Evaluation of the simultaneous presence of SO_2 and CO as impurities in the carbon capture and storage technology. CO_2/SO_2/CO cocapture.

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ABSTRACT

From the presented experimental data of two CO_2-rich mixtures containing SO_2 and CO as impurities of anthropogenic CO_2, we evaluated the impact of the simultaneous presence of these impurities on the transport, injection and storage of carbon capture and storage (CCS) technology. We determined the density, vapor-liquid equilibrium and speed of sound of a cocapture mixture (non-purified captured flue gas) [CO_2 + 4.93 mol% SO_2 + 3.01 mol% CO] and a mixture representative of European emissions (purified) [CO_2 + 0.09 mol% SO_2 + 1.12 mol% CO], measured from 263 to 373 K and pressures up to 30 MPa for the density and up to 190 MPa for the speed of sound. Using our experimental results, we validated two extended versions of the equation of state for combustion gases (EOS-CG) and the perturbed-chain statistical associating

fluid theory (PC-SAFT) equation of state (EoS). From the calculation of selected operational CCS parameters, we concluded that, in the cocapture mixture, SO_2 overcomes or compensates for the negative effect of CO, and then this mixture could be a favorable fluid for CCS. The negative effect of CO predominates in the emissions mixture. Differences in the chemical reactivity due to the studied impurities were not considered.

Keywords: CCS; Carbon dioxide; Sulphur dioxide; Carbon monoxide; Thermodynamic properties; Equations of state.

Nomenclature

a_i	Coefficients in the polynomials fitted to the speed of sound values.
A_{ij}	Binary interaction parameter for the viscosity calculations.
A_{ijk}	Ternary interaction parameter for the viscosity calculations.
c	Speed of sound.
CCS	Carbon capture and storage.
d	Distance traveled by the stream along a pipeline.
D	Inner diameter of the pipeline.
M/M_0	Normalized storage capacity of a reservoir.
$\dot{M}/\dot{M}_0$	Normalized permeation flux of the plume in a reservoir.
MRD_X	Mean relative deviation for property X.
$\overline{\overline{\mathrm{MRD}_X}}$	Global average values of the mean relative deviation for a property X.
p	Pressure

$p^{\#}$	Reference pressure in the polynomials fitted to the speed of sound values.
p_{bubble}	Bubble pressure.
p_{dew}	Dew pressure.
p_{sat}	Saturation pressure.
T	Temperature.
T_c	Critical temperature.
$u(X)$	Combined standard uncertainty for property X.
v	Fluid velocity
v/v_0	Normalized rising velocity of the plume in saline aquifers.
VLE	Vapor-liquid equilibrium.
x	Mole fraction.
Z	Compressibility factor.
η	Viscosity.
ρ	Density.

1. Introduction

The high concentration of CO_2 in the atmosphere because of human activity is one of the fundamental reasons for the intensification of the greenhouse effect that has led to global warming. The most obvious option to reduce this concentration is to stop using fossil fuels; however, the energy demand will continue to increase, and it seems clear that a substantial part of this demand will continue to be covered by fossil energy in the medium term, especially in developing

countries. Consequently, carbon capture and storage (CCS) technology has an important role in the decarbonization strategic map.

The capture and permanent storage capacity of the operating facilities is approximately 40 megatons per year (Mtpa) of CO_2 (Global CCS Institute, 2020), which is very far from the 7000 Mtpa that is intended to be reached by the year 2050 (Horizon 2050) (Global CCS Institute, 2012, 2013). The Intergovernmental Panel on Climate Change (IPCC) further insisted on this fact in its 2018 "Special Report on the Impact of Global Warming of 1.5 °C" (IPCC, 2018), highlighting that net zero emissions should be reached by 2050 and that it is crucial to deploy all clean technologies, including CCS, to meet this objective.

The usual procedure of CCS technology consists of capturing CO_2 in industrial facilities and its subsequent conditioning, transport usually by pipeline, and injection and confinement in underground geological reservoirs. In these stages, the fluid must remain in a single, dense or supercritical phase. The most relevant geological sites, by the abundance and capacity to store CO_2, are deep saline aquifers, deep, unexploitable coal beds and depleted oil and gas fields. In the latter case, the injection of CO_2 allows the recovery of the remaining fuel using enhanced oil recovery (EOR) and enhanced gas recovery (EGR), technologies applied over the last 40 years (Elmabrouk et al., 2017).

The type of industry that CO_2 comes from and the capture and conditioning methods used determine the composition of the gas that is transported, injected and stored. The purification of anthropogenic CO_2 after capture to a practically pure CO_2 stream, whose properties are reliably known, is technologically possible but not a viable option due to its high cost (Anheden et al., 2004; Olajire, 2010). The type of impurities and their quantities, as well as the very wide ranges of pressure and temperature throughout the stages of CCS, affect the chemical-physical properties

of the fluid and its behavior. Then, the design and operation of the necessary equipment in CCS technology is affected (ElementEnergy, 2010; Knoope et al., 2013; Li et al., 2011a; Li et al., 2009). Therefore, it is essential to know the thermophysical behavior of CO_2 mixtures with different impurities in the ranges of composition, pressure and temperature of interest for CCS technology (Li et al., 2011a). From the reliable data of thermodynamic properties as density, ρ, vapor liquid equilibrium, (VLE) (dew pressure, p_{dew}, bubble pressure, p_{bubble}, densities of the vapor and liquid phases in the VLE, ρ_V and ρ_L, respectively), and speed of sound, c, among others, of anthropogenic CO_2, the information needed for the design and operation of efficient, safe and economical CCS processes is obtained (Li et al., 2009).

The experimental values of the chemical-physical properties are also necessary for developing reliable theoretical models to predict the behavior of mixtures of anthropogenic CO_2, covering a wide range of operating conditions (Li and Yan, 2009). In this work, three EoSs were evaluated as predictive models: two extended versions of the original equation of state for combustion gases, EOS-CG (Gernert and Span, 2016), and the perturbed-chain statistical associating fluid theory (PC-SAFT) equation of state (Gross and Sadowski, 2001). Notably, the original EOS-CG was developed specifically for wet gases, flue gases and CO_2-rich mixtures for CCS technology.

The current information on the thermodynamic properties of rich CO_2-containing mixtures under the conditions of interest of CCS technology is very limited and in some cases unreliable (Li et al., 2009; Løvseth et al., 2013; Mazzoccoli et al., 2012; Wilhelmsen et al., 2012).

This work studies the influence of the joint presence of SO_2 and CO as impurities in anthropogenic CO_2. Even though SO_2 and CO could be impurities from different capture processes (SO_2 from oxy-fuel and CO from oxy-fuel and precombustion), they could be found together in the subsequent processes of the technology, and this situation may a priori be favorable given that SO_2

is a condensable impurity, and CO is non-condensable. Thus, the main objective of this work is to verify if the negative effects of CO (Blanco et al., 2014; Rivas et al., 2013) could be outweighed by the positive effects of SO_2 (Gimeno et al., 2017, 2018) in the case of the joint presence of both substances in the handled fluid, and under what conditions of concentration, p and T. The chosen compositions for the CO_2 + SO_2 + CO mixtures were those of the emissions from some energy processes without further purification (Koenen et al., 2015), "cocapture mixture", and for comparison, those from global emissions with purification calculated from the emissions inventories of the European Union (EU) (EEA (European Environment Agency), 2018), "emissions mixture". The storage of CO_2/SO_2/CO cocapture mixture, without further purification, would avoid the emission of SO_2 and CO into the atmosphere. Released SO_2 into the atmosphere interacts with environmental humidity, forming acid rain, which increases the degree of mortality and impoverishes the land. The emission of SO_2 to the environment is strongly regulated through emission rights into the atmosphere (ProgramProgress, 2015) that many industries have to pay. The CO released into the atmosphere also has consequences on the climate since this gas contributes to the formation of greenhouse gases; specifically, its average life in the atmosphere is approximately three months, which allows its slow oxidation to CO_2, a process during which O_3 is also generated (Gobierno de España).

To achieve our research objectives, reliable experimental data $p-\rho-T-x$, p_{dew}, p_{bubble}, ρ_V, ρ_L, and $p-c-T-x$ were obtained in this work from different rich mixtures of CO_2 with SO_2 and CO as impurities. The working temperature ranged from 263 to 373 K, and the pressure reached 30 MPa for the density and 190 MPa for the speed of sound measurements. These ranges include the conditions of interest for transport, injection and storage and extend these conditions to improve the understanding of the behavior of the system and to validate the three EoS mentioned

above. The speed of sound measurements were developed in CO_2 + SO_2 + CO mixtures doped with ≈0.8 mol% methanol, following the procedure devised by the authors to measure the sound speeds of CO_2-rich mixtures in an available 5 MHz experimental facility (Rivas et al., 2016).

In addition, various technical and operational parameters of CCS technology were calculated and their values compared with those for pure CO_2 and for CO_2 + SO_2 and CO_2 + CO systems containing similar amounts of impurities. Thus, the parameters evaluated were: the minimum operational pressure at each transport temperature to avoid two-phase flow and ensure the dense phase in the pipeline; the pressure and density drops along the pipelines; the inner diameter of the pipelines; the injectability of the fluid in the injection process; the maximum mass of fluid that can be confined in a given geological reservoir; and the behavior of the plume in saline aquifers after fluid injection. Storage parameters were also evaluated under the real conditions of various saline aquifers operated currently or in the recent past (Table 1).

Table 1. Conditions of the reservoirs studied. ρ_{br} is the density of the brine.

Reservoir	***p*/ MPa**	***T*/ K**	**Depth/ m**	**Salinity/ mg·l^{-1}**	**ρ_{br}/ kg·m^{-3}**	**References**
Sleipner	10.3	317	1000	3500	1017	[a], [b]
Nagaoka	11.9	319	1100	7113	999	[a], [b]
Frio	15.2	329	1546	92633	1048	[a], [b]
Nisku Fm. #1	17.4	329	2050	136800	1076	[b], [c]
Deadwood Fm. #2	23.6	338	2560	31050	1009	[b], [d]
Basal Cambrian Fm.	27.0	348	2734	248000	1137	[b], [c]
Snøhvit	29.0	373	2600		1090	[e], [f], [g]

[a]: Michael et al. (2010); [b]: Long and Chierici (1959); [c]: Bachu and Bennion (2008); [d]: Bachu (2013); [e]: IEAGHG (2015); [f]: Hansen et al. (2011); [g]: Grude et al. (2014).

In this work, thermodynamic and hydraulic aspects were taken into account. Chemical effects due to the presence of SO_2 and CO were not considered.]The conclusions about the viability of the CO_2/SO_2/CO mixture in the CCS technology should be derived from the balance of all of the three aspects, including technical, economic and safety factors, as well as environmental considerations.

The results of this work may be of interest to the society as a whole, since it is part of a technology whose objective is to limit the emission of CO_2 and other pollutants into the atmosphere and specially to the industries involved in CCS processes, both those that emit CO_2 and those that design and build the facilities of this technology. Likewise, these results will serve as a technical basis to face the existing legislative gaps in the regulatory standards on the quality of the handled anthropogenic CO_2.

2. Materials and methods

2.1 Materials

Table 2 details the chemicals used in this study, as well as their suppliers and purities. CH_3OH was degassed immediately before use.

Table 2. Chemicals sample table.

Chemical name	CAS number	Source	Initial mole fraction purity	Purification method	Analysis method
CO_2	124-38-9	Air Liquide	0.99998	None	SM
SO_2	7446-09-5	Air Liquide	0.9990	None	SM
CO	630-08-0	Air Liquide	0.99997	None	SM
CH_3OH	67-56-1	Sigma Aldrich	0.9993	Degassing	Gas chromatography

SM: Supplier methods. The analysis techniques are based on the gas chromatography and on the electrolytic hygrometry.

2.2. Apparatus and methods

SO_2 and CO are toxic gases, and high-pressure work involves risks due to possible leaks and projections. Given these hazards, safety measures were implemented in the laboratory, namely, leak detectors, fume hoods, gas masks and portable self-contained breathing apparatuses to avoid contact with gases and polycarbonate transparent barriers around the experimental facilities to protect the users from possible accidental projections.

The combined standard uncertainty values for the experimental data obtained in this work were calculated according to the "Evaluation of Measurement Data – Guide to the Expression of Uncertainty in Measurement (GUM)" (JCGM 100:2008, 2010) suggested by NIST.

The mixtures were prepared in a variable-volume cell (maximum volume 0.51 L, maximum working pressure 30 MPa) by the successive introduction of the components: first, methanol if necessary for doping in the *c* measurements, followed by the two impurities in order of increasing volatility (SO_2, and after CO), and finally the majority component, CO_2. Methanol was degassed inside the variable-volume cell via 3 hours of intermittent vacuum with agitation. The compositions were determined by weighing the cell before and after the introduction of each component using a Sartorius CCE 2004 mass comparator with a maximum weighing capacity of 2500 g and a repeatability better than 0.2 mg. Then, the mixtures were transferred to the desired experimental installation. Detailed procedures are described elsewhere (Gimeno et al., 2017). The compositions of the mixtures, expressed as mole fractions, x_i, and the respective combined standard uncertainties, $u(x_i)$, are shown in Table 3.

Table 3. Compositions of the mixtures studied in this work expressed as mole fractions, x_i, and their combined standard uncertainties, $u(x_i)$.

Component	"Cocapture" mixtures				"Emissions" mixtures			
	ρ measurements Mixture 1 (undoped)		c measurements Mixture 2 (doped)		ρ measurements Mixture 3 (undoped)		c measurements Mixture 4 (doped)	
	x_i	$u(x_i)$	x_i	$u(x_i)$	x_i	$u(x_i)$	x_i	$u(x_i)$
CO_2	0.9206	0.0003	0.9126	0.0004	0.9879	0.0003	0.9803	0.0005
SO_2	0.0493	0.0002	0.0493	0.0002	0.0009	0.0002	0.0008	0.0003
CO	0.0301	0.0002	0.0299	0.0002	0.0112	0.0002	0.0110	0.0002
CH_3OH			0.0082	0.0004			0.0079	0.0004

The masses of the different components were determined by successive weighing in a mass comparator from Sartorius, model CCE 2004, with a repeatability better than 0.0002 g. For a quaternary mixture (the doped mixtures), the mole fraction of the component that was first introduced, x_1, was determined by the relation

$$x_1 = \left[\frac{(m_2 - m_1)}{M_1}\right] / \left[\frac{(m_5 - m_4)}{M_4} + \frac{(m_4 - m_3)}{M_3} + \frac{(m_3 - m_2)}{M_2} + \frac{(m_2 - m_1)}{M_1}\right] \quad (1)$$

where m_1 is the empty cell mass; m_2, m_3, m_4 and m_5 are the masses after the first, second, third and fourth components were added, respectively; and M_1, M_2, M_3 and M_4 are the molar masses of the first, second, third and fourth components, respectively.

The combined standard uncertainty in the mole fraction of each component i, $u(x_i)$, was estimated from (Al Ghafri et al., 2018)

$$u(x_i) = \left[\frac{1}{\sum_{j=1}^{N} n_j}\right] \sqrt{(1 - 2x_i)u(n_i)^2 + x_i^2 \sum_{j=1}^{N} u(n_j)^2} \quad (2)$$

where n_i is the number of moles of each component i added to the mixture and $u(n_i)$ is its standard uncertainty. The first was calculated from the change in the mass of the system. $u(n_i)$ was calculated as the square root of the sum of the squares of the standard deviation of the mole values calculated from the repetitive mass measurements after adding the component i to the cell, and of the estimated uncertainty due to the presence of impurities in the component i (methanol or the pure gases used).

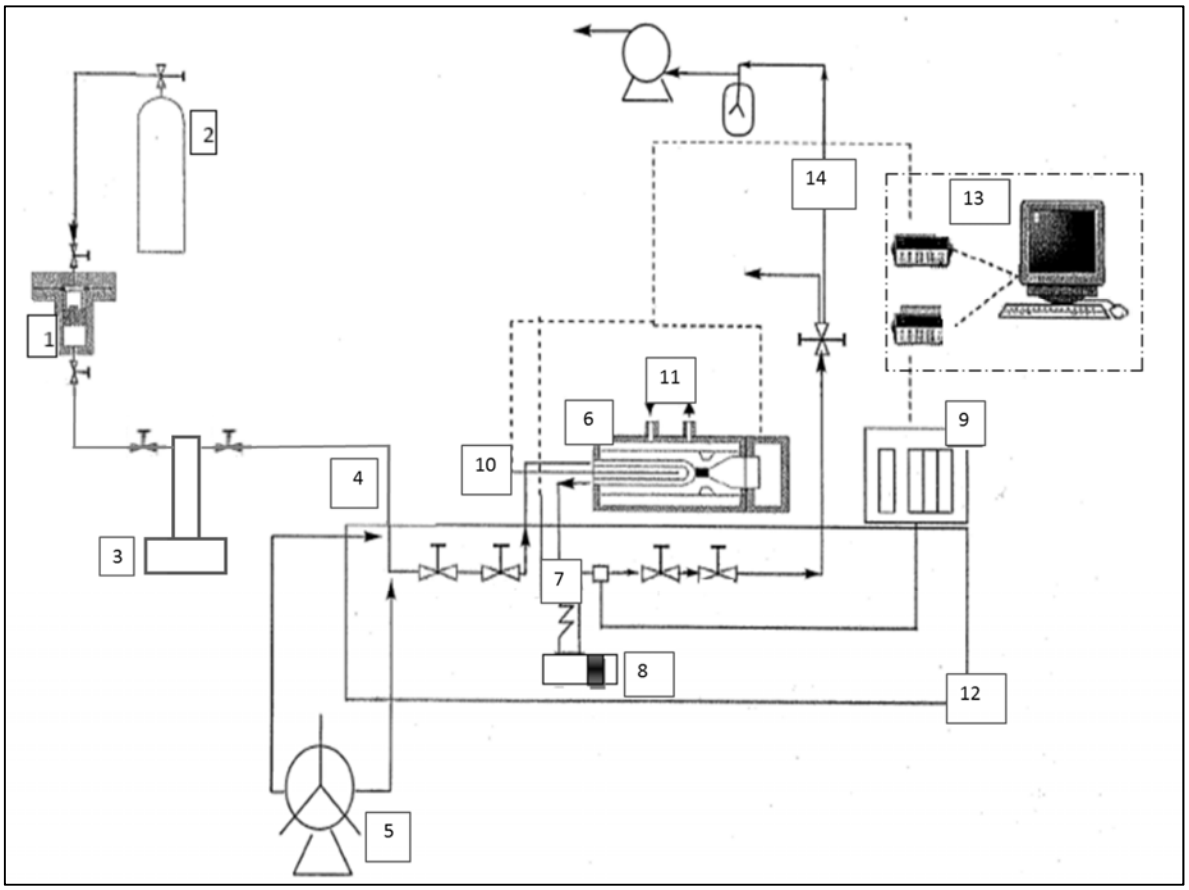


Figure 1. Experimental setup for volumetric measurements: (1) loading cell; (2) nitrogen (to push the piston of the load cell); (3) ISCO pump; (4) fluid inlet ; (5) manual pump; (6) densimeter; (7) vibrating tube output; (8) rupture disk; (9) thermoregulated pressure transducers; (10) platinum temperature probe; (11) connected external liquid thermoregulated bath; (12) liquid thermoregulated bath; (13) evaluation unit and data acquisition; (14) evacuation and vacuum line. Adapted from Bouchot and Richon (1998).

The installation (provided by ARMINES) and procedure used to obtain the $p-\rho-T$ data were detailed in previous publications (Blanco et al., 2014; Gimeno et al., 2017; Velasco et al., 2011), and a schematic of the experimental device is shown in Fig. 1. The setup was designed for the accurate generation of $p-\rho-T$ data for pure compounds and mixtures of defined compositions in the vapor and liquid phases and in the supercritical state. The available temperature ranged from 263-423 K, and the pressure reached 70 MPa. The essential component of the facility was an Anton Paar DMA HPM vibrating-tube densimeter, which was connected to an MPDS V3 evaluation unit designed for continuous measurements. The evaluation unit captured the vibration period, τ, and temperature data, which were sent to an external computer.

Before the presented work, we optimized the experimental device by automating the valves that regulate the pressure variation during the measurement of the isotherms to improve the fluid flow control, which was kept below 0.005 MPa·s^{-1} during the whole $p-\rho-T$ isotherm determination. This optimization ensures thermodynamic quasi-equilibrium through the quasi-static transformations, as indicated by the designers of the apparatus (Bouchot and Richon, 1998). The standard uncertainty in the vibration period was provided by the manufacturer of the device and is $u(\tau)$ = 2×10^{-5} ms. Two 100 Ω platinum probes were used to determine the temperatures in the vibrating tube (measuring temperature) and in the surrounding circuit. Both were calibrated before this work by the Centro Español de Metrología, CEM (Centro Español de Metrología. Ministerio de Industria, 2000), with the estimated standard uncertainty in temperature $u(T)$ = 0.006 K. The stability of the temperature during the measurement of an $p-\rho-T$ isotherm was better than ±0.04 K. The pressure was determined using two pressure transducers (GE Infrastructure model PTX 611): one of them for pressures below 6 MPa and the other from 6 to 70 MPa. The authors

calibrated both transducers by means of a Wika CPH 6000 calibrator, with an accuracy of 0.025% over the whole scale. The obtained combined standard uncertainty in pressure, $u(p)$, was 0.0020 MPa for p < 6 MPa and 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa (Euramet, 2017). The vibrating tube was calibrated with pure CO_2 (majority component of the mixtures) at temperatures from 263.15 to 373.15 K and pressures of up to 70 MPa using the forced path mechanical calibration (FMPC) model recommended by the designers of the apparatus (Bouchot and Richon, 2001). A more detailed explanation can be found in the Supplementary Material, p. S4. The results were similar to those from the literature (Comuñas et al., 2008; Outcalt and McLinden, 2007; Schedemann et al., 2010; Segovia et al., 2009) and to those found during the start-up of the installation (Velasco et al., 2011). The combined standard uncertainty in the density, $u(\rho)$, for the studied mixtures was calculated from the contributing uncertainties using the error propagation law as in previous works (Gimeno et al., 2017, 2018, 2019). A more detailed explanation can be found in the Supplementary Material, p. S6. The values of $u(\rho)$ are included in the Supplementary Material, Tables S1 and S2, and range from 0.20 to 0.40 kg/m^3.

The VLE limits, dew pressure and bubble pressure, p_{dew} and p_{bubble}, respectively, and the densities of the vapor, ρ_V, and liquid, ρ_L, phases in the VLE were determined from the $p-\rho-T$ data using the tangents method, which was also used for the estimation of the combined standard uncertainties of the VLE data. This method was proposed by the designers of the experimental setup (Bouchot and Richon, 1998) and has been used by the authors in previous publications, where its description is detailed (Gimeno et al., 2017, 2018). The VLE data together with their uncertainties are presented in Table S3; the combined uncertainty values range from 0.0070 to 0.050 MPa for the dew pressure, 0.019 to 0.079 MPa for the bubble pressure, 0.62 to 1.8 kg·m^{-3} for the density of the vapor phase, and 0.70 to 2.0 kg·m^{-3} for the density of the liquid phase.

The measurements of the speed of sound were carried out using a 5 MHz pulsed ultrasonic system described elsewhere (Rivas et al., 2016) whose schematic is shown in Fig. 2. The available ranges of temperature and pressure are 253 K−473 K and 0.1 MPa-200 MPa, respectively, being $u(T) =$ 0.015 K and $u(p)$ = 0.02 MPa. Given the high sound absorption of CO_2 at 5 MHz, the studied mixtures are opaque to sound at this frequency along a wide interval of the studied pressures. To solve this problem, we doped the mixtures with ≈0.8 mol% CH_3OH to obtain proper signals in an acceptable range of pressures. The doping method was developed by the authors for pure CO_2 and the CO_2-rich CO_2 + SO_2 mixtures (Gimeno et al., 2017, 2018; Rivas et al., 2016) and was also applied to the CO_2-rich CO_2 + SO_2 + CH_4 mixtures (Gimeno et al., 2019). The combined standard uncertainty of the experimental values of c, $u(c)$, was calculated using the equation (Lin and Trusler, 2014)

$$(u(c))^2 = \left[(\partial c/\partial T)_{p,x} u_T\right]^2 + \left[(\partial c/\partial p)_{T,x} u_p\right]^2 + \left[(\partial c/\partial x)_{p,T} u_x\right]^2 + (u^*(c))^2 \quad (3)$$

where $u^*(c)$ is the standard repeatability uncertainty.

To determine $u^*(c)$ for the CO_2 + SO_2 + CO and CO_2 + CH_3OH + SO_2 + CO systems, as well as the influence of CH_3OH on c, we prepared three undoped mixtures with cocapture compositions, and we determined the $p - c - T$ isotherms at 263, 293 and 313 K and pressures ranging from 80 to 190 MPa. Each isotherm was determined several times. Likewise, we prepared two doped mixtures with cocapture compositions, and we determined $p - c - T$ isotherms at the same temperatures as the undoped mixtures but pressures ranging from 15 to 190 MPa. The isotherm at 293 K was measured twice. The compositions of the doped and undoped mixtures and their uncertainties are shown in Table S4, and the measured c values are shown in Table S5. From the comparison of the isotherms determined at each temperature for the different mixtures, we

obtained, for CO_2 + SO_2 + CO, $u^*(c) = 7.6 \times 10^{-4} \cdot c$, and the combined standard uncertainty of c was $u(c) = 7.6 \times 10^{-4} \cdot c$. For CO_2 + CH_3OH + SO_2 + CO, the results were $u^*(c) = 6.8 \times 10^{-4} \cdot c$, and $u(c) = 6.8 \times 10^{-4} \cdot c$. These values are similar to those of the standard uncertainties found in the literature for liquid mixtures and mixtures of compressed gases using this type of apparatus (Ball and Trusler, 2001; Dávila and Trusler, 2009; Gimeno et al., 2019; Lin and Trusler, 2014). The effect of methanol on c was quantified by comparison of the experimental results obtained for the doped and undoped mixtures along the common range of pressure. The overall mean relative deviation, $\overline{\overline{MRD(\%)}}$, was found to be 0.11%; this value is lower than the values obtained for the doped and undoped CO_2 + SO_2 + CH_4 (0.13%) (Gimeno et al., 2019) and CO_2 + SO_2 (0.17%) (Rivas et al., 2016) mixtures.

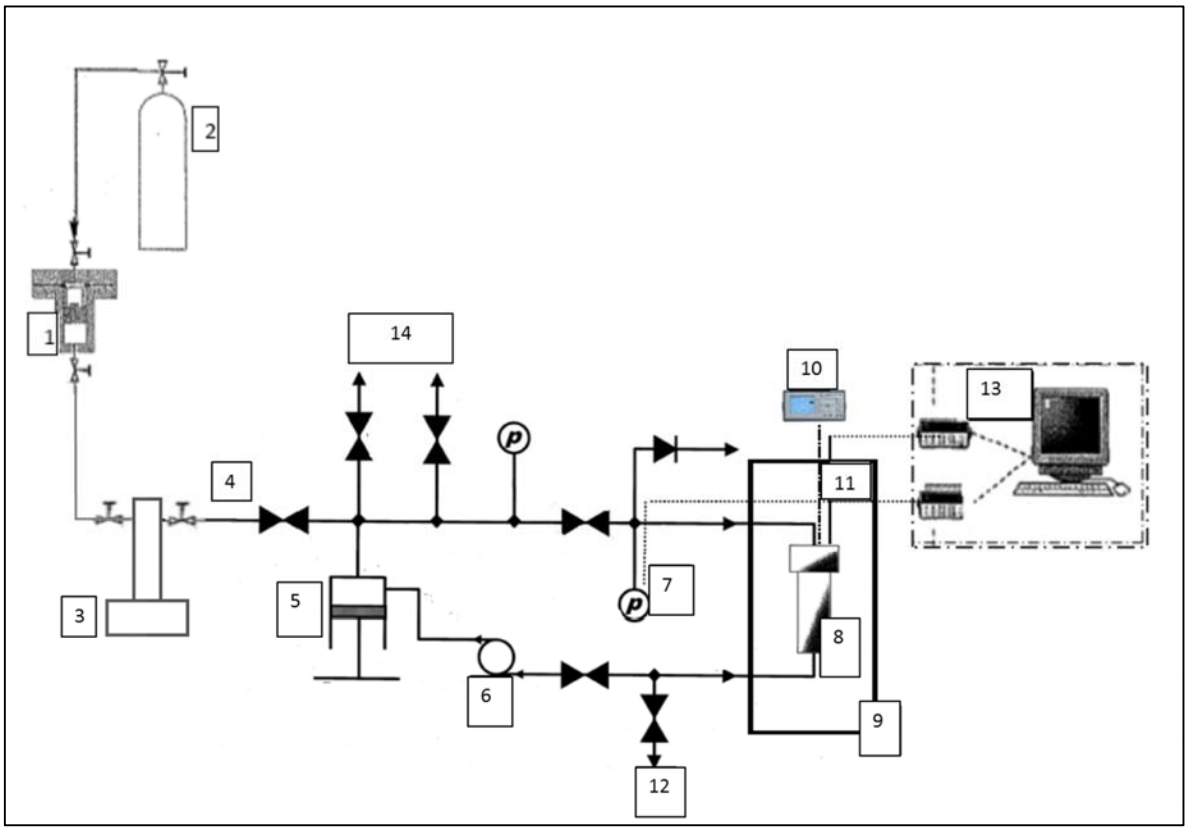


Figure 2. Experimental setup for speed of sound measurements: (1) loading cell; (2) nitrogen (to push the piston of the load cell); (3) ISCO pump; (4) fluid inlet ; (5) manual pump; (6) circulation pump; (7) pressure transducer; (8) pressure vessel containing the 5 MHz ultrasonic cell; (9) liquid thermoregulated bath; (10) oscilloscope; (11) platinum temperature probe; (12) drain line; (13) evaluation unit and data acquisition; (14) clean and vacuum line.

3. Results and discussion

This section presents the experimental and calculated results obtained in this work (3.1), a discussion regarding the predictive capability of two extended versions of the EOS-CG original (Gernert and Span, 2016) and the PC-SAFT EoS (Gross and Sadowski, 2001) to reproduce the obtained experimental and calculated data (3.2), the influence of SO_2 in the presence of CO on several design and operational parameters for transport (3.3.1), storage and injection (3.3.2), and the effect of the simultaneous presence of SO_2 and CO in the injected stream under the T and p conditions corresponding to seven selected real saline aquifers (Table 1) (3.3.2).

3.1 Results

We measured 8 $p-\rho-T$ isotherms per mixture for Mixtures 1 and 3 (Table 3) at nominal temperatures of T = 263.15, 273.15, 293.15, 304.21 [critical temperature of CO_2 (Gil et al., 2008)] and 313.15 K and pressures up to 20 MPa and at nominal temperatures of T= 333.15, 353.15 and 373.15 K and pressures up to 30 MPa. The experimental data, approximately 19,000 points, are collected in Table S1 (Supplementary Material) together with their respective combined standard

uncertainties and are represented in Figs. 3(a) and S1. Less points are presented in Table S2, along with their corresponding compressibility factors, Z, to facilitate their further use.

We selected the T and p ranges used in this work considering the operating conditions during the transport of anthropogenic CO_2 by pipelines (Doctor et al., 2005; McCoy and Rubin, 2008; Svenson et al., 2005; Zhang et al., 2006), the injection of CO_2 in geological reservoirs and the storage of CO_2 inside the reservoirs, covering the conditions in most geological storage sites (Bachu, 2003; IEAGHG, 2011; Li et al., 2011a; Michael et al., 2010).

The density of each mixture increases with increasing pressure and decreasing temperature. We experimentally found that nominal temperatures of 263.15, 273.15, 293.15 and 304.21 K are subcritical for Mixture 1, while only nominal temperatures of 263.15, 273.15 and 293.15 K are subcritical for Mixture 3. The results for the VLE are shown in Table S3 and are represented in Fig. 4, together with the values corresponding to pure CO_2 (Span and Wagner, 1996) for comparison. The remainder of the studied temperatures were supercritical, and their respective isotherms showed continuous lines whose slope reached a maximum near the critical conditions of the mixture and diminished as the temperature increased. The concentrations of both impurities, SO_2 and CO, are higher in Mixture 1 (cocapture) than in Mixture 3 (emissions). SO_2 is a condensable impurity whose presence in the studied mixtures produces an increase in density compared to that of pure CO_2 (Gimeno et al., 2017, 2018). Conversely, CO is a noncondensable impurity, which results in a decrease in density (Blanco et al., 2014; Rivas et al., 2013). Both opposite effects compete in the studied mixtures. Mixture 1 (cocapture, ≈5 mol% of SO_2 and ≈3 mol% of CO) presents a density that is higher than pure CO_2 at all the studied temperatures and pressures, as shown in Fig. S2. The MRD at each temperature between the densities of this mixture and those of pure CO_2 (Span and Wagner, 1996) increases as T increases at a subcritical T (from

263.15 K to 304.21 K), is a maximum at 313.15 K (supercritical temperature for the mixture that is the nearest to its critical temperature, T_c) and decreases as T increases from 333.15 K to 373.15 K. The MRD ranges between 0.89% and 2.1% at the studied temperatures, with the exception of a maximum MRD of 5.4% at 313.15 K. In the binary mixture CO_2 + 3 mol% CO (Blanco et al., 2014; Rivas et al., 2013), the densities decrease with respect to those of pure CO_2 between 2.8% and 5.3% at 263, 273, 293, 323, 333 and 343 K, with a maximum of 9.9% at 304 K. Therefore, the effect of ≈5 mol% of SO_2 exceeds that of ≈3 mol% of CO in the mixture.

Nevertheless, ≈0.1 mol% of SO_2 is not enough to compensate for the negative effect of ≈1 mol% of CO, and the Mixture 3 (emissions) density is lower than that of pure CO_2 (Span and Wagner, 1996) under all the studied conditions (Fig. S2). In this case, we found similar trends to those of Mixture 1 for the MRD between the density values of Mixture 3 and of pure CO_2 for each isotherm. The MRD values increased with temperature from 263.15 to 293,15 K, and the maximum MRD was found at the immediately measured temperature over T_c of the mixture, 304.21 K, and at higher temperatures, the MRD values decrease as T increases. For this mixture, the MRD ranged from 1.1% to 2.0%, with the exception of the maximum MRD of 3.3% at 304.21 K. We did not find any density data for the CO_2 + SO_2 + CO system in the literature. Nazeri et al. (2017) published experimental data for the density of a binary CO_2 + SO_2 mixture with a similar amount of SO_2 as our ternary CO_2 + SO_2 + CO cocapture mixture. The above commented effects of SO_2 and CO on the density of the mixtures can also be found when comparing both results.

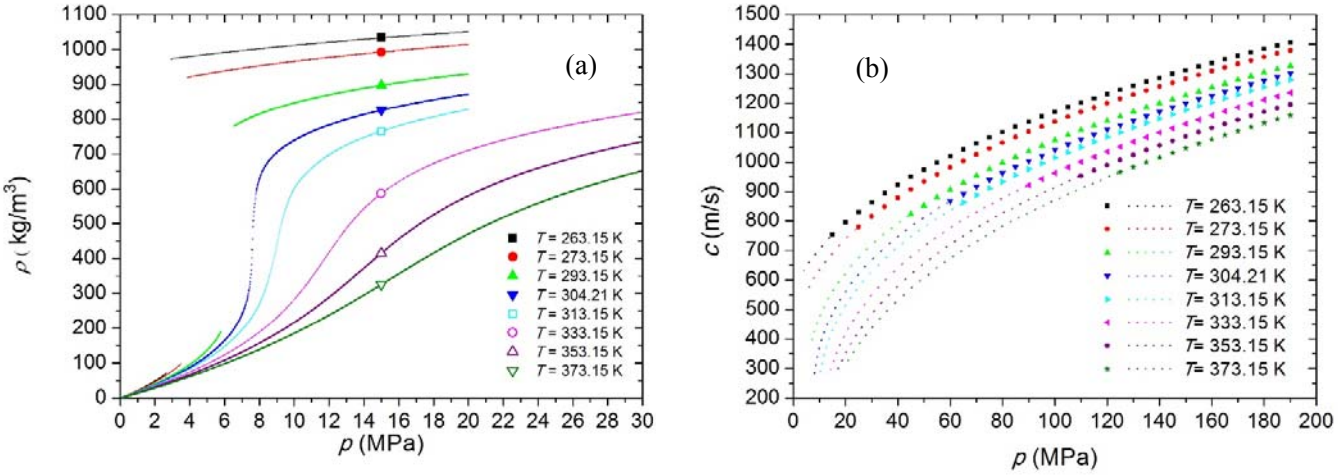


Figure 3. Experimental densities, ρ, for Mixture 1 (a) and experimental (symbol) and extrapolated (dotted line) speeds of sound, c, for Mixture 2 (b) versus pressure, p, at the nominal temperatures T.

From the obtained $p-\rho-T$ experimental data, we determined the limits of the VLE, p_{dew} and p_{bubble}, and the densities of the phases at equilibrium, ρ_V (vapor) and ρ_L (liquid), as well as their respective uncertainties, for Mixtures 1 and 3 (Table S3, Fig. 4). No VLE data on this system were found in the literature.

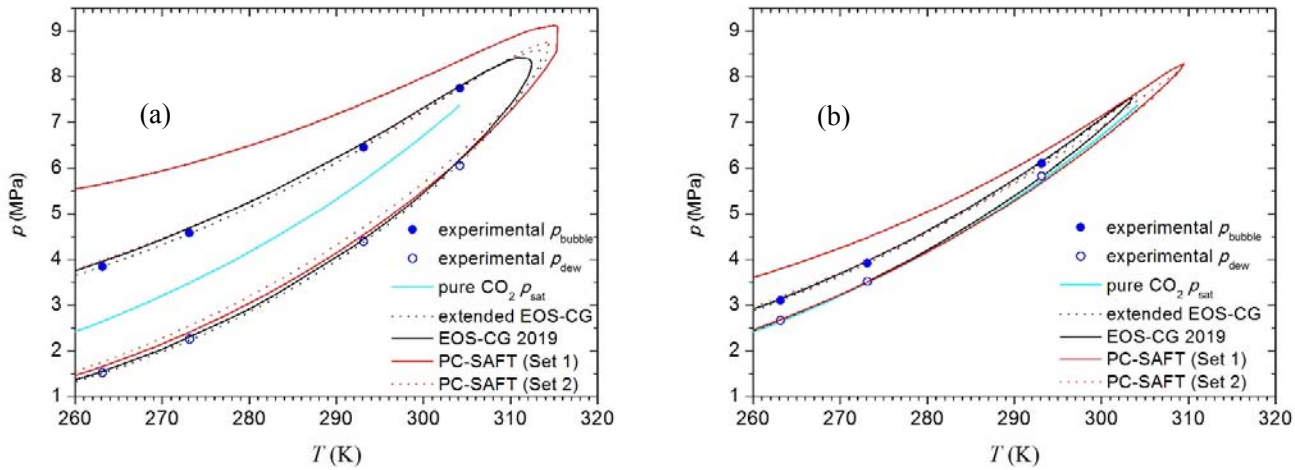


Figure 4. VLE for the CO_2+SO_2+CO system and for pure CO_2 (Span and Wagner, 1996). Dew and bubble pressures versus temperature for Mixtures 1, cocapture (a), and 3, emissions (b). PC-SAFT (Set 1) uses binary interaction parameters from this work, Diamantonis et al. (2013a) and Rivas et al. (2013), and PC-SAFT (Set 2) uses binary interaction parameters from González Pérez et al. (2017) (Table S11).

As shown in previous works (Gimeno et al., 2017, 2018), the presence of SO_2 moderately reduces the bubble pressure of the mixture with respect to the saturation pressure of pure CO_2, p_{sat}, (Span and Wagner, 1996), while CO strongly increases it (Blanco et al., 2014). In the studied cocapture and emissions mixtures in this work, the effect of CO overcomes that of SO_2, and the p_{bubble} of both mixtures is higher than p_{sat} (pure CO_2). The differences between the values of these pressures decrease with increasing temperature and are greater for the cocapture mixture (average value of 30%) than for the emissions mixture (average value of 12%). Regarding the dew pressure, SO_2 reduces it with respect to pure CO_2 p_{sat} , and CO increases it; the effect of SO_2 is now stronger than that of CO. Consequently, p_{dew} of the cocapture mixture is, on average, 34% lower than p_{sat} of pure CO_2, while p_{dew} of the emissions mixture is slightly higher but close to p_{sat} (1%). A similar competition of opposite effects can be seen in the densities of the phases at equilibrium. As a result, the cocapture mixture presents ρ_V values much lower than pure CO_2 (44% on average) and ρ_L values slightly higher (3%) (Table S3). The phase densities at the VLE of Mixture 3 (emissions) are very close to those of pure CO_2. A slight decrease (average 1%) in ρ_L is observed, and the ρ_V values coincide with those of pure CO_2 within the experimental error at 263 and 273 K and are slightly higher (1%) at 293 K (Table S3). The effects of SO_2 and CO on the p_{dew}, the p_{bubble}, and the densities of the phases at equilibrium can also be found when comparing our result for the ternary CO_2 + SO_2 + CO mixture to those published by Coquelet et al. (2014), Lachet et al. (2009), and Nazeri et al. (2017) for the binary CO_2 + SO_2 system.

For the speed of sound, we determined 8 $p - c - T - x$ isotherms per doped mixture for Mixtures 2 and 4 (Table 3) at the same nominal temperatures at which the densities were measured and at pressures of up to 190 MPa. Both mixtures were doped with ≈0.8 mol% CH_3OH to obtain proper sound signals in an acceptable range of pressures, as described above. The results are shown in Table S6, Fig. 3, and Fig. S3.

The behavior of c in relation to the composition, T and p, is similar to that of the density, i.e., increasing c as p increases and T decreases. The values of c in the doped mixtures are lower than those in pure CO_2; the differences decrease as T increases for both mixtures and are higher for the cocapture mixture than for the emissions mixture (MRD values per isotherm range from 0.76% to 0.33% and from 0.62% to 0.26%, respectively). We did not find any reference in the literature on the speed of sound in $CO_2 + SO_2 + CO$ and $CO_2 + CH_3OH + SO_2 + CO$ systems.

To facilitate the comparisons aimed at obtaining the uncertainties and evaluating the effect of doping on c values and to allow further extrapolation to lower pressures, the experimental results of c for each isotherm were correlated as a function of pressure using the following polynomial (Lin and Trusler, 2014)

$$(p - p^{\#}) = \sum_{i=1}^{3} a_i (c - c^{\#})^i \qquad (4)$$

where $p^{\#}$ is an appropriate reference pressure for each isotherm and $c^{\#}$ is the speed of sound at $p = p^{\#}$. The coefficients for equation (4), the values of $p^{\#}$, and the values of MRD_c (%) for the experimental and fitted values are presented in Table S7. The overall $\overline{MRD_c}$ was 0.005%, which is lower than the uncertainty for the experimental data.

Despite the doping, no signals were obtained in the low-pressure zone, which is of interest for CCS and CO_2 EOR technologies. For this reason, polynomial (3), with the parameters from Table S7,

was used to extrapolate the c values at low pressure for each isotherm. The extrapolated data were validated by comparison with EOS-CG 2019, which is the EoS that better reproduces the experimental data of c among the EoSs evaluated in this work (see next section). The extrapolated data are reported in Table S8.

3.2 Comparison of the experimental and modeling data

Anthropogenic CO_2 can contain a high number of different impurities at different concentrations, depending on its source and the capture and conditioning methods used, and the T and p of the fluid change in wide ranges along the different stages of the CCS technology. As a result, the physicochemical properties of the stream can change dramatically during the process. For this reason, a predictive tool, such as an EoS, would be very useful to calculate the properties of the fluid under these ranges of conditions. However, today, there is no equation that stands out above the others due to its simplicity and precision for its application to this technology (Diamantonis et al., 2013b; Seevam et al., 2008; Wilhelmsen et al., 2012).

The EOS-CG mixture model (Gernert and Span, 2016), based on the Groupe Européen de Recherches Gazières (GERG)-2008 model (Kunz and Wagner, 2012) and mainly developed for application to humid gases, combustion gases and CO_2-rich mixtures of interest for CCS, is a hopeful advance. GERG-2008 model shows shortcomings with regard to the description of phase boundaries of CO_2-mixtures, and the EOS-CG mixture model addresses these shortcomings focusing on the accurate prediction of phase boundaries of CCS mixtures over a wide temperature and pressure range (Gernert and Span, 2016). As the EOS-CG mixture model does not include binary models for the CO_2 + SO_2 and CO_2 + CO subsystems, this work compares the predictions

of our experimental results with two extended versions of the EOS-CG. One of them, referred to as "extended EOS-CG" in our previous works (Gimeno et al., 2017, 2018, 2019), was applied as programmed in TREND 3.0 software (Thermodynamic Reference & Engineering Data) (Span et al., 2016). The binary models for the CO_2 + SO_2 and SO_2 + CO subsystems are unpublished and were developed at Ruhr-University Bochum, Germany. The binary model for the CO_2 + CO subsystem, developed at the same university, was published by Gernert (2013). The other extended version is the EOS-CG 2019, as implemented in TREND 4.0 software (Span et al., 2019). The binary models used for the above cited binary subsystems are different from those in the extended version of the EOS-CG in TREND 3.0 software, and they are all published (Herrig, 2018; Souza et al., 2018). For CO_2, SO_2 and CO pure fluids, both extended versions of the EOS-CG original use the Span and Wagner EoS (Span and Wagner, 1996), the Gao et al. EoS (Gao et al., 2016), and the Lemmon and Span EoS (Lemmon and Span, 2006), respectively.

Additionally, the PC-SAFT EoS (Gross and Sadowski, 2001), widely used in engineering applications and other fields, is also evaluated. EoSs with a strong physical background, for instance those derived from statistical mechanics (e.g. PC-SAFT EoS), provide the highest degree of potential when applied to nonideal systems (Gross and Sadowski, 2001), such as that discussed in this work.

The calculations were carried out using VLXE software (Laursen, 2012) and the methodology described in previous publications (Rivas et al., 2016). The pure compound parameters were taken from Gross and Sadowski (2001), and as in previous works, volume translation parameters, Δv_c, were introduced (Blanco et al., 2014; Gimeno et al., 2017, 2018, 2019; Rivas et al., 2013, 2016). For the binary interaction parameters, k_{ij}, two different sets were used. The first set, Set 1, consists of a binary interaction parameter from Diamantonis et al. (Diamantonis et al., 2013a) for the CO_2-

SO_2 interaction (as in previous works (Gimeno et al., 2017, 2018, 2019; Rivas et al., 2016) and a k_{ij} previously obtained by us for CO_2-CO (Rivas et al., 2013). The k_{ij} for the SO_2-CO binary interaction was set to zero because a binary interaction parameter obtained from our experimental data did not significantly modify the results. For the second set, Set 2, we used k_{ij} found in the literature from González Pérez et al. (2017) for the CO_2-SO_2 and CO_2-CO interactions; the SO_2-CO k_{ij} was set to zero as in the first set. All the parameters used for applying the PC-SAFT EoS are listed in Table S9.

In the case of mixtures doped with CH_3OH for c measurements, modeling was carried out considering them as pseudo ternary CO_2 + SO_2 + CO mixtures, with the mole fractions of CH_3OH added to those of CO_2 as in previous works (Gimeno et al., 2017, 2018, 2019).

The EoSs were evaluated by comparing the predicted values to our experimental data, and the differences are presented in the form of the MRD for each property X, MRD_X, and are given in Tables S10 and S11. The global average values of the MRDs for each property X, $\overline{MRD_X}$, are shown in Table 4.

Density: The studied EoSs reproduce quite properly the experimental values for the density, with both versions of the EOS-CG very similar to each other and somewhat better than PC-SAFT EoS, with overall deviations of 0.94% (extended EOS-CG) and 1.00% (EOS-CG 2019), versus 1.66% for the PC-SAFT EoS with parameters from Set 1 and 1.49% using the binary interaction parameters from Set 2. Globally, the EoSs better reproduce the densities of the emissions mixture than those of the cocapture mixture. For the cocapture mixture, both versions of EOS-CG show the best results at high temperatures, and the PC-SAFT EoS shows the worst results at intermediate temperatures. For the emissions mixture, the deviations of PC-SAFT EoS globally increase with increasing temperature, and there is no clear trend for the EOS-CG versions.

Vapor-liquid equilibrium: Both versions of the EOS-CG better reproduce the VLE of the system than the PC-SAFT EoS, except for the density of the liquid phase at equilibrium, where the PC-SAFT EoS is slightly better. Extended EOS-CG and EOS-CG 2019 correctly identify the studied temperatures as subcritical or supercritical. However, the PC-SAFT EoS predicts the VLE for the cocapture mixture at a nominal temperature of 313.15 K and for the emissions mixture at a nominal temperature of 304.21 K, with each temperature experimentally found to be supercritical for the respective mixture. The extended EOS-CG model provides better results than the EOS-CG 2019 model for all the VLE properties, and the PC-SAFT EoS with parameters from Set 1 gives better results than the PC-SAFT EoS with k_{ij} from Set 2, except for the bubble pressure, for which values from Set 2 are much better.

Speed of sound: For the speed of sound, the versions of the EOS-CG model provide much better results than the PC-SAFT EoS, with overall deviations from the experimental values of 0.63% (extended EOS-CG), 0.36% (EOS-CG 2019), 4.70% (PC-SAFT EoS with parameters from Set 1) and 4.52% (PC-SAFT EoS with k_{ij} from Set 2). Globally, both EOS-CG models better reproduce the experimental speed of sound in the emissions mixture than in the cocapture mixture, and PC-SAFT EoS shows the opposite behavior. For both versions of EOS-CG, deviations increase with increasing temperature for the cocapture mixture and diminish for the emissions mixture. Deviations using the PC-SAFT EoS slightly diminish when the temperature increases for both mixtures. Given the good results obtained for the speed of sound with EOS-CG 2019, this EoS was used to validate the presented extrapolated values of the speed of sound at low pressures (Table S8). The deviations between the extrapolated speeds of sound and the evaluated EoS in this work are presented in Tables 4 and S10.

Table 4. Global average values, $\overline{\overline{\mathrm{MRD}_X}}$, of the mean relative deviations. Subscripts exp and ext indicate experimental and extrapolated, respectively. PC-SAFT (Set 1) uses parameters from this work, Diamantonis et al. (2013a), and Rivas et al. (2013); PC-SAFT (Set2), from González Pérez et al. (2017) (Table S11).

EoS	$\overline{\mathrm{MRD}_\rho}$(%)	$\overline{\mathrm{MRD}_{c,\mathrm{exp}}}$(%)	$\overline{\mathrm{MRD}_{c,\mathrm{ext}}}$(%)	$\overline{\mathrm{MRD}_{p_{\mathrm{dew}}}}$(%)	$\overline{\mathrm{MRD}_{p_{\mathrm{bubble}}}}$(%)	$\overline{\mathrm{MRD}_{\rho_\mathrm{V}}}$(%)	$\overline{\mathrm{MRD}_{\rho_\mathrm{L}}}$(%)
extended EOS-CG	0.94	0.63	0.64	0.46	0.10	0.74	1.71
EOS-CG 2019	1.00	0.36	0.50	1.08	1.51	1.19	1.97
PC-SAFT (Set1)	1.66	4.70	3.80	3.60	20.56	4.70	0.51
PC-SAFT (Set 2)	1.49	4.52	3.78	6.37	1.88	8.79	0.78

3.3 Influence of SO_2 in the presence of CO on the transport, injection and storage of CCS technology

The presence of impurities in anthropogenic CO_2, as well as their nature and concentration, greatly affects the physico-chemical properties of the fluid, which in turn influences the behavior of the stream in the different stages of CCS technology.

In this section, we discuss and quantify the influence of both the presence and the concentrations of SO_2 and CO in the fluid on several selected technical and operational parameters related to the steps of transport by pipeline, injection and storage.

For this purpose, the technical parameters for CO_2 + SO_2 + CO Mixtures 1 (cocapture) and 3 (emissions) were compared with those calculated for pure CO_2 (Span and Wagner, 1996) and with those for CO_2 + SO_2 (Gimeno et al., 2017, 2018; Rivas et al., 2016) and CO_2 + CO (Blanco et al.,

2014; Rivas et al., 2013) binary mixtures with similar contents of SO_2 and CO, respectively, as the ternary mixtures.

The selected transport parameters were the minimum operational pressure, p_{min}; the pressure and density profiles along the pipeline, $p(d)$ and $\rho(d)$, respectively, where d is the distance; and the inner diameter of the pipeline, D. These parameters were calculated at temperatures of transport, from 263 to 304 K. The injection and storage parameters were calculated as normalized parameters, X/X_0, where X is the value for the ternary or binary mixtures and X_0 corresponds to pure CO_2. The studied parameters were the storage capacity, M; the rising velocity of the plume inside deep saline aquifers, v; and the permeation flux, $\dot{M}$. These parameters were evaluated under storage conditions, i.e., temperatures from 313 to 373 K and pressures $p \geq 7$ MPa.

Table S12 shows the equations used for calculating the related parameters, as well as other required values, such as the Reynolds number, friction factor, pressure drop per meter and normalized floatability in saline aquifers. These equations have been reviewed and are recommended by the industrial and engineering community (ElementEnergy, 2010; Vandeginste and Piessens, 2008; Wang et al., 2011).

The values used for density in these equations were the experimental data obtained in this work for the ternary mixtures (Table S1) and values from the literature for the binary mixtures (Blanco et al., 2014; Gimeno et al., 2017, 2018; Rivas et al., 2013). The density data for pure CO_2, ρ_0, were taken from the literature (Span and Wagner, 1996). The densities of the brines of the saline aquifers in Table 1, ρ_{br}, were estimated from the salinity, temperature and pressure inside the respective reservoirs, as in previous publications (Gimeno et al., 2017, 2019).

Given that we did not find viscosity data in the literature for the ternary and binary mixtures studied in this work, it was necessary to calculate them. For the binary mixtures, we used an improved

extended corresponding states method (Klein et al., 1997) implemented in REFPROP 9.1 software (Lemmon et al., 2013), as we did in previous works (Blanco et al., 2014; Gimeno et al., 2017, 2018, 2019; Rivas et al., 2013, 2016). However, REFPROP cannot calculate the viscosities of ternary mixtures, so we obtained these values using the equation from Grunberg and Nissan (1949), applied to ternary mixtures according to the formulation of Shu et al. (2007)

$$ln\eta = \sum_{i=1}^{n} x_i \, ln\eta_i + \sum_{i}^{n}\sum_{j>i}^{n} x_i x_j A_{ij} + \sum_{i}^{n}\sum_{j>i}^{n}\sum_{k>j}^{n} x_i \, x_j x_k A_{ijk} \qquad (5)$$

where η is the viscosity (μPa·s) of the ternary mixture; η_i is the viscosity (μPa·s) of the pure components; x_i, x_j and x_k are the mole fractions of the i, j and k components, respectively; A_{ij} is a binary interaction parameter; A_{ijk} is a ternary interaction parameter; and n is the number of components in the mixture. The Grunberg and Nissan equation is widely used in the literature for water-free liquid mixtures (Li et al., 2011b). The binary interaction parameter A_{ij} for SO_2-CO and the ternary interaction parameter A_{ijk} for CO_2-SO_2-CO were neglected because of the small mole fractions of the impurities SO_2 and CO in the ternary mixtures. The values of the parameters A_{ij} for the CO_2-SO_2 and CO_2-CO binary interactions at each temperature were calculated from the viscosity data of the corresponding binary mixtures obtained using REFPROP 9.1 (Lemmon et al., 2013). These values are presented in Table S13, which also includes the mean relative deviations, MRD_η (%), between the REFPROP 9.1 (Lemmon et al., 2013) values and those obtained by applying equation (5). We tested this method by applying it to the CO_2-rich quaternary mixture [CO_2 (0.8983) + N_2 (0 .0505) + O_2 (0.0307) + Ar (0.0205)], whose experimental viscosity results were published by Nazeri et al. (2018). The deviations between the calculated and experimental results are within the range of those obtained using the predictive or correlative models applied by Nazeri et al. in the aforementioned publication.

3.3.1 Influence of SO_2 in the presence of CO on transport

Minimum operational pressure, p_{min}. Anthropogenic CO_2 must be transported in a dense or supercritical phase, avoiding the formation of gas bubbles and biphasic flow. In general, any CCS operation should be avoided under two-phase flow if possible, given that the presence of the gas phase reduces the mass of fluid transported, and bubbles cause turbulence and cavitation that hinder the work of the facilities and can even damage them (Knoope et al., 2013; McCoy and Rubin, 2008). Consequently, the bubble pressure of the transported fluid, p_{bubble}, determines the minimum operational pressure, and it is well understood that a margin for safety will be needed. As demonstrated in previous publications (Gimeno et al., 2017, 2018), the presence of SO_2 (which is a condensable impurity) in the studied concentrations makes the bubble pressure of the mixture moderately decrease with respect to the pure CO_2 saturation pressure, p_{sat} (Span and Wagner, 1996), at all the studied subcritical temperatures. For a CO_2 + SO_2 mixture with ≈5 mol % of SO_2 (Gimeno et al., 2018), p_{bubble} decreases by 5%, 6% and 7% at 263, 273 and 293 K, respectively, with respect to p_{sat} (Table S14). CO, instead, is a noncondensable gas whose addition to a pure CO_2 stream increases the p_{bubble} of the mixture much more strongly (104%, 72% and 30% at 263, 273 and 293 K, respectively, for a mixture of CO_2 + CO with 3 mol % CO (Blanco et al., 2014), Table S14. Both opposite effects compete in the studied ternary mixtures, and the increasing-pressure effect of CO is clearly greater than the other. As seen in Table S14, ≈0.1 mol % of SO_2 in the emissions mixture does not counteract the pressure-raising effect of ≈1 mol% of CO as expected, but ≈5 mol% of SO_2 does not compensate ≈3 mol% of CO either (cocapture mixture). The cocapture mixture p_{bubble} is 45%, 31% and 12% higher than p_{sat} at 263, 273 and 293 K, respectively, and the emissions mixture p_{bubble} is 17%, 12%, and 7% higher than p_{sat} at these

temperatures. Thus, the ($p_{\mathrm{bubble}} - p_{\mathrm{sat}}$) values for the two ternary mixtures decrease with increasing temperature. Regarding T= 304.21 K [critical temperature of pure CO_2, (Gil et al., 2008)], p_{bubble} of the cocapture mixture is 5% higher than the critical pressure of pure CO_2 [7.383 MPa (Gil et al., 2008)]. Given that higher p_{bubble} values require the use of higher minimum operational pressures, both mixtures are unfavorable at all the studied transport temperatures for this parameter with respect to the transport of pure CO_2, with the cocapture mixture being the most unfavorable.

Pressure and density drops along the pipeline, p(d) and ρ(d), and the pipeline inner diameter, D. Calculations for the pressure and density drops were carried out for a 20 inch pipeline (inner diameter 0.508 m) transporting a mass flow of 10 Mt/year (317 kg/s), with a roughness height of 0.00015 ft (4×10^{-5} m) and an inlet pressure of 20.00 MPa. Pressure and density profiles along the pipeline for both ternary mixtures, namely, Mixture 1 (cocapture) and Mixture 3 (emissions), and for pure CO_2 are represented in Fig. S6 at the studied transport temperatures. Fig. S7 shows the pressure and density profiles at 293.15 K for the studied ternary mixtures, the CO_2 + SO_2 (≈5 mol% or ≈0.7 mol%) and CO_2 + CO (≈1 mol% or 3 mol%) binary mixtures, and pure CO_2. Fig. S8 presents the pipeline inner diameter, *D*, as a function of the mass flow, *m*, for both ternary mixtures and pure CO_2 at several transport pressures and temperatures, and Fig. S9 compares them with the above cited binary mixtures at 293.15 K and 14 MPa. As seen in the figures, the presence of SO_2 (condensable impurity) causes the pressure and density to decrease more slowly along the pipeline than for pure CO_2, and a smaller inner diameter is needed to transport a given mass flow. Noncondensable CO, instead, produces the opposite effect, and both contributions compete in the ternary mixtures. For the cocapture mixture (≈5 mol% of SO_2 and ≈3 mol% of CO), the effect of SO_2 predominates, showing slower pressure and density drops than pure CO_2 and needing a

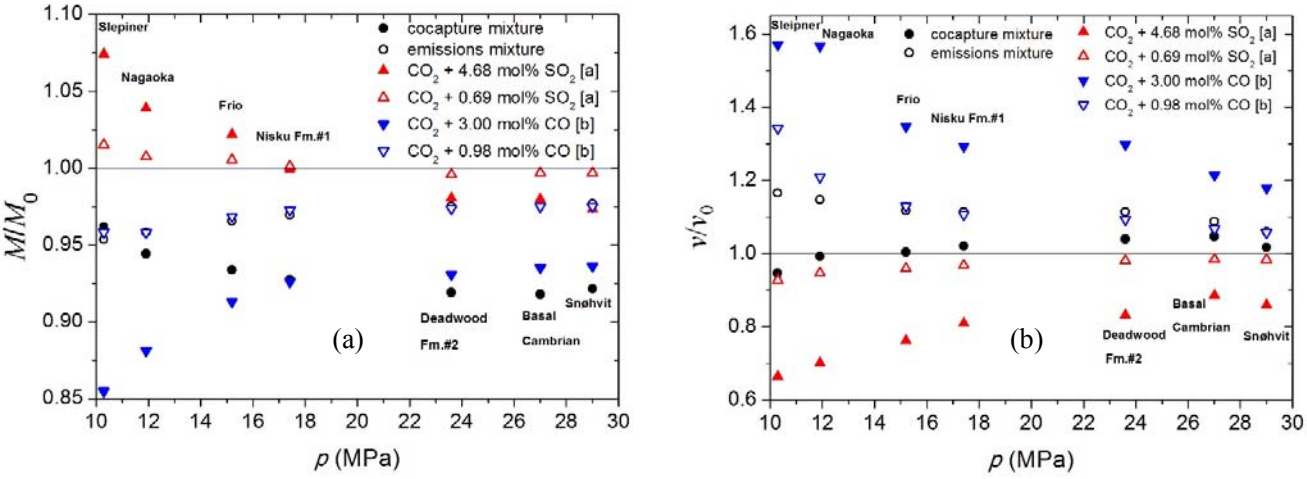
smaller pipeline inner diameter to transport the same mass flow. After travel of 300 km by the studied pipeline, the pressure of this mixture is between 0.9% (at 263 K) and 2.1% (at 304 K) higher than that of pure CO_2, and its density drop is between 0.1% (263 K) and 1.9% (304 K) lower than that of pure CO_2. The inner diameter needed for the studied range of conditions is between 1 mm (263 K) and 5 mm (304 K) lower than the diameter needed for pure CO_2. The CO_2 + CO 3% mol binary mixture under the same conditions (Blanco et al., 2014; Rivas et al., 2013) shows pressure decreases between 1.7% and 7.4% with respect to pure CO_2 and density drops that are between 0.4% and 12.4% higher; the needed diameter is between 2 mm and 13 mm larger. A 10 mm increase in the inner diameter of a standard carbon steel pipeline, API SL X70, with an inner diameter of 508 mm (20 inches) and wall thickness of 16.0 mm (McCoy and Rubin, 2008), means approximately 4 tons of steel per km. However, when comparing the emission mixture (≈0.1 mol% of SO_2 and ≈1 mol% of CO) with pure CO_2, we find that both drops are faster and the pipeline inner diameter must be higher. At 300 km from the entrance of the studied pipeline, the pressure of the mixture is between 0.6% (at 263 K) and 2.0% (at 304 K) lower than that of pure CO_2, and its density decrease is between 0.2% (263 K) and 2.2% (304 K) higher. The needed inner diameter for the studied range of conditions is between 1 mm (263 K) and 8 mm (304 K) larger. In this case, the negative effect of CO overcomes the positive effect of SO_2. Thus, the cocapture mixture presents favorable properties with respect to pure CO_2 for these transport parameters, while the emissions mixture is unfavorable.

3.3.2 Influence of SO_2 in the presence of CO on injection and storage

Normalized storage capacity, M/M_0. The amount of the stored fluid in a specific reservoir depends on the storing T and p conditions and on the composition of the injected anthropogenic CO_2. The

$M/M_0 - p$ isotherms show maximums or minimums depending on whether the fluid contains a condensable or a noncondensable impurity, respectively. The $M/M_0 - p$ isotherms for the cocapture mixture in Fig. S10a present maximums with decreasing values and positions that shift to higher pressure with increasing T. Then, the effect of ≈5 mol% of SO_2 overcomes that of ≈3 mol% of CO in this mixture, but $M > M_0$ only at 313.15 K and $7.5 < p < 9.5$ MPa. In the case of the emissions mixture, the $M/M_0 - p$ isotherms exhibit minimums, and then the influence of ≈1 mol% CO is greater than that of ≈0.1 mol% SO_2. Regarding the influence of both impurities in the seven actual reservoirs of Table 1 (Fig. 5a), the cocapture mixture gives better storage efficiencies than the emissions mixture only in the shallowest reservoir (Sleipner). In the three deeper reservoirs, the reductions in M with respect to M_0 are 8% and ≈2.5% for cocapture and emissions mixtures, respectively. The addition of CO at the studied concentrations to the CO_2+SO_2 mixtures worsens the storage efficiency in shallow reservoirs; however, the behaviors of both CO_2 +≈5 mol% SO_2 and the emissions mixture in deep reservoirs are almost the same. The addition of ≈5 mol% of SO_2 to the CO_2 + ≈3 mol% CO mixture overcomes the negative effect of CO in the shallow reservoirs and compensates it in Nisku, but the negative effect of CO predominates in the three deeper reservoirs. The addition of ≈0.1 mol% of SO_2 to the CO_2 + ≈1 mol% CO mixture does not significantly affect M/M_0 in the seven actual reservoirs.

Figure 5. Normalized storage capacity, M/M_0 (a), and normalized rising velocity in the saline aquifers, v/v_0 (b), for different mixtures under the reservoir conditions presented in Table 1.[a]: Gimeno et al. (2017); [b]: Blanco et al. (2014).



Normalized rising velocity in saline aquifers, v/v_0. Values of v/v_0 < 1, a characteristic effect of the presence of a condensable impurity in anthropogenic CO_2, favor the stored fluid-brine contact and then the retention of the fluid into the reservoir and, as consequence, the safety of the confinement. In Fig. S10b, the values of v/v_0 are smaller than one for the cocapture mixture at certain ranges of p for each studied T, with a pressure value at which $v = v_0$ for each T greater as T increases, and the greatest reduction in v/v_0 achieved at 313.15 K. However, the emissions mixture gives $v/v_0 > 1$ at all the considered T and p ranges, and the most unfavorable effect is observed at 303.15 K. From this behavior, a predominant effect of SO_2 in the cocapture mixture in shallow reservoirs can be deduced, while regarding the emissions composition, the influence of CO is the most important under all the studied T and p conditions.

The addition of ≈5 mol% of SO_2 to the CO_2 + ≈3 mol% CO mixture considerably reduces v, giving values for this parameter that are close to those of pure CO_2 (v_0) in all the real aquifers studied (Fig. 5b). The addition of ≈0.1 mol% of SO_2 reduces the values of v/v_0 exhibited by the CO_2 +

≈1 mol% CO mixture in Sleipner and Nagaoka, but almost no effect is observed for the remainder of the reservoirs in Table 1.

Normalized permeation flux, $\dot{M}/\dot{M}_0$. The injectivity of the managed fluid is evaluated by means of this parameter, which in turn is calculated as the product of M/M_0 by the relation between the viscosity of pure CO_2, η_0, and the viscosity of the mixture, η. Most values of $\dot{M}/\dot{M}_0$ in Fig. S10c for cocapture and emissions mixtures are higher than the values of M/M_0 in Fig. S10a at the same p and T, which means that the viscosity of these mixtures favors their injectivity under the studied conditions. The permeation flux of the cocapture mixture improves that of pure CO_2 at 313.15 K in the entire studied pressure range and at 333.15 K and $10 < p < 13$ MPa, while that of the emissions mixture improves it at 313.15 K and $p > 11$ MPa and at 333.15 K and $p > 17$ MPa.

The permeation flux of the mixtures in the shallow reservoirs studied (Fig. S11) is favored by the presence of the evaluated impurities, except for the emissions mixture, which gives reductions in $\dot{M}$ less than 1% into the Sleipner, Nagaoka and Frio reservoirs. In the case of Deadwood and basal Cambrian aquifers (deep reservoirs), the emissions mixture is the only one that improves the permeation flux with respect to pure CO_2, while none of the evaluated compositions gives $\dot{M}/\dot{M}_0 > 1$ into the deepest aquifer, Snøhvit.

4. Conclusions

We thermodynamically characterized the mixtures [CO_2 + 4.93 mol% SO_2 + 3.01 mol% CO] (cocapture) and [CO_2 + 0.09 mol% SO_2 + 1.12 mol% CO] (emissions) within the operational ranges of the transport, injection and storage stages of the CCS technology, obtaining the following results:

The densities of the cocapture mixture are higher than those of pure CO_2, because the increase in density caused by SO_2 exceeds the decrease due to CO. However, in the emissions mixture, the densities are lower than those of pure CO_2, given that SO_2 does not compensate the effect of CO. p_{bubble} values in both mixtures are greater than p_{sat} of pure CO_2 because of CO. Howevwer, the effect of SO_2 is predominant in p_{dew}, which results in a decrease in this property for the cocapture mixture in relation to p_{sat} of pure CO_2 and in a slight increase for the emissions mixture.

The c values of both mixtures are slightly lower than those of pure CO_2, and the differences are slightly greater in the cocapture mixture.

From our experimental volumetric, VLE and speed of sound data, we validated two versions of the EOS-CG original and the PC-SAFT EoS, although for the latter we obtained very high deviations for some of the studied VLE properties. For the density and speed of sound (experimental and extrapolated), the EOS-CG 2019 gave the best global results, while for the studied VLE properties, the best equation was the extended EOS-CG model. The PC-SAFT EoS applied with the k_{ij} parameters from Set 2 showed slightly better global results for the density and speed of sound (experimental and extrapolated) than those obtained with k_{ij} from Set 1.

Regarding the calculated parameters of CCS technology, we conclude that the positive influence of SO_2 in the cocapture mixture overcomes the negative effect of CO in most of the transport parameters and in the rising velocity of the plume in the shallow saline aquifers studied, and partially compensates for it in the remainder of the calculated parameters. When comparing the behavior of this mixture, which characterizes the emissions without purification, with that of the purified emissions of the EU (emissions mixture), we can conclude that the proposed cocapture mixture presents a double benefit (with the understanding that chemical effects have not been

considered): the saving of both the high costs associated with the purification of the stream and the emission rights and the improvement in most of the assessed technical aspects of CCS.

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Supplementary Material

Additional tables and figures regarding the experimental data, EoS modeling, and transport, injection and storage parameters are presented.

References

Al Ghafri, S.Z., Czubinski, F.F., May, E.F., 2018. Viscosity measurements of (CH4+ C3H8+ CO2) mixtures at temperatures between (203 and 420) K and pressures between (3 and 31) MPa. Fuel 231, 187-196. https://doi.org/10.1016/j.fuel.2018.05.087.

Anheden, M., Andersson, A., Bernstone, C., Eriksson, S., Yan, J., Liljemark, S., Wall, C., 2004. Proceedings of the Seventh Greenhouse Gas Control Technologies Conference (GHGT-7), Vancouver, Canada, 2004.

Bachu, S., 2003. Screening and ranking of sedimentary basins for sequestration of CO 2 in geological media in response to climate change. Environmental Geology 44(3), 277-289. https://doi.org/10.1007/s00254-003-0762-9.

Bachu, S., 2013. Drainage and imbibition CO2/brine relative permeability curves at in situ conditions for sandstone formations in western Canada. Energy Procedia 37, 4428-4436. https://doi.org/10.1016/j.egypro.2013.07.001.

Bachu, S., Bennion, B., 2008. Effects of in-situ conditions on relative permeability characteristics of CO 2-brine systems. Environmental Geology 54(8), 1707-1722. https://doi.org/10.1007/s00254-007-0946-9.

Ball, S., Trusler, J., 2001. Speed of Sound of n-Hexane and n-Hexadecane at Temperatures Between 298 and 373 K and Pressures up to 100 MPa. International journal of thermophysics 22(2), 427-443. http://dx.doi.org/10.1023/A:1010770730612.

Blanco, S.T., Rivas, C., Bravo, R.n., Fernández, J., Artal, M., Velasco, I., 2014. Discussion of the influence of CO and CH4 in CO2 transport, injection, and storage for CCS technology.

Environmental science & technology 48(18), 10984-10992. https://doi.org/10.1021/es502306k.

Bouchot, C., Richon, D., 1998. Direct pressure− volume− temperature and vapor− liquid equilibrium measurements with a single equipment using a vibrating tube densimeter up to 393 K and 40 MPa: description of the original apparatus and new data. Industrial & engineering chemistry research 37(8), 3295-3304. http://dx.doi.org/10.1021/ie970804w.

Bouchot, C., Richon, D., 2001. An enhanced method to calibrate vibrating tube densimeters. Fluid Phase Equilibria 191(1-2), 189-208. https://doi.org/10.1016/S0378-3812(01)00627-6.

Centro Español de Metrología. Ministerio de Industria, T.y.C., 2000. Procedimiento TH-006 para la calibración de termómetros de resistencia de platino. Área de Temperatura.

Comuñas, M.J., Bazile, J.-P., Baylaucq, A., Boned, C., 2008. Density of diethyl adipate using a new vibrating tube densimeter from (293.15 to 403.15) K and up to 140 MPa. Calibration and measurements. Journal of Chemical & Engineering Data 53(4), 986-994. https://doi.org/10.1021/je700737c.

Coquelet, C., Valtz, A., Arpentinier, P., 2014. Thermodynamic study of binary and ternary systems containing CO2+ impurities in the context of CO2 transportation. Fluid Phase Equilibria 382, 205-211. https://doi.org/10.1016/j.fluid.2014.08.031.

Diamantonis, N.I., Boulougouris, G.C., Mansoor, E., Tsangaris, D.M., Economou, I.G., 2013a. Evaluation of cubic, SAFT, and PC-SAFT equations of state for the vapor–liquid equilibrium modeling of CO2 mixtures with other gases. Industrial & Engineering Chemistry Research 52(10), 3933-3942. https://doi.org/10.1021/ie303248q.

Diamantonis, N.I., Boulougouris, G.C., Tsangaris, D.M., El Kadi, M.J., Saadawi, H., Negahban, S., Economou, I.G., 2013b. Thermodynamic and transport property models for carbon

capture and sequestration (CCS) processes with emphasis on CO2 transport. Chemical engineering research and design 91(10), 1793-1806. https://doi.org/10.1016/j.cherd.2013.06.017.

Doctor, R., Palmer, A., Coleman, D., Davison, J., Hendricks, C., Kaarstad, O., Ozaki, M., Austell, M., 2005. IPCC Special Report on Carbon Dioxide Capture and Storage, in: Metz, B., Davidson, O., de Coninck, H., Loos, M., Meyer, L. (Eds.). Cambridge, p. 179−193. https://www.ipcc.ch/report/carbon-dioxide-capture-and-storage/ (accessed 11 May 2021).

Dávila, M.J., Trusler, J.M., 2009. Thermodynamic properties of mixtures of N-methyl-2-pyrrolidinone and methanol at temperatures between 298.15 K and 343.15 K and pressures up to 60 MPa. The Journal of Chemical Thermodynamics 41(1), 35-45. http://dx.doi.org/10.1016/j.jct.2008.08.003.

EEA (European Environment Agency), 2018. Annual European Union greenhouse gas inventory 1990–2016 and inventory report 2018, EEA Report 2018. https://www.eea.europa.eu//publications/european-union-greenhouse-gas-inventory-2018 (accessed 11 May 2021).

ElementEnergy, 2010. CO2 pipeline infrastructure: an analysis of global challenges and opportunities, Final Report for IEA Greenhouse Gas Programme.

Elmabrouk, S.K., Bader, H.E., Mahmud, W.M., 2017. Proceedings of the International Conference on Industrial Engineering and Operations Management, Rabat, Morocco.

Euramet, 2017. Guidelines on the Calibration of Electromechanical and Mechanical Manometers. Euramet Calibration Guide No.17. Version 3.0(04/2017).

Gao, K., Wu, J., Zhang, P., Lemmon, E.W., 2016. A Helmholtz energy equation of state for sulfur dioxide. Journal of Chemical & Engineering Data 61(8), 2859-2872. https://dx.doi.org/10.1021/acs.jced.6b00195.

Gernert, G.J., 2013. A new Helmholtz energy model for humid gases and CCS mixtures. Ph.D. Thesis. Fakultät für Maschinenbau, Ruhr-Universität Bochum, Bochum.

Gernert, J., Span, R., 2016. EOS–CG: A Helmholtz energy mixture model for humid gases and CCS mixtures. The Journal of Chemical Thermodynamics 93, 274-293. https://doi.org/10.1016/j.jct.2015.05.015.

Gil, L., Otin, S.F., Embid, J.M., Gallardo, M.A., Blanco, S., Artal, M., Velasco, I., 2008. Experimental setup to measure critical properties of pure and binary mixtures and their densities at different pressures and temperatures: Determination of the precision and uncertainty in the results. The Journal of Supercritical Fluids 44(2), 123-138. http://dx.doi.org/10.1016/j.supflu.2007.11.003.

Gimeno, B., Artal, M., Velasco, I., Blanco, S.T., Fernández, J., 2017. Influence of SO2 on CO2 storage for CCS technology: Evaluation of CO2/SO2 co-capture. Applied Energy 206, 172-180. https://doi.org/10.1016/j.apenergy.2017.08.048.

Gimeno, B., Artal, M., Velasco, I., Fernández, J., Blanco, S.T., 2018. Influence of SO2 on CO2 transport by pipeline for carbon capture and storage technology: evaluation of CO2/SO2 cocapture. Energy & Fuels 32(8), 8641-8657. https://doi.org/10.1021/acs.energyfuels.8b01666.

Gimeno, B., Martínez-Casasnovas, S., Velasco, I., Blanco, S.T., Fernández, J., 2019. Thermodynamic properties of CO2+ SO2+ CH4 mixtures over wide ranges of temperature

and pressure. Evaluation of CO2/SO2 co-capture in presence of CH4 for CCS. Fuel 255, 115800. https://doi.org/10.1016/j.fuel.2019.115800.

Global CCS Institute, 2012. Global CCS Institute annual review 2012. https://www.globalccsinstitute.com/resources/publications-reports-research/global-ccs-institute-annual-review-2012/. (Accessed 16 February 2021).

Global CCS Institute, 2013. The Global Status of CCS: 2013. https://www.globalccsinstitute.com/resources/publications-reports-research/the-global-status-of-ccs-2013/. (Accessed 16 February 2021).

Global CCS Institute, 2020. Global Status of CCS Report 2020. https://www.globalccsinstitute.com/resources/global-status-report/. (Accessed 16 February 2021).

Gobierno de España, Ministerio para la Transición Ecológica y el Reto Demográfico. https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/atmosfera-y-calidad-del-aire/calidad-del-aire/salud/monoxido-carbono.aspx. (Accessed 16 February 2021).

González Perez, A., Coquelet, C., Paricaud, P., Chapoy, A., 2017. Comparative study of vapour-liquid equilibrium and density modelling of mixtures related to carbon capture and storage with the SRK, PR, PC-SAFT and SAFT-VR Mie equations of state for industrial uses. Fluid Phase Equilibria 440, 19-35. https://doi.org/10.1016/j.fluid.2017.02.018.

Gross, J., Sadowski, G., 2001. Perturbed-chain SAFT: An equation of state based on a perturbation theory for chain molecules. Industrial & engineering chemistry research 40(4), 1244-1260. https://doi.org/10.1021/ie0003887.

Grude, S., Landrø, M., White, J., Torsæter, O., 2014. CO2 saturation and thickness predictions in the Tubåen Fm., Snøhvit field, from analytical solution and time-lapse seismic data.

International Journal of Greenhouse Gas Control 29, 248-255. https://doi.org/10.1016/j.ijggc.2014.08.011.

Grunberg, L., Nissan, A.H., 1949. Mixture law for viscosity. Nature 164(4175), 799-800. https://doi.org/10.1038/164799b0.

Hansen, O., Eiken, O., Østmo, S., Johansen, R.I., Smith, A., 2011. Monitoring CO2 injection into a fluvial brine-filled sandstone formation at the Snøhvit field, Barents Sea, SEG Technical Program Expanded Abstracts 2011. Society of Exploration Geophysicists, pp. 4092-4096.

Herrig, S., 2018. New Helmholtz-Energy Equations of State for Pure Fluids and CCS Relevant Mixtures. Ph.D. Thesis. Ruhr-Universität Bochum.

IEAGHG, 2011. Effects of impurities on geological storage of CO2, IEAGHG Report: 2011/04. http://ieaghg.org/docs/General_Docs/Reports/2011-04.pdf. (accessed 11 May 2021).

IEAGHG, 2015. Review of offshore monitoring for CCS projects. IEAGHG Report 2015/2. https://ieaghg.org/docs/General_Docs/Reports/2015-02.pdf (accessed 11 May 2021).

IPCC, 2018. The Intergovernmental Panel on Climate Change, Special Report on the Impact of Global Warming of 1.5°C. https://www.ipcc.ch/sr15/. (Accessed 16 February 2021).

JCGM 100:2008, 2008. GUM 1995 with minor corrections. Evaluation of measurement data — Guide to the expression of uncertainty in measurement. JCGM 2008. First edition 2008. Corrected version 2010.

Klein, S.A., McLinden, M.O., Laesecke, A., 1997. An improved extended corresponding states method for estimation of viscosity of pure refrigerants and mixtures. International Journal of Refrigeration 20(3), 208-217. https://doi.org/10.1016/S0140-7007(96)00073-4.

Knoope, M., Ramírez, A., Faaij, A., 2013. A state-of-the-art review of techno-economic models predicting the costs of CO2 pipeline transport. International journal of greenhouse gas control 16, 241-270. https://doi.org/10.1016/j.ijggc.2013.01.005.

Koenen, M., Waldmann, S., Hofstee, C., Neele, F., 2015. 2nd International Forum on Recent Developments of CCS Implementation, TNO, Atenas, December 2015.

Kunz, O., Wagner, W., 2012. The GERG-2008 wide-range equation of state for natural gases and other mixtures: an expansion of GERG-2004. Journal of chemical & engineering data 57(11), 3032-3091. https://doi.org/10.1021/je300655b.

Lachet, V., de Bruin, T., Ungerer, P., Coquelet, C., Valtz, A., Hasanov, V., Lockwood, F., Richon, D., 2009. Thermodynamic behavior of the CO2+ SO2 mixture: Experimental and Monte Carlo simulation studies. Energy Procedia 1(1), 1641-1647. https://doi.org/10.1016/j.egypro.2009.01.215.

Laursen, T., 2012. VLXE ApS. Diplomvej, Denmark: Scion-DTU.

Lemmon, E.W., Huber, M.L., McLinden, M.O., 2013. Reference fluid thermodynamic and transport properties-REFPROP, NIST Standard Reference Database 23, 9.1 ed. U.S. Secretary of Commerce on behalf of the United States of America.

Lemmon, E.W., Span, R., 2006. Short fundamental equations of state for 20 industrial fluids. Journal of Chemical & Engineering Data 51(3), 785-850. https://dx.doi.org/10.1021/je050186n.

Li, H., Jakobsen, J.P., Wilhelmsen, Ø., Yan, J., 2011a. PVTxy properties of CO2 mixtures relevant for CO2 capture, transport and storage: Review of available experimental data and theoretical models. Applied Energy 88(11), 3567-3579. https://doi.org/10.1016/j.apenergy.2011.03.052.

Li, H., Wilhelmsen, Ø., Lv, Y., Wang, W., Yan, J., 2011b. Viscosities, thermal conductivities and diffusion coefficients of CO2 mixtures: Review of experimental data and theoretical models. International Journal of Greenhouse Gas Control 5(5), 1119-1139. https://doi.org/10.1016/j.ijggc.2011.07.009.

Li, H., Yan, J., 2009. Impacts of equations of state (EOS) and impurities on the volume calculation of CO2 mixtures in the applications of CO2 capture and storage (CCS) processes. Applied Energy 86(12), 2760-2770. https://doi.org/10.1016/j.apenergy.2009.04.013.

Li, H., Yan, J., Anheden, M., 2009. Impurity impacts on the purification process in oxy-fuel combustion based CO2 capture and storage system. Applied Energy 86(2), 202-213. https://doi.org/10.1016/j.apenergy.2008.05.006.

Lin, C.-W., Trusler, J., 2014. Speed of sound in (carbon dioxide+ propane) and derived sound speed of pure carbon dioxide at temperatures between (248 and 373) k and at pressures up to 200 mpa. Journal of Chemical & Engineering Data 59(12), 4099-4109. https://doi.org/10.1021/je5007407.

Long, G., Chierici, G.L., 1959. Proceedings of the Fifth World Petroleum Congress, paper 16, Proceedings of the Fifth World Petroleum Congress. New York.

Løvseth, S.W., Skaugen, G., Stang, H.J., Jakobsen, J.P., Wilhelmsen, Ø., Span, R., Wegge, R., 2013. CO2Mix Project: Experimental determination of thermo-physical properties of CO2-rich mixtures. Energy Procedia 37, 2888-2896. https://doi.org/10.1016/j.egypro.2013.06.174.

Mazzoccoli, M., Bosio, B., Arato, E., 2012. Analysis and comparison of Equations-of-State with p-ρ-T experimental data for CO2 and CO2-mixture pipeline transport. Energy Procedia 23, 274-283. https://doi.org/10.1016/j.egypro.2012.06.052.

McCoy, S.T., Rubin, E.S., 2008. An engineering-economic model of pipeline transport of CO2 with application to carbon capture and storage. International journal of greenhouse gas control 2(2), 219-229. https://dx.doi.org/10.1016/S1750-5836(07)00119-3.

Michael, K., Golab, A., Shulakova, V., Ennis-King, J., Allinson, G., Sharma, S., Aiken, T., 2010. Geological storage of CO2 in saline aquifers—A review of the experience from existing storage operations. International journal of greenhouse gas control 4(4), 659-667. https://doi.org/10.1016/j.ijggc.2009.12.011.

Nazeri, M., Chapoy, A., Burgass, R., Tohidi, B., 2018. Viscosity of CO2-rich mixtures from 243 K to 423 K at pressures up to 155 MPa: New experimental viscosity data and modelling. The Journal of Chemical Thermodynamics 118, 100-114. https://doi.org/10.1016/j.jct.2017.11.005.

Nazeri, M., Chapoy, A., Valtz, A., Coquelet, C., Tohidi, B., 2017. New experimental density data and derived thermophysical properties of carbon dioxide–Sulphur dioxide binary mixture (CO2-SO2) in gas, liquid and supercritical phases from 273 K to 353 K and at pressures up to 42 MPa. Fluid Phase Equilibria 454, 64-77. https://doi.org/10.1016/j.fluid.2017.09.014.

Olajire, A.A., 2010. CO2 capture and separation technologies for end-of-pipe applications–a review. Energy 35(6), 2610-2628. https://doi.org/10.1016/j.energy.2010.02.030.

Outcalt, S.L., McLinden, M.O., 2007. Automated densimeter for the rapid characterization of industrial fluids. Industrial & engineering chemistry research 46(24), 8264-8269. https://doi.org/10.1021/ie070791e.

ProgramProgress, 2015. 2015 Program Progress – Cross-State Air Pollution Rule and Acid Rain Program.

https://www.epa.gov/sites/production/files/2018-08/documents/2015_full_report_0.pdf (accessed 11 May 2021).

Rivas, C., Blanco, S.T., Fernández, J., Artal, M., Velasco, I., 2013. Influence of methane and carbon monoxide in the volumetric behaviour of the anthropogenic CO2: Experimental data and modelling in the critical region. International Journal of Greenhouse Gas Control 18, 264-276. http://dx.doi.org/10.1016/j.ijggc.2013.07.019.

