718	0.00722	7.629	0.00697	7.555
0.56754	0.01215	8.121	0.01088	8.019	0.01002	7.915	0.00884	7.814	0.00894	7.718	0.00740	7.629	0.00694	7.555
0.57412	0.01242	8.121	0.01118	8.019	0.01028	7.915	0.00904	7.814	0.00917	7.718	0.00758	7.629	0.00701	7.555
0.58076	0.01269	8.121	0.01137	8.019	0.01055	7.915	0.00924	7.814	0.00941	7.718	0.00777	7.628	0.00719	7.555
0.58749	0.01297	8.121	0.01153	8.019	0.01082	7.915	0.00944	7.814	0.00965	7.718	0.00797	7.628	0.00737	7.555
0.59429	0.01327	8.121	0.01169	8.019	0.01106	7.915	0.00966	7.814	0.00990	7.718	0.00816	7.628	0.00755	7.555
0.60117	0.01359	8.121	0.01187	8.019	0.01131	7.915	0.00991	7.814	0.01009	7.718	0.00836	7.628	0.00774	7.555
0.60814	0.01392	8.121	0.01224	8.019	0.01155	7.915	0.01017	7.814	0.01023	7.718	0.00856	7.628	0.00793	7.555
0.61518	0.01425	8.121	0.01265	8.019	0.01181	7.915	0.01043	7.814	0.01037	7.718	0.00876	7.628	0.00813	7.554
0.62230	0.01460	8.121	0.01307	8.019	0.01215	7.915	0.01067	7.814	0.01050	7.717	0.00896	7.628	0.00833	7.554
0.62951	0.01495	8.121	0.01346	8.019	0.01250	7.915	0.01088	7.814	0.01071	7.717	0.00916	7.628	0.00853	7.554
0.63680	0.01531	8.121	0.01378	8.019	0.01285	7.915	0.01106	7.814	0.01097	7.717	0.00937	7.628	0.00872	7.554
0.64417	0.01567	8.121	0.01409	8.019	0.01316	7.914	0.01125	7.814	0.01124	7.717	0.00958	7.628	0.00892	7.554
0.65163	0.01603	8.121	0.01440	8.018	0.01344	7.914	0.01150	7.814	0.01151	7.717	0.00980	7.628	0.00912	7.554
0.65917	0.01639	8.121	0.01471	8.018	0.01372	7.914	0.01184	7.814	0.01179	7.717	0.01002	7.628	0.00933	7.554
0.66681	0.01677	8.121	0.01503	8.018	0.01401	7.914	0.01218	7.814	0.01206	7.717	0.01026	7.628	0.00954	7.554
0.67453	0.01717	8.121	0.01535	8.018	0.01429	7.914	0.01253	7.813	0.01235	7.717	0.01052	7.628	0.00976	7.554
0.68234	0.01758	8.121	0.01567	8.018	0.01457	7.914	0.01285	7.814	0.01264	7.717	0.01079	7.628	0.00998	7.554
0.69024	0.01800	8.121	0.01599	8.018	0.01485	7.914	0.01316	7.814	0.01296	7.717	0.01107	7.628	0.01022	7.554
0.69823	0.01844	8.121	0.01631	8.018	0.01518	7.914	0.01347	7.814	0.01328	7.717	0.01140	7.628	0.01048	7.554
0.70632	0.01891	8.121	0.01664	8.018	0.01554	7.914	0.01378	7.814	0.01360	7.717	0.01175	7.628	0.01074	7.554
0.71450	0.01938	8.121	0.01713	8.018	0.01591	7.914	0.01408	7.814	0.01384	7.717	0.01211	7.628	0.01101	7.554
0.72277	0.01980	8.121	0.01767	8.018	0.01628	7.914	0.01437	7.813	0.01403	7.717	0.01242	7.628	0.01135	7.554



0.73114	0.02020	8.121	0.01821	8.018	0.01657	7.914	0.01469	7.813	0.01423	7.717	0.01271	7.628	0.01170	7.554
0.73961	0.02060	8.121	0.01859	8.018	0.01686	7.914	0.01504	7.813	0.01453	7.717	0.01299	7.628	0.01206	7.554
0.74817	0.02109	8.121	0.01892	8.018	0.01717	7.914	0.01541	7.813	0.01490	7.717	0.01332	7.628	0.01237	7.554
0.75683	0.02165	8.121	0.01925	8.018	0.01763	7.914	0.01580	7.813	0.01530	7.717	0.01370	7.628	0.01265	7.554
0.76560	0.02223	8.121	0.01966	8.018	0.01810	7.914	0.01624	7.813	0.01566	7.717	0.01410	7.628	0.01294	7.554
0.77446	0.02273	8.121	0.02010	8.018	0.01858	7.914	0.01671	7.813	0.01600	7.716	0.01451	7.628	0.01325	7.554
0.78343	0.02319	8.121	0.02055	8.018	0.01902	7.913	0.01715	7.813	0.01633	7.716	0.01493	7.628	0.01364	7.554
0.79250	0.02365	8.121	0.02108	8.018	0.01946	7.913	0.01750	7.813	0.01668	7.716	0.01536	7.627	0.01404	7.554
0.80168	0.02409	8.121	0.02165	8.018	0.01990	7.913	0.01777	7.813	0.01708	7.716	0.01573	7.627	0.01444	7.554
0.81096	0.02454	8.121	0.02222	8.017	0.02029	7.913	0.01809	7.813	0.01749	7.716	0.01597	7.627	0.01487	7.554
0.82035	0.02501	8.121	0.02274	8.017	0.02067	7.913	0.01853	7.813	0.01787	7.716	0.01615	7.627	0.01529	7.554
0.82985	0.02558	8.121	0.02325	8.017	0.02107	7.913	0.01906	7.813	0.01818	7.716	0.01639	7.627	0.01573	7.554
0.83946	0.02618	8.121	0.02378	8.017	0.02158	7.913	0.01958	7.813	0.01849	7.715	0.01673	7.627	0.01591	7.554
0.84918	0.02679	8.121	0.02435	8.017	0.02208	7.913	0.02009	7.812	0.01889	7.715	0.01711	7.627	0.01609	7.554
0.85901	0.02741	8.121	0.02494	8.017	0.02258	7.913	0.02058	7.812	0.01937	7.715	0.01751	7.627	0.01628	7.553
0.86896	0.02804	8.121	0.02548	8.017	0.02303	7.913	0.02102	7.812	0.01988	7.715	0.01792	7.627	0.01666	7.553
0.87902	0.02858	8.121	0.02597	8.017	0.02349	7.913	0.02139	7.812	0.02026	7.715	0.01835	7.627	0.01704	7.553
0.88920	0.02908	8.121	0.02646	8.016	0.02406	7.913	0.02175	7.812	0.02059	7.715	0.01864	7.627	0.01743	7.553
0.89950	0.02959	8.121	0.02696	8.016	0.02470	7.912	0.02224	7.812	0.02092	7.715	0.01881	7.627	0.01785	7.553
0.90991	0.03013	8.120	0.02745	8.016	0.02534	7.912	0.02288	7.812	0.02130	7.714	0.01903	7.627	0.01827	7.553
0.92045	0.03068	8.121	0.02796	8.015	0.02592	7.912	0.02349	7.812	0.02170	7.714	0.01957	7.627	0.01858	7.553
0.93111	0.03150	8.120	0.02848	8.014	0.02651	7.912	0.02400	7.811	0.02206	7.714	0.02034	7.627	0.01873	7.553
0.94189	0.03245	8.120	0.02901	8.014	0.02702	7.911	0.02445	7.811	0.02239	7.713	0.02099	7.626	0.01889	7.553
0.95280	0.03341	8.120	0.02994	8.014	0.02747	7.911	0.02490	7.811	0.02272	7.713	0.02140	7.626	0.01948	7.552
0.96383	0.03432	8.120	0.03098	8.014	0.02792	7.910	0.02532	7.810	0.02318	7.713	0.02174	7.626	0.02026	7.552
0.97499	0.03524	8.120	0.03192	8.014	0.02853	7.910	0.02582	7.810	0.02369	7.713	0.02210	7.626	0.02099	7.552
0.98628	0.03616	8.120	0.03273	8.014	0.02915	7.909	0.02652	7.809	0.02422	7.714	0.02250	7.626	0.02131	7.552
0.99770	0.03710	8.120	0.03354	8.015	0.02981	7.909	0.02732	7.808	0.02478	7.714	0.02288	7.626	0.02165	7.551
1.00925	0.03809	8.120	0.03435	8.015	0.03049	7.908	0.02809	7.807	0.02536	7.715	0.02323	7.626	0.02201	7.551
1.02094	0.03916	8.120	0.03518	8.015	0.03118	7.907	0.02883	7.806	0.02601	7.715	0.02357	7.626	0.02241	7.551
1.03276	0.04026	8.120	0.03604	8.015	0.03187	7.908	0.02958	7.805	0.02668	7.715	0.02394	7.626	0.02280	7.551
1.04472	0.04138	8.120	0.03694	8.015	0.03257	7.908	0.03033	7.804	0.02736	7.715	0.02432	7.626	0.02313	7.550
1.05682	0.04250	8.120	0.03786	8.015	0.03337	7.909	0.03108	7.805	0.02805	7.715	0.02471	7.626	0.02347	7.550
1.06905	0.04359	8.120	0.03878	8.014	0.03423	7.910	0.03178	7.806	0.02876	7.715	0.02511	7.626	0.02384	7.549
1.08143	0.04465	8.120	0.03972	8.014	0.03510	7.910	0.03243	7.807	0.02951	7.715	0.02553	7.626	0.02422	7.548
1.09396	0.04571	8.120	0.04064	8.014	0.03598	7.911	0.03308	7.808	0.03027	7.714	0.02603	7.626	0.02461	7.547
1.10662	0.04679	8.120	0.04156	8.014	0.03687	7.911	0.03375	7.809	0.03105	7.714	0.02660	7.625	0.02501	7.547
1.11944	0.04788	8.120	0.04250	8.014	0.03790	7.911	0.03445	7.809	0.03183	7.714	0.02717	7.625	0.02541	7.546
1.13240	0.04900	8.120	0.04344	8.014	0.03895	7.912	0.03524	7.808	0.03258	7.713	0.02775	7.625	0.02592	7.546
1.14551	0.05014	8.120	0.04444	8.014	0.04001	7.912	0.03611	7.807	0.03328	7.713	0.02840	7.625	0.02648	7.545
1.15878	0.05128	8.120	0.04555	8.013	0.04109	7.913	0.03699	7.806	0.03398	7.713	0.02920	7.625	0.02705	7.545
1.17220	0.05244	8.120	0.04670	8.013	0.04218	7.913	0.03787	7.806	0.03468	7.712	0.03007	7.625	0.02763	7.544
1.18577	0.05365	8.119	0.04786	8.012	0.04331	7.914	0.03888	7.807	0.03539	7.712	0.03095	7.625	0.02821	7.544
1.19950	0.05488	8.119	0.04903	8.013	0.04445	7.914	0.04005	7.808	0.03641	7.712	0.03184	7.625	0.02907	7.544
1.21339	0.05612	8.119	0.05027	8.013	0.04560	7.914	0.04125	7.809	0.03757	7.712	0.03261	7.625	0.02994	7.545
1.22744	0.05738	8.119	0.05154	8.014	0.04675	7.913	0.04247	7.809	0.03873	7.712	0.03326	7.625	0.03082	7.545
1.24165	0.05866	8.119	0.05282	8.014	0.04782	7.913	0.04368	7.809	0.03991	7.712	0.03392	7.625	0.03171	7.546

1.25603	0.05995	8.119	0.05412	8.014	0.04889	7.912	0.04486	7.809	0.04104	7.712	0.03458	7.625	0.03247	7.546
1.27057	0.06126	8.119	0.05534	8.014	0.04999	7.910	0.04602	7.809	0.04212	7.712	0.03527	7.625	0.03312	7.546
1.28529	0.06259	8.119	0.05655	8.015	0.05113	7.909	0.04720	7.809	0.04320	7.713	0.03599	7.624	0.03378	7.545
1.30017	0.06396	8.119	0.05777	8.015	0.05256	7.907	0.04835	7.809	0.04430	7.713	0.03672	7.624	0.03444	7.545
1.31522	0.06535	8.119	0.05902	8.015	0.05400	7.906	0.04943	7.808	0.04543	7.713	0.03746	7.623	0.03512	7.544
1.33045	0.06675	8.119	0.06038	8.015	0.05545	7.907	0.05049	7.807	0.04659	7.713	0.03843	7.623	0.03584	7.544
1.34586	0.06822	8.119	0.06179	8.015	0.05684	7.907	0.05155	7.806	0.04776	7.712	0.03973	7.623	0.03656	7.543
1.36144	0.06985	8.119	0.06321	8.015	0.05796	7.908	0.05263	7.806	0.04895	7.712	0.04115	7.622	0.03730	7.542
1.37721	0.07153	8.119	0.06467	8.015	0.05909	7.908	0.05374	7.807	0.05019	7.712	0.04258	7.622	0.03816	7.542
1.39316	0.07323	8.119	0.06618	8.015	0.06023	7.908	0.05487	7.808	0.05148	7.711	0.04384	7.622	0.03955	7.543
1.40929	0.07498	8.118	0.06772	8.015	0.06147	7.909	0.05601	7.808	0.05280	7.711	0.04488	7.623	0.04097	7.544
1.42561	0.07676	8.118	0.06927	8.015	0.06280	7.909	0.05720	7.808	0.05412	7.711	0.04587	7.623	0.04240	7.545
1.44212	0.07856	8.118	0.07089	8.015	0.06415	7.909	0.05844	7.809	0.05539	7.711	0.04691	7.623	0.04371	7.545
1.45881	0.08039	8.118	0.07255	8.015	0.06551	7.909	0.05970	7.809	0.05665	7.711	0.04844	7.623	0.04469	7.545
1.47571	0.08223	8.118	0.07423	8.015	0.06700	7.909	0.06100	7.809	0.05793	7.711	0.05042	7.622	0.04568	7.544
1.49279	0.08408	8.118	0.07597	8.015	0.06851	7.910	0.06237	7.809	0.05921	7.711	0.05242	7.622	0.04669	7.544
1.51008	0.08597	8.118	0.07781	8.015	0.07005	7.910	0.06380	7.809	0.06049	7.711	0.05433	7.622	0.04823	7.544
1.52757	0.08796	8.118	0.07968	8.014	0.07168	7.910	0.06526	7.809	0.06177	7.711	0.05605	7.621	0.05020	7.544
1.54525	0.09000	8.118	0.08157	8.014	0.07342	7.910	0.06675	7.809	0.06308	7.711	0.05767	7.621	0.05219	7.545
1.56315	0.09207	8.118	0.08341	8.014	0.07519	7.909	0.06830	7.809	0.06451	7.711	0.05930	7.621	0.05421	7.546
1.58125	0.09418	8.118	0.08526	8.014	0.07695	7.909	0.06988	7.809	0.06600	7.711	0.06080	7.621	0.05581	7.543
1.59956	0.09631	8.117	0.08713	8.014	0.07869	7.909	0.07149	7.809	0.06751	7.712	0.06219	7.621	0.05743	7.541
1.61808	0.09847	8.117	0.08909	8.014	0.08045	7.909	0.07317	7.809	0.06902	7.711	0.06359	7.621	0.05906	7.539
1.63682	0.10070	8.117	0.09109	8.013	0.08223	7.909	0.07489	7.809	0.07055	7.711	0.06499	7.621	0.06055	7.538
1.65577	0.10300	8.117	0.09311	8.013	0.08416	7.909	0.07662	7.809	0.07209	7.711	0.06637	7.621	0.06193	7.539
1.67494	0.10532	8.117	0.09523	8.013	0.08612	7.909	0.07837	7.808	0.07369	7.711	0.06777	7.621	0.06333	7.540
1.69434	0.10763	8.117	0.09740	8.013	0.08811	7.909	0.08014	7.808	0.07536	7.711	0.06913	7.620	0.06473	7.541
1.71396	0.10995	8.117	0.09960	8.012	0.09007	7.908	0.08193	7.808	0.07706	7.711	0.07041	7.620	0.06610	7.542
1.73380	0.11229	8.117	0.10180	8.012	0.09206	7.908	0.08376	7.808	0.07873	7.711	0.07167	7.620	0.06749	7.542
1.75388	0.11448	8.117	0.10403	8.012	0.09407	7.908	0.08562	7.808	0.08036	7.710	0.07320	7.620	0.06888	7.543
1.77419	0.11663	8.116	0.10627	8.012	0.09618	7.908	0.08751	7.808	0.08199	7.710	0.07521	7.620	0.07012	7.540
1.79473	0.11883	8.116	0.10840	8.012	0.09832	7.907	0.08943	7.807	0.08371	7.710	0.07747	7.620	0.07137	7.538
1.81552	0.12135	8.116	0.11054	8.012	0.10050	7.907	0.09137	7.807	0.08551	7.710	0.07945	7.620	0.07268	7.536
1.83654	0.12399	8.116	0.11269	8.011	0.10279	7.907	0.09336	7.806	0.08735	7.710	0.08096	7.620	0.07490	7.536
1.85780	0.12664	8.116	0.11485	8.011	0.10511	7.906	0.09539	7.806	0.08900	7.710	0.08227	7.620	0.07714	7.537
1.87932	0.12931	8.115	0.11703	8.011	0.10743	7.905	0.09745	7.805	0.09050	7.710	0.08372	7.620	0.07934	7.537
1.90108	0.13200	8.115	0.11953	8.010	0.10973	7.904	0.09946	7.804	0.09198	7.711	0.08536	7.620	0.08063	7.538
1.92309	0.13530	8.114	0.12234	8.010	0.11205	7.903	0.10138	7.803	0.09388	7.711	0.08707	7.620	0.08194	7.538
1.94536	0.13892	8.114	0.12523	8.010	0.11440	7.903	0.10334	7.802	0.09600	7.711	0.08868	7.620	0.08333	7.539
1.96789	0.14282	8.113	0.12908	8.010	0.11571	7.906	0.10584	7.801	0.09808	7.711	0.09019	7.620	0.08501	7.539
1.99067	0.14725	8.113	0.13319	8.010	0.11755	7.910	0.10888	7.800	0.09993	7.711	0.09178	7.619	0.08671	7.539
2.01372	0.15185	8.113	0.13692	8.010	0.12048	7.912	0.11186	7.801	0.10171	7.712	0.09365	7.619	0.08832	7.539
2.03704	0.15595	8.113	0.13998	8.011	0.12348	7.912	0.11469	7.803	0.10379	7.713	0.09573	7.619	0.08982	7.539
2.06063	0.15982	8.113	0.14301	8.010	0.12670	7.913	0.11749	7.804	0.10615	7.713	0.09758	7.618	0.09134	7.538
2.08449	0.16379	8.113	0.14659	8.009	0.13008	7.914	0.12051	7.803	0.10869	7.713	0.09907	7.618	0.09326	7.538
2.10863	0.16793	8.113	0.15033	8.009	0.13356	7.916	0.12376	7.803	0.11193	7.713	0.10057	7.618	0.09533	7.537
2.13304	0.17214	8.113	0.15435	8.009	0.13764	7.915	0.12701	7.804	0.11547	7.712	0.10317	7.619	0.09730	7.537

2.15774	0.17639	8.112	0.15863	8.009	0.14179	7.913	0.13023	7.804	0.11915	7.712	0.10671	7.619	0.09866	7.535
2.18273	0.18070	8.112	0.16300	8.009	0.14576	7.912	0.13347	7.804	0.12296	7.712	0.10994	7.618	0.10004	7.534
2.20800	0.18508	8.112	0.16741	8.009	0.14967	7.910	0.13678	7.804	0.12668	7.711	0.11266	7.617	0.10274	7.534
2.23357	0.18953	8.112	0.17188	8.009	0.15362	7.908	0.14016	7.803	0.12993	7.711	0.11524	7.617	0.10626	7.535
2.25944	0.19404	8.112	0.17621	8.009	0.15759	7.908	0.14357	7.803	0.13305	7.712	0.11790	7.617	0.10964	7.535
2.28560	0.19860	8.112	0.18041	8.010	0.16157	7.908	0.14703	7.802	0.13620	7.712	0.12063	7.617	0.11218	7.535
2.31206	0.20321	8.112	0.18464	8.010	0.16540	7.909	0.15051	7.803	0.13939	7.712	0.12338	7.617	0.11475	7.535
2.33884	0.20778	8.112	0.18892	8.010	0.16917	7.910	0.15414	7.804	0.14276	7.712	0.12617	7.616	0.11741	7.535
2.36592	0.21235	8.112	0.19326	8.010	0.17298	7.911	0.15794	7.806	0.14660	7.712	0.12910	7.616	0.12013	7.535
2.39332	0.21695	8.112	0.19754	8.010	0.17687	7.910	0.16178	7.808	0.15063	7.712	0.13247	7.616	0.12287	7.535
2.42103	0.22161	8.111	0.20183	8.010	0.18081	7.909	0.16568	7.809	0.15470	7.712	0.13616	7.617	0.12565	7.534
2.44906	0.22638	8.111	0.20616	8.009	0.18534	7.909	0.16964	7.809	0.15883	7.712	0.13989	7.617	0.12846	7.534
2.47742	0.23139	8.111	0.21055	8.009	0.18995	7.908	0.17366	7.807	0.16299	7.712	0.14367	7.617	0.13191	7.535
2.50611	0.23652	8.110	0.21504	8.009	0.19464	7.907	0.17771	7.806	0.16720	7.712	0.14750	7.617	0.13559	7.535
2.53513	0.24170	8.110	0.21970	8.009	0.19939	7.905	0.18180	7.804	0.17145	7.712	0.15138	7.617	0.13931	7.536
2.56448	0.24693	8.109	0.22443	8.008	0.20412	7.903	0.18594	7.803	0.17575	7.712	0.15532	7.617	0.14307	7.536
2.59418	0.25183	8.109	0.22921	8.008	0.20881	7.901	0.19016	7.802	0.18009	7.713	0.15930	7.617	0.14688	7.537
2.62422	0.25664	8.109	0.23403	8.008	0.21354	7.900	0.19451	7.801	0.18440	7.713	0.16329	7.616	0.15075	7.537
2.65461	0.26151	8.109	0.23873	8.009	0.21828	7.900	0.19891	7.800	0.18873	7.713	0.16636	7.616	0.15467	7.538
2.68534	0.26645	8.108	0.24344	8.009	0.22297	7.900	0.20336	7.800	0.19311	7.714	0.16860	7.615	0.15863	7.539
2.71644	0.27283	8.108	0.24822	8.009	0.22734	7.900	0.20771	7.800	0.19754	7.714	0.17086	7.615	0.16264	7.540
2.74789	0.27989	8.108	0.25308	8.009	0.23175	7.900	0.21186	7.800	0.20171	7.714	0.17314	7.614	0.16567	7.540
2.77971	0.28708	8.108	0.25849	8.008	0.23623	7.900	0.21596	7.800	0.20574	7.714	0.17639	7.614	0.16790	7.540
2.81190	0.29438	8.108	0.26406	8.008	0.24076	7.900	0.22011	7.800	0.20977	7.714	0.18083	7.615	0.17016	7.539
2.84446	0.30242	8.108	0.26970	8.008	0.24532	7.900	0.22422	7.799	0.21385	7.714	0.18558	7.615	0.17243	7.539
2.87740	0.31079	8.108	0.27572	8.008	0.24992	7.900	0.22820	7.799	0.21855	7.714	0.19039	7.615	0.17540	7.539
2.91072	0.31926	8.108	0.28447	8.008	0.25452	7.902	0.23214	7.799	0.22377	7.713	0.19491	7.615	0.18008	7.540
2.94442	0.32752	8.108	0.29374	8.009	0.25940	7.904	0.23611	7.799	0.22914	7.713	0.19901	7.615	0.18481	7.541
2.97852	0.33506	8.107	0.30314	8.009	0.26507	7.906	0.24045	7.799	0.23458	7.713	0.20302	7.615	0.18960	7.542
3.01301	0.34246	8.107	0.31170	8.008	0.27084	7.906	0.24541	7.801	0.24073	7.713	0.20708	7.615	0.19424	7.542
3.04789	0.34994	8.106	0.31868	8.008	0.27673	7.906	0.25064	7.802	0.24735	7.712	0.21211	7.614	0.19819	7.541
3.08319	0.35771	8.106	0.32550	8.007	0.28385	7.905	0.25592	7.803	0.25411	7.712	0.21829	7.614	0.20218	7.539
3.11889	0.36572	8.106	0.33237	8.007	0.29211	7.904	0.26273	7.804	0.26074	7.712	0.22472	7.614	0.20622	7.538
3.15500	0.37385	8.105	0.33960	8.007	0.30048	7.904	0.27143	7.805	0.26547	7.712	0.23101	7.614	0.21102	7.538
3.19154	0.38253	8.105	0.34702	8.006	0.30890	7.903	0.28034	7.806	0.26950	7.711	0.23530	7.615	0.21736	7.539
3.22849	0.39245	8.104	0.35455	8.006	0.31611	7.902	0.28885	7.806	0.27358	7.711	0.23790	7.615	0.22377	7.540
3.26588	0.40280	8.104	0.36308	8.006	0.32329	7.902	0.29601	7.806	0.27838	7.711	0.24054	7.616	0.23025	7.541
3.30370	0.41327	8.103	0.37325	8.005	0.33053	7.903	0.30223	7.805	0.28408	7.711	0.24489	7.616	0.23438	7.542
3.34195	0.42369	8.103	0.38375	8.005	0.33747	7.903	0.30850	7.805	0.29007	7.711	0.25232	7.615	0.23697	7.544
3.38065	0.43419	8.103	0.39430	8.004	0.34414	7.903	0.31485	7.806	0.29639	7.711	0.26121	7.615	0.23959	7.546
3.41979	0.44479	8.102	0.40437	8.004	0.35087	7.904	0.32133	7.807	0.30496	7.710	0.27010	7.615	0.24248	7.547
3.45939	0.45461	8.102	0.41447	8.004	0.35846	7.905	0.32790	7.807	0.31445	7.710	0.27822	7.615	0.25123	7.547
3.49945	0.46405	8.101	0.42470	8.003	0.36872	7.906	0.33570	7.807	0.32406	7.709	0.28570	7.616	0.26008	7.547
3.53997	0.47356	8.100	0.43353	8.002	0.37916	7.905	0.34554	7.808	0.33287	7.709	0.29328	7.616	0.26904	7.547
3.58096	0.48316	8.100	0.44210	8.001	0.38975	7.904	0.35619	7.808	0.34121	7.709	0.30001	7.615	0.27706	7.547
3.62243	0.49288	8.099	0.45073	8.001	0.40064	7.904	0.36675	7.807	0.34957	7.709	0.30571	7.615	0.28451	7.547
3.66438	0.50271	8.099	0.45947	8.001	0.41169	7.902	0.37691	7.807	0.35578	7.708	0.31127	7.614	0.29205	7.548