Rivas, C., Gimeno, B., Artal, M., Blanco, S.T., Fernández, J., Velasco, I., 2016. High-pressure speed of sound in pure CO2 and in CO2 with SO2 as an impurity using methanol as a doping agent. International Journal of Greenhouse Gas Control 54, 737-751. http://dx.doi.org/10.1016/j.ijggc.2016.09.014.

Schedemann, A., Ihmels, E.C., Gmehling, J., 2010. Liquid densities of THF and excess volumes for the mixture with water in a wide temperature and pressure range. Fluid phase equilibria 295(2), 201-207. https://doi.org/10.1016/j.fluid.2010.05.004.

Seevam, P.N., Race, J.M., Downie, M.J., Hopkins, P., 2008. Transporting the Next Generation of CO2 for Carbon, Capture and Storage: The Impact of Impurities on Supercritical CO2 Pipelines, 2008 7th International Pipeline Conference. pp. 39-51.

Segovia, J.J., Fandiño, O., López, E.R., Lugo, L., Martín, M.C., Fernández, J., 2009. Automated densimetric system: Measurements and uncertainties for compressed fluids. The Journal of Chemical Thermodynamics 41(5), 632-638. https://doi.org/10.1016/j.jct.2008.12.020.

Souza, L.F., Al Ghafri, S.Z., Trusler, J.M., 2018. Measurement and modelling of the vapor–liquid equilibrium of (CO2+ CO) at temperatures between (218.15 and 302.93) K at pressures up to 15 MPa. The Journal of Chemical Thermodynamics 126, 63-73. https://doi.org/10.1016/j.jct.2018.06.022.

Span, R., Beckmüller, R., Eckermann, T., Herrig, S., Hielscher, S., Jäger, A., Mickoleit, E., Neumann, T., Pohl, S.M., Semrau, B., Thol, M., 2019. TREND. Thermodynamic Reference and Engineering Data 4.0 ed. Lehrstuhl für Thermodynamik, Ruhr-Universität, Bochum.

Span, R., Eckermann, T., Herrig, S., Hielscher, S., Jäger, A., Thol, M., 2016. TREND. Thermodynamic Reference and Engineering Data, 3.0 ed. Lehrstuhl für Thermodynamik, Ruhr-Universität Bochum.

Span, R., Wagner, W., 1996. A new equation of state for carbon dioxide covering the fluid region from the triple-point temperature to 1100 K at pressures up to 800 MPa. Journal of physical and chemical reference data 25(6), 1509-1596. https://doi.org/10.1063/1.555991.

Svenson, R., Odenberger, M., Johnsson, F., Strömberg, L., 2005. Greenhouse Gas Control Technologies. Elsevier Ltd, New York. Vol. II, pp. 2531−2534

Vandeginste, V., Piessens, K., 2008. Pipeline design for a least-cost router application for CO2 transport in the CO2 sequestration cycle. International Journal of Greenhouse Gas Control 2(4), 571-581. http://dx.doi.org/10.1016/j.ijggc.2008.02.001.

Velasco, I., Rivas, C., Martinez-Lopez, J.F., Blanco, S.T., Otin, S., Artal, M., 2011. Accurate values of some thermodynamic properties for carbon dioxide, ethane, propane, and some binary mixtures. The Journal of Physical Chemistry B 115(25), 8216-8230. https://doi.org/10.1021/jp202317n.

Wang, J., Ryan, D., Anthony, E.J., Wildgust, N., Aiken, T., 2011. Effects of impurities on CO2 transport, injection and storage. Energy Procedia 4, 3071-3078. https://doi.org/10.1016/j.egypro.2011.02.219.

Wilhelmsen, Ø., Skaugen, G., Jørstad, O., Li, H., 2012. Evaluation of SPUNG* and Other Equations of State for Use in Carbon Capture and Storage Modelling. Energy Procedia 23, 236-245. https://doi.org/10.1016/j.egypro.2012.06.024.

Zhang, Z., Wang, G., Massarotto, P., Rudolph, V., 2006. Optimization of pipeline transport for CO2 sequestration. Energy Conversion and Management 47(6), 702-715. https://doi.org/10.1016/j.enconman.2005.06.001.

Evaluation of the simultaneous presence of SO_2 and CO as impurities in CCS technology. $CO_2/SO_2/CO$ cocapture.

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SUPPLEMENTARY MATERIAL

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Densitometer calibration procedure

The vibrating tube was calibrated using pure CO_2 as reference fluid, given that it is the majority component of the mixtures. The reference densities were calculated using the Span and Wagner EoS (Span and Wagner, 1996). The model of calibration used was the Forced Path Mechanical Calibration model, FPMC, developed by Bouchot and Richon (Bouchot and Richon, 2001). This includes realistic mechanical considerations and forces representing the stress and strain behavior of the tube material. The FPMC model can be formulated as

$$\rho(T,P) = \frac{M_0}{L_{00}}\left[\frac{1}{\pi r_i^2(T,P)\exp(\int \alpha(T)dT + \gamma_T P)}\right]\left\{\left(\frac{\Delta r^4(T,P)}{\Delta r_0^4(T)}\right)\exp(-3\gamma_T P)\left(\frac{\tau^2(T,P)}{\tau_0^2(T)}\right) - 1\right\} \quad (1)$$

where M_0 = mass of the evacuated vibrating tube; L_{00} = length of the evacuated vibrating tube at 273.15 K; r_i = internal radius of the vibrating tube at pressure p and temperature T; $\alpha(T)$ = linear dilatability of the vibrating tube; γ_T = linear expansion coefficient of the vibrating tube; Δr = difference between the external and internal radius of the vibrating tube at pressure p and temperature T; Δr_0 = difference between the external and internal radius of the evacuated vibrating tube at temperature T; τ = vibrating period of the tube at pressure p and temperature T; τ_0 = vibrating period of the evacuated tube at temperature T.

The parameters determined from the calibrating operation were (M_0/L_{00}) and γ_T. Carbon dioxide was measured at 263.15, 273.15, 293.15, $T_c(CO_2)$ = 304.21 (Gil et al., 2008), 313.15, 333.15, 353.15, and 373.15, up to 70 MPa. The densities obtained from the experimental measurements and FPMC model were compared with those from the reference EoS, and the parameters were optimized at each temperature along the studied pressure range. Both parameters were found to be temperature dependent but pressure independent. The results obtained for the calibration were comparable with those from

the literature (Comuñas et al., 2008; Outcalt and McLinden, 2007; Schedemann et al., 2010; Segovia el al., 2009) as determined with an Anton Paar DMA HPM vibrating-tube densimeter, and were very similar to those obtained in the start-up of the apparatus (Velasco et al., 2011).

Determination of the density uncertainty

In this work, the precision in the density measurements was evaluated as combined standard uncertainty calculated using the procedures recommended by the designers of the apparatus (Bouchot and Richon, 1998):

$$u_c(\rho) = \left[\sum_{i=1}^{n} \left(\frac{\partial \rho}{\partial z_i}\right)^2 u^2(z_i)\right]^{1/2} \qquad (1)$$

being

n = number of variables on which the density depends

z_i = each variable of which the density is a function

$\left(\frac{\partial \rho}{\partial z_i}\right)$ = derivative of the density with respect to each variable

$u(z_i)$= uncertainty of each derivation variable

The density of any fluid measured in the installation is a function of the density of the reference fluid, CO_2 in this case, ρ_{ref}, of the period of vibration of the reference fluid, τ_{ref}, of the period of vibration of the vibrating tube under vacuum, τ_o, of the period of vibration of the fluid to be measured, τ, of the temperature, T, and of the pressure, p. Applying Equation (1) to the test fluid and the reference fluid, we obtain:

$$\rho(P,T) = \rho_{ref}(P,T)\frac{\left(\frac{K(P,T)}{K_0(T)}\right)\tau^2(P,T) - \tau_0^2(T)}{\left(\frac{K(P,T)}{K_0(T)}\right)\tau_{ref}^2(P,T) - \tau_0^2(T)} \qquad (2)$$

Where K (p, T) is the transverse stiffness of the vibrating tube at pressure p and at temperature T, and K_0 (T) is the transverse stiffness of the vibrating tube in vacuum and at temperature T, both related to the magnitudes that appear in Equation (1).

Therefore, it is necessary to derive (2) with respect to the indicated variables, to obtain the contributions of each of them to the uncertainty of the density.

The contributions of temperature and composition to $u_c(\rho)$ have not been considered, as these properties were the same along each experiment, as the authors of the installation do (Bouchot and Richon, 1998). For its part, the contribution of pressure turned out to be negligible with respect to the rest of the variables under the conditions of the experiments carried out in this work.

Table S1. $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty.

x_{CO_2} = 0.9206; x_{SO_2} = 0.0493; x_{CO} = 0.0301											
***T*= 263.14±0.01 K**			***T*= 273.14±0.01 K**			***T*= 293.15±0.03 K**			***T*= 304.20±0.01 K**		
p **(MPa)**	***ρ*** **(kg.m^{-3})**	***u*(*ρ*)** **(kg.m^{-3})**	***p*** **(MPa)**	***ρ*** **(kg.m^{-3})**	***u*(*ρ*)** **(kg.m^{-3})**	***p*** **(MPa)**	***ρ*** **(kg.m^{-3})**	***u*(*ρ*)** **(kg.m^{-3})**	***p*** **(MPa)**	***ρ*** **(kg.m^{-3})**	***u*(*ρ*)** **(kg.m^{-3})**
0.100	2.18	0.23	0.127	2.70	0.24	0.203	3.91	0.23	0.100	1.85	0.23
0.115	2.50	0.23	0.140	2.96	0.23	0.220	4.26	0.23	0.120	2.20	0.23
0.129	2.84	0.23	0.154	3.25	0.23	0.237	4.51	0.23	0.140	2.51	0.23
0.144	3.17	0.23	0.167	3.51	0.23	0.254	4.83	0.23	0.160	2.93	0.23
0.159	3.51	0.23	0.180	3.79	0.23	0.271	5.16	0.23	0.180	3.24	0.23
0.173	3.84	0.23	0.194	4.03	0.23	0.289	5.41	0.23	0.200	3.58	0.23
0.188	4.17	0.23	0.207	4.33	0.23	0.306	5.77	0.23	0.220	3.95	0.23
0.203	4.50	0.23	0.221	4.63	0.23	0.323	6.07	0.23	0.240	4.31	0.23
0.217	4.83	0.23	0.234	4.87	0.23	0.340	6.35	0.23	0.259	4.71	0.23
0.232	5.16	0.23	0.247	5.14	0.23	0.357	6.69	0.23	0.279	5.07	0.23
0.247	5.49	0.23	0.261	5.46	0.23	0.374	7.00	0.23	0.299	5.47	0.23
0.261	5.81	0.23	0.274	5.73	0.23	0.392	7.35	0.23	0.319	5.83	0.23
0.276	6.14	0.23	0.288	5.97	0.23	0.409	7.66	0.23	0.339	6.23	0.23
0.291	6.47	0.23	0.301	6.28	0.23	0.426	7.98	0.23	0.359	6.56	0.23
0.305	6.79	0.23	0.314	6.65	0.23	0.443	8.34	0.23	0.379	6.96	0.23
0.320	7.11	0.23	0.328	6.89	0.23	0.460	8.60	0.22	0.399	7.34	0.23
0.335	7.44	0.23	0.341	7.13	0.23	0.477	8.93	0.22	0.419	7.76	0.23
0.349	7.76	0.23	0.355	7.40	0.23	0.494	9.24	0.22	0.439	8.14	0.23
0.364	8.08	0.23	0.368	7.68	0.23	0.512	9.62	0.23	0.459	8.52	0.23
0.379	8.41	0.23	0.381	7.94	0.23	0.529	9.91	0.22	0.479	8.82	0.23
0.393	8.73	0.23	0.395	8.26	0.23	0.546	10.27	0.23	0.499	9.13	0.23
0.408	9.05	0.23	0.408	8.55	0.23	0.563	10.66	0.23	0.519	9.58	0.23
0.423	9.37	0.23	0.422	8.79	0.23	0.580	10.99	0.23	0.539	9.95	0.23
0.438	9.69	0.23	0.435	9.03	0.23	0.597	11.34	0.23	0.558	10.33	0.23
0.452	10.01	0.23	0.448	9.35	0.23	0.614	11.68	0.23	0.578	10.69	0.23
0.467	10.33	0.23	0.462	9.56	0.23	0.632	12.01	0.23	0.598	11.04	0.23
0.482	10.65	0.23	0.475	9.87	0.23	0.649	12.36	0.23	0.618	11.37	0.23
0.496	10.97	0.23	0.489	10.14	0.23	0.666	12.65	0.23	0.638	11.78	0.23
0.511	11.29	0.23	0.502	10.45	0.23	0.683	13.03	0.23	0.658	12.11	0.23
0.526	11.61	0.23	0.515	10.74	0.23	0.700	13.34	0.23	0.678	12.44	0.23
0.540	11.94	0.23	0.529	11.00	0.23	0.717	13.71	0.23	0.698	12.79	0.23
0.555	12.26	0.23	0.542	11.29	0.23	0.734	14.02	0.23	0.718	13.19	0.23
0.570	12.58	0.23	0.556	11.58	0.23	0.752	14.39	0.23	0.738	13.59	0.23
0.584	12.90	0.23	0.569	11.83	0.23	0.769	14.72	0.23	0.758	13.97	0.23
0.599	13.22	0.23	0.582	12.16	0.23	0.786	15.09	0.23	0.778	14.34	0.23

0.614	13.54	0.23	0.596	12.45	0.23	0.803	15.42	0.23	0.798	14.73	0.23
0.628	13.87	0.23	0.609	12.69	0.23	0.820	15.82	0.23	0.818	15.11	0.23
0.643	14.19	0.23	0.623	13.02	0.23	0.837	16.14	0.23	0.838	15.44	0.23
0.658	14.51	0.23	0.636	13.33	0.23	0.855	16.45	0.23	0.857	15.76	0.23
0.672	14.84	0.23	0.649	13.64	0.23	0.872	16.86	0.23	0.877	16.16	0.23
0.687	15.16	0.23	0.663	13.98	0.23	0.889	17.18	0.23	0.897	16.55	0.23
0.702	15.49	0.23	0.676	14.27	0.23	0.906	17.52	0.23	0.917	16.93	0.23
0.716	15.82	0.23	0.690	14.52	0.23	0.923	17.90	0.23	0.937	17.31	0.23
0.731	16.17	0.23	0.703	14.86	0.23	0.940	18.26	0.23	0.957	17.74	0.23
0.746	16.51	0.23	0.716	15.11	0.23	0.957	18.59	0.23	0.977	18.10	0.23
0.760	16.85	0.23	0.730	15.39	0.23	0.975	18.92	0.23	0.997	18.54	0.23
0.775	17.19	0.23	0.743	15.73	0.23	0.992	19.26	0.23	1.017	18.92	0.23
0.790	17.53	0.23	0.757	16.04	0.23	1.009	19.56	0.23	1.037	19.32	0.23
0.804	17.87	0.23	0.770	16.29	0.23	1.026	19.94	0.23	1.057	19.72	0.23
0.819	18.22	0.23	0.784	16.61	0.23	1.043	20.29	0.23	1.077	20.10	0.23
0.834	18.56	0.23	0.797	16.96	0.23	1.060	20.65	0.23	1.097	20.46	0.23
0.848	18.90	0.23	0.810	17.31	0.23	1.077	21.00	0.23	1.117	20.88	0.23
0.863	19.25	0.23	0.824	17.61	0.23	1.095	21.37	0.23	1.137	21.26	0.23
0.878	19.59	0.23	0.837	17.87	0.23	1.112	21.70	0.23	1.156	21.62	0.23
0.892	19.94	0.23	0.851	18.12	0.23	1.129	22.04	0.23	1.176	22.01	0.23
0.907	20.29	0.23	0.864	18.36	0.23	1.146	22.46	0.23	1.196	22.32	0.22
0.922	20.63	0.23	0.877	18.71	0.23	1.163	22.81	0.23	1.216	22.71	0.22
0.936	20.98	0.23	0.891	19.02	0.23	1.180	23.17	0.23	1.236	23.11	0.22
0.951	21.33	0.23	0.904	19.27	0.23	1.198	23.57	0.23	1.256	23.53	0.23
0.966	21.68	0.23	0.918	19.60	0.23	1.215	23.91	0.23	1.276	23.93	0.23
0.980	22.03	0.23	0.931	19.95	0.23	1.232	24.25	0.23	1.296	24.32	0.23
0.995	22.38	0.23	0.944	20.22	0.23	1.249	24.66	0.23	1.316	24.76	0.23
1.010	22.73	0.23	0.958	20.54	0.23	1.266	25.05	0.23	1.336	25.13	0.23
1.025	23.08	0.23	0.971	20.82	0.23	1.283	25.39	0.23	1.356	25.54	0.23
1.039	23.44	0.23	0.985	21.09	0.23	1.300	25.78	0.23	1.376	25.97	0.23
1.054	23.79	0.23	0.998	21.40	0.23	1.318	26.11	0.23	1.396	26.33	0.23
1.069	24.15	0.23	1.011	21.71	0.23	1.335	26.53	0.23	1.416	26.75	0.23
1.083	24.50	0.23	1.025	22.01	0.23	1.352	26.82	0.23	1.436	27.17	0.23
1.098	24.86	0.23	1.038	22.27	0.23	1.369	27.13	0.23	1.455	27.60	0.23
1.113	25.22	0.23	1.052	22.62	0.23	1.386	27.50	0.23	1.475	27.99	0.23
1.127	25.58	0.23	1.065	22.90	0.23	1.403	27.95	0.23	1.495	28.43	0.23
1.142	25.94	0.23	1.078	23.21	0.23	1.420	28.26	0.23	1.515	28.84	0.23
1.157	26.31	0.23	1.092	23.54	0.23	1.438	28.59	0.23	1.535	29.24	0.23
1.171	26.67	0.23	1.105	23.88	0.23	1.455	29.01	0.23	1.555	29.65	0.23
1.186	27.04	0.23	1.119	24.15	0.23	1.472	29.38	0.23	1.575	30.05	0.23
1.201	27.41	0.23	1.132	24.46	0.23	1.489	29.75	0.23	1.595	30.48	0.23
1.215	27.78	0.23	1.145	24.78	0.23	1.506	30.11	0.23	1.615	30.90	0.23
1.230	28.15	0.23	1.159	25.12	0.23	1.523	30.47	0.23	1.635	31.32	0.23
1.245	28.52	0.23	1.172	25.52	0.23	1.540	30.87	0.23	1.655	31.76	0.23
1.259	28.90	0.23	1.186	25.85	0.23	1.558	31.21	0.23	1.675	32.16	0.23

1.274	29.28	0.23	1.199	26.07	0.23	1.575	31.63	0.23	1.695	32.57	0.23
1.289	29.66	0.23	1.212	26.44	0.23	1.592	32.03	0.23	1.715	32.99	0.23
1.303	30.04	0.23	1.226	26.70	0.23	1.609	32.42	0.23	1.735	33.46	0.23
1.318	30.43	0.23	1.239	27.03	0.23	1.626	32.83	0.23	1.754	33.85	0.23
1.333	30.81	0.23	1.253	27.37	0.23	1.643	33.23	0.23	1.774	34.31	0.23
1.347	31.20	0.23	1.266	27.60	0.23	1.661	33.57	0.23	1.794	34.70	0.23
1.362	31.60	0.23	1.279	27.94	0.23	1.678	34.00	0.23	1.814	35.18	0.23
1.377	31.99	0.23	1.293	28.23	0.23	1.695	34.37	0.23	1.834	35.59	0.23
1.391	32.39	0.23	1.306	28.55	0.23	1.712	34.79	0.23	1.854	36.03	0.23
1.406	32.79	0.23	1.320	28.92	0.23	1.729	35.20	0.23	1.874	36.45	0.23
1.421	33.20	0.23	1.333	29.23	0.23	1.746	35.59	0.23	1.894	36.89	0.23
1.435	33.61	0.23	1.346	29.56	0.23	1.763	35.99	0.23	1.914	37.35	0.23
1.450	34.02	0.23	1.360	29.89	0.23	1.781	36.33	0.23	1.934	37.80	0.23
1.465	34.43	0.23	1.373	30.23	0.23	1.798	36.72	0.23	1.954	38.19	0.23
1.479	34.85	0.23	1.387	30.55	0.23	1.815	37.15	0.23	1.974	38.67	0.23
1.494	35.27	0.23	1.400	30.90	0.23	1.832	37.56	0.23	1.994	39.08	0.23
			1.413	31.25	0.23	1.849	37.93	0.23	2.014	39.56	0.23
			1.427	31.61	0.23	1.866	38.37	0.23	2.034	40.00	0.23
			1.440	32.09	0.23	1.883	38.74	0.23	2.053	40.42	0.23
			1.454	32.48	0.23	1.901	39.16	0.23	2.073	40.86	0.23
			1.467	32.79	0.23	1.918	39.57	0.23	2.093	41.32	0.23
			1.480	33.11	0.23	1.935	39.95	0.23	2.113	41.80	0.23
			1.494	33.43	0.23	1.952	40.34	0.23	2.133	42.25	0.23
			1.507	33.78	0.23	1.969	40.74	0.23	2.153	42.67	0.23
			1.521	34.11	0.23	1.986	41.13	0.23	2.173	43.14	0.23
			1.534	34.43	0.23	2.003	41.55	0.23	2.193	43.59	0.23
			1.547	34.76	0.23	2.021	41.97	0.23	2.213	44.04	0.23
			1.561	35.11	0.23	2.038	42.40	0.23	2.233	44.44	0.23
			1.574	35.41	0.23	2.055	42.84	0.23	2.253	44.90	0.23
			1.588	35.79	0.23	2.072	43.21	0.23	2.273	45.38	0.23
			1.601	36.23	0.23	2.089	43.67	0.23	2.293	45.84	0.23
			1.614	36.56	0.23	2.106	44.04	0.23	2.313	46.27	0.23
			1.628	36.86	0.23	2.124	44.50	0.23	2.333	46.77	0.23
			1.641	37.20	0.23	2.141	44.92	0.23	2.352	47.18	0.23
			1.655	37.51	0.23	2.158	45.32	0.23	2.372	47.70	0.23
			1.668	37.89	0.23	2.175	45.77	0.23	2.392	48.14	0.23
			1.681	38.21	0.23	2.192	46.16	0.23	2.412	48.61	0.23
			1.695	38.55	0.23	2.209	46.62	0.23	2.432	49.09	0.23
			1.708	38.91	0.23	2.226	47.01	0.23	2.452	49.55	0.23
			1.722	39.31	0.23	2.244	47.48	0.23	2.472	50.04	0.23
			1.735	39.73	0.23	2.261	47.89	0.23	2.492	50.49	0.23
			1.748	40.05	0.23	2.278	48.31	0.23	2.512	50.96	0.23
			1.762	40.32	0.23	2.295	48.74	0.23	2.532	51.46	0.23
			1.775	40.67	0.23	2.312	49.16	0.23	2.552	51.88	0.23
			1.789	40.96	0.23	2.329	49.61	0.23	2.572	52.41	0.23

			1.802	41.34	0.23	2.346	50.06	0.23	2.592	52.88	0.23
			1.815	41.63	0.23	2.364	50.50	0.23	2.612	53.35	0.23
			1.829	42.00	0.23	2.381	50.90	0.23	2.632	53.83	0.23
			1.842	42.31	0.23	2.398	51.37	0.23	2.651	54.36	0.23
			1.856	42.68	0.23	2.415	51.78	0.23	2.671	54.80	0.23
			1.869	43.04	0.23	2.432	52.20	0.23	2.691	55.31	0.23
			1.882	43.41	0.23	2.449	52.70	0.23	2.711	55.76	0.23
			1.896	43.92	0.23	2.467	53.11	0.23	2.731	56.28	0.23
			1.909	44.31	0.23	2.484	53.57	0.23	2.751	56.80	0.23
			1.923	44.69	0.23	2.501	54.04	0.23	2.771	57.26	0.23
			1.936	45.06	0.23	2.518	54.48	0.23	2.791	57.78	0.23
			1.949	45.46	0.23	2.535	54.94	0.23	2.811	58.25	0.23
			1.963	45.88	0.23	2.552	55.41	0.23	2.831	58.73	0.23
			1.976	46.27	0.23	2.569	55.88	0.23	2.851	59.28	0.23
			1.990	46.67	0.23	2.587	56.33	0.23	2.871	59.79	0.23
			2.003	47.01	0.23	2.604	56.76	0.23	2.891	60.30	0.23
			2.016	47.41	0.23	2.621	57.20	0.23	2.911	60.75	0.23
			2.030	47.72	0.23	2.638	57.65	0.23	2.931	61.27	0.23
			2.043	48.10	0.23	2.655	58.11	0.23	2.950	61.79	0.23
			2.057	48.52	0.23	2.672	58.58	0.23	2.970	62.34	0.23
			2.070	48.87	0.23	2.689	59.08	0.23	2.990	62.84	0.23
			2.083	49.29	0.23	2.707	59.55	0.23	3.010	63.35	0.23
			2.097	49.65	0.23	2.724	60.00	0.23	3.030	63.87	0.23
			2.110	50.02	0.23	2.741	60.48	0.23	3.050	64.38	0.23
			2.124	50.44	0.23	2.758	60.92	0.23	3.070	64.92	0.23
			2.137	50.87	0.23	2.775	61.37	0.23	3.090	65.38	0.23
			2.151	51.32	0.23	2.792	61.89	0.23	3.110	65.94	0.23
			2.164	51.67	0.23	2.809	62.38	0.23	3.130	66.45	0.23
			2.177	52.03	0.23	2.827	62.79	0.23	3.150	66.95	0.23
			2.191	52.43	0.23	2.844	63.27	0.23	3.170	67.48	0.23
			2.204	52.87	0.23	2.861	63.77	0.23	3.190	68.02	0.23
			2.218	53.28	0.23	2.878	64.29	0.23	3.210	68.54	0.23
			2.231	53.74	0.23	2.895	64.75	0.23	3.229	69.07	0.23
						2.912	65.22	0.23	3.249	69.59	0.23
						2.930	65.67	0.23	3.269	70.14	0.23
						2.947	66.21	0.23	3.289	70.70	0.23
						2.964	66.64	0.23	3.309	71.19	0.23
						2.981	67.17	0.23	3.329	71.75	0.23
						2.998	67.69	0.23	3.349	72.26	0.23
						3.015	68.17	0.23	3.369	72.87	0.23
						3.032	68.66	0.23	3.389	73.40	0.23
						3.050	69.12	0.23	3.409	73.95	0.23
						3.067	69.63	0.23	3.429	74.50	0.23
						3.084	70.16	0.23	3.449	75.03	0.23
						3.101	70.61	0.23	3.469	75.61	0.23

						3.118	71.11	0.23	3.489	76.19	0.23
						3.135	71.65	0.23	3.509	76.77	0.23
						3.152	72.16	0.23	3.528	77.35	0.23
						3.170	72.63	0.23	3.548	77.90	0.23
						3.187	73.15	0.23	3.568	78.46	0.23
						3.204	73.69	0.23	3.588	79.05	0.23
						3.221	74.25	0.23	3.608	79.66	0.23
						3.238	74.75	0.23	3.628	80.21	0.23
						3.255	75.24	0.23	3.648	80.76	0.23
						3.272	75.76	0.23	3.668	81.32	0.23
						3.290	76.28	0.23	3.688	81.91	0.23
						3.307	76.81	0.23	3.708	82.54	0.23
						3.324	77.36	0.23	3.728	83.12	0.23
						3.341	77.88	0.23	3.748	83.69	0.23
						3.358	78.44	0.23	3.768	84.32	0.23
						3.375	78.94	0.23	3.788	84.92	0.23
						3.393	79.47	0.23	3.808	85.46	0.23
						3.410	80.02	0.23	3.827	86.08	0.23
						3.427	80.61	0.23	3.847	86.68	0.23
						3.444	81.11	0.23	3.867	87.27	0.23
						3.461	81.70	0.23	3.887	87.88	0.23
						3.478	82.26	0.23	3.907	88.50	0.23
						3.495	82.81	0.23	3.927	89.14	0.23
						3.513	83.36	0.23	3.947	89.79	0.23
						3.530	83.93	0.23	3.967	90.34	0.23
						3.547	84.50	0.23	3.987	91.00	0.23
						3.564	85.03	0.23	4.007	91.60	0.23
						3.581	85.64	0.23	4.027	92.27	0.23
						3.598	86.17	0.23	4.047	92.84	0.23
						3.615	86.74	0.23	4.067	93.54	0.23
						3.633	87.35	0.23	4.087	94.16	0.23
						3.650	87.93	0.23	4.107	94.78	0.23
						3.667	88.54	0.23	4.126	95.41	0.23
						3.684	89.13	0.23	4.146	96.04	0.23
						3.701	89.72	0.23	4.166	96.77	0.23
						3.718	90.32	0.23	4.186	97.36	0.23
						3.736	90.93	0.23	4.206	98.01	0.23
						3.753	91.49	0.23	4.226	98.67	0.23
						3.770	92.12	0.23	4.246	99.35	0.23
						3.787	92.76	0.23	4.266	100.03	0.23
						3.804	93.36	0.23	4.286	100.70	0.23
						3.821	93.96	0.23	4.306	101.39	0.23
						3.838	94.56	0.23	4.326	102.09	0.23
						3.856	95.20	0.23	4.346	102.70	0.23
						3.873	95.80	0.23	4.366	103.41	0.23

						3.890	96.42	0.23	4.386	104.04	0.23
						3.907	97.09	0.23	4.406	104.78	0.23
						3.924	97.75	0.23	4.425	105.48	0.23
						3.941	98.36	0.23	4.445	106.18	0.23
						3.958	98.99	0.23	4.465	106.89	0.23
						3.976	99.63	0.23	4.485	107.57	0.23
						3.993	100.29	0.23	4.505	108.32	0.23
						4.010	100.90	0.23	4.525	108.99	0.23
						4.027	101.59	0.23	4.545	109.73	0.23
						4.044	102.24	0.23	4.565	110.45	0.23
						4.061	102.91	0.23	4.585	111.16	0.23
						4.078	103.57	0.23	4.605	111.89	0.23
						4.096	104.24	0.23	4.625	112.61	0.23
						4.113	104.93	0.23	4.645	113.39	0.23
						4.130	105.63	0.23	4.665	114.11	0.23
						4.147	106.30	0.23	4.685	114.85	0.23
						4.164	106.98	0.23	4.705	115.62	0.23
						4.181	107.67	0.23	4.724	116.37	0.23
						4.199	108.40	0.23	4.744	117.15	0.23
						4.216	109.14	0.23	4.764	117.94	0.23
						4.233	109.82	0.23	4.784	118.64	0.23
						4.250	110.53	0.23	4.804	119.45	0.23
						4.267	111.26	0.23	4.824	120.21	0.23
						4.284	112.01	0.23	4.844	121.03	0.23
						4.301	112.86	0.23	4.864	121.82	0.23
						4.319	113.67	0.23	4.884	122.59	0.23
						4.336	114.58	0.23	4.904	123.39	0.23
									4.924	124.17	0.23
									4.944	124.98	0.23
									4.964	125.85	0.23
									4.984	126.64	0.23
									5.004	127.49	0.23
									5.023	128.32	0.23
									5.043	129.17	0.23
									5.063	130.01	0.23
									5.083	130.81	0.23
									5.103	131.70	0.23
									5.123	132.53	0.23
									5.143	133.44	0.23
									5.163	134.30	0.23
									5.183	135.14	0.23
									5.203	136.04	0.23
									5.223	136.94	0.23
									5.243	137.85	0.23
									5.263	138.72	0.23

									5.283	139.69	0.23
									5.303	140.57	0.23
									5.322	141.45	0.23
									5.342	142.45	0.23
									5.362	143.42	0.23
									5.382	144.33	0.23
									5.402	145.28	0.23
									5.422	146.31	0.23
									5.442	147.29	0.23
									5.462	148.24	0.23
									5.482	149.23	0.23
									5.502	150.22	0.23
									5.522	151.27	0.23
									5.542	152.30	0.24
									5.562	153.36	0.24
									5.582	154.40	0.24
									5.602	155.42	0.24
									5.621	156.50	0.24
									5.641	157.56	0.24
									5.661	158.68	0.24
									5.681	159.77	0.24
									5.701	160.89	0.24
									5.721	162.01	0.24
									5.741	163.16	0.24
									5.761	164.34	0.24
									5.781	165.47	0.24
									5.801	166.69	0.24
									5.821	167.86	0.24
									5.841	169.10	0.24
									5.861	170.25	0.24
									5.881	171.56	0.24
									5.901	172.82	0.24
									5.920	174.08	0.24
									5.940	175.37	0.24
									5.960	176.72	0.24
									5.980	178.06	0.24
									6.000	179.49	0.24
									6.020	180.90	0.24
									6.040	182.45	0.24

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S1 (continued). $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty.

x_{CO_2} = 0.9206; x_{SO_2} = 0.0493; x_{CO} = 0.0301											
***T*= 263.13±0.03 K**			***T*= 273.13±0.02 K**			***T*= 293.15±0.01K**			***T*= 304.24±0.02 K**		
p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})
3.875	999.39	0.38	4.609	952.48	0.37	6.538	814.11	0.34	7.764	695.92	0.32
3.893	999.55	0.38	4.627	952.74	0.37	6.556	814.48	0.34	7.781	697.24	0.32
3.911	999.67	0.38	4.646	952.95	0.37	6.574	814.85	0.34	7.799	698.42	0.32
3.929	999.76	0.38	4.664	953.13	0.37	6.592	815.33	0.34	7.817	699.54	0.32
3.947	999.90	0.38	4.682	953.32	0.37	6.610	815.69	0.34	7.835	700.73	0.32
3.965	999.99	0.38	4.701	953.48	0.37	6.628	816.11	0.34	7.852	701.95	0.32
3.983	1000.14	0.38	4.719	953.61	0.37	6.646	816.43	0.34	7.870	703.19	0.32
4.001	1000.23	0.38	4.738	953.77	0.37	6.664	816.91	0.34	7.888	704.44	0.32
4.019	1000.39	0.38	4.756	953.96	0.37	6.682	817.37	0.34	7.906	705.63	0.32
4.037	1000.47	0.38	4.774	954.09	0.37	6.700	817.78	0.34	7.923	706.70	0.32
4.055	1000.63	0.38	4.793	954.30	0.37	6.718	818.14	0.34	7.941	707.83	0.32
4.073	1000.72	0.38	4.811	954.47	0.37	6.736	818.56	0.34	7.959	708.82	0.32
4.091	1000.80	0.38	4.830	954.63	0.37	6.754	818.91	0.34	7.977	709.86	0.32
4.109	1000.97	0.38	4.848	954.80	0.37	6.772	819.33	0.34	7.994	710.94	0.32
4.127	1001.05	0.38	4.866	954.96	0.37	6.790	819.72	0.34	8.012	711.97	0.32
4.145	1001.18	0.38	4.885	955.13	0.37	6.808	820.06	0.34	8.030	713.00	0.32
4.163	1001.30	0.38	4.903	955.31	0.37	6.826	820.45	0.34	8.048	714.00	0.32
4.181	1001.38	0.38	4.921	955.47	0.37	6.844	820.80	0.34	8.066	714.97	0.32
4.199	1001.52	0.38	4.940	955.64	0.37	6.862	821.13	0.34	8.083	715.96	0.32
4.217	1001.63	0.38	4.958	955.78	0.37	6.880	821.50	0.34	8.101	716.90	0.32
4.235	1001.71	0.38	4.977	955.91	0.37	6.898	821.83	0.34	8.119	717.90	0.32
4.253	1001.80	0.38	4.995	956.11	0.37	6.916	822.19	0.34	8.137	718.79	0.32
4.271	1001.96	0.38	5.013	956.19	0.37	6.934	822.60	0.34	8.154	719.71	0.32
4.289	1002.04	0.38	5.032	956.35	0.37	6.952	822.98	0.34	8.172	720.59	0.32
4.308	1002.20	0.38	5.050	956.51	0.37	6.970	823.37	0.34	8.190	721.50	0.32
4.326	1002.28	0.38	5.069	956.66	0.37	6.988	823.65	0.34	8.208	722.32	0.32
4.344	1002.37	0.38	5.087	956.77	0.37	7.005	824.01	0.34	8.225	723.18	0.32
4.362	1002.53	0.38	5.105	956.90	0.37	7.023	824.40	0.34	8.243	723.97	0.32
4.380	1002.61	0.38	5.124	957.04	0.37	7.041	824.75	0.34	8.261	724.90	0.32
4.398	1002.70	0.38	5.142	957.18	0.37	7.059	825.07	0.34	8.279	725.67	0.32
4.416	1002.78	0.38	5.161	957.32	0.37	7.077	825.45	0.34	8.296	726.56	0.32
4.434	1002.91	0.38	5.179	957.46	0.37	7.095	825.83	0.34	8.314	727.44	0.32
4.452	1002.98	0.38	5.197	957.58	0.37	7.113	826.14	0.34	8.332	728.27	0.32
4.470	1003.09	0.38	5.216	957.75	0.37	7.131	826.50	0.34	8.350	729.00	0.32
4.488	1003.19	0.38	5.234	957.92	0.37	7.149	826.86	0.34	8.367	729.74	0.32

4.506	1003.27	0.38	5.252	958.00	0.37	7.167	827.20	0.34	8.385	730.56	0.32
4.524	1003.35	0.38	5.271	958.16	0.37	7.185	827.54	0.34	8.403	731.27	0.32
4.542	1003.43	0.38	5.289	958.25	0.37	7.203	827.83	0.34	8.421	732.06	0.32
4.560	1003.52	0.38	5.308	958.42	0.37	7.221	828.19	0.34	8.438	732.80	0.32
4.578	1003.63	0.38	5.326	958.57	0.37	7.239	828.55	0.34	8.456	733.49	0.32
4.596	1003.76	0.38	5.344	958.74	0.37	7.257	828.88	0.34	8.474	734.25	0.32
4.614	1003.85	0.38	5.363	958.86	0.37	7.275	829.22	0.34	8.492	734.93	0.32
4.632	1003.93	0.38	5.381	959.00	0.37	7.293	829.55	0.34	8.510	735.68	0.32
4.650	1004.03	0.38	5.400	959.16	0.37	7.311	829.80	0.34	8.527	736.42	0.32
4.668	1004.18	0.38	5.418	959.30	0.37	7.329	830.14	0.34	8.545	737.09	0.32
4.686	1004.19	0.38	5.436	959.39	0.37	7.347	830.49	0.34	8.563	737.85	0.32
4.704	1004.34	0.38	5.455	959.57	0.37	7.365	830.83	0.34	8.581	738.54	0.32
4.722	1004.42	0.38	5.473	959.69	0.37	7.383	831.15	0.34	8.598	739.22	0.32
4.740	1004.51	0.38	5.491	959.83	0.37	7.401	831.46	0.34	8.616	739.91	0.32
4.758	1004.80	0.38	5.510	959.97	0.37	7.419	831.78	0.34	8.634	740.59	0.32
4.776	1004.84	0.38	5.528	960.09	0.37	7.437	832.14	0.34	8.652	741.25	0.32
4.794	1004.94	0.38	5.547	960.24	0.37	7.455	832.46	0.34	8.669	741.89	0.32
4.812	1005.12	0.38	5.565	960.38	0.37	7.473	832.75	0.34	8.687	742.55	0.32
4.830	1005.23	0.38	5.583	960.46	0.37	7.491	833.07	0.34	8.705	743.20	0.32
4.848	1005.33	0.38	5.602	960.63	0.37	7.509	833.40	0.34	8.723	743.87	0.32
4.866	1005.43	0.38	5.620	960.71	0.37	7.527	833.71	0.34	8.740	744.50	0.32
4.884	1005.50	0.38	5.639	960.89	0.37	7.545	833.97	0.34	8.758	745.09	0.32
4.902	1005.61	0.38	5.657	961.04	0.37	7.563	834.31	0.34	8.776	745.70	0.32
4.920	1005.74	0.38	5.675	961.13	0.37	7.581	834.61	0.34	8.794	746.38	0.32
4.938	1005.82	0.38	5.694	961.28	0.37	7.599	834.92	0.34	8.811	746.97	0.32
4.956	1005.95	0.38	5.712	961.41	0.37	7.617	835.21	0.34	8.829	747.56	0.33
4.974	1006.06	0.38	5.731	961.55	0.37	7.635	835.56	0.34	8.847	748.16	0.33
4.992	1006.09	0.38	5.749	961.69	0.37	7.653	835.84	0.34	8.865	748.78	0.33
5.010	1006.23	0.38	5.767	961.86	0.37	7.671	836.11	0.34	8.882	749.34	0.33
5.028	1006.31	0.38	5.786	961.94	0.37	7.688	836.47	0.34	8.900	749.95	0.33
5.046	1006.46	0.38	5.804	962.10	0.37	7.706	836.72	0.34	8.918	750.54	0.33
5.064	1006.52	0.38	5.822	962.23	0.37	7.724	837.05	0.34	8.936	751.10	0.33
5.082	1006.64	0.38	5.841	962.35	0.37	7.742	837.32	0.34	8.953	751.67	0.33
5.100	1006.74	0.38	5.859	962.50	0.37	7.760	837.64	0.34	8.971	752.26	0.33
5.118	1006.85	0.38	5.878	962.59	0.37	7.778	837.91	0.34	8.989	752.83	0.33
5.136	1006.91	0.38	5.896	962.74	0.37	7.796	838.26	0.34	9.007	753.42	0.33
5.154	1006.97	0.38	5.914	962.85	0.37	7.814	838.52	0.34	9.025	753.98	0.33
5.172	1007.12	0.38	5.933	963.00	0.37	7.832	838.80	0.34	9.042	754.54	0.33
5.190	1007.21	0.38	5.951	963.14	0.37	7.850	839.12	0.34	9.060	755.09	0.33
5.208	1007.30	0.38	5.970	963.25	0.37	7.868	839.36	0.34	9.078	755.64	0.33
5.226	1007.43	0.38	5.988	963.41	0.37	7.886	839.68	0.34	9.096	756.21	0.33
5.244	1007.54	0.38	6.006	963.52	0.37	7.904	839.94	0.34	9.113	756.73	0.33
5.262	1007.61	0.38	6.025	963.66	0.37	7.922	840.26	0.34	9.131	757.30	0.33
5.280	1007.71	0.38	6.043	963.79	0.37	7.940	840.57	0.34	9.149	757.82	0.33
5.298	1007.82	0.38	6.062	963.91	0.37	7.958	840.85	0.34	9.167	758.39	0.33

5.316	1007.96	0.38	6.080	964.07	0.37	7.976	841.10	0.34	9.184	758.92	0.33
5.334	1008.02	0.38	6.098	964.18	0.37	7.994	841.42	0.34	9.202	759.45	0.33
5.352	1008.12	0.38	6.117	964.30	0.37	8.012	841.68	0.34	9.220	759.97	0.33
5.370	1008.23	0.38	6.135	964.40	0.37	8.030	841.99	0.34	9.238	760.49	0.33
5.389	1008.29	0.38	6.153	964.56	0.37	8.048	842.23	0.34	9.255	761.00	0.33
5.407	1008.42	0.38	6.172	964.70	0.37	8.066	842.50	0.34	9.273	761.51	0.33
5.425	1008.53	0.38	6.190	964.81	0.37	8.084	842.78	0.34	9.291	762.03	0.33
5.443	1008.59	0.38	6.209	964.97	0.37	8.102	843.01	0.34	9.309	762.54	0.33
5.461	1008.72	0.38	6.227	965.08	0.37	8.120	843.34	0.35	9.326	763.02	0.33
5.479	1008.78	0.38	6.245	965.22	0.37	8.138	843.60	0.35	9.344	763.54	0.33
5.497	1008.90	0.38	6.264	965.30	0.37	8.156	843.91	0.35	9.362	764.03	0.33
5.515	1009.03	0.38	6.282	965.46	0.37	8.174	844.14	0.35	9.380	764.49	0.33
5.533	1009.08	0.38	6.301	965.56	0.37	8.192	844.45	0.35	9.397	765.02	0.33
5.551	1009.19	0.38	6.319	965.73	0.37	8.210	844.69	0.35	9.415	765.51	0.33
5.569	1009.30	0.38	6.337	965.85	0.37	8.228	844.95	0.35	9.433	765.97	0.33
5.587	1009.36	0.38	6.356	965.95	0.37	8.246	845.21	0.35	9.451	766.51	0.33
5.605	1009.52	0.38	6.374	966.12	0.37	8.264	845.52	0.35	9.469	766.97	0.33
5.623	1009.58	0.38	6.393	966.20	0.37	8.282	845.74	0.35	9.486	767.48	0.33
5.641	1009.71	0.38	6.411	966.36	0.37	8.300	846.02	0.35	9.504	767.91	0.33
5.659	1009.77	0.38	6.429	966.45	0.37	8.318	846.32	0.35	9.522	768.40	0.33
5.677	1009.87	0.38	6.448	966.61	0.37	8.336	846.58	0.35	9.540	768.84	0.33
5.695	1009.99	0.38	6.466	966.69	0.37	8.353	846.86	0.35	9.557	769.32	0.33
5.713	1010.10	0.38	6.484	966.83	0.37	8.371	847.08	0.35	9.575	769.83	0.33
5.731	1010.15	0.38	6.503	966.99	0.37	8.389	847.36	0.35	9.593	770.30	0.33
5.749	1010.27	0.38	6.521	967.10	0.37	8.407	847.61	0.35	9.611	770.72	0.33
5.767	1010.38	0.38	6.540	967.24	0.37	8.425	847.91	0.35	9.628	771.21	0.33
5.785	1010.50	0.38	6.558	967.35	0.37	8.443	848.14	0.35	9.646	771.69	0.33
5.803	1010.54	0.38	6.576	967.50	0.37	8.461	848.41	0.35	9.664	772.09	0.33
5.821	1010.66	0.38	6.595	967.59	0.37	8.479	848.67	0.35	9.682	772.55	0.33
5.839	1010.77	0.38	6.613	967.75	0.37	8.497	848.90	0.35	9.699	773.00	0.33
5.857	1010.88	0.38	6.632	967.84	0.37	8.515	849.18	0.35	9.717	773.43	0.33
5.875	1010.92	0.38	6.650	967.96	0.37	8.533	849.41	0.35	9.735	773.86	0.33
5.893	1011.01	0.38	6.668	968.10	0.37	8.551	849.67	0.35	9.753	774.33	0.33
5.911	1011.11	0.38	6.687	968.25	0.37	8.569	849.95	0.35	9.770	774.78	0.33
5.929	1011.21	0.38	6.705	968.33	0.37	8.587	850.14	0.35	9.788	775.21	0.33
5.947	1011.31	0.38	6.724	968.46	0.37	8.605	850.44	0.35	9.806	775.64	0.33
5.965	1011.42	0.38	6.742	968.59	0.37	8.623	850.69	0.35	9.824	776.11	0.33
5.983	1011.52	0.38	6.760	968.74	0.37	8.641	850.92	0.35	9.841	776.54	0.33
6.001	1011.62	0.38	6.779	968.86	0.37	8.659	851.15	0.35	9.859	776.98	0.33
6.019	1011.72	0.38	6.797	968.99	0.37	8.677	851.41	0.35	9.877	777.39	0.33
6.037	1011.82	0.38	6.815	969.07	0.37	8.695	851.68	0.35	9.895	777.78	0.33
6.055	1011.84	0.38	6.834	969.23	0.37	8.713	851.88	0.35	9.913	778.21	0.33
6.073	1011.93	0.38	6.852	969.31	0.37	8.731	852.16	0.35	9.930	778.61	0.33
6.091	1012.02	0.38	6.871	969.48	0.37	8.749	852.40	0.35	9.948	779.03	0.33
6.109	1012.12	0.38	6.889	969.60	0.37	8.767	852.66	0.35	9.966	779.45	0.33

6.127	1012.23	0.38	6.907	969.71	0.37	8.785	852.88	0.35	9.984	779.84	0.33
6.145	1012.34	0.38	6.926	969.82	0.38	8.803	853.15	0.35	10.001	780.27	0.33
6.163	1012.44	0.38	6.944	969.94	0.38	8.821	853.35	0.35	10.019	780.69	0.33
6.181	1012.54	0.38	6.963	970.05	0.38	8.839	853.60	0.35	10.037	781.03	0.33
6.199	1012.64	0.38	6.981	970.22	0.38	8.857	853.82	0.35	10.055	781.44	0.33
6.217	1012.73	0.38	6.999	970.30	0.38	8.875	854.09	0.35	10.072	781.82	0.33
6.235	1012.82	0.38	7.018	970.46	0.38	8.893	854.31	0.35	10.090	782.22	0.33
6.253	1012.91	0.38	7.036	970.56	0.38	8.911	854.52	0.35	10.108	782.62	0.33
6.271	1013.00	0.38	7.055	970.70	0.38	8.929	854.77	0.35	10.126	783.00	0.33
6.289	1013.10	0.38	7.073	970.83	0.38	8.947	854.97	0.35	10.143	783.39	0.33
6.307	1013.14	0.38	7.091	970.95	0.38	8.965	855.21	0.35	10.161	783.80	0.33
6.325	1013.21	0.38	7.110	971.07	0.38	8.983	855.46	0.35	10.179	784.20	0.33
6.343	1013.31	0.38	7.128	971.20	0.38	9.001	855.71	0.35	10.197	784.60	0.33
6.361	1013.40	0.38	7.146	971.28	0.38	9.018	855.90	0.35	10.214	784.97	0.33
6.379	1013.49	0.39	7.165	971.45	0.38	9.036	856.14	0.35	10.232	785.30	0.33
6.397	1013.58	0.39	7.183	971.53	0.38	9.054	856.39	0.35	10.250	785.68	0.33
6.415	1013.67	0.39	7.202	971.69	0.38	9.072	856.56	0.35	10.268	786.06	0.33
6.433	1013.75	0.39	7.220	971.83	0.38	9.090	856.80	0.35	10.285	786.43	0.33
6.451	1013.87	0.39	7.238	971.94	0.38	9.108	857.05	0.35	10.303	786.79	0.33
6.470	1014.00	0.39	7.257	972.04	0.38	9.126	857.23	0.35	10.321	787.16	0.33
6.488	1014.04	0.39	7.275	972.14	0.38	9.144	857.48	0.35	10.339	787.54	0.33
6.506	1014.13	0.39	7.294	972.33	0.38	9.162	857.72	0.35	10.357	787.92	0.33
6.524	1014.21	0.39	7.312	972.43	0.38	9.180	857.89	0.35	10.374	788.28	0.33
6.542	1014.25	0.39	7.330	972.55	0.38	9.198	858.15	0.35	10.392	788.63	0.33
6.560	1014.37	0.39	7.349	972.65	0.38	9.216	858.39	0.35	10.410	788.98	0.33
6.578	1014.51	0.39	7.367	972.76	0.38	9.234	858.56	0.35	10.428	789.33	0.33
6.596	1014.56	0.39	7.386	972.91	0.38	9.252	858.80	0.35	10.445	789.68	0.33
6.614	1014.69	0.39	7.404	973.00	0.38	9.270	858.98	0.35	10.463	790.01	0.33
6.632	1014.76	0.39	7.422	973.17	0.38	9.288	859.21	0.35	10.481	790.35	0.33
6.650	1014.83	0.39	7.441	973.26	0.38	9.306	859.44	0.35	10.499	790.69	0.33
6.668	1014.89	0.39	7.459	973.36	0.38	9.324	859.60	0.35	10.516	791.08	0.33
6.686	1015.03	0.39	7.477	973.52	0.38	9.342	859.83	0.35	10.534	791.41	0.33
6.704	1015.08	0.39	7.496	973.60	0.38	9.360	860.08	0.35	10.552	791.73	0.33
6.722	1015.19	0.39	7.514	973.76	0.38	9.378	860.30	0.35	10.570	792.05	0.33
6.740	1015.28	0.39	7.533	973.84	0.38	9.396	860.50	0.35	10.587	792.38	0.33
6.758	1015.36	0.39	7.551	973.99	0.38	9.414	860.73	0.35	10.605	792.71	0.33
6.776	1015.45	0.39	7.569	974.12	0.38	9.432	860.98	0.35	10.623	793.05	0.33
6.794	1015.52	0.39	7.588	974.19	0.38	9.450	861.22	0.35	10.641	793.40	0.33
6.812	1015.62	0.39	7.606	974.34	0.38	9.468	861.39	0.35	10.658	793.76	0.33
6.830	1015.75	0.39	7.625	974.41	0.38	9.486	861.63	0.35	10.676	794.07	0.33
6.848	1015.79	0.39	7.643	974.55	0.38	9.504	861.85	0.35	10.694	794.38	0.33
6.866	1015.92	0.39	7.661	974.70	0.38	9.522	862.07	0.35	10.712	794.69	0.33
6.884	1015.97	0.39	7.680	974.75	0.38	9.540	862.29	0.35	10.729	795.02	0.33
6.902	1016.02	0.39	7.698	974.90	0.38	9.558	862.52	0.35	10.747	795.35	0.33
6.920	1016.17	0.39	7.717	975.05	0.38	9.576	862.74	0.35	10.765	795.63	0.33

6.938	1016.21	0.39	7.735	975.12	0.38	9.594	862.98	0.35	10.783	795.93	0.33
6.956	1016.33	0.39	7.753	975.27	0.38	9.612	863.21	0.35	10.800	796.25	0.33
6.974	1016.42	0.39	7.772	975.33	0.38	9.630	863.44	0.35	10.818	796.56	0.33
6.992	1016.49	0.39	7.790	975.49	0.38	9.648	863.60	0.35	10.836	796.87	0.33
7.010	1016.62	0.39	7.808	975.63	0.38	9.666	863.81	0.35	10.854	797.18	0.33
7.028	1016.67	0.39	7.827	975.68	0.38	9.683	864.03	0.35	10.872	797.48	0.34
7.046	1016.78	0.39	7.845	975.83	0.38	9.701	864.24	0.35	10.889	797.78	0.34
7.064	1016.90	0.39	7.864	975.95	0.38	9.719	864.47	0.35	10.907	798.08	0.34
7.082	1016.94	0.39	7.882	976.05	0.38	9.737	864.69	0.35	10.925	798.38	0.34
7.100	1017.06	0.39	7.900	976.12	0.38	9.755	864.93	0.35	10.943	798.68	0.34
7.118	1017.09	0.39	7.919	976.27	0.38	9.773	865.15	0.35	10.960	798.98	0.34
7.136	1017.21	0.39	7.937	976.36	0.38	9.791	865.38	0.35	10.978	799.28	0.34
7.154	1017.25	0.39	7.956	976.51	0.38	9.809	865.53	0.35	10.996	799.58	0.34
7.172	1017.37	0.39	7.974	976.67	0.38	9.827	865.76	0.35	11.014	799.87	0.34
7.190	1017.49	0.39	7.992	976.74	0.38	9.845	865.98	0.35	11.031	800.15	0.34
7.208	1017.52	0.39	8.011	976.85	0.38	9.863	866.20	0.35	11.049	800.44	0.34
7.226	1017.64	0.39	8.029	976.95	0.38	9.881	866.42	0.35	11.067	800.72	0.34
7.244	1017.74	0.39	8.047	977.10	0.38	9.899	866.64	0.35	11.085	801.00	0.34
7.262	1017.78	0.39	8.066	977.18	0.38	9.917	866.85	0.35	11.102	801.28	0.34
7.280	1017.90	0.39	8.084	977.28	0.38	9.935	867.06	0.35	11.120	801.57	0.34
7.298	1018.01	0.39	8.103	977.43	0.38	9.953	867.26	0.35	11.138	801.87	0.34
7.316	1018.07	0.39	8.121	977.51	0.38	9.971	867.47	0.35	11.156	802.17	0.34
7.334	1018.15	0.39	8.139	977.65	0.38	9.989	867.68	0.35	11.173	802.44	0.34
7.352	1018.27	0.39	8.158	977.75	0.38	10.007	867.89	0.35	11.191	802.71	0.34
7.370	1018.31	0.39	8.176	977.88	0.38	10.025	868.10	0.35	11.209	802.97	0.34
7.388	1018.40	0.39	8.195	978.00	0.38	10.043	868.31	0.35	11.227	803.24	0.34
7.406	1018.52	0.39	8.213	978.08	0.38	10.061	868.52	0.35	11.244	803.53	0.34
7.424	1018.62	0.39	8.231	978.24	0.38	10.079	868.72	0.35	11.262	803.83	0.34
7.442	1018.64	0.39	8.250	978.33	0.38	10.097	868.93	0.35	11.280	804.08	0.34
7.460	1018.75	0.39	8.268	978.41	0.38	10.115	869.13	0.35	11.298	804.33	0.34
7.478	1018.86	0.39	8.287	978.56	0.38	10.133	869.34	0.35	11.316	804.59	0.34
7.496	1018.97	0.39	8.305	978.70	0.38	10.151	869.55	0.35	11.333	804.86	0.34
7.514	1019.00	0.39	8.323	978.75	0.38	10.169	869.75	0.35	11.351	805.14	0.34
7.532	1019.11	0.39	8.342	978.87	0.38	10.187	869.97	0.35	11.369	805.40	0.34
7.551	1019.21	0.39	8.360	978.99	0.38	10.205	870.17	0.35	11.387	805.67	0.34
7.569	1019.23	0.39	8.378	979.12	0.38	10.223	870.37	0.35	11.404	805.93	0.34
7.587	1019.34	0.39	8.397	979.25	0.38	10.241	870.57	0.35	11.422	806.19	0.34
7.605	1019.44	0.39	8.415	979.36	0.38	10.259	870.76	0.35	11.440	806.44	0.34
7.623	1019.54	0.39	8.434	979.48	0.38	10.277	870.97	0.35	11.458	806.69	0.34
7.641	1019.63	0.39	8.452	979.60	0.38	10.295	871.16	0.35	11.475	806.94	0.34
7.659	1019.67	0.39	8.470	979.64	0.38	10.313	871.36	0.35	11.493	807.19	0.34
7.677	1019.77	0.39	8.489	979.77	0.38	10.331	871.56	0.35	11.511	807.43	0.34
7.695	1019.88	0.39	8.507	979.89	0.38	10.348	871.76	0.35	11.529	807.67	0.34
7.713	1019.95	0.39	8.526	980.01	0.38	10.366	871.95	0.35	11.546	807.93	0.34
7.731	1020.01	0.39	8.544	980.14	0.38	10.384	872.14	0.35	11.564	808.19	0.34

7.749	1020.11	0.39	8.562	980.26	0.38	10.402	872.34	0.35	11.582	808.46	0.34
7.767	1020.21	0.39	8.581	980.30	0.38	10.420	872.53	0.35	11.600	808.67	0.34
7.785	1020.28	0.39	8.599	980.43	0.38	10.438	872.73	0.35	11.617	808.88	0.34
7.803	1020.34	0.39	8.618	980.55	0.38	10.456	872.92	0.35	11.635	809.12	0.34
7.821	1020.44	0.39	8.636	980.67	0.38	10.474	873.10	0.35	11.653	809.41	0.34
7.839	1020.54	0.39	8.654	980.79	0.38	10.492	873.28	0.35	11.671	809.69	0.34
7.857	1020.64	0.39	8.673	980.92	0.38	10.510	873.53	0.35	11.688	809.98	0.34
7.875	1020.75	0.39	8.691	980.95	0.38	10.528	873.73	0.35	11.706	810.26	0.34
7.893	1020.77	0.39	8.709	981.07	0.38	10.546	873.91	0.35	11.724	810.56	0.34
7.911	1020.87	0.39	8.728	981.18	0.38	10.564	874.09	0.35	11.742	810.82	0.34
7.929	1020.97	0.39	8.746	981.30	0.38	10.582	874.27	0.35	11.760	811.07	0.34
7.947	1021.07	0.39	8.765	981.40	0.38	10.600	874.45	0.35	11.777	811.39	0.34
7.965	1021.10	0.39	8.783	981.58	0.38	10.618	874.64	0.35	11.795	811.68	0.34
7.983	1021.19	0.39	8.801	981.62	0.38	10.636	874.82	0.35	11.813	811.93	0.34
8.001	1021.30	0.39	8.820	981.74	0.38	10.654	875.01	0.35	11.831	812.22	0.34
8.019	1021.41	0.39	8.838	981.85	0.38	10.672	875.25	0.35	11.848	812.53	0.34
8.037	1021.43	0.39	8.857	981.96	0.38	10.690	875.44	0.35	11.866	812.76	0.34
8.055	1021.54	0.39	8.875	982.08	0.38	10.708	875.61	0.35	11.884	813.04	0.34
8.073	1021.65	0.39	8.893	982.20	0.38	10.726	875.79	0.35	11.902	813.29	0.34
8.091	1021.68	0.39	8.912	982.32	0.38	10.744	875.97	0.35	11.919	813.59	0.34
8.109	1021.78	0.39	8.930	982.44	0.38	10.762	876.15	0.35	11.937	813.83	0.34
8.127	1021.88	0.39	8.949	982.56	0.38	10.780	876.34	0.35	11.955	814.14	0.34
8.145	1021.98	0.39	8.967	982.66	0.38	10.798	876.51	0.35	11.973	814.44	0.34
8.163	1022.09	0.39	8.985	982.70	0.38	10.816	876.72	0.35	11.990	814.68	0.34
8.181	1022.10	0.39	9.004	982.81	0.38	10.834	876.94	0.35	12.008	814.94	0.34
8.199	1022.20	0.39	9.022	982.93	0.38	10.852	877.11	0.35	12.026	815.20	0.34
8.217	1022.30	0.39	9.040	983.05	0.38	10.870	877.29	0.35	12.044	815.49	0.34
8.235	1022.41	0.39	9.059	983.16	0.38	10.888	877.46	0.35	12.061	815.73	0.34
8.253	1022.50	0.39	9.077	983.27	0.38	10.906	877.63	0.35	12.079	815.99	0.34
8.271	1022.54	0.39	9.096	983.38	0.38	10.924	877.80	0.35	12.097	816.29	0.34
8.289	1022.64	0.39	9.114	983.48	0.38	10.942	878.03	0.35	12.115	816.52	0.34
8.307	1022.75	0.39	9.132	983.59	0.38	10.960	878.21	0.35	12.132	816.81	0.34
8.325	1022.83	0.39	9.151	983.69	0.38	10.978	878.36	0.35	12.150	817.04	0.34
8.343	1022.88	0.39	9.169	983.80	0.38	10.996	878.57	0.35	12.168	817.34	0.34
8.361	1022.98	0.39	9.188	983.90	0.38	11.013	878.75	0.35	12.186	817.61	0.34
8.379	1023.08	0.39	9.206	984.01	0.38	11.031	878.92	0.35	12.204	817.85	0.34
8.397	1023.18	0.39	9.224	984.11	0.38	11.049	879.11	0.35	12.221	818.09	0.34
8.415	1023.24	0.39	9.243	984.22	0.38	11.067	879.31	0.35	12.239	818.39	0.34
8.433	1023.30	0.39	9.261	984.40	0.38	11.085	879.43	0.35	12.257	818.64	0.34
8.451	1023.39	0.39	9.280	984.49	0.38	11.103	879.62	0.35	12.275	818.86	0.34
8.469	1023.49	0.39	9.298	984.60	0.38	11.121	879.81	0.35	12.292	819.14	0.34
8.487	1023.58	0.39	9.316	984.70	0.38	11.139	880.01	0.35	12.310	819.42	0.34
8.505	1023.68	0.39	9.335	984.79	0.38	11.157	880.20	0.35	12.328	819.66	0.34
8.523	1023.77	0.39	9.353	984.89	0.38	11.175	880.39	0.35	12.346	819.94	0.34
8.541	1023.86	0.39	9.371	985.00	0.38	11.193	880.52	0.35	12.363	820.20	0.34

8.559	1023.95	0.39	9.390	985.10	0.38	11.211	880.71	0.35	12.381	820.43	0.34
8.577	1023.98	0.39	9.408	985.20	0.38	11.229	880.91	0.35	12.399	820.71	0.34
8.595	1024.05	0.39	9.427	985.30	0.38	11.247	881.11	0.35	12.417	820.98	0.34
8.613	1024.14	0.39	9.445	985.40	0.38	11.265	881.31	0.35	12.434	821.21	0.34
8.632	1024.24	0.39	9.463	985.50	0.38	11.283	881.46	0.35	12.452	821.45	0.34
8.650	1024.33	0.39	9.482	985.61	0.38	11.301	881.61	0.35	12.470	821.72	0.34
8.668	1024.42	0.39	9.500	985.72	0.38	11.319	881.81	0.35	12.488	821.94	0.34
8.686	1024.50	0.39	9.519	985.81	0.38	11.337	882.00	0.35	12.505	822.22	0.34
8.704	1024.59	0.39	9.537	985.90	0.38	11.355	882.19	0.35	12.523	822.47	0.34
8.722	1024.68	0.39	9.555	986.05	0.38	11.373	882.37	0.35	12.541	822.70	0.34
8.740	1024.77	0.39	9.574	986.17	0.38	11.391	882.55	0.35	12.559	822.99	0.34
8.758	1024.86	0.39	9.592	986.27	0.38	11.409	882.70	0.35	12.576	823.21	0.34
8.776	1024.95	0.39	9.611	986.37	0.38	11.427	882.84	0.35	12.594	823.50	0.34
8.794	1025.04	0.39	9.629	986.46	0.38	11.445	883.03	0.35	12.612	823.73	0.34
8.812	1025.13	0.39	9.647	986.55	0.38	11.463	883.22	0.35	12.630	823.98	0.34
8.830	1025.13	0.39	9.666	986.69	0.38	11.481	883.40	0.35	12.648	824.19	0.34
8.848	1025.22	0.39	9.684	986.81	0.38	11.499	883.59	0.35	12.665	824.45	0.34
8.866	1025.31	0.39	9.702	986.91	0.38	11.517	883.77	0.35	12.683	824.73	0.34
8.884	1025.40	0.39	9.721	987.01	0.38	11.535	883.96	0.35	12.701	824.98	0.34
8.902	1025.49	0.39	9.739	987.10	0.38	11.553	884.10	0.35	12.719	825.19	0.34
8.920	1025.57	0.39	9.758	987.19	0.38	11.571	884.26	0.35	12.736	825.43	0.34
8.938	1025.66	0.39	9.776	987.27	0.38	11.589	884.45	0.35	12.754	825.68	0.34
8.956	1025.74	0.39	9.794	987.40	0.38	11.607	884.63	0.35	12.772	825.96	0.34
8.974	1025.82	0.39	9.813	987.53	0.38	11.625	884.81	0.35	12.790	826.17	0.34
8.992	1025.90	0.39	9.831	987.62	0.38	11.643	884.98	0.35	12.807	826.43	0.34
9.010	1025.98	0.39	9.850	987.71	0.38	11.661	885.15	0.35	12.825	826.64	0.34
9.028	1026.07	0.39	9.868	987.80	0.38	11.678	885.33	0.35	12.843	826.93	0.34
9.046	1026.15	0.39	9.886	987.95	0.38	11.696	885.51	0.35	12.861	827.15	0.34
9.064	1026.23	0.39	9.905	988.06	0.38	11.714	885.68	0.35	12.878	827.40	0.34
9.082	1026.32	0.39	9.923	988.15	0.38	11.732	885.86	0.35	12.896	827.61	0.34
9.100	1026.39	0.39	9.942	988.24	0.38	11.750	886.04	0.35	12.914	827.89	0.34
9.118	1026.47	0.39	9.960	988.33	0.38	11.768	886.22	0.35	12.932	828.09	0.34
9.136	1026.57	0.39	9.978	988.42	0.38	11.786	886.40	0.35	12.949	828.36	0.34
9.154	1026.69	0.39	9.997	988.54	0.38	11.804	886.58	0.35	12.967	828.59	0.34
9.172	1026.70	0.39	10.015	988.68	0.38	11.822	886.67	0.35	12.985	828.81	0.34
9.190	1026.85	0.39	10.033	988.77	0.38	11.840	886.86	0.35	13.003	829.08	0.34
9.208	1026.92	0.39	10.052	988.85	0.38	11.858	887.03	0.35	13.020	829.30	0.34
9.226	1026.99	0.39	10.070	988.94	0.38	11.876	887.20	0.35	13.038	829.57	0.34
9.244	1027.06	0.39	10.089	989.09	0.38	11.894	887.37	0.35	13.056	829.76	0.34
9.262	1027.14	0.39	10.107	989.20	0.38	11.912	887.54	0.35	13.074	830.04	0.34
9.280	1027.21	0.39	10.125	989.28	0.38	11.930	887.71	0.35	13.091	830.28	0.34
9.298	1027.30	0.39	10.144	989.36	0.38	11.948	887.89	0.35	13.109	830.49	0.34
9.316	1027.44	0.39	10.162	989.45	0.38	11.966	888.05	0.35	13.127	830.74	0.34
9.334	1027.50	0.39	10.181	989.61	0.38	11.984	888.21	0.35	13.145	831.00	0.34
9.352	1027.57	0.39	10.199	989.70	0.38	12.002	888.37	0.36	13.163	831.21	0.34

9.370	1027.64	0.39	10.217	989.78	0.38	12.020	888.54	0.36	13.180	831.43	0.34
9.388	1027.71	0.39	10.236	989.86	0.38	12.038	888.71	0.36	13.198	831.68	0.34
9.406	1027.78	0.39	10.254	989.94	0.38	12.056	888.89	0.36	13.216	831.93	0.34
9.424	1027.86	0.39	10.273	990.11	0.38	12.074	889.05	0.36	13.234	832.13	0.34
9.442	1027.99	0.39	10.291	990.19	0.38	12.092	889.22	0.36	13.251	832.37	0.34
9.460	1028.06	0.39	10.309	990.27	0.38	12.110	889.39	0.36	13.269	832.63	0.34
9.478	1028.12	0.39	10.328	990.36	0.38	12.128	889.56	0.36	13.287	832.81	0.34
9.496	1028.21	0.39	10.346	990.44	0.38	12.146	889.72	0.36	13.305	833.05	0.34
9.514	1028.33	0.39	10.364	990.59	0.38	12.164	889.89	0.36	13.322	833.30	0.34
9.532	1028.39	0.39	10.383	990.68	0.38	12.182	890.05	0.36	13.340	833.55	0.34
9.550	1028.45	0.39	10.401	990.76	0.38	12.200	890.21	0.36	13.358	833.72	0.34
9.568	1028.51	0.39	10.420	990.90	0.38	12.218	890.37	0.36	13.376	833.96	0.34
9.586	1028.57	0.39	10.438	991.00	0.38	12.236	890.53	0.36	13.393	834.19	0.34
9.604	1028.69	0.39	10.456	991.07	0.38	12.254	890.70	0.36	13.411	834.44	0.34
9.622	1028.77	0.39	10.475	991.15	0.38	12.272	890.85	0.36	13.429	834.61	0.34
9.640	1028.83	0.39	10.493	991.29	0.38	12.290	891.02	0.36	13.447	834.85	0.34
9.658	1028.95	0.39	10.512	991.39	0.38	12.308	891.17	0.36	13.464	835.10	0.34
9.676	1029.02	0.39	10.530	991.47	0.38	12.326	891.33	0.36	13.482	835.34	0.34
9.694	1029.09	0.39	10.548	991.55	0.38	12.343	891.49	0.36	13.500	835.58	0.34
9.713	1029.20	0.39	10.567	991.68	0.38	12.361	891.64	0.36	13.518	835.74	0.34
9.731	1029.27	0.39	10.585	991.79	0.38	12.379	891.80	0.36	13.535	835.95	0.34
9.749	1029.34	0.39	10.603	991.86	0.38	12.397	891.96	0.36	13.553	836.18	0.34
9.767	1029.45	0.39	10.622	991.97	0.38	12.415	892.14	0.36	13.571	836.40	0.34
9.785	1029.52	0.39	10.640	992.10	0.38	12.433	892.35	0.36	13.589	836.62	0.34
9.803	1029.57	0.39	10.659	992.17	0.38	12.451	892.51	0.36	13.607	836.84	0.34
9.821	1029.62	0.39	10.677	992.26	0.38	12.469	892.66	0.36	13.624	837.05	0.34
9.839	1029.71	0.39	10.695	992.41	0.38	12.487	892.81	0.36	13.642	837.27	0.34
9.857	1029.81	0.39	10.714	992.48	0.38	12.505	892.97	0.36	13.660	837.48	0.34
9.875	1029.87	0.39	10.732	992.56	0.38	12.523	893.13	0.36	13.678	837.69	0.34
9.893	1029.95	0.39	10.751	992.70	0.38	12.541	893.28	0.36	13.695	837.92	0.34
9.911	1030.05	0.39	10.769	992.79	0.38	12.559	893.44	0.36	13.713	838.13	0.34
9.929	1030.10	0.39	10.787	992.87	0.38	12.577	893.59	0.36	13.731	838.34	0.34
9.947	1030.18	0.39	10.806	992.94	0.38	12.595	893.75	0.36	13.749	838.55	0.34
9.965	1030.28	0.39	10.824	993.06	0.38	12.613	893.90	0.36	13.766	838.76	0.34
9.983	1030.34	0.39	10.843	993.17	0.38	12.631	894.05	0.36	13.784	838.97	0.34
10.001	1030.40	0.39	10.861	993.24	0.38	12.649	894.19	0.36	13.802	839.18	0.34
10.019	1030.50	0.39	10.879	993.34	0.38	12.667	894.34	0.36	13.820	839.39	0.34
10.037	1030.60	0.39	10.898	993.48	0.38	12.685	894.53	0.36	13.837	839.66	0.34
10.055	1030.70	0.39	10.916	993.55	0.38	12.703	894.72	0.36	13.855	839.89	0.34
10.073	1030.75	0.39	10.934	993.62	0.38	12.721	894.87	0.36	13.873	840.11	0.34
10.091	1030.81	0.39	10.953	993.77	0.38	12.739	895.01	0.36	13.891	840.32	0.34
10.109	1030.91	0.39	10.971	993.85	0.38	12.757	895.16	0.36	13.908	840.52	0.34
10.127	1030.98	0.39	10.990	993.92	0.38	12.775	895.31	0.36	13.926	840.67	0.34
10.145	1031.03	0.39	11.008	994.03	0.38	12.793	895.46	0.36	13.944	840.88	0.34
10.163	1031.12	0.39	11.026	994.15	0.38	12.811	895.60	0.36	13.962	841.08	0.34

10.181	1031.21	0.39	11.045	994.22	0.38	12.829	895.75	0.36	13.979	841.34	0.34
10.199	1031.26	0.39	11.063	994.29	0.38	12.847	895.89	0.36	13.997	841.58	0.34
10.217	1031.33	0.39	11.082	994.43	0.38	12.865	896.03	0.36	14.015	841.78	0.34
10.235	1031.43	0.39	11.100	994.51	0.38	12.883	896.18	0.36	14.033	841.98	0.34
10.253	1031.53	0.39	11.118	994.64	0.38	12.901	896.35	0.36	14.051	842.18	0.34
10.271	1031.62	0.39	11.137	994.74	0.38	12.919	896.56	0.36	14.068	842.37	0.34
10.289	1031.66	0.39	11.155	994.80	0.38	12.937	896.70	0.36	14.086	842.59	0.34
10.307	1031.73	0.39	11.174	994.89	0.38	12.955	896.84	0.36	14.104	842.83	0.34
10.325	1031.83	0.39	11.192	995.02	0.38	12.973	896.98	0.36	14.122	843.02	0.34
10.343	1031.89	0.39	11.210	995.08	0.38	12.991	897.12	0.36	14.139	843.21	0.34
10.361	1031.94	0.39	11.229	995.20	0.38	13.008	897.25	0.36	14.157	843.39	0.34
10.379	1032.04	0.39	11.247	995.30	0.38	13.026	897.39	0.36	14.175	843.59	0.34
10.397	1032.14	0.39	11.265	995.39	0.38	13.044	897.52	0.36	14.193	843.78	0.34
10.415	1032.23	0.39	11.284	995.51	0.38	13.062	897.67	0.36	14.210	844.03	0.34
10.433	1032.29	0.39	11.302	995.58	0.38	13.080	897.81	0.36	14.228	844.23	0.34
10.451	1032.34	0.39	11.321	995.65	0.38	13.098	897.99	0.36	14.246	844.42	0.34
10.469	1032.43	0.39	11.339	995.76	0.38	13.116	898.15	0.36	14.264	844.62	0.35
10.487	1032.53	0.39	11.357	995.87	0.38	13.134	898.28	0.36	14.281	844.81	0.35
10.505	1032.62	0.39	11.376	995.96	0.38	13.152	898.41	0.36	14.299	844.99	0.35
10.523	1032.70	0.39	11.394	996.09	0.38	13.170	898.53	0.36	14.317	845.22	0.35
10.541	1032.74	0.39	11.413	996.15	0.38	13.188	898.70	0.36	14.335	845.45	0.35
10.559	1032.82	0.39	11.431	996.22	0.38	13.206	898.87	0.36	14.352	845.63	0.35
10.577	1032.91	0.39	11.449	996.34	0.38	13.224	898.99	0.36	14.370	845.82	0.35
10.595	1033.00	0.39	11.468	996.44	0.38	13.242	899.17	0.36	14.388	846.04	0.35
10.613	1033.09	0.39	11.486	996.52	0.38	13.260	899.31	0.36	14.406	846.26	0.35
10.631	1033.14	0.39	11.505	996.65	0.38	13.278	899.46	0.36	14.423	846.45	0.35
10.649	1033.20	0.39	11.523	996.72	0.38	13.296	899.63	0.36	14.441	846.63	0.35
10.667	1033.29	0.39	11.541	996.83	0.38	13.314	899.75	0.36	14.459	846.82	0.35
10.685	1033.36	0.39	11.560	996.93	0.38	13.332	899.92	0.36	14.477	847.02	0.35
10.703	1033.40	0.39	11.578	997.00	0.38	13.350	900.06	0.36	14.495	847.26	0.35
10.721	1033.48	0.39	11.596	997.07	0.38	13.368	900.20	0.36	14.512	847.45	0.35
10.739	1033.57	0.39	11.615	997.20	0.38	13.386	900.37	0.36	14.530	847.63	0.35
10.757	1033.66	0.39	11.633	997.28	0.38	13.404	900.48	0.36	14.548	847.83	0.35
10.775	1033.75	0.39	11.652	997.37	0.38	13.422	900.66	0.36	14.566	848.07	0.35
10.794	1033.84	0.39	11.670	997.48	0.38	13.440	900.80	0.36	14.583	848.25	0.35
10.812	1033.91	0.39	11.688	997.55	0.38	13.458	900.94	0.36	14.601	848.43	0.35
10.830	1033.96	0.39	11.707	997.67	0.38	13.476	901.12	0.36	14.619	848.62	0.35
10.848	1034.01	0.39	11.725	997.76	0.38	13.494	901.24	0.36	14.637	848.86	0.35
10.866	1034.10	0.39	11.744	997.84	0.38	13.512	901.40	0.36	14.654	849.04	0.35
10.884	1034.19	0.39	11.762	997.96	0.38	13.530	901.55	0.36	14.672	849.21	0.35
10.902	1034.28	0.39	11.780	998.08	0.38	13.548	901.68	0.36	14.690	849.38	0.35
10.920	1034.34	0.39	11.799	998.16	0.38	13.566	901.86	0.36	14.708	849.61	0.35
10.938	1034.38	0.39	11.817	998.25	0.38	13.584	901.99	0.36	14.725	849.81	0.35
10.956	1034.46	0.39	11.836	998.37	0.38	13.602	902.14	0.36	14.743	849.99	0.35
10.974	1034.54	0.39	11.854	998.44	0.38	13.620	902.31	0.36	14.761	850.22	0.35

10.992	1034.63	0.39	11.872	998.50	0.38	13.638	902.42	0.36	14.779	850.40	0.35
11.010	1034.72	0.39	11.891	998.59	0.38	13.656	902.61	0.36	14.796	850.59	0.35
11.028	1034.80	0.39	11.909	998.70	0.38	13.673	902.78	0.36	14.814	850.81	0.35
11.046	1034.89	0.39	11.927	998.76	0.38	13.691	902.88	0.36	14.832	850.98	0.35
11.064	1034.93	0.39	11.946	998.88	0.38	13.709	903.04	0.36	14.850	851.16	0.35
11.082	1034.98	0.39	11.964	998.97	0.38	13.727	903.16	0.36	14.867	851.38	0.35
11.100	1035.06	0.39	11.983	999.04	0.38	13.745	903.35	0.36	14.885	851.56	0.35
11.118	1035.15	0.39	12.001	999.17	0.38	13.763	903.51	0.36	14.903	851.74	0.35
11.136	1035.24	0.39	12.019	999.23	0.38	13.781	903.61	0.36	14.921	851.95	0.35
11.154	1035.32	0.39	12.038	999.32	0.38	13.799	903.77	0.36	14.938	852.12	0.35
11.172	1035.41	0.39	12.056	999.44	0.38	13.817	903.96	0.36	14.956	852.30	0.35
11.190	1035.48	0.39	12.075	999.57	0.38	13.835	904.06	0.36	14.974	852.52	0.35
11.208	1035.52	0.39	12.093	999.64	0.38	13.853	904.23	0.36	14.992	852.74	0.35
11.226	1035.58	0.39	12.111	999.73	0.38	13.871	904.33	0.36	15.010	852.93	0.35
11.244	1035.66	0.39	12.130	999.84	0.38	13.889	904.50	0.36	15.027	853.09	0.35
11.262	1035.74	0.39	12.148	999.90	0.38	13.907	904.65	0.36	15.045	853.28	0.35
11.280	1035.83	0.39	12.167	1000.00	0.38	13.925	904.78	0.36	15.063	853.49	0.35
11.298	1035.91	0.39	12.185	1000.10	0.38	13.943	904.92	0.36	15.081	853.70	0.35
11.316	1036.00	0.39	12.203	1000.16	0.38	13.961	905.06	0.36	15.098	853.88	0.35
11.334	1036.08	0.39	12.222	1000.26	0.38	13.979	905.24	0.36	15.116	854.03	0.35
11.352	1036.16	0.39	12.240	1000.35	0.38	13.997	905.35	0.36	15.134	854.24	0.35
11.370	1036.24	0.39	12.258	1000.41	0.38	14.015	905.52	0.36	15.152	854.43	0.35
11.388	1036.32	0.39	12.277	1000.53	0.38	14.033	905.61	0.36	15.169	854.58	0.35
11.406	1036.38	0.39	12.295	1000.61	0.38	14.051	905.78	0.36	15.187	854.79	0.35
11.424	1036.42	0.39	12.314	1000.69	0.38	14.069	905.94	0.36	15.205	854.99	0.35
11.442	1036.48	0.39	12.332	1000.80	0.38	14.087	906.04	0.36	15.223	855.20	0.35
11.460	1036.56	0.39	12.350	1000.91	0.38	14.105	906.22	0.36	15.240	855.36	0.35
11.478	1036.64	0.39	12.369	1001.00	0.38	14.123	906.36	0.36	15.258	855.51	0.35
11.496	1036.73	0.39	12.387	1001.06	0.38	14.141	906.46	0.36	15.276	855.71	0.35
11.514	1036.81	0.39	12.406	1001.17	0.38	14.159	906.62	0.36	15.294	855.90	0.35
11.532	1036.89	0.39	12.424	1001.26	0.38	14.177	906.78	0.36	15.311	856.10	0.35
11.550	1036.97	0.39	12.442	1001.32	0.38	14.195	906.93	0.36	15.329	856.29	0.35
11.568	1037.06	0.39	12.461	1001.44	0.38	14.213	907.02	0.36	15.347	856.48	0.35
11.586	1037.12	0.39	12.479	1001.55	0.38	14.231	907.18	0.36	15.365	856.68	0.35
11.604	1037.16	0.39	12.498	1001.65	0.38	14.249	907.33	0.36	15.382	856.85	0.35
11.622	1037.22	0.39	12.516	1001.70	0.38	14.267	907.43	0.36	15.400	856.99	0.35
11.640	1037.30	0.39	12.534	1001.80	0.38	14.285	907.59	0.36	15.418	857.17	0.35
11.658	1037.38	0.39	12.553	1001.90	0.38	14.303	907.74	0.36	15.436	857.36	0.35
11.676	1037.46	0.39	12.571	1001.95	0.38	14.321	907.90	0.36	15.454	857.54	0.35
11.694	1037.54	0.39	12.589	1002.05	0.38	14.338	907.99	0.36	15.471	857.73	0.35
11.712	1037.62	0.39	12.608	1002.16	0.38	14.356	908.16	0.36	15.489	857.91	0.35
11.730	1037.70	0.39	12.626	1002.26	0.38	14.374	908.31	0.36	15.507	858.09	0.35
11.748	1037.78	0.39	12.645	1002.33	0.38	14.392	908.40	0.36	15.525	858.28	0.35
11.766	1037.86	0.39	12.663	1002.39	0.38	14.410	908.56	0.36	15.542	858.46	0.35
11.784	1037.93	0.39	12.681	1002.50	0.38	14.428	908.72	0.36	15.560	858.64	0.35

11.802	1038.01	0.39	12.700	1002.60	0.38	14.446	908.81	0.36	15.578	858.81	0.35
11.820	1038.09	0.39	12.718	1002.71	0.38	14.464	908.97	0.36	15.596	858.99	0.35
11.838	1038.17	0.39	12.737	1002.81	0.38	14.482	909.12	0.36	15.613	859.17	0.35
11.856	1038.20	0.39	12.755	1002.89	0.38	14.500	909.21	0.36	15.631	859.35	0.35
11.874	1038.24	0.39	12.773	1002.94	0.38	14.518	909.36	0.36	15.649	859.53	0.35
11.893	1038.31	0.39	12.792	1003.04	0.38	14.536	909.51	0.36	15.667	859.71	0.35
11.911	1038.39	0.39	12.810	1003.14	0.38	14.554	909.66	0.36	15.684	859.88	0.35
11.929	1038.46	0.39	12.828	1003.24	0.38	14.572	909.75	0.36	15.702	860.05	0.35
11.947	1038.54	0.39	12.847	1003.31	0.38	14.590	909.87	0.36	15.720	860.22	0.35
11.965	1038.61	0.39	12.865	1003.37	0.38	14.608	910.02	0.36	15.738	860.39	0.35
11.983	1038.69	0.39	12.884	1003.47	0.38	14.626	910.16	0.36	15.755	860.56	0.35
12.001	1038.77	0.39	12.902	1003.57	0.38	14.644	910.31	0.36	15.773	860.76	0.35
12.019	1038.84	0.39	12.920	1003.68	0.38	14.662	910.45	0.36	15.791	860.98	0.35
12.037	1038.91	0.39	12.939	1003.73	0.38	14.680	910.55	0.36	15.809	861.15	0.35
12.055	1038.99	0.39	12.957	1003.79	0.38	14.698	910.71	0.36	15.826	861.32	0.35
12.073	1039.06	0.39	12.976	1003.90	0.38	14.716	910.83	0.36	15.844	861.49	0.35
12.091	1039.14	0.39	12.994	1004.00	0.38	14.734	910.94	0.36	15.862	861.66	0.35
12.109	1039.21	0.39	13.012	1004.10	0.38	14.752	911.10	0.36	15.880	861.83	0.35
12.127	1039.29	0.39	13.031	1004.19	0.38	14.770	911.23	0.36	15.898	862.00	0.35
12.145	1039.37	0.39	13.049	1004.29	0.38	14.788	911.36	0.36	15.915	862.16	0.35
12.163	1039.44	0.39	13.068	1004.39	0.38	14.806	911.51	0.36	15.933	862.32	0.35
12.181	1039.52	0.39	13.086	1004.45	0.38	14.824	911.63	0.36	15.951	862.53	0.35
12.199	1039.59	0.39	13.104	1004.51	0.38	14.842	911.79	0.36	15.969	862.74	0.35
12.217	1039.67	0.39	13.123	1004.60	0.38	14.860	911.89	0.36	15.986	862.90	0.35
12.235	1039.74	0.39	13.141	1004.70	0.38	14.878	912.07	0.36	16.004	863.05	0.35
12.253	1039.82	0.39	13.159	1004.79	0.38	14.896	912.16	0.36	16.022	863.21	0.35
12.271	1039.89	0.39	13.178	1004.89	0.38	14.914	912.29	0.36	16.040	863.37	0.35
12.289	1039.96	0.39	13.196	1004.99	0.38	14.932	912.42	0.36	16.057	863.57	0.35
12.307	1040.03	0.39	13.215	1005.04	0.38	14.950	912.57	0.36	16.075	863.77	0.35
12.325	1040.10	0.39	13.233	1005.11	0.38	14.968	912.69	0.36	16.093	863.93	0.35
12.343	1040.17	0.39	13.251	1005.21	0.38	14.986	912.84	0.36	16.111	864.08	0.35
12.361	1040.24	0.39	13.270	1005.31	0.38	15.003	912.95	0.36	16.128	864.24	0.35
12.379	1040.31	0.39	13.288	1005.40	0.38	15.021	913.04	0.36	16.146	864.40	0.35
12.397	1040.38	0.39	13.307	1005.45	0.38	15.039	913.21	0.36	16.164	864.56	0.35
12.415	1040.45	0.39	13.325	1005.52	0.38	15.057	913.31	0.36	16.182	864.71	0.35
12.433	1040.52	0.39	13.343	1005.63	0.38	15.075	913.48	0.36	16.199	864.89	0.35
12.451	1040.60	0.39	13.362	1005.72	0.38	15.093	913.63	0.36	16.217	865.08	0.35
12.469	1040.67	0.39	13.380	1005.82	0.38	15.111	913.71	0.36	16.235	865.26	0.35
12.487	1040.74	0.39	13.399	1005.91	0.38	15.129	913.84	0.36	16.253	865.41	0.35
12.505	1040.81	0.39	13.417	1005.99	0.38	15.147	913.97	0.36	16.270	865.58	0.35
12.523	1040.88	0.39	13.435	1006.03	0.38	15.165	914.10	0.36	16.288	865.77	0.35
12.541	1040.95	0.39	13.454	1006.12	0.38	15.183	914.23	0.36	16.306	865.96	0.35
12.559	1041.02	0.39	13.472	1006.22	0.38	15.201	914.38	0.36	16.324	866.11	0.35
12.577	1041.09	0.39	13.490	1006.32	0.38	15.219	914.49	0.36	16.342	866.27	0.35
12.595	1041.16	0.39	13.509	1006.39	0.38	15.237	914.65	0.36	16.359	866.42	0.35

12.613	1041.23	0.39	13.527	1006.44	0.38	15.255	914.74	0.36	16.377	866.58	0.35
12.631	1041.30	0.39	13.546	1006.52	0.38	15.273	914.91	0.36	16.395	866.77	0.35
12.649	1041.37	0.39	13.564	1006.61	0.38	15.291	914.99	0.36	16.413	866.96	0.35
12.667	1041.43	0.39	13.582	1006.70	0.38	15.309	915.16	0.36	16.430	867.11	0.35
12.685	1041.50	0.39	13.601	1006.79	0.38	15.327	915.26	0.36	16.448	867.26	0.35
12.703	1041.57	0.39	13.619	1006.88	0.38	15.345	915.42	0.36	16.466	867.41	0.35
12.721	1041.63	0.39	13.638	1006.98	0.38	15.363	915.53	0.36	16.484	867.56	0.35
12.739	1041.70	0.39	13.656	1007.07	0.38	15.381	915.66	0.36	16.501	867.73	0.35
12.757	1041.77	0.39	13.674	1007.16	0.38	15.399	915.77	0.36	16.519	867.92	0.35
12.775	1041.83	0.39	13.693	1007.25	0.38	15.417	915.91	0.36	16.537	868.10	0.35
12.793	1041.90	0.39	13.711	1007.30	0.38	15.435	916.00	0.36	16.555	868.28	0.35
12.811	1041.97	0.39	13.730	1007.35	0.38	15.453	916.15	0.36	16.572	868.46	0.35
12.829	1042.03	0.39	13.748	1007.43	0.38	15.471	916.27	0.36	16.590	868.60	0.35
12.847	1042.10	0.39	13.766	1007.52	0.38	15.489	916.39	0.36	16.608	868.74	0.35
12.865	1042.17	0.39	13.785	1007.61	0.38	15.507	916.51	0.36	16.626	868.92	0.35
12.883	1042.26	0.39	13.803	1007.70	0.38	15.525	916.64	0.36	16.643	869.09	0.35
12.901	1042.36	0.39	13.821	1007.78	0.38	15.543	916.77	0.36	16.661	869.25	0.35
12.919	1042.45	0.39	13.840	1007.87	0.38	15.561	916.88	0.36	16.679	869.39	0.35
12.937	1042.51	0.39	13.858	1007.96	0.38	15.579	917.01	0.36	16.697	869.54	0.35
12.955	1042.58	0.39	13.877	1008.02	0.38	15.597	917.21	0.36	16.714	869.72	0.35
12.974	1042.64	0.39	13.895	1008.07	0.38	15.615	917.32	0.36	16.732	869.89	0.35
12.992	1042.71	0.39	13.913	1008.14	0.38	15.633	917.44	0.36	16.750	870.07	0.35
13.010	1042.77	0.39	13.932	1008.23	0.38	15.651	917.56	0.36	16.768	870.25	0.35
13.028	1042.83	0.39	13.950	1008.32	0.38	15.668	917.68	0.36	16.786	870.40	0.35
13.046	1042.90	0.39	13.969	1008.41	0.38	15.686	917.81	0.36	16.803	870.55	0.35
13.064	1042.96	0.39	13.987	1008.49	0.38	15.704	917.93	0.36	16.821	870.70	0.35
13.082	1043.02	0.39	14.005	1008.58	0.38	15.722	918.06	0.36	16.839	870.88	0.35
13.100	1043.09	0.39	14.024	1008.67	0.38	15.740	918.26	0.36	16.857	871.06	0.35
13.118	1043.15	0.39	14.042	1008.76	0.38	15.758	918.37	0.36	16.874	871.20	0.35
13.136	1043.21	0.39	14.061	1008.85	0.38	15.776	918.48	0.36	16.892	871.34	0.35
13.154	1043.28	0.39	14.079	1008.93	0.38	15.794	918.58	0.36	16.910	871.51	0.35
13.172	1043.37	0.39	14.097	1009.02	0.38	15.812	918.69	0.36	16.928	871.68	0.35
13.190	1043.47	0.39	14.116	1009.08	0.38	15.830	918.87	0.36	16.945	871.85	0.35
13.208	1043.54	0.39	14.134	1009.13	0.38	15.848	919.00	0.36	16.963	872.02	0.35
13.226	1043.60	0.39	14.152	1009.20	0.38	15.866	919.12	0.36	16.981	872.19	0.35
13.244	1043.66	0.39	14.171	1009.28	0.38	15.884	919.24	0.36	16.999	872.33	0.35
13.262	1043.72	0.39	14.189	1009.37	0.38	15.902	919.35	0.36	17.016	872.46	0.35
13.280	1043.79	0.39	14.208	1009.47	0.38	15.920	919.45	0.36	17.034	872.61	0.35
13.298	1043.85	0.39	14.226	1009.55	0.38	15.938	919.65	0.36	17.052	872.78	0.35
13.316	1043.91	0.39	14.244	1009.64	0.38	15.956	919.75	0.36	17.070	872.95	0.35
13.334	1043.97	0.39	14.263	1009.73	0.38	15.974	919.86	0.36	17.087	873.11	0.35
13.352	1044.06	0.39	14.281	1009.80	0.38	15.992	920.02	0.36	17.105	873.28	0.35
13.370	1044.15	0.39	14.300	1009.84	0.38	16.010	920.13	0.36	17.123	873.45	0.35
13.388	1044.24	0.39	14.318	1009.91	0.38	16.028	920.23	0.36	17.141	873.61	0.35
13.406	1044.30	0.39	14.336	1010.01	0.38	16.046	920.33	0.36	17.158	873.76	0.35

13.424	1044.36	0.39	14.355	1010.08	0.38	16.064	920.49	0.36	17.176	873.89	0.35
13.442	1044.42	0.39	14.373	1010.16	0.38	16.082	920.61	0.36	17.194	874.02	0.35
13.460	1044.48	0.39	14.392	1010.24	0.38	16.100	920.71	0.36	17.212	874.17	0.35
13.478	1044.53	0.39	14.410	1010.32	0.38	16.118	920.85	0.36	17.229	874.33	0.35
13.496	1044.61	0.39	14.428	1010.40	0.38	16.136	921.00	0.36	17.247	874.49	0.35
13.514	1044.70	0.39	14.447	1010.49	0.38	16.154	921.11	0.36	17.265	874.65	0.35
13.532	1044.79	0.39	14.465	1010.58	0.38	16.172	921.22	0.36	17.283	874.80	0.35
13.550	1044.85	0.39	14.483	1010.67	0.38	16.190	921.38	0.36	17.301	874.96	0.35
13.568	1044.91	0.39	14.502	1010.76	0.38	16.208	921.48	0.36	17.318	875.12	0.35
13.586	1044.97	0.39	14.520	1010.83	0.38	16.226	921.58	0.36	17.336	875.27	0.35
13.604	1045.03	0.39	14.539	1010.90	0.38	16.244	921.75	0.36	17.354	875.43	0.35
13.622	1045.08	0.39	14.557	1011.01	0.38	16.262	921.85	0.36	17.372	875.58	0.35
13.640	1045.14	0.39	14.575	1011.10	0.38	16.280	921.94	0.36	17.389	875.74	0.35
13.658	1045.23	0.39	14.594	1011.18	0.38	16.298	922.05	0.36	17.407	875.89	0.35
13.676	1045.31	0.39	14.612	1011.26	0.38	16.316	922.21	0.36	17.425	876.05	0.35
13.694	1045.39	0.39	14.631	1011.34	0.38	16.334	922.30	0.36	17.443	876.20	0.35
13.712	1045.45	0.39	14.649	1011.40	0.38	16.351	922.45	0.36	17.460	876.36	0.35
13.730	1045.50	0.39	14.667	1011.50	0.38	16.369	922.57	0.36	17.478	876.51	0.35
13.748	1045.57	0.39	14.686	1011.59	0.38	16.387	922.67	0.36	17.496	876.66	0.35
13.766	1045.65	0.39	14.704	1011.67	0.38	16.405	922.79	0.36	17.514	876.82	0.35
13.784	1045.74	0.39	14.723	1011.75	0.38	16.423	922.94	0.36	17.531	876.97	0.35
13.802	1045.81	0.39	14.741	1011.82	0.38	16.441	923.03	0.36	17.549	877.12	0.35
13.820	1045.87	0.39	14.759	1011.91	0.38	16.459	923.12	0.36	17.567	877.28	0.35
13.838	1045.92	0.39	14.778	1011.99	0.38	16.477	923.27	0.36	17.585	877.43	0.35
13.856	1045.98	0.39	14.796	1012.07	0.39	16.495	923.38	0.36	17.602	877.58	0.35
13.874	1046.03	0.39	14.814	1012.18	0.39	16.513	923.46	0.36	17.620	877.73	0.35
13.892	1046.08	0.39	14.833	1012.25	0.39	16.531	923.63	0.36	17.638	877.88	0.35
13.910	1046.15	0.39	14.851	1012.32	0.39	16.549	923.72	0.36	17.656	878.03	0.35
13.928	1046.23	0.39	14.870	1012.40	0.39	16.567	923.89	0.36	17.673	878.18	0.35
13.946	1046.31	0.39	14.888	1012.50	0.39	16.585	923.97	0.36	17.691	878.33	0.35
13.964	1046.38	0.39	14.906	1012.56	0.39	16.603	924.07	0.36	17.709	878.48	0.35
13.982	1046.44	0.39	14.925	1012.69	0.39	16.621	924.23	0.36	17.727	878.63	0.35
14.000	1046.49	0.39	14.943	1012.73	0.39	16.639	924.31	0.36	17.745	878.78	0.35
14.018	1046.55	0.39	14.962	1012.81	0.39	16.657	924.43	0.36	17.762	878.93	0.35
14.036	1046.63	0.39	14.980	1012.89	0.39	16.675	924.56	0.36	17.780	879.07	0.35
14.055	1046.71	0.39	14.998	1013.00	0.39	16.693	924.65	0.36	17.798	879.22	0.35
14.073	1046.78	0.39	15.017	1013.05	0.39	16.711	924.76	0.36	17.816	879.36	0.35
14.091	1046.84	0.39	15.035	1013.13	0.39	16.729	924.89	0.36	17.833	879.51	0.35
14.109	1046.89	0.39	15.054	1013.22	0.39	16.747	925.00	0.36	17.851	879.65	0.35
14.127	1046.94	0.39	15.072	1013.30	0.39	16.765	925.13	0.36	17.869	879.80	0.35
14.145	1047.02	0.39	15.090	1013.38	0.39	16.783	925.24	0.36	17.887	879.94	0.35
14.163	1047.10	0.39	15.109	1013.49	0.39	16.801	925.37	0.36	17.904	880.08	0.35
14.181	1047.18	0.39	15.127	1013.55	0.39	16.819	925.45	0.36	17.922	880.24	0.35
14.199	1047.23	0.39	15.145	1013.62	0.39	16.837	925.60	0.36	17.940	880.41	0.35
14.217	1047.28	0.39	15.164	1013.71	0.39	16.855	925.67	0.36	17.958	880.58	0.35

14.235	1047.33	0.39	15.182	1013.79	0.39	16.873	925.82	0.36	17.975	880.73	0.35
14.253	1047.40	0.39	15.201	1013.87	0.39	16.891	925.90	0.36	17.993	880.87	0.35
14.271	1047.48	0.39	15.219	1013.95	0.39	16.909	926.00	0.36	18.011	881.01	0.35
14.289	1047.55	0.39	15.237	1014.03	0.39	16.927	926.10	0.36	18.029	881.15	0.35
14.307	1047.63	0.39	15.256	1014.14	0.39	16.945	926.26	0.36	18.046	881.29	0.35
14.325	1047.70	0.39	15.274	1014.19	0.39	16.963	926.41	0.36	18.064	881.43	0.35
14.343	1047.78	0.39	15.293	1014.32	0.39	16.981	926.51	0.36	18.082	881.57	0.35
14.361	1047.84	0.39	15.311	1014.38	0.39	16.999	926.62	0.36	18.100	881.71	0.35
14.379	1047.89	0.39	15.329	1014.44	0.39	17.016	926.73	0.36	18.117	881.84	0.35
14.397	1047.94	0.39	15.348	1014.52	0.39	17.034	926.86	0.36	18.135	882.00	0.35
14.415	1047.99	0.39	15.366	1014.62	0.39	17.052	926.98	0.36	18.153	882.17	0.35
14.433	1048.06	0.39	15.384	1014.68	0.39	17.070	927.09	0.36	18.171	882.33	0.35
14.451	1048.13	0.39	15.403	1014.79	0.39	17.088	927.22	0.36	18.189	882.47	0.35
14.469	1048.20	0.39	15.421	1014.85	0.39	17.106	927.31	0.36	18.206	882.61	0.35
14.487	1048.27	0.39	15.440	1014.93	0.39	17.124	927.46	0.36	18.224	882.74	0.35
14.505	1048.34	0.39	15.458	1015.02	0.39	17.142	927.55	0.36	18.242	882.88	0.35
14.523	1048.42	0.39	15.476	1015.09	0.39	17.160	927.67	0.36	18.260	883.02	0.35
14.541	1048.49	0.39	15.495	1015.19	0.39	17.178	927.83	0.36	18.277	883.15	0.35
14.559	1048.53	0.39	15.513	1015.25	0.39	17.196	927.89	0.36	18.295	883.29	0.35
14.577	1048.58	0.39	15.532	1015.35	0.39	17.214	928.04	0.36	18.313	883.42	0.35
14.595	1048.63	0.39	15.550	1015.42	0.39	17.232	928.12	0.36	18.331	883.55	0.35
14.613	1048.68	0.39	15.568	1015.52	0.39	17.250	928.23	0.36	18.348	883.70	0.35
14.631	1048.75	0.39	15.587	1015.58	0.39	17.268	928.37	0.36	18.366	883.86	0.35
14.649	1048.82	0.39	15.605	1015.66	0.39	17.286	928.50	0.36	18.384	884.02	0.35
14.667	1048.89	0.39	15.624	1015.73	0.39	17.304	928.61	0.36	18.402	884.16	0.35
14.685	1048.96	0.39	15.642	1015.83	0.39	17.322	928.70	0.36	18.419	884.29	0.35
14.703	1049.03	0.39	15.660	1015.88	0.39	17.340	928.84	0.36	18.437	884.42	0.35
14.721	1049.10	0.39	15.679	1015.99	0.39	17.358	928.93	0.36	18.455	884.56	0.35
14.739	1049.17	0.39	15.697	1016.04	0.39	17.376	929.04	0.36	18.473	884.72	0.35
14.757	1049.24	0.39	15.715	1016.15	0.39	17.394	929.18	0.36	18.490	884.87	0.35
14.775	1049.31	0.39	15.734	1016.20	0.39	17.412	929.31	0.36	18.508	885.01	0.35
14.793	1049.37	0.39	15.752	1016.32	0.39	17.430	929.36	0.36	18.526	885.14	0.35
14.811	1049.42	0.39	15.771	1016.40	0.39	17.448	929.50	0.36	18.544	885.27	0.35
14.829	1049.47	0.39	15.789	1016.46	0.39	17.466	929.64	0.36	18.561	885.40	0.35
14.847	1049.51	0.39	15.807	1016.56	0.39	17.484	929.75	0.36	18.579	885.55	0.35
14.865	1049.56	0.39	15.826	1016.62	0.39	17.502	929.84	0.36	18.597	885.70	0.35
14.883	1049.63	0.39	15.844	1016.72	0.39	17.520	929.97	0.36	18.615	885.85	0.35
14.901	1049.70	0.39	15.863	1016.76	0.39	17.538	930.10	0.36	18.633	885.98	0.35
14.919	1049.76	0.39	15.881	1016.88	0.39	17.556	930.22	0.36	18.650	886.11	0.35
14.937	1049.83	0.39	15.899	1016.91	0.39	17.574	930.35	0.36	18.668	886.23	0.35
14.955	1049.89	0.39	15.918	1017.03	0.39	17.592	930.48	0.36	18.686	886.37	0.35
14.973	1049.96	0.39	15.936	1017.06	0.39	17.610	930.53	0.36	18.704	886.52	0.35
14.991	1050.02	0.39	15.955	1017.18	0.39	17.628	930.67	0.36	18.721	886.66	0.35
15.009	1050.09	0.39	15.973	1017.29	0.39	17.646	930.73	0.36	18.739	886.80	0.35
15.027	1050.15	0.39	15.991	1017.32	0.39	17.664	930.86	0.36	18.757	886.93	0.35

15.045	1050.22	0.39	16.010	1017.42	0.39	17.681	930.98	0.36	18.775	887.05	0.35
15.063	1050.28	0.39	16.028	1017.53	0.39	17.699	931.11	0.36	18.792	887.18	0.35
15.081	1050.35	0.39	16.046	1017.55	0.39	17.717	931.23	0.36	18.810	887.31	0.35
15.099	1050.41	0.39	16.065	1017.66	0.39	17.735	931.30	0.36	18.828	887.46	0.35
15.117	1050.47	0.39	16.083	1017.70	0.39	17.753	931.41	0.36	18.846	887.60	0.35
15.136	1050.54	0.39	16.102	1017.79	0.39	17.771	931.54	0.36	18.863	887.75	0.35
15.154	1050.60	0.39	16.120	1017.89	0.39	17.789	931.68	0.36	18.881	887.89	0.35
15.172	1050.66	0.39	16.138	1017.94	0.39	17.807	931.74	0.36	18.899	888.03	0.35
15.190	1050.73	0.39	16.157	1018.01	0.39	17.825	931.88	0.36	18.917	888.18	0.35
15.208	1050.79	0.39	16.175	1018.12	0.39	17.843	931.99	0.36	18.934	888.32	0.35
15.226	1050.85	0.39	16.194	1018.22	0.39	17.861	932.11	0.37	18.952	888.45	0.35
15.244	1050.91	0.39	16.212	1018.27	0.39	17.879	932.23	0.37	18.970	888.57	0.35
15.262	1050.98	0.39	16.230	1018.35	0.39	17.897	932.34	0.37	18.988	888.69	0.35
15.280	1051.04	0.39	16.249	1018.45	0.39	17.915	932.46	0.37	19.005	888.81	0.35
15.298	1051.10	0.39	16.267	1018.51	0.39	17.933	932.58	0.37	19.023	888.93	0.36
15.316	1051.16	0.39	16.286	1018.59	0.39	17.951	932.68	0.37	19.041	889.07	0.36
15.334	1051.22	0.39	16.304	1018.68	0.39	17.969	932.75	0.37	19.059	889.21	0.36
15.352	1051.28	0.39	16.322	1018.74	0.39	17.987	932.89	0.37	19.076	889.34	0.36
15.370	1051.34	0.39	16.341	1018.84	0.39	18.005	933.01	0.37	19.094	889.48	0.36
15.388	1051.40	0.39	16.359	1018.92	0.39	18.023	933.14	0.37	19.112	889.62	0.36
15.406	1051.46	0.39	16.377	1018.97	0.39	18.041	933.26	0.37	19.130	889.75	0.36
15.424	1051.52	0.39	16.396	1019.00	0.39	18.059	933.39	0.37	19.148	889.88	0.36
15.442	1051.58	0.39	16.414	1019.10	0.39	18.077	933.51	0.37	19.165	890.02	0.36
15.460	1051.63	0.39	16.433	1019.21	0.39	18.095	933.64	0.37	19.183	890.15	0.36
15.478	1051.69	0.39	16.451	1019.32	0.39	18.113	933.76	0.37	19.201	890.28	0.36
15.496	1051.75	0.39	16.469	1019.35	0.39	18.131	933.89	0.37	19.219	890.42	0.36
15.514	1051.81	0.39	16.488	1019.45	0.39	18.149	934.01	0.37	19.236	890.55	0.36
15.532	1051.87	0.39	16.506	1019.49	0.39	18.167	934.14	0.37	19.254	890.66	0.36
15.550	1051.93	0.39	16.525	1019.60	0.39	18.185	934.26	0.37	19.272	890.78	0.36
15.568	1051.99	0.39	16.543	1019.71	0.39	18.203	934.39	0.37	19.290	890.89	0.36
15.586	1052.04	0.39	16.561	1019.74	0.39	18.221	934.51	0.37	19.307	891.00	0.36
15.604	1052.10	0.39	16.580	1019.83	0.39	18.239	934.64	0.37	19.325	891.11	0.36
15.622	1052.16	0.39	16.598	1019.94	0.39	18.257	934.76	0.37	19.343	891.24	0.36
15.640	1052.21	0.39	16.617	1019.98	0.39	18.275	934.88	0.37	19.361	891.37	0.36
15.658	1052.28	0.39	16.635	1020.06	0.39	18.293	935.01	0.37	19.378	891.50	0.36
15.676	1052.35	0.39	16.653	1020.16	0.39	18.311	935.13	0.37	19.396	891.63	0.36
15.694	1052.43	0.39	16.672	1020.23	0.39	18.329	935.26	0.37	19.414	891.76	0.36
15.712	1052.50	0.39	16.690	1020.29	0.39	18.346	935.38	0.37	19.432	891.89	0.36
15.730	1052.58	0.39	16.708	1020.38	0.39	18.364	935.51	0.37	19.449	892.01	0.36
15.748	1052.63	0.39	16.727	1020.47	0.39	18.382	935.63	0.37	19.467	892.14	0.36
15.766	1052.69	0.39	16.745	1020.49	0.39	18.400	935.76	0.37	19.485	892.27	0.36
15.784	1052.75	0.39	16.764	1020.60	0.39	18.418	935.88	0.37	19.503	892.39	0.36
15.802	1052.80	0.39	16.782	1020.70	0.39	18.436	936.01	0.37	19.520	892.52	0.36
15.820	1052.86	0.39	16.800	1020.80	0.39	18.454	936.13	0.37	19.538	892.65	0.36
15.838	1052.91	0.39	16.819	1020.80	0.39	18.472	936.26	0.37	19.556	892.77	0.36

15.856	1052.97	0.39	16.837	1020.90	0.39	18.490	936.38	0.37	19.574	892.90	0.36
15.874	1053.03	0.39	16.856	1021.00	0.39	18.508	936.50	0.37	19.592	893.02	0.36
15.892	1053.08	0.39	16.874	1021.10	0.39	18.526	936.63	0.37	19.609	893.15	0.36
15.910	1053.14	0.39	16.892	1021.12	0.39	18.544	936.75	0.37	19.627	893.27	0.36
15.928	1053.19	0.39	16.911	1021.21	0.39	18.562	936.88	0.37	19.645	893.39	0.36
15.946	1053.25	0.39	16.929	1021.30	0.39	18.580	937.00	0.37	19.663	893.52	0.36
15.964	1053.30	0.39	16.948	1021.39	0.39	18.598	937.13	0.37	19.680	893.64	0.36
15.982	1053.37	0.39	16.966	1021.48	0.39	18.616	937.25	0.37	19.698	893.77	0.36
16.000	1053.45	0.39	16.984	1021.57	0.39	18.634	937.38	0.37	19.716	893.89	0.36
16.018	1053.52	0.39	17.003	1021.61	0.39	18.652	937.50	0.37	19.734	894.01	0.36
16.036	1053.59	0.39	17.021	1021.67	0.39	18.670	937.63	0.37	19.751	894.13	0.36
16.054	1053.66	0.39	17.039	1021.76	0.39	18.688	937.75	0.37	19.769	894.26	0.36
16.072	1053.73	0.39	17.058	1021.85	0.39	18.706	937.88	0.37	19.787	894.38	0.36
16.090	1053.80	0.39	17.076	1021.94	0.39	18.724	938.00	0.37	19.805	894.50	0.36
16.108	1053.86	0.39	17.095	1021.96	0.39	18.742	938.13	0.37	19.822	894.62	0.36
16.126	1053.93	0.39	17.113	1022.05	0.39	18.760	938.25	0.37	19.840	894.74	0.36
16.144	1054.00	0.39	17.131	1022.15	0.39	18.778	938.37	0.37	19.858	894.86	0.36
16.162	1054.06	0.39	17.150	1022.24	0.39	18.796	938.50	0.37	19.876	894.98	0.36
16.180	1054.13	0.39	17.168	1022.33	0.39	18.814	938.62	0.37	19.893	895.10	0.36
16.198	1054.20	0.39	17.187	1022.34	0.39	18.832	938.75	0.37	19.911	895.24	0.36
16.217	1054.26	0.39	17.205	1022.43	0.39	18.850	938.87	0.37	19.929	895.37	0.36
16.235	1054.33	0.39	17.223	1022.54	0.39	18.868	939.00	0.37	19.947	895.51	0.36
16.253	1054.40	0.39	17.242	1022.64	0.39	18.886	939.12	0.37	19.964	895.64	0.36
16.271	1054.46	0.39	17.260	1022.67	0.39	18.904	939.25	0.37	19.982	895.77	0.36
16.289	1054.53	0.39	17.279	1022.74	0.39	18.922	939.37	0.37	20.000	895.88	0.36
16.307	1054.60	0.39	17.297	1022.84	0.39	18.940	939.50	0.37			
16.325	1054.66	0.39	17.315	1022.93	0.39	18.958	939.62	0.37			
16.343	1054.73	0.39	17.334	1023.02	0.39	18.976	939.75	0.37			
16.361	1054.80	0.39	17.352	1023.08	0.39	18.994	939.87	0.37			
16.379	1054.87	0.40	17.370	1023.12	0.39	19.011	940.00	0.37			
16.397	1054.93	0.40	17.389	1023.21	0.39	19.029	940.12	0.37			
16.415	1055.00	0.40	17.407	1023.30	0.39	19.047	940.24	0.37			
16.433	1055.07	0.40	17.426	1023.38	0.39	19.065	940.37	0.37			
16.451	1055.13	0.40	17.444	1023.47	0.39	19.083	940.49	0.37			
16.469	1055.20	0.40	17.462	1023.55	0.39	19.101	940.62	0.37			
16.487	1055.27	0.40	17.481	1023.63	0.39	19.119	940.74	0.37			
16.505	1055.33	0.40	17.499	1023.65	0.39	19.137	940.87	0.37			
16.523	1055.40	0.40	17.518	1023.72	0.39	19.155	940.99	0.37			
16.541	1055.47	0.40	17.536	1023.82	0.39	19.173	941.12	0.37			
16.559	1055.53	0.40	17.554	1023.91	0.39	19.191	941.24	0.37			
16.577	1055.60	0.40	17.573	1023.99	0.39	19.209	941.37	0.37			
16.595	1055.67	0.40	17.591	1024.07	0.39	19.227	941.49	0.37			
16.613	1055.73	0.40	17.609	1024.16	0.39	19.245	941.62	0.37			
16.631	1055.80	0.40	17.628	1024.24	0.39	19.263	941.74	0.37			
16.649	1055.87	0.40	17.646	1024.30	0.39	19.281	941.86	0.37			

16.667	1055.94	0.40	17.665	1024.32	0.39	19.299	941.99	0.37			
16.685	1056.00	0.40	17.683	1024.41	0.39	19.317	942.11	0.37			
16.703	1056.07	0.40	17.701	1024.49	0.39	19.335	942.24	0.37			
16.721	1056.14	0.40	17.720	1024.57	0.39	19.353	942.36	0.37			
16.739	1056.20	0.40	17.738	1024.65	0.39	19.371	942.49	0.37			
16.757	1056.27	0.40	17.757	1024.74	0.39	19.389	942.61	0.37			
16.775	1056.34	0.40	17.775	1024.82	0.39	19.407	942.74	0.37			
16.793	1056.40	0.40	17.793	1024.90	0.39	19.425	942.86	0.37			
16.811	1056.47	0.40	17.812	1024.98	0.39	19.443	942.99	0.37			
16.829	1056.54	0.40	17.830	1025.06	0.39	19.461	943.11	0.37			
16.847	1056.60	0.40	17.849	1025.14	0.39	19.479	943.24	0.37			
16.865	1056.67	0.40	17.867	1025.19	0.39	19.497	943.36	0.37			
16.883	1056.74	0.40	17.885	1025.23	0.39	19.515	943.49	0.37			
16.901	1056.80	0.40	17.904	1025.30	0.39	19.533	943.61	0.37			
16.919	1056.87	0.40	17.922	1025.38	0.39	19.551	943.73	0.37			
16.937	1056.94	0.40	17.940	1025.46	0.39	19.569	943.86	0.37			
16.955	1057.01	0.40	17.959	1025.54	0.39	19.587	943.98	0.37			
16.973	1057.07	0.40	17.977	1025.62	0.39	19.605	944.11	0.37			
16.991	1057.16	0.40	17.996	1025.69	0.39	19.623	944.23	0.37			
17.009	1057.25	0.40	18.014	1025.77	0.39	19.641	944.36	0.37			
17.027	1057.36	0.40	18.032	1025.84	0.39	19.659	944.48	0.37			
17.045	1057.45	0.40	18.051	1025.91	0.39	19.676	944.61	0.37			
17.063	1057.52	0.40	18.069	1025.99	0.39	19.694	944.73	0.37			
17.081	1057.58	0.40	18.088	1026.07	0.39	19.712	944.86	0.37			
17.099	1057.63	0.40	18.106	1026.15	0.39	19.730	944.98	0.37			
17.117	1057.70	0.40	18.124	1026.23	0.39	19.748	945.11	0.37			
17.135	1057.79	0.40	18.143	1026.30	0.39	19.766	945.23	0.37			
17.153	1057.87	0.40	18.161	1026.38	0.39	19.784	945.36	0.37			
17.171	1057.95	0.40	18.180	1026.45	0.39	19.802	945.48	0.37			
17.189	1058.00	0.40	18.198	1026.52	0.39	19.820	945.60	0.37			
17.207	1058.03	0.40	18.216	1026.59	0.39	19.838	945.73	0.37			
17.225	1058.07	0.40	18.235	1026.67	0.39	19.856	945.85	0.37			
17.243	1058.16	0.40	18.253	1026.74	0.39	19.874	945.98	0.37			
17.261	1058.25	0.40	18.271	1026.82	0.39	19.892	946.10	0.37			
17.279	1058.32	0.40	18.290	1026.89	0.39	19.910	946.23	0.37			
17.298	1058.37	0.40	18.308	1026.96	0.39	19.928	946.35	0.37			
17.316	1058.42	0.40	18.327	1027.04	0.39	19.946	946.48	0.37			
17.334	1058.47	0.40	18.345	1027.11	0.39	19.964	946.60	0.37			
17.352	1058.54	0.40	18.363	1027.18	0.39	19.982	946.73	0.37			
17.370	1058.61	0.40	18.382	1027.25	0.39	20.000	946.85	0.37			
17.388	1058.68	0.40	18.400	1027.33	0.39						
17.406	1058.74	0.40	18.419	1027.41	0.39						
17.424	1058.80	0.40	18.437	1027.48	0.39						
17.442	1058.87	0.40	18.455	1027.56	0.39						
17.460	1058.93	0.40	18.474	1027.63	0.39						

17.478	1058.99	0.40	18.492	1027.70	0.39						
17.496	1059.05	0.40	18.511	1027.77	0.39						
17.514	1059.11	0.40	18.529	1027.83	0.39						
17.532	1059.16	0.40	18.547	1027.90	0.39						
17.550	1059.22	0.40	18.566	1027.98	0.39						
17.568	1059.28	0.40	18.584	1028.05	0.39						
17.586	1059.34	0.40	18.602	1028.12	0.39						
17.604	1059.39	0.40	18.621	1028.18	0.39						
17.622	1059.45	0.40	18.639	1028.25	0.39						
17.640	1059.51	0.40	18.658	1028.31	0.39						
17.658	1059.56	0.40	18.676	1028.38	0.39						
17.676	1059.62	0.40	18.694	1028.47	0.39						
17.694	1059.67	0.40	18.713	1028.60	0.39						
17.712	1059.74	0.40	18.731	1028.67	0.39						
17.730	1059.81	0.40	18.750	1028.74	0.39						
17.748	1059.88	0.40	18.768	1028.81	0.39						
17.766	1059.95	0.40	18.786	1028.88	0.39						
17.784	1060.02	0.40	18.805	1028.94	0.39						
17.802	1060.07	0.40	18.823	1029.01	0.39						
17.820	1060.13	0.40	18.842	1029.08	0.39						
17.838	1060.18	0.40	18.860	1029.15	0.39						
17.856	1060.23	0.40	18.878	1029.22	0.39						
17.874	1060.28	0.40	18.897	1029.29	0.39						
17.892	1060.35	0.40	18.915	1029.36	0.39						
17.910	1060.42	0.40	18.933	1029.43	0.39						
17.928	1060.49	0.40	18.952	1029.50	0.39						
17.946	1060.55	0.40	18.970	1029.57	0.39						
17.964	1060.62	0.40	18.989	1029.63	0.39						
17.982	1060.67	0.40	19.007	1029.70	0.39						
18.000	1060.72	0.40	19.025	1029.77	0.39						
18.018	1060.76	0.40	19.044	1029.83	0.39						
18.036	1060.81	0.40	19.062	1029.90	0.39						
18.054	1060.87	0.40	19.081	1029.97	0.39						
18.072	1060.94	0.40	19.099	1030.03	0.39						
18.090	1061.00	0.40	19.117	1030.09	0.39						
18.108	1061.07	0.40	19.136	1030.15	0.39						
18.126	1061.13	0.40	19.154	1030.28	0.39						
18.144	1061.19	0.40	19.173	1030.36	0.39						
18.162	1061.24	0.40	19.191	1030.42	0.39						
18.180	1061.28	0.40	19.209	1030.48	0.39						
18.198	1061.33	0.40	19.228	1030.54	0.39						
18.216	1061.38	0.40	19.246	1030.61	0.39						
18.234	1061.43	0.40	19.264	1030.67	0.39						
18.252	1061.49	0.40	19.283	1030.74	0.39						
18.270	1061.55	0.40	19.301	1030.80	0.39						

18.288	1061.62	0.40	19.320	1030.86	0.39						
18.306	1061.68	0.40	19.338	1030.95	0.39						
18.324	1061.74	0.40	19.356	1031.06	0.39						
18.342	1061.80	0.40	19.375	1031.12	0.39						
18.360	1061.86	0.40	19.393	1031.18	0.39						
18.379	1061.92	0.40	19.412	1031.24	0.39						
18.397	1061.98	0.40	19.430	1031.30	0.39						
18.415	1062.04	0.40	19.448	1031.36	0.39						
18.433	1062.10	0.40	19.467	1031.42	0.39						
18.451	1062.16	0.40	19.485	1031.48	0.39						
18.469	1062.22	0.40	19.504	1031.54	0.39						
18.487	1062.28	0.40	19.522	1031.60	0.39						
18.505	1062.33	0.40	19.540	1031.66	0.39						
18.523	1062.39	0.40	19.559	1031.75	0.39						
18.541	1062.45	0.40	19.577	1031.87	0.39						
18.559	1062.51	0.40	19.595	1031.93	0.39						
18.577	1062.57	0.40	19.614	1031.99	0.39						
18.595	1062.63	0.40	19.632	1032.05	0.39						
18.613	1062.69	0.40	19.651	1032.11	0.39						
18.631	1062.74	0.40	19.669	1032.17	0.39						
18.649	1062.78	0.40	19.687	1032.22	0.39						
18.667	1062.82	0.40	19.706	1032.28	0.39						
18.685	1062.87	0.40	19.724	1032.33	0.39						
18.703	1062.91	0.40	19.743	1032.39	0.39						
18.721	1062.95	0.40	19.761	1032.48	0.39						
18.739	1063.01	0.40	19.779	1032.59	0.39						
18.757	1063.08	0.40	19.798	1032.65	0.39						
18.775	1063.15	0.40	19.816	1032.70	0.39						
18.793	1063.22	0.40	19.835	1032.76	0.39						
18.811	1063.29	0.40	19.853	1032.81	0.39						
18.829	1063.36	0.40	19.871	1032.87	0.39						
18.847	1063.41	0.40	19.890	1032.93	0.39						
18.865	1063.47	0.40	19.908	1033.05	0.39						
18.883	1063.52	0.40	19.926	1033.12	0.39						
18.901	1063.58	0.40	19.945	1033.18	0.39						
18.919	1063.63	0.40	19.963	1033.23	0.39						
18.937	1063.68	0.40	19.982	1033.28	0.39						
18.955	1063.74	0.40	20.000	1033.34	0.39						
18.973	1063.79	0.40									
18.991	1063.84	0.40									
19.009	1063.89	0.40									
19.027	1063.95	0.40									
19.045	1064.00	0.40									
19.063	1064.05	0.40									
19.081	1064.10	0.40									

19.099	1064.15	0.40									
19.117	1064.20	0.40									
19.135	1064.25	0.40									
19.153	1064.31	0.40									
19.171	1064.36	0.40									
19.189	1064.42	0.40									
19.207	1064.48	0.40									
19.225	1064.54	0.40									
19.243	1064.61	0.40									
19.261	1064.67	0.40									
19.279	1064.73	0.40									
19.297	1064.79	0.40									
19.315	1064.84	0.40									
19.333	1064.88	0.40									
19.351	1064.93	0.40									
19.369	1064.98	0.40									
19.387	1065.03	0.40									
19.405	1065.08	0.40									
19.423	1065.14	0.40									
19.441	1065.19	0.40									
19.460	1065.25	0.40									
19.478	1065.31	0.40									
19.496	1065.37	0.40									
19.514	1065.43	0.40									
19.532	1065.49	0.40									
19.550	1065.54	0.40									
19.568	1065.58	0.40									
19.586	1065.63	0.40									
19.604	1065.67	0.40									
19.622	1065.72	0.40									
19.640	1065.77	0.40									
19.658	1065.81	0.40									
19.676	1065.86	0.40									
19.694	1065.92	0.40									
19.712	1065.98	0.40									
19.730	1066.03	0.40									
19.748	1066.09	0.40									
19.766	1066.14	0.40									
19.784	1066.20	0.40									
19.802	1066.25	0.40									
19.820	1066.31	0.40									
19.838	1066.36	0.40									
19.856	1066.42	0.40									
19.874	1066.47	0.40									
19.892	1066.53	0.40									

19.910	1066.58	0.40									
19.928	1066.64	0.40									
19.946	1066.69	0.40									
19.964	1066.74	0.40									
19.982	1066.80	0.40									
20.000	1066.85	0.40									

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S1 (continued). $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty.

x_{CO_2} = 0.9206; x_{SO_2} = 0.0493; x_{CO} = 0.0301											
***T*= 313.18±0.02 K**			***T*= 333.16±0.02K**			***T*= 353.15±0.02 K**			***T*= 373.13±0.02 K**		
p **(MPa)**	***ρ*** **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***p*** **(MPa)**	***ρ*** **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***p*** **(MPa)**	***ρ*** **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***p*** **(MPa)**	***ρ*** **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**
0.120	2.14	0.23	0.120	2.06	0.23	0.100	1.58	0.23	0.100	1.47	0.23
0.140	2.47	0.23	0.140	2.39	0.23	0.120	1.87	0.23	0.120	1.75	0.22
0.160	2.79	0.23	0.160	2.72	0.23	0.140	2.15	0.22	0.140	2.02	0.22
0.180	3.13	0.23	0.180	3.07	0.23	0.160	2.50	0.23	0.160	2.30	0.22
0.200	3.48	0.23	0.200	3.40	0.23	0.180	2.76	0.22	0.180	2.61	0.22
0.220	3.82	0.23	0.220	3.67	0.23	0.200	3.07	0.22	0.200	2.89	0.22
0.239	4.19	0.23	0.240	4.00	0.23	0.220	3.39	0.23	0.220	3.20	0.22
0.259	4.53	0.23	0.260	4.37	0.23	0.240	3.69	0.22	0.240	3.50	0.22
0.279	4.84	0.22	0.280	4.69	0.23	0.260	4.00	0.22	0.260	3.79	0.22
0.299	5.24	0.23	0.299	4.97	0.23	0.280	4.29	0.22	0.280	4.05	0.22
0.319	5.53	0.22	0.319	5.29	0.23	0.299	4.58	0.22	0.299	4.42	0.23
0.339	5.90	0.22	0.339	5.61	0.23	0.319	4.90	0.22	0.319	4.66	0.22
0.359	6.27	0.22	0.359	5.97	0.23	0.339	5.24	0.22	0.339	5.01	0.23
0.379	6.59	0.22	0.379	6.29	0.23	0.359	5.50	0.22	0.359	5.25	0.22
0.399	6.94	0.22	0.399	6.57	0.23	0.379	5.84	0.22	0.379	5.55	0.22
0.419	7.27	0.22	0.419	6.96	0.23	0.399	6.13	0.22	0.399	5.83	0.22
0.439	7.65	0.22	0.439	7.25	0.23	0.419	6.46	0.22	0.419	6.12	0.22
0.459	7.99	0.22	0.459	7.58	0.23	0.439	6.77	0.22	0.439	6.41	0.22
0.478	8.37	0.22	0.479	7.92	0.23	0.459	7.04	0.22	0.459	6.69	0.22
0.498	8.73	0.22	0.499	8.29	0.23	0.479	7.37	0.22	0.479	6.97	0.22
0.518	9.05	0.22	0.519	8.63	0.23	0.499	7.65	0.22	0.499	7.24	0.22
0.538	9.42	0.22	0.539	8.95	0.23	0.519	7.98	0.22	0.519	7.55	0.22
0.558	9.80	0.22	0.559	9.29	0.23	0.539	8.25	0.22	0.539	7.86	0.22
0.578	10.16	0.22	0.579	9.62	0.23	0.559	8.59	0.22	0.559	8.12	0.22
0.598	10.50	0.22	0.599	9.94	0.23	0.579	8.88	0.22	0.579	8.41	0.22
0.618	10.88	0.22	0.619	10.28	0.23	0.599	9.20	0.22	0.599	8.77	0.22
0.638	11.19	0.22	0.639	10.64	0.23	0.619	9.50	0.22	0.619	9.05	0.22
0.658	11.55	0.22	0.659	10.99	0.23	0.639	9.86	0.22	0.639	9.38	0.22
0.678	11.90	0.22	0.678	11.33	0.23	0.659	10.13	0.22	0.659	9.64	0.22
0.698	12.27	0.22	0.698	11.66	0.23	0.678	10.46	0.22	0.678	9.94	0.22
0.718	12.64	0.22	0.718	12.02	0.23	0.698	10.78	0.22	0.698	10.23	0.22
0.737	12.99	0.22	0.738	12.39	0.23	0.718	11.13	0.22	0.718	10.51	0.22
0.757	13.35	0.22	0.758	12.74	0.23	0.738	11.45	0.22	0.738	10.84	0.22
0.777	13.72	0.22	0.778	13.07	0.23	0.758	11.77	0.22	0.758	11.10	0.22
0.797	14.08	0.22	0.798	13.42	0.23	0.778	12.08	0.22	0.778	11.38	0.22

0.817	14.43	0.22	0.818	13.78	0.23	0.798	12.39	0.22	0.798	11.67	0.22
0.837	14.83	0.22	0.838	14.15	0.23	0.818	12.68	0.22	0.818	11.95	0.22
0.857	15.17	0.22	0.858	14.54	0.23	0.838	13.00	0.22	0.838	12.26	0.22
0.877	15.57	0.22	0.878	14.90	0.23	0.858	13.31	0.22	0.858	12.57	0.22
0.897	15.91	0.22	0.898	15.25	0.23	0.878	13.62	0.22	0.878	12.88	0.22
0.917	16.30	0.22	0.918	15.59	0.23	0.898	13.95	0.22	0.898	13.16	0.22
0.937	16.66	0.22	0.938	15.91	0.23	0.918	14.29	0.22	0.918	13.44	0.22
0.957	17.08	0.22	0.958	16.26	0.23	0.938	14.59	0.22	0.938	13.76	0.22
0.976	17.42	0.22	0.978	16.62	0.23	0.958	14.86	0.22	0.958	14.11	0.22
0.996	17.81	0.22	0.998	16.99	0.23	0.978	15.24	0.22	0.978	14.38	0.22
1.016	18.19	0.22	1.018	17.35	0.23	0.998	15.54	0.22	0.998	14.70	0.22
1.036	18.59	0.22	1.037	17.71	0.23	1.018	15.86	0.22	1.018	14.99	0.22
1.056	18.98	0.22	1.057	18.06	0.23	1.037	16.17	0.22	1.037	15.29	0.22
1.076	19.36	0.22	1.077	18.43	0.23	1.057	16.49	0.22	1.057	15.55	0.22
1.096	19.76	0.22	1.097	18.79	0.23	1.077	16.80	0.22	1.077	15.84	0.22
1.116	20.14	0.22	1.117	19.19	0.23	1.097	17.17	0.22	1.097	16.15	0.22
1.136	20.51	0.22	1.137	19.55	0.23	1.117	17.45	0.22	1.117	16.45	0.22
1.156	20.94	0.23	1.157	19.95	0.23	1.137	17.81	0.22	1.137	16.75	0.22
1.176	21.29	0.23	1.177	20.29	0.23	1.157	18.11	0.22	1.157	17.03	0.22
1.196	21.70	0.23	1.197	20.67	0.23	1.177	18.38	0.22	1.177	17.36	0.22
1.216	22.04	0.23	1.217	20.98	0.23	1.197	18.78	0.22	1.197	17.67	0.22
1.235	22.45	0.23	1.237	21.30	0.23	1.217	19.09	0.22	1.217	17.96	0.22
1.255	22.89	0.23	1.257	21.65	0.23	1.237	19.38	0.22	1.237	18.25	0.22
1.275	23.21	0.23	1.277	22.00	0.23	1.257	19.75	0.22	1.257	18.53	0.22
1.295	23.64	0.23	1.297	22.35	0.23	1.277	20.04	0.22	1.277	18.81	0.22
1.315	23.99	0.23	1.317	22.72	0.23	1.297	20.38	0.22	1.297	19.15	0.22
1.335	24.42	0.23	1.337	23.08	0.23	1.317	20.72	0.22	1.317	19.51	0.22
1.355	24.80	0.23	1.357	23.45	0.23	1.337	21.05	0.22	1.337	19.76	0.22
1.375	25.18	0.23	1.377	23.82	0.23	1.357	21.35	0.22	1.357	20.09	0.22
1.395	25.60	0.23	1.397	24.20	0.23	1.377	21.70	0.22	1.377	20.40	0.22
1.415	25.96	0.23	1.416	24.50	0.23	1.397	22.05	0.22	1.397	20.65	0.22
1.435	26.37	0.23	1.436	24.88	0.23	1.416	22.33	0.22	1.416	20.95	0.22
1.455	26.75	0.23	1.456	25.24	0.23	1.436	22.65	0.22	1.436	21.26	0.22
1.474	27.13	0.23	1.476	25.55	0.23	1.456	23.03	0.22	1.456	21.63	0.22
1.494	27.54	0.23	1.496	25.93	0.23	1.476	23.36	0.22	1.476	21.92	0.22
1.514	27.93	0.23	1.516	26.24	0.23	1.496	23.67	0.22	1.496	22.19	0.22
1.534	28.30	0.23	1.536	26.62	0.23	1.516	23.97	0.22	1.516	22.54	0.22
1.554	28.72	0.23	1.556	26.95	0.23	1.536	24.35	0.22	1.536	22.87	0.22
1.574	29.15	0.23	1.576	27.32	0.23	1.556	24.65	0.22	1.556	23.15	0.22
1.594	29.48	0.23	1.596	27.63	0.23	1.576	25.02	0.22	1.576	23.43	0.22
1.614	29.88	0.23	1.616	28.00	0.23	1.596	25.33	0.22	1.596	23.75	0.22
1.634	30.29	0.23	1.636	28.35	0.23	1.616	25.65	0.22	1.616	24.05	0.22
1.654	30.69	0.23	1.656	28.71	0.23	1.636	26.00	0.22	1.636	24.36	0.22
1.674	31.08	0.23	1.676	29.06	0.23	1.656	26.34	0.22	1.656	24.69	0.22
1.694	31.53	0.23	1.696	29.38	0.23	1.676	26.66	0.22	1.676	25.01	0.22

1.714	31.91	0.23	1.716	29.85	0.23	1.696	26.99	0.22	1.696	25.30	0.22
1.733	32.29	0.23	1.736	30.23	0.23	1.716	27.38	0.22	1.716	25.63	0.22
1.753	32.72	0.23	1.756	30.62	0.23	1.736	27.69	0.22	1.736	25.96	0.22
1.773	33.09	0.23	1.776	31.00	0.23	1.756	28.06	0.22	1.756	26.28	0.22
1.793	33.55	0.23	1.795	31.38	0.23	1.776	28.36	0.22	1.776	26.59	0.22
1.813	33.92	0.23	1.815	31.76	0.23	1.795	28.72	0.22	1.795	26.90	0.22
1.833	34.37	0.23	1.835	32.15	0.23	1.815	29.07	0.22	1.815	27.21	0.22
1.853	34.75	0.23	1.855	32.53	0.23	1.835	29.42	0.22	1.835	27.51	0.22
1.873	35.17	0.23	1.875	32.91	0.23	1.855	29.75	0.22	1.855	27.83	0.22
1.893	35.60	0.23	1.895	33.30	0.23	1.875	30.11	0.22	1.875	28.16	0.22
1.913	35.95	0.23	1.915	33.68	0.23	1.895	30.49	0.22	1.895	28.49	0.22
1.933	36.36	0.23	1.935	34.06	0.23	1.915	30.81	0.22	1.915	28.81	0.22
1.953	36.77	0.23	1.955	34.44	0.23	1.935	31.17	0.22	1.935	29.13	0.22
1.972	37.23	0.23	1.975	34.83	0.23	1.955	31.53	0.22	1.955	29.45	0.22
1.992	37.64	0.23	1.995	35.21	0.23	1.975	31.88	0.22	1.975	29.76	0.22
2.012	38.06	0.23	2.015	35.59	0.23	1.995	32.21	0.22	1.995	30.10	0.22
2.032	38.49	0.23	2.035	35.98	0.23	2.015	32.56	0.22	2.015	30.44	0.22
2.052	38.88	0.23	2.055	36.36	0.23	2.035	32.88	0.22	2.035	30.74	0.22
2.072	39.33	0.23	2.075	36.74	0.23	2.055	33.24	0.22	2.055	31.04	0.22
2.092	39.70	0.23	2.095	37.12	0.23	2.075	33.55	0.22	2.075	31.36	0.22
2.112	40.17	0.23	2.115	37.51	0.23	2.095	33.94	0.22	2.095	31.68	0.22
2.132	40.58	0.23	2.135	37.89	0.23	2.115	34.30	0.22	2.115	32.04	0.22
2.152	40.99	0.23	2.155	38.27	0.23	2.135	34.60	0.22	2.135	32.36	0.22
2.172	41.44	0.23	2.174	38.66	0.23	2.155	34.97	0.22	2.155	32.68	0.22
2.192	41.87	0.23	2.194	39.04	0.23	2.174	35.34	0.22	2.174	32.97	0.22
2.212	42.30	0.23	2.214	39.42	0.23	2.194	35.69	0.22	2.194	33.30	0.22
2.231	42.72	0.23	2.234	39.80	0.23	2.214	36.02	0.22	2.214	33.64	0.22
2.251	43.14	0.23	2.254	40.19	0.23	2.234	36.34	0.22	2.234	33.95	0.22
2.271	43.55	0.23	2.274	40.57	0.23	2.254	36.72	0.22	2.254	34.24	0.22
2.291	44.02	0.23	2.294	40.95	0.23	2.274	37.04	0.22	2.274	34.55	0.22
2.311	44.43	0.23	2.314	41.34	0.23	2.294	37.42	0.22	2.294	34.91	0.22
2.331	44.83	0.23	2.334	41.72	0.23	2.314	37.80	0.23	2.314	35.26	0.22
2.351	45.30	0.23	2.354	42.10	0.23	2.334	38.09	0.22	2.334	35.55	0.22
2.371	45.76	0.23	2.374	42.48	0.23	2.354	38.45	0.22	2.354	35.85	0.22
2.391	46.15	0.23	2.394	42.87	0.23	2.374	38.81	0.22	2.374	36.21	0.22
2.411	46.60	0.23	2.414	43.25	0.23	2.394	39.16	0.22	2.394	36.56	0.22
2.431	47.05	0.23	2.434	43.63	0.23	2.414	39.52	0.22	2.414	36.87	0.22
2.451	47.49	0.23	2.454	44.02	0.23	2.434	39.92	0.23	2.434	37.19	0.22
2.470	47.93	0.23	2.474	44.40	0.23	2.454	40.25	0.23	2.454	37.53	0.22
2.490	48.42	0.23	2.494	44.78	0.23	2.474	40.57	0.22	2.474	37.88	0.22
2.510	48.86	0.23	2.514	45.15	0.23	2.494	40.97	0.23	2.494	38.23	0.22
2.530	49.28	0.23	2.533	45.56	0.23	2.514	41.31	0.23	2.514	38.57	0.22
2.550	49.74	0.23	2.553	45.97	0.23	2.533	41.69	0.23	2.533	38.91	0.22
2.570	50.20	0.23	2.573	46.37	0.23	2.553	42.01	0.23	2.553	39.24	0.22
2.590	50.64	0.23	2.593	46.78	0.23	2.573	42.37	0.23	2.573	39.43	0.22

2.610	51.12	0.23	2.613	47.19	0.23	2.593	42.75	0.23	2.593	39.77	0.22
2.630	51.52	0.23	2.633	47.60	0.23	2.613	43.07	0.23	2.613	40.10	0.22
2.650	51.98	0.23	2.653	48.00	0.23	2.633	43.43	0.23	2.633	40.44	0.22
2.670	52.45	0.23	2.673	48.41	0.23	2.653	43.80	0.23	2.653	40.78	0.22
2.690	52.90	0.23	2.693	48.82	0.23	2.673	44.16	0.23	2.673	41.11	0.22
2.710	53.38	0.23	2.713	49.22	0.23	2.693	44.52	0.23	2.693	41.44	0.22
2.729	53.89	0.23	2.733	49.63	0.23	2.713	44.87	0.23	2.713	41.77	0.22
2.749	54.32	0.23	2.753	50.04	0.23	2.733	45.25	0.23	2.733	42.10	0.22
2.769	54.76	0.23	2.773	50.45	0.23	2.753	45.58	0.23	2.753	42.43	0.22
2.789	55.23	0.23	2.793	50.85	0.23	2.773	45.97	0.23	2.773	42.76	0.22
2.809	55.72	0.23	2.813	51.26	0.23	2.793	46.33	0.23	2.793	43.10	0.22
2.829	56.21	0.23	2.833	51.67	0.23	2.813	46.67	0.23	2.813	43.44	0.22
2.849	56.70	0.23	2.853	52.08	0.23	2.833	47.05	0.23	2.833	43.78	0.22
2.869	57.19	0.23	2.873	52.48	0.23	2.853	47.43	0.23	2.853	44.11	0.22
2.889	57.66	0.23	2.893	52.89	0.23	2.873	47.72	0.23	2.873	44.44	0.22
2.909	58.13	0.23	2.912	53.30	0.23	2.893	48.16	0.23	2.893	44.77	0.22
2.929	58.59	0.23	2.932	53.71	0.23	2.912	48.52	0.23	2.912	45.10	0.22
2.949	59.06	0.23	2.952	54.11	0.23	2.932	48.88	0.23	2.932	45.41	0.22
2.968	59.55	0.23	2.972	54.52	0.23	2.952	49.24	0.23	2.952	45.73	0.22
2.988	60.05	0.23	2.992	54.93	0.23	2.972	49.58	0.23	2.972	46.10	0.22
3.008	60.50	0.23	3.012	55.34	0.23	2.992	49.92	0.23	2.992	46.43	0.22
3.028	61.00	0.23	3.032	55.74	0.23	3.012	50.34	0.23	3.012	46.74	0.22
3.048	61.51	0.23	3.052	56.15	0.23	3.032	50.68	0.23	3.032	47.10	0.22
3.068	61.99	0.23	3.072	56.56	0.23	3.052	51.03	0.23	3.052	47.41	0.22
3.088	62.48	0.23	3.092	56.97	0.23	3.072	51.42	0.23	3.072	47.77	0.22
3.108	62.97	0.23	3.112	57.31	0.23	3.092	51.82	0.23	3.092	48.09	0.22
3.128	63.45	0.23	3.132	57.70	0.23	3.112	52.16	0.23	3.112	48.43	0.22
3.148	63.93	0.23	3.152	58.09	0.23	3.132	52.53	0.23	3.132	48.79	0.22
3.168	64.42	0.23	3.172	58.41	0.23	3.152	52.91	0.23	3.152	49.15	0.22
3.188	64.94	0.23	3.192	58.82	0.23	3.172	53.25	0.23	3.172	49.48	0.22
3.208	65.43	0.23	3.212	59.22	0.23	3.192	53.66	0.23	3.192	49.77	0.22
3.227	65.92	0.23	3.232	59.57	0.23	3.212	53.99	0.23	3.212	50.11	0.22
3.247	66.43	0.23	3.252	59.97	0.23	3.232	54.38	0.23	3.232	50.46	0.22
3.267	66.94	0.23	3.272	60.33	0.23	3.252	54.76	0.23	3.252	50.81	0.22
3.287	67.46	0.23	3.291	60.73	0.23	3.272	55.15	0.23	3.272	51.15	0.22
3.307	67.98	0.23	3.311	61.12	0.23	3.291	55.54	0.23	3.291	51.49	0.22
3.327	68.49	0.23	3.331	61.51	0.23	3.311	55.91	0.23	3.311	51.81	0.22
3.347	68.99	0.23	3.351	61.92	0.23	3.331	56.28	0.23	3.331	52.14	0.22
3.367	69.50	0.23	3.371	62.30	0.23	3.351	56.66	0.23	3.351	52.47	0.22
3.387	70.03	0.23	3.391	62.66	0.23	3.371	57.02	0.23	3.371	52.79	0.22
3.407	70.56	0.23	3.411	63.04	0.23	3.391	57.38	0.23	3.391	53.18	0.22
3.427	71.05	0.23	3.431	63.47	0.23	3.411	57.73	0.23	3.411	53.51	0.22
3.447	71.56	0.23	3.451	63.85	0.23	3.431	58.16	0.23	3.431	53.87	0.22
3.466	72.09	0.23	3.471	64.23	0.23	3.451	58.52	0.23	3.451	54.22	0.22
3.486	72.62	0.23	3.491	64.69	0.23	3.471	58.88	0.23	3.471	54.53	0.22

3.506	73.15	0.23	3.511	65.09	0.23	3.491	59.28	0.23	3.491	54.90	0.22
3.526	73.66	0.23	3.531	65.48	0.23	3.511	59.66	0.23	3.511	55.21	0.22
3.546	74.21	0.23	3.551	65.89	0.23	3.531	60.07	0.23	3.531	55.55	0.22
3.566	74.78	0.23	3.571	66.30	0.23	3.551	60.44	0.23	3.551	55.92	0.22
3.586	75.30	0.23	3.591	66.71	0.23	3.571	60.82	0.23	3.571	56.27	0.22
3.606	75.82	0.23	3.611	67.07	0.23	3.591	61.23	0.23	3.591	56.57	0.22
3.626	76.37	0.23	3.631	67.49	0.23	3.611	61.64	0.23	3.611	56.90	0.22
3.646	76.92	0.23	3.651	67.92	0.23	3.631	61.98	0.23	3.631	57.24	0.22
3.666	77.47	0.23	3.670	68.29	0.23	3.651	62.34	0.23	3.651	57.59	0.22
3.686	78.02	0.23	3.690	68.71	0.23	3.670	62.74	0.23	3.670	57.93	0.22
3.706	78.56	0.23	3.710	69.17	0.23	3.690	63.12	0.23	3.690	58.30	0.22
3.725	79.10	0.23	3.730	69.65	0.23	3.710	63.57	0.23	3.710	58.68	0.22
3.745	79.66	0.23	3.750	70.09	0.23	3.730	63.97	0.23	3.730	59.01	0.22
3.765	80.25	0.23	3.770	70.51	0.23	3.750	64.34	0.23	3.750	59.35	0.22
3.785	80.81	0.23	3.790	70.97	0.23	3.770	64.71	0.23	3.770	59.68	0.22
3.805	81.34	0.23	3.810	71.44	0.23	3.790	65.08	0.23	3.790	60.01	0.22
3.825	81.91	0.23	3.830	71.91	0.23	3.810	65.48	0.23	3.810	60.39	0.22
3.845	82.49	0.23	3.850	72.33	0.23	3.830	65.88	0.23	3.830	60.77	0.22
3.865	83.05	0.23	3.870	72.75	0.23	3.850	66.26	0.23	3.850	61.14	0.22
3.885	83.61	0.23	3.890	73.25	0.23	3.870	66.68	0.23	3.870	61.46	0.22
3.905	84.19	0.23	3.910	73.66	0.23	3.890	67.09	0.23	3.890	61.80	0.22
3.925	84.76	0.23	3.930	74.15	0.23	3.910	67.52	0.23	3.910	62.17	0.22
3.945	85.32	0.23	3.950	74.55	0.23	3.930	67.93	0.23	3.930	62.53	0.22
3.964	85.87	0.23	3.970	75.02	0.23	3.950	68.28	0.23	3.950	62.88	0.22
3.984	86.43	0.23	3.990	75.50	0.23	3.970	68.72	0.23	3.970	63.24	0.22
4.004	87.01	0.23	4.010	75.91	0.23	3.990	69.10	0.23	3.990	63.60	0.22
4.024	87.61	0.23	4.029	76.37	0.23	4.010	69.52	0.23	4.010	63.95	0.22
4.044	88.16	0.23	4.049	76.85	0.23	4.029	69.95	0.23	4.029	64.29	0.22
4.064	88.71	0.23	4.069	77.30	0.23	4.049	70.30	0.23	4.049	64.64	0.22
4.084	89.28	0.23	4.089	77.76	0.23	4.069	70.72	0.23	4.069	64.99	0.22
4.104	89.86	0.23	4.109	78.22	0.23	4.089	71.12	0.23	4.089	65.33	0.22
4.124	90.45	0.23	4.129	78.67	0.23	4.109	71.49	0.23	4.109	65.69	0.22
4.144	91.04	0.23	4.149	79.13	0.23	4.129	71.91	0.23	4.129	66.06	0.22
4.164	91.66	0.23	4.169	79.65	0.23	4.149	72.32	0.23	4.149	66.38	0.22
4.184	92.26	0.23	4.189	80.09	0.23	4.169	72.71	0.23	4.169	66.72	0.22
4.204	92.83	0.23	4.209	80.53	0.23	4.189	73.15	0.23	4.189	67.08	0.22
4.223	93.41	0.23	4.229	81.03	0.23	4.209	73.49	0.23	4.209	67.44	0.22
4.243	94.02	0.23	4.249	81.47	0.23	4.229	73.90	0.23	4.229	67.78	0.22
4.263	94.60	0.23	4.269	81.95	0.23	4.249	74.32	0.23	4.249	68.13	0.22
4.283	95.17	0.23	4.289	82.42	0.23	4.269	74.73	0.23	4.269	68.50	0.22
4.303	95.74	0.23	4.309	82.88	0.23	4.289	75.16	0.23	4.289	68.88	0.23
4.323	96.34	0.23	4.329	83.34	0.23	4.309	75.55	0.23	4.309	69.26	0.23
4.343	96.94	0.23	4.349	83.85	0.23	4.329	75.95	0.23	4.329	69.64	0.23
4.363	97.53	0.23	4.369	84.29	0.23	4.349	76.35	0.23	4.349	70.01	0.23
4.383	98.13	0.23	4.389	84.76	0.23	4.369	76.72	0.23	4.369	70.39	0.23

4.403	98.72	0.23	4.408	85.25	0.23	4.389	77.13	0.23	4.389	70.77	0.23
4.423	99.31	0.23	4.428	85.74	0.23	4.408	77.59	0.23	4.408	71.14	0.23
4.443	99.90	0.23	4.448	86.20	0.23	4.428	77.96	0.23	4.428	71.53	0.23
4.462	100.48	0.23	4.468	86.70	0.23	4.448	78.37	0.23	4.448	71.91	0.23
4.482	101.07	0.23	4.488	87.20	0.23	4.468	78.81	0.23	4.468	72.29	0.23
4.502	101.67	0.23	4.508	87.66	0.23	4.488	79.21	0.23	4.488	72.67	0.23
4.522	102.28	0.23	4.528	88.12	0.23	4.508	79.62	0.23	4.508	73.05	0.23
4.542	102.89	0.23	4.548	88.62	0.23	4.528	80.06	0.23	4.528	73.44	0.23
4.562	103.48	0.23	4.568	89.11	0.23	4.548	80.44	0.23	4.548	73.82	0.23
4.582	104.08	0.23	4.588	89.60	0.23	4.568	80.87	0.23	4.568	74.21	0.23
4.602	104.70	0.23	4.608	90.09	0.23	4.588	81.29	0.23	4.588	74.59	0.23
4.622	105.31	0.23	4.628	90.58	0.23	4.608	81.72	0.23	4.608	74.98	0.23
4.642	105.92	0.23	4.648	91.06	0.23	4.628	82.07	0.23	4.628	75.34	0.23
4.662	106.53	0.23	4.668	91.57	0.23	4.648	82.51	0.23	4.648	75.69	0.23
4.682	107.13	0.23	4.688	92.10	0.23	4.668	82.98	0.23	4.668	76.03	0.23
4.702	107.74	0.23	4.708	92.56	0.23	4.688	83.40	0.23	4.688	76.46	0.23
4.721	108.38	0.23	4.728	93.04	0.23	4.708	83.82	0.23	4.708	76.79	0.23
4.741	109.03	0.23	4.748	93.60	0.23	4.728	84.22	0.23	4.728	77.19	0.23
4.761	109.63	0.23	4.768	94.05	0.23	4.748	84.63	0.23	4.748	77.55	0.23
4.781	110.23	0.23	4.787	94.57	0.23	4.768	85.03	0.23	4.768	77.91	0.23
4.801	110.87	0.23	4.807	95.06	0.23	4.787	85.51	0.23	4.787	78.27	0.23
4.821	111.51	0.23	4.827	95.60	0.23	4.807	85.91	0.23	4.807	78.62	0.23
4.841	112.16	0.23	4.847	96.06	0.23	4.827	86.30	0.23	4.827	78.99	0.23
4.861	112.80	0.23	4.867	96.59	0.23	4.847	86.78	0.23	4.847	79.37	0.23
4.881	113.44	0.23	4.887	97.08	0.23	4.867	87.17	0.23	4.867	79.75	0.23
4.901	114.07	0.23	4.907	97.62	0.23	4.887	87.58	0.23	4.887	80.15	0.23
4.921	114.71	0.23	4.927	98.09	0.23	4.907	88.00	0.23	4.907	80.52	0.23
4.941	115.34	0.23	4.947	98.62	0.23	4.927	88.46	0.23	4.927	80.87	0.23
4.960	115.99	0.23	4.967	99.14	0.23	4.947	88.90	0.23	4.947	81.21	0.23
4.980	116.64	0.23	4.987	99.67	0.23	4.967	89.30	0.23	4.967	81.63	0.23
5.000	117.31	0.23	5.007	100.19	0.23	4.987	89.75	0.23	4.987	81.98	0.23
5.020	117.98	0.23	5.027	100.69	0.23	5.007	90.21	0.23	5.007	82.40	0.23
5.040	118.64	0.23	5.047	101.19	0.23	5.027	90.57	0.23	5.027	82.74	0.23
5.060	119.29	0.23	5.067	101.72	0.23	5.047	90.99	0.23	5.047	83.12	0.23
5.080	119.95	0.23	5.087	102.20	0.23	5.067	91.45	0.23	5.067	83.49	0.23
5.100	120.64	0.23	5.107	102.77	0.23	5.087	91.88	0.23	5.087	83.90	0.23
5.120	121.33	0.23	5.127	103.29	0.23	5.107	92.34	0.23	5.107	84.27	0.23
5.140	121.99	0.23	5.146	103.79	0.23	5.127	92.74	0.23	5.127	84.63	0.23
5.160	122.64	0.23	5.166	104.31	0.23	5.146	93.24	0.23	5.146	85.04	0.23
5.180	123.31	0.23	5.186	104.81	0.23	5.166	93.61	0.23	5.166	85.39	0.23
5.199	123.99	0.23	5.206	105.39	0.23	5.186	94.05	0.23	5.186	85.78	0.23
5.219	124.69	0.23	5.226	105.89	0.23	5.206	94.48	0.23	5.206	86.15	0.23
5.239	125.41	0.23	5.246	106.40	0.23	5.226	94.93	0.23	5.226	86.56	0.23
5.259	126.12	0.23	5.266	106.96	0.23	5.246	95.36	0.23	5.246	86.90	0.23
5.279	126.83	0.23	5.286	107.48	0.23	5.266	95.78	0.23	5.266	87.30	0.23

5.299	127.54	0.23	5.306	108.03	0.23	5.286	96.27	0.23	5.286	87.71	0.23
5.319	128.21	0.23	5.326	108.54	0.23	5.306	96.69	0.23	5.306	88.09	0.23
5.339	128.88	0.23	5.346	109.10	0.23	5.326	97.12	0.23	5.326	88.42	0.23
5.359	129.61	0.23	5.366	109.63	0.23	5.346	97.57	0.23	5.346	88.83	0.23
5.379	130.34	0.23	5.386	110.15	0.23	5.366	98.03	0.23	5.366	89.22	0.23
5.399	131.08	0.23	5.406	110.71	0.23	5.386	98.46	0.23	5.386	89.61	0.23
5.419	131.82	0.23	5.426	111.28	0.23	5.406	98.93	0.23	5.406	90.00	0.23
5.439	132.54	0.23	5.446	111.83	0.23	5.426	99.35	0.23	5.426	90.39	0.23
5.458	133.24	0.23	5.466	112.38	0.23	5.446	99.81	0.23	5.446	90.78	0.23
5.478	133.95	0.23	5.486	112.93	0.23	5.466	100.27	0.23	5.466	91.17	0.23
5.498	134.72	0.23	5.506	113.48	0.23	5.486	100.68	0.23	5.486	91.55	0.23
5.518	135.49	0.23	5.525	114.03	0.23	5.506	101.13	0.23	5.506	91.92	0.23
5.538	136.23	0.23	5.545	114.57	0.23	5.525	101.59	0.23	5.525	92.32	0.23
5.558	136.96	0.23	5.565	115.12	0.23	5.545	102.05	0.23	5.545	92.69	0.23
5.578	137.71	0.23	5.585	115.66	0.23	5.565	102.50	0.23	5.565	93.07	0.23
5.598	138.46	0.23	5.605	116.20	0.23	5.585	102.95	0.23	5.585	93.51	0.23
5.618	139.23	0.23	5.625	116.77	0.23	5.605	103.41	0.23	5.605	93.87	0.23
5.638	140.02	0.23	5.645	117.36	0.23	5.625	103.86	0.23	5.625	94.31	0.23
5.658	140.82	0.23	5.665	117.88	0.23	5.645	104.30	0.23	5.645	94.68	0.23
5.678	141.57	0.23	5.685	118.43	0.23	5.665	104.75	0.23	5.665	95.05	0.23
5.697	142.32	0.23	5.705	119.04	0.23	5.685	105.19	0.23	5.685	95.48	0.23
5.717	143.10	0.23	5.725	119.57	0.23	5.705	105.63	0.23	5.705	95.85	0.23
5.737	143.91	0.23	5.745	120.18	0.23	5.725	106.11	0.23	5.725	96.28	0.23
5.757	144.71	0.23	5.765	120.78	0.23	5.745	106.57	0.23	5.745	96.63	0.23
5.777	145.52	0.23	5.785	121.30	0.23	5.765	107.01	0.23	5.765	97.06	0.23
5.797	146.34	0.23	5.805	121.89	0.23	5.785	107.50	0.23	5.785	97.42	0.23
5.817	147.15	0.23	5.825	122.44	0.23	5.805	107.93	0.23	5.805	97.82	0.23
5.837	147.96	0.23	5.845	123.05	0.23	5.825	108.35	0.23	5.825	98.24	0.23
5.857	148.77	0.23	5.865	123.65	0.23	5.845	108.86	0.23	5.845	98.61	0.23
5.877	149.58	0.23	5.885	124.17	0.23	5.865	109.37	0.23	5.865	99.02	0.23
5.897	150.40	0.23	5.904	124.76	0.23	5.885	109.78	0.23	5.885	99.44	0.23
5.917	151.25	0.23	5.924	125.35	0.23	5.904	110.26	0.23	5.904	99.83	0.23
5.937	152.11	0.23	5.944	125.95	0.23	5.924	110.73	0.23	5.924	100.19	0.23
5.956	152.97	0.23	5.964	126.54	0.23	5.944	111.19	0.23	5.944	100.59	0.23
5.976	153.83	0.23	5.984	127.13	0.23	5.964	111.67	0.23	5.964	101.02	0.23
5.996	154.69	0.23	6.004	127.71	0.23	5.984	112.12	0.23	5.984	101.41	0.23
6.016	155.57	0.23	6.024	128.30	0.23	6.004	112.60	0.23	6.004	101.83	0.23
6.036	156.45	0.23	6.044	128.89	0.23	6.024	113.08	0.23	6.024	102.24	0.23
6.056	157.33	0.23	6.064	129.49	0.23	6.044	113.55	0.23	6.044	102.64	0.23
6.076	158.22	0.23	6.084	130.14	0.23	6.064	114.00	0.23	6.064	103.05	0.23
6.096	159.12	0.23	6.104	130.71	0.23	6.084	114.45	0.23	6.084	103.44	0.23
6.116	160.03	0.23	6.124	131.29	0.23	6.104	114.97	0.23	6.104	103.85	0.23
6.136	160.95	0.23	6.144	131.94	0.23	6.124	115.42	0.23	6.124	104.24	0.23
6.156	161.88	0.23	6.164	132.53	0.23	6.144	115.91	0.23	6.144	104.64	0.23
6.176	162.81	0.23	6.184	133.16	0.23	6.164	116.37	0.23	6.164	105.03	0.23

6.195	163.76	0.23	6.204	133.74	0.23	6.184	116.88	0.23	6.184	105.41	0.23
6.215	164.73	0.23	6.224	134.34	0.23	6.204	117.31	0.23	6.204	105.85	0.23
6.235	165.70	0.23	6.244	134.94	0.23	6.224	117.81	0.23	6.224	106.27	0.23
6.255	166.68	0.23	6.264	135.54	0.23	6.244	118.28	0.23	6.244	106.67	0.23
6.275	167.66	0.23	6.283	136.18	0.23	6.264	118.73	0.23	6.264	107.05	0.23
6.295	168.65	0.23	6.303	136.81	0.23	6.283	119.21	0.23	6.283	107.43	0.23
6.315	169.68	0.24	6.323	137.47	0.23	6.303	119.71	0.23	6.303	107.82	0.23
6.335	170.72	0.24	6.343	138.11	0.23	6.323	120.20	0.23	6.323	108.27	0.23
6.355	171.78	0.24	6.363	138.75	0.23	6.343	120.68	0.23	6.343	108.66	0.23
6.375	172.84	0.24	6.383	139.31	0.23	6.363	121.17	0.23	6.363	109.11	0.23
6.395	173.90	0.24	6.403	139.92	0.23	6.383	121.65	0.23	6.383	109.48	0.23
6.415	174.99	0.24	6.423	140.56	0.23	6.403	122.14	0.23	6.403	109.94	0.23
6.435	176.09	0.24	6.443	141.22	0.23	6.423	122.62	0.23	6.423	110.32	0.23
6.454	177.18	0.24	6.463	141.89	0.23	6.443	123.10	0.23	6.443	110.76	0.23
6.474	178.30	0.24	6.483	142.52	0.23	6.463	123.60	0.23	6.463	111.13	0.23
6.494	179.42	0.24	6.503	143.17	0.23	6.483	124.12	0.23	6.483	111.58	0.23
6.514	180.56	0.24	6.523	143.78	0.23	6.503	124.59	0.23	6.503	111.95	0.23
6.534	181.73	0.24	6.543	144.42	0.23	6.523	125.05	0.23	6.523	112.39	0.23
6.554	182.90	0.24	6.563	145.11	0.23	6.543	125.60	0.23	6.543	112.80	0.23
6.574	184.08	0.24	6.583	145.74	0.23	6.563	126.06	0.23	6.563	113.19	0.23
6.594	185.27	0.24	6.603	146.36	0.23	6.583	126.60	0.23	6.583	113.63	0.23
6.614	186.46	0.24	6.623	147.04	0.23	6.603	127.05	0.23	6.603	114.03	0.23
6.634	187.67	0.24	6.642	147.72	0.23	6.623	127.54	0.23	6.623	114.44	0.23
6.654	188.93	0.24	6.662	148.35	0.23	6.642	128.04	0.23	6.642	114.88	0.23
6.674	190.19	0.24	6.682	148.99	0.23	6.662	128.57	0.23	6.662	115.31	0.23
6.693	191.45	0.24	6.702	149.70	0.23	6.682	129.06	0.23	6.682	115.73	0.23
6.713	192.75	0.24	6.722	150.33	0.23	6.702	129.55	0.23	6.702	116.17	0.23
6.733	194.05	0.24	6.742	151.01	0.23	6.722	130.08	0.23	6.722	116.53	0.23
6.753	195.35	0.24	6.762	151.66	0.23	6.742	130.58	0.23	6.742	116.96	0.23
6.773	196.66	0.24	6.782	152.32	0.23	6.762	131.04	0.23	6.762	117.40	0.23
6.793	198.03	0.24	6.802	153.00	0.23	6.782	131.59	0.23	6.782	117.82	0.23
6.813	199.40	0.24	6.822	153.69	0.23	6.802	132.06	0.23	6.802	118.25	0.23
6.833	200.76	0.24	6.842	154.38	0.23	6.822	132.60	0.23	6.822	118.68	0.23
6.853	202.15	0.24	6.862	155.06	0.23	6.842	133.08	0.23	6.842	119.10	0.23
6.873	203.62	0.24	6.882	155.74	0.23	6.862	133.60	0.23	6.862	119.51	0.23
6.893	205.10	0.24	6.902	156.41	0.23	6.882	134.13	0.23	6.882	119.94	0.23
6.913	206.58	0.24	6.922	157.10	0.23	6.902	134.60	0.23	6.902	120.36	0.23
6.933	208.06	0.24	6.942	157.80	0.23	6.922	135.11	0.23	6.922	120.78	0.23
6.952	209.57	0.24	6.962	158.49	0.23	6.942	135.62	0.23	6.942	121.21	0.23
6.972	211.10	0.24	6.982	159.18	0.23	6.962	136.15	0.23	6.962	121.62	0.23
6.992	212.63	0.24	7.002	159.89	0.23	6.982	136.67	0.23	6.982	122.04	0.23
7.012	214.16	0.24	7.021	160.58	0.23	7.002	137.20	0.23	7.002	122.54	0.23
7.032	215.70	0.24	7.041	161.33	0.23	7.021	137.70	0.23	7.021	122.95	0.23
7.052	217.31	0.24	7.061	162.01	0.23	7.041	138.22	0.23	7.041	123.38	0.23
7.072	218.91	0.24	7.081	162.69	0.23	7.061	138.74	0.23	7.061	123.80	0.23

7.092	220.52	0.24	7.101	163.43	0.23	7.081	139.25	0.23	7.081	124.22	0.23
7.112	222.12	0.24	7.121	164.18	0.23	7.101	139.77	0.23	7.101	124.65	0.23
7.132	223.77	0.24	7.141	164.89	0.23	7.121	140.33	0.23	7.121	125.07	0.23
7.152	225.47	0.25	7.161	165.59	0.23	7.141	140.83	0.23	7.141	125.55	0.23
7.172	227.16	0.25	7.181	166.32	0.23	7.161	141.33	0.23	7.161	125.97	0.23
7.191	228.86	0.25	7.201	167.05	0.23	7.181	141.84	0.23	7.181	126.37	0.23
7.211	230.56	0.25	7.221	167.74	0.23	7.201	142.41	0.23	7.201	126.79	0.23
7.231	232.32	0.25	7.241	168.50	0.23	7.221	142.90	0.23	7.221	127.28	0.23
7.251	234.13	0.25	7.261	169.22	0.23	7.241	143.46	0.23	7.241	127.68	0.23
7.271	235.94	0.25	7.281	169.96	0.23	7.261	143.98	0.23	7.261	128.14	0.23
7.291	237.75	0.25	7.301	170.74	0.23	7.281	144.54	0.23	7.281	128.54	0.23
7.311	239.57	0.25	7.321	171.48	0.23	7.301	145.06	0.23	7.301	128.97	0.23
7.331	241.45	0.25	7.341	172.19	0.23	7.321	145.58	0.23	7.321	129.46	0.23
7.351	243.41	0.25	7.361	172.94	0.23	7.341	146.16	0.23	7.341	129.86	0.23
7.371	245.36	0.25	7.381	173.69	0.23	7.361	146.64	0.23	7.361	130.29	0.23
7.391	247.32	0.25	7.400	174.44	0.23	7.381	147.17	0.23	7.381	130.74	0.23
7.411	249.28	0.25	7.420	175.21	0.23	7.400	147.69	0.23	7.400	131.20	0.23
7.431	251.27	0.25	7.440	175.98	0.23	7.420	148.25	0.23	7.420	131.60	0.23
7.450	253.30	0.25	7.460	176.73	0.23	7.440	148.82	0.23	7.440	132.08	0.23
7.470	255.32	0.25	7.480	177.48	0.23	7.460	149.30	0.23	7.460	132.47	0.23
7.490	257.35	0.25	7.500	178.29	0.23	7.480	149.87	0.23	7.480	132.94	0.23
7.510	259.33	0.25	7.520	179.10	0.23	7.500	150.43	0.23	7.500	133.42	0.23
7.530	261.24	0.25	7.540	179.85	0.23	7.520	150.99	0.23	7.520	133.82	0.23
7.550	263.14	0.25	7.560	180.63	0.23	7.540	151.48	0.23	7.540	134.30	0.23
7.570	265.36	0.25	7.580	181.40	0.23	7.560	152.04	0.23	7.560	134.75	0.23
7.590	267.93	0.25	7.600	182.19	0.23	7.580	152.58	0.23	7.580	135.05	0.23
7.610	270.56	0.25	7.620	182.93	0.23	7.600	153.13	0.23	7.600	135.44	0.23
7.630	273.25	0.26	7.640	183.75	0.23	7.620	153.68	0.23	7.620	135.75	0.23
7.650	276.02	0.26	7.660	184.50	0.23	7.640	154.29	0.23	7.640	136.15	0.23
7.670	278.85	0.26	7.680	185.29	0.24	7.660	154.84	0.23	7.660	136.51	0.23
7.689	281.75	0.26	7.700	186.08	0.24	7.680	155.39	0.23	7.680	136.90	0.23
7.709	284.73	0.26	7.720	186.97	0.24	7.700	155.93	0.23	7.700	137.34	0.23
7.729	287.77	0.26	7.740	187.71	0.24	7.720	156.45	0.23	7.720	137.79	0.23
7.749	290.89	0.26	7.760	188.50	0.24	7.740	157.01	0.23	7.740	138.24	0.23
7.769	294.09	0.26	7.779	189.39	0.24	7.760	157.58	0.23	7.760	138.65	0.23
7.789	297.36	0.26	7.799	190.21	0.24	7.779	158.11	0.23	7.779	139.10	0.23
7.809	300.72	0.26	7.819	191.01	0.24	7.799	158.70	0.23	7.799	139.61	0.23
7.829	304.15	0.26	7.839	191.85	0.24	7.819	159.23	0.23	7.819	140.02	0.23
7.849	307.66	0.26	7.859	192.63	0.24	7.839	159.83	0.23	7.839	140.46	0.23
7.869	311.24	0.27	7.879	193.49	0.24	7.859	160.36	0.23	7.859	140.86	0.23
7.889	314.92	0.27	7.899	194.32	0.24	7.879	160.96	0.23	7.879	141.34	0.23
7.909	318.68	0.27	7.919	195.15	0.24	7.899	161.52	0.23	7.899	141.76	0.23
7.929	322.53	0.27	7.939	196.01	0.24	7.919	162.07	0.23	7.919	142.22	0.23
7.948	326.46	0.27	7.959	196.89	0.24	7.939	162.63	0.23	7.939	142.71	0.23
7.968	330.48	0.27	7.979	197.75	0.24	7.959	163.18	0.23	7.959	143.16	0.23