3.70681	0.51341	8.098	0.46833	8.000	0.42291	7.901	0.38689	7.807	0.35986	7.707	0.31756	7.614	0.29897	7.547
3.74973	0.52465	8.098	0.47730	8.000	0.43502	7.900	0.39732	7.806	0.36349	7.706	0.32490	7.613	0.30444	7.545
3.79315	0.53610	8.097	0.48751	8.000	0.44733	7.898	0.40877	7.806	0.37137	7.706	0.33266	7.612	0.30998	7.542
3.83707	0.54870	8.096	0.49814	7.999	0.45946	7.897	0.42095	7.805	0.38418	7.706	0.34148	7.612	0.31585	7.541
3.88150	0.56182	8.096	0.50897	7.999	0.46753	7.895	0.43181	7.803	0.39841	7.707	0.35211	7.613	0.32351	7.542
3.92645	0.57524	8.095	0.52066	7.998	0.47547	7.895	0.43920	7.800	0.40924	7.707	0.36359	7.613	0.33125	7.543
3.97192	0.58929	8.095	0.53263	7.998	0.48411	7.894	0.44448	7.797	0.41651	7.706	0.37325	7.613	0.33934	7.544
4.01791	0.60366	8.094	0.54492	7.998	0.49579	7.893	0.45143	7.796	0.42297	7.705	0.37991	7.612	0.35063	7.543
4.06443	0.61842	8.093	0.55787	7.998	0.50765	7.892	0.46156	7.795	0.43144	7.705	0.38546	7.611	0.36205	7.542
4.11150	0.63369	8.093	0.57107	7.997	0.51929	7.890	0.47319	7.795	0.44141	7.705	0.39210	7.610	0.37287	7.540
4.15911	0.64921	8.092	0.58537	7.997	0.53050	7.889	0.48421	7.793	0.45176	7.705	0.40010	7.610	0.37834	7.539
4.20727	0.66439	8.091	0.60067	7.996	0.54181	7.889	0.49427	7.791	0.46082	7.705	0.40847	7.609	0.38386	7.537
4.25598	0.67948	8.090	0.61626	7.995	0.55149	7.888	0.50404	7.791	0.46941	7.704	0.41580	7.610	0.39012	7.536
4.30527	0.69508	8.090	0.63113	7.994	0.56051	7.889	0.51284	7.791	0.48022	7.704	0.42216	7.610	0.39840	7.535
4.35512	0.71157	8.089	0.64597	7.993	0.57001	7.890	0.52075	7.792	0.49715	7.703	0.42899	7.610	0.40677	7.534
4.40555	0.72845	8.088	0.66118	7.993	0.58255	7.891	0.52978	7.793	0.51631	7.703	0.43729	7.609	0.41415	7.535
4.45656	0.74604	8.087	0.67690	7.993	0.59528	7.891	0.54103	7.794	0.52916	7.702	0.44660	7.609	0.42045	7.537
4.50817	0.76406	8.087	0.69293	7.992	0.60879	7.891	0.55348	7.794	0.53662	7.702	0.45631	7.609	0.42682	7.540
4.56037	0.78202	8.086	0.70958	7.991	0.62291	7.891	0.56594	7.795	0.54340	7.701	0.46656	7.609	0.43546	7.538
4.61318	0.79993	8.085	0.72649	7.990	0.63727	7.892	0.57837	7.796	0.55251	7.700	0.47758	7.609	0.44475	7.535
4.66659	0.81797	8.084	0.74347	7.989	0.65229	7.892	0.59169	7.797	0.56254	7.700	0.49166	7.607	0.45430	7.533
4.72063	0.83619	8.083	0.76053	7.988	0.66750	7.892	0.60672	7.799	0.57496	7.700	0.50816	7.607	0.46463	7.535
4.77529	0.85463	8.082	0.77777	7.987	0.68684	7.893	0.62324	7.799	0.58938	7.701	0.52247	7.607	0.47508	7.538
4.83059	0.87345	8.082	0.79521	7.986	0.70781	7.893	0.64314	7.798	0.60438	7.701	0.53382	7.607	0.48947	7.538
4.88652	0.89272	8.081	0.81286	7.985	0.72902	7.893	0.66622	7.797	0.61965	7.700	0.54438	7.607	0.50595	7.537
4.94311	0.91225	8.080	0.83041	7.985	0.75074	7.891	0.68957	7.796	0.63512	7.700	0.55490	7.607	0.52126	7.536
5.00035	0.93204	8.079	0.84790	7.984	0.77281	7.888	0.71319	7.795	0.65077	7.699	0.56544	7.606	0.53165	7.536
5.05825	0.95202	8.078	0.86557	7.983	0.79107	7.884	0.73614	7.794	0.66660	7.698	0.57610	7.605	0.54216	7.536
5.11682	0.97449	8.076	0.88344	7.982	0.80802	7.881	0.75292	7.792	0.68255	7.697	0.58687	7.605	0.55258	7.536
5.17607	0.99856	8.075	0.90147	7.981	0.82516	7.877	0.76368	7.790	0.69853	7.697	0.59870	7.605	0.56308	7.535
5.23600	1.02311	8.074	0.92343	7.981	0.84214	7.877	0.77457	7.789	0.71463	7.696	0.61365	7.605	0.57369	7.535
5.29663	1.04794	8.073	0.94683	7.981	0.85924	7.877	0.78555	7.787	0.73093	7.695	0.63077	7.605	0.58442	7.535
5.35797	1.07320	8.072	0.97059	7.980	0.87556	7.877	0.79741	7.786	0.74741	7.694	0.64810	7.605	0.59529	7.535
5.42001	1.09856	8.076	0.99468	7.979	0.89202	7.877	0.81141	7.786	0.76515	7.693	0.66564	7.604	0.61106	7.534
5.48277	1.12483	8.076	1.01929	7.978	0.90865	7.877	0.82686	7.785	0.78433	7.693	0.68320	7.604	0.62811	7.533
5.54626	1.15164	8.074	1.04446	7.976	0.92545	7.878	0.84249	7.784	0.80404	7.692	0.70062	7.603	0.64537	7.532
5.61048	1.17871	8.073	1.06996	7.975	0.94525	7.878	0.85826	7.784	0.82398	7.692	0.71809	7.602	0.66282	7.531
5.67545	1.20514	8.071	1.09576	7.973	0.96802	7.878	0.87752	7.785	0.84407	7.691	0.73576	7.601	0.68042	7.530
5.74116	1.23155	8.070	1.12170	7.972	0.99109	7.878	0.90120	7.785	0.86340	7.691	0.75373	7.600	0.69762	7.530
5.80764	1.25826	8.068	1.14670	7.970	1.01456	7.878	0.92544	7.785	0.88257	7.690	0.77321	7.600	0.71501	7.530
5.87489	1.28532	8.066	1.17179	7.968	1.03913	7.877	0.95004	7.785	0.90196	7.690	0.79408	7.600	0.73261	7.531
5.94292	1.31423	8.065	1.19716	7.967	1.06662	7.876	0.97541	7.784	0.92158	7.689	0.81519	7.599	0.75041	7.531
6.01174	1.34408	8.064	1.22280	7.966	1.09445	7.875	1.00174	7.783	0.94072	7.689	0.83652	7.599	0.76992	7.531
6.08135	1.37432	8.063	1.24998	7.965	1.12276	7.873	1.02859	7.781	0.95966	7.688	0.85685	7.599	0.79070	7.530
6.15177	1.40508	8.062	1.27772	7.964	1.15114	7.871	1.05578	7.779	0.97875	7.688	0.87595	7.598	0.81172	7.529
6.22300	1.43833	8.061	1.30580	7.963	1.17862	7.868	1.08211	7.777	0.99806	7.687	0.89501	7.598	0.83298	7.528
6.29506	1.47264	8.060	1.33467	7.962	1.20636	7.867	1.10654	7.775	1.02118	7.687	0.91431	7.598	0.85353	7.528

6.36796	1.50736	8.059	1.36656	7.962	1.23431	7.865	1.13027	7.773	1.04720	7.687	0.93993	7.597	0.87230	7.528
6.44169	1.54264	8.057	1.39923	7.961	1.26195	7.864	1.15419	7.771	1.07400	7.687	0.97363	7.597	0.89128	7.528
6.51628	1.57870	8.055	1.43234	7.960	1.28833	7.863	1.17813	7.770	1.10112	7.686	1.00966	7.597	0.91048	7.528
6.59174	1.61527	8.054	1.46632	7.958	1.31497	7.862	1.20213	7.770	1.12951	7.685	1.04609	7.597	0.93390	7.528
6.66807	1.65227	8.052	1.50132	7.956	1.34185	7.861	1.22637	7.769	1.15877	7.684	1.07370	7.596	0.96937	7.527
6.74528	1.69001	8.050	1.53680	7.954	1.37141	7.861	1.25089	7.769	1.18844	7.683	1.09144	7.596	1.00525	7.527
6.82339	1.72839	8.048	1.57271	7.952	1.40314	7.860	1.27839	7.769	1.21810	7.682	1.10800	7.595	1.04154	7.526
6.90240	1.76724	8.046	1.60883	7.951	1.43534	7.859	1.30943	7.769	1.24585	7.681	1.12476	7.594	1.07064	7.525
6.98232	1.80701	8.044	1.64532	7.949	1.46805	7.858	1.34090	7.768	1.27309	7.680	1.14163	7.593	1.08693	7.523
7.06318	1.84822	8.042	1.68219	7.947	1.50346	7.857	1.37305	7.768	1.30065	7.679	1.15861	7.592	1.10341	7.521
7.14496	1.89018	8.041	1.71987	7.946	1.53946	7.855	1.40625	7.767	1.32831	7.677	1.17579	7.591	1.12008	7.519
7.22770	1.93273	8.039	1.75859	7.944	1.57591	7.854	1.44025	7.766	1.35605	7.676	1.19557	7.590	1.13684	7.519
7.31139	1.97717	8.037	1.79785	7.942	1.61318	7.852	1.47473	7.764	1.38405	7.675	1.21962	7.589	1.15375	7.519
7.39605	2.02258	8.035	1.83785	7.941	1.65119	7.850	1.51002	7.762	1.41267	7.674	1.24562	7.588	1.17085	7.519
7.48170	2.06853	8.033	1.88029	7.940	1.68965	7.849	1.54610	7.760	1.44345	7.673	1.27257	7.587	1.18881	7.519
7.56833	2.11636	8.031	1.92352	7.938	1.72844	7.847	1.58257	7.759	1.47527	7.671	1.30424	7.586	1.21440	7.518
7.65597	2.16537	8.029	1.96741	7.936	1.76737	7.845	1.61892	7.757	1.50745	7.669	1.33984	7.585	1.24029	7.517
7.74462	2.21501	8.027	2.01344	7.934	1.80669	7.844	1.65488	7.755	1.54548	7.668	1.37587	7.584	1.26648	7.516
7.83430	2.26565	8.024	2.06037	7.932	1.84665	7.842	1.69096	7.754	1.58706	7.667	1.41386	7.583	1.29859	7.515
7.92501	2.31711	8.022	2.10787	7.930	1.88868	7.841	1.72804	7.753	1.62951	7.666	1.45399	7.582	1.33403	7.515
8.01678	2.36920	8.020	2.15607	7.928	1.93121	7.839	1.76688	7.752	1.67072	7.665	1.49479	7.581	1.36989	7.514
8.10961	2.42303	8.017	2.20486	7.926	1.97443	7.838	1.80689	7.751	1.71090	7.663	1.53419	7.580	1.40742	7.514
8.20352	2.47805	8.015	2.25422	7.923	2.02066	7.836	1.84808	7.750	1.75121	7.661	1.57143	7.580	1.44762	7.514
8.29851	2.53382	8.012	2.30544	7.921	2.06768	7.834	1.89134	7.748	1.78964	7.660	1.60837	7.579	1.48829	7.514
8.39460	2.59164	8.010	2.35757	7.919	2.11537	7.832	1.93605	7.747	1.82609	7.658	1.64335	7.577	1.52846	7.514
8.49180	2.65063	8.007	2.41050	7.917	2.16486	7.830	1.98157	7.745	1.86236	7.657	1.67483	7.575	1.56474	7.512
8.59014	2.71050	8.005	2.46584	7.915	2.21491	7.828	2.02812	7.743	1.90191	7.656	1.70513	7.573	1.60143	7.509
8.68960	2.77173	8.002	2.52217	7.912	2.26566	7.826	2.07543	7.741	1.94459	7.655	1.73861	7.571	1.63764	7.507
8.79023	2.83387	7.999	2.57986	7.910	2.31745	7.824	2.12321	7.740	1.98836	7.655	1.77674	7.570	1.66751	7.504
8.89201	2.89772	7.996	2.63975	7.907	2.36986	7.822	2.17145	7.738	2.03555	7.654	1.81678	7.569	1.69771	7.502
8.99498	2.96346	7.993	2.70054	7.905	2.42372	7.820	2.22022	7.736	2.08520	7.653	1.85931	7.567	1.72962	7.500
9.09913	3.03026	7.990	2.76223	7.902	2.47926	7.818	2.27040	7.734	2.13574	7.652	1.90474	7.566	1.76902	7.500
9.20450	3.09913	7.987	2.82477	7.899	2.53544	7.816	2.32226	7.732	2.18738	7.650	1.95118	7.564	1.80887	7.499
9.31108	3.16932	7.984	2.88822	7.897	2.59379	7.814	2.37503	7.730	2.23982	7.647	1.99839	7.563	1.85065	7.499
9.41890	3.24092	7.981	2.95423	7.894	2.65337	7.811	2.42931	7.729	2.29187	7.645	2.04639	7.561	1.89638	7.498
9.52796	3.31430	7.978	3.02136	7.891	2.71384	7.809	2.48508	7.727	2.34217	7.643	2.09442	7.560	1.94265	7.498
9.63829	3.38881	7.974	3.08956	7.888	2.77608	7.806	2.54199	7.725	2.39228	7.641	2.14150	7.559	1.98968	7.496
9.74990	3.46473	7.971	3.15887	7.885	2.83904	7.804	2.60045	7.723	2.44449	7.639	2.18816	7.557	2.03747	7.494
9.86279	3.54174	7.968	3.22931	7.882	2.90378	7.801	2.66000	7.720	2.49849	7.637	2.23506	7.556	2.08581	7.491
9.97700	3.62135	7.964	3.30283	7.879	2.96992	7.798	2.72053	7.718	2.55399	7.636	2.28212	7.555	2.13222	7.489
10.0925	3.70372	7.961	3.37766	7.876	3.03705	7.796	2.78211	7.716	2.61298	7.635	2.33051	7.553	2.17869	7.488
10.2094	3.78748	7.957	3.45459	7.873	3.10611	7.793	2.84504	7.714	2.67369	7.633	2.38339	7.551	2.22551	7.486
10.3276	3.87220	7.953	3.53329	7.869	3.17599	7.790	2.90987	7.712	2.73657	7.632	2.43985	7.549	2.27225	7.485
10.4472	3.95791	7.949	3.61301	7.866	3.24914	7.787	2.97622	7.709	2.80127	7.629	2.49902	7.547	2.31954	7.484
10.5682	4.04647	7.945	3.69365	7.863	3.32384	7.785	3.04465	7.707	2.86678	7.627	2.56144	7.545	2.37285	7.483
10.6905	4.13815	7.941	3.77528	7.859	3.39940	7.782	3.11503	7.704	2.93273	7.625	2.62424	7.543	2.42904	7.483
10.8143	4.23137	7.937	3.86026	7.855	3.47592	7.779	3.18623	7.702	2.99934	7.622	2.68508	7.542	2.48721	7.482