7.988	334.58	0.27	7.999	198.58	0.24	7.979	163.77	0.23	7.979	143.59	0.23
8.008	338.78	0.27	8.019	199.43	0.24	7.999	164.35	0.23	7.999	144.01	0.23
8.028	343.07	0.27	8.039	200.29	0.24	8.019	164.94	0.23	8.019	144.49	0.23
8.048	347.46	0.28	8.059	201.17	0.24	8.039	165.54	0.23	8.039	144.93	0.23
8.068	351.94	0.28	8.079	202.08	0.24	8.059	166.06	0.23	8.059	145.34	0.23
8.088	356.51	0.28	8.099	202.97	0.24	8.079	166.62	0.23	8.079	145.82	0.23
8.108	361.18	0.28	8.119	203.83	0.24	8.099	167.20	0.23	8.099	146.29	0.23
8.128	365.95	0.28	8.138	204.71	0.24	8.119	167.79	0.23	8.119	146.71	0.23
8.148	370.95	0.28	8.158	205.60	0.24	8.138	168.36	0.23	8.138	147.19	0.23
8.168	376.73	0.28	8.178	206.45	0.24	8.158	168.93	0.23	8.158	147.61	0.23
8.187	382.39	0.29	8.198	207.35	0.24	8.178	169.58	0.23	8.178	148.10	0.23
8.207	388.00	0.29	8.218	208.29	0.24	8.198	170.14	0.23	8.198	148.55	0.23
8.227	393.69	0.29	8.238	209.20	0.24	8.218	170.72	0.23	8.218	149.03	0.23
8.247	397.90	0.29	8.258	210.11	0.24	8.238	171.29	0.23	8.238	149.46	0.23
8.267	403.21	0.29	8.278	210.97	0.24	8.258	171.89	0.23	8.258	149.88	0.23
8.287	408.74	0.29	8.298	211.90	0.24	8.278	172.45	0.23	8.278	150.41	0.23
8.307	414.14	0.29	8.318	212.79	0.24	8.298	173.03	0.23	8.298	150.85	0.23
8.327	419.64	0.30	8.338	213.77	0.24	8.318	173.64	0.23	8.318	151.32	0.23
8.347	425.36	0.30	8.358	214.70	0.24	8.338	174.22	0.23	8.338	151.81	0.23
8.367	430.65	0.30	8.378	215.66	0.24	8.358	174.83	0.23	8.358	152.25	0.23
8.387	436.73	0.30	8.398	216.59	0.24	8.378	175.40	0.23	8.378	152.70	0.23
8.407	442.01	0.30	8.418	217.52	0.24	8.398	176.02	0.23	8.398	153.14	0.23
8.427	447.84	0.30	8.438	218.46	0.24	8.418	176.64	0.23	8.418	153.67	0.23
8.446	453.71	0.30	8.458	219.42	0.24	8.438	177.24	0.23	8.438	154.09	0.23
8.466	459.28	0.30	8.478	220.39	0.24	8.458	177.79	0.23	8.458	154.56	0.23
8.486	464.86	0.30	8.498	221.37	0.24	8.478	178.41	0.23	8.478	155.03	0.23
8.506	470.02	0.31	8.517	222.33	0.24	8.498	179.03	0.23	8.498	155.52	0.23
8.526	475.64	0.31	8.537	223.27	0.24	8.517	179.66	0.23	8.517	155.98	0.23
8.546	481.01	0.31	8.557	224.26	0.24	8.537	180.25	0.23	8.537	156.45	0.23
8.566	486.03	0.31	8.577	225.24	0.24	8.557	180.84	0.23	8.557	156.92	0.23
8.586	491.70	0.31	8.597	226.24	0.24	8.577	181.46	0.23	8.577	157.41	0.23
8.606	496.72	0.31	8.617	227.26	0.24	8.597	182.06	0.23	8.597	157.86	0.23
8.626	501.49	0.31	8.637	228.25	0.24	8.617	182.66	0.23	8.617	158.33	0.23
8.646	506.42	0.31	8.657	229.27	0.24	8.637	183.34	0.23	8.637	158.78	0.23
8.666	511.08	0.31	8.677	230.26	0.24	8.657	183.95	0.23	8.657	159.27	0.23
8.685	515.43	0.31	8.697	231.30	0.24	8.677	184.55	0.23	8.677	159.75	0.23
8.705	519.96	0.31	8.717	232.34	0.24	8.697	185.13	0.23	8.697	160.23	0.23
8.725	524.27	0.31	8.737	233.32	0.24	8.717	185.78	0.23	8.717	160.66	0.23
8.745	528.44	0.31	8.757	234.40	0.24	8.737	186.40	0.23	8.737	161.16	0.23
8.765	533.10	0.31	8.777	235.41	0.24	8.757	186.99	0.23	8.757	161.63	0.23
8.785	537.43	0.31	8.797	236.42	0.24	8.777	187.61	0.23	8.777	162.13	0.23
8.805	541.84	0.31	8.817	237.48	0.24	8.797	188.26	0.23	8.797	162.60	0.23
8.825	545.94	0.31	8.837	238.50	0.24	8.817	188.91	0.23	8.817	163.06	0.23
8.845	549.94	0.31	8.857	239.56	0.24	8.837	189.52	0.23	8.837	163.58	0.23
8.865	553.63	0.31	8.877	240.65	0.24	8.857	190.16	0.23	8.857	164.10	0.23

8.885	557.18	0.31	8.896	241.78	0.24	8.877	190.82	0.23	8.877	164.54	0.23
8.905	561.11	0.31	8.916	242.85	0.24	8.896	191.37	0.23	8.896	165.01	0.23
8.925	564.50	0.31	8.936	243.91	0.24	8.916	192.03	0.23	8.916	165.52	0.23
8.944	568.54	0.31	8.956	244.98	0.24	8.936	192.66	0.23	8.936	166.03	0.23
8.964	571.81	0.31	8.976	246.04	0.24	8.956	193.30	0.23	8.956	166.49	0.23
8.984	574.84	0.31	8.996	247.12	0.24	8.976	193.94	0.23	8.976	166.98	0.23
9.004	578.27	0.31	9.016	248.24	0.24	8.996	194.61	0.24	8.996	167.46	0.23
9.024	581.27	0.31	9.036	249.36	0.24	9.016	195.28	0.24	9.016	167.96	0.23
9.044	583.88	0.31	9.056	250.50	0.24	9.036	195.91	0.24	9.036	168.45	0.23
9.064	586.58	0.31	9.076	251.66	0.24	9.056	196.55	0.24	9.056	168.95	0.23
9.084	589.20	0.31	9.096	252.79	0.24	9.076	197.17	0.24	9.076	169.43	0.23
9.104	591.61	0.31	9.116	253.81	0.24	9.096	197.81	0.24	9.096	169.90	0.23
9.124	594.21	0.31	9.136	255.03	0.24	9.116	198.50	0.24	9.116	170.39	0.23
9.144	596.76	0.31	9.156	256.22	0.24	9.136	199.13	0.24	9.136	170.94	0.23
9.164	598.89	0.31	9.176	257.36	0.24	9.156	199.80	0.24	9.156	171.43	0.23
9.183	601.05	0.31	9.196	258.50	0.24	9.176	200.46	0.24	9.176	171.93	0.23
9.203	603.41	0.31	9.216	259.64	0.24	9.196	201.10	0.24	9.196	172.32	0.23
9.223	605.42	0.30	9.236	260.82	0.24	9.216	201.78	0.24	9.216	172.92	0.23
9.243	607.51	0.30	9.256	261.99	0.24	9.236	202.46	0.24	9.236	172.95	0.23
9.263	609.53	0.30	9.275	263.18	0.24	9.256	203.07	0.24	9.256	173.91	0.23
9.283	611.49	0.30	9.295	264.40	0.25	9.275	203.75	0.24	9.275	174.04	0.23
9.303	613.41	0.30	9.315	265.65	0.25	9.295	204.42	0.24	9.295	174.69	0.23
9.323	615.28	0.30	9.335	266.85	0.25	9.315	205.08	0.24	9.315	175.42	0.23
9.343	617.12	0.30	9.355	268.05	0.25	9.335	205.75	0.24	9.335	175.52	0.23
9.363	618.92	0.30	9.375	269.29	0.25	9.355	206.43	0.24	9.355	176.35	0.23
9.383	620.69	0.31	9.395	270.52	0.25	9.375	207.10	0.24	9.375	176.44	0.23
9.403	622.42	0.31	9.415	271.74	0.25	9.395	207.74	0.24	9.395	177.36	0.23
9.423	624.13	0.31	9.435	273.02	0.25	9.415	208.40	0.24	9.415	177.77	0.23
9.442	625.82	0.31	9.455	274.25	0.25	9.435	209.10	0.24	9.435	178.11	0.23
9.462	627.48	0.31	9.475	275.52	0.25	9.455	209.81	0.24	9.455	178.87	0.23
9.482	629.13	0.31	9.495	276.79	0.25	9.475	210.47	0.24	9.475	179.00	0.23
9.502	630.76	0.31	9.515	278.09	0.25	9.495	211.13	0.24	9.495	179.89	0.23
9.522	632.49	0.31	9.535	279.36	0.25	9.515	211.83	0.24	9.515	180.40	0.23
9.542	634.12	0.31	9.555	280.58	0.25	9.535	212.49	0.24	9.535	180.83	0.23
9.562	635.85	0.31	9.575	281.84	0.25	9.555	213.17	0.24	9.555	181.40	0.23
9.582	637.43	0.31	9.595	283.20	0.25	9.575	213.88	0.24	9.575	181.78	0.23
9.602	639.02	0.31	9.615	284.50	0.25	9.595	214.59	0.24	9.595	182.03	0.23
9.622	640.67	0.31	9.634	285.82	0.25	9.615	215.28	0.24	9.615	182.87	0.23
9.642	642.15	0.31	9.654	287.12	0.25	9.634	215.92	0.24	9.634	182.89	0.23
9.662	643.61	0.31	9.674	288.41	0.25	9.654	216.65	0.24	9.654	183.90	0.23
9.681	645.08	0.31	9.694	289.75	0.25	9.674	217.38	0.24	9.674	184.38	0.23
9.701	646.57	0.31	9.714	291.09	0.25	9.694	218.07	0.24	9.694	184.88	0.23
9.721	648.02	0.31	9.734	292.43	0.25	9.714	218.77	0.24	9.714	184.97	0.23
9.741	649.37	0.31	9.754	293.84	0.25	9.734	219.46	0.24	9.734	185.87	0.23
9.761	650.79	0.31	9.774	295.19	0.25	9.754	220.14	0.24	9.754	185.99	0.23

9.781	652.11	0.31	9.794	296.53	0.25	9.774	220.83	0.24	9.774	186.90	0.23
9.801	653.52	0.31	9.814	297.84	0.25	9.794	221.52	0.24	9.794	187.38	0.23
9.821	654.79	0.31	9.834	299.21	0.25	9.814	222.21	0.24	9.814	187.88	0.23
9.841	656.13	0.31	9.854	300.62	0.25	9.834	222.94	0.24	9.834	188.46	0.23
9.861	657.40	0.31	9.874	301.96	0.25	9.854	223.65	0.24	9.854	188.94	0.23
9.881	658.61	0.31	9.894	303.34	0.25	9.874	224.35	0.24	9.874	189.08	0.23
9.901	659.82	0.31	9.914	304.76	0.25	9.894	225.08	0.24	9.894	189.73	0.23
9.921	660.98	0.31	9.934	306.20	0.25	9.914	225.80	0.24	9.914	190.50	0.23
9.940	662.17	0.31	9.954	307.58	0.25	9.934	226.54	0.24	9.934	190.67	0.23
9.960	663.38	0.31	9.974	308.95	0.25	9.954	227.24	0.24	9.954	191.48	0.23
9.980	664.56	0.31	9.994	310.40	0.25	9.974	227.90	0.24	9.974	191.50	0.23
10.000	665.66	0.31	10.013	311.85	0.25	9.994	228.62	0.24	9.994	192.48	0.23
10.020	666.75	0.31	10.033	313.29	0.25	10.013	229.38	0.24	10.013	193.05	0.23
10.040	667.81	0.31	10.053	314.72	0.25	10.033	230.13	0.24	10.033	193.47	0.23
10.060	668.91	0.31	10.073	316.14	0.25	10.053	230.85	0.24	10.053	193.99	0.23
10.080	669.94	0.31	10.093	317.54	0.25	10.073	231.55	0.24	10.073	194.53	0.23
10.100	670.97	0.31	10.113	318.95	0.25	10.093	232.26	0.24	10.093	194.78	0.23
10.120	672.03	0.31	10.133	320.38	0.25	10.113	232.99	0.24	10.113	195.56	0.23
10.140	673.01	0.31	10.153	321.85	0.25	10.133	233.75	0.24	10.133	195.78	0.23
10.160	674.00	0.31	10.173	323.29	0.25	10.153	234.43	0.24	10.153	196.53	0.23
10.179	674.93	0.31	10.193	324.70	0.25	10.173	235.18	0.24	10.173	196.83	0.23
10.199	675.86	0.31	10.213	326.16	0.25	10.193	235.92	0.24	10.193	197.59	0.23
10.219	676.79	0.31	10.233	327.60	0.25	10.213	236.61	0.24	10.213	197.81	0.23
10.239	677.72	0.31	10.253	328.98	0.25	10.233	237.35	0.24	10.233	198.64	0.23
10.259	678.60	0.31	10.273	330.40	0.26	10.253	238.10	0.24	10.253	198.91	0.23
10.279	679.55	0.31	10.293	331.85	0.26	10.273	238.84	0.24	10.273	199.69	0.23
10.299	680.45	0.31	10.313	333.29	0.26	10.293	239.58	0.24	10.293	200.04	0.23
10.319	681.30	0.31	10.333	334.73	0.26	10.313	240.32	0.24	10.313	200.66	0.23
10.339	682.14	0.31	10.353	336.18	0.26	10.333	241.06	0.24	10.333	201.30	0.23
10.359	682.97	0.31	10.373	337.58	0.26	10.353	241.80	0.24	10.353	201.76	0.23
10.379	683.76	0.31	10.392	339.01	0.26	10.373	242.58	0.24	10.373	202.30	0.23
10.399	684.57	0.31	10.412	340.47	0.26	10.392	243.31	0.24	10.392	202.83	0.23
10.419	685.42	0.31	10.432	341.83	0.26	10.412	244.03	0.24	10.412	203.35	0.23
10.438	686.16	0.31	10.452	343.37	0.26	10.432	244.82	0.24	10.432	203.89	0.23
10.458	686.94	0.31	10.472	344.63	0.26	10.452	245.54	0.24	10.452	204.40	0.23
10.478	687.71	0.31	10.492	346.07	0.26	10.472	246.28	0.24	10.472	205.01	0.23
10.498	688.45	0.31	10.512	347.67	0.26	10.492	247.05	0.24	10.492	205.29	0.23
10.518	689.19	0.31	10.532	349.15	0.26	10.512	247.81	0.24	10.512	206.05	0.23
10.538	689.97	0.31	10.552	350.79	0.26	10.532	248.56	0.24	10.532	206.56	0.23
10.558	690.65	0.31	10.572	352.45	0.26	10.552	249.32	0.24	10.552	207.07	0.23
10.578	691.38	0.31	10.592	354.03	0.26	10.572	250.07	0.24	10.572	207.66	0.23
10.598	692.07	0.31	10.612	355.62	0.26	10.592	250.83	0.24	10.592	208.20	0.23
10.618	692.77	0.31	10.632	357.34	0.26	10.612	251.59	0.24	10.612	208.66	0.23
10.638	693.56	0.31	10.652	358.99	0.26	10.632	252.37	0.24	10.632	209.27	0.23
10.658	694.38	0.31	10.672	360.59	0.26	10.652	253.13	0.24	10.652	209.68	0.23

10.677	695.23	0.31	10.692	362.29	0.26	10.672	253.89	0.24	10.672	210.37	0.23
10.697	696.02	0.31	10.712	363.95	0.26	10.692	254.68	0.24	10.692	210.93	0.23
10.717	696.84	0.31	10.732	365.62	0.26	10.712	255.46	0.24	10.712	211.52	0.24
10.737	697.64	0.31	10.752	367.28	0.26	10.732	256.24	0.24	10.732	212.02	0.24
10.757	698.48	0.31	10.771	368.91	0.26	10.752	256.96	0.24	10.752	212.63	0.24
10.777	699.18	0.31	10.791	370.61	0.26	10.771	257.70	0.24	10.771	213.12	0.24
10.797	699.92	0.31	10.811	372.25	0.26	10.791	258.46	0.24	10.791	213.72	0.24
10.817	700.76	0.32	10.831	373.91	0.26	10.811	259.22	0.24	10.811	214.27	0.24
10.837	701.50	0.32	10.851	375.64	0.26	10.831	260.01	0.24	10.831	214.73	0.24
10.857	702.22	0.32	10.871	377.32	0.26	10.851	260.84	0.24	10.851	215.39	0.24
10.877	702.92	0.32	10.891	378.89	0.26	10.871	261.58	0.24	10.871	215.95	0.24
10.897	703.70	0.32	10.911	380.58	0.26	10.891	262.34	0.24	10.891	216.42	0.24
10.917	704.45	0.32	10.931	382.29	0.26	10.911	263.13	0.24	10.911	217.06	0.24
10.936	705.22	0.32	10.951	383.91	0.26	10.931	263.92	0.24	10.931	217.48	0.24
10.956	705.94	0.32	10.971	385.58	0.26	10.951	264.70	0.24	10.951	218.15	0.24
10.976	706.60	0.32	10.991	387.33	0.26	10.971	265.48	0.24	10.971	218.72	0.24
10.996	707.34	0.32	11.011	389.11	0.26	10.991	266.25	0.24	10.991	219.22	0.24
11.016	708.05	0.32	11.031	390.78	0.26	11.011	267.04	0.24	11.011	219.83	0.24
11.036	708.75	0.32	11.051	392.49	0.26	11.031	267.82	0.24	11.031	220.40	0.24
11.056	709.46	0.32	11.071	394.27	0.26	11.051	268.60	0.24	11.051	220.81	0.24
11.076	710.18	0.32	11.091	395.93	0.27	11.071	269.40	0.24	11.071	221.59	0.24
11.096	710.87	0.32	11.111	397.74	0.27	11.091	270.17	0.24	11.091	221.98	0.24
11.116	711.50	0.32	11.130	399.48	0.27	11.111	270.91	0.24	11.111	222.63	0.24
11.136	712.17	0.32	11.150	401.23	0.27	11.130	271.70	0.24	11.130	223.14	0.24
11.156	712.86	0.32	11.170	402.96	0.27	11.150	272.49	0.24	11.150	223.63	0.24
11.175	713.59	0.32	11.190	404.67	0.27	11.170	273.23	0.24	11.170	224.33	0.24
11.195	714.22	0.32	11.210	406.41	0.27	11.190	273.97	0.24	11.190	224.79	0.24
11.215	714.85	0.32	11.230	408.22	0.27	11.210	274.77	0.24	11.210	225.33	0.24
11.235	715.48	0.32	11.250	409.90	0.27	11.230	275.61	0.24	11.230	225.89	0.24
11.255	716.14	0.32	11.270	411.61	0.27	11.250	276.43	0.24	11.250	226.46	0.24
11.275	716.81	0.32	11.290	413.40	0.27	11.270	277.25	0.24	11.270	227.03	0.24
11.295	717.46	0.32	11.310	415.12	0.27	11.290	278.06	0.24	11.290	227.71	0.24
11.315	718.07	0.32	11.330	416.79	0.27	11.310	278.82	0.24	11.310	228.28	0.24
11.335	718.71	0.32	11.350	418.57	0.27	11.330	279.73	0.24	11.330	228.73	0.24
11.355	719.33	0.32	11.370	420.22	0.27	11.350	280.49	0.24	11.350	229.32	0.24
11.375	719.96	0.32	11.390	421.90	0.27	11.370	281.29	0.24	11.370	229.90	0.24
11.395	720.53	0.32	11.410	423.59	0.27	11.390	282.08	0.24	11.390	230.47	0.24
11.415	721.17	0.32	11.430	425.33	0.27	11.410	282.94	0.24	11.410	231.04	0.24
11.434	721.75	0.32	11.450	427.02	0.27	11.430	283.81	0.24	11.430	231.60	0.24
11.454	722.31	0.32	11.470	428.74	0.27	11.450	284.61	0.24	11.450	232.19	0.24
11.474	722.93	0.32	11.490	430.32	0.27	11.470	285.42	0.24	11.470	232.95	0.24
11.494	723.52	0.32	11.509	432.03	0.27	11.490	286.30	0.25	11.490	233.55	0.24
11.514	724.03	0.32	11.529	433.71	0.27	11.509	287.06	0.25	11.509	233.95	0.24
11.534	724.60	0.32	11.549	435.39	0.27	11.529	287.90	0.25	11.529	234.52	0.24
11.554	725.18	0.32	11.569	436.97	0.27	11.549	288.75	0.25	11.549	235.09	0.24

11.574	725.73	0.32	11.589	438.43	0.27	11.569	289.56	0.25	11.569	235.65	0.24
11.594	726.23	0.32	11.609	439.99	0.27	11.589	290.42	0.25	11.589	236.22	0.24
11.614	726.85	0.32	11.629	441.55	0.27	11.609	291.28	0.25	11.609	236.80	0.24
11.634	727.37	0.32	11.649	443.11	0.27	11.629	292.14	0.25	11.629	237.39	0.24
11.654	727.94	0.32	11.669	444.78	0.27	11.649	292.91	0.25	11.649	237.97	0.24
11.673	728.46	0.32	11.689	446.29	0.27	11.669	293.79	0.25	11.669	238.54	0.24
11.693	728.96	0.32	11.709	447.91	0.27	11.689	294.68	0.25	11.689	239.25	0.24
11.713	729.54	0.32	11.729	449.41	0.27	11.709	295.47	0.25	11.709	240.04	0.24
11.733	730.04	0.32	11.749	450.87	0.27	11.729	296.31	0.25	11.729	240.30	0.24
11.753	730.61	0.32	11.769	452.38	0.27	11.749	297.18	0.25	11.749	240.92	0.24
11.773	731.11	0.32	11.789	453.83	0.27	11.769	297.99	0.25	11.769	241.54	0.24
11.793	731.59	0.32	11.809	455.27	0.27	11.789	298.89	0.25	11.789	242.10	0.24
11.813	732.10	0.32	11.829	456.77	0.27	11.809	299.70	0.25	11.809	242.66	0.24
11.833	732.56	0.32	11.849	458.22	0.27	11.829	300.59	0.25	11.829	243.22	0.24
11.853	733.02	0.32	11.869	459.64	0.27	11.849	301.46	0.25	11.849	243.82	0.24
11.873	733.52	0.32	11.888	461.09	0.27	11.869	302.28	0.25	11.869	244.42	0.24
11.893	733.93	0.32	11.908	462.53	0.27	11.888	303.16	0.25	11.888	245.02	0.24
11.913	734.38	0.32	11.928	463.94	0.27	11.908	304.01	0.25	11.908	245.62	0.24
11.932	734.87	0.32	11.948	465.33	0.28	11.928	304.88	0.25	11.928	246.22	0.24
11.952	735.36	0.32	11.968	466.74	0.28	11.948	305.72	0.25	11.948	247.12	0.24
11.972	735.91	0.32	11.988	468.14	0.28	11.968	306.59	0.25	11.968	247.53	0.24
11.992	736.43	0.32	12.008	469.46	0.28	11.988	307.46	0.25	11.988	247.95	0.24
12.012	736.92	0.32	12.028	470.75	0.28	12.008	308.34	0.25	12.008	248.58	0.24
12.032	737.38	0.32	12.048	472.03	0.28	12.028	309.19	0.25	12.028	249.21	0.24
12.052	737.94	0.32	12.068	473.30	0.28	12.048	310.07	0.25	12.048	249.81	0.24
12.072	738.44	0.32	12.088	474.56	0.28	12.068	310.91	0.25	12.068	250.37	0.24
12.092	738.92	0.32	12.108	475.83	0.28	12.088	311.75	0.25	12.088	250.93	0.24
12.112	739.44	0.32	12.128	477.03	0.28	12.108	312.62	0.25	12.108	251.52	0.24
12.132	739.94	0.32	12.148	478.34	0.28	12.128	313.50	0.25	12.128	252.11	0.24
12.152	740.41	0.32	12.168	479.57	0.28	12.148	314.40	0.25	12.148	252.71	0.24
12.171	740.87	0.32	12.188	480.72	0.28	12.168	315.25	0.25	12.168	253.37	0.24
12.191	741.36	0.32	12.208	481.81	0.28	12.188	316.12	0.25	12.188	254.03	0.24
12.211	741.85	0.32	12.228	483.19	0.28	12.208	317.00	0.25	12.208	254.51	0.24
12.231	742.31	0.32	12.247	484.72	0.28	12.228	317.90	0.25	12.228	255.13	0.24
12.251	742.80	0.32	12.267	486.17	0.28	12.247	318.71	0.25	12.247	255.75	0.24
12.271	743.30	0.32	12.287	487.70	0.28	12.267	319.64	0.25	12.267	256.36	0.24
12.291	743.76	0.32	12.307	489.12	0.28	12.287	320.51	0.25	12.287	256.96	0.24
12.311	744.20	0.32	12.327	490.66	0.28	12.307	321.41	0.25	12.307	257.56	0.24
12.331	744.71	0.32	12.347	492.10	0.28	12.327	322.29	0.25	12.327	258.14	0.24
12.351	745.14	0.32	12.367	493.53	0.28	12.347	323.12	0.25	12.347	258.72	0.24
12.371	745.62	0.32	12.387	494.91	0.28	12.367	324.06	0.25	12.367	259.30	0.24
12.391	746.09	0.32	12.407	496.35	0.28	12.387	324.93	0.25	12.387	259.88	0.24
12.411	746.52	0.32	12.427	497.74	0.28	12.407	325.79	0.25	12.407	260.47	0.24
12.430	746.95	0.32	12.447	499.17	0.28	12.427	326.65	0.25	12.427	261.09	0.24
12.450	747.41	0.32	12.467	500.67	0.28	12.447	327.57	0.25	12.447	261.72	0.24

12.470	747.89	0.32	12.487	502.03	0.28	12.467	328.44	0.25	12.467	262.31	0.24
12.490	748.36	0.32	12.507	503.46	0.28	12.487	329.32	0.25	12.487	262.91	0.24
12.510	748.80	0.32	12.527	504.81	0.28	12.507	330.22	0.25	12.507	263.51	0.24
12.530	749.21	0.32	12.547	506.10	0.28	12.527	331.15	0.25	12.527	264.13	0.24
12.550	749.62	0.32	12.567	507.53	0.28	12.547	332.06	0.25	12.547	264.75	0.24
12.570	750.08	0.32	12.587	508.85	0.28	12.567	332.92	0.25	12.567	265.38	0.24
12.590	750.50	0.32	12.607	510.29	0.28	12.587	333.87	0.25	12.587	266.00	0.24
12.610	750.91	0.32	12.626	511.56	0.28	12.607	334.71	0.25	12.607	266.62	0.24
12.630	751.35	0.32	12.646	512.84	0.28	12.626	335.63	0.25	12.626	267.23	0.24
12.650	751.81	0.32	12.666	514.09	0.28	12.646	336.50	0.25	12.646	267.80	0.24
12.669	752.23	0.32	12.686	515.32	0.28	12.666	337.38	0.25	12.666	268.37	0.24
12.689	752.67	0.32	12.706	516.56	0.28	12.686	338.28	0.25	12.686	268.96	0.24
12.709	753.06	0.32	12.726	517.70	0.28	12.706	339.22	0.25	12.706	269.58	0.24
12.729	753.43	0.33	12.746	518.88	0.28	12.726	340.11	0.25	12.726	270.21	0.24
12.749	753.89	0.33	12.766	520.14	0.28	12.746	340.98	0.25	12.746	270.77	0.24
12.769	754.28	0.33	12.786	521.32	0.28	12.766	341.90	0.25	12.766	271.23	0.24
12.789	754.66	0.33	12.806	522.54	0.28	12.786	342.80	0.25	12.786	271.99	0.24
12.809	755.10	0.33	12.826	523.81	0.28	12.806	343.67	0.25	12.806	272.45	0.24
12.829	755.52	0.33	12.846	524.99	0.28	12.826	344.62	0.25	12.826	273.13	0.24
12.849	755.89	0.33	12.866	526.15	0.28	12.846	345.49	0.25	12.846	273.88	0.24
12.869	756.30	0.33	12.886	527.29	0.28	12.866	346.39	0.25	12.866	274.46	0.24
12.889	756.70	0.33	12.906	528.46	0.28	12.886	347.28	0.25	12.886	275.05	0.24
12.909	757.05	0.33	12.926	529.61	0.28	12.906	348.19	0.25	12.906	275.67	0.24
12.928	757.42	0.33	12.946	530.72	0.28	12.926	349.09	0.25	12.926	276.30	0.24
12.948	757.81	0.33	12.966	531.79	0.28	12.946	350.02	0.25	12.946	276.92	0.24
12.968	758.18	0.33	12.986	532.84	0.28	12.966	350.93	0.25	12.966	277.37	0.24
12.988	758.58	0.33	13.005	533.90	0.28	12.986	351.82	0.25	12.986	277.93	0.24
13.008	759.00	0.33	13.025	534.98	0.28	13.005	352.73	0.25	13.005	278.49	0.24
13.028	759.41	0.33	13.045	536.00	0.28	13.025	353.65	0.25	13.025	279.17	0.24
13.048	759.80	0.33	13.065	537.02	0.28	13.045	354.56	0.25	13.045	280.07	0.24
13.068	760.23	0.33	13.085	538.08	0.28	13.065	355.43	0.25	13.065	280.69	0.24
13.088	760.67	0.33	13.105	539.00	0.28	13.085	356.37	0.25	13.085	281.28	0.24
13.108	761.03	0.33	13.125	540.02	0.28	13.105	357.30	0.25	13.105	281.99	0.24
13.128	761.42	0.33	13.145	540.95	0.29	13.125	358.22	0.25	13.125	282.64	0.24
13.148	761.82	0.33	13.165	541.93	0.29	13.145	359.10	0.25	13.145	283.26	0.24
13.167	762.22	0.33	13.185	542.78	0.29	13.165	360.00	0.25	13.165	283.87	0.24
13.187	762.64	0.33	13.205	543.65	0.29	13.185	360.95	0.25	13.185	284.44	0.24
13.207	763.02	0.33	13.225	544.59	0.29	13.205	361.85	0.25	13.205	285.07	0.24
13.227	763.40	0.33	13.245	545.76	0.29	13.225	362.76	0.26	13.225	285.75	0.24
13.247	763.77	0.33	13.265	546.79	0.29	13.245	363.62	0.26	13.245	286.39	0.24
13.267	764.20	0.33	13.285	547.87	0.29	13.265	364.57	0.26	13.265	286.98	0.24
13.287	764.53	0.33	13.305	548.98	0.29	13.285	365.48	0.26	13.285	287.57	0.24
13.307	764.96	0.33	13.325	550.12	0.29	13.305	366.41	0.26	13.305	288.18	0.24
13.327	765.33	0.33	13.345	551.22	0.29	13.325	367.35	0.26	13.325	288.79	0.24
13.347	765.70	0.33	13.365	552.31	0.29	13.345	368.21	0.26	13.345	289.42	0.24

13.367	766.08	0.33	13.384	553.34	0.29	13.365	369.14	0.26	13.365	290.05	0.24
13.387	766.52	0.33	13.404	554.45	0.29	13.384	370.03	0.26	13.384	290.55	0.24
13.407	766.88	0.33	13.424	555.51	0.29	13.404	370.97	0.26	13.404	291.00	0.24
13.426	767.23	0.33	13.444	556.51	0.29	13.424	371.86	0.26	13.424	291.93	0.24
13.446	767.63	0.33	13.464	557.60	0.29	13.444	372.79	0.26	13.444	292.55	0.24
13.466	768.02	0.33	13.484	558.59	0.29	13.464	373.71	0.26	13.464	293.17	0.24
13.486	768.37	0.33	13.504	559.64	0.29	13.484	374.61	0.26	13.484	293.79	0.24
13.506	768.73	0.33	13.524	560.66	0.29	13.504	375.54	0.26	13.504	294.41	0.24
13.526	769.10	0.33	13.544	561.75	0.29	13.524	376.42	0.26	13.524	295.01	0.24
13.546	769.51	0.33	13.564	562.69	0.29	13.544	377.35	0.26	13.544	295.60	0.24
13.566	769.87	0.33	13.584	563.71	0.29	13.564	378.27	0.26	13.564	296.19	0.24
13.586	770.25	0.33	13.604	564.69	0.29	13.584	379.20	0.26	13.584	296.81	0.24
13.606	770.62	0.33	13.624	565.67	0.29	13.604	380.06	0.26	13.604	297.44	0.24
13.626	770.99	0.33	13.644	566.70	0.29	13.624	380.98	0.26	13.624	298.07	0.24
13.646	771.34	0.33	13.664	567.70	0.29	13.644	381.89	0.26	13.644	298.49	0.24
13.665	771.67	0.33	13.684	568.62	0.29	13.664	382.83	0.26	13.664	299.01	0.24
13.685	772.04	0.33	13.704	569.61	0.29	13.684	383.77	0.26	13.684	299.79	0.24
13.705	772.35	0.33	13.724	570.58	0.29	13.704	384.68	0.26	13.704	300.39	0.25
13.725	772.73	0.33	13.743	571.58	0.29	13.724	385.58	0.26	13.724	301.14	0.25
13.745	773.08	0.33	13.763	572.49	0.29	13.743	386.53	0.26	13.743	301.57	0.25
13.765	773.48	0.33	13.783	573.48	0.29	13.763	387.46	0.26	13.763	302.19	0.25
13.785	773.85	0.33	13.803	574.42	0.29	13.783	388.32	0.26	13.783	302.87	0.25
13.805	774.18	0.33	13.823	575.38	0.29	13.803	389.22	0.26	13.803	303.40	0.25
13.825	774.54	0.33	13.843	576.42	0.29	13.823	390.15	0.26	13.823	304.10	0.25
13.845	774.91	0.33	13.863	577.34	0.29	13.843	391.07	0.26	13.843	304.76	0.25
13.865	775.25	0.33	13.883	578.21	0.29	13.863	391.97	0.26	13.863	305.37	0.25
13.885	775.57	0.33	13.903	579.15	0.29	13.883	392.89	0.26	13.883	305.98	0.25
13.905	775.94	0.33	13.923	580.09	0.29	13.903	393.81	0.26	13.903	306.95	0.25
13.924	776.23	0.33	13.943	580.98	0.29	13.923	394.74	0.26	13.923	307.50	0.25
13.944	776.61	0.33	13.963	581.92	0.29	13.943	395.64	0.26	13.943	307.86	0.25
13.964	776.95	0.33	13.983	582.84	0.29	13.963	396.56	0.26	13.963	308.48	0.25
13.984	777.32	0.33	14.003	583.71	0.29	13.983	397.45	0.26	13.983	309.08	0.25
14.004	777.67	0.33	14.023	584.69	0.29	14.003	398.41	0.26	14.003	309.69	0.25
14.024	777.99	0.33	14.043	585.46	0.29	14.023	399.30	0.26	14.023	310.33	0.25
14.044	778.32	0.33	14.063	586.40	0.29	14.043	400.16	0.26	14.043	310.95	0.25
14.064	778.67	0.33	14.083	587.24	0.29	14.063	401.08	0.26	14.063	311.56	0.25
14.084	778.95	0.33	14.103	588.16	0.29	14.083	401.99	0.26	14.083	312.21	0.25
14.104	779.32	0.33	14.122	588.98	0.29	14.103	402.91	0.26	14.103	312.88	0.25
14.124	779.69	0.33	14.142	589.85	0.29	14.122	403.83	0.26	14.122	313.52	0.25
14.144	780.00	0.33	14.162	590.70	0.29	14.142	404.70	0.26	14.142	314.16	0.25
14.163	780.35	0.33	14.182	591.56	0.29	14.162	405.65	0.26	14.162	314.80	0.25
14.183	780.62	0.33	14.202	592.41	0.29	14.182	406.57	0.26	14.182	315.43	0.25
14.203	780.97	0.33	14.222	593.27	0.29	14.202	407.44	0.26	14.202	316.06	0.25
14.223	781.31	0.33	14.242	594.10	0.29	14.222	408.34	0.26	14.222	316.58	0.25
14.243	781.60	0.33	14.262	594.92	0.29	14.242	409.25	0.26	14.242	317.10	0.25

14.263	781.93	0.33	14.282	595.79	0.29	14.262	410.16	0.26	14.262	317.74	0.25
14.283	782.28	0.33	14.302	596.65	0.29	14.282	411.04	0.26	14.282	318.45	0.25
14.303	782.53	0.33	14.322	597.43	0.29	14.302	411.95	0.26	14.302	319.16	0.25
14.323	782.88	0.33	14.342	598.29	0.29	14.322	412.82	0.26	14.322	319.80	0.25
14.343	783.21	0.33	14.362	599.11	0.29	14.342	413.76	0.26	14.342	320.44	0.25
14.363	783.53	0.33	14.382	599.90	0.29	14.362	414.69	0.26	14.362	321.08	0.25
14.383	783.86	0.33	14.402	600.79	0.29	14.382	415.52	0.26	14.382	321.72	0.25
14.403	784.13	0.33	14.422	601.55	0.29	14.402	416.48	0.26	14.402	322.35	0.25
14.422	784.44	0.33	14.442	602.37	0.29	14.422	417.29	0.26	14.422	322.95	0.25
14.442	784.78	0.33	14.462	603.09	0.30	14.442	418.25	0.26	14.442	323.55	0.25
14.462	785.12	0.33	14.482	603.93	0.30	14.462	419.12	0.26	14.462	324.17	0.25
14.482	785.45	0.33	14.501	604.70	0.30	14.482	420.02	0.26	14.482	324.81	0.25
14.502	785.72	0.33	14.521	605.50	0.30	14.501	420.88	0.26	14.501	325.45	0.25
14.522	786.07	0.33	14.541	606.27	0.30	14.521	421.80	0.26	14.521	326.09	0.25
14.542	786.38	0.33	14.561	607.05	0.30	14.541	422.67	0.26	14.541	326.72	0.25
14.562	786.62	0.33	14.581	607.85	0.30	14.561	423.59	0.26	14.561	327.34	0.25
14.582	786.94	0.33	14.601	608.61	0.30	14.581	424.45	0.26	14.581	327.94	0.25
14.602	787.27	0.33	14.621	609.42	0.30	14.601	425.32	0.26	14.601	328.54	0.25
14.622	787.57	0.33	14.641	610.08	0.30	14.621	426.25	0.26	14.621	329.13	0.25
14.642	787.85	0.33	14.661	610.86	0.30	14.641	427.12	0.26	14.641	329.73	0.25
14.661	788.17	0.33	14.681	611.58	0.30	14.661	428.01	0.26	14.661	330.40	0.25
14.681	788.47	0.33	14.701	612.32	0.30	14.681	428.92	0.26	14.681	331.12	0.25
14.701	788.75	0.33	14.721	613.08	0.30	14.701	429.77	0.26	14.701	331.83	0.25
14.721	789.03	0.33	14.741	613.81	0.30	14.721	430.65	0.26	14.721	332.43	0.25
14.741	789.31	0.33	14.761	614.49	0.30	14.741	431.48	0.26	14.741	333.02	0.25
14.761	789.60	0.33	14.781	615.19	0.30	14.761	432.42	0.27	14.761	333.64	0.25
14.781	789.90	0.33	14.801	616.03	0.30	14.781	433.28	0.27	14.781	334.28	0.25
14.801	790.18	0.33	14.821	616.77	0.30	14.801	434.18	0.27	14.801	334.92	0.25
14.821	790.46	0.33	14.841	617.48	0.30	14.821	435.07	0.27	14.821	335.56	0.25
14.841	790.77	0.33	14.861	618.17	0.30	14.841	435.94	0.27	14.841	336.20	0.25
14.861	791.08	0.33	14.880	618.89	0.30	14.861	436.80	0.27	14.861	336.82	0.25
14.881	791.35	0.33	14.900	619.65	0.30	14.880	437.71	0.27	14.880	337.41	0.25
14.901	791.68	0.33	14.920	620.37	0.30	14.900	438.55	0.27	14.900	338.01	0.25
14.920	791.93	0.33	14.940	621.07	0.30	14.920	439.42	0.27	14.920	338.65	0.25
14.940	792.28	0.33	14.960	621.76	0.30	14.940	440.25	0.27	14.940	339.29	0.25
14.960	792.57	0.33	14.980	622.52	0.30	14.960	441.14	0.27	14.960	339.94	0.25
14.980	792.84	0.33	15.000	623.22	0.30	14.980	441.99	0.27	14.980	340.60	0.25
15.000	793.12	0.33	15.020	623.95	0.30	15.000	442.87	0.27	15.000	341.25	0.25
15.020	793.47	0.33	15.040	624.62	0.30	15.020	443.70	0.27	15.020	341.87	0.25
15.040	793.72	0.33	15.060	625.24	0.30	15.040	444.57	0.27	15.040	342.49	0.25
15.060	793.98	0.33	15.080	625.93	0.30	15.060	445.45	0.27	15.060	343.12	0.25
15.080	794.32	0.33	15.100	626.56	0.30	15.080	446.31	0.27	15.080	343.76	0.25
15.100	794.59	0.33	15.120	627.26	0.30	15.100	447.14	0.27	15.100	344.40	0.25
15.120	794.90	0.33	15.140	627.92	0.30	15.120	448.00	0.27	15.120	345.03	0.25
15.140	795.16	0.33	15.160	628.60	0.30	15.140	448.84	0.27	15.140	345.67	0.25

15.159	795.47	0.33	15.180	629.32	0.30	15.160	449.68	0.27	15.160	346.29	0.25
15.179	795.73	0.33	15.200	630.00	0.30	15.180	450.53	0.27	15.180	346.89	0.25
15.199	795.99	0.33	15.220	630.65	0.30	15.200	451.38	0.27	15.200	347.49	0.25
15.219	796.26	0.33	15.239	631.33	0.30	15.220	452.23	0.27	15.220	348.03	0.25
15.239	796.58	0.33	15.259	631.96	0.30	15.239	453.07	0.27	15.239	348.60	0.25
15.259	796.83	0.33	15.279	632.62	0.30	15.259	453.92	0.27	15.259	349.26	0.25
15.279	797.15	0.33	15.299	633.26	0.30	15.279	454.74	0.27	15.279	349.88	0.25
15.299	797.38	0.33	15.319	633.96	0.30	15.299	455.56	0.27	15.299	350.53	0.25
15.319	797.70	0.33	15.339	634.62	0.30	15.319	456.40	0.27	15.319	351.16	0.25
15.339	797.96	0.33	15.359	635.28	0.30	15.339	457.19	0.27	15.339	351.84	0.25
15.359	798.25	0.33	15.379	635.92	0.30	15.359	458.03	0.27	15.359	352.49	0.25
15.379	798.54	0.33	15.399	636.54	0.30	15.379	458.88	0.27	15.379	353.10	0.25
15.398	798.80	0.33	15.419	637.19	0.30	15.399	459.70	0.27	15.399	353.76	0.25
15.418	799.08	0.33	15.439	637.76	0.30	15.419	460.54	0.27	15.419	354.38	0.25
15.438	799.39	0.33	15.459	638.41	0.30	15.439	461.36	0.27	15.439	355.07	0.25
15.458	799.61	0.33	15.479	638.97	0.30	15.459	462.16	0.27	15.459	355.67	0.25
15.478	799.92	0.33	15.499	639.57	0.30	15.479	463.00	0.27	15.479	356.28	0.25
15.498	800.17	0.33	15.519	640.15	0.30	15.499	463.81	0.27	15.499	356.95	0.25
15.518	800.46	0.33	15.539	640.78	0.30	15.519	464.55	0.27	15.519	357.59	0.25
15.538	800.70	0.33	15.559	641.42	0.30	15.539	465.35	0.27	15.539	358.24	0.25
15.558	801.01	0.33	15.579	642.02	0.30	15.559	466.21	0.27	15.559	358.86	0.25
15.578	801.31	0.33	15.599	642.63	0.30	15.579	467.01	0.27	15.579	359.53	0.25
15.598	801.53	0.33	15.618	643.23	0.30	15.599	467.80	0.27	15.599	360.09	0.25
15.618	801.80	0.34	15.638	643.86	0.30	15.618	468.58	0.27	15.618	360.73	0.25
15.638	802.05	0.34	15.658	644.48	0.30	15.638	469.34	0.27	15.638	361.44	0.25
15.657	802.35	0.34	15.678	645.05	0.30	15.658	470.13	0.27	15.658	362.07	0.25
15.677	802.56	0.34	15.698	645.66	0.30	15.678	470.98	0.27	15.678	362.72	0.25
15.697	802.87	0.34	15.718	646.27	0.30	15.698	471.73	0.27	15.698	363.42	0.25
15.717	803.08	0.34	15.738	646.91	0.30	15.718	472.48	0.27	15.718	364.04	0.25
15.737	803.34	0.34	15.758	647.47	0.30	15.738	473.29	0.27	15.738	364.63	0.25
15.757	803.59	0.34	15.778	648.10	0.30	15.758	474.05	0.27	15.758	365.28	0.25
15.777	803.87	0.34	15.798	648.69	0.30	15.778	474.82	0.27	15.778	365.89	0.25
15.797	804.11	0.34	15.818	649.22	0.30	15.798	475.60	0.27	15.798	366.51	0.25
15.817	804.37	0.34	15.838	649.86	0.30	15.818	476.37	0.27	15.818	367.17	0.25
15.837	804.66	0.34	15.858	650.40	0.30	15.838	477.09	0.27	15.838	367.80	0.25
15.857	804.87	0.34	15.878	650.98	0.30	15.858	477.85	0.27	15.858	368.46	0.25
15.877	805.13	0.34	15.898	651.58	0.30	15.878	478.58	0.27	15.878	369.14	0.25
15.896	805.37	0.34	15.918	652.15	0.30	15.898	479.32	0.27	15.898	369.76	0.25
15.916	805.65	0.34	15.938	652.72	0.30	15.918	480.07	0.27	15.918	370.35	0.25
15.936	805.87	0.34	15.958	653.30	0.30	15.938	480.82	0.27	15.938	371.00	0.25
15.956	806.13	0.34	15.978	653.86	0.30	15.958	481.60	0.27	15.958	371.65	0.25
15.976	806.38	0.34	15.997	654.45	0.30	15.978	482.36	0.27	15.978	372.32	0.25
15.996	806.59	0.34	16.017	655.00	0.30	15.997	483.08	0.27	15.997	372.96	0.25
16.016	806.84	0.34	16.037	655.59	0.30	16.017	483.78	0.27	16.017	373.59	0.25
16.036	807.11	0.34	16.057	656.15	0.30	16.037	484.48	0.27	16.037	374.20	0.25

16.056	807.37	0.34	16.077	656.71	0.30	16.057	485.20	0.27	16.057	374.83	0.25
16.076	807.62	0.34	16.097	657.26	0.30	16.077	485.95	0.27	16.077	375.44	0.25
16.096	807.87	0.34	16.117	657.83	0.31	16.097	486.67	0.27	16.097	376.14	0.25
16.116	808.13	0.34	16.137	658.35	0.31	16.117	487.38	0.27	16.117	376.71	0.25
16.136	808.40	0.34	16.157	658.92	0.31	16.137	488.07	0.27	16.137	377.39	0.25
16.155	808.66	0.34	16.177	659.42	0.31	16.157	488.77	0.27	16.157	378.00	0.25
16.175	808.91	0.34	16.197	659.99	0.31	16.177	489.49	0.27	16.177	378.66	0.26
16.195	809.14	0.34	16.217	660.53	0.31	16.197	490.19	0.27	16.197	379.25	0.26
16.215	809.46	0.34	16.237	661.02	0.31	16.217	490.87	0.27	16.217	379.90	0.26
16.235	809.69	0.34	16.257	661.56	0.31	16.237	491.55	0.27	16.237	380.53	0.26
16.255	809.96	0.34	16.277	662.07	0.31	16.257	492.24	0.27	16.257	381.15	0.26
16.275	810.22	0.34	16.297	662.56	0.31	16.277	492.92	0.27	16.277	381.81	0.26
16.295	810.44	0.34	16.317	663.09	0.31	16.297	493.60	0.27	16.297	382.45	0.26
16.315	810.71	0.34	16.337	663.64	0.31	16.317	494.26	0.27	16.317	383.07	0.26
16.335	810.96	0.34	16.357	664.11	0.31	16.337	494.84	0.27	16.337	383.71	0.26
16.355	811.21	0.34	16.376	664.62	0.31	16.357	495.48	0.27	16.357	384.42	0.26
16.375	811.46	0.34	16.396	665.14	0.31	16.376	496.22	0.27	16.376	385.02	0.26
16.394	811.70	0.34	16.416	665.69	0.31	16.396	496.95	0.27	16.396	385.65	0.26
16.414	811.97	0.34	16.436	666.22	0.31	16.416	497.71	0.27	16.416	386.23	0.26
16.434	812.17	0.34	16.456	666.73	0.31	16.436	498.44	0.27	16.436	386.81	0.26
16.454	812.46	0.34	16.476	667.21	0.31	16.456	499.14	0.28	16.456	387.47	0.26
16.474	812.71	0.34	16.496	667.69	0.31	16.476	499.87	0.28	16.476	388.04	0.26
16.494	812.97	0.34	16.516	668.23	0.31	16.496	500.64	0.28	16.496	388.71	0.26
16.514	813.22	0.34	16.536	668.73	0.31	16.516	501.40	0.28	16.516	389.44	0.26
16.534	813.44	0.34	16.556	669.23	0.31	16.536	502.10	0.28	16.536	390.02	0.26
16.554	813.70	0.34	16.576	669.72	0.31	16.556	502.83	0.28	16.556	390.67	0.26
16.574	813.90	0.34	16.596	670.20	0.31	16.576	503.53	0.28	16.576	391.18	0.26
16.594	814.18	0.34	16.616	670.72	0.31	16.596	504.27	0.28	16.596	391.93	0.26
16.614	814.42	0.34	16.636	671.22	0.31	16.616	505.00	0.28	16.616	392.46	0.26
16.634	814.67	0.34	16.656	671.68	0.31	16.636	505.77	0.28	16.636	393.10	0.26
16.653	814.88	0.34	16.676	672.16	0.31	16.656	506.44	0.28	16.656	393.81	0.26
16.673	815.16	0.34	16.696	672.69	0.31	16.676	507.20	0.28	16.676	394.41	0.26
16.693	815.35	0.34	16.716	673.16	0.31	16.696	507.88	0.28	16.696	395.07	0.26
16.713	815.62	0.34	16.735	673.62	0.31	16.716	508.57	0.28	16.716	395.69	0.26
16.733	815.82	0.34	16.755	674.11	0.31	16.735	509.35	0.28	16.735	396.30	0.26
16.753	816.09	0.34	16.775	674.57	0.31	16.755	510.03	0.28	16.755	396.94	0.26
16.773	816.32	0.34	16.795	675.04	0.31	16.775	510.78	0.28	16.775	397.61	0.26
16.793	816.56	0.34	16.815	675.49	0.31	16.795	511.46	0.28	16.795	398.20	0.26
16.813	816.83	0.34	16.835	675.94	0.31	16.815	512.17	0.28	16.815	398.82	0.26
16.833	817.05	0.34	16.855	676.45	0.31	16.835	512.88	0.28	16.835	399.40	0.26
16.853	817.28	0.34	16.875	676.91	0.31	16.855	513.57	0.28	16.855	400.05	0.26
16.873	817.48	0.34	16.895	677.38	0.31	16.875	514.32	0.28	16.875	400.66	0.26
16.892	817.76	0.34	16.915	677.84	0.31	16.895	515.00	0.28	16.895	401.31	0.26
16.912	817.98	0.34	16.935	678.29	0.31	16.915	515.70	0.28	16.915	401.90	0.26
16.932	818.25	0.34	16.955	678.73	0.31	16.935	516.41	0.28	16.935	402.53	0.26

16.952	818.45	0.34	16.975	679.19	0.31	16.955	517.09	0.28	16.955	403.16	0.26
16.972	818.68	0.34	16.995	679.66	0.31	16.975	517.79	0.28	16.975	403.81	0.26
16.992	818.94	0.34	17.015	680.12	0.31	16.995	518.51	0.28	16.995	404.42	0.26
17.012	819.19	0.34	17.035	680.59	0.31	17.015	519.19	0.28	17.015	405.05	0.26
17.032	819.40	0.34	17.055	681.06	0.31	17.035	519.91	0.28	17.035	405.68	0.26
17.052	819.63	0.34	17.075	681.48	0.31	17.055	520.53	0.28	17.055	406.26	0.26
17.072	819.87	0.34	17.095	681.91	0.31	17.075	521.22	0.28	17.075	406.83	0.26
17.092	820.11	0.34	17.114	682.38	0.31	17.095	521.96	0.28	17.095	407.40	0.26
17.112	820.34	0.34	17.134	682.84	0.31	17.114	522.62	0.28	17.114	408.01	0.26
17.132	820.60	0.34	17.154	683.25	0.31	17.134	523.28	0.28	17.134	408.66	0.26
17.151	820.82	0.34	17.174	683.66	0.31	17.154	523.97	0.28	17.154	409.40	0.26
17.171	821.02	0.34	17.194	684.08	0.31	17.174	524.65	0.28	17.174	409.98	0.26
17.191	821.27	0.34	17.214	684.53	0.31	17.194	525.28	0.28	17.194	410.60	0.26
17.211	821.51	0.34	17.234	684.97	0.31	17.214	525.96	0.28	17.214	411.20	0.26
17.231	821.74	0.34	17.254	685.41	0.31	17.234	526.63	0.28	17.234	411.79	0.26
17.251	821.94	0.34	17.274	685.85	0.31	17.254	527.30	0.28	17.254	412.40	0.26
17.271	822.15	0.34	17.294	686.27	0.31	17.274	527.96	0.28	17.274	413.00	0.26
17.291	822.41	0.34	17.314	686.69	0.31	17.294	528.62	0.28	17.294	413.65	0.26
17.311	822.65	0.34	17.334	687.10	0.31	17.314	529.33	0.28	17.314	414.23	0.26
17.331	822.84	0.34	17.354	687.48	0.31	17.334	530.00	0.28	17.334	414.90	0.26
17.351	823.04	0.34	17.374	687.88	0.31	17.354	530.64	0.28	17.354	415.44	0.26
17.371	823.27	0.34	17.394	688.30	0.31	17.374	531.31	0.28	17.374	416.08	0.26
17.390	823.50	0.34	17.414	688.70	0.31	17.394	531.97	0.28	17.394	416.66	0.26
17.410	823.75	0.34	17.434	689.11	0.31	17.414	532.66	0.28	17.414	417.28	0.26
17.430	823.93	0.34	17.454	689.51	0.31	17.434	533.27	0.28	17.434	417.93	0.26
17.450	824.16	0.34	17.474	689.92	0.31	17.454	533.95	0.28	17.454	418.57	0.26
17.470	824.39	0.34	17.493	690.33	0.31	17.474	534.58	0.28	17.474	419.15	0.26
17.490	824.61	0.34	17.513	690.71	0.31	17.493	535.24	0.28	17.493	419.80	0.26
17.510	824.83	0.34	17.533	691.12	0.31	17.513	535.86	0.28	17.513	420.36	0.26
17.530	825.05	0.34	17.553	691.55	0.31	17.533	536.57	0.28	17.533	420.96	0.26
17.550	825.29	0.34	17.573	691.94	0.31	17.553	537.17	0.28	17.553	421.56	0.26
17.570	825.53	0.34	17.593	692.34	0.31	17.573	537.80	0.28	17.573	422.13	0.26
17.590	825.74	0.34	17.613	692.73	0.31	17.593	538.44	0.28	17.593	422.81	0.26
17.610	825.91	0.34	17.633	693.10	0.31	17.613	539.09	0.28	17.613	423.39	0.26
17.630	826.19	0.34	17.653	693.47	0.31	17.633	539.71	0.28	17.633	424.01	0.26
17.649	826.34	0.34	17.673	693.85	0.31	17.653	540.35	0.28	17.653	424.63	0.26
17.669	826.55	0.34	17.693	694.23	0.31	17.673	541.00	0.28	17.673	425.24	0.26
17.689	826.77	0.34	17.713	694.61	0.31	17.693	541.63	0.28	17.693	425.80	0.26
17.709	827.00	0.34	17.733	695.03	0.31	17.713	542.20	0.28	17.713	426.43	0.26
17.729	827.22	0.34	17.753	695.45	0.31	17.733	542.88	0.28	17.733	427.03	0.26
17.749	827.44	0.34	17.773	695.81	0.31	17.753	543.52	0.28	17.753	427.56	0.26
17.769	827.65	0.34	17.793	696.16	0.31	17.773	544.08	0.28	17.773	428.15	0.26
17.789	827.85	0.34	17.813	696.51	0.31	17.793	544.73	0.28	17.793	428.69	0.26
17.809	828.06	0.34	17.833	696.87	0.31	17.813	545.35	0.28	17.813	429.35	0.26
17.829	828.26	0.34	17.853	697.24	0.31	17.833	545.99	0.28	17.833	429.91	0.26

17.849	828.47	0.34	17.872	697.60	0.31	17.853	546.61	0.28	17.853	430.53	0.26
17.869	828.68	0.34	17.892	697.97	0.31	17.872	547.23	0.28	17.872	431.18	0.26
17.888	828.92	0.34	17.912	698.35	0.31	17.892	547.82	0.28	17.892	431.74	0.26
17.908	829.11	0.34	17.932	698.73	0.31	17.912	548.44	0.28	17.912	432.38	0.26
17.928	829.30	0.34	17.952	699.09	0.31	17.932	549.09	0.28	17.932	432.99	0.26
17.948	829.50	0.34	17.972	699.45	0.31	17.952	549.69	0.28	17.952	433.56	0.26
17.968	829.73	0.34	17.992	699.83	0.31	17.972	550.29	0.28	17.972	434.19	0.26
17.988	829.97	0.34	18.012	700.21	0.31	17.992	550.88	0.28	17.992	434.76	0.26
18.008	830.16	0.34	18.032	700.54	0.31	18.012	551.46	0.28	18.012	435.32	0.26
18.028	830.36	0.34	18.052	700.87	0.31	18.032	552.11	0.28	18.032	435.98	0.26
18.048	830.57	0.34	18.072	701.23	0.31	18.052	552.65	0.28	18.052	436.52	0.26
18.068	830.79	0.34	18.092	701.59	0.31	18.072	553.23	0.28	18.072	437.07	0.26
18.088	830.92	0.34	18.112	701.92	0.31	18.092	553.85	0.28	18.092	437.63	0.26
18.108	831.14	0.34	18.132	702.24	0.31	18.112	554.47	0.28	18.112	438.27	0.26
18.128	831.39	0.34	18.152	702.56	0.31	18.132	555.05	0.28	18.132	438.86	0.26
18.147	831.58	0.34	18.172	702.88	0.31	18.152	555.61	0.28	18.152	439.45	0.26
18.167	831.76	0.34	18.192	703.19	0.31	18.172	556.25	0.28	18.172	440.03	0.26
18.187	831.95	0.34	18.212	703.55	0.31	18.192	556.83	0.28	18.192	440.60	0.26
18.207	832.14	0.34	18.231	703.97	0.31	18.212	557.39	0.28	18.212	441.24	0.26
18.227	832.32	0.34	18.251	704.37	0.31	18.231	557.99	0.29	18.231	441.79	0.26
18.247	832.52	0.34	18.271	704.68	0.31	18.251	558.55	0.29	18.251	442.36	0.26
18.267	832.72	0.34	18.291	705.06	0.31	18.271	559.16	0.29	18.271	442.96	0.26
18.287	832.91	0.34	18.311	705.44	0.31	18.291	559.73	0.29	18.291	443.59	0.26
18.307	833.10	0.34	18.331	705.81	0.31	18.311	560.30	0.29	18.311	444.13	0.26
18.327	833.28	0.34	18.351	706.18	0.31	18.331	560.89	0.29	18.331	444.73	0.26
18.347	833.47	0.34	18.371	706.53	0.31	18.351	561.46	0.29	18.351	445.32	0.26
18.367	833.72	0.34	18.391	706.94	0.31	18.371	562.04	0.29	18.371	445.85	0.27
18.386	833.89	0.34	18.411	707.29	0.31	18.391	562.61	0.29	18.391	446.43	0.27
18.406	834.05	0.34	18.431	707.62	0.31	18.411	563.23	0.29	18.411	447.03	0.27
18.426	834.21	0.34	18.451	708.06	0.31	18.431	563.76	0.29	18.431	447.62	0.27
18.446	834.41	0.34	18.471	708.38	0.31	18.451	564.33	0.29	18.451	448.19	0.27
18.466	834.63	0.34	18.491	708.72	0.31	18.471	564.94	0.29	18.471	448.81	0.27
18.486	834.83	0.34	18.511	709.13	0.31	18.491	565.44	0.29	18.491	449.33	0.27
18.506	835.04	0.34	18.531	709.51	0.31	18.511	566.04	0.29	18.511	449.90	0.27
18.526	835.22	0.34	18.551	709.86	0.31	18.531	566.61	0.29	18.531	450.50	0.27
18.546	835.43	0.34	18.571	710.21	0.31	18.551	567.15	0.29	18.551	451.09	0.27
18.566	835.63	0.34	18.591	710.57	0.32	18.571	567.73	0.29	18.571	451.62	0.27
18.586	835.82	0.34	18.610	710.93	0.32	18.591	568.32	0.29	18.591	452.20	0.27
18.606	836.08	0.34	18.630	711.28	0.32	18.610	568.87	0.29	18.610	452.79	0.27
18.626	836.26	0.34	18.650	711.62	0.32	18.630	569.40	0.29	18.630	453.35	0.27
18.645	836.45	0.34	18.670	711.97	0.32	18.650	569.95	0.29	18.650	453.95	0.27
18.665	836.65	0.34	18.690	712.35	0.32	18.670	570.50	0.29	18.670	454.55	0.27
18.685	836.84	0.34	18.710	712.68	0.32	18.690	571.05	0.29	18.690	455.18	0.27
18.705	837.04	0.34	18.730	713.01	0.32	18.710	571.58	0.29	18.710	455.71	0.27
18.725	837.30	0.34	18.750	713.36	0.32	18.730	572.12	0.29	18.730	456.27	0.27

18.745	837.50	0.34	18.770	713.72	0.32	18.750	572.71	0.29	18.750	456.82	0.27
18.765	837.64	0.34	18.790	714.05	0.32	18.770	573.26	0.29	18.770	457.38	0.27
18.785	837.84	0.34	18.810	714.39	0.32	18.790	573.80	0.29	18.790	457.94	0.27
18.805	838.09	0.34	18.830	714.72	0.32	18.810	574.33	0.29	18.810	458.54	0.27
18.825	838.28	0.34	18.850	715.04	0.32	18.830	574.84	0.29	18.830	459.09	0.27
18.845	838.48	0.34	18.870	715.42	0.32	18.850	575.40	0.29	18.850	459.64	0.27
18.865	838.65	0.34	18.890	715.72	0.32	18.870	575.93	0.29	18.870	460.20	0.27
18.884	838.87	0.34	18.910	716.05	0.32	18.890	576.44	0.29	18.890	460.73	0.27
18.904	839.04	0.34	18.930	716.41	0.32	18.910	576.98	0.29	18.910	461.29	0.27
18.924	839.21	0.34	18.950	716.73	0.32	18.930	577.52	0.29	18.930	461.87	0.27
18.944	839.43	0.34	18.970	717.06	0.32	18.950	578.02	0.29	18.950	462.43	0.27
18.964	839.63	0.34	18.989	717.39	0.32	18.970	578.58	0.29	18.970	462.95	0.27
18.984	839.81	0.34	19.009	717.71	0.32	18.989	579.10	0.29	18.989	463.50	0.27
19.004	840.04	0.34	19.029	718.02	0.32	19.009	579.59	0.29	19.009	464.05	0.27
19.024	840.21	0.34	19.049	718.33	0.32	19.029	580.14	0.29	19.029	464.58	0.27
19.044	840.41	0.34	19.069	718.64	0.32	19.049	580.64	0.29	19.049	465.15	0.27
19.064	840.61	0.34	19.089	718.95	0.32	19.069	581.16	0.29	19.069	465.76	0.27
19.084	840.80	0.34	19.109	719.27	0.32	19.089	581.69	0.29	19.089	466.33	0.27
19.104	840.96	0.34	19.129	719.61	0.32	19.109	582.21	0.29	19.109	466.88	0.27
19.124	841.18	0.34	19.149	719.87	0.32	19.129	582.75	0.29	19.129	467.44	0.27
19.143	841.35	0.34	19.169	720.18	0.32	19.149	583.23	0.29	19.149	468.00	0.27
19.163	841.54	0.34	19.189	720.50	0.32	19.169	583.73	0.29	19.169	468.55	0.27
19.183	841.72	0.34	19.209	720.86	0.32	19.189	584.25	0.29	19.189	469.06	0.27
19.203	841.91	0.34	19.229	721.15	0.32	19.209	584.76	0.29	19.209	469.58	0.27
19.223	842.08	0.34	19.249	721.51	0.32	19.229	585.25	0.29	19.229	470.16	0.27
19.243	842.32	0.34	19.269	721.83	0.32	19.249	585.77	0.29	19.249	470.74	0.27
19.263	842.47	0.34	19.289	722.12	0.32	19.269	586.27	0.29	19.269	471.25	0.27
19.283	842.64	0.34	19.309	722.47	0.32	19.289	586.76	0.29	19.289	471.76	0.27
19.303	842.83	0.34	19.329	722.79	0.32	19.309	587.26	0.29	19.309	472.27	0.27
19.323	843.07	0.34	19.348	723.09	0.32	19.329	587.77	0.29	19.329	472.85	0.27
19.343	843.23	0.34	19.368	723.41	0.32	19.348	588.25	0.29	19.348	473.44	0.27
19.363	843.39	0.34	19.388	723.71	0.32	19.368	588.74	0.29	19.368	473.98	0.27
19.382	843.63	0.34	19.408	724.07	0.32	19.388	589.24	0.29	19.388	474.54	0.27
19.402	843.81	0.34	19.428	724.35	0.32	19.408	589.73	0.29	19.408	475.10	0.27
19.422	843.99	0.34	19.448	724.62	0.32	19.428	590.14	0.29	19.428	475.64	0.27
19.442	844.14	0.34	19.468	724.93	0.32	19.448	590.61	0.29	19.448	476.21	0.27
19.462	844.37	0.34	19.488	725.33	0.32	19.468	591.10	0.29	19.468	476.72	0.27
19.482	844.52	0.34	19.508	725.60	0.32	19.488	591.58	0.29	19.488	477.27	0.27
19.502	844.73	0.34	19.528	725.90	0.32	19.508	592.06	0.29	19.508	477.81	0.27
19.522	844.89	0.34	19.548	726.22	0.32	19.528	592.53	0.29	19.528	478.33	0.27
19.542	845.04	0.34	19.568	726.53	0.32	19.548	593.01	0.29	19.548	478.88	0.27
19.562	845.22	0.34	19.588	726.83	0.32	19.568	593.51	0.29	19.568	479.43	0.27
19.582	845.49	0.34	19.608	727.20	0.32	19.588	593.97	0.29	19.588	479.94	0.27
19.602	845.65	0.34	19.628	727.52	0.32	19.608	594.42	0.29	19.608	480.48	0.27
19.622	845.81	0.34	19.648	727.75	0.32	19.628	594.86	0.29	19.628	481.00	0.27

19.641	845.99	0.34	19.668	728.13	0.32	19.648	595.31	0.29	19.648	481.55	0.27
19.661	846.19	0.34	19.688	728.40	0.32	19.668	595.79	0.29	19.668	482.08	0.27
19.681	846.37	0.34	19.708	728.77	0.32	19.688	596.29	0.29	19.688	482.65	0.27
19.701	846.53	0.34	19.727	729.09	0.32	19.708	596.73	0.29	19.708	483.21	0.27
19.721	846.77	0.34	19.747	729.37	0.32	19.727	597.19	0.29	19.727	483.65	0.27
19.741	846.94	0.34	19.767	729.68	0.32	19.747	597.64	0.29	19.747	484.24	0.27
19.761	847.12	0.34	19.787	730.02	0.32	19.767	598.07	0.29	19.767	484.75	0.27
19.781	847.29	0.34	19.807	730.34	0.32	19.787	598.52	0.29	19.787	485.26	0.27
19.801	847.46	0.34	19.827	730.59	0.32	19.807	598.99	0.29	19.807	485.76	0.27
19.821	847.64	0.35	19.847	730.92	0.32	19.827	599.45	0.29	19.827	486.28	0.27
19.841	847.86	0.35	19.867	731.23	0.32	19.847	599.87	0.29	19.847	486.83	0.27
19.861	848.02	0.35	19.887	731.53	0.32	19.867	600.28	0.29	19.867	487.33	0.27
19.880	848.17	0.35	19.907	731.87	0.32	19.887	600.67	0.29	19.887	487.86	0.27
19.900	848.39	0.35	19.927	732.16	0.32	19.907	601.11	0.29	19.907	488.44	0.27
19.920	848.55	0.35	19.947	732.47	0.32	19.927	601.61	0.29	19.927	488.98	0.27
19.940	848.73	0.35	19.967	732.76	0.32	19.947	602.05	0.29	19.947	489.51	0.27
19.960	848.91	0.35	19.987	733.08	0.32	19.967	602.54	0.29	19.967	490.02	0.27
19.980	849.07	0.35	20.007	733.41	0.32	19.987	603.02	0.29	19.987	490.51	0.27
20.000	849.29	0.35	20.027	733.68	0.32	20.007	603.51	0.29	20.007	491.03	0.27
			20.047	734.01	0.32	20.027	603.98	0.29	20.027	491.55	0.27
			20.067	734.28	0.32	20.047	604.46	0.29	20.047	492.09	0.27
			20.087	734.60	0.32	20.067	604.92	0.29	20.067	492.61	0.27
			20.106	734.88	0.32	20.087	605.32	0.29	20.087	493.09	0.27
			20.126	735.20	0.32	20.106	605.81	0.29	20.106	493.62	0.27
			20.146	735.55	0.32	20.126	606.28	0.29	20.126	494.13	0.27
			20.166	735.78	0.32	20.146	606.77	0.29	20.146	494.63	0.27
			20.186	736.13	0.32	20.166	607.21	0.29	20.166	495.17	0.27
			20.206	736.36	0.32	20.186	607.69	0.29	20.186	495.70	0.27
			20.226	736.66	0.32	20.206	608.10	0.29	20.206	496.22	0.27
			20.246	737.00	0.32	20.226	608.61	0.29	20.226	496.73	0.27
			20.266	737.31	0.32	20.246	609.02	0.29	20.246	497.19	0.27
			20.286	737.55	0.32	20.266	609.50	0.29	20.266	497.68	0.27
			20.306	737.83	0.32	20.286	609.99	0.29	20.286	498.23	0.27
			20.326	738.18	0.32	20.306	610.40	0.29	20.306	498.73	0.27
			20.346	738.43	0.32	20.326	610.88	0.29	20.326	499.21	0.27
			20.366	738.74	0.32	20.346	611.35	0.29	20.346	499.76	0.27
			20.386	739.01	0.32	20.366	611.80	0.29	20.366	500.26	0.27
			20.406	739.28	0.32	20.386	612.24	0.29	20.386	500.72	0.27
			20.426	739.59	0.32	20.406	612.70	0.29	20.406	501.19	0.27
			20.446	739.88	0.32	20.426	613.15	0.29	20.426	501.69	0.27
			20.466	740.18	0.32	20.446	613.58	0.30	20.446	502.24	0.27
			20.485	740.42	0.32	20.466	614.03	0.30	20.466	502.71	0.27
			20.505	740.71	0.32	20.485	614.49	0.30	20.485	503.20	0.27
			20.525	740.98	0.32	20.505	614.90	0.30	20.505	503.76	0.27
			20.545	741.29	0.32	20.525	615.31	0.30	20.525	504.31	0.27

			20.565	741.57	0.32	20.545	615.77	0.30	20.545	504.83	0.27
			20.585	741.89	0.32	20.565	616.21	0.30	20.565	505.28	0.27
			20.605	742.17	0.32	20.585	616.65	0.30	20.585	505.75	0.27
			20.625	742.47	0.32	20.605	617.13	0.30	20.605	506.29	0.27
			20.645	742.74	0.32	20.625	617.52	0.30	20.625	506.78	0.28
			20.665	742.98	0.32	20.645	617.98	0.30	20.645	507.25	0.28
			20.685	743.32	0.32	20.665	618.41	0.30	20.665	507.75	0.28
			20.705	743.60	0.32	20.685	618.86	0.30	20.685	508.26	0.28
			20.725	743.89	0.32	20.705	619.30	0.30	20.705	508.73	0.28
			20.745	744.18	0.32	20.725	619.74	0.30	20.725	509.19	0.28
			20.765	744.47	0.32	20.745	620.16	0.30	20.745	509.68	0.28
			20.785	744.72	0.32	20.765	620.55	0.30	20.765	510.20	0.28
			20.805	745.01	0.32	20.785	621.01	0.30	20.785	510.67	0.28
			20.825	745.28	0.32	20.805	621.46	0.30	20.805	511.16	0.28
			20.844	745.58	0.32	20.825	621.86	0.30	20.825	511.65	0.28
			20.864	745.85	0.32	20.844	622.34	0.30	20.844	512.11	0.28
			20.884	746.13	0.32	20.864	622.74	0.30	20.864	512.66	0.28
			20.904	746.35	0.32	20.884	623.12	0.30	20.884	513.09	0.28
			20.924	746.70	0.32	20.904	623.59	0.30	20.904	513.54	0.28
			20.944	746.97	0.32	20.924	623.99	0.30	20.924	514.05	0.28
			20.964	747.23	0.32	20.944	624.41	0.30	20.944	514.57	0.28
			20.984	747.53	0.32	20.964	624.80	0.30	20.964	515.08	0.28
			21.004	747.79	0.32	20.984	625.29	0.30	20.984	515.58	0.28
			21.024	748.06	0.32	21.004	625.69	0.30	21.004	516.04	0.28
			21.044	748.32	0.32	21.024	626.10	0.30	21.024	516.48	0.28
			21.064	748.57	0.32	21.044	626.53	0.30	21.044	516.95	0.28
			21.084	748.86	0.32	21.064	626.90	0.30	21.064	517.44	0.28
			21.104	749.17	0.32	21.084	627.33	0.30	21.084	517.94	0.28
			21.124	749.42	0.32	21.104	627.71	0.30	21.104	518.38	0.28
			21.144	749.71	0.32	21.124	628.17	0.30	21.124	518.93	0.28
			21.164	749.95	0.32	21.144	628.57	0.30	21.144	519.35	0.28
			21.184	750.27	0.32	21.164	628.96	0.30	21.164	519.83	0.28
			21.204	750.51	0.32	21.184	629.37	0.30	21.184	520.35	0.28
			21.223	750.74	0.32	21.204	629.80	0.30	21.204	520.78	0.28
			21.243	751.01	0.32	21.223	630.20	0.30	21.223	521.25	0.28
			21.263	751.27	0.32	21.243	630.60	0.30	21.243	521.77	0.28
			21.283	751.54	0.32	21.263	631.03	0.30	21.263	522.23	0.28
			21.303	751.81	0.32	21.283	631.40	0.30	21.283	522.69	0.28
			21.323	752.08	0.32	21.303	631.84	0.30	21.303	523.18	0.28
			21.343	752.36	0.32	21.323	632.25	0.30	21.323	523.63	0.28
			21.363	752.61	0.32	21.343	632.60	0.30	21.343	524.12	0.28
			21.383	752.92	0.32	21.363	632.99	0.30	21.363	524.59	0.28
			21.403	753.18	0.32	21.383	633.42	0.30	21.383	525.03	0.28
			21.423	753.42	0.32	21.403	633.79	0.30	21.403	525.46	0.28
			21.443	753.70	0.32	21.423	634.23	0.30	21.423	525.97	0.28

			21.463	753.96	0.32	21.443	634.59	0.30	21.443	526.44	0.28
			21.483	754.22	0.32	21.463	634.99	0.30	21.463	526.89	0.28
			21.503	754.50	0.32	21.483	635.42	0.30	21.483	527.33	0.28
			21.523	754.71	0.32	21.503	635.80	0.30	21.503	527.79	0.28
			21.543	754.98	0.32	21.523	636.22	0.30	21.523	528.24	0.28
			21.563	755.26	0.32	21.543	636.56	0.30	21.543	528.70	0.28
			21.583	755.46	0.32	21.563	636.96	0.30	21.563	529.19	0.28
			21.602	755.74	0.32	21.583	637.29	0.30	21.583	529.63	0.28
			21.622	756.02	0.32	21.602	637.71	0.30	21.602	530.11	0.28
			21.642	756.24	0.32	21.622	638.11	0.30	21.622	530.58	0.28
			21.662	756.53	0.32	21.642	638.44	0.30	21.642	531.01	0.28
			21.682	756.78	0.32	21.662	638.85	0.30	21.662	531.43	0.28
			21.702	757.02	0.32	21.682	639.25	0.30	21.682	531.92	0.28
			21.722	757.24	0.32	21.702	639.57	0.30	21.702	532.36	0.28
			21.742	757.50	0.32	21.722	639.98	0.30	21.722	532.79	0.28
			21.762	757.76	0.32	21.742	640.38	0.30	21.742	533.29	0.28
			21.782	758.07	0.32	21.762	640.70	0.30	21.762	533.72	0.28
			21.802	758.31	0.32	21.782	641.10	0.30	21.782	534.17	0.28
			21.822	758.54	0.32	21.802	641.50	0.30	21.802	534.63	0.28
			21.842	758.84	0.32	21.822	641.83	0.30	21.822	535.08	0.28
			21.862	759.07	0.33	21.842	642.21	0.30	21.842	535.52	0.28
			21.882	759.30	0.33	21.862	642.60	0.30	21.862	535.99	0.28
			21.902	759.52	0.33	21.882	642.96	0.30	21.882	536.43	0.28
			21.922	759.76	0.33	21.902	643.27	0.30	21.902	536.85	0.28
			21.942	760.03	0.33	21.922	643.63	0.30	21.922	537.30	0.28
			21.962	760.30	0.33	21.942	644.01	0.30	21.942	537.77	0.28
			21.981	760.57	0.33	21.962	644.38	0.30	21.962	538.21	0.28
			22.001	760.84	0.33	21.981	644.71	0.30	21.981	538.63	0.28
			22.021	761.06	0.33	22.001	645.08	0.30	22.001	539.08	0.28
			22.041	761.32	0.33	22.021	645.48	0.30	22.021	539.51	0.28
			22.061	761.53	0.33	22.041	645.81	0.30	22.041	539.95	0.28
			22.081	761.83	0.33	22.061	646.11	0.30	22.061	540.41	0.28
			22.101	762.06	0.33	22.081	646.46	0.30	22.081	540.89	0.28
			22.121	762.30	0.33	22.101	646.79	0.30	22.101	541.32	0.28
			22.141	762.55	0.33	22.121	647.20	0.30	22.121	541.76	0.28
			22.161	762.76	0.33	22.141	647.57	0.30	22.141	542.20	0.28
			22.181	763.06	0.33	22.161	647.93	0.30	22.161	542.58	0.28
			22.201	763.28	0.33	22.181	648.32	0.30	22.181	542.99	0.28
			22.221	763.58	0.33	22.201	648.64	0.30	22.201	543.45	0.28
			22.241	763.81	0.33	22.221	649.02	0.30	22.221	543.89	0.28
			22.261	764.06	0.33	22.241	649.37	0.30	22.241	544.32	0.28
			22.281	764.28	0.33	22.261	649.76	0.30	22.261	544.74	0.28
			22.301	764.50	0.33	22.281	650.08	0.30	22.281	545.18	0.28
			22.321	764.74	0.33	22.301	650.46	0.30	22.301	545.59	0.28
			22.340	764.98	0.33	22.321	650.79	0.30	22.321	546.00	0.28

			22.360	765.29	0.33	22.340	651.21	0.30	22.340	546.45	0.28
			22.380	765.48	0.33	22.360	651.53	0.30	22.360	546.92	0.28
			22.400	765.76	0.33	22.380	651.87	0.30	22.380	547.37	0.28
			22.420	765.95	0.33	22.400	652.29	0.30	22.400	547.80	0.28
			22.440	766.23	0.33	22.420	652.64	0.30	22.420	548.22	0.28
			22.460	766.46	0.33	22.440	653.01	0.30	22.440	548.63	0.28
			22.480	766.69	0.33	22.460	653.36	0.30	22.460	549.04	0.28
			22.500	766.91	0.33	22.480	653.69	0.30	22.480	549.44	0.28
			22.520	767.21	0.33	22.500	654.06	0.30	22.500	549.84	0.28
			22.540	767.41	0.33	22.520	654.42	0.30	22.520	550.23	0.28
			22.560	767.62	0.33	22.540	654.78	0.30	22.540	550.65	0.28
			22.580	767.90	0.33	22.560	655.09	0.30	22.560	551.09	0.28
			22.600	768.12	0.33	22.580	655.49	0.30	22.580	551.53	0.28
			22.620	768.38	0.33	22.600	655.79	0.30	22.600	551.97	0.28
			22.640	768.59	0.33	22.620	656.17	0.30	22.620	552.38	0.28
			22.660	768.79	0.33	22.640	656.55	0.30	22.640	552.74	0.28
			22.680	769.07	0.33	22.660	656.85	0.30	22.660	553.19	0.28
			22.700	769.33	0.33	22.680	657.22	0.30	22.680	553.62	0.28
			22.719	769.53	0.33	22.700	657.54	0.30	22.700	554.06	0.28
			22.739	769.80	0.33	22.719	657.93	0.30	22.719	554.50	0.28
			22.759	770.01	0.33	22.739	658.29	0.30	22.739	554.90	0.28
			22.779	770.23	0.33	22.759	658.61	0.30	22.759	555.35	0.28
			22.799	770.51	0.33	22.779	658.95	0.30	22.779	555.77	0.28
			22.819	770.72	0.33	22.799	659.35	0.30	22.799	556.19	0.28
			22.839	770.96	0.33	22.819	659.61	0.30	22.819	556.60	0.28
			22.859	771.15	0.33	22.839	660.00	0.30	22.839	556.97	0.28
			22.879	771.41	0.33	22.859	660.30	0.30	22.859	557.38	0.28
			22.899	771.61	0.33	22.879	660.64	0.30	22.879	557.85	0.28
			22.919	771.84	0.33	22.899	661.00	0.30	22.899	558.27	0.28
			22.939	772.07	0.33	22.919	661.35	0.30	22.919	558.68	0.28
			22.959	772.35	0.33	22.939	661.70	0.30	22.939	559.06	0.28
			22.979	772.54	0.33	22.959	662.05	0.30	22.959	559.45	0.28
			22.999	772.78	0.33	22.979	662.39	0.30	22.979	559.85	0.28
			23.019	772.99	0.33	22.999	662.73	0.30	22.999	560.27	0.28
			23.039	773.19	0.33	23.019	663.07	0.30	23.019	560.66	0.28
			23.059	773.46	0.33	23.039	663.41	0.30	23.039	561.03	0.28
			23.079	773.66	0.33	23.059	663.75	0.30	23.059	561.42	0.28
			23.098	773.92	0.33	23.079	664.05	0.30	23.079	561.82	0.28
			23.118	774.12	0.33	23.098	664.43	0.30	23.098	562.26	0.28
			23.138	774.32	0.33	23.118	664.73	0.30	23.118	562.64	0.28
			23.158	774.58	0.33	23.138	665.05	0.30	23.138	563.06	0.28
			23.178	774.77	0.33	23.158	665.43	0.31	23.158	563.49	0.28
			23.198	775.04	0.33	23.178	665.74	0.31	23.178	563.91	0.29
			23.218	775.24	0.33	23.198	666.05	0.31	23.198	564.28	0.29
			23.238	775.51	0.33	23.218	666.39	0.31	23.218	564.69	0.29

			23.258	775.69	0.33	23.238	666.74	0.31	23.238	565.11	0.29
			23.278	775.93	0.33	23.258	667.05	0.31	23.258	565.51	0.29
			23.298	776.14	0.33	23.278	667.39	0.31	23.278	565.90	0.29
			23.318	776.36	0.33	23.298	667.70	0.31	23.298	566.30	0.29
			23.338	776.54	0.33	23.318	668.05	0.31	23.318	566.68	0.29
			23.358	776.77	0.33	23.338	668.40	0.31	23.338	567.06	0.29
			23.378	777.05	0.33	23.358	668.75	0.31	23.358	567.46	0.29
			23.398	777.24	0.33	23.378	669.01	0.31	23.378	567.86	0.29
			23.418	777.46	0.33	23.398	669.37	0.31	23.398	568.26	0.29
			23.438	777.71	0.33	23.418	669.65	0.31	23.418	568.66	0.29
			23.458	777.91	0.33	23.438	669.98	0.31	23.438	569.06	0.29
			23.477	778.09	0.33	23.458	670.32	0.31	23.458	569.44	0.29
			23.497	778.37	0.33	23.477	670.66	0.31	23.477	569.81	0.29
			23.517	778.56	0.33	23.497	670.94	0.31	23.497	570.18	0.29
			23.537	778.79	0.33	23.517	671.29	0.31	23.517	570.58	0.29
			23.557	779.05	0.33	23.537	671.60	0.31	23.537	570.99	0.29
			23.577	779.25	0.33	23.557	671.92	0.31	23.557	571.39	0.29
			23.597	779.46	0.33	23.577	672.25	0.31	23.577	571.78	0.29
			23.617	779.68	0.33	23.597	672.58	0.31	23.597	572.12	0.29
			23.637	779.87	0.33	23.617	672.91	0.31	23.617	572.50	0.29
			23.657	780.10	0.33	23.637	673.18	0.31	23.637	572.91	0.29
			23.677	780.32	0.33	23.657	673.52	0.31	23.657	573.30	0.29
			23.697	780.51	0.33	23.677	673.87	0.31	23.677	573.67	0.29
			23.717	780.72	0.33	23.697	674.20	0.31	23.697	574.02	0.29
			23.737	780.97	0.33	23.717	674.48	0.31	23.717	574.38	0.29
			23.757	781.18	0.33	23.737	674.81	0.31	23.737	574.75	0.29
			23.777	781.37	0.33	23.757	675.16	0.31	23.757	575.13	0.29
			23.797	781.60	0.33	23.777	675.48	0.31	23.777	575.50	0.29
			23.817	781.82	0.33	23.797	675.73	0.31	23.797	575.89	0.29
			23.836	782.01	0.33	23.817	676.05	0.31	23.817	576.32	0.29
			23.856	782.20	0.33	23.836	676.37	0.31	23.836	576.69	0.29
			23.876	782.46	0.33	23.856	676.69	0.31	23.856	577.06	0.29
			23.896	782.68	0.33	23.876	677.02	0.31	23.876	577.40	0.29
			23.916	782.87	0.33	23.896	677.36	0.31	23.896	577.76	0.29
			23.936	783.05	0.33	23.916	677.60	0.31	23.916	578.12	0.29
			23.956	783.32	0.33	23.936	677.91	0.31	23.936	578.53	0.29
			23.976	783.50	0.33	23.956	678.22	0.31	23.956	578.93	0.29
			23.996	783.68	0.33	23.976	678.54	0.31	23.976	579.34	0.29
			24.016	783.89	0.33	23.996	678.85	0.31	23.996	579.70	0.29
			24.036	784.11	0.33	24.016	679.17	0.31	24.016	580.06	0.29
			24.056	784.35	0.33	24.036	679.47	0.31	24.036	580.44	0.29
			24.076	784.52	0.33	24.056	679.80	0.31	24.056	580.81	0.29
			24.096	784.76	0.33	24.076	680.12	0.31	24.076	581.15	0.29
			24.116	784.94	0.33	24.096	680.42	0.31	24.096	581.49	0.29
			24.136	785.16	0.33	24.116	680.73	0.31	24.116	581.87	0.29

			24.156	785.38	0.33	24.136	681.02	0.31	24.136	582.25	0.29
			24.176	785.55	0.33	24.156	681.33	0.31	24.156	582.61	0.29
			24.196	785.79	0.33	24.176	681.62	0.31	24.176	582.97	0.29
			24.215	786.01	0.33	24.196	681.91	0.31	24.196	583.32	0.29
			24.235	786.23	0.33	24.215	682.20	0.31	24.215	583.68	0.29
			24.255	786.38	0.33	24.235	682.50	0.31	24.235	584.03	0.29
			24.275	786.62	0.33	24.255	682.81	0.31	24.255	584.37	0.29
			24.295	786.80	0.33	24.275	683.09	0.31	24.275	584.74	0.29
			24.315	787.01	0.33	24.295	683.38	0.31	24.295	585.12	0.29
			24.335	787.24	0.33	24.315	683.68	0.31	24.315	585.49	0.29
			24.355	787.46	0.33	24.335	684.01	0.31	24.335	585.82	0.29
			24.375	787.68	0.33	24.355	684.30	0.31	24.355	586.15	0.29
			24.395	787.84	0.33	24.375	684.57	0.31	24.375	586.50	0.29
			24.415	788.04	0.33	24.395	684.86	0.31	24.395	586.85	0.29
			24.435	788.26	0.33	24.415	685.16	0.31	24.415	587.20	0.29
			24.455	788.48	0.33	24.435	685.44	0.31	24.435	587.55	0.29
			24.475	788.71	0.33	24.455	685.75	0.31	24.455	587.91	0.29
			24.495	788.88	0.33	24.475	686.06	0.31	24.475	588.28	0.29
			24.515	789.11	0.33	24.495	686.33	0.31	24.495	588.62	0.29
			24.535	789.29	0.33	24.515	686.61	0.31	24.515	588.92	0.29
			24.555	789.51	0.33	24.535	686.88	0.31	24.535	589.27	0.29
			24.575	789.72	0.33	24.555	687.22	0.31	24.555	589.63	0.29
			24.594	789.93	0.33	24.575	687.49	0.31	24.575	589.99	0.29
			24.614	790.11	0.33	24.594	687.75	0.31	24.594	590.34	0.29
			24.634	790.31	0.33	24.614	688.03	0.31	24.614	590.69	0.29
			24.654	790.53	0.33	24.634	688.34	0.31	24.634	591.03	0.29
			24.674	790.72	0.33	24.654	688.63	0.31	24.654	591.36	0.29
			24.694	790.89	0.33	24.674	688.89	0.31	24.674	591.68	0.29
			24.714	791.11	0.33	24.694	689.15	0.31	24.694	592.06	0.29
			24.734	791.32	0.33	24.714	689.42	0.31	24.714	592.44	0.29
			24.754	791.50	0.33	24.734	689.76	0.31	24.734	592.75	0.29
			24.774	791.70	0.33	24.754	690.04	0.31	24.754	593.08	0.29
			24.794	791.91	0.33	24.774	690.29	0.31	24.774	593.42	0.29
			24.814	792.10	0.33	24.794	690.56	0.31	24.794	593.78	0.29
			24.834	792.28	0.33	24.814	690.86	0.31	24.814	594.15	0.29
			24.854	792.49	0.33	24.834	691.12	0.31	24.834	594.50	0.29
			24.874	792.71	0.33	24.854	691.42	0.31	24.854	594.85	0.29
			24.894	792.86	0.33	24.874	691.67	0.31	24.874	595.19	0.29
			24.914	793.09	0.33	24.894	691.91	0.31	24.894	595.50	0.29
			24.934	793.32	0.33	24.914	692.18	0.31	24.914	595.81	0.29
			24.954	793.47	0.33	24.934	692.45	0.31	24.934	596.12	0.29
			24.973	793.69	0.33	24.954	692.71	0.31	24.954	596.42	0.29
			24.993	793.90	0.33	24.973	693.06	0.31	24.973	596.81	0.29
			25.013	794.11	0.33	24.993	693.31	0.31	24.993	597.21	0.29
			25.033	794.30	0.33	25.013	693.57	0.31	25.013	597.57	0.29

			25.053	794.46	0.33	25.033	693.84	0.31	25.033	597.93	0.29
			25.073	794.65	0.33	25.053	694.10	0.31	25.053	598.28	0.29
			25.093	794.87	0.33	25.073	694.39	0.31	25.073	598.61	0.29
			25.113	795.09	0.33	25.093	694.69	0.31	25.093	598.95	0.29
			25.133	795.22	0.33	25.113	694.97	0.31	25.113	599.36	0.29
			25.153	795.43	0.33	25.133	695.22	0.31	25.133	599.72	0.29
			25.173	795.64	0.33	25.153	695.54	0.31	25.153	600.08	0.29
			25.193	795.83	0.33	25.173	695.82	0.31	25.173	600.47	0.29
			25.213	796.06	0.33	25.193	696.11	0.31	25.193	600.82	0.29
			25.233	796.19	0.33	25.213	696.38	0.31	25.213	601.21	0.29
			25.253	796.42	0.33	25.233	696.63	0.31	25.233	601.57	0.29
			25.273	796.61	0.33	25.253	696.87	0.31	25.253	601.89	0.29
			25.293	796.81	0.33	25.273	697.18	0.31	25.273	602.24	0.29
			25.313	797.00	0.33	25.293	697.44	0.31	25.293	602.63	0.29
			25.332	797.20	0.33	25.313	697.74	0.31	25.313	602.99	0.29
			25.352	797.41	0.33	25.332	697.98	0.31	25.332	603.32	0.29
			25.372	797.60	0.33	25.352	698.28	0.31	25.352	603.66	0.29
			25.392	797.78	0.33	25.372	698.54	0.31	25.372	604.02	0.29
			25.412	797.98	0.33	25.392	698.83	0.31	25.392	604.39	0.29
			25.432	798.14	0.33	25.412	699.09	0.31	25.412	604.75	0.29
			25.452	798.36	0.33	25.432	699.35	0.31	25.432	605.08	0.29
			25.472	798.53	0.33	25.452	699.61	0.31	25.452	605.39	0.29
			25.492	798.69	0.33	25.472	699.87	0.31	25.472	605.74	0.29
			25.512	798.90	0.33	25.492	700.15	0.31	25.492	606.08	0.29
			25.532	799.09	0.33	25.512	700.40	0.31	25.512	606.40	0.29
			25.552	799.30	0.33	25.532	700.72	0.31	25.532	606.75	0.29
			25.572	799.44	0.33	25.552	700.93	0.31	25.552	607.11	0.29
			25.592	799.65	0.33	25.572	701.24	0.31	25.572	607.44	0.29
			25.612	799.86	0.33	25.592	701.49	0.31	25.592	607.75	0.29
			25.632	800.05	0.33	25.612	701.79	0.31	25.612	608.11	0.29
			25.652	800.22	0.33	25.632	702.05	0.31	25.632	608.46	0.29
			25.672	800.38	0.33	25.652	702.31	0.31	25.652	608.78	0.29
			25.692	800.59	0.33	25.672	702.58	0.31	25.672	609.10	0.29
			25.711	800.73	0.33	25.692	702.82	0.31	25.692	609.42	0.29
			25.731	801.00	0.33	25.711	703.07	0.31	25.711	609.74	0.29
			25.751	801.16	0.33	25.731	703.37	0.31	25.731	610.07	0.29
			25.771	801.35	0.33	25.751	703.63	0.31	25.751	610.39	0.29
			25.791	801.51	0.33	25.771	703.89	0.31	25.771	610.70	0.29
			25.811	801.73	0.33	25.791	704.15	0.31	25.791	611.01	0.29
			25.831	801.87	0.33	25.811	704.42	0.31	25.811	611.33	0.29
			25.851	802.09	0.33	25.831	704.68	0.31	25.831	611.68	0.29
			25.871	802.24	0.33	25.851	704.98	0.31	25.851	612.03	0.29
			25.891	802.47	0.33	25.871	705.23	0.31	25.871	612.38	0.29
			25.911	802.64	0.33	25.891	705.47	0.31	25.891	612.72	0.29
			25.931	802.85	0.33	25.911	705.73	0.31	25.911	613.06	0.29

			25.951	802.98	0.33	25.931	706.03	0.31	25.931	613.37	0.29
			25.971	803.19	0.33	25.951	706.30	0.31	25.951	613.68	0.29
			25.991	803.40	0.33	25.971	706.55	0.31	25.971	614.01	0.29
			26.011	803.53	0.33	25.991	706.78	0.31	25.991	614.36	0.29
			26.031	803.73	0.33	26.011	707.02	0.31	26.011	614.70	0.29
			26.051	803.92	0.33	26.031	707.30	0.31	26.031	615.03	0.29
			26.071	804.13	0.33	26.051	707.56	0.31	26.051	615.34	0.29
			26.090	804.29	0.33	26.071	707.81	0.31	26.071	615.65	0.29
			26.110	804.43	0.33	26.090	708.08	0.31	26.090	615.96	0.29
			26.130	804.65	0.33	26.110	708.32	0.31	26.110	616.27	0.29
			26.150	804.86	0.33	26.130	708.60	0.31	26.130	616.58	0.29
			26.170	805.00	0.33	26.150	708.85	0.31	26.150	616.89	0.29
			26.190	805.19	0.33	26.170	709.10	0.31	26.170	617.25	0.29
			26.210	805.37	0.34	26.190	709.34	0.31	26.190	617.61	0.30
			26.230	805.58	0.34	26.210	709.62	0.31	26.210	617.90	0.30
			26.250	805.72	0.34	26.230	709.87	0.31	26.230	618.20	0.30
			26.270	805.92	0.34	26.250	710.13	0.31	26.250	618.51	0.30
			26.290	806.13	0.34	26.270	710.40	0.31	26.270	618.84	0.30
			26.310	806.31	0.34	26.290	710.62	0.31	26.290	619.16	0.30
			26.330	806.47	0.34	26.310	710.87	0.31	26.310	619.49	0.30
			26.350	806.65	0.34	26.330	711.13	0.31	26.330	619.81	0.30
			26.370	806.81	0.34	26.350	711.40	0.31	26.350	620.12	0.30
			26.390	807.02	0.34	26.370	711.64	0.31	26.370	620.42	0.30
			26.410	807.17	0.34	26.390	711.89	0.31	26.390	620.71	0.30
			26.430	807.37	0.34	26.410	712.13	0.31	26.410	621.01	0.30
			26.450	807.58	0.34	26.430	712.43	0.31	26.430	621.30	0.30
			26.469	807.72	0.34	26.450	712.63	0.31	26.450	621.59	0.30
			26.489	807.92	0.34	26.469	712.92	0.31	26.469	621.90	0.30
			26.509	808.09	0.34	26.489	713.12	0.31	26.489	622.22	0.30
			26.529	808.26	0.34	26.509	713.39	0.31	26.509	622.53	0.30
			26.549	808.41	0.34	26.529	713.63	0.31	26.529	622.83	0.30
			26.569	808.61	0.34	26.549	713.92	0.31	26.549	623.14	0.30
			26.589	808.79	0.34	26.569	714.15	0.32	26.569	623.43	0.30
			26.609	808.95	0.34	26.589	714.39	0.32	26.589	623.73	0.30
			26.629	809.18	0.34	26.609	714.59	0.32	26.609	624.02	0.30
			26.649	809.31	0.34	26.629	714.85	0.32	26.629	624.34	0.30
			26.669	809.52	0.34	26.649	715.11	0.32	26.649	624.66	0.30
			26.689	809.66	0.34	26.669	715.39	0.32	26.669	624.98	0.30
			26.709	809.83	0.34	26.689	715.58	0.32	26.689	625.27	0.30
			26.729	810.02	0.34	26.709	715.85	0.32	26.709	625.56	0.30
			26.749	810.20	0.34	26.729	716.12	0.32	26.729	625.85	0.30
			26.769	810.35	0.34	26.749	716.32	0.32	26.749	626.14	0.30
			26.789	810.56	0.34	26.769	716.59	0.32	26.769	626.43	0.30
			26.809	810.69	0.34	26.789	716.86	0.32	26.789	626.73	0.30
			26.828	810.91	0.34	26.809	717.07	0.32	26.809	627.04	0.30

			26.848	811.05	0.34	26.828	717.33	0.32	26.828	627.35	0.30
			26.868	811.24	0.34	26.848	717.59	0.32	26.848	627.66	0.30
			26.888	811.39	0.34	26.868	717.85	0.32	26.868	627.97	0.30
			26.908	811.60	0.34	26.888	718.04	0.32	26.888	628.26	0.30
			26.928	811.76	0.34	26.908	718.31	0.32	26.908	628.56	0.30
			26.948	811.93	0.34	26.928	718.58	0.32	26.928	628.85	0.30
			26.968	812.13	0.34	26.948	718.77	0.32	26.948	629.14	0.30
			26.988	812.30	0.34	26.968	719.04	0.32	26.968	629.43	0.30
			27.008	812.43	0.34	26.988	719.23	0.32	26.988	629.73	0.30
			27.028	812.64	0.34	27.008	719.48	0.32	27.008	630.02	0.30
			27.048	812.80	0.34	27.028	719.75	0.32	27.028	630.32	0.30
			27.068	812.96	0.34	27.048	720.01	0.32	27.048	630.61	0.30
			27.088	813.17	0.34	27.068	720.26	0.32	27.068	630.89	0.30
			27.108	813.29	0.34	27.088	720.49	0.32	27.088	631.18	0.30
			27.128	813.49	0.34	27.108	720.70	0.32	27.108	631.46	0.30
			27.148	813.62	0.34	27.128	720.94	0.32	27.128	631.75	0.30
			27.168	813.79	0.34	27.148	721.14	0.32	27.148	632.04	0.30
			27.188	813.97	0.34	27.168	721.44	0.32	27.168	632.35	0.30
			27.207	814.15	0.34	27.188	721.61	0.32	27.188	632.66	0.30
			27.227	814.32	0.34	27.207	721.84	0.32	27.207	632.97	0.30
			27.247	814.49	0.34	27.227	722.09	0.32	27.227	633.24	0.30
			27.267	814.67	0.34	27.247	722.33	0.32	27.247	633.49	0.30
			27.287	814.85	0.34	27.267	722.57	0.32	27.267	633.75	0.30
			27.307	815.04	0.34	27.287	722.81	0.32	27.287	634.05	0.30
			27.327	815.16	0.34	27.307	723.07	0.32	27.307	634.37	0.30
			27.347	815.35	0.34	27.327	723.29	0.32	27.327	634.68	0.30
			27.367	815.52	0.34	27.347	723.52	0.32	27.347	634.96	0.30
			27.387	815.68	0.34	27.367	723.74	0.32	27.367	635.22	0.30
			27.407	815.81	0.34	27.387	723.96	0.32	27.387	635.48	0.30
			27.427	816.01	0.34	27.407	724.20	0.32	27.407	635.75	0.30
			27.447	816.16	0.34	27.427	724.47	0.32	27.427	636.01	0.30
			27.467	816.38	0.34	27.447	724.70	0.32	27.447	636.27	0.30
			27.487	816.51	0.34	27.467	724.94	0.32	27.467	636.53	0.30
			27.507	816.70	0.34	27.487	725.18	0.32	27.487	636.89	0.30
			27.527	816.84	0.34	27.507	725.39	0.32	27.507	637.16	0.30
			27.547	816.99	0.34	27.527	725.62	0.32	27.527	637.46	0.30
			27.567	817.16	0.34	27.547	725.86	0.32	27.547	637.77	0.30
			27.586	817.33	0.34	27.567	726.08	0.32	27.567	638.08	0.30
			27.606	817.49	0.34	27.586	726.31	0.32	27.586	638.41	0.30
			27.626	817.67	0.34	27.606	726.53	0.32	27.606	638.68	0.30
			27.646	817.84	0.34	27.626	726.76	0.32	27.626	638.94	0.30
			27.666	818.00	0.34	27.646	726.96	0.32	27.646	639.25	0.30
			27.686	818.18	0.34	27.666	727.18	0.32	27.666	639.56	0.30
			27.706	818.34	0.34	27.686	727.40	0.32	27.686	639.86	0.30
			27.726	818.47	0.34	27.706	727.69	0.32	27.706	640.15	0.30

			27.746	818.66	0.34	27.726	727.92	0.32	27.726	640.42	0.30
			27.766	818.86	0.34	27.746	728.14	0.32	27.746	640.69	0.30
			27.786	818.96	0.34	27.766	728.36	0.32	27.766	640.97	0.30
			27.806	819.15	0.34	27.786	728.58	0.32	27.786	641.26	0.30
			27.826	819.32	0.34	27.806	728.81	0.32	27.806	641.55	0.30
			27.846	819.47	0.34	27.826	729.03	0.32	27.826	641.84	0.30
			27.866	819.66	0.34	27.846	729.23	0.32	27.846	642.14	0.30
			27.886	819.85	0.34	27.866	729.45	0.32	27.866	642.44	0.30
			27.906	819.95	0.34	27.886	729.68	0.32	27.886	642.73	0.30
			27.926	820.13	0.34	27.906	729.90	0.32	27.906	643.01	0.30
			27.945	820.30	0.34	27.926	730.15	0.32	27.926	643.29	0.30
			27.965	820.45	0.34	27.945	730.36	0.32	27.945	643.57	0.30
			27.985	820.58	0.34	27.965	730.56	0.32	27.965	643.85	0.30
			28.005	820.76	0.34	27.985	730.80	0.32	27.985	644.13	0.30
			28.025	820.94	0.34	28.005	731.02	0.32	28.005	644.40	0.30
			28.045	821.13	0.34	28.025	731.22	0.32	28.025	644.67	0.30
			28.065	821.22	0.34	28.045	731.45	0.32	28.045	644.95	0.30
			28.085	821.40	0.34	28.065	731.69	0.32	28.065	645.24	0.30
			28.105	821.57	0.34	28.085	731.90	0.32	28.085	645.52	0.30
			28.125	821.73	0.34	28.105	732.09	0.32	28.105	645.80	0.30
			28.145	821.90	0.34	28.125	732.34	0.32	28.125	646.09	0.30
			28.165	822.05	0.34	28.145	732.53	0.32	28.145	646.35	0.30
			28.185	822.16	0.34	28.165	732.74	0.32	28.165	646.61	0.30
			28.205	822.32	0.34	28.185	732.97	0.32	28.185	646.88	0.30
			28.225	822.49	0.34	28.205	733.16	0.32	28.205	647.17	0.30
			28.245	822.65	0.34	28.225	733.41	0.32	28.225	647.47	0.30
			28.265	822.82	0.34	28.245	733.61	0.32	28.245	647.72	0.30
			28.285	822.98	0.34	28.265	733.81	0.32	28.265	647.97	0.30
			28.305	823.15	0.34	28.285	734.07	0.32	28.285	648.23	0.30
			28.324	823.32	0.34	28.305	734.23	0.32	28.305	648.53	0.30
			28.344	823.44	0.34	28.324	734.44	0.32	28.324	648.82	0.30
			28.364	823.57	0.34	28.344	734.64	0.32	28.344	649.10	0.30
			28.384	823.74	0.34	28.364	734.90	0.32	28.364	649.37	0.30
			28.404	823.90	0.34	28.384	735.10	0.32	28.384	649.63	0.30
			28.424	824.06	0.34	28.404	735.36	0.32	28.404	649.90	0.30
			28.444	824.21	0.34	28.424	735.57	0.32	28.424	650.17	0.30
			28.464	824.37	0.34	28.444	735.76	0.32	28.444	650.44	0.30
			28.484	824.53	0.34	28.464	735.96	0.32	28.464	650.71	0.30
			28.504	824.69	0.34	28.484	736.17	0.32	28.484	650.97	0.30
			28.524	824.85	0.34	28.504	736.39	0.32	28.504	651.24	0.30
			28.544	824.99	0.34	28.524	736.64	0.32	28.524	651.49	0.30
			28.564	825.12	0.34	28.544	736.82	0.32	28.544	651.75	0.30
			28.584	825.20	0.34	28.564	737.08	0.32	28.564	652.01	0.30
			28.604	825.37	0.34	28.584	737.25	0.32	28.584	652.29	0.30
			28.624	825.54	0.34	28.604	737.49	0.32	28.604	652.56	0.30

			28.644	825.68	0.34	28.624	737.68	0.32	28.624	652.83	0.30
			28.664	825.82	0.34	28.644	737.94	0.32	28.644	653.08	0.30
			28.684	826.03	0.34	28.664	738.12	0.32	28.664	653.34	0.30
			28.703	826.17	0.34	28.684	738.39	0.32	28.684	653.60	0.30
			28.723	826.30	0.34	28.703	738.57	0.32	28.703	653.85	0.30
			28.743	826.43	0.34	28.723	738.75	0.32	28.723	654.11	0.30
			28.763	826.57	0.34	28.743	739.01	0.32	28.743	654.36	0.30
			28.783	826.79	0.34	28.763	739.21	0.32	28.763	654.61	0.30
			28.803	826.94	0.34	28.783	739.40	0.32	28.783	654.85	0.30
			28.823	827.06	0.34	28.803	739.65	0.32	28.803	655.09	0.30
			28.843	827.18	0.34	28.823	739.86	0.32	28.823	655.33	0.30
			28.863	827.34	0.34	28.843	740.03	0.32	28.843	655.61	0.30
			28.883	827.50	0.34	28.863	740.30	0.32	28.863	655.88	0.30
			28.903	827.67	0.34	28.883	740.47	0.32	28.883	656.15	0.30
			28.923	827.83	0.34	28.903	740.73	0.32	28.903	656.39	0.30
			28.943	827.97	0.34	28.923	740.91	0.32	28.923	656.63	0.30
			28.963	828.13	0.34	28.943	741.14	0.32	28.943	656.86	0.30
			28.983	828.28	0.34	28.963	741.34	0.32	28.963	657.10	0.30
			29.003	828.41	0.34	28.983	741.54	0.32	28.983	657.37	0.30
			29.023	828.60	0.34	29.003	741.72	0.32	29.003	657.65	0.30
			29.043	828.73	0.34	29.023	741.98	0.32	29.023	657.93	0.30
			29.063	828.89	0.34	29.043	742.17	0.32	29.043	658.18	0.30
			29.082	829.05	0.34	29.063	742.39	0.32	29.063	658.43	0.30
			29.102	829.21	0.34	29.082	742.57	0.32	29.082	658.67	0.30
			29.122	829.37	0.34	29.102	742.80	0.32	29.102	658.91	0.30
			29.142	829.53	0.34	29.122	743.00	0.32	29.122	659.16	0.30
			29.162	829.68	0.34	29.142	743.21	0.32	29.142	659.40	0.30
			29.182	829.82	0.34	29.162	743.39	0.32	29.162	659.64	0.30
			29.202	829.99	0.34	29.182	743.64	0.32	29.182	659.88	0.30
			29.222	830.10	0.34	29.202	743.82	0.32	29.202	660.12	0.30
			29.242	830.26	0.34	29.222	744.07	0.32	29.222	660.35	0.30
			29.262	830.43	0.34	29.242	744.22	0.32	29.242	660.59	0.30
			29.282	830.59	0.34	29.262	744.47	0.32	29.262	660.84	0.30
			29.302	830.75	0.34	29.282	744.65	0.32	29.282	661.10	0.30
			29.322	830.85	0.34	29.302	744.90	0.32	29.302	661.36	0.30
			29.342	831.02	0.34	29.322	745.08	0.32	29.322	661.61	0.30
			29.362	831.20	0.34	29.342	745.27	0.32	29.342	661.84	0.30
			29.382	831.34	0.34	29.362	745.47	0.32	29.362	662.08	0.30
			29.402	831.47	0.34	29.382	745.70	0.32	29.382	662.31	0.30
			29.422	831.64	0.34	29.402	745.87	0.32	29.402	662.56	0.30
			29.441	831.80	0.34	29.422	746.09	0.32	29.422	662.82	0.30
			29.461	831.95	0.34	29.441	746.32	0.32	29.441	663.08	0.30
			29.481	832.09	0.34	29.461	746.48	0.32	29.461	663.34	0.30
			29.501	832.20	0.34	29.481	746.72	0.32	29.481	663.58	0.30
			29.521	832.37	0.34	29.501	746.95	0.32	29.501	663.81	0.30

			29.541	832.52	0.34	29.521	747.12	0.32	29.521	664.03	0.30
			29.561	832.68	0.34	29.541	747.33	0.32	29.541	664.26	0.30
			29.581	832.82	0.34	29.561	747.50	0.32	29.561	664.49	0.30
			29.601	832.94	0.34	29.581	747.73	0.32	29.581	664.73	0.30
			29.621	833.09	0.34	29.601	747.90	0.32	29.601	664.97	0.30
			29.641	833.32	0.34	29.621	748.12	0.32	29.621	665.21	0.30
			29.661	833.41	0.34	29.641	748.34	0.32	29.641	665.45	0.30
			29.681	833.57	0.34	29.661	748.54	0.32	29.661	665.68	0.30
			29.701	833.73	0.34	29.681	748.71	0.32	29.681	665.90	0.30
			29.721	833.90	0.34	29.701	748.95	0.32	29.701	666.12	0.30
			29.741	834.06	0.34	29.721	749.16	0.32	29.721	666.34	0.30
			29.761	834.14	0.34	29.741	749.33	0.32	29.741	666.56	0.30
			29.781	834.32	0.34	29.761	749.56	0.32	29.761	666.82	0.30
			29.801	834.46	0.34	29.781	749.73	0.32	29.781	667.07	0.30
			29.820	834.62	0.34	29.801	749.92	0.32	29.801	667.32	0.30
			29.840	834.76	0.34	29.820	750.14	0.32	29.820	667.56	0.30
			29.860	834.92	0.34	29.840	750.33	0.32	29.840	667.80	0.30
			29.880	835.02	0.34	29.860	750.52	0.32	29.860	668.04	0.30
			29.900	835.19	0.34	29.880	750.73	0.32	29.880	668.27	0.30
			29.920	835.35	0.34	29.900	750.94	0.32	29.900	668.49	0.30
			29.940	835.51	0.34	29.920	751.14	0.32	29.920	668.71	0.31
			29.960	835.67	0.34	29.940	751.33	0.32	29.940	668.92	0.31
			29.980	835.83	0.34	29.960	751.51	0.32	29.960	669.14	0.31
			30.000	835.98	0.34	29.980	751.74	0.32	29.980	669.36	0.31
						30.000	751.94	0.32	30.000	669.59	0.31

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S1 (continued). $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty.

x_{CO_2} = 0.9879; x_{SO_2} = 0.0009; x_{CO} = 0.0112								
***T*= 263.19±0.02 K**			***T*= 273.17±0.01 K**			***T*= 293.14±0.04 K**		
p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})
0.100	1.98	0.22	0.134	2.77	0.23	0.100	1.88	0.23
0.117	2.37	0.22	0.151	3.12	0.23	0.123	2.26	0.23
0.134	2.69	0.22	0.167	3.45	0.23	0.146	2.65	0.22
0.150	3.05	0.22	0.184	3.81	0.23	0.168	3.07	0.22
0.167	3.39	0.22	0.201	4.16	0.23	0.191	3.55	0.23
0.184	3.72	0.22	0.218	4.47	0.23	0.214	3.95	0.22
0.201	4.06	0.22	0.235	4.82	0.23	0.237	4.37	0.22
0.218	4.41	0.22	0.252	5.17	0.23	0.260	4.78	0.22
0.234	4.76	0.22	0.269	5.48	0.23	0.282	5.22	0.22
0.251	5.13	0.22	0.286	5.83	0.23	0.305	5.63	0.22
0.268	5.50	0.22	0.302	6.20	0.23	0.328	6.04	0.22
0.285	5.82	0.22	0.319	6.51	0.23	0.351	6.48	0.22
0.301	6.18	0.22	0.336	6.84	0.23	0.374	6.93	0.22
0.318	6.53	0.22	0.353	7.17	0.23	0.397	7.34	0.22
0.335	6.88	0.22	0.370	7.50	0.23	0.419	7.74	0.22
0.352	7.25	0.22	0.387	7.85	0.23	0.442	8.21	0.22
0.369	7.60	0.22	0.404	8.21	0.23	0.465	8.65	0.22
0.385	7.98	0.22	0.420	8.57	0.23	0.488	9.07	0.22
0.402	8.29	0.22	0.437	8.94	0.23	0.511	9.51	0.22
0.419	8.65	0.22	0.454	9.24	0.23	0.533	9.94	0.22
0.436	9.06	0.22	0.471	9.55	0.23	0.556	10.37	0.22
0.452	9.37	0.22	0.488	9.91	0.23	0.579	10.80	0.22
0.469	9.78	0.22	0.505	10.28	0.23	0.602	11.23	0.22
0.486	10.11	0.22	0.522	10.62	0.23	0.625	11.63	0.22
0.503	10.47	0.22	0.538	10.97	0.23	0.647	12.13	0.22
0.520	10.87	0.22	0.555	11.34	0.23	0.670	12.59	0.22
0.536	11.22	0.22	0.572	11.66	0.23	0.693	12.99	0.22
0.553	11.57	0.22	0.589	11.99	0.23	0.716	13.45	0.22
0.570	11.92	0.22	0.606	12.40	0.23	0.739	13.86	0.22
0.587	12.28	0.22	0.623	12.74	0.23	0.762	14.34	0.22
0.604	12.66	0.22	0.640	13.07	0.23	0.784	14.75	0.22
0.620	13.04	0.22	0.657	13.42	0.23	0.807	15.25	0.22
0.637	13.42	0.22	0.673	13.78	0.23	0.830	15.67	0.22
0.654	13.82	0.22	0.690	14.18	0.23	0.853	16.11	0.22
0.671	14.14	0.22	0.707	14.49	0.23	0.876	16.57	0.22

0.687	14.55	0.22	0.724	14.85	0.23	0.898	17.01	0.22
0.704	14.88	0.22	0.741	15.23	0.23	0.921	17.48	0.22
0.721	15.31	0.22	0.758	15.63	0.23	0.944	17.92	0.22
0.738	15.64	0.22	0.775	15.97	0.23	0.967	18.40	0.22
0.755	16.01	0.22	0.791	16.33	0.23	0.990	18.86	0.22
0.771	16.45	0.22	0.808	16.72	0.23	1.012	19.31	0.22
0.788	16.82	0.22	0.825	17.07	0.23	1.035	19.79	0.22
0.805	17.19	0.22	0.842	17.41	0.23	1.058	20.22	0.22
0.822	17.57	0.22	0.859	17.80	0.23	1.081	20.68	0.22
0.839	17.95	0.22	0.876	18.18	0.23	1.104	21.14	0.22
0.855	18.35	0.22	0.893	18.56	0.23	1.127	21.60	0.22
0.872	18.76	0.22	0.909	18.91	0.23	1.149	22.09	0.22
0.889	19.10	0.22	0.926	19.27	0.23	1.172	22.59	0.22
0.906	19.52	0.22	0.943	19.65	0.23	1.195	23.04	0.22
0.922	19.86	0.22	0.960	20.01	0.22	1.218	23.51	0.22
0.939	20.31	0.22	0.977	20.42	0.23	1.241	23.95	0.22
0.956	20.69	0.22	0.994	20.79	0.23	1.263	24.45	0.22
0.973	21.09	0.22	1.011	21.16	0.23	1.286	24.94	0.22
0.990	21.47	0.22	1.028	21.58	0.23	1.309	25.40	0.22
1.006	21.87	0.22	1.044	21.94	0.23	1.332	25.84	0.22
1.023	22.29	0.22	1.061	22.33	0.23	1.355	26.35	0.22
1.040	22.70	0.22	1.078	22.73	0.23	1.377	26.82	0.22
1.057	23.07	0.22	1.095	23.10	0.23	1.400	27.33	0.22
1.074	23.47	0.22	1.112	23.46	0.23	1.423	27.79	0.22
1.090	23.87	0.22	1.129	23.83	0.22	1.446	28.26	0.22
1.107	24.32	0.22	1.146	24.26	0.23	1.469	28.77	0.22
1.124	24.71	0.22	1.162	24.62	0.23	1.491	29.28	0.22
1.141	25.10	0.22	1.179	25.02	0.23	1.514	29.72	0.22
1.157	25.50	0.22	1.196	25.41	0.23	1.537	30.22	0.22
1.174	25.92	0.22	1.213	25.82	0.23	1.560	30.74	0.22
1.191	26.33	0.22	1.230	26.17	0.22	1.583	31.19	0.22
1.208	26.75	0.22	1.247	26.60	0.23	1.606	31.72	0.22
1.225	27.18	0.22	1.264	27.00	0.23	1.628	32.17	0.22
1.241	27.62	0.22	1.281	27.36	0.22	1.651	32.67	0.22
1.258	28.01	0.22	1.297	27.79	0.23	1.674	33.21	0.22
1.275	28.46	0.22	1.314	28.14	0.22	1.697	33.71	0.22
1.292	28.85	0.22	1.331	28.58	0.22	1.720	34.22	0.22
1.309	29.25	0.22	1.348	28.96	0.22	1.742	34.68	0.22
1.325	29.71	0.22	1.365	29.39	0.23	1.765	35.24	0.22
1.342	30.12	0.22	1.382	29.78	0.22	1.788	35.67	0.22
1.359	30.53	0.22	1.399	30.17	0.22	1.811	36.22	0.22
1.376	31.03	0.22	1.415	30.60	0.23	1.834	36.75	0.22
1.392	31.40	0.22	1.432	31.00	0.22	1.856	37.30	0.22
1.409	31.85	0.22	1.449	31.44	0.23	1.879	37.78	0.22
1.426	32.29	0.22	1.466	31.86	0.23	1.902	38.29	0.22

1.443	32.72	0.22	1.483	32.23	0.22	1.925	38.80	0.22
1.460	33.15	0.22	1.500	32.63	0.22	1.948	39.33	0.22
1.476	33.63	0.22	1.517	33.06	0.22	1.971	39.88	0.22
1.493	34.07	0.22	1.533	33.45	0.22	1.993	40.38	0.22
1.510	34.51	0.22	1.550	33.84	0.22	2.016	40.91	0.22
1.527	34.97	0.22	1.567	34.29	0.22	2.039	41.41	0.22
1.544	35.36	0.22	1.584	34.74	0.23	2.062	41.97	0.22
1.560	35.82	0.22	1.601	35.12	0.22	2.085	42.52	0.22
1.577	36.33	0.22	1.618	35.54	0.22	2.107	43.06	0.22
1.594	36.73	0.22	1.635	35.98	0.22	2.130	43.58	0.22
1.611	37.17	0.22	1.652	36.35	0.22	2.153	44.09	0.22
1.627	37.63	0.22	1.668	36.84	0.22	2.176	44.61	0.22
1.644	38.08	0.22	1.685	37.24	0.22	2.199	45.13	0.22
1.661	38.54	0.22	1.702	37.68	0.22	2.221	45.69	0.22
1.678	39.02	0.22	1.719	38.13	0.22	2.244	46.23	0.22
1.695	39.47	0.22	1.736	38.55	0.22	2.267	46.75	0.22
1.711	39.93	0.22	1.753	38.98	0.22	2.290	47.31	0.22
1.728	40.42	0.22	1.770	39.42	0.22	2.313	47.79	0.22
1.745	40.84	0.22	1.786	39.87	0.22	2.336	48.36	0.22
1.762	41.34	0.22	1.803	40.25	0.22	2.358	48.89	0.22
1.779	41.81	0.22	1.820	40.70	0.22	2.381	49.42	0.22
1.795	42.31	0.22	1.837	41.18	0.22	2.404	50.03	0.22
1.812	42.81	0.22	1.854	41.59	0.22	2.427	50.56	0.22
1.829	43.30	0.22	1.871	42.08	0.22	2.450	51.10	0.22
1.846	43.77	0.22	1.888	42.49	0.22	2.472	51.68	0.22
1.862	44.24	0.22	1.904	42.93	0.22	2.495	52.27	0.22
1.879	44.73	0.22	1.921	43.38	0.22	2.518	52.87	0.22
1.896	45.23	0.22	1.938	43.83	0.22	2.541	53.46	0.22
1.913	45.75	0.22	1.955	44.28	0.22	2.564	54.05	0.22
1.930	46.20	0.22	1.972	44.77	0.22	2.586	54.63	0.22
1.946	46.73	0.22	1.989	45.16	0.22	2.609	55.20	0.22
1.963	47.23	0.22	2.006	45.64	0.22	2.632	55.80	0.22
1.980	47.68	0.22	2.023	46.09	0.22	2.655	56.41	0.22
1.997	48.19	0.22	2.039	46.54	0.22	2.678	57.01	0.22
2.014	48.74	0.22	2.056	47.02	0.22	2.700	57.56	0.22
2.030	49.26	0.22	2.073	47.48	0.22	2.723	58.04	0.22
2.047	49.82	0.22	2.090	47.95	0.22	2.746	58.61	0.22
2.064	50.27	0.22	2.107	48.37	0.22	2.769	59.23	0.22
2.081	50.80	0.22	2.124	48.85	0.22	2.792	59.85	0.22
2.097	51.36	0.22	2.141	49.29	0.22	2.815	60.49	0.22
2.114	51.87	0.22	2.157	49.82	0.22	2.837	61.08	0.22
2.131	52.38	0.22	2.174	50.28	0.22	2.860	61.69	0.22
2.148	52.86	0.22	2.191	50.75	0.22	2.883	62.32	0.22
2.165	53.40	0.22	2.208	51.28	0.22	2.906	62.87	0.22
2.181	54.01	0.22	2.225	51.72	0.22	2.929	63.52	0.22

2.198	54.48	0.22	2.242	52.17	0.22	2.951	64.12	0.22
2.215	55.07	0.22	2.259	52.65	0.22	2.974	64.73	0.22
2.232	55.59	0.22	2.276	53.19	0.22	2.997	65.38	0.22
2.249	56.14	0.22	2.292	53.62	0.22	3.020	66.02	0.22
2.265	56.69	0.22	2.309	54.13	0.22	3.043	66.62	0.22
2.282	57.21	0.22	2.326	54.66	0.22	3.065	67.24	0.22
2.299	57.79	0.22	2.343	55.17	0.22	3.088	67.86	0.22
2.316	58.33	0.22	2.360	55.64	0.22	3.111	68.52	0.22
2.332	58.90	0.22	2.377	56.19	0.22	3.134	69.14	0.22
2.349	59.49	0.22	2.394	56.66	0.22	3.157	69.79	0.22
2.366	60.05	0.22	2.410	57.15	0.22	3.180	70.45	0.22
2.383	60.59	0.22	2.427	57.70	0.22	3.202	71.11	0.22
2.400	61.12	0.22	2.444	58.16	0.22	3.225	71.74	0.22
2.416	61.75	0.22	2.461	58.72	0.22	3.248	72.39	0.22
2.433	62.34	0.22	2.478	59.24	0.22	3.271	73.03	0.22
2.450	62.95	0.22	2.495	59.77	0.22	3.294	73.69	0.22
2.467	63.50	0.22	2.512	60.28	0.22	3.316	74.38	0.22
2.484	64.06	0.22	2.528	60.78	0.22	3.339	75.06	0.22
2.500	64.72	0.22	2.545	61.37	0.23	3.362	75.71	0.22
2.517	65.31	0.22	2.562	61.86	0.22	3.385	76.36	0.22
2.534	65.90	0.22	2.579	62.40	0.22	3.408	77.05	0.22
2.551	66.56	0.22	2.596	62.91	0.22	3.430	77.73	0.22
2.567	67.18	0.22	2.613	63.46	0.23	3.453	78.45	0.22
2.584	67.80	0.22	2.630	63.99	0.22	3.476	79.08	0.22
2.601	68.44	0.22	2.647	64.55	0.23	3.499	79.83	0.22
2.612	68.85	0.22	2.663	65.10	0.23	3.522	80.53	0.22
2.630	69.59	0.22	2.680	65.67	0.23	3.544	81.25	0.22
2.647	70.44	0.22	2.697	66.16	0.22	3.567	81.96	0.22
			2.714	66.75	0.23	3.590	82.65	0.22
			2.731	67.29	0.23	3.613	83.38	0.22
			2.748	67.85	0.23	3.636	84.13	0.22
			2.765	68.41	0.23	3.659	84.79	0.22
			2.781	69.00	0.23	3.681	85.56	0.22
			2.798	69.55	0.23	3.704	86.27	0.22
			2.815	70.15	0.23	3.727	87.05	0.22
			2.832	70.67	0.23	3.750	87.73	0.22
			2.849	71.31	0.23	3.773	88.45	0.22
			2.866	71.87	0.23	3.795	89.23	0.22
			2.883	72.44	0.23	3.818	89.95	0.22
			2.899	73.04	0.23	3.841	90.77	0.22
			2.916	73.62	0.23	3.864	91.50	0.22
			2.933	74.25	0.23	3.887	92.25	0.22
			2.950	74.82	0.23	3.909	93.06	0.22
			2.967	75.46	0.23	3.932	93.81	0.22
			2.984	76.01	0.23	3.955	94.59	0.22

			3.001	76.69	0.23	3.978	95.36	0.22
			3.018	77.25	0.23	4.001	96.13	0.22
			3.034	77.91	0.23	4.024	96.93	0.22
			3.051	78.53	0.23	4.046	97.75	0.22
			3.068	79.16	0.23	4.069	98.57	0.22
			3.085	79.80	0.23	4.092	99.42	0.23
			3.102	80.41	0.23	4.115	100.17	0.22
			3.119	81.08	0.23	4.138	101.03	0.23
			3.136	81.73	0.23	4.160	101.84	0.23
			3.152	82.34	0.23	4.183	102.68	0.23
			3.169	83.05	0.23	4.206	103.54	0.23
			3.186	83.70	0.23	4.229	104.39	0.23
			3.203	84.33	0.23	4.252	105.26	0.23
			3.220	85.03	0.23	4.274	106.09	0.23
			3.237	85.69	0.23	4.297	106.96	0.23
			3.254	86.37	0.23	4.320	107.85	0.23
			3.270	87.05	0.23	4.343	108.69	0.23
			3.287	87.75	0.23	4.366	109.61	0.23
			3.304	88.46	0.23	4.389	110.45	0.23
			3.321	89.18	0.23	4.411	111.35	0.23
			3.338	89.92	0.23	4.434	112.26	0.23
			3.355	90.58	0.23	4.457	113.17	0.23
			3.372	91.26	0.23	4.480	114.12	0.23
			3.389	92.02	0.23	4.503	115.03	0.23
			3.405	92.77	0.23	4.525	116.02	0.23
			3.422	93.48	0.23	4.548	117.00	0.23
			3.439	94.24	0.23	4.571	117.95	0.23
			3.456	95.00	0.23	4.594	118.89	0.23
			3.459	95.16	0.23	4.617	119.84	0.23
			3.468	95.56	0.23	4.639	120.83	0.23
			3.477	95.99	0.23	4.662	121.83	0.23
			3.486	96.44	0.22	4.685	122.83	0.23
			3.494	96.91	0.22	4.708	123.83	0.23
			3.503	97.46	0.22	4.731	124.90	0.23
						4.753	125.89	0.23
						4.776	126.96	0.23
						4.799	128.02	0.23
						4.822	129.06	0.23
						4.845	130.20	0.23
						4.868	131.24	0.23
						4.890	132.38	0.23
						4.913	133.41	0.23
						4.936	134.53	0.23
						4.959	135.69	0.23
						4.982	136.85	0.23

						5.004	137.98	0.23
						5.027	139.16	0.23
						5.050	140.35	0.23
						5.073	141.55	0.23
						5.096	142.79	0.23
						5.118	144.01	0.23
						5.141	145.28	0.23
						5.164	146.50	0.23
						5.187	147.82	0.23
						5.210	149.19	0.23
						5.233	150.46	0.23
						5.255	151.80	0.23
						5.278	153.22	0.23
						5.301	154.58	0.23
						5.324	156.05	0.23
						5.347	157.44	0.23
						5.369	158.82	0.23
						5.392	160.35	0.23
						5.415	161.78	0.23
						5.438	163.37	0.23
						5.461	164.90	0.23
						5.483	166.50	0.23
						5.506	168.14	0.23
						5.529	169.78	0.23
						5.552	171.54	0.23
						5.575	173.34	0.23
						5.598	175.04	0.23
						5.620	176.90	0.23
						5.643	178.72	0.23
						5.666	180.62	0.23
						5.689	182.65	0.23
						5.712	184.65	0.23
						5.734	186.75	0.21
						5.757	188.98	0.21
						5.780	191.27	0.21

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S1 (continued). $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty.

x_{CO_2} = 0.9879; x_{SO_2} = 0.0009; x_{CO} = 0.0112								
***T*= 263.20±0.02 K**			***T*= 273.09±0.02 K**			***T*= 293.20±0.03K**		
p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})
3.142	973.99	0.37	3.954	920.47	0.36	6.188	768.39	0.33
3.162	974.14	0.37	3.974	920.71	0.36	6.207	769.09	0.33
3.182	974.25	0.37	3.994	920.90	0.36	6.225	769.76	0.33
3.202	974.33	0.37	4.014	921.12	0.36	6.244	770.38	0.33
3.222	974.41	0.37	4.034	921.35	0.36	6.262	770.93	0.33
3.243	974.57	0.37	4.054	921.51	0.36	6.281	771.51	0.33
3.263	974.75	0.37	4.074	921.69	0.36	6.299	772.33	0.33
3.283	974.87	0.37	4.093	921.87	0.36	6.318	773.07	0.33
3.303	975.04	0.37	4.113	922.05	0.36	6.336	773.67	0.33
3.323	975.19	0.37	4.133	922.22	0.36	6.355	774.26	0.33
3.343	975.28	0.37	4.153	922.37	0.36	6.373	774.85	0.33
3.363	975.43	0.37	4.173	922.57	0.36	6.392	775.44	0.33
3.384	975.59	0.37	4.193	922.72	0.36	6.410	776.03	0.33
3.404	975.67	0.37	4.213	922.88	0.36	6.429	776.62	0.33
3.424	975.84	0.37	4.233	923.05	0.36	6.447	777.22	0.33
3.444	975.94	0.37	4.253	923.27	0.36	6.465	777.81	0.33
3.464	975.99	0.37	4.273	923.44	0.36	6.484	778.40	0.33
3.484	976.20	0.37	4.293	923.60	0.36	6.502	778.99	0.33
3.504	976.32	0.37	4.313	923.75	0.36	6.521	779.58	0.33
3.525	976.42	0.37	4.333	923.96	0.36	6.539	780.11	0.33
3.545	976.51	0.37	4.353	924.09	0.36	6.558	780.62	0.33
3.565	976.58	0.37	4.373	924.26	0.36	6.576	781.14	0.33
3.585	976.65	0.37	4.393	924.41	0.36	6.595	781.69	0.33
3.605	976.82	0.37	4.413	924.54	0.36	6.613	782.28	0.33
3.625	976.98	0.37	4.433	924.76	0.36	6.632	782.86	0.33
3.645	977.07	0.37	4.453	924.97	0.36	6.650	783.38	0.33
3.666	977.16	0.37	4.473	925.14	0.36	6.669	783.91	0.33
3.686	977.34	0.37	4.493	925.33	0.36	6.687	784.44	0.33
3.706	977.56	0.37	4.513	925.50	0.36	6.705	784.96	0.33
3.726	977.48	0.37	4.533	925.64	0.36	6.724	785.46	0.33
3.746	977.67	0.37	4.553	925.85	0.36	6.742	786.05	0.33
3.766	977.78	0.37	4.573	926.03	0.36	6.761	786.50	0.33
3.786	978.06	0.37	4.593	926.20	0.36	6.779	787.04	0.33
3.807	978.06	0.37	4.613	926.43	0.36	6.798	787.50	0.33
3.827	978.22	0.37	4.633	926.58	0.36	6.816	788.01	0.33

3.847	978.39	0.37	4.653	926.80	0.36	6.835	788.46	0.33
3.867	978.48	0.38	4.673	926.95	0.36	6.853	788.96	0.33
3.887	978.67	0.38	4.693	927.10	0.36	6.872	789.38	0.33
3.907	978.66	0.38	4.713	927.25	0.36	6.890	789.89	0.33
3.927	978.92	0.38	4.733	927.39	0.36	6.909	790.43	0.33
3.948	979.04	0.38	4.753	927.53	0.36	6.927	790.98	0.33
3.968	979.16	0.38	4.773	927.69	0.36	6.946	791.46	0.33
3.988	979.27	0.38	4.793	927.87	0.36	6.964	791.94	0.33
4.008	979.38	0.38	4.813	928.00	0.36	6.982	792.43	0.33
4.028	979.50	0.38	4.833	928.19	0.36	7.001	792.96	0.33
4.048	979.62	0.38	4.853	928.34	0.36	7.019	793.44	0.33
4.068	979.74	0.38	4.873	928.45	0.36	7.038	793.91	0.33
4.088	979.87	0.38	4.893	928.59	0.36	7.056	794.36	0.33
4.109	979.97	0.38	4.913	928.77	0.36	7.075	794.78	0.33
4.129	980.08	0.38	4.933	928.96	0.36	7.093	795.25	0.33
4.149	980.19	0.38	4.953	929.16	0.36	7.112	795.71	0.33
4.169	980.29	0.38	4.973	929.26	0.36	7.130	796.10	0.33
4.189	980.39	0.38	4.993	929.49	0.36	7.149	796.54	0.33
4.209	980.49	0.38	5.013	929.66	0.36	7.167	796.97	0.33
4.229	980.58	0.38	5.033	929.83	0.36	7.186	797.38	0.33
4.250	980.69	0.38	5.053	929.98	0.36	7.204	797.80	0.33
4.270	980.80	0.38	5.073	930.23	0.36	7.222	798.22	0.33
4.290	980.92	0.38	5.093	930.39	0.36	7.241	798.60	0.33
4.310	981.02	0.38	5.113	930.56	0.36	7.259	798.99	0.33
4.330	981.12	0.38	5.133	930.70	0.36	7.278	799.36	0.33
4.350	981.22	0.38	5.153	930.89	0.36	7.296	799.78	0.33
4.370	981.35	0.38	5.173	931.04	0.36	7.315	800.16	0.33
4.391	981.48	0.38	5.193	931.22	0.36	7.333	800.57	0.33
4.411	981.61	0.38	5.213	931.38	0.36	7.352	800.99	0.33
4.431	981.77	0.38	5.233	931.54	0.36	7.370	801.44	0.33
4.451	981.86	0.38	5.253	931.71	0.36	7.389	801.91	0.33
4.471	982.00	0.38	5.272	931.87	0.36	7.407	802.37	0.33
4.491	982.09	0.38	5.292	932.04	0.36	7.426	802.81	0.33
4.511	982.23	0.38	5.312	932.23	0.36	7.444	803.22	0.33
4.532	982.35	0.38	5.332	932.42	0.36	7.463	803.65	0.34
4.552	982.49	0.38	5.352	932.59	0.36	7.481	804.10	0.34
4.572	982.58	0.38	5.372	932.74	0.36	7.499	804.56	0.34
4.592	982.73	0.38	5.392	932.94	0.36	7.518	804.97	0.34
4.612	982.83	0.38	5.412	933.10	0.36	7.536	805.43	0.34
4.632	982.96	0.38	5.432	933.27	0.36	7.555	805.85	0.34
4.652	983.07	0.38	5.452	933.44	0.36	7.573	806.24	0.34
4.673	983.18	0.38	5.472	933.60	0.36	7.592	806.63	0.34
4.693	983.29	0.38	5.492	933.76	0.36	7.610	807.08	0.34
4.713	983.40	0.38	5.512	933.93	0.36	7.629	807.45	0.34
4.733	983.56	0.38	5.532	934.09	0.36	7.647	807.88	0.34

4.753	983.69	0.38	5.552	934.26	0.36	7.666	808.27	0.34
4.773	983.79	0.38	5.572	934.42	0.36	7.684	808.64	0.34
4.793	983.89	0.38	5.592	934.60	0.36	7.703	809.02	0.34
4.814	984.06	0.38	5.612	934.78	0.36	7.721	809.41	0.34
4.834	984.16	0.38	5.632	934.91	0.36	7.739	809.76	0.34
4.854	984.23	0.38	5.652	935.07	0.36	7.758	810.16	0.34
4.874	984.38	0.38	5.672	935.25	0.36	7.776	810.48	0.34
4.894	984.52	0.38	5.692	935.44	0.36	7.795	810.87	0.34
4.914	984.63	0.38	5.712	935.59	0.36	7.813	811.21	0.34
4.934	984.75	0.38	5.732	935.76	0.36	7.832	811.54	0.34
4.955	984.83	0.38	5.752	935.92	0.36	7.850	811.92	0.34
4.975	984.96	0.38	5.772	936.07	0.37	7.869	812.27	0.34
4.995	985.06	0.38	5.792	936.23	0.37	7.887	812.60	0.34
5.015	985.21	0.38	5.812	936.39	0.37	7.906	812.93	0.34
5.035	985.29	0.38	5.832	936.62	0.37	7.924	813.24	0.34
5.055	985.43	0.38	5.852	936.75	0.37	7.943	813.59	0.34
5.075	985.53	0.38	5.872	936.88	0.37	7.961	813.94	0.34
5.096	985.66	0.38	5.892	937.09	0.37	7.980	814.23	0.34
5.116	985.78	0.38	5.912	937.23	0.37	7.998	814.56	0.34
5.136	985.90	0.38	5.932	937.37	0.37	8.016	814.87	0.34
5.156	986.03	0.38	5.952	937.57	0.37	8.035	815.28	0.34
5.176	986.11	0.38	5.972	937.69	0.37	8.053	815.65	0.34
5.196	986.26	0.38	5.992	937.90	0.37	8.072	815.93	0.34
5.216	986.39	0.38	6.012	938.02	0.37	8.090	816.28	0.34
5.237	986.44	0.38	6.032	938.22	0.37	8.109	816.64	0.34
5.257	986.57	0.38	6.052	938.33	0.37	8.127	817.00	0.34
5.277	986.70	0.38	6.072	938.52	0.37	8.146	817.36	0.34
5.297	986.84	0.38	6.092	938.68	0.37	8.164	817.72	0.34
5.317	986.93	0.38	6.112	938.82	0.37	8.183	818.07	0.34
5.337	987.01	0.38	6.132	939.02	0.37	8.201	818.40	0.34
5.357	987.14	0.38	6.152	939.12	0.37	8.220	818.75	0.34
5.378	987.27	0.38	6.172	939.29	0.37	8.238	819.16	0.34
5.398	987.39	0.38	6.192	939.47	0.37	8.257	819.48	0.34
5.418	987.51	0.38	6.212	939.63	0.37	8.275	819.80	0.34
5.438	987.64	0.38	6.232	939.80	0.37	8.293	820.11	0.34
5.458	987.75	0.38	6.252	939.96	0.37	8.312	820.50	0.34
5.478	987.81	0.38	6.272	940.05	0.37	8.330	820.80	0.34
5.498	987.93	0.38	6.292	940.21	0.37	8.349	821.19	0.34
5.519	988.05	0.38	6.312	940.36	0.37	8.367	821.50	0.34
5.539	988.17	0.38	6.332	940.51	0.37	8.386	821.82	0.34
5.559	988.29	0.38	6.352	940.68	0.37	8.404	822.16	0.34
5.579	988.41	0.38	6.372	940.87	0.37	8.423	822.51	0.34
5.599	988.53	0.38	6.392	941.04	0.37	8.441	822.82	0.34
5.619	988.59	0.38	6.412	941.13	0.37	8.460	823.12	0.34
5.639	988.75	0.38	6.432	941.30	0.37	8.478	823.47	0.34

5.660	988.90	0.38	6.451	941.47	0.37	8.497	823.82	0.34
5.680	988.97	0.38	6.471	941.64	0.37	8.515	824.12	0.34
5.700	989.13	0.38	6.491	941.73	0.37	8.533	824.45	0.34
5.720	989.19	0.38	6.511	941.90	0.37	8.552	824.80	0.34
5.740	989.34	0.38	6.531	942.09	0.37	8.570	825.10	0.34
5.760	989.48	0.38	6.551	942.21	0.37	8.589	825.43	0.34
5.780	989.55	0.38	6.571	942.37	0.37	8.607	825.78	0.34
5.800	989.69	0.38	6.591	942.53	0.37	8.626	826.11	0.34
5.821	989.83	0.38	6.611	942.70	0.37	8.644	826.42	0.34
5.841	989.89	0.38	6.631	942.87	0.37	8.663	826.71	0.34
5.861	990.01	0.38	6.651	943.03	0.37	8.681	827.06	0.34
5.881	990.15	0.38	6.671	943.13	0.37	8.700	827.39	0.34
5.901	990.22	0.38	6.691	943.29	0.37	8.718	827.63	0.34
5.921	990.33	0.38	6.711	943.45	0.37	8.737	827.97	0.34
5.941	990.47	0.38	6.731	943.60	0.37	8.755	828.29	0.34
5.962	990.60	0.38	6.751	943.75	0.37	8.774	828.60	0.34
5.982	990.71	0.38	6.771	943.91	0.37	8.792	828.87	0.34
6.002	990.77	0.38	6.791	944.05	0.37	8.810	829.15	0.34
6.022	990.90	0.38	6.811	944.20	0.37	8.829	829.44	0.34
6.042	991.03	0.38	6.831	944.35	0.37	8.847	829.74	0.34
6.062	991.17	0.38	6.851	944.50	0.37	8.866	830.03	0.34
6.082	991.30	0.38	6.871	944.66	0.37	8.884	830.37	0.34
6.103	991.37	0.38	6.891	944.80	0.37	8.903	830.68	0.34
6.123	991.47	0.38	6.911	945.02	0.37	8.921	830.95	0.34
6.143	991.59	0.38	6.931	945.16	0.37	8.940	831.23	0.34
6.163	991.72	0.38	6.951	945.31	0.37	8.958	831.50	0.34
6.183	991.84	0.38	6.971	945.45	0.37	8.977	831.77	0.34
6.203	991.97	0.38	6.991	945.58	0.37	8.995	832.05	0.34
6.223	992.09	0.38	7.011	945.71	0.37	9.014	832.36	0.34
6.244	992.19	0.38	7.031	945.85	0.37	9.032	832.62	0.34
6.264	992.25	0.38	7.051	946.04	0.37	9.050	832.88	0.34
6.284	992.38	0.38	7.071	946.17	0.37	9.069	833.18	0.34
6.304	992.50	0.38	7.091	946.30	0.37	9.087	833.48	0.34
6.324	992.62	0.38	7.111	946.42	0.37	9.106	833.77	0.34
6.344	992.74	0.38	7.131	946.63	0.37	9.124	834.05	0.34
6.364	992.85	0.38	7.151	946.76	0.37	9.143	834.28	0.34
6.385	992.91	0.38	7.171	946.88	0.37	9.161	834.55	0.34
6.405	993.03	0.38	7.191	947.08	0.37	9.180	834.82	0.34
6.425	993.15	0.38	7.211	947.21	0.37	9.198	835.07	0.34
6.445	993.27	0.38	7.231	947.33	0.37	9.217	835.34	0.34
6.465	993.39	0.38	7.251	947.45	0.37	9.235	835.61	0.34
6.485	993.51	0.38	7.271	947.66	0.37	9.254	835.85	0.34
6.505	993.63	0.38	7.291	947.78	0.37	9.272	836.10	0.34
6.526	993.76	0.38	7.311	947.90	0.37	9.291	836.36	0.34
6.546	993.83	0.38	7.331	948.07	0.37	9.309	836.67	0.34

6.566	993.92	0.38	7.351	948.21	0.37	9.327	836.91	0.34
6.586	994.04	0.38	7.371	948.32	0.37	9.346	837.18	0.34
6.606	994.17	0.38	7.391	948.50	0.37	9.364	837.48	0.34
6.626	994.29	0.38	7.411	948.62	0.37	9.383	837.76	0.34
6.646	994.42	0.38	7.431	948.76	0.37	9.401	838.05	0.34
6.667	994.53	0.38	7.451	948.91	0.37	9.420	838.32	0.34
6.687	994.64	0.38	7.471	949.03	0.37	9.438	838.54	0.34
6.707	994.67	0.38	7.491	949.15	0.37	9.457	838.80	0.34
6.727	994.78	0.38	7.511	949.36	0.37	9.475	839.08	0.34
6.747	994.90	0.38	7.531	949.48	0.37	9.494	839.36	0.34
6.767	995.01	0.38	7.551	949.60	0.37	9.512	839.65	0.34
6.787	995.12	0.38	7.571	949.71	0.37	9.531	839.93	0.34
6.808	995.24	0.38	7.591	949.91	0.37	9.549	840.21	0.34
6.828	995.34	0.38	7.611	950.03	0.37	9.567	840.43	0.34
6.848	995.45	0.38	7.630	950.14	0.37	9.586	840.68	0.34
6.868	995.56	0.38	7.650	950.33	0.37	9.604	840.95	0.34
6.888	995.66	0.38	7.670	950.45	0.37	9.623	841.23	0.34
6.908	995.78	0.38	7.690	950.56	0.37	9.641	841.50	0.34
6.928	995.88	0.38	7.710	950.76	0.37	9.660	841.77	0.34
6.949	995.99	0.38	7.730	950.87	0.37	9.678	842.02	0.34
6.969	996.09	0.38	7.750	950.99	0.37	9.697	842.28	0.34
6.989	996.20	0.38	7.770	951.17	0.37	9.715	842.54	0.34
7.009	996.30	0.38	7.790	951.28	0.37	9.734	842.80	0.34
7.029	996.40	0.38	7.810	951.40	0.37	9.752	843.06	0.34
7.049	996.51	0.38	7.830	951.55	0.37	9.771	843.32	0.34
7.069	996.61	0.38	7.850	951.70	0.37	9.789	843.59	0.34
7.090	996.80	0.38	7.870	951.80	0.37	9.808	843.85	0.34
7.110	996.90	0.38	7.890	951.98	0.37	9.826	844.10	0.34
7.130	997.00	0.38	7.910	952.09	0.37	9.844	844.35	0.34
7.150	997.10	0.38	7.930	952.27	0.37	9.863	844.66	0.34
7.170	997.20	0.38	7.950	952.38	0.37	9.881	844.92	0.34
7.190	997.30	0.38	7.970	952.52	0.37	9.900	845.15	0.34
7.210	997.40	0.38	7.990	952.67	0.37	9.918	845.40	0.34
7.231	997.50	0.38	8.010	952.77	0.37	9.937	845.64	0.34
7.251	997.61	0.38	8.030	952.95	0.37	9.955	845.93	0.34
7.271	997.71	0.38	8.050	953.05	0.37	9.974	846.19	0.34
7.291	997.82	0.38	8.070	953.18	0.37	9.992	846.42	0.34
7.311	997.92	0.38	8.090	953.32	0.37	10.011	846.66	0.34
7.331	998.02	0.38	8.110	953.47	0.37	10.029	846.94	0.34
7.351	998.12	0.38	8.130	953.59	0.37	10.048	847.20	0.34
7.372	998.21	0.38	8.150	953.77	0.37	10.066	847.43	0.34
7.392	998.31	0.38	8.170	953.86	0.37	10.084	847.66	0.34
7.412	998.41	0.38	8.190	953.98	0.37	10.103	847.90	0.34
7.432	998.58	0.38	8.210	954.12	0.37	10.121	848.18	0.34
7.452	998.68	0.38	8.230	954.25	0.37	10.140	848.40	0.34

7.472	998.78	0.38	8.250	954.38	0.37	10.158	848.68	0.34
7.492	998.87	0.38	8.270	954.49	0.37	10.177	848.89	0.34
7.512	998.97	0.38	8.290	954.68	0.37	10.195	849.14	0.34
7.533	999.06	0.38	8.310	954.79	0.37	10.214	849.39	0.34
7.553	999.16	0.38	8.330	954.89	0.37	10.232	849.61	0.35
7.573	999.25	0.38	8.350	955.00	0.37	10.251	849.88	0.35
7.593	999.35	0.38	8.370	955.19	0.37	10.269	850.08	0.35
7.613	999.46	0.38	8.390	955.29	0.37	10.288	850.34	0.35
7.633	999.62	0.38	8.410	955.40	0.37	10.306	850.56	0.35
7.653	999.71	0.38	8.430	955.59	0.37	10.325	850.77	0.35
7.674	999.81	0.38	8.450	955.69	0.37	10.343	851.02	0.35
7.694	999.90	0.38	8.470	955.86	0.37	10.361	851.27	0.35
7.714	1000.00	0.38	8.490	955.98	0.37	10.380	851.51	0.35
7.734	1000.09	0.38	8.510	956.08	0.37	10.398	851.75	0.35
7.754	1000.18	0.38	8.530	956.23	0.37	10.417	851.99	0.35
7.774	1000.27	0.38	8.550	956.36	0.37	10.435	852.17	0.35
7.794	1000.37	0.38	8.570	956.46	0.37	10.454	852.38	0.35
7.815	1000.52	0.38	8.590	956.65	0.37	10.472	852.62	0.35
7.835	1000.64	0.38	8.610	956.75	0.37	10.491	852.85	0.35
7.855	1000.73	0.38	8.630	956.90	0.37	10.509	853.08	0.35
7.875	1000.82	0.38	8.650	957.03	0.37	10.528	853.31	0.35
7.895	1000.91	0.38	8.670	957.13	0.37	10.546	853.53	0.35
7.915	1001.00	0.38	8.690	957.31	0.37	10.565	853.74	0.35
7.935	1001.11	0.38	8.710	957.41	0.37	10.583	853.98	0.35
7.956	1001.23	0.38	8.730	957.51	0.37	10.602	854.25	0.35
7.976	1001.32	0.38	8.750	957.69	0.37	10.620	854.46	0.35
7.996	1001.44	0.38	8.770	957.79	0.37	10.638	854.67	0.35
8.016	1001.53	0.38	8.790	957.92	0.37	10.657	854.87	0.35
8.036	1001.62	0.38	8.809	958.07	0.37	10.675	855.08	0.35
8.056	1001.71	0.38	8.829	958.17	0.37	10.694	855.30	0.35
8.076	1001.80	0.38	8.849	958.33	0.37	10.712	855.50	0.35
8.097	1001.90	0.38	8.869	958.43	0.37	10.731	855.72	0.35
8.117	1002.06	0.38	8.889	958.54	0.37	10.749	855.96	0.35
8.137	1002.15	0.38	8.909	958.71	0.37	10.768	856.17	0.35
8.157	1002.24	0.38	8.929	958.85	0.37	10.786	856.37	0.35
8.177	1002.33	0.38	8.949	958.98	0.37	10.805	856.61	0.35
8.197	1002.42	0.38	8.969	959.08	0.37	10.823	856.82	0.35
8.217	1002.50	0.38	8.989	959.25	0.37	10.842	857.01	0.35
8.238	1002.64	0.38	9.009	959.34	0.37	10.860	857.22	0.35
8.258	1002.76	0.38	9.029	959.46	0.37	10.878	857.44	0.35
8.278	1002.85	0.38	9.049	959.61	0.37	10.897	857.64	0.35
8.298	1002.94	0.38	9.069	959.74	0.37	10.915	857.84	0.35
8.318	1003.03	0.38	9.089	959.87	0.37	10.934	858.07	0.35
8.338	1003.12	0.38	9.109	959.96	0.37	10.952	858.27	0.35
8.358	1003.22	0.38	9.129	960.11	0.37	10.971	858.47	0.35

8.379	1003.38	0.38	9.149	960.23	0.37	10.989	858.71	0.35
8.399	1003.47	0.38	9.169	960.40	0.37	11.008	858.94	0.35
8.419	1003.56	0.38	9.189	960.50	0.37	11.026	859.14	0.35
8.439	1003.64	0.38	9.209	960.66	0.37	11.045	859.33	0.35
8.459	1003.73	0.38	9.229	960.75	0.37	11.063	859.56	0.35
8.479	1003.81	0.38	9.249	960.86	0.37	11.082	859.80	0.35
8.499	1003.90	0.38	9.269	961.01	0.37	11.100	860.00	0.35
8.520	1004.02	0.38	9.289	961.13	0.37	11.119	860.17	0.35
8.540	1004.15	0.38	9.309	961.26	0.37	11.137	860.40	0.35
8.560	1004.23	0.38	9.329	961.35	0.37	11.155	860.63	0.35
8.580	1004.32	0.38	9.349	961.49	0.37	11.174	860.85	0.35
8.600	1004.40	0.38	9.369	961.66	0.37	11.192	861.08	0.35
8.620	1004.54	0.38	9.389	961.77	0.37	11.211	861.27	0.35
8.640	1004.65	0.38	9.409	961.86	0.37	11.229	861.45	0.35
8.661	1004.74	0.38	9.429	962.01	0.37	11.248	861.67	0.35
8.681	1004.82	0.38	9.449	962.11	0.37	11.266	861.89	0.35
8.701	1004.90	0.38	9.469	962.27	0.37	11.285	862.10	0.35
8.721	1004.99	0.38	9.489	962.36	0.37	11.303	862.26	0.35
8.741	1005.13	0.38	9.509	962.52	0.37	11.322	862.46	0.35
8.761	1005.23	0.38	9.529	962.61	0.37	11.340	862.68	0.35
8.781	1005.31	0.38	9.549	962.77	0.37	11.359	862.90	0.35
8.802	1005.40	0.38	9.569	962.86	0.37	11.377	863.11	0.35
8.822	1005.48	0.38	9.589	963.02	0.37	11.395	863.33	0.35
8.842	1005.56	0.38	9.609	963.10	0.37	11.414	863.54	0.35
8.862	1005.71	0.38	9.629	963.27	0.37	11.432	863.75	0.35
8.882	1005.81	0.38	9.649	963.34	0.37	11.451	863.96	0.35
8.902	1005.89	0.38	9.669	963.50	0.37	11.469	864.17	0.35
8.922	1005.97	0.38	9.689	963.58	0.37	11.488	864.38	0.35
8.943	1006.12	0.38	9.709	963.74	0.37	11.506	864.58	0.35
8.963	1006.22	0.38	9.729	963.83	0.37	11.525	864.78	0.35
8.983	1006.30	0.38	9.749	963.98	0.37	11.543	864.97	0.35
9.003	1006.38	0.38	9.769	964.14	0.37	11.562	865.12	0.35
9.023	1006.46	0.38	9.789	964.23	0.37	11.580	865.34	0.35
9.043	1006.59	0.38	9.809	964.31	0.37	11.599	865.59	0.35
9.063	1006.70	0.38	9.829	964.45	0.37	11.617	865.79	0.35
9.084	1006.78	0.38	9.849	964.61	0.37	11.636	865.99	0.35
9.104	1006.86	0.38	9.869	964.71	0.37	11.654	866.19	0.35
9.124	1006.93	0.38	9.889	964.83	0.37	11.672	866.38	0.35
9.144	1007.05	0.38	9.909	964.94	0.37	11.691	866.57	0.35
9.164	1007.17	0.38	9.929	965.04	0.37	11.709	866.76	0.35
9.184	1007.25	0.38	9.949	965.18	0.37	11.728	866.94	0.35
9.204	1007.35	0.38	9.969	965.32	0.37	11.746	867.12	0.35
9.224	1007.48	0.38	9.988	965.40	0.37	11.765	867.31	0.35
9.245	1007.56	0.38	10.008	965.54	0.37	11.783	867.49	0.35
9.265	1007.64	0.38	10.028	965.68	0.37	11.802	867.70	0.35

9.285	1007.71	0.38	10.048	965.83	0.37	11.820	867.90	0.35
9.305	1007.86	0.38	10.068	965.93	0.37	11.839	868.09	0.35
9.325	1007.95	0.38	10.088	966.03	0.37	11.857	868.29	0.35
9.345	1008.02	0.38	10.108	966.15	0.37	11.876	868.50	0.35
9.365	1008.10	0.38	10.128	966.23	0.37	11.894	868.69	0.35
9.386	1008.18	0.38	10.148	966.36	0.37	11.912	868.89	0.35
9.406	1008.31	0.38	10.168	966.50	0.37	11.931	869.09	0.35
9.426	1008.42	0.38	10.188	966.64	0.37	11.949	869.29	0.35
9.446	1008.50	0.38	10.208	966.74	0.37	11.968	869.49	0.35
9.466	1008.57	0.38	10.228	966.83	0.37	11.986	869.68	0.35
9.486	1008.66	0.38	10.248	966.96	0.37	12.005	869.87	0.35
9.506	1008.78	0.38	10.268	967.09	0.37	12.023	870.06	0.35
9.527	1008.90	0.38	10.288	967.23	0.37	12.042	870.26	0.35
9.547	1008.98	0.38	10.308	967.31	0.37	12.060	870.45	0.35
9.567	1009.06	0.38	10.328	967.40	0.37	12.079	870.64	0.35
9.587	1009.16	0.38	10.348	967.53	0.37	12.097	870.84	0.35
9.607	1009.29	0.38	10.368	967.65	0.37	12.116	871.03	0.35
9.627	1009.36	0.38	10.388	967.78	0.37	12.134	871.21	0.35
9.647	1009.44	0.38	10.408	967.91	0.37	12.153	871.40	0.35
9.668	1009.59	0.38	10.428	968.03	0.37	12.171	871.58	0.35
9.688	1009.66	0.38	10.448	968.12	0.37	12.189	871.77	0.35
9.708	1009.73	0.38	10.468	968.26	0.37	12.208	871.96	0.35
9.728	1009.80	0.38	10.488	968.33	0.37	12.226	872.15	0.35
9.748	1009.90	0.38	10.508	968.46	0.37	12.245	872.33	0.35
9.768	1010.03	0.38	10.528	968.60	0.37	12.263	872.54	0.35
9.788	1010.10	0.38	10.548	968.71	0.37	12.282	872.77	0.35
9.809	1010.17	0.38	10.568	968.82	0.37	12.300	872.96	0.35
9.829	1010.32	0.38	10.588	968.93	0.37	12.319	873.14	0.35
9.849	1010.40	0.38	10.608	969.02	0.37	12.337	873.32	0.35
9.869	1010.47	0.38	10.628	969.16	0.37	12.356	873.49	0.35
9.889	1010.58	0.38	10.648	969.23	0.37	12.374	873.67	0.35
9.909	1010.69	0.38	10.668	969.38	0.37	12.393	873.85	0.35
9.929	1010.76	0.38	10.688	969.52	0.37	12.411	874.02	0.35
9.950	1010.84	0.38	10.708	969.62	0.37	12.430	874.20	0.35
9.970	1010.97	0.38	10.728	969.73	0.37	12.448	874.42	0.35
9.990	1011.05	0.38	10.748	969.87	0.37	12.466	874.62	0.35
10.010	1011.12	0.38	10.768	969.99	0.37	12.485	874.80	0.35
10.030	1011.22	0.38	10.788	970.07	0.37	12.503	874.97	0.35
10.050	1011.34	0.38	10.808	970.22	0.37	12.522	875.13	0.35
10.070	1011.41	0.38	10.828	970.29	0.37	12.540	875.30	0.35
10.091	1011.55	0.38	10.848	970.42	0.37	12.559	875.47	0.35
10.111	1011.63	0.38	10.868	970.56	0.37	12.577	875.67	0.35
10.131	1011.69	0.38	10.888	970.66	0.37	12.596	875.88	0.35
10.151	1011.78	0.38	10.908	970.75	0.37	12.614	876.07	0.35
10.171	1011.91	0.38	10.928	970.89	0.37	12.633	876.24	0.35

10.191	1011.97	0.38	10.948	971.03	0.37	12.651	876.41	0.35
10.211	1012.04	0.38	10.968	971.10	0.37	12.670	876.57	0.35
10.232	1012.15	0.38	10.988	971.22	0.37	12.688	876.74	0.35
10.252	1012.25	0.38	11.008	971.35	0.37	12.706	876.91	0.35
10.272	1012.32	0.38	11.028	971.47	0.37	12.725	877.12	0.35
10.292	1012.39	0.38	11.048	971.55	0.37	12.743	877.33	0.35
10.312	1012.51	0.38	11.068	971.68	0.37	12.762	877.49	0.35
10.332	1012.60	0.38	11.088	971.75	0.37	12.780	877.65	0.35
10.352	1012.70	0.38	11.108	971.87	0.37	12.799	877.81	0.35
10.373	1012.81	0.38	11.128	972.00	0.37	12.817	877.97	0.35
10.393	1012.88	0.38	11.148	972.14	0.37	12.836	878.17	0.35
10.413	1012.94	0.38	11.167	972.26	0.37	12.854	878.37	0.35
10.433	1013.06	0.38	11.187	972.33	0.37	12.873	878.53	0.35
10.453	1013.16	0.38	11.207	972.44	0.37	12.891	878.69	0.35
10.473	1013.24	0.38	11.227	972.58	0.37	12.910	878.88	0.35
10.493	1013.37	0.38	11.247	972.71	0.37	12.928	879.08	0.35
10.514	1013.44	0.38	11.267	972.84	0.37	12.947	879.24	0.35
10.534	1013.51	0.38	11.287	972.90	0.37	12.965	879.40	0.35
10.554	1013.61	0.38	11.307	973.01	0.37	12.983	879.59	0.35
10.574	1013.72	0.38	11.327	973.14	0.37	13.002	879.79	0.35
10.594	1013.79	0.38	11.347	973.25	0.37	13.020	879.97	0.35
10.614	1013.86	0.38	11.367	973.32	0.37	13.039	880.14	0.35
10.634	1013.99	0.38	11.387	973.44	0.37	13.057	880.32	0.35
10.655	1014.08	0.38	11.407	973.57	0.37	13.076	880.50	0.35
10.675	1014.14	0.38	11.427	973.70	0.37	13.094	880.67	0.35
10.695	1014.23	0.38	11.447	973.82	0.37	13.113	880.84	0.35
10.715	1014.36	0.38	11.467	973.88	0.37	13.131	881.00	0.35
10.735	1014.42	0.38	11.487	974.00	0.37	13.150	881.17	0.35
10.755	1014.54	0.38	11.507	974.12	0.37	13.168	881.33	0.35
10.775	1014.64	0.38	11.527	974.24	0.37	13.187	881.50	0.35
10.795	1014.70	0.38	11.547	974.37	0.37	13.205	881.70	0.35
10.816	1014.77	0.38	11.567	974.44	0.37	13.223	881.90	0.35
10.836	1014.90	0.38	11.587	974.53	0.37	13.242	882.06	0.35
10.856	1014.98	0.38	11.607	974.66	0.37	13.260	882.22	0.35
10.876	1015.08	0.38	11.627	974.78	0.37	13.279	882.38	0.35
10.896	1015.19	0.38	11.647	974.91	0.37	13.297	882.54	0.35
10.916	1015.26	0.38	11.667	974.99	0.37	13.316	882.70	0.35
10.936	1015.32	0.38	11.687	975.07	0.37	13.334	882.85	0.35
10.957	1015.43	0.38	11.707	975.20	0.37	13.353	883.03	0.35
10.977	1015.53	0.38	11.727	975.32	0.37	13.371	883.23	0.35
10.997	1015.60	0.38	11.747	975.40	0.37	13.390	883.40	0.35
11.017	1015.66	0.38	11.767	975.48	0.37	13.408	883.55	0.35
11.037	1015.78	0.38	11.787	975.61	0.37	13.427	883.72	0.35
11.057	1015.87	0.38	11.807	975.73	0.37	13.445	883.91	0.35
11.077	1015.95	0.38	11.827	975.85	0.37	13.464	884.08	0.35

11.098	1016.08	0.38	11.847	975.97	0.37	13.482	884.23	0.35
11.118	1016.14	0.38	11.867	976.09	0.37	13.500	884.38	0.35
11.138	1016.25	0.38	11.887	976.15	0.37	13.519	884.57	0.35
11.158	1016.35	0.38	11.907	976.25	0.37	13.537	884.75	0.35
11.178	1016.41	0.38	11.927	976.37	0.37	13.556	884.90	0.35
11.198	1016.48	0.38	11.947	976.49	0.37	13.574	885.05	0.35
11.218	1016.59	0.38	11.967	976.61	0.37	13.593	885.22	0.35
11.239	1016.68	0.38	11.987	976.70	0.37	13.611	885.40	0.35
11.259	1016.76	0.38	12.007	976.76	0.37	13.630	885.59	0.35
11.279	1016.88	0.38	12.027	976.88	0.37	13.648	885.77	0.35
11.299	1016.95	0.38	12.047	976.99	0.37	13.667	885.94	0.35
11.319	1017.03	0.38	12.067	977.11	0.38	13.685	886.09	0.35
11.339	1017.15	0.38	12.087	977.23	0.38	13.704	886.23	0.35
11.359	1017.21	0.38	12.107	977.29	0.38	13.722	886.40	0.35
11.380	1017.31	0.38	12.127	977.37	0.38	13.740	886.58	0.35
11.400	1017.41	0.38	12.147	977.50	0.38	13.759	886.75	0.35
11.420	1017.47	0.38	12.167	977.61	0.38	13.777	886.93	0.35
11.440	1017.58	0.38	12.187	977.72	0.38	13.796	887.09	0.35
11.460	1017.67	0.38	12.207	977.84	0.38	13.814	887.23	0.35
11.480	1017.74	0.38	12.227	977.95	0.38	13.833	887.37	0.35
11.500	1017.86	0.38	12.247	978.06	0.38	13.851	887.53	0.35
11.521	1017.93	0.38	12.267	978.16	0.38	13.870	887.71	0.35
11.541	1018.02	0.38	12.287	978.21	0.38	13.888	887.87	0.35
11.561	1018.14	0.38	12.307	978.32	0.38	13.907	888.04	0.35
11.581	1018.19	0.38	12.327	978.43	0.38	13.925	888.20	0.35
11.601	1018.29	0.38	12.346	978.54	0.38	13.944	888.37	0.35
11.621	1018.39	0.38	12.366	978.65	0.38	13.962	888.54	0.35
11.641	1018.45	0.38	12.386	978.75	0.38	13.981	888.70	0.35
11.662	1018.56	0.38	12.406	978.86	0.38	13.999	888.86	0.35
11.682	1018.65	0.38	12.426	978.97	0.38	14.017	889.02	0.35
11.702	1018.70	0.38	12.446	979.07	0.38	14.036	889.18	0.35
11.722	1018.82	0.38	12.466	979.18	0.38	14.054	889.34	0.35
11.742	1018.90	0.38	12.486	979.28	0.38	14.073	889.50	0.35
11.762	1018.97	0.38	12.506	979.39	0.38	14.091	889.66	0.35
11.782	1019.08	0.39	12.526	979.49	0.38	14.110	889.82	0.35
11.803	1019.15	0.39	12.546	979.56	0.38	14.128	889.98	0.35
11.823	1019.22	0.39	12.566	979.61	0.38	14.147	890.14	0.35
11.843	1019.33	0.39	12.586	979.71	0.38	14.165	890.29	0.35
11.863	1019.45	0.39	12.606	979.81	0.38	14.184	890.45	0.35
11.883	1019.54	0.39	12.626	979.91	0.38	14.202	890.61	0.35
11.903	1019.60	0.39	12.646	980.02	0.38	14.221	890.76	0.35
11.923	1019.70	0.39	12.666	980.12	0.38	14.239	890.92	0.35
11.944	1019.79	0.39	12.686	980.21	0.38	14.258	891.07	0.35
11.964	1019.85	0.39	12.706	980.31	0.38	14.276	891.22	0.35
11.984	1019.96	0.39	12.726	980.41	0.38	14.294	891.37	0.35

12.004	1020.04	0.39	12.746	980.50	0.38	14.313	891.52	0.35
12.024	1020.10	0.39	12.766	980.59	0.38	14.331	891.68	0.35
12.044	1020.21	0.39	12.786	980.75	0.38	14.350	891.83	0.35
12.064	1020.29	0.39	12.806	980.80	0.38	14.368	891.98	0.35
12.085	1020.35	0.39	12.826	980.92	0.38	14.387	892.13	0.35
12.105	1020.46	0.39	12.846	981.04	0.38	14.405	892.28	0.35
12.125	1020.57	0.39	12.866	981.17	0.38	14.424	892.42	0.35
12.145	1020.67	0.39	12.886	981.24	0.38	14.442	892.57	0.35
12.165	1020.73	0.39	12.906	981.32	0.38	14.461	892.73	0.35
12.185	1020.81	0.39	12.926	981.44	0.38	14.479	892.90	0.35
12.205	1020.92	0.39	12.946	981.57	0.38	14.498	893.07	0.35
12.226	1020.97	0.39	12.966	981.68	0.38	14.516	893.23	0.35
12.246	1021.05	0.39	12.986	981.81	0.38	14.534	893.38	0.35
12.266	1021.16	0.39	13.006	981.90	0.38	14.553	893.52	0.35
12.286	1021.26	0.39	13.026	981.96	0.38	14.571	893.67	0.35
12.306	1021.35	0.39	13.046	982.08	0.38	14.590	893.82	0.36
12.326	1021.40	0.39	13.066	982.20	0.38	14.608	893.97	0.36
12.346	1021.50	0.39	13.086	982.31	0.38	14.627	894.12	0.36
12.367	1021.59	0.39	13.106	982.43	0.38	14.645	894.26	0.36
12.387	1021.64	0.39	13.126	982.55	0.38	14.664	894.41	0.36
12.407	1021.73	0.39	13.146	982.59	0.38	14.682	894.56	0.36
12.427	1021.84	0.39	13.166	982.71	0.38	14.701	894.71	0.36
12.447	1021.94	0.39	13.186	982.82	0.38	14.719	894.86	0.36
12.467	1022.01	0.39	13.206	982.93	0.38	14.738	895.00	0.36
12.487	1022.06	0.39	13.226	983.05	0.38	14.756	895.15	0.36
12.507	1022.16	0.39	13.246	983.16	0.38	14.775	895.29	0.36
12.528	1022.26	0.39	13.266	983.27	0.38	14.793	895.44	0.36
12.548	1022.36	0.39	13.286	983.38	0.38	14.811	895.58	0.36
12.568	1022.46	0.39	13.306	983.50	0.38	14.830	895.74	0.36
12.588	1022.56	0.39	13.326	983.61	0.38	14.848	895.91	0.36
12.608	1022.61	0.39	13.346	983.72	0.38	14.867	896.08	0.36
12.628	1022.68	0.39	13.366	983.82	0.38	14.885	896.23	0.36
12.648	1022.78	0.39	13.386	983.93	0.38	14.904	896.37	0.36
12.669	1022.88	0.39	13.406	984.03	0.38	14.922	896.51	0.36
12.689	1022.97	0.39	13.426	984.13	0.38	14.941	896.64	0.36
12.709	1023.02	0.39	13.446	984.24	0.38	14.959	896.78	0.36
12.729	1023.10	0.39	13.466	984.34	0.38	14.978	896.92	0.36
12.749	1023.20	0.39	13.486	984.43	0.38	14.996	897.08	0.36
12.769	1023.29	0.39	13.506	984.53	0.38	15.015	897.24	0.36
12.789	1023.39	0.39	13.525	984.65	0.38	15.033	897.41	0.36
12.810	1023.49	0.39	13.545	984.80	0.38	15.051	897.54	0.36
12.830	1023.57	0.39	13.565	984.89	0.38	15.070	897.68	0.36
12.850	1023.61	0.39	13.585	984.97	0.38	15.088	897.81	0.36
12.870	1023.70	0.39	13.605	985.06	0.38	15.107	897.94	0.36
12.890	1023.80	0.39	13.625	985.21	0.38	15.125	898.07	0.36

12.910	1023.90	0.39	13.645	985.31	0.38	15.144	898.20	0.36
12.930	1023.99	0.39	13.665	985.40	0.38	15.162	898.35	0.36
12.951	1024.09	0.39	13.685	985.53	0.38	15.181	898.51	0.36
12.971	1024.18	0.39	13.705	985.63	0.38	15.199	898.67	0.36
12.991	1024.28	0.39	13.725	985.70	0.38	15.218	898.82	0.36
13.011	1024.33	0.39	13.745	985.81	0.38	15.236	898.97	0.36
13.031	1024.39	0.39	13.765	985.93	0.38	15.255	899.13	0.36
13.051	1024.48	0.39	13.785	986.00	0.38	15.273	899.27	0.36
13.071	1024.57	0.39	13.805	986.14	0.38	15.292	899.39	0.36
13.092	1024.67	0.39	13.825	986.26	0.38	15.310	899.52	0.36
13.112	1024.76	0.39	13.845	986.35	0.38	15.328	899.65	0.36
13.132	1024.85	0.39	13.865	986.43	0.38	15.347	899.80	0.36
13.152	1024.90	0.39	13.885	986.55	0.38	15.365	899.94	0.36
13.172	1024.96	0.39	13.905	986.66	0.38	15.384	900.09	0.36
13.192	1025.05	0.39	13.925	986.78	0.38	15.402	900.24	0.36
13.212	1025.15	0.39	13.945	986.89	0.38	15.421	900.38	0.36
13.233	1025.24	0.39	13.965	986.95	0.38	15.439	900.52	0.36
13.253	1025.33	0.39	13.985	987.04	0.38	15.458	900.67	0.36
13.273	1025.43	0.39	14.005	987.16	0.38	15.476	900.81	0.36
13.293	1025.52	0.39	14.025	987.27	0.38	15.495	900.96	0.36
13.313	1025.60	0.39	14.045	987.34	0.38	15.513	901.10	0.36
13.333	1025.65	0.39	14.065	987.42	0.38	15.532	901.22	0.36
13.353	1025.71	0.39	14.085	987.53	0.38	15.550	901.33	0.36
13.374	1025.80	0.39	14.105	987.64	0.38	15.568	901.45	0.36
13.394	1025.89	0.39	14.125	987.75	0.38	15.587	901.58	0.36
13.414	1025.99	0.39	14.145	987.86	0.38	15.605	901.72	0.36
13.434	1026.07	0.39	14.165	987.96	0.38	15.624	901.86	0.36
13.454	1026.16	0.39	14.185	988.05	0.38	15.642	902.00	0.36
13.474	1026.25	0.39	14.205	988.10	0.38	15.661	902.14	0.36
13.494	1026.34	0.39	14.225	988.20	0.38	15.679	902.29	0.36
13.515	1026.43	0.39	14.245	988.31	0.38	15.698	902.43	0.36
13.535	1026.51	0.39	14.265	988.41	0.38	15.716	902.56	0.36
13.555	1026.60	0.39	14.285	988.52	0.38	15.735	902.70	0.36
13.575	1026.69	0.39	14.305	988.62	0.38	15.753	902.84	0.36
13.595	1026.77	0.39	14.325	988.72	0.38	15.772	902.97	0.36
13.615	1026.86	0.39	14.345	988.83	0.38	15.790	903.11	0.36
13.635	1026.94	0.39	14.365	988.93	0.38	15.809	903.24	0.36
13.656	1027.03	0.39	14.385	989.03	0.38	15.827	903.38	0.36
13.676	1027.11	0.39	14.405	989.13	0.38	15.845	903.52	0.36
13.696	1027.19	0.39	14.425	989.24	0.38	15.864	903.65	0.36
13.716	1027.28	0.39	14.445	989.34	0.38	15.882	903.78	0.36
13.736	1027.36	0.39	14.465	989.44	0.38	15.901	903.92	0.36
13.756	1027.44	0.39	14.485	989.53	0.38	15.919	904.05	0.36
13.776	1027.53	0.39	14.505	989.63	0.38	15.938	904.18	0.36
13.797	1027.61	0.39	14.525	989.73	0.38	15.956	904.31	0.36