10.9396	4.32567	7.933	3.94794	7.852	3.55335	7.776	3.25826	7.699	3.06673	7.620	2.74499	7.540	2.55001	7.481
11.0662	4.42106	7.929	4.03686	7.848	3.63440	7.773	3.33147	7.697	3.13490	7.617	2.80560	7.538	2.61353	7.479
11.1944	4.52011	7.924	4.12681	7.844	3.71719	7.769	3.40720	7.694	3.20510	7.615	2.86692	7.536	2.67322	7.477
11.3240	4.62170	7.920	4.21794	7.841	3.80095	7.766	3.48529	7.691	3.27894	7.613	2.93048	7.534	2.73287	7.474
11.4551	4.72463	7.915	4.31339	7.836	3.88577	7.763	3.56428	7.689	3.35456	7.610	2.99905	7.531	2.79320	7.472
11.5878	4.82875	7.911	4.41082	7.832	3.97189	7.759	3.64422	7.686	3.43105	7.608	3.07106	7.529	2.85424	7.470
11.7220	4.93520	7.906	4.50944	7.828	4.06289	7.756	3.72602	7.683	3.50843	7.605	3.14390	7.527	2.91598	7.467
11.8577	5.04542	7.901	4.60925	7.824	4.15508	7.753	3.81087	7.680	3.58807	7.603	3.21762	7.525	2.98564	7.466
11.9950	5.15764	7.896	4.71173	7.820	4.24845	7.749	3.89790	7.677	3.67005	7.600	3.29203	7.523	3.05734	7.464
12.1339	5.27116	7.891	4.81768	7.815	4.34299	7.745	3.98594	7.674	3.75332	7.597	3.36697	7.520	3.12986	7.462
12.2744	5.38623	7.886	4.92518	7.811	4.44100	7.741	4.07504	7.670	3.83754	7.595	3.44263	7.518	3.20322	7.461
12.4165	5.50587	7.881	5.03395	7.806	4.54210	7.738	4.16654	7.667	3.92310	7.592	3.51918	7.515	3.27736	7.459
12.5603	5.62793	7.875	5.14461	7.802	4.64442	7.734	4.26070	7.664	4.01218	7.589	3.59676	7.513	3.35182	7.456
12.7057	5.75140	7.870	5.25940	7.797	4.74803	7.729	4.35600	7.660	4.10325	7.586	3.67648	7.510	3.42714	7.453
12.8529	5.87645	7.865	5.37597	7.792	4.85371	7.725	4.45245	7.657	4.19538	7.583	3.75815	7.508	3.50334	7.450
13.0017	6.00657	7.859	5.49391	7.787	4.96287	7.721	4.55173	7.653	4.28858	7.580	3.84077	7.505	3.58042	7.447
13.1522	6.13952	7.853	5.61376	7.782	5.07332	7.717	4.65474	7.650	4.38522	7.577	3.92442	7.502	3.65992	7.445
13.3045	6.27405	7.847	5.73866	7.776	5.18520	7.712	4.75974	7.646	4.48431	7.574	4.01253	7.499	3.74122	7.443
13.4586	6.41050	7.841	5.86566	7.771	5.29949	7.708	4.86597	7.642	4.58471	7.570	4.10543	7.496	3.82346	7.441
13.6144	6.55139	7.835	5.99418	7.766	5.41921	7.703	4.97483	7.638	4.68627	7.567	4.19994	7.494	3.90665	7.439
13.7721	6.69481	7.829	6.12521	7.760	5.54037	7.699	5.08734	7.634	4.79189	7.564	4.29559	7.491	3.99366	7.437
13.9316	6.83989	7.823	6.26154	7.754	5.66304	7.694	5.20206	7.630	4.90066	7.560	4.39355	7.487	4.08666	7.435
14.0929	6.98796	7.816	6.40002	7.749	5.78852	7.689	5.31819	7.626	5.01099	7.557	4.49403	7.484	4.18074	7.432
14.2561	7.14017	7.810	6.54016	7.743	5.91832	7.684	5.43710	7.622	5.12261	7.553	4.59597	7.481	4.27591	7.429
14.4212	7.29481	7.803	6.68333	7.737	6.04982	7.679	5.55941	7.618	5.23787	7.549	4.69916	7.478	4.37304	7.426
14.5881	7.45123	7.796	6.82991	7.731	6.18300	7.674	5.68366	7.614	5.35567	7.545	4.80617	7.474	4.47334	7.424
14.7571	7.61278	7.789	6.97844	7.725	6.32040	7.668	5.80950	7.609	5.47492	7.541	4.91711	7.471	4.57480	7.421
14.9279	7.77798	7.781	7.12901	7.719	6.46115	7.663	5.93882	7.604	5.59624	7.538	5.02960	7.467	4.67745	7.418
15.1008	7.94532	7.774	7.28543	7.712	6.60364	7.657	6.07183	7.600	5.72226	7.533	5.14363	7.464	4.78357	7.415
15.2757	8.11577	7.767	7.44474	7.705	6.74817	7.652	6.20641	7.595	5.85095	7.529	5.26005	7.460	4.89424	7.412
15.4525	8.29038	7.759	7.60609	7.699	6.89923	7.646	6.34368	7.590	5.98113	7.525	5.37861	7.457	5.00620	7.409
15.6315	8.46758	7.751	7.77066	7.692	7.05232	7.640	6.48499	7.585	6.11423	7.520	5.49858	7.453	5.11945	7.406
15.8125	8.64732	7.743	7.93869	7.685	7.20728	7.634	6.62934	7.580	6.25033	7.516	5.62110	7.449	5.23547	7.402
15.9956	8.83337	7.735	8.10892	7.678	7.36562	7.628	6.77549	7.575	6.38836	7.511	5.74680	7.445	5.35347	7.399
16.1808	9.02293	7.727	8.28209	7.670	7.52690	7.622	6.92443	7.570	6.52867	7.507	5.87461	7.441	5.47285	7.395
16.3682	9.21472	7.718	8.46093	7.663	7.69030	7.616	7.07619	7.564	6.67383	7.502	6.00436	7.437	5.59403	7.391
16.5577	9.41071	7.710	8.64243	7.655	7.85704	7.609	7.22981	7.559	6.82184	7.497	6.13760	7.433	5.71978	7.388
16.7494	9.60983	7.702	8.82645	7.648	8.02883	7.603	7.38757	7.553	6.97157	7.492	6.27389	7.429	5.84697	7.384
16.9434	9.81133	7.693	9.01649	7.640	8.20272	7.596	7.55060	7.547	7.12529	7.487	6.41185	7.424	5.97564	7.381
17.1396	10.0193	7.684	9.20955	7.632	8.37935	7.589	7.71646	7.542	7.28196	7.482	6.55348	7.420	6.10853	7.377
17.3380	10.2317	7.675	9.40508	7.624	8.56257	7.583	7.88527	7.536	7.44057	7.477	6.69887	7.416	6.24415	7.373
17.5388	10.4469	7.665	9.60580	7.616	8.74840	7.575	8.05801	7.530	7.60361	7.472	6.84633	7.411	6.38135	7.369
17.7419	10.6672	7.655	9.80954	7.607	8.93671	7.568	8.23377	7.524	7.77062	7.467	6.99843	7.406	6.52193	7.365
17.9473	10.8914	7.646	10.0163	7.599	9.13001	7.561	8.41313	7.517	7.93998	7.461	7.15599	7.401	6.66683	7.361
18.1552	11.1184	7.636	10.2302	7.590	9.32586	7.553	8.59754	7.511	8.11377	7.456	7.31641	7.396	6.81341	7.357
18.3654	11.3507	7.626	10.4475	7.581	9.52490	7.545	8.78570	7.504	8.29185	7.450	7.47918	7.391	6.96342	7.352
18.5780	11.5866	7.616	10.6676	7.572	9.73305	7.538	8.97727	7.498	8.47253	7.444	7.64452	7.386	7.12120	7.348