13.817	1027.66	0.39	14.545	989.83	0.38	15.975	904.44	0.36
13.837	1027.70	0.39	14.565	989.93	0.38	15.993	904.57	0.36
13.857	1027.80	0.39	14.585	990.02	0.38	16.012	904.70	0.36
13.877	1027.92	0.39	14.605	990.12	0.38	16.030	904.83	0.36
13.897	1028.02	0.39	14.625	990.22	0.38	16.049	904.96	0.36
13.917	1028.10	0.39	14.645	990.31	0.38	16.067	905.09	0.36
13.938	1028.18	0.39	14.665	990.41	0.38	16.086	905.22	0.36
13.958	1028.26	0.39	14.685	990.51	0.38	16.104	905.34	0.36
13.978	1028.34	0.39	14.704	990.60	0.38	16.122	905.48	0.36
13.998	1028.42	0.39	14.724	990.69	0.38	16.141	905.63	0.36
14.018	1028.49	0.39	14.744	990.78	0.38	16.159	905.77	0.36
14.038	1028.57	0.39	14.764	990.88	0.38	16.178	905.92	0.36
14.058	1028.65	0.39	14.784	990.97	0.38	16.196	906.06	0.36
14.079	1028.73	0.39	14.804	991.06	0.38	16.215	906.18	0.36
14.099	1028.81	0.39	14.824	991.15	0.38	16.233	906.31	0.36
14.119	1028.89	0.39	14.844	991.24	0.38	16.252	906.43	0.36
14.139	1028.96	0.39	14.864	991.33	0.38	16.270	906.56	0.36
14.159	1029.04	0.39	14.884	991.42	0.38	16.289	906.68	0.36
14.179	1029.12	0.39	14.904	991.51	0.38	16.307	906.80	0.36
14.199	1029.19	0.39	14.924	991.63	0.38	16.326	906.92	0.36
14.219	1029.27	0.39	14.944	991.77	0.38	16.344	907.05	0.36
14.240	1029.35	0.39	14.964	991.85	0.38	16.362	907.17	0.36
14.260	1029.42	0.39	14.984	991.94	0.38	16.381	907.29	0.36
14.280	1029.50	0.39	15.004	992.02	0.38	16.399	907.41	0.36
14.300	1029.57	0.39	15.024	992.11	0.38	16.418	907.54	0.36
14.320	1029.67	0.39	15.044	992.19	0.38	16.436	907.68	0.36
14.340	1029.78	0.39	15.064	992.28	0.38	16.455	907.82	0.36
14.360	1029.88	0.39	15.084	992.36	0.38	16.473	907.95	0.36
14.381	1029.95	0.39	15.104	992.45	0.38	16.492	908.08	0.36
14.401	1030.02	0.39	15.124	992.58	0.38	16.510	908.20	0.36
14.421	1030.10	0.39	15.144	992.69	0.38	16.529	908.31	0.36
14.441	1030.17	0.39	15.164	992.77	0.38	16.547	908.43	0.36
14.461	1030.27	0.39	15.184	992.85	0.38	16.566	908.55	0.36
14.481	1030.38	0.39	15.204	992.93	0.38	16.584	908.68	0.36
14.501	1030.47	0.39	15.224	993.01	0.38	16.603	908.81	0.36
14.522	1030.54	0.39	15.244	993.13	0.38	16.621	908.95	0.36
14.542	1030.61	0.39	15.264	993.24	0.38	16.639	909.08	0.36
14.562	1030.68	0.39	15.284	993.32	0.38	16.658	909.20	0.36
14.582	1030.75	0.39	15.304	993.40	0.38	16.676	909.31	0.36
14.602	1030.82	0.39	15.324	993.50	0.38	16.695	909.42	0.36
14.622	1030.89	0.39	15.344	993.62	0.38	16.713	909.54	0.36
14.642	1030.96	0.39	15.364	993.70	0.38	16.732	909.66	0.36
14.663	1031.04	0.39	15.384	993.78	0.38	16.750	909.79	0.36
14.683	1031.12	0.39	15.404	993.87	0.38	16.769	909.92	0.36
14.703	1031.22	0.39	15.424	993.98	0.38	16.787	910.05	0.36

14.723	1031.33	0.39	15.444	994.08	0.38	16.806	910.18	0.36
14.743	1031.39	0.39	15.464	994.15	0.38	16.824	910.30	0.36
14.763	1031.46	0.39	15.484	994.22	0.38	16.843	910.43	0.36
14.783	1031.53	0.39	15.504	994.32	0.38	16.861	910.56	0.36
14.804	1031.60	0.39	15.524	994.42	0.38	16.879	910.68	0.36
14.824	1031.67	0.39	15.544	994.51	0.38	16.898	910.80	0.36
14.844	1031.78	0.39	15.564	994.57	0.38	16.916	910.90	0.36
14.864	1031.88	0.39	15.584	994.65	0.38	16.935	911.01	0.36
14.884	1031.95	0.39	15.604	994.75	0.38	16.953	911.12	0.36
14.904	1032.02	0.39	15.624	994.85	0.38	16.972	911.22	0.36
14.924	1032.08	0.39	15.644	994.95	0.38	16.990	911.35	0.36
14.945	1032.15	0.39	15.664	995.05	0.38	17.009	911.47	0.36
14.965	1032.21	0.39	15.684	995.15	0.38	17.027	911.60	0.36
14.985	1032.30	0.39	15.704	995.25	0.38	17.046	911.72	0.36
15.005	1032.40	0.39	15.724	995.35	0.38	17.064	911.84	0.36
15.025	1032.49	0.39	15.744	995.42	0.38	17.083	911.96	0.36
15.045	1032.55	0.39	15.764	995.48	0.38	17.101	912.08	0.36
15.065	1032.62	0.39	15.784	995.55	0.38	17.120	912.20	0.36
15.086	1032.71	0.39	15.804	995.64	0.38	17.138	912.32	0.36
15.106	1032.80	0.39	15.824	995.74	0.38	17.156	912.44	0.36
15.126	1032.89	0.39	15.844	995.84	0.38	17.175	912.56	0.36
15.146	1032.96	0.39	15.864	995.93	0.38	17.193	912.67	0.36
15.166	1033.02	0.39	15.883	996.02	0.38	17.212	912.79	0.36
15.186	1033.10	0.39	15.903	996.11	0.38	17.230	912.91	0.36
15.206	1033.20	0.39	15.923	996.21	0.38	17.249	913.03	0.36
15.227	1033.29	0.39	15.943	996.30	0.38	17.267	913.14	0.36
15.247	1033.35	0.39	15.963	996.39	0.38	17.286	913.26	0.36
15.267	1033.41	0.39	15.983	996.48	0.38	17.304	913.37	0.36
15.287	1033.49	0.39	16.003	996.57	0.38	17.323	913.49	0.36
15.307	1033.58	0.39	16.023	996.66	0.38	17.341	913.60	0.36
15.327	1033.67	0.39	16.043	996.75	0.38	17.360	913.72	0.36
15.347	1033.76	0.39	16.063	996.81	0.38	17.378	913.83	0.36
15.368	1033.85	0.39	16.083	996.88	0.38	17.396	913.95	0.36
15.388	1033.94	0.39	16.103	996.98	0.38	17.415	914.06	0.36
15.408	1034.00	0.39	16.123	997.11	0.38	17.433	914.19	0.36
15.428	1034.06	0.39	16.143	997.22	0.38	17.452	914.32	0.36
15.448	1034.13	0.39	16.163	997.32	0.38	17.470	914.45	0.36
15.468	1034.22	0.39	16.183	997.42	0.38	17.489	914.58	0.36
15.488	1034.30	0.39	16.203	997.52	0.38	17.507	914.70	0.36
15.509	1034.38	0.39	16.223	997.67	0.38	17.526	914.81	0.36
15.529	1034.44	0.39	16.243	997.74	0.38	17.544	914.92	0.36
15.549	1034.49	0.39	16.263	997.82	0.38	17.563	915.03	0.36
15.569	1034.57	0.39	16.283	997.96	0.38	17.581	915.14	0.36
15.589	1034.65	0.39	16.303	998.03	0.38	17.600	915.25	0.36
15.609	1034.74	0.39	16.323	998.12	0.38	17.618	915.36	0.36

15.629	1034.82	0.39	16.343	998.24	0.38	17.637	915.46	0.36
15.650	1034.91	0.39	16.363	998.35	0.38	17.655	915.57	0.36
15.670	1035.00	0.39	16.383	998.45	0.38	17.673	915.67	0.36
15.690	1035.08	0.39	16.403	998.56	0.38	17.692	915.77	0.36
15.710	1035.17	0.39	16.423	998.65	0.38	17.710	915.88	0.36
15.730	1035.25	0.39	16.443	998.74	0.38	17.729	916.01	0.36
15.750	1035.31	0.39	16.463	998.84	0.38	17.747	916.13	0.36
15.770	1035.36	0.39	16.483	998.92	0.38	17.766	916.26	0.36
15.791	1035.42	0.39	16.503	999.01	0.38	17.784	916.62	0.36
15.811	1035.50	0.39	16.523	999.09	0.38	17.803	916.77	0.36
15.831	1035.59	0.39	16.543	999.17	0.38	17.821	917.00	0.36
15.851	1035.67	0.39	16.563	999.27	0.38	17.840	917.14	0.36
15.871	1035.75	0.39	16.583	999.38	0.38	17.858	917.28	0.36
15.891	1035.83	0.39	16.603	999.47	0.38	17.877	917.38	0.36
15.911	1035.91	0.39	16.623	999.55	0.38	17.895	917.53	0.36
15.931	1035.99	0.39	16.643	999.62	0.38	17.913	917.70	0.36
15.952	1036.08	0.39	16.663	999.73	0.38	17.932	917.82	0.36
15.972	1036.16	0.39	16.683	999.83	0.38	17.950	917.92	0.36
15.992	1036.24	0.39	16.703	999.93	0.38	17.969	918.05	0.36
16.012	1036.32	0.39	16.723	1000.03	0.38	17.987	918.18	0.36
16.032	1036.39	0.39	16.743	1000.12	0.38	18.006	918.30	0.36
16.052	1036.45	0.39	16.763	1000.18	0.38	18.024	918.42	0.36
16.072	1036.50	0.39	16.783	1000.25	0.38	18.043	918.55	0.36
16.093	1036.55	0.39	16.803	1000.33	0.38	18.061	918.69	0.36
16.113	1036.63	0.39	16.823	1000.43	0.38	18.080	918.81	0.36
16.133	1036.70	0.39	16.843	1000.52	0.38	18.098	918.93	0.36
16.153	1036.78	0.39	16.863	1000.62	0.38	18.117	919.05	0.36
16.173	1036.86	0.39	16.883	1000.71	0.38	18.135	919.16	0.36
16.193	1036.94	0.39	16.903	1000.81	0.38	18.154	919.27	0.36
16.213	1037.01	0.39	16.923	1000.90	0.38	18.172	919.37	0.36
16.234	1037.09	0.39	16.943	1000.99	0.38	18.190	919.50	0.36
16.254	1037.16	0.39	16.963	1001.08	0.38	18.209	919.62	0.36
16.274	1037.24	0.39	16.983	1001.17	0.38	18.227	919.75	0.36
16.294	1037.31	0.39	17.003	1001.27	0.38	18.246	919.86	0.36
16.314	1037.39	0.39	17.023	1001.36	0.38	18.264	919.97	0.36
16.334	1037.46	0.39	17.043	1001.45	0.38	18.283	920.08	0.36
16.354	1037.54	0.39	17.062	1001.54	0.38	18.301	920.20	0.36
16.375	1037.61	0.39	17.082	1001.63	0.38	18.320	920.32	0.36
16.395	1037.68	0.39	17.102	1001.72	0.38	18.338	920.44	0.36
16.415	1037.76	0.39	17.122	1001.81	0.38	18.357	920.56	0.36
16.435	1037.85	0.39	17.142	1001.90	0.38	18.375	920.68	0.36
16.455	1037.94	0.39	17.162	1001.99	0.38	18.394	920.77	0.36
16.475	1038.04	0.39	17.182	1002.08	0.38	18.412	920.87	0.36
16.495	1038.13	0.39	17.202	1002.17	0.38	18.431	920.96	0.36
16.516	1038.18	0.39	17.222	1002.26	0.38	18.449	921.06	0.36

16.536	1038.22	0.39	17.242	1002.34	0.38	18.467	921.18	0.36
16.556	1038.27	0.39	17.262	1002.43	0.38	18.486	921.30	0.36
16.576	1038.34	0.39	17.282	1002.52	0.38	18.504	921.43	0.36
16.596	1038.41	0.39	17.302	1002.60	0.38	18.523	921.55	0.36
16.616	1038.48	0.39	17.322	1002.69	0.38	18.541	921.67	0.36
16.636	1038.56	0.39	17.342	1002.77	0.38	18.560	921.77	0.36
16.657	1038.65	0.39	17.362	1002.86	0.38	18.578	921.87	0.36
16.677	1038.75	0.39	17.382	1002.94	0.38	18.597	921.97	0.36
16.697	1038.84	0.39	17.402	1003.03	0.38	18.615	922.06	0.36
16.717	1038.91	0.39	17.422	1003.11	0.38	18.634	922.17	0.36
16.737	1038.98	0.39	17.442	1003.19	0.38	18.652	922.28	0.36
16.757	1039.05	0.39	17.462	1003.28	0.38	18.671	922.39	0.36
16.777	1039.12	0.39	17.482	1003.36	0.38	18.689	922.50	0.36
16.798	1039.19	0.39	17.502	1003.44	0.38	18.707	922.61	0.36
16.818	1039.26	0.39	17.522	1003.53	0.38	18.726	922.71	0.36
16.838	1039.33	0.39	17.542	1003.61	0.38	18.744	922.82	0.36
16.858	1039.39	0.39	17.562	1003.69	0.38	18.763	922.92	0.36
16.878	1039.46	0.39	17.582	1003.78	0.38	18.781	923.02	0.36
16.898	1039.53	0.39	17.602	1003.86	0.38	18.800	923.13	0.36
16.918	1039.60	0.39	17.622	1003.94	0.38	18.818	923.23	0.36
16.939	1039.69	0.39	17.642	1004.02	0.38	18.837	923.34	0.36
16.959	1039.78	0.39	17.662	1004.10	0.38	18.855	923.45	0.36
16.979	1039.86	0.39	17.682	1004.18	0.38	18.874	923.57	0.36
16.999	1039.94	0.39	17.702	1004.29	0.38	18.892	923.68	0.36
17.019	1040.01	0.39	17.722	1004.39	0.38	18.911	923.79	0.36
17.039	1040.07	0.39	17.742	1004.50	0.38	18.929	923.90	0.36
17.059	1040.14	0.39	17.762	1004.57	0.38	18.948	924.00	0.36
17.080	1040.20	0.39	17.782	1004.65	0.38	18.966	924.09	0.36
17.100	1040.27	0.39	17.802	1004.73	0.38	18.984	924.19	0.36
17.120	1040.33	0.39	17.822	1004.81	0.38	19.003	924.28	0.36
17.140	1040.40	0.39	17.842	1004.88	0.38	19.021	924.38	0.36
17.160	1040.48	0.39	17.862	1004.96	0.38	19.040	924.47	0.36
17.180	1040.56	0.39	17.882	1005.05	0.38	19.058	924.58	0.36
17.200	1040.65	0.39	17.902	1005.15	0.38	19.077	924.68	0.36
17.221	1040.73	0.39	17.922	1005.25	0.38	19.095	924.79	0.36
17.241	1040.80	0.39	17.942	1005.34	0.38	19.114	924.89	0.36
17.261	1040.86	0.39	17.962	1005.41	0.38	19.132	925.00	0.36
17.281	1040.92	0.39	17.982	1005.48	0.38	19.151	925.10	0.36
17.301	1040.99	0.39	18.002	1005.56	0.38	19.169	925.21	0.36
17.321	1041.07	0.39	18.022	1005.63	0.38	19.188	925.31	0.36
17.341	1041.15	0.39	18.042	1005.70	0.38	19.206	925.41	0.36
17.362	1041.23	0.39	18.062	1005.77	0.38	19.224	925.52	0.36
17.382	1041.31	0.39	18.082	1005.86	0.38	19.243	925.62	0.36
17.402	1041.37	0.39	18.102	1005.95	0.38	19.261	925.72	0.36
17.422	1041.43	0.39	18.122	1006.05	0.38	19.280	925.83	0.36

17.442	1041.49	0.39	18.142	1006.14	0.38	19.298	925.93	0.36
17.462	1041.55	0.39	18.162	1006.23	0.38	19.317	926.03	0.36
17.482	1041.63	0.39	18.182	1006.32	0.38	19.335	926.13	0.36
17.502	1041.71	0.39	18.202	1006.42	0.38	19.354	926.23	0.36
17.523	1041.79	0.39	18.222	1006.49	0.38	19.372	926.33	0.36
17.543	1041.87	0.39	18.241	1006.56	0.38	19.391	926.43	0.36
17.563	1041.93	0.39	18.261	1006.63	0.38	19.409	926.54	0.36
17.583	1041.99	0.39	18.281	1006.69	0.38	19.428	926.65	0.36
17.603	1042.05	0.39	18.301	1006.78	0.38	19.446	926.76	0.36
17.623	1042.11	0.39	18.321	1006.87	0.38	19.465	926.88	0.36
17.643	1042.18	0.39	18.341	1006.96	0.38	19.483	926.99	0.36
17.664	1042.26	0.39	18.361	1007.04	0.38	19.501	927.10	0.36
17.684	1042.34	0.39	18.381	1007.13	0.38	19.520	927.21	0.36
17.704	1042.41	0.39	18.401	1007.21	0.38	19.538	927.30	0.36
17.724	1042.48	0.39	18.421	1007.30	0.38	19.557	927.40	0.36
17.744	1042.54	0.39	18.441	1007.38	0.38	19.575	927.50	0.36
17.764	1042.59	0.39	18.461	1007.47	0.38	19.594	927.60	0.36
17.784	1042.65	0.39	18.481	1007.55	0.38	19.612	927.69	0.36
17.805	1042.71	0.39	18.501	1007.64	0.38	19.631	927.79	0.36
17.825	1042.79	0.39	18.521	1007.72	0.38	19.649	927.89	0.36
17.845	1042.86	0.39	18.541	1007.80	0.38	19.668	927.98	0.36
17.865	1042.94	0.39	18.561	1007.89	0.38	19.686	928.07	0.36
17.885	1043.01	0.39	18.581	1007.97	0.38	19.705	928.17	0.36
17.905	1043.09	0.39	18.601	1008.05	0.38	19.723	928.26	0.36
17.925	1043.16	0.39	18.621	1008.13	0.38	19.741	928.36	0.36
17.946	1043.23	0.39	18.641	1008.22	0.38	19.760	928.45	0.36
17.966	1043.31	0.39	18.661	1008.30	0.38	19.778	928.55	0.36
17.986	1043.38	0.39	18.681	1008.38	0.38	19.797	928.65	0.36
18.006	1043.45	0.39	18.701	1008.46	0.38	19.815	928.76	0.36
18.026	1043.52	0.39	18.721	1008.54	0.38	19.834	928.86	0.36
18.046	1043.60	0.39	18.741	1008.62	0.38	19.852	928.96	0.36
18.066	1043.67	0.39	18.761	1008.70	0.38	19.871	929.07	0.36
18.087	1043.74	0.39	18.781	1008.78	0.38	19.889	929.17	0.36
18.107	1043.81	0.39	18.801	1008.86	0.38	19.908	929.27	0.36
18.127	1043.88	0.39	18.821	1008.94	0.38	19.926	929.36	0.36
18.147	1043.96	0.39	18.841	1009.02	0.38	19.945	929.45	0.36
18.167	1044.02	0.39	18.861	1009.10	0.38	19.963	929.54	0.36
18.187	1044.08	0.39	18.881	1009.18	0.38	19.982	929.63	0.36
18.207	1044.13	0.39	18.901	1009.25	0.38	20.000	929.72	0.36
18.228	1044.18	0.39	18.921	1009.33	0.38			
18.248	1044.24	0.39	18.941	1009.41	0.38			
18.268	1044.30	0.39	18.961	1009.48	0.38			
18.288	1044.37	0.39	18.981	1009.56	0.38			
18.308	1044.44	0.39	19.001	1009.64	0.38			
18.328	1044.51	0.39	19.021	1009.71	0.38			

18.348	1044.58	0.39	19.041	1009.79	0.38			
18.369	1044.65	0.39	19.061	1009.87	0.38			
18.389	1044.72	0.39	19.081	1009.94	0.38			
18.409	1044.79	0.39	19.101	1010.02	0.38			
18.429	1044.85	0.39	19.121	1010.09	0.38			
18.449	1044.92	0.39	19.141	1010.16	0.38			
18.469	1044.99	0.39	19.161	1010.24	0.38			
18.489	1045.06	0.39	19.181	1010.31	0.38			
18.510	1045.12	0.39	19.201	1010.39	0.38			
18.530	1045.19	0.39	19.221	1010.46	0.38			
18.550	1045.26	0.39	19.241	1010.54	0.38			
18.570	1045.32	0.39	19.261	1010.61	0.38			
18.590	1045.39	0.39	19.281	1010.71	0.38			
18.610	1045.45	0.39	19.301	1010.80	0.38			
18.630	1045.52	0.39	19.321	1010.89	0.38			
18.651	1045.59	0.39	19.341	1010.98	0.38			
18.671	1045.67	0.39	19.361	1011.06	0.38			
18.691	1045.76	0.39	19.381	1011.13	0.38			
18.711	1045.84	0.39	19.401	1011.20	0.38			
18.731	1045.92	0.39	19.420	1011.27	0.38			
18.751	1045.99	0.39	19.440	1011.35	0.38			
18.771	1046.06	0.39	19.460	1011.42	0.38			
18.792	1046.12	0.39	19.480	1011.49	0.38			
18.812	1046.19	0.39	19.500	1011.56	0.38			
18.832	1046.25	0.39	19.520	1011.63	0.38			
18.852	1046.31	0.39	19.540	1011.70	0.38			
18.872	1046.38	0.39	19.560	1011.77	0.38			
18.892	1046.44	0.39	19.580	1011.84	0.38			
18.912	1046.50	0.39	19.600	1011.92	0.38			
18.933	1046.56	0.39	19.620	1011.99	0.38			
18.953	1046.63	0.39	19.640	1012.08	0.38			
18.973	1046.69	0.39	19.660	1012.17	0.38			
18.993	1046.75	0.39	19.680	1012.25	0.38			
19.013	1046.81	0.39	19.700	1012.34	0.38			
19.033	1046.88	0.39	19.720	1012.42	0.38			
19.053	1046.94	0.39	19.740	1012.49	0.38			
19.074	1047.00	0.39	19.760	1012.56	0.38			
19.094	1047.06	0.39	19.780	1012.63	0.38			
19.114	1047.12	0.39	19.800	1012.70	0.38			
19.134	1047.18	0.39	19.820	1012.77	0.38			
19.154	1047.24	0.39	19.840	1012.83	0.38			
19.174	1047.31	0.39	19.860	1012.90	0.38			
19.194	1047.38	0.39	19.880	1012.97	0.38			
19.214	1047.46	0.39	19.900	1013.04	0.38			
19.235	1047.53	0.39	19.920	1013.13	0.38			

19.255	1047.61	0.39	19.940	1013.21	0.38			
19.275	1047.68	0.39	19.960	1013.30	0.38			
19.295	1047.74	0.39	19.980	1013.38	0.38			
19.315	1047.80	0.39	20.000	1013.46	0.38			
19.335	1047.86	0.39						
19.355	1047.92	0.39						
19.376	1047.98	0.39						
19.396	1048.05	0.39						
19.416	1048.12	0.39						
19.436	1048.19	0.39						
19.456	1048.27	0.39						
19.476	1048.34	0.39						
19.496	1048.41	0.39						
19.517	1048.47	0.39						
19.537	1048.53	0.39						
19.557	1048.58	0.39						
19.577	1048.64	0.39						
19.597	1048.70	0.39						
19.617	1048.75	0.39						
19.637	1048.81	0.39						
19.658	1048.87	0.39						
19.678	1048.93	0.39						
19.698	1048.98	0.39						
19.718	1049.04	0.39						
19.738	1049.10	0.39						
19.758	1049.17	0.39						
19.778	1049.24	0.39						
19.799	1049.31	0.39						
19.819	1049.38	0.39						
19.839	1049.45	0.39						
19.859	1049.52	0.39						
19.879	1049.59	0.39						
19.899	1049.66	0.39						
19.919	1049.73	0.39						
19.940	1049.80	0.39						
19.960	1049.87	0.39						
19.980	1049.93	0.39						
20.000	1049.98	0.39						

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S1 (continued). $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty.

x_{CO_2} = 0.9879; x_{SO_2} = 0.0009; x_{CO} = 0.0112											
***T*= 304.20±0.01 K**			***T*= 313.17±0.04 K**			***T*= 333.16±0.01K**			***T*= 353.18±0.02 K**		
p **(MPa)**	***ρ*** **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***p*** **(MPa)**	***ρ*** **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***p*** **(MPa)**	***ρ*** **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***p*** **(MPa)**	***ρ*** **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**
0.339	5.63	0.22	0.359	5.77	0.22	0.319	4.84	0.22	0.419	5.99	0.22
0.359	6.03	0.22	0.379	6.10	0.22	0.339	5.16	0.22	0.439	6.30	0.22
0.379	6.39	0.22	0.399	6.42	0.22	0.359	5.47	0.22	0.459	6.60	0.22
0.399	6.73	0.22	0.419	6.77	0.22	0.379	5.78	0.22	0.479	6.92	0.22
0.419	7.08	0.22	0.439	7.16	0.22	0.399	6.10	0.22	0.499	7.23	0.22
0.439	7.46	0.22	0.459	7.51	0.22	0.419	6.41	0.22	0.519	7.54	0.22
0.459	7.84	0.22	0.478	7.82	0.22	0.439	6.72	0.22	0.539	7.84	0.22
0.478	8.20	0.22	0.498	8.20	0.22	0.459	7.04	0.22	0.559	8.14	0.22
0.498	8.56	0.22	0.518	8.54	0.22	0.479	7.37	0.22	0.579	8.45	0.22
0.518	8.96	0.22	0.538	8.93	0.22	0.499	7.71	0.22	0.599	8.75	0.22
0.538	9.30	0.22	0.558	9.22	0.22	0.519	8.00	0.22	0.619	9.06	0.22
0.558	9.66	0.22	0.578	9.64	0.22	0.539	8.35	0.22	0.639	9.37	0.22
0.578	10.06	0.22	0.598	9.95	0.22	0.559	8.67	0.22	0.659	9.68	0.22
0.598	10.45	0.22	0.618	10.31	0.22	0.579	8.99	0.22	0.678	9.99	0.22
0.618	10.76	0.22	0.638	10.65	0.22	0.599	9.35	0.22	0.698	10.30	0.22
0.638	11.16	0.22	0.658	11.02	0.22	0.619	9.62	0.22	0.718	10.58	0.22
0.658	11.47	0.22	0.678	11.37	0.22	0.639	9.94	0.22	0.738	10.91	0.22
0.678	11.86	0.22	0.698	11.71	0.22	0.659	10.31	0.22	0.758	11.19	0.22
0.698	12.24	0.22	0.718	12.07	0.22	0.678	10.59	0.22	0.778	11.51	0.22
0.718	12.57	0.22	0.737	12.43	0.22	0.698	10.93	0.22	0.798	11.82	0.22
0.737	12.97	0.22	0.757	12.83	0.22	0.718	11.25	0.22	0.818	12.11	0.22
0.757	13.34	0.22	0.777	13.16	0.22	0.738	11.64	0.22	0.838	12.45	0.22
0.777	13.67	0.22	0.797	13.54	0.22	0.758	11.92	0.22	0.858	12.75	0.22
0.797	14.07	0.22	0.817	13.87	0.22	0.778	12.26	0.22	0.878	13.08	0.22
0.817	14.46	0.22	0.837	14.27	0.22	0.798	12.60	0.22	0.898	13.39	0.22
0.837	14.85	0.22	0.857	14.58	0.22	0.818	12.93	0.22	0.918	13.71	0.22
0.857	15.19	0.22	0.877	14.95	0.22	0.838	13.28	0.22	0.938	13.99	0.22
0.877	15.56	0.22	0.897	15.32	0.22	0.858	13.62	0.22	0.958	14.31	0.22
0.897	15.95	0.22	0.917	15.67	0.22	0.878	13.92	0.22	0.978	14.62	0.22
0.917	16.30	0.22	0.937	16.02	0.22	0.898	14.27	0.22	0.998	14.97	0.22
0.937	16.68	0.22	0.957	16.43	0.22	0.918	14.64	0.22	1.018	15.25	0.22
0.957	17.05	0.22	0.976	16.79	0.22	0.938	14.93	0.22	1.037	15.58	0.22
0.976	17.45	0.22	0.996	17.14	0.22	0.958	15.29	0.22	1.057	15.91	0.22
0.996	17.85	0.22	1.016	17.50	0.22	0.978	15.64	0.22	1.077	16.22	0.22
1.016	18.23	0.22	1.036	17.86	0.22	0.998	15.97	0.22	1.097	16.52	0.22

1.036	18.56	0.22	1.056	18.27	0.22	1.018	16.30	0.22	1.117	16.81	0.22
1.056	18.92	0.22	1.076	18.60	0.22	1.037	16.69	0.22	1.137	17.16	0.22
1.076	19.33	0.22	1.096	19.00	0.22	1.057	16.99	0.22	1.157	17.43	0.22
1.096	19.73	0.22	1.116	19.30	0.22	1.077	17.37	0.22	1.177	17.76	0.22
1.116	20.11	0.22	1.136	19.68	0.22	1.097	17.66	0.22	1.197	18.08	0.22
1.136	20.48	0.22	1.156	20.09	0.22	1.117	18.06	0.22	1.217	18.39	0.22
1.156	20.88	0.22	1.176	20.49	0.22	1.137	18.37	0.22	1.237	18.70	0.22
1.176	21.27	0.22	1.196	20.81	0.22	1.157	18.71	0.22	1.257	19.01	0.22
1.196	21.65	0.22	1.216	21.17	0.22	1.177	19.01	0.22	1.277	19.34	0.22
1.216	22.02	0.22	1.235	21.53	0.22	1.197	19.39	0.22	1.297	19.65	0.22
1.235	22.40	0.22	1.255	21.95	0.22	1.217	19.76	0.22	1.317	20.00	0.22
1.255	22.83	0.22	1.275	22.31	0.22	1.237	20.09	0.22	1.337	20.30	0.22
1.275	23.19	0.22	1.295	22.72	0.22	1.257	20.41	0.22	1.357	20.60	0.22
1.295	23.61	0.22	1.315	23.10	0.22	1.277	20.80	0.22	1.377	20.97	0.22
1.315	24.00	0.22	1.335	23.47	0.22	1.297	21.11	0.22	1.397	21.24	0.22
1.335	24.37	0.22	1.355	23.88	0.22	1.317	21.50	0.22	1.416	21.58	0.22
1.355	24.78	0.22	1.375	24.22	0.22	1.337	21.81	0.22	1.436	21.91	0.22
1.375	25.17	0.22	1.395	24.62	0.22	1.357	22.13	0.22	1.456	22.25	0.22
1.395	25.57	0.22	1.415	25.03	0.22	1.377	22.52	0.22	1.476	22.55	0.22
1.415	25.97	0.22	1.435	25.39	0.22	1.397	22.87	0.22	1.496	22.87	0.22
1.435	26.36	0.22	1.455	25.73	0.22	1.416	23.22	0.22	1.516	23.21	0.22
1.455	26.76	0.22	1.474	26.13	0.22	1.436	23.55	0.22	1.536	23.52	0.22
1.474	27.14	0.22	1.494	26.50	0.22	1.456	23.87	0.22	1.556	23.82	0.22
1.494	27.60	0.22	1.514	26.94	0.22	1.476	24.26	0.22	1.576	24.17	0.22
1.514	27.97	0.22	1.534	27.29	0.22	1.496	24.63	0.22	1.596	24.49	0.22
1.534	28.39	0.22	1.554	27.67	0.22	1.516	24.94	0.22	1.616	24.80	0.22
1.554	28.79	0.22	1.574	28.07	0.22	1.536	25.27	0.22	1.636	25.11	0.22
1.574	29.15	0.22	1.594	28.47	0.22	1.556	25.65	0.22	1.656	25.49	0.22
1.594	29.59	0.22	1.614	28.82	0.22	1.576	26.03	0.22	1.676	25.77	0.22
1.614	30.02	0.22	1.634	29.23	0.22	1.596	26.35	0.22	1.696	26.13	0.22
1.634	30.41	0.22	1.654	29.64	0.22	1.616	26.74	0.22	1.716	26.46	0.22
1.654	30.81	0.22	1.674	30.02	0.22	1.636	27.06	0.22	1.736	26.75	0.22
1.674	31.24	0.22	1.694	30.38	0.22	1.656	27.41	0.22	1.756	27.16	0.22
1.694	31.62	0.22	1.714	30.82	0.22	1.676	27.77	0.22	1.776	27.48	0.22
1.714	32.04	0.22	1.733	31.17	0.22	1.696	28.13	0.22	1.795	27.80	0.22
1.733	32.47	0.22	1.753	31.59	0.22	1.716	28.48	0.22	1.815	28.11	0.22
1.753	32.87	0.22	1.773	31.99	0.22	1.736	28.82	0.22	1.835	28.45	0.22
1.773	33.27	0.22	1.793	32.39	0.22	1.756	29.23	0.22	1.855	28.79	0.22
1.793	33.67	0.22	1.813	32.79	0.22	1.776	29.55	0.22	1.875	29.08	0.22
1.813	34.13	0.22	1.833	33.17	0.22	1.795	29.95	0.22	1.895	29.47	0.22
1.833	34.52	0.22	1.853	33.55	0.22	1.815	30.26	0.22	1.915	29.81	0.22
1.853	34.90	0.22	1.873	33.90	0.22	1.835	30.65	0.22	1.935	30.16	0.22
1.873	35.33	0.22	1.893	34.34	0.22	1.855	30.94	0.22	1.955	30.50	0.22
1.893	35.78	0.22	1.913	34.77	0.22	1.875	31.32	0.22	1.975	30.87	0.22
1.913	36.14	0.22	1.933	35.15	0.22	1.895	31.68	0.22	1.995	31.18	0.22

1.933	36.59	0.22	1.953	35.52	0.22	1.915	32.05	0.22	2.015	31.49	0.22
1.953	37.01	0.22	1.972	35.94	0.22	1.935	32.41	0.22	2.035	31.81	0.22
1.972	37.43	0.22	1.992	36.33	0.22	1.955	32.76	0.22	2.055	32.20	0.22
1.992	37.85	0.22	2.012	36.80	0.22	1.975	33.12	0.22	2.075	32.51	0.22
2.012	38.33	0.22	2.032	37.17	0.22	1.995	33.49	0.22	2.095	32.88	0.22
2.032	38.75	0.22	2.052	37.55	0.22	2.015	33.86	0.22	2.115	33.21	0.22
2.052	39.15	0.22	2.072	37.94	0.22	2.035	34.26	0.22	2.135	33.52	0.22
2.072	39.58	0.22	2.092	38.35	0.22	2.055	34.62	0.22	2.155	33.84	0.22
2.092	40.00	0.22	2.112	38.78	0.22	2.075	34.99	0.22	2.174	34.22	0.22
2.112	40.46	0.22	2.132	39.19	0.22	2.095	35.35	0.22	2.194	34.54	0.22
2.132	40.87	0.22	2.152	39.61	0.22	2.115	35.70	0.22	2.214	34.85	0.22
2.152	41.27	0.22	2.172	40.02	0.22	2.135	36.09	0.22	2.234	35.19	0.22
2.172	41.72	0.22	2.192	40.44	0.22	2.155	36.48	0.22	2.254	35.55	0.22
2.192	42.15	0.22	2.212	40.83	0.22	2.174	36.85	0.22	2.274	35.86	0.22
2.212	42.58	0.22	2.231	41.23	0.22	2.194	37.22	0.22	2.294	36.25	0.22
2.231	43.00	0.22	2.251	41.64	0.22	2.214	37.58	0.22	2.314	36.57	0.22
2.251	43.49	0.22	2.271	42.07	0.22	2.234	37.91	0.22	2.334	36.88	0.22
2.271	43.90	0.22	2.291	42.47	0.22	2.254	38.34	0.22	2.354	37.24	0.22
2.291	44.32	0.22	2.311	42.91	0.22	2.274	38.66	0.22	2.374	37.58	0.22
2.311	44.80	0.22	2.331	43.32	0.22	2.294	39.08	0.22	2.394	37.90	0.22
2.331	45.28	0.22	2.351	43.75	0.22	2.314	39.47	0.22	2.414	38.28	0.22
2.351	45.67	0.22	2.371	44.16	0.22	2.334	39.79	0.22	2.434	38.60	0.22
2.371	46.13	0.22	2.391	44.54	0.22	2.354	40.18	0.22	2.454	38.92	0.22
2.391	46.59	0.22	2.411	45.00	0.22	2.374	40.55	0.22	2.474	39.30	0.22
2.411	47.04	0.22	2.431	45.45	0.22	2.394	40.93	0.22	2.494	39.63	0.22
2.431	47.45	0.22	2.451	45.81	0.22	2.414	41.29	0.22	2.514	40.00	0.22
2.451	47.88	0.22	2.470	46.25	0.22	2.434	41.73	0.22	2.533	40.31	0.22
2.470	48.39	0.22	2.490	46.68	0.22	2.454	42.10	0.22	2.553	40.70	0.22
2.490	48.80	0.22	2.510	47.10	0.22	2.474	42.44	0.22	2.573	41.02	0.22
2.510	49.31	0.22	2.530	47.52	0.22	2.494	42.86	0.22	2.593	41.39	0.22
2.530	49.72	0.22	2.550	48.01	0.22	2.514	43.21	0.22	2.613	41.72	0.22
2.550	50.20	0.22	2.570	48.41	0.22	2.533	43.63	0.22	2.633	42.06	0.22
2.570	50.67	0.22	2.590	48.80	0.22	2.553	43.99	0.22	2.653	42.42	0.22
2.590	51.14	0.22	2.610	49.26	0.22	2.573	44.36	0.22	2.673	42.73	0.22
2.610	51.59	0.22	2.630	49.66	0.22	2.593	44.77	0.22	2.693	43.08	0.22
2.630	52.04	0.22	2.650	50.13	0.22	2.613	45.14	0.22	2.713	43.44	0.22
2.650	52.54	0.22	2.670	50.54	0.22	2.633	45.54	0.22	2.733	43.83	0.22
2.670	52.97	0.22	2.690	51.01	0.22	2.653	45.91	0.22	2.753	44.14	0.22
2.690	53.41	0.22	2.710	51.40	0.22	2.673	46.31	0.22	2.773	44.50	0.22
2.710	53.91	0.22	2.729	51.85	0.22	2.693	46.72	0.22	2.793	44.84	0.22
2.729	54.40	0.22	2.749	52.30	0.22	2.713	47.12	0.22	2.813	45.23	0.22
2.749	54.84	0.22	2.769	52.75	0.22	2.733	47.49	0.22	2.833	45.55	0.22
2.769	55.31	0.22	2.789	53.20	0.22	2.753	47.89	0.22	2.853	45.94	0.22
2.789	55.76	0.22	2.809	53.63	0.22	2.773	48.27	0.22	2.873	46.26	0.22
2.809	56.26	0.22	2.829	54.10	0.22	2.793	48.61	0.22	2.893	46.64	0.22

2.829	56.74	0.22	2.849	54.56	0.22	2.813	49.03	0.22	2.912	46.95	0.22
2.849	57.21	0.22	2.869	54.98	0.22	2.833	49.44	0.22	2.932	47.34	0.22
2.869	57.72	0.22	2.889	55.39	0.22	2.853	49.84	0.22	2.952	47.72	0.22
2.889	58.11	0.22	2.909	55.89	0.22	2.873	50.16	0.22	2.972	48.05	0.22
2.909	58.68	0.22	2.929	56.30	0.22	2.893	50.56	0.22	2.992	48.44	0.22
2.929	59.14	0.22	2.949	56.78	0.22	2.912	51.04	0.22	3.012	48.76	0.22
2.949	59.61	0.22	2.968	57.26	0.22	2.932	51.42	0.22	3.032	49.13	0.22
2.968	60.08	0.22	2.988	57.66	0.22	2.952	51.73	0.22	3.052	49.50	0.22
2.988	60.55	0.22	3.008	58.14	0.22	2.972	52.19	0.22	3.072	49.88	0.22
3.008	61.06	0.22	3.028	58.61	0.22	2.992	52.55	0.22	3.092	50.22	0.22
3.028	61.55	0.22	3.048	59.08	0.22	3.012	53.00	0.22	3.112	50.56	0.22
3.048	62.07	0.22	3.068	59.48	0.22	3.032	53.37	0.22	3.132	50.90	0.22
3.068	62.53	0.22	3.088	59.94	0.22	3.052	53.81	0.22	3.152	51.29	0.22
3.088	63.05	0.22	3.108	60.40	0.22	3.072	54.16	0.22	3.172	51.60	0.22
3.108	63.55	0.22	3.128	60.93	0.22	3.092	54.59	0.22	3.192	51.99	0.22
3.128	64.03	0.22	3.148	61.40	0.22	3.112	55.02	0.22	3.212	52.34	0.22
3.148	64.55	0.22	3.168	61.84	0.22	3.132	55.36	0.22	3.232	52.73	0.22
3.168	65.05	0.22	3.188	62.27	0.22	3.152	55.78	0.22	3.252	53.10	0.22
3.188	65.52	0.22	3.208	62.77	0.22	3.172	56.20	0.22	3.272	53.47	0.22
3.208	66.05	0.22	3.227	63.21	0.22	3.192	56.61	0.22	3.291	53.79	0.22
3.227	66.57	0.22	3.247	63.67	0.22	3.212	57.02	0.22	3.311	54.14	0.22
3.247	67.09	0.22	3.267	64.17	0.22	3.232	57.42	0.22	3.331	54.53	0.22
3.267	67.55	0.22	3.287	64.64	0.22	3.252	57.81	0.22	3.351	54.88	0.22
3.287	68.04	0.22	3.307	65.08	0.22	3.272	58.21	0.22	3.371	55.23	0.22
3.307	68.59	0.22	3.327	65.63	0.22	3.291	58.60	0.22	3.391	55.59	0.22
3.327	69.14	0.22	3.347	66.10	0.22	3.311	59.05	0.22	3.411	55.98	0.22
3.347	69.63	0.22	3.367	66.58	0.22	3.331	59.46	0.22	3.431	56.33	0.22
3.367	70.12	0.22	3.387	67.04	0.22	3.351	59.85	0.22	3.451	56.67	0.22
3.387	70.64	0.22	3.407	67.50	0.22	3.371	60.25	0.22	3.471	57.04	0.22
3.407	71.18	0.22	3.427	67.97	0.22	3.391	60.68	0.22	3.491	57.46	0.22
3.427	71.72	0.22	3.447	68.48	0.22	3.411	61.06	0.22	3.511	57.81	0.22
3.447	72.23	0.22	3.466	68.93	0.22	3.431	61.51	0.22	3.531	58.19	0.22
3.466	72.78	0.22	3.486	69.43	0.22	3.451	61.92	0.22	3.551	58.54	0.22
3.486	73.28	0.22	3.506	69.93	0.22	3.471	62.33	0.22	3.571	58.88	0.22
3.506	73.82	0.22	3.526	70.42	0.22	3.491	62.76	0.22	3.591	59.29	0.22
3.526	74.35	0.22	3.546	70.88	0.22	3.511	63.20	0.22	3.611	59.62	0.22
3.546	74.91	0.22	3.566	71.40	0.22	3.531	63.60	0.22	3.631	60.03	0.22
3.566	75.39	0.22	3.586	71.90	0.22	3.551	64.00	0.22	3.651	60.43	0.22
3.586	75.95	0.22	3.606	72.40	0.22	3.571	64.41	0.22	3.670	60.75	0.22
3.606	76.51	0.22	3.626	72.90	0.22	3.591	64.85	0.22	3.690	61.14	0.22
3.626	77.06	0.22	3.646	73.38	0.22	3.611	65.26	0.22	3.710	61.52	0.22
3.646	77.62	0.22	3.666	73.88	0.22	3.631	65.68	0.22	3.730	61.92	0.22
3.666	78.17	0.22	3.686	74.36	0.22	3.651	66.12	0.22	3.750	62.30	0.22
3.686	78.72	0.22	3.706	74.87	0.22	3.670	66.56	0.22	3.770	62.66	0.22
3.706	79.28	0.22	3.725	75.39	0.22	3.690	67.00	0.22	3.790	63.03	0.22

3.725	79.83	0.22	3.745	75.86	0.22	3.710	67.34	0.22	3.810	63.40	0.22
3.745	80.36	0.22	3.765	76.38	0.22	3.730	67.83	0.22	3.830	63.76	0.22
3.765	80.92	0.22	3.785	76.91	0.22	3.750	68.24	0.22	3.850	64.20	0.22
3.785	81.53	0.22	3.805	77.43	0.22	3.770	68.69	0.22	3.870	64.56	0.22
3.805	82.06	0.22	3.825	77.90	0.22	3.790	69.10	0.22	3.890	64.91	0.22
3.825	82.61	0.22	3.845	78.41	0.22	3.810	69.50	0.22	3.910	65.26	0.22
3.845	83.21	0.22	3.865	78.93	0.22	3.830	69.99	0.22	3.930	65.67	0.22
3.865	83.78	0.22	3.885	79.44	0.22	3.850	70.38	0.22	3.950	66.09	0.22
3.885	84.35	0.22	3.905	79.95	0.22	3.870	70.78	0.22	3.970	66.41	0.22
3.905	84.88	0.22	3.925	80.50	0.22	3.890	71.25	0.22	3.990	66.83	0.22
3.925	85.48	0.22	3.945	81.05	0.22	3.910	71.72	0.22	4.010	67.18	0.22
3.945	86.01	0.22	3.964	81.55	0.22	3.930	72.08	0.22	4.029	67.56	0.22
3.964	86.62	0.22	3.984	82.06	0.22	3.950	72.55	0.22	4.049	67.96	0.22
3.984	87.26	0.22	4.004	82.59	0.22	3.970	72.99	0.22	4.069	68.35	0.22
4.004	87.82	0.22	4.024	83.14	0.22	3.990	73.44	0.22	4.089	68.74	0.22
4.024	88.38	0.22	4.044	83.63	0.22	4.010	73.88	0.22	4.109	69.14	0.22
4.044	88.98	0.22	4.064	84.17	0.22	4.029	74.33	0.22	4.129	69.52	0.22
4.064	89.59	0.22	4.084	84.72	0.22	4.049	74.76	0.22	4.149	69.91	0.22
4.084	90.19	0.22	4.104	85.27	0.22	4.069	75.20	0.22	4.169	70.29	0.22
4.104	90.79	0.22	4.124	85.77	0.22	4.089	75.61	0.22	4.189	70.65	0.22
4.124	91.40	0.22	4.144	86.27	0.22	4.109	76.04	0.22	4.209	71.05	0.22
4.144	91.97	0.22	4.164	86.81	0.22	4.129	76.48	0.22	4.229	71.43	0.22
4.164	92.58	0.22	4.184	87.39	0.22	4.149	76.97	0.22	4.249	71.80	0.22
4.184	93.17	0.22	4.204	87.95	0.22	4.169	77.39	0.22	4.269	72.21	0.22
4.204	93.76	0.22	4.223	88.49	0.22	4.189	77.80	0.22	4.289	72.61	0.22
4.223	94.43	0.22	4.243	89.01	0.22	4.209	78.29	0.22	4.309	72.98	0.22
4.243	95.00	0.22	4.263	89.56	0.22	4.229	78.69	0.22	4.329	73.42	0.22
4.263	95.66	0.22	4.283	90.13	0.22	4.249	79.18	0.22	4.349	73.77	0.22
4.283	96.27	0.22	4.303	90.69	0.22	4.269	79.67	0.22	4.369	74.18	0.22
4.303	96.91	0.22	4.323	91.25	0.22	4.289	80.06	0.22	4.389	74.56	0.22
4.323	97.52	0.22	4.343	91.82	0.22	4.309	80.53	0.22	4.408	74.96	0.22
4.343	98.15	0.22	4.363	92.34	0.22	4.329	81.00	0.22	4.428	75.32	0.22
4.363	98.75	0.22	4.383	92.86	0.22	4.349	81.47	0.22	4.448	75.76	0.22
4.383	99.41	0.22	4.403	93.44	0.22	4.369	81.86	0.22	4.468	76.16	0.22
4.403	100.06	0.22	4.423	93.99	0.22	4.389	82.36	0.22	4.488	76.52	0.22
4.423	100.70	0.22	4.443	94.55	0.22	4.408	82.78	0.22	4.508	76.91	0.22
4.443	101.35	0.22	4.462	95.16	0.22	4.428	83.27	0.22	4.528	77.33	0.22
4.462	102.01	0.22	4.482	95.74	0.22	4.448	83.75	0.22	4.548	77.70	0.22
4.482	102.66	0.22	4.502	96.30	0.22	4.468	84.19	0.22	4.568	78.13	0.22
4.502	103.32	0.22	4.522	96.84	0.22	4.488	84.64	0.22	4.588	78.55	0.22
4.522	103.96	0.22	4.542	97.41	0.22	4.508	85.09	0.22	4.608	78.92	0.22
4.542	104.60	0.22	4.562	98.00	0.22	4.528	85.55	0.22	4.628	79.32	0.22
4.562	105.24	0.22	4.582	98.59	0.22	4.548	86.01	0.22	4.648	79.72	0.22
4.582	105.94	0.23	4.602	99.18	0.22	4.568	86.47	0.22	4.668	80.13	0.22
4.602	106.61	0.23	4.622	99.77	0.22	4.588	86.99	0.22	4.688	80.55	0.22

4.622	107.29	0.23	4.642	100.37	0.22	4.608	87.46	0.22	4.708	80.94	0.22
4.642	107.94	0.23	4.662	100.96	0.22	4.628	87.91	0.22	4.728	81.34	0.22
4.662	108.64	0.23	4.682	101.53	0.22	4.648	88.35	0.22	4.748	81.74	0.22
4.682	109.29	0.23	4.702	102.11	0.22	4.668	88.86	0.22	4.768	82.17	0.22
4.702	109.98	0.23	4.721	102.71	0.22	4.688	89.31	0.22	4.787	82.58	0.22
4.721	110.70	0.23	4.741	103.30	0.22	4.708	89.82	0.22	4.807	82.97	0.22
4.741	111.42	0.23	4.761	103.89	0.22	4.728	90.26	0.22	4.827	83.35	0.22
4.761	112.07	0.23	4.781	104.52	0.22	4.748	90.75	0.22	4.847	83.80	0.22
4.781	112.78	0.23	4.801	105.13	0.22	4.768	91.25	0.22	4.867	84.18	0.22
4.801	113.48	0.23	4.821	105.71	0.22	4.787	91.67	0.22	4.887	84.62	0.22
4.821	114.20	0.23	4.841	106.33	0.22	4.807	92.17	0.22	4.907	84.99	0.22
4.841	114.91	0.23	4.861	106.95	0.22	4.827	92.67	0.22	4.927	85.44	0.22
4.861	115.61	0.23	4.881	107.55	0.22	4.847	93.16	0.22	4.947	85.79	0.22
4.881	116.37	0.23	4.901	108.17	0.22	4.867	93.64	0.22	4.967	86.23	0.22
4.901	117.09	0.23	4.921	108.80	0.22	4.887	94.12	0.22	4.987	86.66	0.22
4.921	117.81	0.23	4.941	109.41	0.22	4.907	94.59	0.22	5.007	87.08	0.22
4.941	118.57	0.23	4.960	110.03	0.22	4.927	95.07	0.22	5.027	87.44	0.22
4.960	119.30	0.23	4.980	110.64	0.22	4.947	95.54	0.22	5.047	87.84	0.22
4.980	120.03	0.23	5.000	111.29	0.22	4.967	96.04	0.22	5.067	88.27	0.22
5.000	120.76	0.23	5.020	111.94	0.22	4.987	96.55	0.22	5.087	88.69	0.22
5.020	121.51	0.23	5.040	112.56	0.22	5.007	97.02	0.22	5.107	89.10	0.22
5.040	122.28	0.23	5.060	113.18	0.22	5.027	97.47	0.22	5.127	89.51	0.22
5.060	123.05	0.23	5.080	113.84	0.22	5.047	98.03	0.22	5.146	89.99	0.22
5.080	123.81	0.23	5.100	114.47	0.22	5.067	98.47	0.22	5.166	90.39	0.22
5.100	124.57	0.23	5.120	115.07	0.22	5.087	99.02	0.22	5.186	90.79	0.22
5.120	125.34	0.23	5.140	115.75	0.23	5.107	99.46	0.22	5.206	91.18	0.22
5.140	126.11	0.23	5.160	116.43	0.23	5.127	99.98	0.22	5.226	91.58	0.22
5.160	126.88	0.23	5.180	117.07	0.23	5.146	100.49	0.22	5.246	92.05	0.22
5.180	127.66	0.23	5.199	117.72	0.23	5.166	100.93	0.22	5.266	92.45	0.22
5.199	128.47	0.23	5.219	118.36	0.23	5.186	101.45	0.22	5.286	92.90	0.22
5.219	129.24	0.23	5.239	119.00	0.23	5.206	101.98	0.22	5.306	93.30	0.22
5.239	130.09	0.23	5.259	119.64	0.23	5.226	102.49	0.22	5.326	93.74	0.22
5.259	130.88	0.23	5.279	120.34	0.23	5.246	102.93	0.22	5.346	94.14	0.22
5.279	131.63	0.23	5.299	121.03	0.23	5.266	103.52	0.22	5.366	94.59	0.22
5.299	132.47	0.23	5.319	121.67	0.23	5.286	104.00	0.22	5.386	94.99	0.22
5.319	133.28	0.23	5.339	122.35	0.23	5.306	104.50	0.22	5.406	95.43	0.22
5.339	134.08	0.23	5.359	123.05	0.23	5.326	104.98	0.22	5.426	95.82	0.22
5.359	134.99	0.23	5.379	123.76	0.23	5.346	105.52	0.22	5.446	96.26	0.22
5.379	135.81	0.23	5.399	124.45	0.23	5.366	106.01	0.22	5.466	96.70	0.22
5.399	136.65	0.23	5.419	125.11	0.23	5.386	106.56	0.22	5.486	97.14	0.22
5.419	137.53	0.23	5.439	125.79	0.23	5.406	107.04	0.22	5.506	97.59	0.22
5.439	138.35	0.23	5.458	126.49	0.23	5.426	107.60	0.22	5.525	98.02	0.22
5.458	139.21	0.23	5.478	127.19	0.23	5.446	108.07	0.22	5.545	98.43	0.22
5.478	140.10	0.23	5.498	127.90	0.23	5.466	108.60	0.22	5.565	98.88	0.22
5.498	140.93	0.23	5.518	128.61	0.23	5.486	109.12	0.22	5.585	99.25	0.22

5.518	141.76	0.23	5.538	129.32	0.23	5.506	109.60	0.22	5.605	99.71	0.22
5.538	142.71	0.23	5.558	130.02	0.23	5.525	110.15	0.22	5.625	100.16	0.22
5.558	143.57	0.23	5.578	130.76	0.23	5.545	110.67	0.22	5.645	100.59	0.22
5.578	144.43	0.23	5.598	131.50	0.23	5.565	111.20	0.22	5.665	101.02	0.22
5.598	145.37	0.23	5.618	132.21	0.23	5.585	111.70	0.22	5.685	101.47	0.22
5.618	146.28	0.23	5.638	132.93	0.23	5.605	112.24	0.22	5.705	101.89	0.22
5.638	147.20	0.23	5.658	133.69	0.23	5.625	112.75	0.22	5.725	102.32	0.22
5.658	148.13	0.23	5.678	134.40	0.23	5.645	113.33	0.22	5.745	102.75	0.22
5.678	149.05	0.23	5.697	135.10	0.23	5.665	113.87	0.22	5.765	103.18	0.22
5.697	149.96	0.23	5.717	135.85	0.23	5.685	114.38	0.22	5.785	103.67	0.22
5.717	150.88	0.23	5.737	136.60	0.23	5.705	114.90	0.22	5.805	104.10	0.22
5.737	151.84	0.23	5.757	137.35	0.23	5.725	115.41	0.22	5.825	104.51	0.22
5.757	152.79	0.23	5.777	138.11	0.23	5.745	116.00	0.22	5.845	104.92	0.22
5.777	153.73	0.23	5.797	138.88	0.23	5.765	116.50	0.22	5.865	105.42	0.22
5.797	154.72	0.23	5.817	139.66	0.23	5.785	117.08	0.22	5.885	105.86	0.22
5.817	155.71	0.23	5.837	140.44	0.23	5.805	117.57	0.22	5.904	106.29	0.22
5.837	156.69	0.23	5.857	141.21	0.23	5.825	118.14	0.22	5.924	106.79	0.22
5.857	157.66	0.23	5.877	141.99	0.23	5.845	118.63	0.22	5.944	107.19	0.22
5.877	158.66	0.23	5.897	142.78	0.23	5.865	119.24	0.23	5.964	107.66	0.22
5.897	159.66	0.23	5.917	143.55	0.23	5.885	119.77	0.23	5.984	108.05	0.22
5.917	160.69	0.23	5.937	144.34	0.23	5.904	120.29	0.23	6.004	108.51	0.22
5.937	161.72	0.23	5.956	145.14	0.23	5.924	120.91	0.23	6.024	108.99	0.22
5.956	162.75	0.23	5.976	145.93	0.23	5.944	121.42	0.23	6.044	109.45	0.22
5.976	163.77	0.23	5.996	146.74	0.23	5.964	121.96	0.23	6.064	109.90	0.22
5.996	164.81	0.23	6.016	147.57	0.23	5.984	122.54	0.23	6.084	110.36	0.22
6.016	165.85	0.23	6.036	148.38	0.23	6.004	123.06	0.23	6.104	110.76	0.22
6.036	166.96	0.23	6.056	149.18	0.23	6.024	123.61	0.23	6.124	111.29	0.22
6.056	168.05	0.23	6.076	150.03	0.23	6.044	124.16	0.23	6.144	111.65	0.22
6.076	169.13	0.23	6.096	150.86	0.23	6.064	124.75	0.23	6.164	112.16	0.22
6.096	170.24	0.23	6.116	151.68	0.23	6.084	125.27	0.23	6.184	112.63	0.22
6.116	171.37	0.23	6.136	152.49	0.23	6.104	125.84	0.23	6.204	113.08	0.22
6.136	172.33	0.23	6.156	153.32	0.23	6.124	126.42	0.23	6.224	113.51	0.22
6.156	173.23	0.23	6.176	154.19	0.23	6.144	127.00	0.23	6.244	114.02	0.22
6.176	174.34	0.23	6.195	155.08	0.23	6.164	127.57	0.23	6.264	114.45	0.22
6.195	175.45	0.23	6.215	155.95	0.23	6.184	128.15	0.23	6.283	114.97	0.22
6.215	176.67	0.23	6.235	156.79	0.23	6.204	128.73	0.23	6.303	115.44	0.22
6.235	177.76	0.23	6.255	157.69	0.23	6.224	129.29	0.23	6.323	115.89	0.22
6.255	179.01	0.23	6.275	158.58	0.23	6.244	129.86	0.23	6.343	116.30	0.22
6.275	180.16	0.23	6.295	159.46	0.23	6.264	130.42	0.23	6.363	116.79	0.22
6.295	181.42	0.23	6.315	160.36	0.23	6.283	130.98	0.23	6.383	117.24	0.22
6.315	182.57	0.23	6.335	161.26	0.23	6.303	131.57	0.23	6.403	117.71	0.22
6.335	183.87	0.23	6.355	162.14	0.23	6.323	132.20	0.23	6.423	118.21	0.22
6.355	185.06	0.23	6.375	163.09	0.23	6.343	132.76	0.23	6.443	118.65	0.22
6.375	186.39	0.23	6.395	164.04	0.23	6.363	133.30	0.23	6.463	119.12	0.22
6.395	187.74	0.23	6.415	164.97	0.23	6.383	133.92	0.23	6.483	119.59	0.22

6.415	189.02	0.23	6.435	165.91	0.23	6.403	134.49	0.23	6.503	120.06	0.22
6.435	190.36	0.23	6.454	166.84	0.23	6.423	135.05	0.23	6.523	120.53	0.22
6.454	191.80	0.23	6.474	167.75	0.23	6.443	135.66	0.23	6.543	121.00	0.22
6.474	193.13	0.23	6.494	168.65	0.23	6.463	136.23	0.23	6.563	121.48	0.23
6.494	194.53	0.23	6.514	169.57	0.23	6.483	136.84	0.23	6.583	121.90	0.22
6.514	196.00	0.23	6.534	170.53	0.23	6.503	137.47	0.23	6.603	122.34	0.22
6.534	197.41	0.23	6.554	171.43	0.23	6.523	138.04	0.23	6.623	122.81	0.22
6.554	198.94	0.23	6.574	172.39	0.23	6.543	138.63	0.23	6.642	123.34	0.23
6.574	200.40	0.23	6.594	173.35	0.23	6.563	139.25	0.23	6.662	123.75	0.23
6.594	201.85	0.23	6.614	174.34	0.23	6.583	139.84	0.23	6.682	124.25	0.23
6.614	203.37	0.23	6.634	175.29	0.23	6.603	140.48	0.23	6.702	124.77	0.23
6.634	204.91	0.23	6.654	176.28	0.23	6.623	141.03	0.23	6.722	125.20	0.23
6.654	206.55	0.23	6.674	177.22	0.23	6.642	141.66	0.23	6.742	125.71	0.23
6.674	208.16	0.23	6.693	178.22	0.23	6.662	142.29	0.23	6.762	126.17	0.23
6.693	209.75	0.23	6.713	179.22	0.23	6.682	142.86	0.23	6.782	126.64	0.23
6.713	211.44	0.23	6.733	180.27	0.23	6.702	143.48	0.23	6.802	127.12	0.23
6.733	213.16	0.23	6.753	181.25	0.23	6.722	144.12	0.23	6.822	127.60	0.23
6.753	214.86	0.23	6.773	182.29	0.23	6.742	144.75	0.23	6.842	128.07	0.23
6.773	216.66	0.23	6.793	183.28	0.23	6.762	145.33	0.23	6.862	128.54	0.23
6.793	218.53	0.23	6.813	184.32	0.23	6.782	145.93	0.23	6.882	129.07	0.23
6.813	220.34	0.23	6.833	185.38	0.23	6.802	146.54	0.23	6.902	129.56	0.23
6.833	222.18	0.23	6.853	186.45	0.23	6.822	147.17	0.23	6.922	130.03	0.23
6.853	224.10	0.23	6.873	187.49	0.23	6.842	147.80	0.23	6.942	130.51	0.23
6.873	226.06	0.23	6.893	188.52	0.23	6.862	148.43	0.23	6.962	130.98	0.23
6.893	228.13	0.23	6.913	189.63	0.23	6.882	149.12	0.23	6.982	131.52	0.23
6.913	230.13	0.23	6.933	190.76	0.23	6.902	149.74	0.23	7.002	131.98	0.23
6.933	232.20	0.23	6.952	191.84	0.23	6.922	150.35	0.23	7.021	132.46	0.23
6.952	234.35	0.23	6.972	193.01	0.23	6.942	150.98	0.23	7.041	132.97	0.23
6.972	236.57	0.23	6.992	194.09	0.23	6.962	151.64	0.23	7.061	133.48	0.23
6.992	238.82	0.23	7.012	195.16	0.23	6.982	152.25	0.23	7.081	133.95	0.23
7.012	241.20	0.23	7.032	196.32	0.23	7.002	152.94	0.23	7.101	134.42	0.23
7.032	243.57	0.23	7.052	197.47	0.23	7.021	153.55	0.23	7.121	134.92	0.23
7.052	245.92	0.23	7.072	198.66	0.23	7.041	154.22	0.23	7.141	135.40	0.23
7.072	248.54	0.23	7.092	199.80	0.23	7.061	154.86	0.23	7.161	135.94	0.23
7.092	251.09	0.23	7.112	201.01	0.23	7.081	155.53	0.23	7.181	136.42	0.23
7.112	253.75	0.23	7.132	202.15	0.23	7.101	156.18	0.23	7.201	136.91	0.23
7.132	256.60	0.23	7.152	203.38	0.23	7.121	156.80	0.23	7.221	137.41	0.23
7.152	259.45	0.23	7.172	204.58	0.23	7.141	157.51	0.23	7.241	137.91	0.23
7.172	262.51	0.23	7.191	205.83	0.23	7.161	158.16	0.23	7.261	138.38	0.23
7.191	265.66	0.23	7.211	207.00	0.23	7.181	158.81	0.23	7.281	138.93	0.23
7.211	269.03	0.23	7.231	208.25	0.23	7.201	159.50	0.23	7.301	139.39	0.23
7.231	272.46	0.23	7.251	209.54	0.23	7.221	160.15	0.23	7.321	139.92	0.23
7.251	276.07	0.23	7.271	210.80	0.23	7.241	160.77	0.23	7.341	140.42	0.23
7.271	279.76	0.23	7.291	212.04	0.23	7.261	161.45	0.23	7.361	140.94	0.23
7.291	283.76	0.23	7.311	213.38	0.23	7.281	162.13	0.23	7.381	141.41	0.23

7.311	287.94	0.23	7.331	214.67	0.23	7.301	162.82	0.23	7.400	141.96	0.23
7.331	292.45	0.23	7.351	215.96	0.23	7.321	163.50	0.23	7.420	142.43	0.23
7.351	297.23	0.23	7.371	217.34	0.23	7.341	164.19	0.23	7.440	142.94	0.23
7.371	302.32	0.23	7.391	218.71	0.23	7.361	164.86	0.23	7.460	143.46	0.23
7.391	307.83	0.22	7.411	220.03	0.23	7.381	165.52	0.23	7.480	144.03	0.23
7.411	313.50	0.22	7.431	221.39	0.23	7.400	166.21	0.23	7.500	144.51	0.23
7.431	320.03	0.22	7.450	222.79	0.23	7.420	166.92	0.23	7.520	144.98	0.23
7.450	327.16	0.22	7.470	224.23	0.23	7.440	167.63	0.23	7.540	145.50	0.23
7.470	334.84	0.22	7.490	225.60	0.23	7.460	168.28	0.23	7.560	146.05	0.23
7.490	344.22	0.22	7.510	227.13	0.23	7.480	169.02	0.23	7.580	146.53	0.23
7.510	354.67	0.22	7.530	228.49	0.23	7.500	169.68	0.23	7.600	147.11	0.23
7.530	367.16	0.23	7.550	230.03	0.23	7.520	170.38	0.23	7.620	147.61	0.23
7.550	383.18	0.23	7.570	231.48	0.23	7.540	171.07	0.23	7.640	148.08	0.23
7.570	402.26	0.23	7.590	232.98	0.23	7.560	171.80	0.23	7.660	148.64	0.23
7.590	424.75	0.24	7.610	234.58	0.23	7.580	172.47	0.23	7.680	149.11	0.23
7.610	456.02	0.25	7.630	236.10	0.23	7.600	173.23	0.23	7.700	149.67	0.23
7.630	490.50	0.25	7.650	237.72	0.23	7.620	173.93	0.23	7.720	150.21	0.23
7.650	508.68	0.26	7.670	239.32	0.23	7.640	174.67	0.23	7.740	150.72	0.23
7.670	523.09	0.26	7.689	240.89	0.23	7.660	175.34	0.23	7.760	151.27	0.23
7.689	535.81	0.27	7.709	242.55	0.23	7.680	176.08	0.23	7.779	151.76	0.23
7.709	548.05	0.27	7.729	244.20	0.23	7.700	176.80	0.23	7.799	152.29	0.23
7.729	558.52	0.27	7.749	245.84	0.23	7.720	177.54	0.23	7.819	152.88	0.23
7.749	567.69	0.28	7.769	247.50	0.23	7.740	178.27	0.23	7.839	153.34	0.23
7.769	575.06	0.28	7.789	249.22	0.23	7.760	178.99	0.23	7.859	153.90	0.23
7.789	583.43	0.28	7.809	250.96	0.23	7.779	179.74	0.23	7.879	154.44	0.23
7.809	589.85	0.28	7.829	252.74	0.24	7.799	180.45	0.23	7.899	154.93	0.23
7.829	595.31	0.28	7.849	254.54	0.24	7.819	181.17	0.23	7.919	155.48	0.23
7.849	600.50	0.28	7.869	256.29	0.24	7.839	181.88	0.23	7.939	155.99	0.23
7.869	604.84	0.29	7.889	258.21	0.24	7.859	182.66	0.23	7.959	156.52	0.23
7.889	609.42	0.29	7.909	260.13	0.24	7.879	183.40	0.23	7.979	157.07	0.23
7.909	613.40	0.29	7.929	262.08	0.24	7.899	184.18	0.23	7.999	157.59	0.23
7.929	617.25	0.29	7.948	264.03	0.24	7.919	184.92	0.23	8.019	158.13	0.23
7.948	621.23	0.29	7.968	266.00	0.24	7.939	185.70	0.23	8.039	158.70	0.23
7.968	624.78	0.29	7.988	268.02	0.24	7.959	186.44	0.23	8.059	159.24	0.23
7.988	627.96	0.29	8.008	270.13	0.24	7.979	187.21	0.23	8.079	159.74	0.23
8.008	630.88	0.29	8.028	272.19	0.24	7.999	187.94	0.23	8.099	160.32	0.23
8.028	633.26	0.29	8.048	274.23	0.24	8.019	188.70	0.23	8.119	160.84	0.23
8.048	635.98	0.29	8.068	276.43	0.24	8.039	189.45	0.23	8.138	161.35	0.23
8.068	638.67	0.29	8.088	278.69	0.24	8.059	190.21	0.23	8.158	161.96	0.23
8.088	641.11	0.29	8.108	280.95	0.24	8.079	190.95	0.23	8.178	162.46	0.23
8.108	643.56	0.30	8.128	283.32	0.24	8.099	191.74	0.23	8.198	163.05	0.23
8.128	646.01	0.30	8.148	285.69	0.24	8.119	192.55	0.23	8.218	163.58	0.23
8.148	648.06	0.30	8.168	288.11	0.24	8.138	193.36	0.23	8.238	164.16	0.23
8.168	650.11	0.30	8.187	290.57	0.24	8.158	194.14	0.23	8.258	164.66	0.23
8.187	652.00	0.30	8.207	293.13	0.24	8.178	194.93	0.23	8.278	165.24	0.23

8.207	653.86	0.30	8.227	295.71	0.24	8.198	195.72	0.23	8.298	165.83	0.23
8.227	655.80	0.30	8.247	298.31	0.24	8.218	196.48	0.23	8.318	166.31	0.23
8.247	657.67	0.30	8.267	301.11	0.24	8.238	197.26	0.23	8.338	166.87	0.23
8.267	659.41	0.30	8.287	303.85	0.24	8.258	198.01	0.23	8.358	167.44	0.23
8.287	661.04	0.30	8.307	306.55	0.24	8.278	198.84	0.23	8.378	168.03	0.23
8.307	662.76	0.30	8.327	309.08	0.24	8.298	199.63	0.23	8.398	168.58	0.23
8.327	664.36	0.30	8.347	311.60	0.24	8.318	200.47	0.23	8.418	169.14	0.23
8.347	666.01	0.30	8.367	314.52	0.24	8.338	201.22	0.23	8.438	169.73	0.23
8.367	667.35	0.30	8.387	317.50	0.24	8.358	201.98	0.23	8.458	170.26	0.23
8.387	668.84	0.30	8.407	320.49	0.24	8.378	202.78	0.23	8.478	170.86	0.23
8.407	670.37	0.30	8.427	323.48	0.24	8.398	203.62	0.23	8.498	171.41	0.23
8.427	671.76	0.30	8.446	326.47	0.24	8.418	204.43	0.23	8.517	171.96	0.23
8.446	673.23	0.30	8.466	329.78	0.24	8.438	205.27	0.23	8.537	172.50	0.23
8.466	674.61	0.30	8.486	333.17	0.24	8.458	206.09	0.23	8.557	173.06	0.23
8.486	676.04	0.30	8.506	336.56	0.24	8.478	206.95	0.23	8.577	173.61	0.23
8.506	677.42	0.30	8.526	339.94	0.24	8.498	207.78	0.23	8.597	174.22	0.23
8.526	678.67	0.30	8.546	343.33	0.24	8.517	208.63	0.23	8.617	174.78	0.23
8.546	679.97	0.30	8.566	346.55	0.24	8.537	209.46	0.23	8.637	175.31	0.23
8.566	681.25	0.30	8.586	349.74	0.24	8.557	210.30	0.23	8.657	175.94	0.23
8.586	682.57	0.31	8.606	353.05	0.24	8.577	211.17	0.23	8.677	176.48	0.23
8.606	683.76	0.31	8.626	356.63	0.24	8.597	212.01	0.23	8.697	177.03	0.23
8.626	685.02	0.31	8.646	360.22	0.24	8.617	212.84	0.23	8.717	177.63	0.23
8.646	686.23	0.31	8.666	363.96	0.24	8.637	213.73	0.23	8.737	178.23	0.23
8.666	687.41	0.31	8.685	367.74	0.25	8.657	214.60	0.23	8.757	178.81	0.23
8.685	688.64	0.31	8.705	371.53	0.25	8.677	215.47	0.23	8.777	179.37	0.23
8.705	689.74	0.31	8.725	375.31	0.25	8.697	216.34	0.23	8.797	179.94	0.23
8.725	690.92	0.31	8.745	379.10	0.25	8.717	217.18	0.23	8.817	180.57	0.23
8.745	691.98	0.31	8.765	383.18	0.25	8.737	218.08	0.23	8.837	181.09	0.23
8.765	693.05	0.31	8.785	387.37	0.25	8.757	218.97	0.23	8.857	181.69	0.23
8.785	694.16	0.31	8.805	391.55	0.25	8.777	219.84	0.23	8.877	182.29	0.23
8.805	695.24	0.31	8.825	395.73	0.25	8.797	220.72	0.23	8.896	182.89	0.23
8.825	696.26	0.31	8.845	399.92	0.25	8.817	221.62	0.23	8.916	183.50	0.23
8.845	697.29	0.31	8.865	404.40	0.25	8.837	222.50	0.23	8.936	184.07	0.23
8.865	698.28	0.31	8.885	408.98	0.25	8.857	223.37	0.23	8.956	184.63	0.23
8.885	699.25	0.31	8.905	413.61	0.25	8.877	224.34	0.23	8.976	185.23	0.23
8.905	700.28	0.31	8.925	418.39	0.25	8.896	225.19	0.23	8.996	185.83	0.23
8.925	701.22	0.31	8.944	423.17	0.25	8.916	226.10	0.23	9.016	186.41	0.23
8.944	702.14	0.31	8.964	427.80	0.25	8.936	227.02	0.23	9.036	187.02	0.23
8.964	703.08	0.31	8.984	432.39	0.25	8.956	227.96	0.23	9.056	187.59	0.23
8.984	704.04	0.31	9.004	436.97	0.25	8.976	228.86	0.23	9.076	188.23	0.23
9.004	704.90	0.31	9.024	441.55	0.25	8.996	229.86	0.23	9.096	188.82	0.23
9.024	705.82	0.31	9.044	446.13	0.26	9.016	230.68	0.23	9.116	189.43	0.23
9.044	706.70	0.31	9.064	450.99	0.26	9.036	231.63	0.23	9.136	190.03	0.23
9.064	707.62	0.31	9.084	455.97	0.26	9.056	232.58	0.23	9.156	190.62	0.23
9.084	708.42	0.31	9.104	460.99	0.26	9.076	233.51	0.23	9.176	191.21	0.23

9.104	709.30	0.31	9.124	466.17	0.26	9.096	234.54	0.23	9.196	191.84	0.23
9.124	710.10	0.31	9.144	471.35	0.26	9.116	235.38	0.23	9.216	192.44	0.23
9.144	711.00	0.31	9.164	475.98	0.26	9.136	236.42	0.23	9.236	193.03	0.23
9.164	711.77	0.31	9.183	480.37	0.26	9.156	237.30	0.23	9.256	193.68	0.23
9.183	712.59	0.31	9.203	484.75	0.26	9.176	238.33	0.23	9.275	194.27	0.23
9.203	713.39	0.31	9.223	489.13	0.26	9.196	239.26	0.23	9.295	194.86	0.23
9.223	714.15	0.31	9.243	493.51	0.26	9.216	240.22	0.23	9.315	195.51	0.23
9.243	714.93	0.31	9.263	497.71	0.27	9.236	241.18	0.23	9.335	196.08	0.23
9.263	715.67	0.31	9.283	501.80	0.27	9.256	242.19	0.23	9.355	196.74	0.23
9.283	716.47	0.31	9.303	505.98	0.27	9.275	243.14	0.23	9.375	197.32	0.23
9.303	717.18	0.31	9.323	509.68	0.27	9.295	244.14	0.23	9.395	197.97	0.23
9.323	717.94	0.31	9.343	513.50	0.27	9.315	245.18	0.23	9.415	198.61	0.23
9.343	718.67	0.31	9.363	517.41	0.27	9.335	246.11	0.23	9.435	199.16	0.23
9.363	719.36	0.31	9.383	520.82	0.27	9.355	247.14	0.23	9.455	199.83	0.23
9.383	720.05	0.31	9.403	524.67	0.27	9.375	248.15	0.23	9.475	200.42	0.23
9.403	720.74	0.31	9.423	528.00	0.27	9.395	249.16	0.23	9.495	201.06	0.23
9.423	721.43	0.31	9.442	531.71	0.27	9.415	250.10	0.23	9.515	201.68	0.23
9.442	722.11	0.31	9.462	534.75	0.27	9.435	251.17	0.23	9.535	202.26	0.23
9.462	722.77	0.31	9.482	538.28	0.27	9.455	252.17	0.24	9.555	202.89	0.23
9.482	723.40	0.31	9.502	541.33	0.27	9.475	253.23	0.24	9.575	203.54	0.23
9.502	724.02	0.31	9.522	544.46	0.28	9.495	254.26	0.24	9.595	204.18	0.23
9.522	724.62	0.31	9.542	547.42	0.28	9.515	255.27	0.24	9.615	204.82	0.23
9.542	725.22	0.32	9.562	550.43	0.28	9.535	256.30	0.24	9.634	205.45	0.23
9.562	725.85	0.32	9.582	553.23	0.28	9.555	257.37	0.24	9.654	206.12	0.23
9.582	726.38	0.32	9.602	556.04	0.28	9.575	258.41	0.24	9.674	206.74	0.23
9.602	726.97	0.32	9.622	558.71	0.28	9.595	259.42	0.24	9.694	207.37	0.23
9.622	727.54	0.32	9.642	561.37	0.28	9.615	260.52	0.24	9.714	208.01	0.23
9.642	728.15	0.32	9.662	563.99	0.28	9.634	261.56	0.24	9.734	208.64	0.23
9.662	728.81	0.32	9.681	566.69	0.28	9.654	262.60	0.24	9.754	209.27	0.23
9.681	729.54	0.32	9.701	569.16	0.28	9.674	263.71	0.24	9.774	209.91	0.23
9.701	730.15	0.32	9.721	571.47	0.28	9.694	264.77	0.24	9.794	210.54	0.23
9.721	730.77	0.32	9.741	574.00	0.28	9.714	265.81	0.24	9.814	211.22	0.23
9.741	731.42	0.32	9.761	576.34	0.28	9.734	266.91	0.24	9.834	211.83	0.23
9.761	732.02	0.32	9.781	578.60	0.28	9.754	268.00	0.24	9.854	212.47	0.23
9.781	732.72	0.32	9.801	580.70	0.28	9.774	269.12	0.24	9.874	213.14	0.23
9.801	733.33	0.32	9.821	583.03	0.28	9.794	270.19	0.24	9.894	213.78	0.23
9.821	733.97	0.32	9.841	585.03	0.28	9.814	271.31	0.24	9.914	214.44	0.23
9.841	734.61	0.32	9.861	587.05	0.28	9.834	272.38	0.24	9.934	215.10	0.23
9.861	735.20	0.32	9.881	589.09	0.29	9.854	273.52	0.24	9.954	215.74	0.23
9.881	735.88	0.32	9.901	591.12	0.29	9.874	274.68	0.24	9.974	216.43	0.23
9.901	736.49	0.32	9.921	592.98	0.29	9.894	275.77	0.24	9.994	217.07	0.23
9.921	737.09	0.32	9.940	594.83	0.29	9.914	276.89	0.24	10.013	217.69	0.23
9.940	737.68	0.32	9.960	596.72	0.29	9.934	278.00	0.24	10.033	218.36	0.23
9.960	738.22	0.32	9.980	598.50	0.29	9.954	279.15	0.24	10.053	219.00	0.23
9.980	738.83	0.32	10.000	600.33	0.29	9.974	280.30	0.24	10.073	219.66	0.23

10.000	739.36	0.32	10.020	602.03	0.29	9.994	281.39	0.24	10.093	220.35	0.23
10.020	739.97	0.32	10.040	603.69	0.29	10.013	282.59	0.24	10.113	221.02	0.23
10.040	740.52	0.32	10.060	605.32	0.29	10.033	283.76	0.24	10.133	221.69	0.23
10.060	741.09	0.32	10.080	607.00	0.29	10.053	284.91	0.24	10.153	222.33	0.23
10.080	741.69	0.32	10.100	608.58	0.29	10.073	286.06	0.24	10.173	223.05	0.23
10.100	742.19	0.32	10.120	610.17	0.29	10.093	287.22	0.24	10.193	223.66	0.23
10.120	742.74	0.32	10.140	611.62	0.29	10.113	288.44	0.24	10.213	224.36	0.23
10.140	743.36	0.32	10.160	613.15	0.29	10.133	289.56	0.24	10.233	225.04	0.23
10.160	743.88	0.32	10.179	614.56	0.29	10.153	290.81	0.24	10.253	225.67	0.23
10.179	744.45	0.32	10.199	615.96	0.29	10.173	291.98	0.24	10.273	226.38	0.23
10.199	744.92	0.32	10.219	617.16	0.29	10.193	293.16	0.24	10.293	227.08	0.23
10.219	745.54	0.32	10.239	618.35	0.29	10.213	294.34	0.24	10.313	227.72	0.23
10.239	746.08	0.32	10.259	619.64	0.29	10.233	295.57	0.24	10.333	228.42	0.23
10.259	746.65	0.32	10.279	621.04	0.29	10.253	296.75	0.24	10.353	229.11	0.23
10.279	747.17	0.32	10.299	622.43	0.29	10.273	297.97	0.24	10.373	229.76	0.23
10.299	747.71	0.32	10.319	623.56	0.29	10.293	299.10	0.24	10.392	230.44	0.23
10.319	748.25	0.32	10.339	624.67	0.29	10.313	300.28	0.24	10.412	231.13	0.23
10.339	748.78	0.32	10.359	625.79	0.29	10.333	301.46	0.24	10.432	231.82	0.23
10.359	749.26	0.32	10.379	626.91	0.29	10.353	302.67	0.24	10.452	232.49	0.23
10.379	749.76	0.32	10.399	628.02	0.29	10.373	303.94	0.24	10.472	233.18	0.23
10.399	750.27	0.32	10.419	629.17	0.29	10.392	305.12	0.24	10.492	233.85	0.23
10.419	750.80	0.32	10.438	630.33	0.29	10.412	306.30	0.24	10.512	234.54	0.23
10.438	751.29	0.32	10.458	631.50	0.29	10.432	307.56	0.24	10.532	235.23	0.23
10.458	751.80	0.32	10.478	632.70	0.29	10.452	308.69	0.24	10.552	235.91	0.23
10.478	752.29	0.32	10.498	633.89	0.29	10.472	309.93	0.24	10.572	236.61	0.23
10.498	752.80	0.32	10.518	634.91	0.30	10.492	311.12	0.24	10.592	237.33	0.23
10.518	753.27	0.32	10.538	635.90	0.30	10.512	312.27	0.24	10.612	238.03	0.23
10.538	753.76	0.32	10.558	636.90	0.30	10.532	313.39	0.24	10.632	238.72	0.23
10.558	754.28	0.32	10.578	637.89	0.30	10.552	314.68	0.24	10.652	239.43	0.23
10.578	754.75	0.32	10.598	638.89	0.30	10.572	315.91	0.24	10.672	240.12	0.23
10.598	755.24	0.32	10.618	639.89	0.30	10.592	317.20	0.24	10.692	240.85	0.23
10.618	755.76	0.32	10.638	640.88	0.30	10.612	318.45	0.24	10.712	241.52	0.23
10.638	756.20	0.32	10.658	641.91	0.30	10.632	319.70	0.24	10.732	242.21	0.23
10.658	756.72	0.32	10.677	642.98	0.30	10.652	321.00	0.24	10.752	242.96	0.23
10.677	757.13	0.32	10.697	644.06	0.30	10.672	322.36	0.24	10.771	243.65	0.23
10.697	757.68	0.32	10.717	645.00	0.30	10.692	323.73	0.24	10.791	244.36	0.23
10.717	758.13	0.32	10.737	645.91	0.30	10.712	325.09	0.24	10.811	245.08	0.23
10.737	758.60	0.32	10.757	646.86	0.30	10.732	326.40	0.24	10.831	245.74	0.23
10.757	759.07	0.32	10.777	647.85	0.30	10.752	327.68	0.24	10.851	246.47	0.23
10.777	759.48	0.32	10.797	648.85	0.30	10.771	329.01	0.24	10.871	247.18	0.23
10.797	759.96	0.32	10.817	649.74	0.30	10.791	330.33	0.24	10.891	247.88	0.23
10.817	760.44	0.32	10.837	650.87	0.30	10.811	331.68	0.24	10.911	248.58	0.23
10.837	760.87	0.32	10.857	651.84	0.30	10.831	332.92	0.24	10.931	249.32	0.23
10.857	761.35	0.32	10.877	652.79	0.30	10.851	334.32	0.24	10.951	250.05	0.23
10.877	761.81	0.32	10.897	653.74	0.30	10.871	335.68	0.24	10.971	250.75	0.24

10.897	762.30	0.32	10.917	654.69	0.30	10.891	337.08	0.24	10.991	251.46	0.24
10.917	762.73	0.32	10.936	655.62	0.30	10.911	338.34	0.24	11.011	252.20	0.24
10.936	763.17	0.32	10.956	656.55	0.30	10.931	339.68	0.24	11.031	252.92	0.24
10.956	763.63	0.32	10.976	657.47	0.30	10.951	341.04	0.24	11.051	253.64	0.24
10.976	764.06	0.32	10.996	658.38	0.30	10.971	342.42	0.24	11.071	254.38	0.24
10.996	764.48	0.32	11.016	659.29	0.30	10.991	343.76	0.24	11.091	255.14	0.24
11.016	764.94	0.32	11.036	660.18	0.30	11.011	345.13	0.25	11.111	255.82	0.24
11.036	765.37	0.32	11.056	661.08	0.30	11.031	346.50	0.25	11.130	256.57	0.24
11.056	765.80	0.32	11.076	661.96	0.30	11.051	347.91	0.25	11.150	257.34	0.24
11.076	766.26	0.32	11.096	662.84	0.30	11.071	349.32	0.25	11.170	258.08	0.24
11.096	766.63	0.32	11.116	663.71	0.30	11.091	350.70	0.25	11.190	258.78	0.24
11.116	767.05	0.32	11.136	664.57	0.30	11.111	352.11	0.25	11.210	259.54	0.24
11.136	767.51	0.32	11.156	665.43	0.30	11.130	353.49	0.25	11.230	260.29	0.24
11.156	767.94	0.32	11.175	666.28	0.30	11.150	354.91	0.25	11.250	261.05	0.24
11.175	768.38	0.33	11.195	667.13	0.30	11.170	356.32	0.25	11.270	261.73	0.24
11.195	768.80	0.33	11.215	667.96	0.30	11.190	357.72	0.25	11.290	262.55	0.24
11.215	769.20	0.33	11.235	668.80	0.30	11.210	359.14	0.25	11.310	263.23	0.24
11.235	769.58	0.33	11.255	669.62	0.30	11.230	360.60	0.25	11.330	264.00	0.24
11.255	769.99	0.33	11.275	670.44	0.30	11.250	361.97	0.25	11.350	264.73	0.24
11.275	770.44	0.33	11.295	671.25	0.30	11.270	363.37	0.25	11.370	265.50	0.24
11.295	770.78	0.33	11.315	672.06	0.30	11.290	364.82	0.25	11.390	266.26	0.24
11.315	771.19	0.33	11.335	672.86	0.30	11.310	366.20	0.25	11.410	267.02	0.24
11.335	771.59	0.33	11.355	673.66	0.30	11.330	367.69	0.25	11.430	267.76	0.24
11.355	771.99	0.33	11.375	674.45	0.30	11.350	369.14	0.25	11.450	268.50	0.24
11.375	772.37	0.33	11.395	675.24	0.30	11.370	370.52	0.25	11.470	269.26	0.24
11.395	772.75	0.33	11.415	675.95	0.30	11.390	371.87	0.25	11.490	270.05	0.24
11.415	773.18	0.33	11.434	676.78	0.30	11.410	373.33	0.25	11.509	270.76	0.24
11.434	773.57	0.33	11.454	677.52	0.30	11.430	374.73	0.25	11.529	271.55	0.24
11.454	773.99	0.33	11.474	678.37	0.30	11.450	376.13	0.25	11.549	272.32	0.24
11.474	774.33	0.33	11.494	679.14	0.30	11.470	377.60	0.25	11.569	273.07	0.24
11.494	774.71	0.33	11.514	679.89	0.30	11.490	378.99	0.25	11.589	273.78	0.24
11.514	775.11	0.33	11.534	680.71	0.31	11.509	380.49	0.25	11.609	274.56	0.24
11.534	775.50	0.33	11.554	681.43	0.31	11.529	382.00	0.25	11.629	275.36	0.24
11.554	775.87	0.33	11.574	682.18	0.31	11.549	383.39	0.25	11.649	276.11	0.24
11.574	776.29	0.33	11.594	682.99	0.31	11.569	384.88	0.25	11.669	276.87	0.24
11.594	776.64	0.33	11.614	683.74	0.31	11.589	386.30	0.25	11.689	277.66	0.24
11.614	777.00	0.33	11.634	684.54	0.31	11.609	387.78	0.25	11.709	278.46	0.24
11.634	777.39	0.33	11.654	685.20	0.31	11.629	389.29	0.25	11.729	279.20	0.24
11.654	777.78	0.33	11.673	685.96	0.31	11.649	390.70	0.25	11.749	279.94	0.24
11.673	778.14	0.33	11.693	686.64	0.31	11.669	392.17	0.25	11.769	280.79	0.24
11.693	778.49	0.33	11.713	687.32	0.31	11.689	393.57	0.25	11.789	281.56	0.24
11.713	778.86	0.33	11.733	688.05	0.31	11.709	395.06	0.25	11.809	282.33	0.24
11.733	779.19	0.33	11.753	688.68	0.31	11.729	396.54	0.25	11.829	283.06	0.24
11.753	779.56	0.33	11.773	689.47	0.31	11.749	398.04	0.25	11.849	283.83	0.24
11.773	779.92	0.33	11.793	690.13	0.31	11.769	399.53	0.25	11.869	284.65	0.24

11.793	780.24	0.33	11.813	690.81	0.31	11.789	400.92	0.25	11.888	285.45	0.24
11.813	780.59	0.33	11.833	691.53	0.31	11.809	402.38	0.25	11.908	286.21	0.24
11.833	780.97	0.33	11.853	692.21	0.31	11.829	403.80	0.25	11.928	286.98	0.24
11.853	781.29	0.33	11.873	692.87	0.31	11.849	405.18	0.25	11.948	287.73	0.24
11.873	781.63	0.33	11.893	693.57	0.31	11.869	406.67	0.25	11.968	288.52	0.24
11.893	782.00	0.33	11.913	694.26	0.31	11.888	408.07	0.25	11.988	289.34	0.24
11.913	782.33	0.33	11.932	694.88	0.31	11.908	409.55	0.25	12.008	290.12	0.24
11.932	782.63	0.33	11.952	695.51	0.31	11.928	411.04	0.25	12.028	290.95	0.24
11.952	782.94	0.33	11.972	696.18	0.31	11.948	412.50	0.25	12.048	291.75	0.24
11.972	783.26	0.33	11.992	696.82	0.31	11.968	413.96	0.25	12.068	292.51	0.24
11.992	783.63	0.33	12.012	697.49	0.31	11.988	415.39	0.25	12.088	293.33	0.24
12.012	783.90	0.33	12.032	698.11	0.31	12.008	416.78	0.26	12.108	294.07	0.24
12.032	784.27	0.33	12.052	698.77	0.31	12.028	418.27	0.26	12.128	294.89	0.24
12.052	784.60	0.33	12.072	699.41	0.31	12.048	419.75	0.26	12.148	295.70	0.24
12.072	784.93	0.33	12.092	700.04	0.31	12.068	421.20	0.26	12.168	296.48	0.24
12.092	785.31	0.33	12.112	700.68	0.31	12.088	422.69	0.26	12.188	297.26	0.24
12.112	785.66	0.33	12.132	701.34	0.31	12.108	424.12	0.26	12.208	298.04	0.24
12.132	785.95	0.33	12.152	701.97	0.31	12.128	425.54	0.26	12.228	298.87	0.24
12.152	786.32	0.33	12.171	702.59	0.31	12.148	426.95	0.26	12.247	299.69	0.24
12.171	786.64	0.33	12.191	703.25	0.31	12.168	428.48	0.26	12.267	300.53	0.24
12.191	786.99	0.33	12.211	703.78	0.31	12.188	429.92	0.26	12.287	301.27	0.24
12.211	787.35	0.33	12.231	704.39	0.31	12.208	431.30	0.26	12.307	302.09	0.24
12.231	787.74	0.33	12.251	704.95	0.31	12.228	432.69	0.26	12.327	302.88	0.24
12.251	788.01	0.33	12.271	705.59	0.31	12.247	434.24	0.26	12.347	303.72	0.24
12.271	788.35	0.33	12.291	706.16	0.31	12.267	435.61	0.26	12.367	304.52	0.24
12.291	788.67	0.33	12.311	706.72	0.31	12.287	436.97	0.26	12.387	305.32	0.24
12.311	789.00	0.33	12.331	707.28	0.31	12.307	438.41	0.26	12.407	306.15	0.24
12.331	789.39	0.33	12.351	707.87	0.31	12.327	439.75	0.26	12.427	306.94	0.24
12.351	789.69	0.33	12.371	708.41	0.31	12.347	441.15	0.26	12.447	307.77	0.24
12.371	790.00	0.33	12.391	708.98	0.31	12.367	442.52	0.26	12.467	308.59	0.24
12.391	790.36	0.33	12.411	709.52	0.31	12.387	443.93	0.26	12.487	309.39	0.24
12.411	790.69	0.33	12.430	710.10	0.31	12.407	445.35	0.26	12.507	310.21	0.24
12.430	791.02	0.33	12.450	710.71	0.31	12.427	446.82	0.26	12.527	311.06	0.24
12.450	791.35	0.33	12.470	711.27	0.31	12.447	448.21	0.26	12.547	311.84	0.24
12.470	791.66	0.33	12.490	711.82	0.31	12.467	449.56	0.26	12.567	312.62	0.24
12.490	792.00	0.33	12.510	712.36	0.31	12.487	451.02	0.26	12.587	313.47	0.24
12.510	792.28	0.33	12.530	712.94	0.31	12.507	452.37	0.26	12.607	314.28	0.24
12.530	792.65	0.33	12.550	713.46	0.31	12.527	453.74	0.26	12.626	315.10	0.24
12.550	792.92	0.33	12.570	713.97	0.31	12.547	455.15	0.26	12.646	315.95	0.24
12.570	793.27	0.33	12.590	714.50	0.31	12.567	456.47	0.26	12.666	316.80	0.24
12.590	793.63	0.33	12.610	715.06	0.31	12.587	457.81	0.26	12.686	317.62	0.24
12.610	793.93	0.33	12.630	715.56	0.31	12.607	459.21	0.26	12.706	318.46	0.24
12.630	794.27	0.33	12.650	716.12	0.31	12.626	460.53	0.26	12.726	319.28	0.24
12.650	794.56	0.33	12.669	716.60	0.31	12.646	461.94	0.26	12.746	320.09	0.24
12.669	794.90	0.33	12.689	717.18	0.31	12.666	463.27	0.26	12.766	320.91	0.24

12.689	795.24	0.33	12.709	717.69	0.31	12.686	464.64	0.26	12.786	321.74	0.24
12.709	795.52	0.33	12.729	718.21	0.31	12.706	465.95	0.26	12.806	322.58	0.24
12.729	795.82	0.33	12.749	718.69	0.31	12.726	467.34	0.26	12.826	323.37	0.24
12.749	796.17	0.33	12.769	719.25	0.31	12.746	468.66	0.26	12.846	324.19	0.24
12.769	796.44	0.33	12.789	719.79	0.31	12.766	469.95	0.26	12.866	325.03	0.24
12.789	796.74	0.33	12.809	720.29	0.31	12.786	471.24	0.26	12.886	325.85	0.24
12.809	797.07	0.33	12.829	720.78	0.31	12.806	472.54	0.26	12.906	326.68	0.24
12.829	797.42	0.33	12.849	721.34	0.31	12.826	473.87	0.26	12.926	327.53	0.24
12.849	797.67	0.33	12.869	721.79	0.31	12.846	475.28	0.26	12.946	328.36	0.24
12.869	798.02	0.33	12.889	722.27	0.31	12.866	476.53	0.27	12.966	329.22	0.24
12.889	798.35	0.33	12.909	722.80	0.31	12.886	477.91	0.27	12.986	330.01	0.24
12.909	798.65	0.33	12.928	723.34	0.31	12.906	479.17	0.27	13.005	330.84	0.24
12.928	798.92	0.33	12.948	723.87	0.31	12.926	480.47	0.27	13.025	331.72	0.24
12.948	799.25	0.33	12.968	724.35	0.31	12.946	481.80	0.27	13.045	332.52	0.24
12.968	799.50	0.33	12.988	724.82	0.32	12.966	483.01	0.27	13.065	333.41	0.24
12.988	799.84	0.33	13.008	725.34	0.32	12.986	484.33	0.27	13.085	334.20	0.24
13.008	800.12	0.33	13.028	725.78	0.32	13.005	485.60	0.27	13.105	335.02	0.24
13.028	800.43	0.33	13.048	726.33	0.32	13.025	486.91	0.27	13.125	335.93	0.24
13.048	800.76	0.33	13.068	726.79	0.32	13.045	488.15	0.27	13.145	336.77	0.24
13.068	801.07	0.33	13.088	727.23	0.32	13.065	489.44	0.27	13.165	337.62	0.25
13.088	801.37	0.33	13.108	727.71	0.32	13.085	490.78	0.27	13.185	338.37	0.25
13.108	801.67	0.33	13.128	728.21	0.32	13.105	491.98	0.27	13.205	339.22	0.25
13.128	801.94	0.33	13.148	728.72	0.32	13.125	493.22	0.27	13.225	340.10	0.25
13.148	802.23	0.33	13.167	729.15	0.32	13.145	494.49	0.27	13.245	340.89	0.25
13.167	802.52	0.33	13.187	729.60	0.32	13.165	495.73	0.27	13.265	341.75	0.25
13.187	802.82	0.33	13.207	730.10	0.32	13.185	496.95	0.27	13.285	342.62	0.25
13.207	803.10	0.33	13.227	730.53	0.32	13.205	498.13	0.27	13.305	343.45	0.25
13.227	803.32	0.33	13.247	730.94	0.32	13.225	499.35	0.27	13.325	344.27	0.25
13.247	803.64	0.33	13.267	731.43	0.32	13.245	500.59	0.27	13.345	345.16	0.25
13.267	803.91	0.33	13.287	731.85	0.32	13.265	501.72	0.27	13.365	345.99	0.25
13.287	804.22	0.33	13.307	732.31	0.32	13.285	502.87	0.27	13.384	346.83	0.25
13.307	804.50	0.33	13.327	732.79	0.32	13.305	504.08	0.27	13.404	347.74	0.25
13.327	804.76	0.33	13.347	733.24	0.32	13.325	505.30	0.27	13.424	348.52	0.25
13.347	805.09	0.33	13.367	733.65	0.32	13.345	506.43	0.27	13.444	349.40	0.25
13.367	805.36	0.33	13.387	734.11	0.32	13.365	507.59	0.27	13.464	350.27	0.25
13.387	805.66	0.33	13.407	734.56	0.32	13.384	508.81	0.27	13.484	351.17	0.25
13.407	805.91	0.33	13.426	734.98	0.32	13.404	509.92	0.27	13.504	351.93	0.25
13.426	806.22	0.33	13.446	735.50	0.32	13.424	511.17	0.27	13.524	352.83	0.25
13.446	806.51	0.33	13.466	735.92	0.32	13.444	512.35	0.27	13.544	353.70	0.25
13.466	806.76	0.33	13.486	736.36	0.32	13.464	513.45	0.27	13.564	354.55	0.25
13.486	807.06	0.33	13.506	736.81	0.32	13.484	514.61	0.27	13.584	355.36	0.25
13.506	807.35	0.33	13.526	737.24	0.32	13.504	515.79	0.27	13.604	356.27	0.25
13.526	807.58	0.33	13.546	737.68	0.32	13.524	516.97	0.27	13.624	357.10	0.25
13.546	807.85	0.33	13.566	738.10	0.32	13.544	518.02	0.27	13.644	357.96	0.25
13.566	808.14	0.33	13.586	738.52	0.32	13.564	519.16	0.27	13.664	358.80	0.25

13.586	808.46	0.33	13.606	738.97	0.32	13.584	520.21	0.27	13.684	359.66	0.25
13.606	808.72	0.33	13.626	739.33	0.32	13.604	521.40	0.27	13.704	360.52	0.25
13.626	808.95	0.33	13.646	739.82	0.32	13.624	522.50	0.27	13.724	361.35	0.25
13.646	809.28	0.33	13.665	740.20	0.32	13.644	523.58	0.27	13.743	362.22	0.25
13.665	809.52	0.33	13.685	740.59	0.32	13.664	524.66	0.27	13.763	363.10	0.25
13.685	809.83	0.33	13.705	741.00	0.32	13.684	525.80	0.27	13.783	363.91	0.25
13.705	810.05	0.33	13.725	741.44	0.32	13.704	526.80	0.27	13.803	364.76	0.25
13.725	810.34	0.33	13.745	741.85	0.32	13.724	527.89	0.27	13.823	365.59	0.25
13.745	810.61	0.33	13.765	742.26	0.32	13.743	528.95	0.27	13.843	366.52	0.25
13.765	810.85	0.33	13.785	742.62	0.32	13.763	530.07	0.28	13.863	367.30	0.25
13.785	811.14	0.33	13.805	743.01	0.32	13.783	531.11	0.28	13.883	368.15	0.25
13.805	811.41	0.33	13.825	743.39	0.32	13.803	532.14	0.28	13.903	369.04	0.25
13.825	811.70	0.34	13.845	743.79	0.32	13.823	533.18	0.28	13.923	369.90	0.25
13.845	811.93	0.34	13.865	744.25	0.32	13.843	534.25	0.28	13.943	370.73	0.25
13.865	812.21	0.34	13.885	744.61	0.32	13.863	535.30	0.28	13.963	371.60	0.25
13.885	812.46	0.34	13.905	744.98	0.32	13.883	536.34	0.28	13.983	372.48	0.25
13.905	812.71	0.34	13.924	745.37	0.32	13.903	537.40	0.28	14.003	373.30	0.25
13.924	812.99	0.34	13.944	745.75	0.32	13.923	538.41	0.28	14.023	374.19	0.25
13.944	813.26	0.34	13.964	746.12	0.32	13.943	539.49	0.28	14.043	375.07	0.25
13.964	813.50	0.34	13.984	746.48	0.32	13.963	540.48	0.28	14.063	375.88	0.25
13.984	813.76	0.34	14.004	746.83	0.32	13.983	541.51	0.28	14.083	376.74	0.25
14.004	814.03	0.34	14.024	747.23	0.32	14.003	542.47	0.28	14.103	377.63	0.25
14.024	814.30	0.34	14.044	747.58	0.32	14.023	543.54	0.28	14.122	378.44	0.25
14.044	814.56	0.34	14.064	747.93	0.32	14.043	544.50	0.28	14.142	379.36	0.25
14.064	814.83	0.34	14.084	748.33	0.32	14.063	545.48	0.28	14.162	380.19	0.25
14.084	815.07	0.34	14.104	748.67	0.32	14.083	546.42	0.28	14.182	381.02	0.25
14.104	815.34	0.34	14.124	749.00	0.32	14.103	547.46	0.28	14.202	381.94	0.25
14.124	815.60	0.34	14.144	749.31	0.32	14.122	548.43	0.28	14.222	382.79	0.25
14.144	815.86	0.34	14.163	749.62	0.32	14.142	549.37	0.28	14.242	383.61	0.25
14.163	816.10	0.34	14.183	750.06	0.32	14.162	550.38	0.28	14.262	384.45	0.25
14.183	816.34	0.34	14.203	750.46	0.32	14.182	551.29	0.28	14.282	385.30	0.25
14.203	816.59	0.34	14.223	750.82	0.32	14.202	552.25	0.28	14.302	386.21	0.25
14.223	816.84	0.34	14.243	751.16	0.32	14.222	553.19	0.28	14.322	387.01	0.25
14.243	817.09	0.34	14.263	751.55	0.32	14.242	554.14	0.28	14.342	387.91	0.25
14.263	817.35	0.34	14.283	751.93	0.32	14.262	555.13	0.28	14.362	388.78	0.25
14.283	817.59	0.34	14.303	752.28	0.32	14.282	556.07	0.28	14.382	389.58	0.25
14.303	817.89	0.34	14.323	752.72	0.32	14.302	557.00	0.28	14.402	390.45	0.25
14.323	818.11	0.34	14.343	753.09	0.32	14.322	557.98	0.28	14.422	391.32	0.25
14.343	818.35	0.34	14.363	753.46	0.32	14.342	558.83	0.28	14.442	392.14	0.25
14.363	818.59	0.34	14.383	753.80	0.32	14.362	559.74	0.28	14.462	392.99	0.25
14.383	818.83	0.34	14.403	754.20	0.32	14.382	560.62	0.28	14.482	393.86	0.25
14.403	819.05	0.34	14.422	754.58	0.32	14.402	561.53	0.28	14.501	394.67	0.25
14.422	819.30	0.34	14.442	754.93	0.32	14.422	562.47	0.28	14.521	395.51	0.25
14.442	819.60	0.34	14.462	755.33	0.32	14.442	563.34	0.28	14.541	396.42	0.25
14.462	819.80	0.34	14.482	755.72	0.32	14.462	564.25	0.28	14.561	397.26	0.25

14.482	820.01	0.34	14.502	756.05	0.32	14.482	565.18	0.28	14.581	398.08	0.25
14.502	820.23	0.34	14.522	756.46	0.32	14.501	566.04	0.28	14.601	398.99	0.25
14.522	820.49	0.34	14.542	756.80	0.32	14.521	566.89	0.28	14.621	399.80	0.25
14.542	820.74	0.34	14.562	757.13	0.32	14.541	567.76	0.28	14.641	400.66	0.25
14.562	820.93	0.34	14.582	757.54	0.32	14.561	568.66	0.28	14.661	401.49	0.25
14.582	821.19	0.34	14.602	757.84	0.32	14.581	569.53	0.28	14.681	402.40	0.25
14.602	821.39	0.34	14.622	758.25	0.32	14.601	570.39	0.28	14.701	403.23	0.25
14.622	821.62	0.34	14.642	758.57	0.32	14.621	571.25	0.28	14.721	404.09	0.25
14.642	821.82	0.34	14.661	758.92	0.32	14.641	572.12	0.28	14.741	404.93	0.25
14.661	822.06	0.34	14.681	759.23	0.32	14.661	572.96	0.28	14.761	405.76	0.25
14.681	822.30	0.34	14.701	759.65	0.32	14.681	573.75	0.28	14.781	406.57	0.25
14.701	822.54	0.34	14.721	759.96	0.32	14.701	574.57	0.28	14.801	407.49	0.25
14.721	822.78	0.34	14.741	760.34	0.32	14.721	575.44	0.28	14.821	408.32	0.26
14.741	823.03	0.34	14.761	760.63	0.32	14.741	576.33	0.28	14.841	409.15	0.26
14.761	823.28	0.34	14.781	761.01	0.32	14.761	577.12	0.28	14.861	409.97	0.26
14.781	823.52	0.34	14.801	761.40	0.32	14.781	577.94	0.28	14.880	410.83	0.26
14.801	823.70	0.34	14.821	761.68	0.32	14.801	578.74	0.28	14.900	411.62	0.26
14.821	823.93	0.34	14.841	762.04	0.32	14.821	579.55	0.28	14.920	412.46	0.26
14.841	824.17	0.34	14.861	762.40	0.32	14.841	580.37	0.28	14.940	413.31	0.26
14.861	824.42	0.34	14.881	762.72	0.32	14.861	581.19	0.29	14.960	414.15	0.26
14.881	824.59	0.34	14.901	763.05	0.32	14.880	581.95	0.29	14.980	414.99	0.26
14.901	824.91	0.34	14.920	763.41	0.32	14.900	582.74	0.29	15.000	415.81	0.26
14.920	825.15	0.34	14.940	763.69	0.32	14.920	583.54	0.29	15.020	416.62	0.26
14.940	825.33	0.34	14.960	764.09	0.32	14.940	584.31	0.29	15.040	417.49	0.26
14.960	825.56	0.34	14.980	764.38	0.32	14.960	585.11	0.29	15.060	418.29	0.26
14.980	825.80	0.34	15.000	764.72	0.32	14.980	585.87	0.29	15.080	419.18	0.26
15.000	826.05	0.34	15.020	765.06	0.32	15.000	586.65	0.29	15.100	420.00	0.26
15.020	826.29	0.34	15.040	765.38	0.32	15.020	587.41	0.29	15.120	420.82	0.26
15.040	826.46	0.34	15.060	765.73	0.32	15.040	588.17	0.29	15.140	421.69	0.26
15.060	826.78	0.34	15.080	766.02	0.32	15.060	588.95	0.29	15.160	422.49	0.26
15.080	826.95	0.34	15.100	766.39	0.32	15.080	589.69	0.29	15.180	423.28	0.26
15.100	827.19	0.34	15.120	766.73	0.32	15.100	590.40	0.29	15.200	424.14	0.26
15.120	827.41	0.34	15.140	767.05	0.32	15.120	591.08	0.29	15.220	425.01	0.26
15.140	827.67	0.34	15.159	767.37	0.32	15.140	591.86	0.29	15.239	425.79	0.26
15.159	827.89	0.34	15.179	767.65	0.32	15.160	592.57	0.29	15.259	426.60	0.26
15.179	828.08	0.34	15.199	767.97	0.32	15.180	593.24	0.29	15.279	427.40	0.26
15.199	828.33	0.34	15.219	768.32	0.32	15.200	593.93	0.29	15.299	428.23	0.26
15.219	828.57	0.34	15.239	768.63	0.32	15.220	594.65	0.29	15.319	429.09	0.26
15.239	828.81	0.34	15.259	768.93	0.33	15.239	595.30	0.29	15.339	429.92	0.26
15.259	829.05	0.34	15.279	769.28	0.33	15.259	596.00	0.29	15.359	430.76	0.26
15.279	829.30	0.34	15.299	769.62	0.33	15.279	596.62	0.29	15.379	431.57	0.26
15.299	829.52	0.34	15.319	769.91	0.33	15.299	597.31	0.29	15.399	432.37	0.26
15.319	829.79	0.34	15.339	770.21	0.33	15.319	597.92	0.29	15.419	433.18	0.26
15.339	829.95	0.34	15.359	770.59	0.33	15.339	598.55	0.29	15.439	434.00	0.26
15.359	830.20	0.34	15.379	770.88	0.33	15.359	599.18	0.29	15.459	434.82	0.26

15.379	830.44	0.34	15.398	771.18	0.33	15.379	599.76	0.29	15.479	435.63	0.26
15.398	830.69	0.34	15.418	771.50	0.33	15.399	600.39	0.29	15.499	436.47	0.26
15.418	830.91	0.34	15.438	771.81	0.33	15.419	600.88	0.29	15.519	437.30	0.26
15.438	831.12	0.34	15.458	772.11	0.33	15.439	601.61	0.29	15.539	438.05	0.26
15.458	831.34	0.34	15.478	772.48	0.33	15.459	602.32	0.29	15.559	438.86	0.26
15.478	831.54	0.34	15.498	772.82	0.33	15.479	603.10	0.29	15.579	439.71	0.26
15.498	831.75	0.34	15.518	773.08	0.33	15.499	603.75	0.29	15.599	440.49	0.26
15.518	831.99	0.34	15.538	773.39	0.33	15.519	604.48	0.29	15.618	441.32	0.26
15.538	832.23	0.34	15.558	773.69	0.33	15.539	605.17	0.29	15.638	442.14	0.26
15.558	832.48	0.34	15.578	773.98	0.33	15.559	605.82	0.29	15.658	442.90	0.26
15.578	832.64	0.34	15.598	774.30	0.33	15.579	606.52	0.29	15.678	443.77	0.26
15.598	832.89	0.34	15.618	774.59	0.33	15.599	607.18	0.29	15.698	444.51	0.26
15.618	833.13	0.34	15.638	774.93	0.33	15.618	607.82	0.29	15.718	445.32	0.26
15.638	833.29	0.34	15.657	775.23	0.33	15.638	608.43	0.29	15.738	446.10	0.26
15.657	833.54	0.34	15.677	775.56	0.33	15.658	609.14	0.29	15.758	446.94	0.26
15.677	833.72	0.34	15.697	775.90	0.33	15.678	609.75	0.29	15.778	447.73	0.26
15.697	833.94	0.34	15.717	776.19	0.33	15.698	610.36	0.29	15.798	448.47	0.26
15.717	834.19	0.34	15.737	776.47	0.33	15.718	611.04	0.29	15.818	449.32	0.26
15.737	834.37	0.34	15.757	776.80	0.33	15.738	611.73	0.29	15.838	450.11	0.26
15.757	834.60	0.34	15.777	777.09	0.33	15.758	612.33	0.29	15.858	450.88	0.26
15.777	834.78	0.34	15.797	777.37	0.33	15.778	613.00	0.29	15.878	451.70	0.26
15.797	835.00	0.34	15.817	777.69	0.33	15.798	613.69	0.29	15.898	452.48	0.26
15.817	835.25	0.34	15.837	777.95	0.33	15.818	614.33	0.29	15.918	453.27	0.26
15.837	835.41	0.34	15.857	778.30	0.33	15.838	614.96	0.29	15.938	454.03	0.26
15.857	835.65	0.34	15.877	778.58	0.33	15.858	615.56	0.29	15.958	454.81	0.26
15.877	835.84	0.34	15.896	778.90	0.33	15.878	616.19	0.29	15.978	455.62	0.26
15.896	836.06	0.34	15.916	779.18	0.33	15.898	616.82	0.29	15.997	456.40	0.26
15.916	836.25	0.34	15.936	779.47	0.33	15.918	617.50	0.29	16.017	457.17	0.26
15.936	836.47	0.34	15.956	779.79	0.33	15.938	618.06	0.29	16.037	457.89	0.26
15.956	836.65	0.34	15.976	780.10	0.33	15.958	618.71	0.29	16.057	458.68	0.26
15.976	836.87	0.34	15.996	780.35	0.33	15.978	619.32	0.29	16.077	459.46	0.26
15.996	837.12	0.34	16.016	780.64	0.33	15.997	619.97	0.29	16.097	460.18	0.26
16.016	837.36	0.34	16.036	780.94	0.33	16.017	620.59	0.29	16.117	460.92	0.26
16.036	837.56	0.34	16.056	781.26	0.33	16.037	621.22	0.29	16.137	461.67	0.26
16.056	837.77	0.34	16.076	781.50	0.33	16.057	621.82	0.29	16.157	462.44	0.26
16.076	838.02	0.34	16.096	781.85	0.33	16.077	622.48	0.29	16.177	463.14	0.26
16.096	838.18	0.34	16.116	782.09	0.33	16.097	623.11	0.29	16.197	463.87	0.26
16.116	838.41	0.34	16.136	782.39	0.33	16.117	623.69	0.29	16.217	464.62	0.26
16.136	838.59	0.34	16.155	782.63	0.33	16.137	624.31	0.29	16.237	465.30	0.26
16.155	838.78	0.34	16.175	782.97	0.33	16.157	624.96	0.29	16.257	466.04	0.26
16.175	838.99	0.34	16.195	783.25	0.33	16.177	625.52	0.29	16.277	466.77	0.26
16.195	839.24	0.34	16.215	783.49	0.33	16.197	626.19	0.29	16.297	467.47	0.26
16.215	839.40	0.34	16.235	783.81	0.33	16.217	626.81	0.29	16.317	468.19	0.26
16.235	839.64	0.34	16.255	784.13	0.33	16.237	627.36	0.29	16.337	468.88	0.26
16.255	839.81	0.34	16.275	784.40	0.33	16.257	628.02	0.29	16.357	469.53	0.26

16.275	840.05	0.34	16.295	784.66	0.33	16.277	628.58	0.29	16.376	470.25	0.27
16.295	840.21	0.34	16.315	784.92	0.33	16.297	629.16	0.29	16.396	470.88	0.27
16.315	840.46	0.34	16.335	785.26	0.33	16.317	629.73	0.29	16.416	471.52	0.27
16.335	840.62	0.34	16.355	785.50	0.33	16.337	630.29	0.29	16.436	472.23	0.27
16.355	840.86	0.34	16.375	785.80	0.33	16.357	630.86	0.30	16.456	473.01	0.27
16.375	841.05	0.34	16.394	786.09	0.33	16.376	631.48	0.30	16.476	473.72	0.27
16.394	841.25	0.34	16.414	786.33	0.33	16.396	632.00	0.30	16.496	474.44	0.27
16.414	841.44	0.34	16.434	786.60	0.33	16.416	632.63	0.30	16.516	475.19	0.27
16.434	841.68	0.34	16.454	786.93	0.33	16.436	633.20	0.30	16.536	475.93	0.27
16.454	841.85	0.34	16.474	787.19	0.33	16.456	633.72	0.30	16.556	476.66	0.27
16.474	842.09	0.34	16.494	787.44	0.33	16.476	634.31	0.30	16.576	477.41	0.27
16.494	842.25	0.34	16.514	787.73	0.33	16.496	634.89	0.30	16.596	478.13	0.27
16.514	842.49	0.34	16.534	788.02	0.33	16.516	635.42	0.30	16.616	478.86	0.27
16.534	842.65	0.34	16.554	788.30	0.33	16.536	635.99	0.30	16.636	479.60	0.27
16.554	842.83	0.34	16.574	788.53	0.33	16.556	636.52	0.30	16.656	480.28	0.27
16.574	843.06	0.34	16.594	788.83	0.33	16.576	637.08	0.30	16.676	481.08	0.27
16.594	843.31	0.34	16.614	789.11	0.33	16.596	637.69	0.30	16.696	481.74	0.27
16.614	843.47	0.34	16.634	789.37	0.33	16.616	638.27	0.30	16.716	482.47	0.27
16.634	843.68	0.34	16.653	789.64	0.33	16.636	638.83	0.30	16.735	483.23	0.27
16.653	843.83	0.34	16.673	789.92	0.33	16.656	639.39	0.30	16.755	483.91	0.27
16.673	844.04	0.34	16.693	790.21	0.33	16.676	639.88	0.30	16.775	484.61	0.27
16.693	844.23	0.34	16.713	790.41	0.33	16.696	640.42	0.30	16.795	485.32	0.27
16.713	844.37	0.34	16.733	790.70	0.33	16.716	640.95	0.30	16.815	486.05	0.27
16.733	844.61	0.34	16.753	790.96	0.33	16.735	641.52	0.30	16.835	486.76	0.27
16.753	844.77	0.34	16.773	791.23	0.33	16.755	642.06	0.30	16.855	487.47	0.27
16.773	845.01	0.34	16.793	791.47	0.33	16.775	642.61	0.30	16.875	488.19	0.27
16.793	845.18	0.34	16.813	791.76	0.33	16.795	643.16	0.30	16.895	488.88	0.27
16.813	845.34	0.34	16.833	792.02	0.33	16.815	643.76	0.30	16.915	489.58	0.27
16.833	845.54	0.34	16.853	792.24	0.33	16.835	644.25	0.30	16.935	490.31	0.27
16.853	845.75	0.34	16.873	792.47	0.33	16.855	644.78	0.30	16.955	490.97	0.27
16.873	845.95	0.34	16.892	792.74	0.33	16.875	645.34	0.30	16.975	491.76	0.27
16.892	846.15	0.34	16.912	793.01	0.33	16.895	645.85	0.30	16.995	492.43	0.27
16.912	846.32	0.34	16.932	793.25	0.33	16.915	646.32	0.30	17.015	493.14	0.27
16.932	846.48	0.34	16.952	793.50	0.33	16.935	646.86	0.30	17.035	493.82	0.27
16.952	846.72	0.34	16.972	793.76	0.33	16.955	647.37	0.30	17.055	494.54	0.27
16.972	846.89	0.34	16.992	794.00	0.33	16.975	647.91	0.30	17.075	495.24	0.27
16.992	847.08	0.34	17.012	794.28	0.33	16.995	648.38	0.30	17.095	495.96	0.27
17.012	847.29	0.34	17.032	794.54	0.33	17.015	648.91	0.30	17.114	496.60	0.27
17.032	847.52	0.34	17.052	794.72	0.33	17.035	649.42	0.30	17.134	497.32	0.27
17.052	847.69	0.34	17.072	794.97	0.33	17.055	649.91	0.30	17.154	498.04	0.27
17.072	847.88	0.34	17.092	795.22	0.33	17.075	650.43	0.30	17.174	498.75	0.27
17.092	848.11	0.34	17.112	795.48	0.33	17.095	650.95	0.30	17.194	499.45	0.27
17.112	848.27	0.34	17.132	795.70	0.33	17.114	651.48	0.30	17.214	500.14	0.27
17.132	848.45	0.34	17.151	795.93	0.33	17.134	651.93	0.30	17.234	500.81	0.27
17.151	848.64	0.34	17.171	796.15	0.33	17.154	652.46	0.30	17.254	501.49	0.27

17.171	848.84	0.34	17.191	796.43	0.33	17.174	652.96	0.30	17.274	502.18	0.27
17.191	849.00	0.34	17.211	796.72	0.33	17.194	653.49	0.30	17.294	502.90	0.27
17.211	849.25	0.34	17.231	796.94	0.33	17.214	653.96	0.30	17.314	503.56	0.27
17.231	849.41	0.34	17.251	797.20	0.33	17.234	654.46	0.30	17.334	504.25	0.27
17.251	849.60	0.34	17.271	797.40	0.33	17.254	654.95	0.30	17.354	504.89	0.27
17.271	849.77	0.34	17.291	797.69	0.33	17.274	655.43	0.30	17.374	505.56	0.27
17.291	849.98	0.34	17.311	797.91	0.33	17.294	655.93	0.30	17.394	506.26	0.27
17.311	850.16	0.34	17.331	798.13	0.33	17.314	656.42	0.30	17.414	506.93	0.27
17.331	850.39	0.34	17.351	798.36	0.33	17.334	656.89	0.30	17.434	507.55	0.27
17.351	850.55	0.34	17.371	798.60	0.33	17.354	657.40	0.30	17.454	508.24	0.27
17.371	850.74	0.34	17.390	798.85	0.33	17.374	657.89	0.30	17.474	508.91	0.27
17.390	850.96	0.34	17.410	799.07	0.33	17.394	658.33	0.30	17.493	509.61	0.27
17.410	851.12	0.34	17.430	799.34	0.33	17.414	658.85	0.30	17.513	510.24	0.27
17.430	851.28	0.34	17.450	799.59	0.33	17.434	659.29	0.30	17.533	510.92	0.27
17.450	851.47	0.34	17.470	799.79	0.33	17.454	659.81	0.30	17.553	511.62	0.27
17.470	851.67	0.34	17.490	800.07	0.33	17.474	660.26	0.30	17.573	512.21	0.27
17.490	851.85	0.34	17.510	800.32	0.33	17.493	660.69	0.30	17.593	512.91	0.27
17.510	852.01	0.34	17.530	800.54	0.33	17.513	661.16	0.30	17.613	513.53	0.27
17.530	852.25	0.34	17.550	800.80	0.33	17.533	661.66	0.30	17.633	514.20	0.27
17.550	852.42	0.34	17.570	801.02	0.33	17.553	662.09	0.30	17.653	514.84	0.27
17.570	852.60	0.34	17.590	801.31	0.33	17.573	662.55	0.30	17.673	515.49	0.27
17.590	852.79	0.34	17.610	801.51	0.33	17.593	663.01	0.30	17.693	516.16	0.27
17.610	852.97	0.34	17.630	801.75	0.33	17.613	663.47	0.30	17.713	516.79	0.27
17.630	853.15	0.34	17.649	802.00	0.33	17.633	663.93	0.30	17.733	517.48	0.27
17.649	853.32	0.34	17.669	802.26	0.33	17.653	664.37	0.30	17.753	518.06	0.27
17.669	853.52	0.34	17.689	802.49	0.33	17.673	664.84	0.30	17.773	518.70	0.27
17.689	853.71	0.34	17.709	802.70	0.33	17.693	665.31	0.30	17.793	519.33	0.27
17.709	853.85	0.34	17.729	802.97	0.33	17.713	665.74	0.30	17.813	520.00	0.27
17.729	854.05	0.34	17.749	803.20	0.33	17.733	666.20	0.30	17.833	520.66	0.27
17.749	854.21	0.34	17.769	803.45	0.33	17.753	666.65	0.30	17.853	521.28	0.27
17.769	854.38	0.34	17.789	803.73	0.33	17.773	667.14	0.30	17.872	521.94	0.27
17.789	854.55	0.34	17.809	803.92	0.33	17.793	667.53	0.30	17.892	522.59	0.27
17.809	854.78	0.35	17.829	804.13	0.33	17.813	668.01	0.30	17.912	523.24	0.27
17.829	854.94	0.35	17.849	804.44	0.33	17.833	668.41	0.30	17.932	523.85	0.27
17.849	855.11	0.35	17.869	804.65	0.33	17.853	668.89	0.30	17.952	524.49	0.27
17.869	855.28	0.35	17.888	804.86	0.33	17.872	669.31	0.30	17.972	525.07	0.27
17.888	855.44	0.35	17.908	805.11	0.33	17.892	669.77	0.30	17.992	525.75	0.27
17.908	855.67	0.35	17.928	805.34	0.33	17.912	670.20	0.30	18.012	526.33	0.28
17.928	855.84	0.35	17.948	805.59	0.33	17.932	670.64	0.30	18.032	527.01	0.28
17.948	856.00	0.35	17.968	805.84	0.33	17.952	671.09	0.30	18.052	527.62	0.28
17.968	856.20	0.35	17.988	806.06	0.33	17.972	671.54	0.30	18.072	528.19	0.28
17.988	856.41	0.35	18.008	806.26	0.33	17.992	671.94	0.30	18.092	528.85	0.28
18.008	856.56	0.35	18.028	806.52	0.33	18.012	672.37	0.30	18.112	529.44	0.28
18.028	856.73	0.35	18.048	806.71	0.33	18.032	672.84	0.30	18.132	530.09	0.28
18.048	856.89	0.35	18.068	806.93	0.33	18.052	673.26	0.30	18.152	530.68	0.28

18.068	857.12	0.35	18.088	807.16	0.33	18.072	673.72	0.30	18.172	531.34	0.28
18.088	857.28	0.35	18.108	807.41	0.33	18.092	674.14	0.30	18.192	531.93	0.28
18.108	857.43	0.35	18.128	807.67	0.33	18.112	674.58	0.30	18.212	532.52	0.28
18.128	857.63	0.35	18.147	807.91	0.33	18.132	675.00	0.30	18.231	533.10	0.28
18.147	857.79	0.35	18.167	808.12	0.33	18.152	675.46	0.30	18.251	533.72	0.28
18.167	857.95	0.35	18.187	808.33	0.33	18.172	675.88	0.30	18.271	534.31	0.28
18.187	858.14	0.35	18.207	808.53	0.33	18.192	676.33	0.30	18.291	534.93	0.28
18.207	858.34	0.35	18.227	808.78	0.33	18.212	676.71	0.30	18.311	535.57	0.28
18.227	858.51	0.35	18.247	808.99	0.33	18.231	677.10	0.30	18.331	536.13	0.28
18.247	858.68	0.35	18.267	809.23	0.33	18.251	677.53	0.31	18.351	536.79	0.28
18.267	858.86	0.35	18.287	809.42	0.33	18.271	677.93	0.31	18.371	537.38	0.28
18.287	859.01	0.35	18.307	809.66	0.33	18.291	678.34	0.31	18.391	537.94	0.28
18.307	859.21	0.35	18.327	809.92	0.33	18.311	678.78	0.31	18.411	538.53	0.28
18.327	859.40	0.35	18.347	810.09	0.33	18.331	679.20	0.31	18.431	539.10	0.28
18.347	859.57	0.35	18.367	810.34	0.33	18.351	679.61	0.31	18.451	539.71	0.28
18.367	859.74	0.35	18.386	810.53	0.33	18.371	680.02	0.31	18.471	540.32	0.28
18.386	859.87	0.35	18.406	810.76	0.33	18.391	680.44	0.31	18.491	540.91	0.28
18.406	860.07	0.35	18.426	810.99	0.33	18.411	680.85	0.31	18.511	541.50	0.28
18.426	860.23	0.35	18.446	811.24	0.33	18.431	681.25	0.31	18.531	542.05	0.28
18.446	860.41	0.35	18.466	811.42	0.33	18.451	681.71	0.31	18.551	542.68	0.28
18.466	860.58	0.35	18.486	811.66	0.33	18.471	682.08	0.31	18.571	543.27	0.28
18.486	860.76	0.35	18.506	811.89	0.33	18.491	682.51	0.31	18.591	543.82	0.28
18.506	860.89	0.35	18.526	812.08	0.33	18.511	682.88	0.31	18.610	544.38	0.28
18.526	861.09	0.35	18.546	812.29	0.33	18.531	683.27	0.31	18.630	544.99	0.28
18.546	861.26	0.35	18.566	812.52	0.34	18.551	683.67	0.31	18.650	545.54	0.28
18.566	861.45	0.35	18.586	812.73	0.34	18.571	684.11	0.31	18.670	546.19	0.28
18.586	861.62	0.35	18.606	812.95	0.34	18.591	684.56	0.31	18.690	546.71	0.28
18.606	861.77	0.35	18.626	813.19	0.34	18.610	684.93	0.31	18.710	547.27	0.28
18.626	861.94	0.35	18.645	813.36	0.34	18.630	685.34	0.31	18.730	547.85	0.28
18.645	862.10	0.35	18.665	813.57	0.34	18.650	685.68	0.31	18.750	548.40	0.28
18.665	862.26	0.35	18.685	813.86	0.34	18.670	686.12	0.31	18.770	548.99	0.28
18.685	862.43	0.35	18.705	814.08	0.34	18.690	686.52	0.31	18.790	549.59	0.28
18.705	862.64	0.35	18.725	814.22	0.34	18.710	686.89	0.31	18.810	550.15	0.28
18.725	862.83	0.35	18.745	814.45	0.34	18.730	687.29	0.31	18.830	550.68	0.28
18.745	862.96	0.35	18.765	814.69	0.34	18.750	687.68	0.31	18.850	551.22	0.28
18.765	863.16	0.35	18.785	814.84	0.34	18.770	688.02	0.31	18.870	551.81	0.28
18.785	863.29	0.35	18.805	815.08	0.34	18.790	688.43	0.31	18.890	552.38	0.28
18.805	863.48	0.35	18.825	815.27	0.34	18.810	688.85	0.31	18.910	552.93	0.28
18.825	863.65	0.35	18.845	815.51	0.34	18.830	689.17	0.31	18.930	553.51	0.28
18.845	863.81	0.35	18.865	815.72	0.34	18.850	689.56	0.31	18.950	554.08	0.28
18.865	863.97	0.35	18.884	815.91	0.34	18.870	689.91	0.31	18.970	554.60	0.28
18.884	864.14	0.35	18.904	816.11	0.34	18.890	690.36	0.31	18.989	555.16	0.28
18.904	864.30	0.35	18.924	816.34	0.34	18.910	690.76	0.31	19.009	555.69	0.28
18.924	864.46	0.35	18.944	816.57	0.34	18.930	691.10	0.31	19.029	556.23	0.28
18.944	864.63	0.35	18.964	816.78	0.34	18.950	691.46	0.31	19.049	556.76	0.28

18.964	864.79	0.35	18.984	817.00	0.34	18.970	691.90	0.31	19.069	557.35	0.28
18.984	864.95	0.35	19.004	817.22	0.34	18.989	692.22	0.31	19.089	557.87	0.28
19.004	865.16	0.35	19.024	817.37	0.34	19.009	692.55	0.31	19.109	558.37	0.28
19.024	865.27	0.35	19.044	817.66	0.34	19.029	692.93	0.31	19.129	558.92	0.28
19.044	865.51	0.35	19.064	817.88	0.34	19.049	693.36	0.31	19.149	559.44	0.28
19.064	865.64	0.35	19.084	818.01	0.34	19.069	693.74	0.31	19.169	559.98	0.28
19.084	865.76	0.35	19.104	818.26	0.34	19.089	694.12	0.31	19.189	560.54	0.28
19.104	865.92	0.35	19.124	818.48	0.34	19.109	694.48	0.31	19.209	561.08	0.28
19.124	866.12	0.35	19.143	818.68	0.34	19.129	694.85	0.31	19.229	561.52	0.28
19.143	866.25	0.35	19.163	818.90	0.34	19.149	695.15	0.31	19.249	562.05	0.28
19.163	866.42	0.35	19.183	819.13	0.34	19.169	695.54	0.31	19.269	562.57	0.28
19.183	866.61	0.35	19.203	819.31	0.34	19.189	695.89	0.31	19.289	563.10	0.28
19.203	866.75	0.35	19.223	819.51	0.34	19.209	696.31	0.31	19.309	563.59	0.28
19.223	866.90	0.35	19.243	819.70	0.34	19.229	696.66	0.31	19.329	564.09	0.28
19.243	867.06	0.35	19.263	819.91	0.34	19.249	697.06	0.31	19.348	564.60	0.28
19.263	867.23	0.35	19.283	820.15	0.34	19.269	697.41	0.31	19.368	565.04	0.28
19.283	867.39	0.35	19.303	820.36	0.34	19.289	697.73	0.31	19.388	565.57	0.28
19.303	867.55	0.35	19.323	820.55	0.34	19.309	698.10	0.31	19.408	566.02	0.28
19.323	867.71	0.35	19.343	820.75	0.34	19.329	698.46	0.31	19.428	566.45	0.28
19.343	867.88	0.35	19.363	820.95	0.34	19.348	698.83	0.31	19.448	566.94	0.28
19.363	868.04	0.35	19.382	821.16	0.34	19.368	699.18	0.31	19.468	567.46	0.28
19.382	868.20	0.35	19.402	821.36	0.34	19.388	699.57	0.31	19.488	568.00	0.28
19.402	868.36	0.35	19.422	821.60	0.34	19.408	699.91	0.31	19.508	568.50	0.28
19.422	868.51	0.35	19.442	821.81	0.34	19.428	700.25	0.31	19.528	569.00	0.28
19.442	868.69	0.35	19.462	821.98	0.34	19.448	700.59	0.31	19.548	569.48	0.28
19.462	868.85	0.35	19.482	822.16	0.34	19.468	700.94	0.31	19.568	570.01	0.28
19.482	869.01	0.35	19.502	822.35	0.34	19.488	701.34	0.31	19.588	570.54	0.28
19.502	869.11	0.35	19.522	822.56	0.34	19.508	701.67	0.31	19.608	571.02	0.28
19.522	869.30	0.35	19.542	822.78	0.34	19.528	702.00	0.31	19.628	571.53	0.28
19.542	869.43	0.35	19.562	823.02	0.34	19.548	702.37	0.31	19.648	572.13	0.28
19.562	869.63	0.35	19.582	823.20	0.34	19.568	702.72	0.31	19.668	572.59	0.28
19.582	869.81	0.35	19.602	823.40	0.34	19.588	703.03	0.31	19.688	573.08	0.28
19.602	869.97	0.35	19.622	823.57	0.34	19.608	703.42	0.31	19.708	573.66	0.28
19.622	870.10	0.35	19.641	823.75	0.34	19.628	703.75	0.31	19.727	574.15	0.28
19.641	870.23	0.35	19.661	823.94	0.34	19.648	704.10	0.31	19.747	574.65	0.28
19.661	870.40	0.35	19.681	824.20	0.34	19.668	704.43	0.31	19.767	575.10	0.28
19.681	870.58	0.35	19.701	824.39	0.34	19.688	704.85	0.31	19.787	575.61	0.28
19.701	870.72	0.35	19.721	824.59	0.34	19.708	705.15	0.31	19.807	576.12	0.28
19.721	870.88	0.35	19.741	824.79	0.34	19.727	705.48	0.31	19.827	576.62	0.28
19.741	871.04	0.35	19.761	824.97	0.34	19.747	705.81	0.31	19.847	577.08	0.28
19.761	871.21	0.35	19.781	825.14	0.34	19.767	706.19	0.31	19.867	577.65	0.28
19.781	871.37	0.35	19.801	825.31	0.34	19.787	706.52	0.31	19.887	578.10	0.28
19.801	871.53	0.35	19.821	825.51	0.34	19.807	706.82	0.31	19.907	578.57	0.28
19.821	871.64	0.35	19.841	825.76	0.34	19.827	707.21	0.31	19.927	579.07	0.29
19.841	871.86	0.35	19.861	825.94	0.34	19.847	707.50	0.31	19.947	579.54	0.29

19.861	871.97	0.35	19.880	826.11	0.34	19.867	707.88	0.31	19.967	580.05	0.29
19.880	872.17	0.35	19.900	826.37	0.34	19.887	708.18	0.31	19.987	580.50	0.29
19.900	872.32	0.35	19.920	826.55	0.34	19.907	708.56	0.31	20.007	581.01	0.29
19.920	872.43	0.35	19.940	826.73	0.34	19.927	708.84	0.31	20.027	581.47	0.29
19.940	872.62	0.35	19.960	826.92	0.34	19.947	709.21	0.31	20.047	581.99	0.29
19.960	872.75	0.35	19.980	827.10	0.34	19.967	709.50	0.31	20.067	582.40	0.29
19.980	872.92	0.35	20.000	827.27	0.34	19.987	709.82	0.31	20.087	582.94	0.29
20.000	873.08	0.35				20.007	710.19	0.31	20.106	583.44	0.29
						20.027	710.49	0.31	20.126	583.90	0.29
						20.047	710.85	0.31	20.146	584.39	0.29
						20.067	711.13	0.31	20.166	584.90	0.29
						20.087	711.49	0.31	20.186	585.39	0.29
						20.106	711.82	0.31	20.206	585.82	0.29
						20.126	712.13	0.31	20.226	586.31	0.29
						20.146	712.45	0.31	20.246	586.76	0.29
						20.166	712.77	0.31	20.266	587.28	0.29
						20.186	713.07	0.31	20.286	587.73	0.29
						20.206	713.38	0.31	20.306	588.18	0.29
						20.226	713.70	0.31	20.326	588.65	0.29
						20.246	714.05	0.31	20.346	589.16	0.29
						20.266	714.32	0.31	20.366	589.62	0.29
						20.286	714.68	0.31	20.386	590.08	0.29
						20.306	714.96	0.31	20.406	590.52	0.29
						20.326	715.31	0.31	20.426	591.01	0.29
						20.346	715.59	0.31	20.446	591.50	0.29
						20.366	715.85	0.31	20.466	591.95	0.29
						20.386	716.19	0.31	20.485	592.38	0.29
						20.406	716.50	0.31	20.505	592.87	0.29
						20.426	716.79	0.31	20.525	593.34	0.29
						20.446	717.09	0.31	20.545	593.78	0.29
						20.466	717.41	0.31	20.565	594.24	0.29
						20.485	717.72	0.31	20.585	594.71	0.29
						20.505	717.97	0.31	20.605	595.16	0.29
						20.525	718.27	0.31	20.625	595.63	0.29
						20.545	718.55	0.31	20.645	596.04	0.29
						20.565	718.84	0.31	20.665	596.49	0.29
						20.585	719.10	0.31	20.685	596.96	0.29
						20.605	719.41	0.31	20.705	597.35	0.29
						20.625	719.72	0.31	20.725	597.82	0.29
						20.645	719.99	0.31	20.745	598.31	0.29
						20.665	720.26	0.31	20.765	598.74	0.29
						20.685	720.50	0.31	20.785	599.18	0.29
						20.705	720.83	0.31	20.805	599.60	0.29
						20.725	721.06	0.31	20.825	600.05	0.29
						20.745	721.32	0.31	20.844	600.46	0.29

						20.765	721.64	0.31	20.864	600.96	0.29
						20.785	721.96	0.31	20.884	601.40	0.29
						20.805	722.22	0.31	20.904	601.78	0.29
						20.825	722.53	0.31	20.924	602.19	0.29
						20.844	722.85	0.31	20.944	602.66	0.29
						20.864	723.18	0.31	20.964	603.11	0.29
						20.884	723.43	0.31	20.984	603.54	0.29
						20.904	723.75	0.32	21.004	603.94	0.29
						20.924	723.99	0.32	21.024	604.37	0.29
						20.944	724.31	0.32	21.044	604.86	0.29
						20.964	724.63	0.32	21.064	605.27	0.29
						20.984	724.95	0.32	21.084	605.69	0.29
						21.004	725.19	0.32	21.104	606.11	0.29
						21.024	725.52	0.32	21.124	606.57	0.29
						21.044	725.76	0.32	21.144	606.94	0.29
						21.064	726.08	0.32	21.164	607.38	0.29
						21.084	726.36	0.32	21.184	607.82	0.29
						21.104	726.72	0.32	21.204	608.27	0.29
						21.124	726.97	0.32	21.223	608.69	0.29
						21.144	727.24	0.32	21.243	609.10	0.29
						21.164	727.54	0.32	21.263	609.53	0.29
						21.184	727.85	0.32	21.283	609.93	0.29
						21.204	728.18	0.32	21.303	610.31	0.29
						21.223	728.48	0.32	21.323	610.79	0.29
						21.243	728.71	0.32	21.343	611.22	0.29
						21.263	728.99	0.32	21.363	611.61	0.29
						21.283	729.31	0.32	21.383	612.05	0.29
						21.303	729.59	0.32	21.403	612.46	0.29
						21.323	729.88	0.32	21.423	612.85	0.29
						21.343	730.20	0.32	21.443	613.27	0.29
						21.363	730.44	0.32	21.463	613.69	0.29
						21.383	730.74	0.32	21.483	614.09	0.29
						21.403	731.01	0.32	21.503	614.53	0.29
						21.423	731.28	0.32	21.523	614.92	0.29
						21.443	731.57	0.32	21.543	615.28	0.29
						21.463	731.86	0.32	21.563	615.71	0.29
						21.483	732.14	0.32	21.583	616.12	0.29
						21.503	732.38	0.32	21.602	616.55	0.29
						21.523	732.71	0.32	21.622	616.92	0.29
						21.543	732.96	0.32	21.642	617.34	0.29
						21.563	733.27	0.32	21.662	617.71	0.29
						21.583	733.51	0.32	21.682	618.12	0.29
						21.602	733.79	0.32	21.702	618.53	0.29
						21.622	734.08	0.32	21.722	618.92	0.29
						21.642	734.40	0.32	21.742	619.32	0.29

						21.662	734.62	0.32	21.762	619.74	0.29
						21.682	734.93	0.32	21.782	620.16	0.29
						21.702	735.21	0.32	21.802	620.48	0.29
						21.722	735.45	0.32	21.822	620.87	0.29
						21.742	735.75	0.32	21.842	621.28	0.29
						21.762	736.02	0.32	21.862	621.69	0.29
						21.782	736.26	0.32	21.882	622.09	0.29
						21.802	736.56	0.32	21.902	622.49	0.29
						21.822	736.82	0.32	21.922	622.91	0.29
						21.842	737.08	0.32	21.942	623.29	0.29
						21.862	737.39	0.32	21.962	623.67	0.29
						21.882	737.63	0.32	21.981	624.02	0.29
						21.902	737.94	0.32	22.001	624.42	0.29
						21.922	738.17	0.32	22.021	624.83	0.29
						21.942	738.42	0.32	22.041	625.21	0.29
						21.962	738.75	0.32	22.061	625.61	0.29
						21.981	738.94	0.32	22.081	625.98	0.29
						22.001	739.25	0.32	22.101	626.37	0.29
						22.021	739.53	0.32	22.121	626.77	0.29
						22.041	739.77	0.32	22.141	627.11	0.29
						22.061	740.04	0.32	22.161	627.52	0.29
						22.081	740.32	0.32	22.181	627.90	0.29
						22.101	740.55	0.32	22.201	628.24	0.29
						22.121	740.81	0.32	22.221	628.68	0.30
						22.141	741.11	0.32	22.241	629.02	0.30
						22.161	741.39	0.32	22.261	629.43	0.30
						22.181	741.62	0.32	22.281	629.79	0.30
						22.201	741.91	0.32	22.301	630.17	0.30
						22.221	742.12	0.32	22.321	630.52	0.30
						22.241	742.41	0.32	22.340	630.88	0.30
						22.261	742.68	0.32	22.360	631.29	0.30
						22.281	742.90	0.32	22.380	631.67	0.30
						22.301	743.21	0.32	22.400	632.02	0.30
						22.321	743.44	0.32	22.420	632.40	0.30
						22.340	743.69	0.32	22.440	632.78	0.30
						22.360	743.95	0.32	22.460	633.13	0.30
						22.380	744.23	0.32	22.480	633.49	0.30
						22.400	744.50	0.32	22.500	633.86	0.30
						22.420	744.74	0.32	22.520	634.26	0.30
						22.440	745.00	0.32	22.540	634.60	0.30
						22.460	745.22	0.32	22.560	634.99	0.30
						22.480	745.47	0.32	22.580	635.30	0.30
						22.500	745.73	0.32	22.600	635.72	0.30
						22.520	746.03	0.32	22.620	636.08	0.30
						22.540	746.28	0.32	22.640	636.42	0.30

						22.560	746.52	0.32	22.660	636.82	0.30
						22.580	746.79	0.32	22.680	637.15	0.30
						22.600	747.00	0.32	22.700	637.55	0.30
						22.620	747.24	0.32	22.719	637.85	0.30
						22.640	747.52	0.32	22.739	638.26	0.30
						22.660	747.79	0.32	22.759	638.62	0.30
						22.680	748.05	0.32	22.779	638.95	0.30
						22.700	748.26	0.32	22.799	639.33	0.30
						22.719	748.52	0.32	22.819	639.71	0.30
						22.739	748.75	0.32	22.839	640.06	0.30
						22.759	749.02	0.32	22.859	640.40	0.30
						22.779	749.26	0.32	22.879	640.77	0.30
						22.799	749.54	0.32	22.899	641.17	0.30
						22.819	749.79	0.32	22.919	641.49	0.30
						22.839	749.99	0.32	22.939	641.86	0.30
						22.859	750.23	0.32	22.959	642.22	0.30
						22.879	750.47	0.32	22.979	642.54	0.30
						22.899	750.73	0.32	22.999	642.88	0.30
						22.919	750.97	0.32	23.019	643.23	0.30
						22.939	751.21	0.32	23.039	643.63	0.30
						22.959	751.44	0.32	23.059	643.97	0.30
						22.979	751.71	0.32	23.079	644.29	0.30
						22.999	751.97	0.32	23.098	644.64	0.30
						23.019	752.21	0.32	23.118	644.96	0.30
						23.039	752.42	0.32	23.138	645.39	0.30
						23.059	752.66	0.32	23.158	645.69	0.30
						23.079	752.92	0.32	23.178	645.99	0.30
						23.098	753.21	0.32	23.198	646.43	0.30
						23.118	753.43	0.32	23.218	646.71	0.30
						23.138	753.67	0.32	23.238	647.05	0.30
						23.158	753.93	0.32	23.258	647.42	0.30
						23.178	754.09	0.32	23.278	647.76	0.30
						23.198	754.38	0.32	23.298	648.07	0.30
						23.218	754.60	0.32	23.318	648.46	0.30
						23.238	754.83	0.32	23.338	648.75	0.30
						23.258	755.08	0.32	23.358	649.10	0.30
						23.278	755.32	0.32	23.378	649.46	0.30
						23.298	755.57	0.32	23.398	649.76	0.30
						23.318	755.80	0.32	23.418	650.11	0.30
						23.338	756.00	0.32	23.438	650.43	0.30
						23.358	756.29	0.32	23.458	650.79	0.30
						23.378	756.48	0.32	23.477	651.12	0.30
						23.398	756.72	0.32	23.497	651.44	0.30
						23.418	756.96	0.32	23.517	651.77	0.30
						23.438	757.18	0.32	23.537	652.13	0.30

						23.458	757.46	0.32	23.557	652.44	0.30
						23.477	757.68	0.32	23.577	652.75	0.30
						23.497	757.94	0.32	23.597	653.08	0.30
						23.517	758.14	0.32	23.617	653.41	0.30
						23.537	758.39	0.32	23.637	653.79	0.30
						23.557	758.63	0.32	23.657	654.05	0.30
						23.577	758.87	0.32	23.677	654.42	0.30
						23.597	759.09	0.32	23.697	654.79	0.30
						23.617	759.31	0.32	23.717	655.09	0.30
						23.637	759.59	0.32	23.737	655.43	0.30
						23.657	759.82	0.32	23.757	655.72	0.30
						23.677	760.03	0.32	23.777	656.08	0.30
						23.697	760.26	0.32	23.797	656.42	0.30
						23.717	760.50	0.32	23.817	656.72	0.30
						23.737	760.73	0.32	23.836	657.02	0.30
						23.757	760.98	0.32	23.856	657.31	0.30
						23.777	761.15	0.32	23.876	657.65	0.30
						23.797	761.40	0.32	23.896	658.02	0.30
						23.817	761.63	0.32	23.916	658.32	0.30
						23.836	761.87	0.32	23.936	658.64	0.30
						23.856	762.04	0.32	23.956	658.95	0.30
						23.876	762.29	0.32	23.976	659.27	0.30
						23.896	762.55	0.32	23.996	659.54	0.30
						23.916	762.79	0.32	24.016	659.86	0.30
						23.936	763.03	0.32	24.036	660.17	0.30
						23.956	763.25	0.32	24.056	660.50	0.30
						23.976	763.40	0.32	24.076	660.84	0.30
						23.996	763.64	0.32	24.096	661.16	0.30
						24.016	763.88	0.32	24.116	661.45	0.30
						24.036	764.12	0.32	24.136	661.75	0.30
						24.056	764.29	0.32	24.156	662.04	0.30
						24.076	764.55	0.32	24.176	662.40	0.30
						24.096	764.77	0.32	24.196	662.69	0.30
						24.116	765.03	0.32	24.215	662.96	0.30
						24.136	765.19	0.32	24.235	663.25	0.30
						24.156	765.43	0.32	24.255	663.61	0.30
						24.176	765.67	0.32	24.275	663.89	0.30
						24.196	765.90	0.32	24.295	664.18	0.30
						24.215	766.12	0.32	24.315	664.46	0.30
						24.235	766.30	0.32	24.335	664.77	0.30
						24.255	766.52	0.32	24.355	665.07	0.30
						24.275	766.72	0.32	24.375	665.33	0.30
						24.295	766.97	0.32	24.395	665.68	0.30
						24.315	767.21	0.32	24.415	665.93	0.30
						24.335	767.43	0.32	24.435	666.25	0.30

						24.355	767.62	0.32	24.455	666.55	0.30
						24.375	767.82	0.32	24.475	666.81	0.30
						24.395	768.04	0.32	24.495	667.05	0.30
						24.415	768.19	0.32	24.515	667.36	0.30
						24.435	768.42	0.32	24.535	667.62	0.30
						24.455	768.63	0.32	24.555	667.94	0.30
						24.475	768.84	0.33	24.575	668.24	0.30
						24.495	769.05	0.33	24.594	668.53	0.30
						24.515	769.26	0.33	24.614	668.83	0.30
						24.535	769.44	0.33	24.634	669.15	0.30
						24.555	769.67	0.33	24.654	669.44	0.30
						24.575	769.86	0.33	24.674	669.71	0.30
						24.594	770.10	0.33	24.694	670.00	0.30
						24.614	770.30	0.33	24.714	670.31	0.30
						24.634	770.50	0.33	24.734	670.60	0.30
						24.654	770.72	0.33	24.754	670.94	0.30
						24.674	770.93	0.33	24.774	671.23	0.30
						24.694	771.15	0.33	24.794	671.47	0.30
						24.714	771.33	0.33	24.814	671.80	0.30
						24.734	771.55	0.33	24.834	672.07	0.30
						24.754	771.79	0.33	24.854	672.36	0.30
						24.774	771.96	0.33	24.874	672.68	0.30
						24.794	772.20	0.33	24.894	672.98	0.30
						24.814	772.36	0.33	24.914	673.24	0.30
						24.834	772.60	0.33	24.934	673.55	0.30
						24.854	772.84	0.33	24.954	673.86	0.30
						24.874	773.04	0.33	24.973	674.12	0.30
						24.894	773.25	0.33	24.993	674.45	0.30
						24.914	773.42	0.33	25.013	674.70	0.30
						24.934	773.65	0.33	25.033	675.06	0.30
						24.954	773.82	0.33	25.053	675.33	0.30
						24.973	774.05	0.33	25.073	675.59	0.30
						24.993	774.28	0.33	25.093	675.88	0.30
						25.013	774.46	0.33	25.113	676.18	0.30
						25.033	774.70	0.33	25.133	676.50	0.30
						25.053	774.89	0.33	25.153	676.77	0.30
						25.073	775.10	0.33	25.173	677.07	0.31
						25.093	775.27	0.33	25.193	677.36	0.31
						25.113	775.52	0.33	25.213	677.66	0.31
						25.133	775.67	0.33	25.233	677.92	0.31
						25.153	775.91	0.33	25.253	678.21	0.31
						25.173	776.11	0.33	25.273	678.50	0.31
						25.193	776.31	0.33	25.293	678.82	0.31
						25.213	776.53	0.33	25.313	679.10	0.31
						25.233	776.72	0.33	25.332	679.39	0.31

						25.253	776.93	0.33	25.352	679.67	0.31
						25.273	777.15	0.33	25.372	679.99	0.31
						25.293	777.32	0.33	25.392	680.23	0.31
						25.313	777.53	0.33	25.412	680.52	0.31
						25.332	777.77	0.33	25.432	680.79	0.31
						25.352	777.93	0.33	25.452	681.07	0.31
						25.372	778.17	0.33	25.472	681.40	0.31
						25.392	778.34	0.33	25.492	681.67	0.31
						25.412	778.57	0.33	25.512	681.91	0.31
						25.432	778.77	0.33	25.532	682.24	0.31
						25.452	778.98	0.33	25.552	682.51	0.31
						25.472	779.20	0.33	25.572	682.76	0.31
						25.492	779.34	0.33	25.592	683.02	0.31
						25.512	779.57	0.33	25.612	683.35	0.31
						25.532	779.77	0.33	25.632	683.64	0.31
						25.552	779.95	0.33	25.652	683.86	0.31
						25.572	780.19	0.33	25.672	684.16	0.31
						25.592	780.35	0.33	25.692	684.44	0.31
						25.612	780.59	0.33	25.711	684.72	0.31
						25.632	780.77	0.33	25.731	684.97	0.31
						25.652	781.00	0.33	25.751	685.29	0.31
						25.672	781.21	0.33	25.771	685.56	0.31
						25.692	781.40	0.33	25.791	685.82	0.31
						25.711	781.56	0.33	25.811	686.10	0.31
						25.731	781.80	0.33	25.831	686.37	0.31
						25.751	781.99	0.33	25.851	686.65	0.31
						25.771	782.16	0.33	25.871	686.93	0.31
						25.791	782.38	0.33	25.891	687.22	0.31
						25.811	782.55	0.33	25.911	687.46	0.31
						25.831	782.78	0.33	25.931	687.77	0.31
						25.851	782.94	0.33	25.951	687.99	0.31
						25.871	783.18	0.33	25.971	688.31	0.31
						25.891	783.34	0.33	25.991	688.58	0.31
						25.911	783.55	0.33	26.011	688.83	0.31
						25.931	783.74	0.33	26.031	689.06	0.31
						25.951	783.95	0.33	26.051	689.34	0.31
						25.971	784.15	0.33	26.071	689.64	0.31
						25.991	784.39	0.33	26.090	689.92	0.31
						26.011	784.55	0.33	26.110	690.18	0.31
						26.031	784.73	0.33	26.130	690.45	0.31
						26.051	784.96	0.33	26.150	690.73	0.31
						26.071	785.14	0.33	26.170	690.96	0.31
						26.090	785.33	0.33	26.190	691.23	0.31
						26.110	785.52	0.33	26.210	691.53	0.31
						26.130	785.73	0.33	26.230	691.79	0.31

						26.150	785.92	0.33	26.250	692.01	0.31
						26.170	786.09	0.33	26.270	692.27	0.31
						26.190	786.26	0.33	26.290	692.54	0.31
						26.210	786.49	0.33	26.310	692.79	0.31
						26.230	786.68	0.33	26.330	693.05	0.31
						26.250	786.86	0.33	26.350	693.32	0.31
						26.270	787.04	0.33	26.370	693.60	0.31
						26.290	787.22	0.33	26.390	693.81	0.31
						26.310	787.44	0.33	26.410	694.09	0.31
						26.330	787.62	0.33	26.430	694.33	0.31
						26.350	787.83	0.33	26.450	694.63	0.31
						26.370	788.02	0.33	26.469	694.91	0.31
						26.390	788.19	0.33	26.489	695.12	0.31
						26.410	788.35	0.33	26.509	695.38	0.31
						26.430	788.59	0.33	26.529	695.68	0.31
						26.450	788.75	0.33	26.549	695.97	0.31
						26.469	788.91	0.33	26.569	696.20	0.31
						26.489	789.13	0.33	26.589	696.43	0.31
						26.509	789.32	0.33	26.609	696.68	0.31
						26.529	789.48	0.33	26.629	696.96	0.31
						26.549	789.68	0.33	26.649	697.17	0.31
						26.569	789.86	0.33	26.669	697.48	0.31
						26.589	790.04	0.33	26.689	697.72	0.31
						26.609	790.24	0.33	26.709	697.92	0.31
						26.629	790.45	0.33	26.729	698.20	0.31
						26.649	790.61	0.33	26.749	698.43	0.31
						26.669	790.80	0.33	26.769	698.75	0.31
						26.689	791.01	0.33	26.789	698.98	0.31
						26.709	791.12	0.33	26.809	699.19	0.31
						26.729	791.33	0.33	26.828	699.42	0.31
						26.749	791.50	0.33	26.848	699.70	0.31
						26.769	791.74	0.33	26.868	699.92	0.31
						26.789	791.89	0.33	26.888	700.22	0.31
						26.809	792.06	0.33	26.908	700.42	0.31
						26.828	792.29	0.33	26.928	700.71	0.31
						26.848	792.43	0.33	26.948	700.92	0.31
						26.868	792.62	0.33	26.968	701.14	0.31
						26.888	792.79	0.33	26.988	701.36	0.31
						26.908	792.97	0.33	27.008	701.63	0.31
						26.928	793.19	0.33	27.028	701.86	0.31
						26.948	793.35	0.33	27.048	702.07	0.31
						26.968	793.57	0.33	27.068	702.33	0.31
						26.988	793.73	0.33	27.088	702.56	0.31
						27.008	793.92	0.33	27.108	702.85	0.31
						27.028	794.08	0.33	27.128	703.08	0.31

						27.048	794.24	0.33	27.148	703.36	0.31
						27.068	794.46	0.33	27.168	703.59	0.31
						27.088	794.63	0.33	27.188	703.85	0.31
						27.108	794.83	0.33	27.207	704.08	0.31
						27.128	795.01	0.33	27.227	704.32	0.31
						27.148	795.15	0.33	27.247	704.56	0.31
						27.168	795.37	0.33	27.267	704.80	0.31
						27.188	795.53	0.33	27.287	705.11	0.31
						27.207	795.69	0.33	27.307	705.28	0.31
						27.227	795.87	0.33	27.327	705.58	0.31
						27.247	796.10	0.33	27.347	705.78	0.31
						27.267	796.26	0.33	27.367	706.03	0.31
						27.287	796.42	0.33	27.387	706.30	0.31
						27.307	796.61	0.33	27.407	706.56	0.31
						27.327	796.77	0.33	27.427	706.81	0.31
						27.347	796.95	0.33	27.447	707.00	0.31
						27.367	797.15	0.33	27.467	707.26	0.31
						27.387	797.33	0.33	27.487	707.52	0.31
						27.407	797.52	0.33	27.507	707.70	0.31
						27.427	797.70	0.33	27.527	707.95	0.31
						27.447	797.83	0.33	27.547	708.25	0.31
						27.467	798.03	0.33	27.567	708.47	0.31
						27.487	798.19	0.33	27.586	708.72	0.31
						27.507	798.36	0.33	27.606	708.90	0.31
						27.527	798.54	0.33	27.626	709.22	0.31
						27.547	798.76	0.33	27.646	709.42	0.31
						27.567	798.92	0.33	27.666	709.69	0.31
						27.586	799.11	0.33	27.686	709.89	0.31
						27.606	799.24	0.33	27.706	710.15	0.31
						27.626	799.43	0.33	27.726	710.34	0.31
						27.646	799.58	0.33	27.746	710.60	0.31
						27.666	799.81	0.33	27.766	710.83	0.31
						27.686	799.97	0.33	27.786	711.07	0.31
						27.706	800.13	0.33	27.806	711.31	0.31
						27.726	800.33	0.33	27.826	711.55	0.31
						27.746	800.45	0.33	27.846	711.79	0.31
						27.766	800.65	0.33	27.866	712.03	0.31
						27.786	800.79	0.33	27.886	712.21	0.31
						27.806	801.01	0.33	27.906	712.51	0.31
						27.826	801.15	0.33	27.926	712.72	0.31
						27.846	801.34	0.33	27.945	712.96	0.31
						27.866	801.55	0.33	27.965	713.16	0.31
						27.886	801.66	0.33	27.985	713.41	0.31
						27.906	801.84	0.33	28.005	713.64	0.31
						27.926	802.07	0.33	28.025	713.88	0.31

						27.945	802.19	0.33	28.045	714.11	0.31
						27.965	802.39	0.33	28.065	714.34	0.31
						27.985	802.54	0.33	28.085	714.60	0.31
						28.005	802.71	0.33	28.105	714.80	0.31
						28.025	802.88	0.33	28.125	715.06	0.31
						28.045	803.06	0.33	28.145	715.31	0.31
						28.065	803.20	0.33	28.165	715.47	0.31
						28.085	803.39	0.33	28.185	715.73	0.31
						28.105	803.54	0.33	28.205	715.96	0.31
						28.125	803.75	0.33	28.225	716.17	0.31
						28.145	803.86	0.33	28.245	716.40	0.31
						28.165	804.09	0.33	28.265	716.67	0.31
						28.185	804.25	0.33	28.285	716.85	0.31
						28.205	804.41	0.33	28.305	717.07	0.31
						28.225	804.57	0.33	28.324	717.33	0.31
						28.245	804.73	0.33	28.344	717.54	0.31
						28.265	804.89	0.33	28.364	717.81	0.31
						28.285	805.05	0.33	28.384	718.01	0.31
						28.305	805.23	0.33	28.404	718.22	0.31
						28.324	805.38	0.33	28.424	718.42	0.31
						28.344	805.59	0.33	28.444	718.65	0.31
						28.364	805.75	0.33	28.464	718.86	0.31
						28.384	805.90	0.33	28.484	719.14	0.31
						28.404	806.08	0.33	28.504	719.34	0.31
						28.424	806.25	0.33	28.524	719.59	0.31
						28.444	806.43	0.33	28.544	719.79	0.31
						28.464	806.54	0.33	28.564	719.98	0.31
						28.484	806.72	0.33	28.584	720.22	0.31
						28.504	806.91	0.33	28.604	720.46	0.31
						28.524	807.07	0.33	28.624	720.67	0.31
						28.544	807.23	0.33	28.644	720.87	0.31
						28.564	807.39	0.33	28.664	721.11	0.31
						28.584	807.51	0.33	28.684	721.33	0.31
						28.604	807.72	0.33	28.703	721.57	0.31
						28.624	807.88	0.33	28.723	721.81	0.31
						28.644	808.05	0.33	28.743	722.01	0.31
						28.664	808.20	0.33	28.763	722.22	0.31
						28.684	808.36	0.33	28.783	722.47	0.31
						28.703	808.52	0.33	28.803	722.66	0.31
						28.723	808.69	0.33	28.823	722.86	0.31
						28.743	808.87	0.33	28.843	723.11	0.31
						28.763	809.03	0.33	28.863	723.31	0.31
						28.783	809.17	0.33	28.883	723.55	0.32
						28.803	809.34	0.33	28.903	723.74	0.32
						28.823	809.53	0.33	28.923	723.99	0.32

						28.843	809.65	0.33	28.943	724.17	0.32
						28.863	809.81	0.33	28.963	724.44	0.32
						28.883	810.02	0.33	28.983	724.62	0.32
						28.903	810.14	0.33	29.003	724.87	0.32
						28.923	810.35	0.33	29.023	725.04	0.32
						28.943	810.46	0.33	29.043	725.23	0.32
						28.963	810.63	0.33	29.063	725.49	0.32
						28.983	810.82	0.33	29.082	725.74	0.32
						29.003	810.98	0.33	29.102	725.92	0.32
						29.023	811.11	0.33	29.122	726.11	0.32
						29.043	811.27	0.33	29.142	726.35	0.32
						29.063	811.43	0.33	29.162	726.57	0.32
						29.082	811.60	0.33	29.182	726.75	0.32
						29.102	811.80	0.33	29.202	727.00	0.32
						29.122	811.93	0.33	29.222	727.21	0.32
						29.142	812.07	0.33	29.242	727.40	0.32
						29.162	812.23	0.33	29.262	727.63	0.32
						29.182	812.40	0.33	29.282	727.83	0.32
						29.202	812.58	0.33	29.302	728.06	0.32
						29.222	812.72	0.33	29.322	728.29	0.32
						29.242	812.88	0.33	29.342	728.44	0.32
						29.262	813.05	0.34	29.362	728.67	0.32
						29.282	813.23	0.34	29.382	728.89	0.32
						29.302	813.36	0.34	29.402	729.10	0.32
						29.322	813.50	0.34	29.422	729.30	0.32
						29.342	813.69	0.34	29.441	729.53	0.32
						29.362	813.85	0.34	29.461	729.78	0.32
						29.382	814.01	0.34	29.481	729.98	0.32
						29.402	814.17	0.34	29.501	730.19	0.32
						29.422	814.33	0.34	29.521	730.36	0.32
						29.441	814.49	0.34	29.541	730.56	0.32
						29.461	814.65	0.34	29.561	730.78	0.32
						29.481	814.82	0.34	29.581	730.99	0.32
						29.501	814.95	0.34	29.601	731.20	0.32
						29.521	815.13	0.34	29.621	731.41	0.32
						29.541	815.22	0.34	29.641	731.64	0.32
						29.561	815.43	0.34	29.661	731.84	0.32
						29.581	815.58	0.34	29.681	732.06	0.32
						29.601	815.72	0.34	29.701	732.27	0.32
						29.621	815.87	0.34	29.721	732.48	0.32
						29.641	816.03	0.34	29.741	732.65	0.32
						29.661	816.18	0.34	29.761	732.84	0.32
						29.681	816.35	0.34	29.781	733.03	0.32
						29.701	816.51	0.34	29.801	733.23	0.32
						29.721	816.67	0.34	29.820	733.47	0.32

						29.741	816.80	0.34	29.840	733.70	0.32
						29.761	816.97	0.34	29.860	733.86	0.32
						29.781	817.11	0.34	29.880	734.06	0.32
						29.801	817.25	0.34	29.900	734.28	0.32
						29.820	817.40	0.34	29.920	734.50	0.32
						29.840	817.56	0.34	29.940	734.69	0.32
						29.860	817.72	0.34	29.960	734.91	0.32
						29.880	817.88	0.34	29.980	735.09	0.32
						29.900	818.02	0.34	30.000	735.51	0.32
						29.920	818.18	0.34			
						29.940	818.37	0.34			
						29.960	818.52	0.34			
						29.980	818.64	0.34			
						30.000	818.78	0.34			

x_{CO_2} = 0.9879; x_{SO_2} = 0.0009; x_{CO} = 0.0112											
***T*= 373.17±0.01 K**											
p **(MPa)**	$\boldsymbol{\rho}$ **(kg.m^{-3})**	$\boldsymbol{u(\rho)}$ **(kg.m^{-3})**									
0.100	1.36	0.22									
0.120	1.65	0.22									
0.140	1.93	0.22									
0.160	2.22	0.22									
0.180	2.51	0.22									
0.200	2.80	0.22									
0.220	3.09	0.22									
0.240	3.36	0.22									
0.260	3.65	0.22									
0.280	3.92	0.22									
0.299	4.22	0.22									
0.319	4.50	0.22									
0.339	4.79	0.22									
0.359	5.09	0.22									
0.379	5.35	0.22									
0.399	5.64	0.22									
0.419	5.93	0.22									
0.439	6.21	0.22									
0.459	6.54	0.22									
0.479	6.79	0.22									
0.499	7.07	0.22									
0.519	7.38	0.22									
0.539	7.66	0.22									

0.559	7.93	0.22									
0.579	8.26	0.22									
0.599	8.46	0.22									
0.619	8.81	0.22									
0.639	9.07	0.22									
0.659	9.39	0.22									
0.678	9.66	0.22									
0.698	9.92	0.22									
0.718	10.22	0.22									
0.738	10.50	0.22									
0.758	10.82	0.22									
0.778	11.12	0.22									
0.798	11.44	0.22									
0.818	11.68	0.22									
0.838	11.97	0.22									
0.858	12.25	0.22									
0.878	12.57	0.22									
0.898	12.87	0.22									
0.918	13.15	0.22									
0.938	13.45	0.22									
0.958	13.74	0.22									
0.978	14.06	0.22									
0.998	14.39	0.22									
1.018	14.71	0.22									
1.037	14.99	0.22									
1.057	15.30	0.22									
1.077	15.58	0.22									
1.097	15.92	0.22									
1.117	16.18	0.22									
1.137	16.47	0.22									
1.157	16.77	0.22									
1.177	17.08	0.22									
1.197	17.39	0.22									
1.217	17.70	0.22									
1.237	18.00	0.22									
1.257	18.29	0.22									
1.277	18.56	0.22									
1.297	18.87	0.22									
1.317	19.18	0.22									
1.337	19.49	0.22									
1.357	19.78	0.22									
1.377	20.05	0.22									
1.397	20.38	0.22									
1.416	20.70	0.22									
1.436	20.99	0.22									

1.456	21.28	0.22									
1.476	21.59	0.22									
1.496	21.88	0.22									
1.516	22.19	0.22									
1.536	22.51	0.22									
1.556	22.80	0.22									
1.576	23.09	0.22									
1.596	23.37	0.22									
1.616	23.71	0.22									
1.636	23.99	0.22									
1.656	24.29	0.22									
1.676	24.60	0.22									
1.696	24.92	0.22									
1.716	25.21	0.22									
1.736	25.50	0.22									
1.756	25.86	0.22									
1.776	26.14	0.22									
1.795	26.40	0.22									
1.815	26.74	0.22									
1.835	27.07	0.22									
1.855	27.32	0.22									
1.875	27.63	0.22									
1.895	27.95	0.22									
1.915	28.25	0.22									
1.935	28.55	0.22									
1.955	28.92	0.22									
1.975	29.20	0.22									
1.995	29.48	0.22									
2.015	29.83	0.22									
2.035	30.10	0.22									
2.055	30.45	0.22									
2.075	30.71	0.22									
2.095	31.05	0.22									
2.115	31.38	0.22									
2.135	31.69	0.22									
2.155	31.98	0.22									
2.174	32.29	0.22									
2.194	32.62	0.22									
2.214	32.97	0.22									
2.234	33.24	0.22									
2.254	33.63	0.22									
2.274	33.87	0.22									
2.294	34.18	0.22									
2.314	34.49	0.22									
2.334	34.80	0.22									

2.354	35.15	0.22									
2.374	35.50	0.22									
2.394	35.79	0.22									
2.414	36.06	0.22									
2.434	36.42	0.22									
2.454	36.72	0.22									
2.474	37.05	0.22									
2.494	37.36	0.22									
2.514	37.68	0.22									
2.533	37.99	0.22									
2.553	38.30	0.22									
2.573	38.61	0.22									
2.593	38.92	0.22									
2.613	39.23	0.22									
2.633	39.59	0.22									
2.653	39.93	0.22									
2.673	40.24	0.22									
2.693	40.55	0.22									
2.713	40.86	0.22									
2.733	41.18	0.22									
2.753	41.49	0.22									
2.773	41.80	0.22									
2.793	42.17	0.22									
2.813	42.50	0.22									
2.833	42.81	0.22									
2.853	43.12	0.22									
2.873	43.43	0.22									
2.893	43.80	0.22									
2.912	44.13	0.22									
2.932	44.44	0.22									
2.952	44.75	0.22									
2.972	45.06	0.22									
2.992	45.42	0.22									
3.012	45.77	0.22									
3.032	46.08	0.22									
3.052	46.39	0.22									
3.072	46.70	0.22									
3.092	47.03	0.22									
3.112	47.40	0.22									
3.132	47.71	0.22									
3.152	48.02	0.22									
3.172	48.34	0.22									
3.192	48.66	0.22									
3.212	49.03	0.22									
3.232	49.34	0.22									