18.7932	11.8260	7.606	10.8923	7.563	9.94374	7.530	9.17334	7.491	8.65833	7.438	7.81209	7.380	7.28080	7.344
19.0108	12.0705	7.595	11.1202	7.554	10.1572	7.522	9.37275	7.484	8.84883	7.432	7.98325	7.375	7.44249	7.339
19.2309	12.3184	7.584	11.3526	7.544	10.3742	7.513	9.57527	7.477	9.04208	7.426	8.15856	7.370	7.60723	7.334
19.4536	12.5706	7.573	11.5903	7.534	10.5940	7.505	9.78148	7.470	9.23831	7.419	8.33672	7.364	7.77389	7.330
19.6789	12.8272	7.562	11.8312	7.525	10.8198	7.496	9.9908	7.463	9.43726	7.412	8.52066	7.358	7.94338	7.325
19.9067	13.0872	7.551	12.0771	7.515	11.0519	7.487	10.2054	7.455	9.63889	7.406	8.71082	7.352	8.11844	7.320
20.1372	13.3556	7.539	12.3273	7.505	11.2869	7.478	10.4256	7.447	9.84775	7.399	8.90397	7.346	8.29553	7.315
20.3704	13.6290	7.527	12.5815	7.494	11.5279	7.469	10.6491	7.440	10.0609	7.392	9.10112	7.341	8.47756	7.310
20.6063	13.9065	7.515	12.8409	7.483	11.7724	7.460	10.8768	7.432	10.2774	7.385	9.30227	7.334	8.66740	7.304
20.8449	14.1885	7.504	13.1034	7.472	12.0204	7.451	11.1088	7.424	10.4981	7.378	9.50602	7.328	8.85944	7.299
21.0863	14.4742	7.492	13.3719	7.461	12.2741	7.441	11.3453	7.415	10.7220	7.371	9.71209	7.321	9.05565	7.293
21.3304	14.7677	7.479	13.6469	7.451	12.5311	7.432	11.5872	7.406	10.9502	7.363	9.92019	7.315	9.25562	7.288
21.5774	15.0664	7.466	13.9267	7.439	12.7926	7.422	11.8328	7.398	11.1822	7.356	10.1346	7.308	9.45792	7.282
21.8273	15.3692	7.454	14.2137	7.428	13.0584	7.412	12.0830	7.389	11.4186	7.348	10.3566	7.302	9.66272	7.276
22.0800	15.6763	7.440	14.5050	7.416	13.3287	7.402	12.3385	7.380	11.6632	7.341	10.5827	7.295	9.86991	7.270
22.3357	15.9870	7.427	14.8011	7.404	13.6088	7.391	12.5991	7.371	11.9124	7.333	10.8113	7.288	10.0823	7.264
22.5944	16.3014	7.414	15.1017	7.392	13.8924	7.381	12.8659	7.362	12.1650	7.325	11.0423	7.281	10.3041	7.258
22.8560	16.6194	7.400	15.4058	7.380	14.1840	7.370	13.1376	7.353	12.4207	7.316	11.2797	7.273	10.5286	7.251
23.1206	16.9460	7.386	15.7135	7.368	14.4800	7.359	13.4152	7.343	12.6818	7.307	11.5243	7.266	10.7556	7.245
23.3884	17.2813	7.372	16.0256	7.356	14.7795	7.348	13.6984	7.334	12.9505	7.299	11.7734	7.258	10.9852	7.239
23.6592	17.6216	7.357	16.3459	7.343	15.0830	7.336	13.9848	7.324	13.2236	7.290	12.0272	7.250	11.2201	7.232
23.9332	17.9659	7.343	16.6727	7.329	15.3901	7.325	14.2747	7.314	13.4999	7.281	12.2848	7.242	11.4642	7.226
24.2103	18.3141	7.328	17.0035	7.316	15.7062	7.313	14.5693	7.304	13.7794	7.272	12.5454	7.234	11.7111	7.219
24.4906	18.6704	7.313	17.3382	7.303	16.0271	7.302	14.8714	7.294	14.0648	7.263	12.8090	7.226	11.9640	7.212
24.7742	19.0328	7.298	17.6771	7.289	16.3519	7.290	15.1800	7.283	14.3587	7.254	13.0788	7.218	12.2201	7.204
25.0611	19.3996	7.283	18.0282	7.276	16.6813	7.277	15.4922	7.272	14.6577	7.245	13.3588	7.209	12.4792	7.197
25.3513	19.7706	7.267	18.3855	7.262	17.0156	7.265	15.8082	7.261	14.9602	7.235	13.6461	7.201	12.7413	7.190
25.6448	20.1473	7.251	18.7469	7.248	17.3633	7.252	16.1305	7.250	15.2661	7.226	13.9367	7.192	13.0065	7.182
25.9418	20.5310	7.235	19.1134	7.234	17.7152	7.240	16.4616	7.239	15.5808	7.216	14.2312	7.183	13.2874	7.175
26.2422	20.9199	7.219	19.4868	7.219	18.0719	7.227	16.7991	7.228	15.9038	7.205	14.5324	7.174	13.5731	7.167
26.5461	21.3133	7.202	19.8668	7.204	18.4332	7.213	17.1406	7.216	16.2317	7.194	14.8411	7.165	13.8621	7.159
26.8534	21.7118	7.185	20.2516	7.188	18.8025	7.200	17.4865	7.204	16.5633	7.184	15.1548	7.155	14.1544	7.151
27.1644	22.1186	7.168	20.6407	7.173	19.1787	7.186	17.8411	7.192	16.8998	7.173	15.4722	7.145	14.4516	7.143
27.4789	22.5314	7.151	21.0349	7.157	19.5594	7.172	18.2043	7.180	17.2455	7.162	15.7942	7.135	14.7598	7.134
27.7971	22.9489	7.134	21.4380	7.142	19.9446	7.158	18.5717	7.168	17.5972	7.151	16.1243	7.125	15.0716	7.125
28.1190	23.3715	7.116	21.8465	7.126	20.3361	7.144	18.9435	7.155	17.9529	7.140	16.4615	7.115	15.3871	7.117
28.4446	23.8037	7.098	22.2600	7.110	20.7362	7.130	19.3223	7.143	18.3127	7.129	16.8026	7.105	15.7062	7.108
28.7740	24.2424	7.080	22.6804	7.094	21.1412	7.116	19.7091	7.130	18.6851	7.118	17.1481	7.095	16.0347	7.098
29.1072	24.6862	7.062	23.1099	7.077	21.5519	7.101	20.1013	7.117	19.0660	7.106	17.5030	7.084	16.3699	7.089
29.4442	25.1349	7.043	23.5452	7.060	21.9684	7.086	20.4986	7.104	19.4517	7.094	17.8674	7.073	16.7089	7.079
29.7852	25.5881	7.024	23.9853	7.043	22.3929	7.071	20.9027	7.090	19.8418	7.082	18.2366	7.062	17.0519	7.069
30.1301	26.0463	7.005	24.4312	7.026	22.8223	7.056	21.3145	7.076	20.2391	7.069	18.6104	7.051	17.4036	7.059
30.4789	26.5098	6.986	24.8859	7.009	23.2566	7.040	21.7321	7.062	20.6426	7.057	18.9938	7.040	17.7663	7.050
30.8319	26.9790	6.967	25.3464	6.991	23.6979	7.025	22.1547	7.048	21.0510	7.044	19.3871	7.028	18.1332	7.040
31.1889	27.4542	6.947	25.8135	6.973	24.1477	7.009	22.5845	7.034	21.4640	7.031	19.7859	7.017	18.5043	7.030
31.5500	27.9350	6.927	26.2897	6.955	24.6040	6.993	23.0224	7.020	21.8889	7.018	20.1904	7.004	18.8838	7.020
31.9154	28.4213	6.906	26.7741	6.936	25.0663	6.976	23.4661	7.005	22.3218	7.005	20.6008	6.992	19.2756	7.009

32.2849	28.9171	6.886	27.2644	6.917	25.5420	6.960	23.9169	6.990	22.7599	6.992	21.0158	6.979	19.6719	6.998
32.6588	29.4205	6.867	27.7592	6.899	26.0276	6.943	24.3786	6.974	23.2037	6.978	21.4355	6.966	20.0728	6.987
33.0370	29.9298	6.847	28.2577	6.880	26.5192	6.926	24.8499	6.958	23.6553	6.965	21.8606	6.954	20.4792	6.976
33.4195	30.4485	6.826	28.7614	6.860	27.0165	6.909	25.3252	6.942	24.1130	6.951	22.2967	6.941	20.8916	6.965
33.8065	30.9786	6.804	29.2716	6.841	27.5185	6.891	25.8040	6.927	24.5760	6.937	22.7429	6.929	21.3087	6.953
34.1979	31.5163	6.782	29.7965	6.821	28.0256	6.874	26.2891	6.912	25.0492	6.922	23.1958	6.916	21.7306	6.942
34.5939	32.0566	6.760	30.3366	6.801	28.5381	6.856	26.7813	6.897	25.5325	6.907	23.6585	6.902	22.1658	6.930
34.9945	32.5806	6.739	30.8837	6.781	29.0542	6.839	27.2826	6.881	26.0223	6.892	24.1309	6.887	22.6092	6.917
35.3997	33.1037	6.717	31.4342	6.761	29.5756	6.821	27.7944	6.864	26.5175	6.877	24.6094	6.873	23.0577	6.905
35.8096	33.6335	6.696	31.9858	6.741	30.1039	6.802	28.3136	6.846	27.0174	6.862	25.0934	6.859	23.5132	6.892
36.2243	34.1932	6.673	32.5430	6.721	30.6392	6.783	28.8376	6.829	27.5227	6.847	25.5890	6.846	23.9834	6.880
36.6438	34.7687	6.651	33.1069	6.700	31.1819	6.764	29.3628	6.812	28.0338	6.832	26.0958	6.832	24.4590	6.868
37.0681	35.3510	6.628	33.6831	6.679	31.7302	6.745	29.8895	6.795	28.5646	6.816	26.6113	6.818	24.9402	6.856
37.4973	35.9301	6.605	34.2670	6.659	32.2844	6.726	30.4223	6.778	29.1080	6.800	27.1287	6.802	25.4350	6.843
37.9315	36.4818	6.587	34.8549	6.638	32.8426	6.707	30.9689	6.759	29.6580	6.784	27.6453	6.786	25.9384	6.830
38.3707	37.0544	6.566	35.4437	6.617	33.4097	6.687	31.5331	6.741	30.2022	6.768	28.1669	6.771	26.4476	6.816
38.8150	37.6455	6.544	36.0382	6.596	33.9841	6.666	32.1081	6.723	30.7439	6.751	28.7031	6.755	26.9589	6.803
39.2645	38.2785	6.520	36.6403	6.575	34.5694	6.645	32.6842	6.704	31.2902	6.734	29.2572	6.739	27.4714	6.789
39.7192	38.8870	6.498	37.2550	6.553	35.1619	6.625	33.2563	6.685	31.8562	6.717	29.8209	6.723	27.9898	6.774
40.1791	39.5290	6.479	37.8775	6.531	35.7617	6.603	33.8303	6.666	32.4397	6.700	30.3896	6.707	28.5201	6.760
40.6443	40.1272	6.459	38.5034	6.509	36.3710	6.582	34.4202	6.646	33.0323	6.683	30.9624	6.691	29.0731	6.746
41.1150	40.7623	6.439	39.1261	6.487	36.9865	6.561	35.0324	6.626	33.6232	6.665	31.5420	6.674	29.6324	6.731
41.5911	41.4494	6.413	39.7547	6.465	37.6104	6.539	35.6576	6.607	34.2144	6.646	32.1340	6.657	30.1973	6.717
42.0727	42.1014	6.387	40.3931	6.442	38.2451	6.517	36.2831	6.587	34.8112	6.628	32.7389	6.639	30.7651	6.701
42.5598	42.7460	6.367	41.0434	6.420	38.8876	6.495	36.9066	6.566	35.4312	6.609	33.3516	6.622	31.3395	6.686
43.0527	43.3944	6.343	41.7011	6.397	39.5371	6.473	37.5348	6.546	36.0671	6.590	33.9723	6.604	31.9239	6.670
43.5512	44.0734	6.319	42.3594	6.373	40.1912	6.451	38.1781	6.525	36.7104	6.571	34.6021	6.587	32.5259	6.655
44.0555	44.7470	6.292	43.0214	6.350	40.8524	6.428	38.8382	6.505	37.3513	6.552	35.2401	6.569	33.1348	6.639
44.5656	45.4456	6.270	43.6890	6.326	41.5563	6.406	39.5052	6.484	37.9959	6.533	35.8857	6.551	33.7515	6.623
45.0817	46.0920	6.249	44.3674	6.303	42.2402	6.384	40.1750	6.463	38.6526	6.513	36.5384	6.533	34.3767	6.607
45.6037	46.7889	6.225	45.0539	6.279	42.9604	6.361	40.8813	6.442	39.3255	6.493	37.1994	6.514	35.0092	6.590
46.1318	47.5244	6.199	45.7448	6.255	43.6555	6.338	41.5988	6.421	40.0087	6.473	37.8710	6.495	35.6494	6.573
46.6659	48.2569	6.175	46.4402	6.230	44.3894	6.316	42.3298	6.400	40.6939	6.453	38.5532	6.477	36.2972	6.556
47.2063	48.9551	6.151	47.1404	6.206	45.0999	6.293	43.0377	6.378	41.3834	6.433	39.2478	6.457	36.9526	6.539
47.7529	49.6725	6.124	47.8519	6.181	45.8483	6.270	43.7583	6.356	42.0823	6.412	39.9172	6.444	37.6203	6.521
48.3059	50.3778	6.101	48.5748	6.156	46.5768	6.246	44.4163	6.345	42.7948	6.391	40.5905	6.431	38.2963	6.503
48.8652	51.1607	6.078	49.2624	6.135	47.3023	6.228	45.1635	6.328	43.4681	6.378	41.2744	6.416	38.9833	6.485
49.4311	51.8492	6.051	50.0093	6.115	48.0578	6.206	45.9059	6.308	44.1571	6.363	42.0088	6.395	39.6852	6.467
50.0035	52.4646	6.030	50.7306	6.094	48.7932	6.186	46.6379	6.291	44.9541	6.338	42.6847	6.374	40.3953	6.449
51.1682	53.5091	5.978	52.2592	6.048	50.2875	6.142	48.1159	6.256	46.3531	6.308	44.2068	6.343	41.8938	6.420
52.3600	55.1278	5.924	53.7805	6.000	51.8220	6.095	49.6031	6.215	47.7592	6.279	45.6602	6.311	43.3004	6.396
53.5797	56.7567	5.873	55.3100	5.959	53.3756	6.051	51.1275	6.174	49.3240	6.235	47.1724	6.279	44.8123	6.366
54.8277	58.3840	5.823	56.9143	5.910	54.9453	6.008	52.6858	6.135	50.7947	6.202	48.7580	6.245	46.4500	6.326
56.1048	59.9729	5.771	58.5964	5.860	56.5958	5.960	54.2724	6.093	52.2794	6.170	50.4218	6.209	48.1497	6.288
57.4116	61.7497	5.713	60.1639	5.819	58.1810	5.917	55.9439	6.047	53.8912	6.127	52.1544	6.171	49.9322	6.249
58.7489	63.3531	5.667	61.8391	5.766	59.7483	5.872	57.6379	5.998	55.5541	6.083	53.7997	6.136	51.6847	6.212
60.1174	64.9297	5.615	63.5284	5.718	61.4446	5.834	59.3309	5.948	57.2023	6.039	55.4102	6.101	53.4289	6.174



61.5177	66.4099	5.565	65.1493	5.670	63.1419	5.791	61.0519	5.907	58.8533	6.005	57.0427	6.070	55.1727	6.155
62.2300	67.2774	5.534	65.9549	5.649	63.9114	5.774	61.8796	5.878	59.7200	5.979	58.0149	6.045	56.3416	6.113
62.9506	68.0769	5.507	66.7675	5.621	64.7188	5.751	62.7394	5.852	60.6128	5.956	58.9757	6.019	57.2676	6.096
63.6796	68.8719	5.484	67.4987	5.602	65.5896	5.729	63.5804	5.829	61.5446	5.934	59.8989	5.996	58.2223	6.076
64.4169	69.7178	5.461	68.2903	5.585	66.4379	5.707	64.4592	5.809	62.5139	5.910	60.8811	5.978	59.1673	6.054
65.1628	70.5346	5.432	69.0989	5.562	67.2962	5.683	65.3761	5.783	63.4368	5.886	61.8142	5.958	60.1113	6.035
65.9174	71.4092	5.411	69.8019	5.535	68.2341	5.658	66.3310	5.760	64.3943	5.864	62.7673	5.934	61.1081	6.012
66.6807	72.2839	5.386	70.6839	5.500	69.1450	5.633	67.3073	5.737	65.3506	5.841	63.7505	5.910	62.0803	5.991
67.4528	73.1503	5.361	71.6444	5.475	70.1557	5.607	68.2945	5.714	66.4218	5.818	64.7427	5.890	63.0521	5.972
68.2339	74.0477	5.334	72.5014	5.457	71.0368	5.584	69.2428	5.688	67.3826	5.794	65.6785	5.865	64.0581	5.948
69.0240	74.9021	5.308	73.4387	5.438	72.0077	5.558	70.2187	5.663	68.3500	5.769	66.6695	5.843	65.0360	5.927
69.8232	75.7989	5.279	74.3133	5.403	72.9004	5.531	71.1433	5.637	69.3355	5.744	67.6686	5.818	66.0529	5.903
70.6318	76.6553	5.255	75.2626	5.381	73.8794	5.506	72.1382	5.611	70.3125	5.719	68.6383	5.795	67.0453	5.881
71.4496	77.5819	5.228	76.2076	5.351	74.8445	5.479	73.1401	5.584	71.3613	5.694	69.6624	5.771	68.0190	5.858
72.2770	78.3959	5.199	77.0326	5.323	75.7077	5.453	74.0320	5.558	72.2847	5.668	70.6280	5.745	69.0338	5.833
73.1139	79.2910	5.174	77.9619	5.299	76.6741	5.427	75.0290	5.533	73.2929	5.643	71.6491	5.721	70.0417	5.810
73.9605	80.1818	5.150	78.9176	5.279	77.6580	5.401	76.0405	5.509	74.3093	5.618	72.6513	5.698	71.0380	5.787
74.8170	81.0147	5.122	79.8129	5.246	78.5855	5.375	76.9751	5.481	75.2590	5.592	73.6271	5.673	72.0375	5.763
75.6833	81.8769	5.097	80.7249	5.225	79.5371	5.349	77.9347	5.457	76.2641	5.568	74.6253	5.649	73.0393	5.740
76.5597	82.7803	5.072	81.6503	5.201	80.4978	5.323	78.9631	5.431	77.2966	5.542	75.6703	5.625	74.0559	5.716
77.4462	83.6493	5.047	82.5723	5.174	81.4421	5.297	79.9517	5.405	78.2967	5.517	76.7114	5.600	75.0958	5.693
78.3430	84.3183	5.020	83.3307	5.150	82.2561	5.271	80.8474	5.372	79.3206	5.481	78.0719	5.578	76.1631	5.667
79.2501	85.3754	4.993	84.3725	5.120	83.3083	5.245	81.9869	5.348	80.4211	5.456	79.1619	5.555	77.1513	5.644
80.1678	86.2405	4.971	85.2815	5.096	84.2854	5.221	82.9410	5.325	81.4252	5.433	80.1776	5.532	78.1650	5.621
81.0961	87.1584	4.945	86.1854	5.065	85.2099	5.193	83.9534	5.296	82.4624	5.407	81.2682	5.508	79.2288	5.598
82.0352	88.1058	4.927	87.2063	5.044	86.2760	5.168	84.9998	5.276	83.4849	5.384	82.3122	5.486	80.2993	5.575
82.9851	88.7858	4.892	87.9747	5.017	87.1125	5.147	85.8575	5.250	84.4494	5.358	83.3179	5.458	81.3852	5.549
83.9460	89.7245	4.869	88.9407	4.992	88.0972	5.122	86.9351	5.228	85.5340	5.335	84.4126	5.435	82.5023	5.526
84.9180	90.9611	4.850	90.4594	4.960	89.1201	5.085	88.3283	5.193	86.9396	5.309	85.8038	5.407	83.6230	5.501
85.9014	91.7194	4.829	90.9252	4.947	90.2310	5.067	89.1012	5.175	87.6806	5.284	86.5935	5.386	84.6902	5.479
86.8960	92.4505	4.798	91.8548	4.921	91.1402	5.046	90.0327	5.153	88.6842	5.260	87.6306	5.363	85.8346	5.457
87.9023	93.6590	4.775	92.8489	4.895	92.1723	5.016	91.2247	5.127	89.8755	5.236	88.8503	5.340	86.9906	5.434
88.9201	93.9273	4.746	93.6443	4.856	92.9288	4.993	92.1279	5.092	90.8465	5.203	89.8901	5.308	88.2622	5.405
89.9498	95.1586	4.725	94.6362	4.845	94.0758	4.970	93.1181	5.077	91.8894	5.186	90.9422	5.289	89.3760	5.387
90.9913	95.9676	4.696	95.5433	4.822	95.0308	4.948	94.0658	5.054	92.9324	5.160	92.0257	5.265	90.5666	5.362
92.0450	97.1394	4.680	96.6432	4.796	96.1284	4.917	95.4146	5.029	94.2133	5.138	93.3326	5.246	91.7541	5.341
93.1108	97.7386	4.647	97.3996	4.773	97.0283	4.899	96.1444	5.004	95.1095	5.111	94.2410	5.216	93.0742	5.308
94.1890	98.7715	4.626	98.5233	4.750	98.1560	4.873	97.3147	4.980	96.2119	5.088	95.4133	5.193	94.2369	5.285
95.2796	99.7963	4.599	99.4926	4.722	99.1283	4.846	98.4159	4.954	97.3492	5.062	96.5811	5.168	95.4215	5.260
96.3829	100.635	4.581	100.391	4.701	100.151	4.825	99.4088	4.932	98.4363	5.040	97.7031	5.146	96.5297	5.239
97.4990	101.531	4.556	101.354	4.677	101.151	4.800	100.470	4.907	99.5278	5.015	98.8548	5.120	97.7734	5.213
98.6279	102.474	4.530	102.313	4.652	102.108	4.776	101.567	4.881	100.638	4.991	100.002	5.095	98.9329	5.190
99.7700	103.332	4.511	103.439	4.625	103.460	4.747	102.822	4.860	101.978	4.964	101.417	5.066	100.182	5.160
100.925	104.029	4.485	104.491	4.601	104.612	4.724	103.943	4.836	103.363	4.937	102.785	5.038	101.489	5.132
102.094	105.017	4.461	105.409	4.577	105.545	4.701	104.933	4.815	104.222	4.913	103.960	5.014	102.694	5.108
103.276	105.845	4.440	106.474	4.556	106.751	4.678	106.153	4.790	105.637	4.892	105.095	4.992	103.870	5.086
104.472	106.899	4.421	107.538	4.534	107.785	4.657	107.272	4.770	106.796	4.869	106.352	4.969	105.129	5.063

105.682	107.830	4.394	108.497	4.509	108.727	4.632	108.294	4.745	107.839	4.844	107.567	4.943	106.402	5.038
106.905	108.769	4.373	109.696	4.486	110.030	4.607	109.592	4.718	109.150	4.819	108.852	4.921	107.731	5.015
108.143	109.874	4.352	110.527	4.463	110.907	4.583	110.563	4.694	110.359	4.795	109.936	4.893	108.869	4.986
109.396	110.705	4.319	111.624	4.434	112.084	4.553	111.760	4.665	111.614	4.767	111.457	4.870	110.363	4.967
110.662	111.881	4.307	112.780	4.415	113.234	4.536	112.918	4.650	112.651	4.750	112.573	4.848	111.526	4.943
111.944	112.686	4.281	113.677	4.391	114.231	4.509	114.023	4.621	113.835	4.721	113.772	4.820	112.835	4.917
113.240	113.803	4.261	114.832	4.369	115.453	4.486	115.264	4.596	115.271	4.698	115.049	4.797	114.108	4.892
114.551	114.710	4.238	115.782	4.346	116.406	4.464	116.310	4.574	116.222	4.674	116.213	4.772	115.341	4.867
115.878	115.844	4.214	116.921	4.320	117.634	4.437	117.489	4.550	117.545	4.651	117.533	4.750	116.740	4.844
117.220	116.644	4.192	117.771	4.300	118.630	4.416	118.567	4.524	118.687	4.623	118.756	4.723	117.994	4.818
118.577	117.574	4.171	118.694	4.276	119.500	4.392	119.571	4.503	119.510	4.602	119.869	4.700	119.146	4.794
119.950	118.409	4.150	119.782	4.254	120.761	4.368	120.848	4.476	121.008	4.577	121.114	4.675	120.437	4.770
121.339	119.444	4.128	120.776	4.233	121.760	4.348	121.838	4.457	122.132	4.553	122.290	4.651	121.673	4.746
122.744	120.086	4.108	121.587	4.211	122.621	4.323	122.788	4.431	123.241	4.530	123.357	4.626	122.781	4.720
124.165	121.290	4.092	122.756	4.192	123.903	4.303	124.182	4.406	124.668	4.504	124.714	4.605	124.134	4.699
125.603	122.058	4.065	123.455	4.168	124.676	4.280	125.020	4.386	125.177	4.480	125.844	4.580	125.350	4.674
127.057	123.006	4.044	124.579	4.144	125.764	4.255	126.146	4.362	126.533	4.459	126.995	4.555	126.559	4.649
128.529	123.811	4.026	125.581	4.128	126.898	4.237	127.277	4.341	127.918	4.435	128.266	4.532	127.874	4.626
130.017	124.796	4.009	126.488	4.107	127.773	4.217	128.277	4.323	128.778	4.416	129.396	4.511	129.056	4.604
131.522	125.770	3.987	127.589	4.084	128.927	4.194	129.485	4.299	130.108	4.393	130.644	4.488	130.362	4.580
133.045	126.799	3.972	128.600	4.067	130.040	4.176	130.719	4.280	131.511	4.372	131.949	4.468	131.697	4.560
134.586	127.682	3.952	129.573	4.047	131.102	4.156	131.854	4.259	132.647	4.352	133.223	4.446	133.024	4.538
136.144	128.765	3.928	130.724	4.025	132.323	4.130	133.022	4.233	133.795	4.327	134.547	4.421	134.372	4.512
137.721	129.592	3.908	131.677	4.004	133.410	4.109	134.156	4.212	135.106	4.306	135.793	4.397	135.674	4.487
139.316	130.603	3.894	132.622	3.988	134.285	4.092	135.203	4.195	136.205	4.283	136.886	4.376	136.889	4.467
140.929	131.530	3.873	133.705	3.967	135.419	4.070	136.357	4.169	137.434	4.258	138.121	4.348	138.202	4.441
142.561	132.529	3.852	134.790	3.944	136.489	4.047	137.457	4.146	138.627	4.235	139.378	4.328	139.575	4.418
144.212	133.431	3.839	135.658	3.927	137.532	4.031	138.670	4.131	139.708	4.219	140.671	4.311	140.856	4.402
145.881	134.638	3.817	136.848	3.906	138.831	4.010	139.967	4.106	141.053	4.196	142.027	4.288	142.239	4.377
147.571	135.568	3.795	137.896	3.885	139.818	3.989	140.913	4.088	142.392	4.178	143.293	4.270	143.493	4.357
149.279	136.489	3.784	138.748	3.867	140.930	3.970	142.205	4.065	143.627	4.154	144.629	4.246	144.930	4.336
151.008	137.215	3.759	139.726	3.848	141.948	3.949	143.216	4.044	144.540	4.133	145.707	4.222	146.123	4.311
152.757	138.185	3.742	140.762	3.831	143.155	3.928	144.435	4.021	145.925	4.112	147.159	4.201	147.591	4.289
154.525	139.443	3.722	141.887	3.811	144.265	3.908	145.719	4.004	147.171	4.090	148.202	4.175	148.769	4.261
156.315	140.182	3.710	142.806	3.793	145.158	3.890	146.925	3.981	148.351	4.066	149.481	4.151	149.991	4.237
158.125	141.278	3.688	144.054	3.774	146.425	3.870	147.982	3.963	149.567	4.049	150.990	4.138	151.621	4.224
159.956	142.249	3.673	145.048	3.759	147.497	3.850	149.333	3.939	150.783	4.024	151.795	4.103	152.520	4.184
161.808	143.197	3.649	146.079	3.736	148.559	3.824	150.546	3.912	152.042	3.993	153.238	4.079	154.115	4.161
163.682	144.225	3.637	147.199	3.721	149.720	3.809	151.771	3.897	153.358	3.976	154.430	4.063	155.257	4.144
165.577	145.238	3.614	148.212	3.699	150.852	3.787	153.008	3.875	154.648	3.954	156.028	4.041	156.866	4.120
167.494	146.009	3.601	149.385	3.685	151.950	3.771	154.157	3.857	155.831	3.936	157.067	4.020	157.962	4.099
169.434	147.130	3.587	150.161	3.670	152.826	3.755	155.016	3.840	156.705	3.919	158.135	4.001	159.083	4.078
171.396	148.218	3.567	151.539	3.649	154.366	3.734	156.707	3.819	158.526	3.893	160.010	3.979	161.082	4.059
173.380	149.153	3.552	152.384	3.631	155.244	3.715	157.730	3.798	159.631	3.875	161.085	3.958	162.166	4.036
175.388	150.133	3.534	153.465	3.613	156.423	3.696	158.862	3.779	160.854	3.854	162.288	3.938	163.485	4.016
177.419	151.109	3.518	154.538	3.598	157.484	3.680	159.999	3.762	162.060	3.838	163.611	3.918	164.959	3.996
179.473	152.338	3.500	155.650	3.578	158.685	3.660	161.264	3.745	163.339	3.820	165.100	3.903	166.438	3.979

181.552	153.185	3.485	156.751	3.561	159.839	3.641	162.455	3.722	164.585	3.795	166.363	3.877	167.925	3.953
183.654	154.248	3.474	157.901	3.549	161.123	3.629	163.792	3.708	165.941	3.779	167.579	3.862	169.053	3.937
185.780	155.185	3.456	158.843	3.531	162.061	3.611	164.789	3.691	167.073	3.762	168.870	3.843	170.402	3.918
187.932	156.150	3.437	159.932	3.510	163.307	3.587	166.162	3.667	168.461	3.738	170.110	3.819	171.738	3.891
190.108	157.141	3.426	160.922	3.497	164.270	3.575	167.182	3.653	169.612	3.724	171.496	3.803	173.168	3.877
192.309	157.924	3.402	161.791	3.475	165.284	3.551	168.237	3.627	170.755	3.701	172.660	3.775	174.417	3.847
194.536	159.363	3.390	163.286	3.461	166.777	3.536	169.800	3.613	172.267	3.685	174.321	3.760	176.176	3.832
196.789	160.151	3.370	164.154	3.441	167.765	3.515	170.883	3.591	173.363	3.665	175.656	3.738	177.536	3.808
199.067	161.112	3.361	165.075	3.430	168.712	3.505	171.720	3.580	174.430	3.647	176.631	3.726	178.573	3.797
201.372	162.094	3.341	166.331	3.412	169.927	3.486	173.096	3.560	175.772	3.631	178.083	3.703	180.135	3.772
203.704	163.356	3.328	167.461	3.396	171.207	3.470	174.532	3.543	177.160	3.615	179.608	3.682	181.588	3.753
206.063	164.399	3.311	168.467	3.379	172.227	3.452	175.559	3.523	178.372	3.591	180.827	3.664	182.995	3.733
208.449	165.082	3.301	169.330	3.366	173.145	3.437	176.650	3.507	179.527	3.572	181.862	3.650	183.988	3.719
210.863	166.306	3.284	170.630	3.352	174.552	3.423	178.025	3.493	180.922	3.563	183.605	3.626	185.823	3.693
213.304	167.392	3.268	171.712	3.334	175.730	3.402	179.285	3.471	182.399	3.539	185.016	3.608	187.229	3.675
215.774	167.841	3.251	171.917	3.316	175.903	3.384	179.470	3.451	182.699	3.520	185.605	3.591	188.047	3.662
218.273	168.948	3.236	172.833	3.301	176.910	3.369	180.493	3.436	183.801	3.504	186.781	3.573	189.209	3.644
220.800	170.086	3.221	174.095	3.285	178.132	3.353	181.860	3.419	185.242	3.486	188.241	3.556	190.731	3.626
223.357	171.015	3.208	174.975	3.274	179.207	3.340	182.965	3.405	186.304	3.473	189.451	3.540	192.058	3.610
225.944	171.965	3.196	176.100	3.259	180.328	3.324	184.076	3.388	187.639	3.455	190.715	3.521	193.513	3.591
228.560	173.074	3.182	177.316	3.245	181.628	3.310	185.400	3.374	189.031	3.440	192.113	3.505	195.040	3.574
231.206	174.027	3.170	178.261	3.231	182.540	3.295	186.545	3.358	190.138	3.423	193.354	3.488	196.297	3.555
233.884	174.778	3.158	179.347	3.218	183.810	3.281	187.713	3.342	191.425	3.408	194.835	3.471	197.742	3.538
236.592	176.105	3.143	180.647	3.204	185.036	3.267	189.171	3.328	192.808	3.393	196.205	3.457	199.098	3.524
239.332	176.677	3.130	181.686	3.189	186.262	3.251	190.341	3.312	194.096	3.376	197.583	3.439	200.781	3.506
242.103	178.171	3.116	182.854	3.178	187.285	3.237	191.537	3.297	195.430	3.361	199.065	3.423	202.022	3.488
244.906	179.151	3.108	183.642	3.165	188.320	3.225	192.452	3.285	196.497	3.347	200.164	3.409	203.400	3.473
247.742	180.099	3.090	184.868	3.151	189.708	3.209	193.875	3.269	197.882	3.331	201.525	3.392	204.859	3.455
250.611	181.294	3.078	186.096	3.137	190.918	3.195	195.284	3.254	199.247	3.315	203.068	3.376	206.351	3.439
253.513	182.282	3.067	187.144	3.124	192.033	3.182	196.403	3.241	200.470	3.301	204.372	3.361	207.798	3.423
256.448	183.054	3.052	188.273	3.109	193.110	3.166	197.680	3.224	201.878	3.284	205.781	3.343	209.179	3.405
259.418	183.763	3.042	189.225	3.097	194.164	3.154	198.684	3.211	203.063	3.270	206.887	3.329	210.430	3.390
262.422	185.477	3.029	190.345	3.085	195.481	3.142	199.955	3.198	204.254	3.257	208.232	3.314	211.900	3.375
265.461	186.292	3.020	191.415	3.073	196.498	3.128	201.221	3.183	205.684	3.242	209.664	3.299	213.408	3.359
268.534	187.495	3.007	192.689	3.060	197.717	3.115	202.495	3.170	206.983	3.228	211.183	3.284	214.936	3.344
271.644	188.299	2.996	193.771	3.048	198.905	3.102	203.691	3.157	208.168	3.214	212.395	3.270	216.349	3.329
274.789	189.484	2.984	194.916	3.035	200.098	3.088	204.981	3.142	209.579	3.199	213.853	3.254	217.600	3.313
277.971	190.624	2.972	195.961	3.023	201.257	3.076	206.141	3.129	210.803	3.185	215.130	3.240	219.193	3.297
281.190	191.839	2.960	197.141	3.011	202.537	3.063	207.494	3.115	212.179	3.171	216.570	3.225	220.752	3.283
284.446	192.588	2.949	198.146	2.999	203.686	3.051	208.777	3.103	213.485	3.158	218.021	3.211	222.248	3.268
287.740	193.776	2.938	199.365	2.987	204.874	3.038	209.956	3.089	214.663	3.143	219.350	3.196	223.507	3.252
291.072	194.694	2.926	200.322	2.975	206.020	3.026	211.165	3.076	215.920	3.130	220.588	3.182	224.767	3.237
294.442	195.825	2.916	201.440	2.965	207.186	3.015	212.379	3.062	217.495	3.117	222.022	3.169	226.333	3.224
297.852	197.214	2.904	202.685	2.953	208.482	3.002	213.554	3.051	218.754	3.104	223.404	3.155	227.901	3.208
301.301	197.750	2.893	204.021	2.941	209.556	2.990	214.962	3.039	220.116	3.091	224.857	3.141	229.307	3.195
304.789	199.181	2.884	204.851	2.931	210.781	2.979	216.195	3.025	221.426	3.078	226.183	3.126	230.672	3.180
308.319	200.062	2.873	205.888	2.918	211.982	2.966	217.544	3.013	222.573	3.064	227.671	3.113	232.106	3.165

311.889	201.255	2.861	207.164	2.907	213.181	2.954	218.563	3.001	224.058	3.051	229.069	3.099	233.616	3.150
315.500	202.098	2.852	208.321	2.897	214.532	2.943	219.929	2.989	225.359	3.039	230.257	3.088	234.928	3.138
319.154	203.036	2.843	209.501	2.886	215.583	2.932	221.147	2.978	226.604	3.027	231.674	3.074	236.342	3.124
322.849	204.198	2.832	210.622	2.875	216.967	2.920	222.587	2.966	227.921	3.014	233.152	3.061	237.772	3.110
326.588	205.656	2.821	212.028	2.865	218.225	2.910	223.879	2.955	229.330	3.002	234.769	3.049	239.535	3.097
330.370	205.975	2.813	212.766	2.854	218.904	2.898	224.800	2.943	230.500	2.990	235.864	3.036	240.572	3.084
334.195	207.142	2.803	213.875	2.844	220.002	2.887	225.886	2.931	231.723	2.978	237.126	3.023	241.927	3.071
338.065	208.098	2.791	214.375	2.831	220.594	2.872	226.654	2.917	231.857	2.960	237.535	3.003	242.401	3.045
341.979	209.031	2.783	216.045	2.821	222.233	2.860	228.322	2.905	233.521	2.948	239.369	2.991	244.370	3.033
345.939	210.338	2.772	217.116	2.811	223.164	2.850	229.244	2.892	234.630	2.935	240.625	2.977	245.539	3.018
349.945	211.231	2.761	217.859	2.799	224.301	2.839	230.318	2.883	235.908	2.924	241.699	2.965	246.903	3.005
353.997	212.176	2.753	219.195	2.791	225.513	2.831	231.688	2.873	237.210	2.914	243.162	2.955	248.411	2.995
358.096	213.669	2.744	220.764	2.779	227.156	2.817	233.503	2.861	238.995	2.900	244.985	2.941	250.352	2.981
362.243	214.448	2.735	221.463	2.772	227.966	2.811	234.596	2.851	240.024	2.892	246.195	2.932	251.514	2.970
366.438	216.123	2.726	222.670	2.761	229.049	2.797	235.364	2.838	241.114	2.880	247.178	2.919	252.520	2.958
370.681	216.941	2.718	224.154	2.752	230.834	2.789	237.296	2.830	243.053	2.870	249.254	2.910	254.795	2.949
374.973	217.785	2.712	225.227	2.744	231.877	2.780	238.721	2.821	244.511	2.859	250.821	2.899	256.366	2.936
379.315	219.502	2.700	226.452	2.735	233.260	2.770	239.933	2.811	245.681	2.849	252.130	2.887	257.713	2.925
383.707	220.323	2.691	227.778	2.727	234.564	2.762	241.102	2.802	246.973	2.840	253.386	2.878	259.224	2.914
388.150	221.653	2.682	228.627	2.716	235.484	2.751	242.231	2.789	248.200	2.827	254.750	2.864	260.418	2.901
392.645	222.332	2.674	229.639	2.708	236.513	2.742	243.218	2.780	249.364	2.817	255.911	2.853	261.725	2.889
397.192	224.040	2.665	231.242	2.698	238.134	2.732	245.036	2.771	251.179	2.806	257.846	2.843	263.701	2.878
401.791	224.709	2.656	232.238	2.690	239.117	2.724	246.047	2.761	252.204	2.796	259.048	2.833	265.005	2.866
406.443	226.129	2.649	233.135	2.682	240.234	2.715	247.165	2.752	253.395	2.788	260.118	2.823	266.129	2.858
411.150	226.858	2.641	234.382	2.673	241.428	2.707	248.260	2.741	254.418	2.778	261.232	2.813	267.234	2.847
415.911	228.453	2.632	236.074	2.663	243.300	2.696	250.292	2.732	256.629	2.766	263.555	2.801	269.601	2.834
420.727	229.612	2.624	237.271	2.654	244.608	2.687	251.746	2.722	258.102	2.755	265.006	2.790	271.195	2.822
425.598	230.534	2.616	238.384	2.646	245.563	2.678	252.881	2.713	259.175	2.746	266.204	2.780	272.433	2.812
430.527	231.637	2.608	239.722	2.637	247.008	2.669	254.311	2.703	260.826	2.736	267.825	2.769	274.093	2.800
435.512	232.808	2.600	240.890	2.629	248.304	2.660	255.799	2.693	262.400	2.726	269.583	2.759	275.967	2.790
440.555	234.012	2.592	241.865	2.622	249.473	2.653	256.781	2.686	263.539	2.718	270.820	2.750	277.192	2.781
445.656	235.433	2.585	243.180	2.614	250.599	2.644	258.198	2.677	264.828	2.707	272.012	2.739	278.404	2.770
450.817	236.379	2.578	244.385	2.605	251.884	2.635	259.414	2.667	266.116	2.698	273.333	2.730	279.881	2.760
456.037	237.571	2.572	245.602	2.598	253.372	2.628	261.106	2.660	267.925	2.689	275.318	2.721	281.892	2.750
461.318	238.770	2.563	247.043	2.589	254.662	2.617	262.527	2.647	269.528	2.678	276.628	2.708	283.207	2.738
466.659	240.272	2.555	248.225	2.582	255.907	2.611	263.906	2.643	270.750	2.671	278.082	2.702	284.775	2.731
472.063	241.293	2.547	249.334	2.574	257.177	2.603	264.772	2.633	271.775	2.661	279.333	2.692	286.011	2.720
477.529	242.315	2.541	250.526	2.567	258.494	2.596	266.260	2.625	273.375	2.653	280.861	2.683	287.599	2.711
483.059	243.681	2.533	251.752	2.559	259.669	2.587	267.525	2.615	275.285	2.645	282.390	2.672	289.144	2.700
488.652	244.909	2.525	253.115	2.551	260.928	2.578	268.890	2.605	276.616	2.635	283.559	2.662	290.493	2.690
494.311	245.568	2.525	254.146	2.547	261.247	2.577	269.505	2.599	276.618	2.624	284.706	2.652	292.560	2.679
500.035	246.812	2.518	254.742	2.538	263.420	2.567	271.156	2.591	278.687	2.616	286.661	2.641	293.770	2.667
505.825	248.112	2.512	256.818	2.532	264.471	2.563	272.408	2.585	279.933	2.609	288.457	2.634	295.796	2.656
511.682	249.649	2.506	258.013	2.524	265.948	2.549	273.776	2.575	281.384	2.599	289.663	2.623	297.315	2.646
517.607	250.358	2.496	259.286	2.516	266.428	2.539	274.822	2.566	282.797	2.590	290.378	2.615	298.478	2.637
523.600	250.779	2.488	259.824	2.508	268.084	2.536	275.679	2.557	283.364	2.582	291.924	2.607	299.562	2.628
529.663	252.634	2.483	261.089	2.502	269.478	2.526	276.738	2.553	285.013	2.574	293.445	2.598	301.067	2.621

535.797	253.441	2.476	262.088	2.495	270.317	2.518	278.465	2.544	286.970	2.569	295.224	2.591	303.471	2.612
542.001	254.610	2.473	263.538	2.491	271.562	2.517	279.435	2.539	287.099	2.562	296.128	2.585	303.721	2.605
548.277	256.162	2.465	265.042	2.483	273.042	2.507	281.501	2.530	289.108	2.553	298.375	2.576	306.090	2.596
554.626	257.613	2.457	265.901	2.476	274.370	2.498	282.037	2.520	291.064	2.543	298.993	2.567	307.506	2.588
561.048	258.584	2.450	266.959	2.469	275.976	2.494	284.126	2.513	292.168	2.537	300.265	2.558	308.200	2.577
567.545	259.628	2.443	269.079	2.464	277.322	2.485	285.063	2.508	293.652	2.531	302.395	2.552	310.766	2.571
574.116	260.802	2.436	269.492	2.455	278.523	2.477	286.708	2.500	295.211	2.522	303.985	2.542	312.084	2.562
580.764	262.131	2.432	271.226	2.452	279.767	2.472	287.958	2.493	296.620	2.515	305.150	2.536	313.355	2.555
587.489	263.372	2.425	272.553	2.444	280.527	2.466	289.674	2.488	297.761	2.510	307.322	2.531	314.947	2.549
594.292	265.202	2.417	274.035	2.438	282.650	2.458	291.138	2.481	299.579	2.501	308.882	2.521	317.250	2.540
601.174	266.050	2.410	275.716	2.431	284.118	2.452	292.579	2.473	300.896	2.494	309.573	2.513	318.373	2.531
608.135	268.067	2.406	276.655	2.424	285.463	2.444	293.404	2.464	302.910	2.486	312.288	2.505	320.597	2.523
615.177	269.577	2.400	277.945	2.418	286.894	2.437	295.956	2.456	304.327	2.478	313.747	2.498	321.940	2.516
622.300	270.465	2.393	279.439	2.410	289.321	2.429	297.768	2.449	306.522	2.469	314.343	2.488	323.520	2.506
629.506	271.691	2.388	280.439	2.404	289.119	2.422	298.156	2.441	306.959	2.462	315.834	2.481	324.154	2.500
636.796	273.500	2.380	281.789	2.401	291.552	2.418	300.610	2.438	309.157	2.458	318.356	2.475	327.299	2.492
644.169	274.349	2.377	283.086	2.394	292.510	2.415	301.456	2.433	310.197	2.452	319.202	2.470	328.295	2.485
651.628	275.825	2.369	285.096	2.389	293.420	2.407	303.078	2.425	312.303	2.443	321.473	2.461	329.851	2.477
659.174	276.995	2.364	286.438	2.383	295.736	2.402	304.308	2.419	313.728	2.437	323.356	2.454	331.202	2.470
666.807	278.208	2.358	287.825	2.374	296.690	2.394	306.757	2.412	315.098	2.429	325.155	2.447	333.339	2.461
674.528	279.353	2.351	289.072	2.370	298.492	2.386	307.613	2.405	316.301	2.423	326.159	2.439	334.549	2.456
682.339	281.379	2.349	290.676	2.366	299.557	2.383	309.261	2.401	318.325	2.418	327.420	2.434	336.566	2.448
690.240	282.470	2.344	291.550	2.360	300.654	2.378	310.101	2.393	319.923	2.411	328.971	2.427	338.240	2.441
698.232	283.819	2.339	294.098	2.355	302.923	2.370	312.063	2.386	321.460	2.403	330.973	2.419	340.584	2.435
706.318	285.312	2.334	294.987	2.348	304.188	2.366	313.587	2.380	323.055	2.397	331.564	2.412	341.737	2.427
714.496	286.594	2.326	296.343	2.342	305.671	2.358	314.768	2.369	324.993	2.389	333.994	2.404	342.806	2.421
722.770	287.844	2.323	297.039	2.334	307.366	2.351	316.724	2.362	325.811	2.381	335.246	2.398	344.156	2.415
731.139	288.745	2.311	299.055	2.333	307.498	2.344	318.113	2.355	327.319	2.374	336.174	2.393	346.083	2.409
739.605	290.588	2.307	299.935	2.325	309.656	2.346	319.529	2.348	327.569	2.365	338.821	2.383	347.253	2.403
748.170	291.101	2.302	300.846	2.318	311.199	2.335	320.759	2.341	329.375	2.359	338.782	2.376	349.761	2.396
756.833	293.419	2.300	304.125	2.314	313.331	2.336	322.077	2.332	331.681	2.353	342.898	2.371	351.879	2.388
765.597	293.847	2.298	305.387	2.308	313.914	2.313	327.444	2.330	334.801	2.348	343.891	2.364	354.063	2.378
774.462	294.769	2.293	304.776	2.304	316.566	2.316	326.061	2.326	337.637	2.344	343.931	2.360	356.801	2.372
783.430	296.608	2.292	308.777	2.296	318.540	2.308	329.070	2.324	337.997	2.337	348.572	2.352	356.591	2.367
792.501	299.374	2.282	305.849	2.290	322.577	2.297	331.360	2.311	339.188	2.328	350.812	2.341	358.768	2.351
801.678	299.782	2.274	310.248	2.286	320.895	2.295	331.671	2.308	341.881	2.317	351.053	2.336	361.872	2.349
810.961	301.499	2.273	312.352	2.283	324.016	2.287	334.249	2.301	344.934	2.315	353.010	2.333	363.252	2.342
820.352	304.280	2.266	313.783	2.275	325.117	2.284	336.571	2.295	345.616	2.309	355.103	2.324	364.283	2.338
829.851	304.295	2.259	313.942	2.269	325.652	2.281	335.686	2.291	346.724	2.300	355.819	2.319	363.395	2.325
839.460	306.338	2.259	317.290	2.271	328.133	2.281	338.307	2.287	349.513	2.297	359.063	2.314	368.719	2.324
849.180	309.238	2.250	318.049	2.263	328.583	2.268	340.758	2.277	350.863	2.289	359.120	2.307	370.061	2.314
859.014	308.756	2.244	319.683	2.255	331.236	2.263	341.418	2.271	352.618	2.281	361.566	2.298	371.331	2.307
868.960	310.625	2.240	321.229	2.247	330.369	2.260	344.000	2.267	353.053	2.275	361.823	2.295	371.848	2.305
879.023	310.856	2.236	322.490	2.248	332.999	2.260	343.613	2.266	354.037	2.273	364.041	2.289	374.282	2.303
889.201	313.741	2.233	324.229	2.245	336.047	2.256	345.548	2.259	355.576	2.269	366.637	2.284	377.017	2.298
899.498	314.657	2.230	326.387	2.243	337.874	2.249	348.526	2.255	358.562	2.264	370.366	2.279	377.792	2.289
909.913	318.145	2.224	328.627	2.239	338.271	2.242	350.158	2.247	360.426	2.258	370.392	2.272	379.902	2.285

920.450	318.317	2.222	328.982	2.235	339.816	2.238	351.081	2.243	362.878	2.257	372.471	2.266	382.290	2.276
931.108	319.362	2.217	331.571	2.229	342.073	2.236	351.855	2.241	364.273	2.251	373.698	2.263	384.056	2.276
941.890	321.758	2.215	332.726	2.228	343.555	2.230	355.356	2.236	366.151	2.248	374.802	2.257	385.822	2.269
952.796	323.341	2.211	334.471	2.224	345.638	2.226	356.223	2.232	367.759	2.241	377.284	2.258	386.882	2.264
963.829	324.200	2.204	336.284	2.218	347.027	2.225	357.859	2.229	369.408	2.236	378.259	2.248	390.195	2.260
974.990	326.753	2.200	336.443	2.210	347.989	2.222	359.389	2.222	371.589	2.227	380.970	2.244	395.048	2.255
986.279	326.100	2.196	338.975	2.208	348.760	2.215	361.219	2.218	370.622	2.224	381.765	2.238	392.479	2.248
997.700	327.203	2.191	337.261	2.198	352.639	2.209	362.905	2.215	373.775	2.217	382.513	2.225	393.521	2.239
1009.25	329.978	2.188	339.378	2.197	353.017	2.211	363.593	2.212	374.311	2.213	386.565	2.227	397.272	2.242
1020.94	331.880	2.183	342.118	2.193	354.664	2.203	365.909	2.206	376.685	2.212	389.419	2.225	398.696	2.235
1032.76	333.824	2.184	343.540	2.192	358.288	2.199	367.812	2.204	379.299	2.209	389.922	2.219	401.840	2.231
1044.72	336.408	2.176	347.120	2.190	360.551	2.196	369.742	2.199	382.030	2.204	390.997	2.220	402.483	2.226
1056.82	338.531	2.177	348.551	2.184	361.925	2.191	374.029	2.193	381.664	2.198	393.948	2.213	403.768	2.222
1069.05	338.398	2.171	349.518	2.176	362.894	2.185	373.397	2.187	384.631	2.189	395.551	2.203	405.375	2.209
1081.43	340.636	2.171	350.735	2.179	365.617	2.181	374.974	2.181	386.491	2.187	397.518	2.205	405.436	2.205
1093.96	342.287	2.171	352.962	2.178	367.988	2.178	377.001	2.175	388.798	2.184	398.681	2.187	406.478	2.205
1106.62	343.394	2.170	355.552	2.173	369.824	2.175	379.165	2.169	389.120	2.174	400.764	2.194	411.450	2.193
1119.44	346.415	2.168	358.159	2.168	372.390	2.170	382.113	2.164	391.552	2.175	403.249	2.184	412.009	2.187
1124.60	346.439	2.166	359.976	2.167	373.834	2.168	382.603	2.162	392.596	2.172	405.089	2.186	413.112	2.176

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