3.252	49.66	0.22									
3.272	49.97	0.22									
3.291	50.35	0.22									
3.311	50.67	0.22									
3.331	50.98	0.22									
3.351	51.30	0.22									
3.371	51.68	0.22									
3.391	51.98	0.22									
3.411	52.30	0.22									
3.431	52.61	0.22									
3.451	53.00	0.22									
3.471	53.31	0.22									
3.491	53.63	0.22									
3.511	53.98	0.22									
3.531	54.31	0.22									
3.551	54.64	0.22									
3.571	54.95	0.22									
3.591	55.30	0.22									
3.611	55.65	0.22									
3.631	55.98	0.22									
3.651	56.35	0.22									
3.670	56.66	0.22									
3.690	57.01	0.22									
3.710	57.34	0.22									
3.730	57.69	0.22									
3.750	58.00	0.22									
3.770	58.37	0.22									
3.790	58.68	0.22									
3.810	59.06	0.22									
3.830	59.38	0.22									
3.850	59.72	0.22									
3.870	60.09	0.22									
3.890	60.40	0.22									
3.910	60.71	0.22									
3.930	61.10	0.22									
3.950	61.41	0.22									
3.970	61.77	0.22									
3.990	62.11	0.22									
4.010	62.48	0.22									
4.029	62.81	0.22									
4.049	63.17	0.22									
4.069	63.48	0.22									
4.089	63.85	0.22									
4.109	64.20	0.22									
4.129	64.52	0.22									

4.149	64.84	0.22									
4.169	65.18	0.22									
4.189	65.54	0.22									
4.209	65.93	0.22									
4.229	66.28	0.22									
4.249	66.61	0.22									
4.269	66.94	0.22									
4.289	67.32	0.22									
4.309	67.64	0.22									
4.329	67.95	0.22									
4.349	68.33	0.22									
4.369	68.71	0.22									
4.389	69.04	0.22									
4.408	69.38	0.22									
4.428	69.75	0.22									
4.448	70.11	0.22									
4.468	70.46	0.22									
4.488	70.81	0.22									
4.508	71.16	0.22									
4.528	71.50	0.22									
4.548	71.85	0.22									
4.568	72.24	0.22									
4.588	72.59	0.22									
4.608	72.93	0.22									
4.628	73.32	0.22									
4.648	73.65	0.22									
4.668	74.03	0.22									
4.688	74.35	0.22									
4.708	74.73	0.22									
4.728	75.04	0.22									
4.748	75.44	0.22									
4.768	75.80	0.22									
4.787	76.13	0.22									
4.807	76.48	0.22									
4.827	76.85	0.22									
4.847	77.21	0.22									
4.867	77.57	0.22									
4.887	77.92	0.22									
4.907	78.27	0.22									
4.927	78.63	0.22									
4.947	79.02	0.22									
4.967	79.39	0.22									
4.987	79.73	0.22									
5.007	80.11	0.22									
5.027	80.50	0.22									

5.047	80.83	0.22									
5.067	81.20	0.22									
5.087	81.56	0.22									
5.107	81.96	0.22									
5.127	82.28	0.22									
5.146	82.61	0.22									
5.166	83.01	0.22									
5.186	83.40	0.22									
5.206	83.77	0.22									
5.226	84.09	0.22									
5.246	84.48	0.22									
5.266	84.86	0.22									
5.286	85.24	0.22									
5.306	85.62	0.22									
5.326	85.99	0.22									
5.346	86.36	0.22									
5.366	86.72	0.22									
5.386	87.09	0.22									
5.406	87.45	0.22									
5.426	87.82	0.22									
5.446	88.15	0.22									
5.466	88.52	0.22									
5.486	88.95	0.22									
5.506	89.31	0.22									
5.525	89.66	0.22									
5.545	90.08	0.22									
5.565	90.43	0.22									
5.585	90.82	0.22									
5.605	91.18	0.22									
5.625	91.56	0.22									
5.645	91.94	0.22									
5.665	92.27	0.22									
5.685	92.69	0.22									
5.705	93.05	0.22									
5.725	93.42	0.22									
5.745	93.82	0.22									
5.765	94.23	0.22									
5.785	94.57	0.22									
5.805	94.95	0.22									
5.825	95.35	0.22									
5.845	95.75	0.22									
5.865	96.11	0.22									
5.885	96.50	0.22									
5.904	96.84	0.22									
5.924	97.23	0.22									

5.944	97.66	0.22									
5.964	98.00	0.22									
5.984	98.39	0.22									
6.004	98.77	0.22									
6.024	99.13	0.22									
6.044	99.60	0.22									
6.064	99.96	0.22									
6.084	100.35	0.22									
6.104	100.73	0.22									
6.124	101.10	0.22									
6.144	101.52	0.22									
6.164	101.91	0.22									
6.184	102.27	0.22									
6.204	102.64	0.22									
6.224	103.03	0.22									
6.244	103.44	0.22									
6.264	103.85	0.22									
6.283	104.23	0.22									
6.303	104.59	0.22									
6.323	105.03	0.22									
6.343	105.39	0.22									
6.363	105.81	0.22									
6.383	106.17	0.22									
6.403	106.59	0.22									
6.423	106.95	0.22									
6.443	107.36	0.22									
6.463	107.76	0.22									
6.483	108.15	0.22									
6.503	108.55	0.22									
6.523	108.97	0.22									
6.543	109.33	0.22									
6.563	109.72	0.22									
6.583	110.14	0.22									
6.603	110.55	0.22									
6.623	110.92	0.22									
6.642	111.34	0.22									
6.662	111.72	0.22									
6.682	112.13	0.22									
6.702	112.55	0.22									
6.722	112.92	0.22									
6.742	113.34	0.22									
6.762	113.73	0.22									
6.782	114.14	0.22									
6.802	114.54	0.22									
6.822	114.94	0.22									

6.842	115.38	0.22									
6.862	115.74	0.22									
6.882	116.14	0.22									
6.902	116.53	0.22									
6.922	116.99	0.22									
6.942	117.39	0.22									
6.962	117.80	0.22									
6.982	118.19	0.22									
7.002	118.58	0.22									
7.021	119.03	0.22									
7.041	119.43	0.22									
7.061	119.81	0.22									
7.081	120.27	0.22									
7.101	120.64	0.22									
7.121	121.05	0.22									
7.141	121.48	0.22									
7.161	121.86	0.22									
7.181	122.31	0.22									
7.201	122.68	0.22									
7.221	123.11	0.22									
7.241	123.56	0.22									
7.261	123.92	0.22									
7.281	124.36	0.22									
7.301	124.80	0.22									
7.321	125.23	0.22									
7.341	125.59	0.22									
7.361	126.02	0.22									
7.381	126.46	0.22									
7.400	126.87	0.22									
7.420	127.24	0.22									
7.440	127.67	0.22									
7.460	128.16	0.23									
7.480	128.58	0.23									
7.500	128.99	0.23									
7.520	129.41	0.23									
7.540	129.82	0.23									
7.560	130.23	0.23									
7.580	130.64	0.23									
7.600	131.07	0.23									
7.620	131.51	0.23									
7.640	131.87	0.23									
7.660	132.35	0.23									
7.680	132.75	0.23									
7.700	133.22	0.23									
7.720	133.64	0.23									

7.740	134.05	0.23									
7.760	134.47	0.23									
7.779	134.90	0.23									
7.799	135.34	0.23									
7.819	135.77	0.23									
7.839	136.16	0.23									
7.859	136.64	0.23									
7.879	137.06	0.23									
7.899	137.48	0.23									
7.919	137.87	0.23									
7.939	138.33	0.23									
7.959	138.78	0.23									
7.979	139.17	0.23									
7.999	139.63	0.23									
8.019	140.08	0.23									
8.039	140.54	0.23									
8.059	140.95	0.23									
8.079	141.36	0.23									
8.099	141.81	0.23									
8.119	142.27	0.23									
8.138	142.70	0.23									
8.158	143.10	0.23									
8.178	143.57	0.23									
8.198	144.03	0.23									
8.218	144.44	0.23									
8.238	144.91	0.23									
8.258	145.38	0.23									
8.278	145.76	0.23									
8.298	146.21	0.23									
8.318	146.67	0.23									
8.338	147.11	0.23									
8.358	147.56	0.23									
8.378	147.98	0.23									
8.398	148.41	0.23									
8.418	148.92	0.23									
8.438	149.34	0.23									
8.458	149.77	0.23									
8.478	150.19	0.23									
8.498	150.61	0.23									
8.517	151.12	0.23									
8.537	151.57	0.23									
8.557	152.01	0.23									
8.577	152.46	0.23									
8.597	152.88	0.23									
8.617	153.38	0.23									

8.637	153.82	0.23									
8.657	154.26	0.23									
8.677	154.72	0.23									
8.697	155.19	0.23									
8.717	155.62	0.23									
8.737	156.10	0.23									
8.757	156.53	0.23									
8.777	156.95	0.23									
8.797	157.44	0.23									
8.817	157.90	0.23									
8.837	158.34	0.23									
8.857	158.83	0.23									
8.877	159.32	0.23									
8.896	159.74	0.23									
8.916	160.22	0.23									
8.936	160.63	0.23									
8.956	161.09	0.23									
8.976	161.58	0.23									
8.996	162.06	0.23									
9.016	162.45	0.23									
9.036	162.94	0.23									
9.056	163.42	0.23									
9.076	163.89	0.23									
9.096	164.38	0.23									
9.116	164.85	0.23									
9.136	165.31	0.23									
9.156	165.79	0.23									
9.176	166.25	0.23									
9.196	166.72	0.23									
9.216	167.18	0.23									
9.236	167.64	0.23									
9.256	168.10	0.23									
9.275	168.57	0.23									
9.295	169.03	0.23									
9.315	169.47	0.23									
9.335	170.01	0.23									
9.355	170.47	0.23									
9.375	170.92	0.23									
9.395	171.39	0.23									
9.415	171.88	0.23									
9.435	172.38	0.23									
9.455	172.82	0.23									
9.475	173.31	0.23									
9.495	173.79	0.23									
9.515	174.24	0.23									

9.535	174.76	0.23									
9.555	175.20	0.23									
9.575	175.72	0.23									
9.595	176.17	0.23									
9.615	176.68	0.23									
9.634	177.13	0.23									
9.654	177.66	0.23									
9.674	178.11	0.23									
9.694	178.61	0.23									
9.714	179.09	0.23									
9.734	179.54	0.23									
9.754	180.02	0.23									
9.774	180.52	0.23									
9.794	181.00	0.23									
9.814	181.51	0.23									
9.834	182.01	0.23									
9.854	182.46	0.23									
9.874	182.95	0.23									
9.894	183.45	0.23									
9.914	183.96	0.23									
9.934	184.41	0.23									
9.954	184.90	0.23									
9.974	185.40	0.23									
9.994	185.92	0.23									
10.013	186.40	0.23									
10.033	186.89	0.23									
10.053	187.37	0.23									
10.073	187.84	0.23									
10.093	188.37	0.23									
10.113	188.87	0.23									
10.133	189.35	0.23									
10.153	189.82	0.23									
10.173	190.35	0.23									
10.193	190.85	0.23									
10.213	191.34	0.23									
10.233	191.88	0.23									
10.253	192.35	0.23									
10.273	192.81	0.23									
10.293	193.35	0.23									
10.313	193.81	0.23									
10.333	194.36	0.23									
10.353	194.80	0.23									
10.373	195.35	0.23									
10.392	195.85	0.23									
10.412	196.34	0.23									

10.432	196.90	0.23									
10.452	197.35	0.23									
10.472	197.89	0.23									
10.492	198.36	0.23									
10.512	198.87	0.23									
10.532	199.39	0.23									
10.552	199.85	0.23									
10.572	200.40	0.23									
10.592	200.93	0.23									
10.612	201.43	0.23									
10.632	201.90	0.23									
10.652	202.43	0.23									
10.672	202.96	0.23									
10.692	203.48	0.23									
10.712	203.97	0.23									
10.732	204.46	0.23									
10.752	204.99	0.23									
10.771	205.50	0.23									
10.791	206.02	0.23									
10.811	206.53	0.23									
10.831	207.06	0.23									
10.851	207.55	0.23									
10.871	208.08	0.23									
10.891	208.59	0.23									
10.911	209.12	0.23									
10.931	209.61	0.23									
10.951	210.12	0.23									
10.971	210.64	0.23									
10.991	211.16	0.23									
11.011	211.75	0.23									
11.031	212.25	0.23									
11.051	212.76	0.23									
11.071	213.28	0.23									
11.091	213.81	0.23									
11.111	214.31	0.23									
11.130	214.81	0.23									
11.150	215.39	0.23									
11.170	215.85	0.23									
11.190	216.42	0.23									
11.210	216.93	0.23									
11.230	217.44	0.23									
11.250	217.99	0.23									
11.270	218.52	0.23									
11.290	219.05	0.23									
11.310	219.57	0.23									

11.330	220.10	0.23									
11.350	220.64	0.23									
11.370	221.16	0.23									
11.390	221.68	0.23									
11.410	222.22	0.23									
11.430	222.76	0.23									
11.450	223.25	0.23									
11.470	223.81	0.23									
11.490	224.36	0.23									
11.509	224.87	0.23									
11.529	225.40	0.23									
11.549	225.99	0.23									
11.569	226.51	0.23									
11.589	227.02	0.23									
11.609	227.54	0.23									
11.629	228.13	0.23									
11.649	228.64	0.23									
11.669	229.16	0.23									
11.689	229.73	0.23									
11.709	230.25	0.23									
11.729	230.82	0.23									
11.749	231.33	0.23									
11.769	231.86	0.23									
11.789	232.45	0.23									
11.809	232.96	0.23									
11.829	233.54	0.23									
11.849	234.10	0.23									
11.869	234.62	0.23									
11.888	235.18	0.23									
11.908	235.72	0.23									
11.928	236.30	0.23									
11.948	236.83	0.23									
11.968	237.37	0.23									
11.988	237.90	0.23									
12.008	238.47	0.23									
12.028	239.02	0.23									
12.048	239.55	0.23									
12.068	240.10	0.23									
12.088	240.68	0.23									
12.108	241.26	0.23									
12.128	241.80	0.23									
12.148	242.30	0.23									
12.168	242.88	0.23									
12.188	243.46	0.23									
12.208	244.02	0.23									

12.228	244.54	0.23									
12.247	245.09	0.23									
12.267	245.66	0.23									
12.287	246.21	0.23									
12.307	246.78	0.23									
12.327	247.35	0.23									
12.347	247.91	0.23									
12.367	248.48	0.23									
12.387	249.03	0.23									
12.407	249.54	0.23									
12.427	250.10	0.23									
12.447	250.68	0.23									
12.467	251.28	0.23									
12.487	251.81	0.23									
12.507	252.40	0.23									
12.527	252.96	0.23									
12.547	253.50	0.24									
12.567	254.06	0.24									
12.587	254.66	0.24									
12.607	255.20	0.24									
12.626	255.76	0.24									
12.646	256.33	0.24									
12.666	256.91	0.24									
12.686	257.47	0.24									
12.706	258.08	0.24									
12.726	258.63	0.24									
12.746	259.21	0.24									
12.766	259.75	0.24									
12.786	260.34	0.24									
12.806	260.92	0.24									
12.826	261.46	0.24									
12.846	262.02	0.24									
12.866	262.63	0.24									
12.886	263.19	0.24									
12.906	263.75	0.24									
12.926	264.33	0.24									
12.946	264.89	0.24									
12.966	265.48	0.24									
12.986	266.03	0.24									
13.005	266.63	0.24									
13.025	267.17	0.24									
13.045	267.79	0.24									
13.065	268.36	0.24									
13.085	268.93	0.24									
13.105	269.49	0.24									

13.125	270.06	0.24									
13.145	270.64	0.24									
13.165	271.23	0.24									
13.185	271.84	0.24									
13.205	272.38	0.24									
13.225	272.96	0.24									
13.245	273.56	0.24									
13.265	274.16	0.24									
13.285	274.72	0.24									
13.305	275.27	0.24									
13.325	275.85	0.24									
13.345	276.45	0.24									
13.365	277.05	0.24									
13.384	277.63	0.24									
13.404	278.21	0.24									
13.424	278.84	0.24									
13.444	279.42	0.24									
13.464	280.03	0.24									
13.484	280.61	0.24									
13.504	281.17	0.24									
13.524	281.78	0.24									
13.544	282.35	0.24									
13.564	282.93	0.24									
13.584	283.51	0.24									
13.604	284.09	0.24									
13.624	284.70	0.24									
13.644	285.32	0.24									
13.664	285.89	0.24									
13.684	286.45	0.24									
13.704	287.03	0.24									
13.724	287.66	0.24									
13.743	288.20	0.24									
13.763	288.81	0.24									
13.783	289.37	0.24									
13.803	290.01	0.24									
13.823	290.56	0.24									
13.843	291.19	0.24									
13.863	291.73	0.24									
13.883	292.36	0.24									
13.903	292.92	0.24									
13.923	293.52	0.24									
13.943	294.15	0.24									
13.963	294.72	0.24									
13.983	295.36	0.24									
14.003	295.92	0.24									

14.023	296.51	0.24									
14.043	297.06	0.24									
14.063	297.70	0.24									
14.083	298.30	0.24									
14.103	298.85	0.24									
14.122	299.54	0.24									
14.142	300.07	0.24									
14.162	300.70	0.24									
14.182	301.33	0.24									
14.202	301.87	0.24									
14.222	302.48	0.24									
14.242	303.09	0.24									
14.262	303.69	0.24									
14.282	304.31	0.24									
14.302	304.90	0.24									
14.322	305.50	0.24									
14.342	306.10	0.24									
14.362	306.69	0.24									
14.382	307.28	0.24									
14.402	307.87	0.24									
14.422	308.49	0.24									
14.442	309.08	0.24									
14.462	309.67	0.24									
14.482	310.27	0.24									
14.501	310.88	0.24									
14.521	311.51	0.24									
14.541	312.09	0.24									
14.561	312.69	0.24									
14.581	313.32	0.24									
14.601	313.93	0.24									
14.621	314.49	0.24									
14.641	315.14	0.24									
14.661	315.72	0.24									
14.681	316.30	0.24									
14.701	316.95	0.24									
14.721	317.54	0.24									
14.741	318.09	0.24									
14.761	318.76	0.24									
14.781	319.32	0.24									
14.801	319.97	0.24									
14.821	320.54	0.24									
14.841	321.17	0.24									
14.861	321.77	0.24									
14.880	322.40	0.24									
14.900	322.97	0.24									

14.920	323.62	0.24									
14.940	324.18	0.24									
14.960	324.81	0.24									
14.980	325.44	0.24									
15.000	326.06	0.24									
15.020	326.63	0.24									
15.040	327.25	0.24									
15.060	327.87	0.24									
15.080	328.43	0.24									
15.100	329.06	0.24									
15.120	329.67	0.24									
15.140	330.28	0.24									
15.160	330.89	0.24									
15.180	331.52	0.24									
15.200	332.11	0.24									
15.220	332.74	0.24									
15.239	333.36	0.24									
15.259	333.96	0.24									
15.279	334.56	0.24									
15.299	335.13	0.24									
15.319	335.74	0.24									
15.339	336.36	0.24									
15.359	336.99	0.24									
15.379	337.55	0.24									
15.399	338.24	0.24									
15.419	338.85	0.25									
15.439	339.47	0.25									
15.459	340.02	0.25									
15.479	340.64	0.25									
15.499	341.24	0.25									
15.519	341.87	0.25									
15.539	342.45	0.25									
15.559	343.06	0.25									
15.579	343.72	0.25									
15.599	344.32	0.25									
15.618	344.94	0.25									
15.638	345.53	0.25									
15.658	346.16	0.25									
15.678	346.75	0.25									
15.698	347.37	0.25									
15.718	347.97	0.25									
15.738	348.61	0.25									
15.758	349.16	0.25									
15.778	349.78	0.25									
15.798	350.42	0.25									

15.818	351.00	0.25									
15.838	351.61	0.25									
15.858	352.25	0.25									
15.878	352.87	0.25									
15.898	353.49	0.25									
15.918	354.08	0.25									
15.938	354.73	0.25									
15.958	355.27	0.25									
15.978	355.93	0.25									
15.997	356.51	0.25									
16.017	357.13	0.25									
16.037	357.73	0.25									
16.057	358.32	0.25									
16.077	358.92	0.25									
16.097	359.58	0.25									
16.117	360.18	0.25									
16.137	360.76	0.25									
16.157	361.41	0.25									
16.177	361.97	0.25									
16.197	362.61	0.25									
16.217	363.20	0.25									
16.237	363.84	0.25									
16.257	364.48	0.25									
16.277	365.04	0.25									
16.297	365.67	0.25									
16.317	366.24	0.25									
16.337	366.86	0.25									
16.357	367.48	0.25									
16.376	368.10	0.25									
16.396	368.72	0.25									
16.416	369.32	0.25									
16.436	369.91	0.25									
16.456	370.49	0.25									
16.476	371.15	0.25									
16.496	371.72	0.25									
16.516	372.35	0.25									
16.536	372.93	0.25									
16.556	373.55	0.25									
16.576	374.13	0.25									
16.596	374.76	0.25									
16.616	375.39	0.25									
16.636	376.01	0.25									
16.656	376.62	0.25									
16.676	377.21	0.25									
16.696	377.83	0.25									

16.716	378.43	0.25									
16.735	379.04	0.25									
16.755	379.63	0.25									
16.775	380.21	0.25									
16.795	380.79	0.25									
16.815	381.37	0.25									
16.835	382.04	0.25									
16.855	382.60	0.25									
16.875	383.17	0.25									
16.895	383.77	0.25									
16.915	384.42	0.25									
16.935	384.98	0.25									
16.955	385.60	0.25									
16.975	386.22	0.25									
16.995	386.81	0.25									
17.015	387.43	0.25									
17.035	387.96	0.25									
17.055	388.63	0.25									
17.075	389.21	0.25									
17.095	389.85	0.25									
17.114	390.42	0.25									
17.134	391.05	0.25									
17.154	391.59	0.25									
17.174	392.19	0.25									
17.194	392.80	0.25									
17.214	393.37	0.25									
17.234	393.96	0.25									
17.254	394.58	0.25									
17.274	395.19	0.25									
17.294	395.73	0.25									
17.314	396.36	0.25									
17.334	396.95	0.25									
17.354	397.55	0.25									
17.374	398.11	0.25									
17.394	398.73	0.25									
17.414	399.33	0.25									
17.434	399.92	0.25									
17.454	400.49	0.25									
17.474	401.04	0.25									
17.493	401.70	0.25									
17.513	402.28	0.25									
17.533	402.79	0.25									
17.553	403.40	0.25									
17.573	404.00	0.25									
17.593	404.55	0.25									

17.613	405.14	0.25									
17.633	405.74	0.25									
17.653	406.31	0.25									
17.673	406.90	0.25									
17.693	407.46	0.25									
17.713	408.03	0.25									
17.733	408.62	0.26									
17.753	409.17	0.26									
17.773	409.75	0.26									
17.793	410.32	0.26									
17.813	410.92	0.26									
17.833	411.44	0.26									
17.853	412.01	0.26									
17.872	412.58	0.26									
17.892	413.17	0.26									
17.912	413.73	0.26									
17.932	414.28	0.26									
17.952	414.85	0.26									
17.972	415.40	0.26									
17.992	415.94	0.26									
18.012	416.44	0.26									
18.032	416.98	0.26									
18.052	417.55	0.26									
18.072	418.14	0.26									
18.092	418.73	0.26									
18.112	419.25	0.26									
18.132	419.86	0.26									
18.152	420.44	0.26									
18.172	420.97	0.26									
18.192	421.57	0.26									
18.212	422.13	0.26									
18.231	422.74	0.26									
18.251	423.29	0.26									
18.271	423.87	0.26									
18.291	424.40	0.26									
18.311	424.97	0.26									
18.331	425.56	0.26									
18.351	426.15	0.26									
18.371	426.72	0.26									
18.391	427.24	0.26									
18.411	427.84	0.26									
18.431	428.43	0.26									
18.451	428.98	0.26									
18.471	429.49	0.26									
18.491	430.05	0.26									

18.511	430.62	0.26									
18.531	431.17	0.26									
18.551	431.71	0.26									
18.571	432.26	0.26									
18.591	432.85	0.26									
18.610	433.43	0.26									
18.630	433.96	0.26									
18.650	434.50	0.26									
18.670	435.07	0.26									
18.690	435.58	0.26									
18.710	436.15	0.26									
18.730	436.66	0.26									
18.750	437.23	0.26									
18.770	437.78	0.26									
18.790	438.27	0.26									
18.810	438.82	0.26									
18.830	439.32	0.26									
18.850	439.88	0.26									
18.870	440.41	0.26									
18.890	441.01	0.26									
18.910	441.50	0.26									
18.930	442.07	0.26									
18.950	442.62	0.26									
18.970	443.21	0.26									
18.989	443.67	0.26									
19.009	444.23	0.26									
19.029	444.78	0.26									
19.049	445.34	0.26									
19.069	445.89	0.26									
19.089	446.44	0.26									
19.109	447.00	0.26									
19.129	447.55	0.26									
19.149	448.09	0.26									
19.169	448.65	0.26									
19.189	449.17	0.26									
19.209	449.67	0.26									
19.229	450.26	0.26									
19.249	450.80	0.26									
19.269	451.31	0.26									
19.289	451.85	0.26									
19.309	452.41	0.26									
19.329	452.94	0.26									
19.348	453.48	0.26									
19.368	454.01	0.26									
19.388	454.59	0.26									

19.408	455.07	0.26									
19.428	455.62	0.26									
19.448	456.17	0.26									
19.468	456.69	0.26									
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19.648	461.41	0.26									
19.668	461.94	0.26									
19.688	462.50	0.26									
19.708	463.03	0.26									
19.727	463.54	0.26									
19.747	464.06	0.26									
19.767	464.63	0.26									
19.787	465.11	0.26									
19.807	465.63	0.26									
19.827	466.19	0.26									
19.847	466.73	0.26									
19.867	467.23	0.26									
19.887	467.78	0.26									
19.907	468.25	0.26									
19.927	468.77	0.26									
19.947	469.27	0.26									
19.967	469.80	0.26									
19.987	470.33	0.26									
20.007	470.83	0.26									
20.027	471.32	0.27									
20.047	471.86	0.27									
20.067	472.38	0.27									
20.087	472.91	0.27									
20.106	473.41	0.27									
20.126	473.94	0.27									
20.146	474.44	0.27									
20.166	474.97	0.27									
20.186	475.44	0.27									
20.206	475.97	0.27									
20.226	476.46	0.27									
20.246	476.94	0.27									
20.266	477.47	0.27									
20.286	478.01	0.27									

20.306	478.50	0.27									
20.326	479.02	0.27									
20.346	479.53	0.27									
20.366	480.02	0.27									
20.386	480.54	0.27									
20.406	481.00	0.27									
20.426	481.49	0.27									
20.446	481.98	0.27									
20.466	482.50	0.27									
20.485	483.02	0.27									
20.505	483.48	0.27									
20.525	483.99	0.27									
20.545	484.46	0.27									
20.565	484.98	0.27									
20.585	485.43	0.27									
20.605	485.93	0.27									
20.625	486.36	0.27									
20.645	486.83	0.27									
20.665	487.30	0.27									
20.685	487.75	0.27									
20.705	488.29	0.27									
20.725	488.75	0.27									
20.745	489.24	0.27									
20.765	489.70	0.27									
20.785	490.18	0.27									
20.805	490.71	0.27									
20.825	491.18	0.27									
20.844	491.64	0.27									
20.864	492.16	0.27									
20.884	492.66	0.27									
20.904	493.15	0.27									
20.924	493.63	0.27									
20.944	494.09	0.27									
20.964	494.57	0.27									
20.984	495.02	0.27									
21.004	495.48	0.27									
21.024	496.03	0.27									
21.044	496.48	0.27									
21.064	496.92	0.27									
21.084	497.45	0.27									
21.104	497.96	0.27									
21.124	498.35	0.27									
21.144	498.86	0.27									
21.164	499.35	0.27									
21.184	499.78	0.27									

21.204	500.22	0.27									
21.223	500.74	0.27									
21.243	501.20	0.27									
21.263	501.72	0.27									
21.283	502.14	0.27									
21.303	502.63	0.27									
21.323	503.12	0.27									
21.343	503.55	0.27									
21.363	504.05	0.27									
21.383	504.48	0.27									
21.403	504.94	0.27									
21.423	505.42	0.27									
21.443	505.85	0.27									
21.463	506.34	0.27									
21.483	506.83	0.27									
21.503	507.29	0.27									
21.523	507.70	0.27									
21.543	508.15	0.27									
21.563	508.71	0.27									
21.583	509.10	0.27									
21.602	509.56	0.27									
21.622	510.01	0.27									
21.642	510.49	0.27									
21.662	510.92	0.27									
21.682	511.44	0.27									
21.702	511.86	0.27									
21.722	512.31	0.27									
21.742	512.76	0.27									
21.762	513.21	0.27									
21.782	513.69	0.27									
21.802	514.14	0.27									
21.822	514.60	0.27									
21.842	515.00	0.27									
21.862	515.50	0.27									
21.882	515.92	0.27									
21.902	516.40	0.27									
21.922	516.81	0.27									
21.942	517.30	0.27									
21.962	517.74	0.27									
21.981	518.22	0.27									
22.001	518.62	0.27									
22.021	519.08	0.27									
22.041	519.54	0.27									
22.061	519.96	0.27									
22.081	520.41	0.27									

22.101	520.87	0.27									
22.121	521.31	0.27									
22.141	521.72	0.27									
22.161	522.17	0.27									
22.181	522.62	0.27									
22.201	523.03	0.27									
22.221	523.47	0.27									
22.241	523.92	0.27									
22.261	524.36	0.27									
22.281	524.81	0.27									
22.301	525.22	0.27									
22.321	525.68	0.27									
22.340	526.11	0.27									
22.360	526.51	0.27									
22.380	526.97	0.27									
22.400	527.38	0.27									
22.420	527.80	0.28									
22.440	528.24	0.28									
22.460	528.66	0.28									
22.480	529.11	0.28									
22.500	529.52	0.28									
22.520	529.98	0.28									
22.540	530.36	0.28									
22.560	530.80	0.28									
22.580	531.20	0.28									
22.600	531.57	0.28									
22.620	532.02	0.28									
22.640	532.44	0.28									
22.660	532.87	0.28									
22.680	533.30	0.28									
22.700	533.64	0.28									
22.719	534.05	0.28									
22.739	534.50	0.28									
22.759	534.88	0.28									
22.779	535.31	0.28									
22.799	535.76	0.28									
22.819	536.16	0.28									
22.839	536.56	0.28									
22.859	537.02	0.28									
22.879	537.39	0.28									
22.899	537.82	0.28									
22.919	538.28	0.28									
22.939	538.67	0.28									
22.959	539.12	0.28									
22.979	539.47	0.28									

22.999	539.89	0.28									
23.019	540.30	0.28									
23.039	540.67	0.28									
23.059	541.05	0.28									
23.079	541.49	0.28									
23.098	541.91	0.28									
23.118	542.31	0.28									
23.138	542.70	0.28									
23.158	543.14	0.28									
23.178	543.51	0.28									
23.198	543.94	0.28									
23.218	544.32	0.28									
23.238	544.70	0.28									
23.258	545.14	0.28									
23.278	545.55	0.28									
23.298	545.94	0.28									
23.318	546.35	0.28									
23.338	546.72	0.28									
23.358	547.18	0.28									
23.378	547.53	0.28									
23.398	547.98	0.28									
23.418	548.35	0.28									
23.438	548.73	0.28									
23.458	549.17	0.28									
23.477	549.53	0.28									
23.497	549.98	0.28									
23.517	550.32	0.28									
23.537	550.75	0.28									
23.557	551.17	0.28									
23.577	551.54	0.28									
23.597	551.93	0.28									
23.617	552.31	0.28									
23.637	552.67	0.28									
23.657	553.06	0.28									
23.677	553.46	0.28									
23.697	553.88	0.28									
23.717	554.25	0.28									
23.737	554.67	0.28									
23.757	555.04	0.28									
23.777	555.46	0.28									
23.797	555.80	0.28									
23.817	556.20	0.28									
23.836	556.60	0.28									
23.856	557.00	0.28									
23.876	557.39	0.28									

23.896	557.77	0.28									
23.916	558.08	0.28									
23.936	558.49	0.28									
23.956	558.90	0.28									
23.976	559.25	0.28									
23.996	559.68	0.28									
24.016	560.02	0.28									
24.036	560.37	0.28									
24.056	560.77	0.28									
24.076	561.17	0.28									
24.096	561.52	0.28									
24.116	561.91	0.28									
24.136	562.22	0.28									
24.156	562.66	0.28									
24.176	562.96	0.28									
24.196	563.37	0.28									
24.215	563.77	0.28									
24.235	564.09	0.28									
24.255	564.49	0.28									
24.275	564.87	0.28									
24.295	565.22	0.28									
24.315	565.59	0.28									
24.335	565.98	0.28									
24.355	566.33	0.28									
24.375	566.69	0.28									
24.395	567.08	0.28									
24.415	567.45	0.28									
24.435	567.83	0.28									
24.455	568.23	0.28									
24.475	568.56	0.28									
24.495	568.94	0.28									
24.515	569.30	0.28									
24.535	569.66	0.28									
24.555	570.03	0.28									
24.575	570.40	0.28									
24.594	570.73	0.28									
24.614	571.15	0.28									
24.634	571.48	0.28									
24.654	571.88	0.28									
24.674	572.24	0.28									
24.694	572.56	0.28									
24.714	572.93	0.28									
24.734	573.27	0.28									
24.754	573.63	0.28									
24.774	574.00	0.28									

24.794	574.35	0.28									
24.814	574.71	0.28									
24.834	575.04	0.28									
24.854	575.42	0.28									
24.874	575.80	0.28									
24.894	576.10	0.28									
24.914	576.50	0.28									
24.934	576.87	0.28									
24.954	577.17	0.28									
24.973	577.53	0.28									
24.993	577.91	0.28									
25.013	578.27	0.28									
25.033	578.59	0.28									
25.053	578.98	0.28									
25.073	579.34	0.28									
25.093	579.69	0.28									
25.113	580.04	0.28									
25.133	580.41	0.29									
25.153	580.76	0.29									
25.173	581.11	0.29									
25.193	581.46	0.29									
25.213	581.80	0.29									
25.233	582.14	0.29									
25.253	582.49	0.29									
25.273	582.80	0.29									
25.293	583.22	0.29									
25.313	583.53	0.29									
25.332	583.86	0.29									
25.352	584.24	0.29									
25.372	584.55	0.29									
25.392	584.97	0.29									
25.412	585.27	0.29									
25.432	585.61	0.29									
25.452	585.93	0.29									
25.472	586.26	0.29									
25.492	586.62	0.29									
25.512	586.98	0.29									
25.532	587.31	0.29									
25.552	587.64	0.29									
25.572	587.96	0.29									
25.592	588.34	0.29									
25.612	588.67	0.29									
25.632	588.97	0.29									
25.652	589.30	0.29									
25.672	589.68	0.29									

25.692	589.96	0.29									
25.711	590.34	0.29									
25.731	590.65	0.29									
25.751	590.98	0.29									
25.771	591.35	0.29									
25.791	591.68	0.29									
25.811	591.98	0.29									
25.831	592.37	0.29									
25.851	592.72	0.29									
25.871	593.00	0.29									
25.891	593.36	0.29									
25.911	593.65	0.29									
25.931	594.04	0.29									
25.951	594.33	0.29									
25.971	594.63	0.29									
25.991	595.01	0.29									
26.011	595.35	0.29									
26.031	595.67	0.29									
26.051	595.99	0.29									
26.071	596.31	0.29									
26.090	596.62	0.29									
26.110	596.93	0.29									
26.130	597.29	0.29									
26.150	597.61	0.29									
26.170	597.92	0.29									
26.190	598.28	0.29									
26.210	598.58	0.29									
26.230	598.85	0.29									
26.250	599.21	0.29									
26.270	599.52	0.29									
26.290	599.82	0.29									
26.310	600.11	0.29									
26.330	600.44	0.29									
26.350	600.77	0.29									
26.370	601.10	0.29									
26.390	601.34	0.29									
26.410	601.65	0.29									
26.430	601.96	0.29									
26.450	602.27	0.29									
26.469	602.60	0.29									
26.489	602.91	0.29									
26.509	603.22	0.29									
26.529	603.55	0.29									
26.549	603.87	0.29									
26.569	604.20	0.29									

26.589	604.51	0.29									
26.609	604.80	0.29									
26.629	605.09	0.29									
26.649	605.46	0.29									
26.669	605.72	0.29									
26.689	606.05	0.29									
26.709	606.41	0.29									
26.729	606.68	0.29									
26.749	607.00	0.29									
26.769	607.34	0.29									
26.789	607.60	0.29									
26.809	607.91	0.29									
26.828	608.25	0.29									
26.848	608.55	0.29									
26.868	608.83	0.29									
26.888	609.14	0.29									
26.908	609.48	0.29									
26.928	609.77	0.29									
26.948	610.10	0.29									
26.968	610.40	0.29									
26.988	610.73	0.29									
27.008	611.02	0.29									
27.028	611.30	0.29									
27.048	611.65	0.29									
27.068	611.91	0.29									
27.088	612.20	0.29									
27.108	612.51	0.29									
27.128	612.85	0.29									
27.148	613.10	0.29									
27.168	613.40	0.29									
27.188	613.75	0.29									
27.207	614.01	0.29									
27.227	614.33	0.29									
27.247	614.65	0.29									
27.267	614.91	0.29									
27.287	615.24	0.29									
27.307	615.54	0.29									
27.327	615.85	0.29									
27.347	616.14	0.29									
27.367	616.44	0.29									
27.387	616.73	0.29									
27.407	617.01	0.29									
27.427	617.30	0.29									
27.447	617.59	0.29									
27.467	617.91	0.29									

27.487	618.18	0.29									
27.507	618.47	0.29									
27.527	618.77	0.29									
27.547	619.08	0.29									
27.567	619.35	0.29									
27.586	619.64	0.29									
27.606	619.94	0.29									
27.626	620.23	0.29									
27.646	620.52	0.29									
27.666	620.85	0.29									
27.686	621.13	0.29									
27.706	621.41	0.29									
27.726	621.68	0.29									
27.746	622.01	0.29									
27.766	622.32	0.29									
27.786	622.55	0.29									
27.806	622.89	0.29									
27.826	623.16	0.29									
27.846	623.42	0.29									
27.866	623.74	0.29									
27.886	624.05	0.29									
27.906	624.30	0.29									
27.926	624.62	0.29									
27.945	624.94	0.29									
27.965	625.16	0.29									
27.985	625.50	0.29									
28.005	625.75	0.29									
28.025	626.02	0.29									
28.045	626.28	0.29									
28.065	626.60	0.29									
28.085	626.88	0.29									
28.105	627.16	0.29									
28.125	627.43	0.29									
28.145	627.68	0.29									
28.165	628.00	0.29									
28.185	628.30	0.29									
28.205	628.54	0.29									
28.225	628.85	0.29									
28.245	629.09	0.29									
28.265	629.39	0.29									
28.285	629.69	0.29									
28.305	629.92	0.29									
28.324	630.24	0.29									
28.344	630.52	0.30									
28.364	630.81	0.30									

28.384	631.09	0.30									
28.404	631.31	0.30									
28.424	631.61	0.30									
28.444	631.89	0.30									
28.464	632.13	0.30									
28.484	632.41	0.30									
28.504	632.70	0.30									
28.524	632.98	0.30									
28.544	633.26	0.30									
28.564	633.55	0.30									
28.584	633.79	0.30									
28.604	634.02	0.30									
28.624	634.31	0.30									
28.644	634.59	0.30									
28.664	634.88	0.30									
28.684	635.15	0.30									
28.703	635.42	0.30									
28.723	635.66	0.30									
28.743	635.94	0.30									
28.763	636.24	0.30									
28.783	636.50	0.30									
28.803	636.80	0.30									
28.823	637.00	0.30									
28.843	637.30	0.30									
28.863	637.58	0.30									
28.883	637.86	0.30									
28.903	638.15	0.30									
28.923	638.39	0.30									
28.943	638.69	0.30									
28.963	638.92	0.30									
28.983	639.18	0.30									
29.003	639.42	0.30									
29.023	639.68	0.30									
29.043	639.95	0.30									
29.063	640.24	0.30									
29.082	640.49	0.30									
29.102	640.75	0.30									
29.122	641.03	0.30									
29.142	641.30	0.30									
29.162	641.56	0.30									
29.182	641.85	0.30									
29.202	642.12	0.30									
29.222	642.38	0.30									
29.242	642.59	0.30									
29.262	642.89	0.30									

29.282	643.17	0.30									
29.302	643.41	0.30									
29.322	643.67	0.30									
29.342	643.91	0.30									
29.362	644.19	0.30									
29.382	644.44	0.30									
29.402	644.68	0.30									
29.422	644.92	0.30									
29.441	645.25	0.30									
29.461	645.45	0.30									
29.481	645.75	0.30									
29.501	645.99	0.30									
29.521	646.24	0.30									
29.541	646.52	0.30									
29.561	646.74	0.30									
29.581	646.98	0.30									
29.601	647.24	0.30									
29.621	647.56	0.30									
29.641	647.79	0.30									
29.661	648.03	0.30									
29.681	648.29	0.30									
29.701	648.51	0.30									
29.721	648.81	0.30									
29.741	649.05	0.30									
29.761	649.29	0.30									
29.781	649.52	0.30									
29.801	649.83	0.30									
29.820	650.07	0.30									
29.840	650.32	0.30									
29.860	650.59	0.30									
29.880	650.81	0.30									
29.900	651.04	0.30									
29.920	651.32	0.30									
29.940	651.55	0.30									
29.960	651.83	0.30									
29.980	652.03	0.30									
30.000	652.33	0.30									

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S2. Reduced $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty; Z: compressibility factor.

x_{CO_2} = 0.9206; x_{SO_2} = 0.0493; x_{CO} = 0.0301											
p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z
T= 263.14±0.02 K				T= 273.14±0.03 K				T= 293.15±0.06 K			
0.100	2.18	0.23	0.93	0.127	2.70	0.24	0.92	0.203	3.91	0.23	0.95
0.379	8.41	0.23	0.92	0.355	7.40	0.23	0.94	0.426	7.98	0.23	0.98
0.672	14.84	0.23	0.92	0.623	13.02	0.23	0.94	0.769	14.72	0.23	0.95
0.966	21.68	0.23	0.91	0.891	19.02	0.23	0.92	1.112	21.70	0.23	0.94
1.259	28.90	0.23	0.89	1.159	25.12	0.23	0.90	1.455	29.01	0.23	0.92
1.494	35.27	0.23	0.86	1.427	31.61	0.23	0.88	1.798	36.72	0.23	0.89
T= 263.13±0.07 K				1.695	38.55	0.23	0.86	2.141	44.92	0.23	0.87
3.875	999.39	0.38	0.08	1.963	45.88	0.23	0.84	2.484	53.57	0.23	0.85
3.929	999.76	0.38	0.08	2.231	53.74	0.23	0.81	2.827	62.79	0.23	0.82
4.289	1002.04	0.38	0.09	T= 273.13±0.05 K				3.170	72.63	0.23	0.80
4.650	1004.03	0.38	0.09	4.609	952.48	0.37	0.09	3.513	83.36	0.23	0.77
5.010	1006.23	0.38	0.10	4.958	955.78	0.37	0.10	3.856	95.20	0.23	0.74
5.370	1008.23	0.38	0.11	5.326	958.57	0.37	0.11	4.199	108.40	0.23	0.71
5.731	1010.15	0.38	0.12	5.694	961.28	0.37	0.12	4.336	114.58	0.23	0.69
6.091	1012.02	0.38	0.12	6.062	963.91	0.37	0.12	T= 293.15±0.04K			
6.451	1013.87	0.39	0.13	6.429	966.45	0.37	0.13	6.538	814.11	0.34	0.15
6.812	1015.62	0.39	0.14	6.797	968.99	0.37	0.14	6.736	818.56	0.34	0.15
7.172	1017.37	0.39	0.14	7.165	971.45	0.38	0.14	7.095	825.83	0.34	0.16
7.532	1019.11	0.39	0.15	7.533	973.84	0.38	0.15	7.455	832.46	0.34	0.16
7.893	1020.77	0.39	0.16	7.900	976.12	0.38	0.16	7.814	838.52	0.34	0.17
8.253	1022.50	0.39	0.16	8.268	978.41	0.38	0.17	8.174	844.14	0.35	0.18
8.613	1024.14	0.39	0.17	8.636	980.67	0.38	0.17	8.533	849.41	0.35	0.18
8.974	1025.82	0.39	0.18	9.004	982.81	0.38	0.18	8.893	854.31	0.35	0.19
9.334	1027.50	0.39	0.18	9.371	985.00	0.38	0.19	9.252	858.80	0.35	0.20
9.694	1029.09	0.39	0.19	9.739	987.10	0.38	0.19	9.612	863.21	0.35	0.20
10.055	1030.70	0.39	0.20	10.107	989.20	0.38	0.20	9.971	867.47	0.35	0.21
10.415	1032.23	0.39	0.21	10.475	991.15	0.38	0.21	10.331	871.56	0.35	0.22
10.775	1033.75	0.39	0.21	10.843	993.17	0.38	0.21	10.690	875.44	0.35	0.22
11.136	1035.24	0.39	0.22	11.210	995.08	0.38	0.22	11.049	879.11	0.35	0.23
11.496	1036.73	0.39	0.23	11.578	997.00	0.38	0.23	11.409	882.70	0.35	0.24
11.856	1038.20	0.39	0.23	11.946	998.88	0.38	0.23	11.768	886.22	0.35	0.24
12.217	1039.67	0.39	0.24	12.314	1000.69	0.38	0.24	12.128	889.56	0.36	0.25
12.577	1041.09	0.39	0.25	12.681	1002.50	0.38	0.25	12.487	892.81	0.36	0.26
12.937	1042.51	0.39	0.25	13.049	1004.29	0.38	0.25	12.847	895.89	0.36	0.26
13.298	1043.85	0.39	0.26	13.417	1005.99	0.38	0.26	13.206	898.87	0.36	0.27

13.658	1045.23	0.39	0.27	13.785	1007.61	0.38	0.27	13.566	901.86	0.36	0.27
14.018	1046.55	0.39	0.27	14.152	1009.20	0.38	0.27	13.925	904.78	0.36	0.28
14.379	1047.89	0.39	0.28	14.520	1010.83	0.38	0.28	14.285	907.59	0.36	0.29
14.739	1049.17	0.39	0.29	14.888	1012.50	0.39	0.29	14.644	910.31	0.36	0.29
15.099	1050.41	0.39	0.29	15.256	1014.14	0.39	0.29	15.003	912.95	0.36	0.30
15.460	1051.63	0.39	0.30	15.624	1015.73	0.39	0.30	15.363	915.53	0.36	0.31
15.820	1052.86	0.39	0.31	15.991	1017.32	0.39	0.31	15.722	918.06	0.36	0.31
16.180	1054.13	0.39	0.31	16.359	1018.92	0.39	0.31	16.082	920.61	0.36	0.32
16.541	1055.47	0.40	0.32	16.727	1020.47	0.39	0.32	16.441	923.03	0.36	0.33
16.901	1056.80	0.40	0.33	17.095	1021.96	0.39	0.33	16.801	925.37	0.36	0.33
17.261	1058.25	0.40	0.33	17.462	1023.55	0.39	0.33	17.160	927.67	0.36	0.34
17.622	1059.45	0.40	0.34	17.830	1025.06	0.39	0.34	17.520	929.97	0.36	0.34
17.982	1060.67	0.40	0.34	18.198	1026.52	0.39	0.35	17.879	932.23	0.37	0.35
18.342	1061.80	0.40	0.35	18.566	1027.98	0.39	0.35	18.239	934.64	0.37	0.36
18.703	1062.91	0.40	0.36	18.933	1029.43	0.39	0.36	18.598	937.13	0.37	0.36
19.063	1064.05	0.40	0.36	19.301	1030.80	0.39	0.37	18.958	939.62	0.37	0.37
19.423	1065.14	0.40	0.37	19.669	1032.17	0.39	0.37	19.317	942.11	0.37	0.37
19.784	1066.20	0.40	0.38	20.000	1033.34	0.39	0.38	19.676	944.61	0.37	0.38
20.000	1066.85	0.40	0.38					20.000	946.85	0.37	0.39

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S2 (continued). Reduced $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty; *Z*: compressibility factor.

x_{CO_2} = 0.9206; x_{SO_2} = 0.0493; x_{CO} = 0.0301											
p **(MPa)**	ρ **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***Z***	***p*** **(MPa)**	ρ **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***Z***	***p*** **(MPa)**	ρ **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***Z***
***T*= 304.20±0.03 K**				***T*= 313.18±0.07 K**				***T*= 333.16±0.06 K**			
0.100	1.85	0.23	0.95	0.120	2.14	0.23	0.96	0.120	2.06	0.23	0.94
0.479	8.82	0.23	0.96	0.478	8.37	0.22	0.98	0.678	11.33	0.23	0.96
0.877	16.16	0.23	0.96	0.877	15.57	0.22	0.96	1.277	22.00	0.23	0.93
1.276	23.93	0.23	0.94	1.275	23.21	0.23	0.94	1.875	32.91	0.23	0.92
1.675	32.16	0.23	0.92	1.674	31.08	0.23	0.92	2.474	44.40	0.23	0.90
2.073	40.86	0.23	0.89	2.470	47.93	0.23	0.88	3.072	56.56	0.23	0.87
2.472	50.04	0.23	0.87	2.869	57.19	0.23	0.86	3.670	68.29	0.23	0.86
2.871	59.79	0.23	0.85	3.267	66.94	0.23	0.83	4.269	81.95	0.23	0.84
3.269	70.14	0.23	0.82	3.666	77.47	0.23	0.81	4.867	96.59	0.23	0.81
3.668	81.32	0.23	0.79	4.064	88.71	0.23	0.78	5.466	112.38	0.23	0.78
4.067	93.54	0.23	0.77	4.462	100.48	0.23	0.76	6.064	129.49	0.23	0.75
4.465	106.89	0.23	0.74	4.861	112.80	0.23	0.74	6.662	148.35	0.23	0.72
4.864	121.82	0.23	0.70	5.259	126.12	0.23	0.71	7.261	169.22	0.23	0.69
5.263	138.72	0.23	0.67	5.658	140.82	0.23	0.69	7.859	192.63	0.24	0.66
5.661	158.68	0.24	0.63	6.056	157.33	0.23	0.66	8.458	219.42	0.24	0.62
6.040	182.45	0.24	0.58	6.454	177.18	0.24	0.62	9.056	250.50	0.24	0.58
***T*= 304.24±0.05 K**				6.853	202.15	0.24	0.58	9.654	287.12	0.25	0.54
7.764	695.92	0.32	0.20	7.251	234.13	0.25	0.53	10.253	328.98	0.25	0.50
8.119	717.90	0.32	0.20	7.650	276.02	0.26	0.47	10.851	375.64	0.26	0.46
8.474	734.25	0.32	0.20	8.048	347.46	0.28	0.40	11.450	427.02	0.27	0.43
8.829	747.56	0.33	0.21	8.446	453.71	0.30	0.32	12.048	472.03	0.28	0.41
9.184	758.92	0.33	0.21	8.845	549.94	0.31	0.28	12.646	512.84	0.28	0.40
9.540	768.84	0.33	0.22	9.243	607.51	0.30	0.26	13.245	545.76	0.29	0.39
9.895	777.78	0.33	0.22	9.642	642.15	0.31	0.26	13.843	576.42	0.29	0.39
10.250	785.68	0.33	0.23	10.040	667.81	0.31	0.26	14.442	602.37	0.29	0.39
10.605	792.71	0.33	0.24	10.438	686.16	0.31	0.26	15.040	624.62	0.30	0.39
10.960	798.98	0.34	0.24	10.837	701.50	0.32	0.26	15.638	643.86	0.30	0.39
11.316	804.59	0.34	0.25	11.235	715.48	0.32	0.27	16.237	661.02	0.31	0.39
11.671	809.69	0.34	0.25	11.634	727.37	0.32	0.27	16.835	675.94	0.31	0.40
12.026	815.20	0.34	0.26	12.032	737.38	0.32	0.28	17.434	689.11	0.31	0.41
12.381	820.43	0.34	0.27	12.430	746.95	0.32	0.28	18.032	700.54	0.31	0.41
12.736	825.43	0.34	0.27	12.829	755.52	0.33	0.29	18.630	711.28	0.32	0.42
13.091	830.28	0.34	0.28	13.227	763.40	0.33	0.30	19.229	721.15	0.32	0.43
13.447	834.85	0.34	0.28	13.626	770.99	0.33	0.30	19.827	730.59	0.32	0.44
13.802	839.18	0.34	0.29	14.024	777.99	0.33	0.31	20.426	739.59	0.32	0.44

14.157	843.39	0.34	0.30	14.422	784.44	0.33	0.31	21.024	748.06	0.32	0.45
14.512	847.45	0.35	0.30	14.821	790.46	0.33	0.32	21.622	756.02	0.32	0.46
14.867	851.38	0.35	0.31	15.219	796.26	0.33	0.33	22.221	763.58	0.33	0.47
15.223	855.20	0.35	0.31	15.618	801.80	0.34	0.33	22.819	770.72	0.33	0.48
15.578	858.81	0.35	0.32	16.016	806.84	0.34	0.34	23.418	777.46	0.33	0.48
15.933	862.32	0.35	0.33	16.414	811.97	0.34	0.35	24.016	783.89	0.33	0.49
16.288	865.77	0.35	0.33	16.813	816.83	0.34	0.35	24.614	790.11	0.33	0.50
16.643	869.09	0.35	0.34	17.211	821.51	0.34	0.36	25.213	796.06	0.33	0.51
16.999	872.33	0.35	0.34	17.610	825.91	0.34	0.36	25.811	801.73	0.33	0.52
17.354	875.43	0.35	0.35	18.008	830.16	0.34	0.37	26.410	807.17	0.34	0.53
17.709	878.48	0.35	0.35	18.406	834.05	0.34	0.38	27.008	812.43	0.34	0.53
18.064	881.43	0.35	0.36	18.805	838.09	0.34	0.38	27.606	817.49	0.34	0.54
18.419	884.29	0.35	0.37	19.203	841.91	0.34	0.39	28.205	822.32	0.34	0.55
18.775	887.05	0.35	0.37	19.602	845.65	0.34	0.40	28.803	826.94	0.34	0.56
19.130	889.75	0.36	0.38	20.000	849.29	0.35	0.40	29.402	831.47	0.34	0.57
19.485	892.27	0.36	0.38					30.000	835.98	0.34	0.58
19.840	894.74	0.36	0.39								
20.000	895.88	0.36	0.39								

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S2 (continued). Reduced $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty; *Z*: compressibility factor.

x_{CO_2} = 0.9206; x_{SO_2} = 0.0493; x_{CO} = 0.0301							
p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z
T= 353.15±0.06 K				T= 373.13±0.05 K			
0.100	1.58	0.23	0.96	0.100	1.47	0.23	0.98
0.678	10.46	0.22	0.98	0.678	9.94	0.22	0.98
1.277	20.04	0.22	0.97	1.277	18.81	0.22	0.97
1.875	30.11	0.22	0.94	1.875	28.16	0.22	0.96
2.474	40.57	0.22	0.92	2.474	37.88	0.22	0.94
3.072	51.42	0.23	0.91	3.072	47.77	0.22	0.92
3.670	62.74	0.23	0.89	3.670	57.93	0.22	0.91
4.269	74.73	0.23	0.87	4.269	68.50	0.22	0.89
4.867	87.17	0.23	0.85	4.867	79.75	0.23	0.88
5.466	100.27	0.23	0.83	5.466	91.17	0.23	0.86
6.064	114.00	0.23	0.81	6.064	103.05	0.23	0.84
6.662	128.57	0.23	0.79	6.662	115.31	0.23	0.83
7.261	143.98	0.23	0.76	7.261	128.14	0.23	0.81
7.859	160.36	0.23	0.74	7.859	140.86	0.23	0.80
8.458	177.79	0.23	0.72	8.458	154.56	0.23	0.79
9.056	196.55	0.24	0.70	9.056	168.95	0.23	0.77
9.654	216.65	0.24	0.68	9.654	183.90	0.23	0.75
10.253	238.10	0.24	0.65	10.253	198.91	0.23	0.74
10.851	260.84	0.24	0.63	10.851	215.39	0.24	0.72
11.450	284.61	0.24	0.61	11.450	232.19	0.24	0.71
12.048	310.07	0.25	0.59	12.048	249.81	0.24	0.69
12.646	336.50	0.25	0.57	12.646	267.80	0.24	0.68
13.245	363.62	0.26	0.55	13.245	286.39	0.24	0.66
13.843	391.07	0.26	0.54	13.843	304.76	0.25	0.65
14.442	418.25	0.26	0.52	14.442	323.55	0.25	0.64
15.040	444.57	0.27	0.51	15.040	342.49	0.25	0.63
15.638	469.34	0.27	0.51	15.638	361.44	0.25	0.62
16.237	491.55	0.27	0.50	16.237	380.53	0.26	0.61
16.835	512.88	0.28	0.50	16.835	399.40	0.26	0.60
17.434	533.27	0.28	0.50	17.434	417.93	0.26	0.60
18.032	552.11	0.28	0.50	18.032	435.98	0.26	0.59
18.630	569.40	0.29	0.50	18.630	453.35	0.27	0.59
19.229	585.25	0.29	0.50	19.229	470.16	0.27	0.59
19.827	599.45	0.29	0.50	19.827	486.28	0.27	0.59
20.426	613.15	0.29	0.51	20.426	501.69	0.27	0.58

21.024	626.10	0.30	0.51	21.024	516.48	0.28	0.58
21.622	638.11	0.30	0.51	21.622	530.58	0.28	0.58
22.221	649.02	0.30	0.52	22.221	543.89	0.28	0.59
22.819	659.61	0.30	0.52	22.819	556.60	0.28	0.59
23.418	669.65	0.31	0.53	23.418	568.66	0.29	0.59
24.016	679.17	0.31	0.54	24.016	580.06	0.29	0.59
24.614	688.03	0.31	0.54	24.614	590.69	0.29	0.60
25.213	696.38	0.31	0.55	25.213	601.21	0.29	0.60
25.811	704.42	0.31	0.56	25.811	611.33	0.29	0.61
26.410	712.13	0.31	0.56	26.410	621.01	0.30	0.61
27.008	719.48	0.32	0.57	27.008	630.02	0.30	0.62
27.606	726.53	0.32	0.58	27.606	638.68	0.30	0.62
28.205	733.16	0.32	0.58	28.205	647.17	0.30	0.63
28.803	739.65	0.32	0.59	28.803	655.09	0.30	0.63
29.402	745.87	0.32	0.60	29.402	662.56	0.30	0.64
30.000	751.94	0.32	0.60	30.000	669.59	0.31	0.64

Table S2 (continued). Reduced $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty.

x_{CO_2} = 0.9879; x_{SO_2} = 0.0009; x_{CO} = 0.0112											
p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z
T= 263.19±0.07 K				T= 273.17±0.01 K				T= 293.14±0.06 K			
0.100	1.98	0.22	1.01	0.134	2.77	0.23	0.93	0.100	1.88	0.23	0.96
0.419	8.65	0.22	0.97	0.420	8.57	0.23	0.95	0.533	9.94	0.22	0.96
0.755	16.01	0.22	0.95	0.758	15.63	0.23	0.94	0.990	18.86	0.22	0.94
1.090	23.87	0.22	0.92	1.095	23.10	0.23	0.92	1.446	28.26	0.22	0.92
1.426	32.29	0.22	0.89	1.432	31.00	0.22	0.89	1.902	38.29	0.22	0.89
1.762	41.34	0.22	0.85	1.770	39.42	0.22	0.87	2.358	48.89	0.22	0.87
2.097	51.36	0.22	0.82	2.107	48.37	0.22	0.84	2.815	60.49	0.22	0.84
2.433	62.34	0.22	0.78	2.444	58.16	0.22	0.81	3.271	73.03	0.22	0.81
2.647	70.44	0.22	0.75	2.781	69.00	0.23	0.78	3.727	87.05	0.22	0.77
T= 263.20±0.10 K				3.119	81.08	0.23	0.74	4.183	102.68	0.23	0.73
3.142	973.99	0.37	0.06	3.456	95.00	0.23	0.70	4.639	120.83	0.23	0.69
3.263	974.75	0.37	0.07	3.503	97.46	0.22	0.69	5.096	142.79	0.23	0.64
3.666	977.16	0.37	0.08	T= 273.09±0.06 K				5.552	171.54	0.23	0.58
4.068	979.74	0.38	0.08	3.954	920.47	0.36	0.08	5.780	191.27	0.21	0.54
4.471	982.00	0.38	0.09	4.213	922.88	0.36	0.09	T= 293.20±0.12 K			
4.874	984.38	0.38	0.10	4.613	926.43	0.36	0.10	6.188	768.39	0.33	0.14
5.277	986.70	0.38	0.11	5.013	929.66	0.36	0.10	6.355	774.26	0.33	0.15
5.680	988.97	0.38	0.12	5.412	933.10	0.36	0.11	6.724	785.46	0.33	0.15
6.082	991.30	0.38	0.12	5.812	936.39	0.37	0.12	7.093	795.25	0.33	0.16
6.485	993.51	0.38	0.13	6.212	939.63	0.37	0.13	7.463	803.65	0.34	0.17
6.888	995.66	0.38	0.14	6.611	942.70	0.37	0.14	7.832	811.54	0.34	0.17
7.291	997.82	0.38	0.15	7.011	945.71	0.37	0.14	8.201	818.40	0.34	0.18
7.694	999.90	0.38	0.15	7.411	948.62	0.37	0.15	8.570	825.10	0.34	0.19
8.097	1001.90	0.38	0.16	7.810	951.40	0.37	0.16	8.940	831.23	0.34	0.19
8.499	1003.90	0.38	0.17	8.210	954.12	0.37	0.17	9.309	836.67	0.34	0.20
8.902	1005.89	0.38	0.18	8.610	956.75	0.37	0.17	9.678	842.02	0.34	0.21
9.305	1007.86	0.38	0.19	9.009	959.34	0.37	0.18	10.048	847.20	0.34	0.21
9.708	1009.73	0.38	0.19	9.409	961.86	0.37	0.19	10.417	851.99	0.35	0.22
10.111	1011.63	0.38	0.20	9.809	964.31	0.37	0.20	10.786	856.37	0.35	0.23
10.514	1013.44	0.38	0.21	10.208	966.74	0.37	0.20	11.155	860.63	0.35	0.23
10.916	1015.26	0.38	0.22	10.608	969.02	0.37	0.21	11.525	864.78	0.35	0.24
11.319	1017.03	0.38	0.22	11.008	971.35	0.37	0.22	11.894	868.69	0.35	0.25
11.722	1018.82	0.38	0.23	11.407	973.57	0.37	0.23	12.263	872.54	0.35	0.25
12.125	1020.57	0.39	0.24	11.807	975.73	0.37	0.23	12.633	876.24	0.35	0.26
12.528	1022.26	0.39	0.25	12.207	977.84	0.38	0.24	13.002	879.79	0.35	0.27

12.930	1023.99	0.39	0.25	12.606	979.81	0.38	0.25	13.371	883.23	0.35	0.27
13.333	1025.65	0.39	0.26	13.006	981.90	0.38	0.26	13.740	886.58	0.35	0.28
13.736	1027.36	0.39	0.27	13.406	984.03	0.38	0.26	14.110	889.82	0.35	0.29
14.139	1028.96	0.39	0.28	13.805	986.14	0.38	0.27	14.479	892.90	0.35	0.29
14.542	1030.61	0.39	0.28	14.205	988.10	0.38	0.28	14.848	895.91	0.36	0.30
14.945	1032.15	0.39	0.29	14.605	990.12	0.38	0.28	15.218	898.82	0.36	0.30
15.347	1033.76	0.39	0.30	15.004	992.02	0.38	0.29	15.587	901.58	0.36	0.31
15.750	1035.31	0.39	0.30	15.404	993.87	0.38	0.30	15.956	904.31	0.36	0.32
16.153	1036.78	0.39	0.31	15.804	995.64	0.38	0.31	16.326	906.92	0.36	0.32
16.556	1038.27	0.39	0.32	16.203	997.52	0.38	0.31	16.695	909.42	0.36	0.33
16.959	1039.78	0.39	0.33	16.603	999.47	0.38	0.32	17.064	911.84	0.36	0.34
17.362	1041.23	0.39	0.33	17.003	1001.27	0.38	0.33	17.433	914.19	0.36	0.34
17.764	1042.59	0.39	0.34	17.402	1003.03	0.38	0.33	17.803	916.77	0.36	0.35
18.167	1044.02	0.39	0.35	17.802	1004.73	0.38	0.34	18.172	919.37	0.36	0.36
18.570	1045.32	0.39	0.36	18.202	1006.42	0.38	0.35	18.541	921.67	0.36	0.36
18.973	1046.69	0.39	0.36	18.601	1008.05	0.38	0.36	18.911	923.79	0.36	0.37
19.376	1047.98	0.39	0.37	19.001	1009.64	0.38	0.36	19.280	925.83	0.36	0.37
19.778	1049.24	0.39	0.38	19.401	1011.20	0.38	0.37	19.649	927.89	0.36	0.38
20.000	1049.98	0.39	0.38	19.800	1012.70	0.38	0.38	20.000	929.72	0.36	0.39
				20.000	1013.46	0.38	0.38				

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S2 (continued). Reduced $p\rho T$ experimental data for the CO_2 + SO_2 + CO mixtures. $u(\rho)$: combined standard uncertainty.

x_{CO_2} = 0.9879; x_{SO_2} = 0.0009; x_{CO} = 0.0112											
p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z	p (MPa)	ρ (kg.m^{-3})	$u(\rho)$ (kg.m^{-3})	Z
T= 304.20±0.03 K				T= 313.16±0.04 K				T= 333.16±0.04 K			
0.339	5.63	0.22	1.04	0.419	6.77	0.22	1.04	0.319	4.84	0.22	1.04
0.478	8.20	0.22	1.01	0.478	7.82	0.22	1.03	0.678	10.59	0.22	1.01
0.877	15.56	0.22	0.98	0.877	14.95	0.22	0.99	1.277	20.80	0.22	0.97
1.275	23.19	0.22	0.95	1.275	22.31	0.22	0.96	1.875	31.32	0.22	0.95
1.674	31.24	0.22	0.93	1.674	30.02	0.22	0.94	2.474	42.44	0.22	0.92
2.072	39.58	0.22	0.91	2.072	37.94	0.22	0.92	3.072	54.16	0.22	0.90
2.470	48.39	0.22	0.88	2.470	46.25	0.22	0.90	3.670	66.56	0.22	0.87
2.869	57.72	0.22	0.86	2.869	54.98	0.22	0.88	4.269	79.67	0.22	0.85
3.267	67.55	0.22	0.84	3.267	64.17	0.22	0.86	4.867	93.64	0.22	0.82
3.666	78.17	0.22	0.81	3.666	73.88	0.22	0.84	5.466	108.60	0.22	0.80
4.064	89.59	0.22	0.79	4.064	84.17	0.22	0.81	6.064	124.75	0.23	0.77
4.462	102.01	0.22	0.76	4.462	95.16	0.22	0.79	6.662	142.29	0.23	0.74
4.861	115.61	0.23	0.73	4.861	106.95	0.22	0.77	7.261	161.45	0.23	0.71
5.259	130.88	0.23	0.70	5.259	119.64	0.23	0.74	7.859	182.66	0.23	0.68
5.658	148.13	0.23	0.66	5.658	133.69	0.23	0.71	8.458	206.09	0.23	0.65
6.056	168.05	0.23	0.62	6.056	149.18	0.23	0.68	9.056	232.58	0.23	0.62
6.454	191.80	0.23	0.58	6.454	166.84	0.23	0.65	9.654	262.60	0.24	0.58
6.853	224.10	0.23	0.53	6.853	186.45	0.23	0.62	10.253	296.75	0.24	0.55
7.251	276.07	0.23	0.46	7.251	209.54	0.23	0.58	10.851	334.32	0.24	0.51
7.650	508.68	0.26	0.26	7.650	237.72	0.23	0.54	11.450	376.13	0.25	0.48
8.048	635.98	0.29	0.22	8.048	274.23	0.24	0.49	12.048	419.75	0.26	0.45
8.446	673.23	0.30	0.22	8.446	326.47	0.24	0.44	12.646	461.94	0.26	0.43
8.845	697.29	0.31	0.22	8.845	399.92	0.25	0.37	13.245	500.59	0.27	0.42
9.243	714.93	0.31	0.22	9.243	493.51	0.26	0.32	13.843	534.25	0.28	0.41
9.642	728.15	0.32	0.23	9.642	561.37	0.28	0.29	14.442	563.34	0.28	0.41
10.040	740.52	0.32	0.24	10.040	603.69	0.29	0.28	15.040	588.17	0.29	0.40
10.438	751.29	0.32	0.24	10.438	630.33	0.29	0.28	15.638	608.43	0.29	0.41
10.837	760.87	0.32	0.25	10.837	650.87	0.30	0.28	16.237	627.36	0.29	0.41
11.235	769.58	0.33	0.25	11.235	668.80	0.30	0.28	16.835	644.25	0.30	0.41
11.634	777.39	0.33	0.26	11.634	684.54	0.31	0.29	17.434	659.29	0.30	0.42
12.032	784.27	0.33	0.27	12.032	698.11	0.31	0.29	18.032	672.84	0.30	0.42
12.430	791.02	0.33	0.27	12.430	710.10	0.31	0.29	18.630	685.34	0.31	0.43
12.829	797.42	0.33	0.28	12.829	720.78	0.31	0.30	19.229	696.66	0.31	0.44
13.227	803.32	0.33	0.29	13.227	730.53	0.32	0.30	19.827	707.21	0.31	0.44
13.626	808.95	0.33	0.29	13.626	739.33	0.32	0.31	20.426	716.79	0.31	0.45

14.024	814.30	0.34	0.30	14.024	747.23	0.32	0.32	21.024	725.52	0.32	0.46
14.422	819.30	0.34	0.31	14.422	754.58	0.32	0.32	21.622	734.08	0.32	0.47
14.821	823.93	0.34	0.31	14.821	761.68	0.32	0.33	22.221	742.12	0.32	0.47
15.219	828.57	0.34	0.32	15.219	768.32	0.32	0.33	22.819	749.79	0.32	0.48
15.618	833.13	0.34	0.33	15.618	774.59	0.33	0.34	23.418	756.96	0.32	0.49
16.016	837.36	0.34	0.33	16.016	780.64	0.33	0.35	24.016	763.88	0.32	0.50
16.414	841.44	0.34	0.34	16.414	786.33	0.33	0.35	24.614	770.30	0.33	0.51
16.813	845.34	0.34	0.34	16.813	791.76	0.33	0.36	25.213	776.53	0.33	0.51
17.211	849.25	0.34	0.35	17.211	796.72	0.33	0.36	25.811	782.55	0.33	0.52
17.610	852.97	0.34	0.36	17.610	801.51	0.33	0.37	26.410	788.35	0.33	0.53
18.008	856.56	0.35	0.36	18.008	806.26	0.33	0.38	27.008	793.92	0.33	0.54
18.406	860.07	0.35	0.37	18.406	810.76	0.33	0.38	27.606	799.24	0.33	0.55
18.805	863.48	0.35	0.38	18.805	815.08	0.34	0.39	28.205	804.41	0.33	0.56
19.203	866.75	0.35	0.38	19.203	819.31	0.34	0.39	28.803	809.34	0.33	0.56
19.602	869.97	0.35	0.39	19.602	823.40	0.34	0.40	29.402	814.17	0.34	0.57
20.000	873.08	0.35	0.40	20.000	827.27	0.34	0.41	30.000	818.78	0.34	0.58

x_{CO_2} = 0.9879; x_{SO_2} = 0.0009; x_{CO} = 0.0112							
p **(MPa)**	ρ **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***Z***	***p*** **(MPa)**	ρ **(kg.m^{-3})**	$u(\rho)$ **(kg.m^{-3})**	***Z***
***T*= 353.17±0.05 K**				***T*= 373.17±0.03 K**			
0.419	5.99	0.22	1.04	0.100	1.36	0.22	1.04
0.678	9.99	0.22	1.01	0.678	9.66	0.22	0.99
1.277	19.34	0.22	0.99	1.277	18.56	0.22	0.97
1.875	29.08	0.22	0.96	1.875	27.63	0.22	0.96
2.474	39.30	0.22	0.94	2.474	37.05	0.22	0.94
3.072	49.88	0.22	0.92	3.072	46.70	0.22	0.93
3.670	60.75	0.22	0.90	3.670	56.66	0.22	0.92
4.269	72.21	0.22	0.88	4.269	66.94	0.22	0.90
4.867	84.18	0.22	0.86	4.867	77.57	0.22	0.89
5.466	96.70	0.22	0.84	5.466	88.52	0.22	0.87
6.064	109.90	0.22	0.82	6.064	99.96	0.22	0.86
6.662	123.75	0.23	0.80	6.662	111.72	0.22	0.84
7.261	138.38	0.23	0.78	7.261	123.92	0.22	0.83
7.859	153.90	0.23	0.76	7.859	136.64	0.23	0.81
8.458	170.26	0.23	0.74	8.458	149.77	0.23	0.80
9.056	187.59	0.23	0.72	9.056	163.42	0.23	0.78
9.654	206.12	0.23	0.70	9.654	177.66	0.23	0.77
10.253	225.67	0.23	0.68	10.253	192.35	0.23	0.75
10.851	246.47	0.23	0.66	10.851	207.55	0.23	0.74
11.450	268.50	0.24	0.64	11.450	223.25	0.23	0.72

12.048	291.75	0.24	0.62	12.048	239.55	0.23	0.71
12.646	315.95	0.24	0.60	12.646	256.33	0.24	0.70
13.245	340.89	0.25	0.58	13.245	273.56	0.24	0.68
13.843	366.52	0.25	0.56	13.843	291.19	0.24	0.67
14.442	392.14	0.25	0.55	14.442	309.08	0.24	0.66
15.040	417.49	0.26	0.54	15.040	327.25	0.24	0.65
15.638	442.14	0.26	0.53	15.638	345.53	0.25	0.64
16.237	465.30	0.26	0.52	16.237	363.84	0.25	0.63
16.835	486.76	0.27	0.52	16.835	382.04	0.25	0.62
17.434	507.55	0.27	0.51	17.434	399.92	0.25	0.62
18.032	527.01	0.28	0.51	18.032	416.98	0.26	0.61
18.630	544.99	0.28	0.51	18.630	433.96	0.26	0.61
19.229	561.52	0.28	0.51	19.229	450.26	0.26	0.60
19.827	576.62	0.28	0.51	19.827	466.19	0.26	0.60
20.426	591.01	0.29	0.52	20.426	481.49	0.27	0.60
21.024	604.37	0.29	0.52	21.024	496.03	0.27	0.60
21.622	616.92	0.29	0.52	21.622	510.01	0.27	0.60
22.221	628.68	0.30	0.53	22.221	523.47	0.27	0.60
22.819	639.71	0.30	0.53	22.819	536.16	0.28	0.60
23.418	650.11	0.30	0.54	23.418	548.35	0.28	0.60
24.016	659.86	0.30	0.54	24.036	560.37	0.28	0.61
24.614	668.83	0.30	0.55	24.614	571.15	0.28	0.61
25.213	677.66	0.31	0.56	25.213	581.80	0.29	0.61
25.811	686.10	0.31	0.56	25.811	591.98	0.29	0.62
26.410	694.09	0.31	0.57	26.410	601.65	0.29	0.62
27.008	701.63	0.31	0.57	27.008	611.02	0.29	0.62
27.606	708.90	0.31	0.58	27.606	619.94	0.29	0.63
28.205	715.96	0.31	0.59	28.205	628.54	0.29	0.63
28.803	722.66	0.31	0.60	28.803	636.80	0.30	0.64
29.402	729.10	0.32	0.60	29.402	644.68	0.30	0.64
30.000	735.31	0.32	0.61	30.000	652.33	0.30	0.65

Combined standard uncertainties:

$u(T)$= 0.006 K; $u(p)$= 0.0020 MPa for p < 6 MPa; $u(p)$= 0.024 MPa for 6 MPa ≤ p ≤ 70 MPa

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S3. Experimental dew and bubble pressures, p_{dew} and p_{bubble}, respectively, and densities of the vapor, ρ_{V}, and liquid, ρ_{L}, phases in the VLE for the CO_2 + SO_2 + CO mixtures and the correspondingly combined standard uncertainties. Pure CO_2 data (Span and Wagner, 1996) are included for comparison; p_{sat}: saturation pressure.

T (K)	p_{dew} (MPa)	$u(p_{\mathrm{dew}})$ (MPa)	ρ_{V} (kg·m^{-3})	$u(\rho_{\mathrm{V}})$ (kg·m^{-3})	T (K)	p_{bubble} (MPa)	$u(p_{\mathrm{bubble}})$ (MPa	ρ_{L} (kg·m^{-3})	$u(\rho_{\mathrm{L}})$ (kg·m^{-3})
x_{CO_2} = 0.9206; x_{SO_2} = 0.0493; x_{CO} = 0.0301									
263.14	1.524	0.050	36.1	1.7	**263.13**	3.842	0.079	999.4	1.0
273.14	2.257	0.034	54.3	1.3	**273.13**	4.580	0.030	952.47	0.84
293.15	4.395	0.027	116.6	1.5	**293.15**	6.453	0.059	812.2	1.7
304.20	6.055	0.045	183.1	1.8	**304.24**	7.752	0.046	695.6	2.0
x_{CO_2} = 0.9879; x_{SO_2} = 0.0009; x_{CO} = 0.0112									
263.19	2.672	0.0093	71.25	0.62	**263.20**	3.106	0.028	973.91	0.70
273.17	3.518	0.0070	97.84	0.65	**273.09**	3.917	0.019	920.33	0.84
293.14	5.830	0.0090	196.3	1.2	**293.20**	6.105	0.048	766.0	1.4
pure CO_2									
	p_{sat} (MPa)	ρ_{V} (kg·m^{-3})	ρ_{L} (kg·m^{-3})						
263.15	2.649	71.19	982.93						
273.15	3.485	97.65	927.43						
293.15	5.729	194.20	773.39						

Table S4. Mole fraction composition, x_i, and the standard uncertainty of the mole fraction composition, $u(x_i)$, of the mixtures prepared for the uncertainty study and for quantifying the effect of CH_3OH on the experimental c values.

Component	**Cocapture CO_2 + SO_2 + CO mixtures**						**Cocapture CO_2 + CH_3OH + SO_2 + CO mixtures**			
	x_i	$u(x_i)$	x_i	$u(x_i)$	x_i	$u(x_i)$	x_i	$u(x_i)$	x_i	$u(x_i)$
CO_2	0.9211	0.0003	0.9209	0.0003	0.9207	0.0003	0.9126	0.0004	0.9134	0.0004
SO_2	0.0495	0.0002	0.0490	0.0002	0.0491	0.0002	0.0493	0.0002	0.0489	0.0002
CO	0.0294	0.0002	0.0302	0.0002	0.0302	0.0002	0.0299	0.0002	0.0299	0.0002
CH_3OH							0.0082	0.0004	0.0079	0.0004

Table S5. *pcT* experimental data for the CO_2 + SO_2 + CO and CO_2 + CH_3OH + SO_2 + CO mixtures used for the uncertainty study and for quantifying the effect of CH_3OH on the experimental *c* values.

p **(MPa)**	***c*** **($m \cdot s^{-1}$)**	***p*** **(MPa)**	***c*** **($m \cdot s^{-1}$)**	***p*** **(MPa)**	***c*** **($m \cdot s^{-1}$)**
$x_{CO_2} = 0.9211$; $x_{SO_2} = 0.0495$; $x_{CO} = 0.0294$					
T **= 263.14±0.008 K**		***T*** **= 293.13±0.000 K**		***T*** **= 313.15±0.005 K**	
189.91	1402.43	190.10	1324.91	189.93	1278.05
184.98	1392.38	184.89	1312.83	188.10	1273.73
180.21	1381.67	180.01	1301.14	186.00	1268.72
175.04	1369.76	175.14	1289.47	184.02	1263.87
170.11	1358.41	170.10	1276.99	182.03	1259.03
165.12	1346.58	165.04	1264.25	179.95	1253.85
160.01	1334.21	160.05	1251.42	178.00	1249.00
155.04	1322.08	155.00	1238.09	176.01	1244.06
150.06	1309.67	149.89	1224.90	174.01	1238.89
145.03	1296.75	190.10	1324.91	172.03	1238.89
139.93	1283.40	184.89	1312.83	170.11	1238.89
134.99	1270.32	180.01	1301.14		
130.01	1256.44	175.14	1289.47		
124.89	1242.32	170.10	1276.99		
120.06	1228.37	165.04	1264.25		
114.98	1213.52	160.05	1251.42		
110.05	1198.64	155.00	1238.09		
105.03	1183.04	149.89	1224.90		
99.99	1167.14				
94.97	1150.38				
90.07	1133.72				
84.99	1115.87				
79.89	1097.42				
T **= 263.13±0.005 K**		***T*** **= 293.12±0.005 K**		***T*** **= 313.14±0.005 K**	
189.99	1405.25	190.07	1325.84	189.95	1278.08
184.95	1394.21	184.89	1313.99	187.94	1273.39

180.07	1383.38	179.95	1302.16	185.98	1268.75
175.10	1372.06	175.01	1290.19	183.92	1263.63
170.00	1360.29	170.02	1277.76	182.01	1259.99
165.02	1348.53	164.98	1265.28	179.96	1253.87
160.04	1336.55	160.01	1252.51	178.01	1249.05
155.05	1324.35	154.94	1239.20	176.06	1244.23
150.07	1311.91	150.00	1226.20	174.05	1239.15
145.03	1298.03	144.83	1211.94	172.03	1234.96
140.13	1286.16			169.81	1228.25
135.08	1272.76			168.06	1223.71
129.95	1258.90				
124.99	1244.99				
120.02	1230.81				
115.05	1216.30				
110.03	1201.22				
105.04	1185.90				
100.00	1169.79				
95.06	1153.69				
90.01	1136.31				
85.01	1119.19				
80.17	1101.68				
***T* = 263.13±0.005 K**		***T* = 293.13±0.003 K**			
190.17	1405.85	190.13	1325.89		
184.98	1394.64	184.94	1314.09		
179.91	1383.33	179.97	1302.38		
175.17	1372.63	175.04	1290.30		
170.17	1361.11	170.06	1278.01		
165.14	1349.28	165.01	1265.41		
160.17	1337.32	160.07	1252.82		
155.07	1324.81	155.04	1239.68		
149.98	1312.03	150.05	1226.47		
145.12	1299.66	145.12	1212.78		
139.98	1286.07				
135.06	1273.20				

130.08	1259.61				
125.08	1245.74				
120.16	1231.71				
115.05	1216.84				
110.01	1201.57				
105.03	1186.22				
100.03	1170.40				
94.97	1153.98				
89.97	1136.82				
85.09	1119.87				
80.01	1101.49				
$x_{CO_2} = 0.9209$; $x_{SO_2} = 0.0490$; $x_{CO} = 0.0302$					
***T* = 263.14±0.005 K**		***T* = 293.13±0.000 K**		***T* = 313.15±0.006 K**	
189.88	1403.41	190.23	1325.25	189.94	1276.57
184.99	1392.70	185.16	1313.42	188.03	1272.05
180.17	1381.86	180.01	1301.22	185.72	1266.42
174.99	1370.05	175.15	1289.36	183.93	1262.02
169.99	1358.50	170.00	1276.77	189.94	1276.57
165.20	1347.15	165.07	1264.24	188.03	1272.05
160.00	1334.69	160.07	1251.71	185.72	1266.42
155.08	1322.67	155.09	1238.41	183.93	1262.02
150.08	1310.15	190.23	1325.25		
145.03	1297.30	185.16	1313.42		
140.01	1284.11				
134.92	1270.70				
130.13	1257.46				
124.98	1243.39				
120.00	1228.86				
115.07	1214.42				
110.28	1199.88				
$x_{CO_2} = 0.9207$; $x_{SO_2} = 0.0491$; $x_{CO} = 0.0302$					
***T* = 263.14±0.005 K**		***T* = 293.13±0.004 K**		***T* = 313.14±0.005 K**	
189.98	1403.55	190.35	1325.48	313.13	190.08

185.00	1392.75	185.08	1313.21	313.14	189.15
180.28	1382.14	180.04	1301.31	313.14	187.90
175.04	1370.35	175.15	1289.49	313.13	187.00
170.02	1358.73	170.08	1277.02	313.14	185.96
165.14	1347.09	165.07	1264.62		
159.94	1334.59	162.43	1257.49		
155.08	1322.65	159.98	1251.32		
150.22	1310.53	157.56	1244.84		
145.11	1297.45	155.12	1238.82		
140.34	1284.98				
135.21	1271.35				
129.92	1256.95				
125.00	1243.23				
119.89	1228.65				
115.02	1214.31				
110.05	1199.31				
105.01	1183.75				

Combined standard uncertainties:

$u(T) = 0.015$ K; $u(p) = 0.02$ MPa; $u^*(c) = 7.6 \times 10^{-4}c$; $u(c) = 7.6 \times 10^{-4}c$

$u(x_{CO_2})$= 0.0003; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S5 (continued). *pcT* experimental data for the CO_2 + SO_2 + CO and CO_2 + CH_3OH + SO_2 + CO mixtures used for the uncertainty study and for quantifying the effect of CH_3OH on the experimental *c* values.

p **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**
$x_{CO_2} = 0.9126; x_{CH_3OH} = 0.0082;\ x_{SO_2} = 0.0493;\ x_{CO} = 0.0299$					
T **= 263.14±0.006 K**		***T*** **= 293.12±0.004 K**		***T*** **= 313.14±0.000 K**	
190.10	1405.55	189.92	1327.05	190.17	1279.79
179.64	1382.55	179.63	1303.16	185.93	1269.56
169.97	1359.96	170.15	1279.81	183.81	1264.46
160.15	1336.78	159.94	1253.77	180.61	1256.55
149.95	1311.64	150.04	1227.51	170.25	1230.43
139.98	1285.86	140.20	1200.37	160.08	1203.59
130.03	1259.07	130.02	1170.82	150.34	1176.83
120.39	1231.83	120.05	1140.33	144.78	1161.12
109.98	1201.24	109.89	1107.52	140.33	1148.13
99.95	1169.51	100.09	1073.9	135.23	1132.99
89.90	1135.95	89.94	1036.54	130.13	1117.28
79.96	1100.49	80.00	997.38	125.12	1101.65
75.23	1082.63	75.10	976.69	119.99	1085.07
70.02	1062.29	69.68	952.85	115.19	1069.06
65.08	1042.39	65.25	932.05	110.17	1051.85
59.92	1020.47	59.95	906.51	104.97	1033.43
55.11	998.93	54.94	880.72	100.25	1016.10
49.76	973.82	49.71	851.88	95.13	996.70
45.42	952.07	45.18	825.39	90.23	977.32
39.95	923.24			85.28	957.12
34.93	894.87			80.43	936.27
29.92	864.25			75.31	913.53
24.97	831.22			70.08	888.83
20.09	795.09			65.24	865.09
15.21	754.76				

		T = 293.12±0.003 K			
		190.15	1327.78		
		170.37	1280.27		
		149.93	1227.35		
		129.88	1170.47		
		109.98	1107.87		
		90.26	1037.90		
		70.09	954.66		
		50.04	854.03		
		45.05	824.69		
		190.15	1327.78		
		170.37	1280.27		
		149.93	1227.35		
		129.88	1170.47		
		109.98	1107.87		
		90.26	1037.90		
		70.09	954.66		
		50.04	854.03		
		45.05	824.69		
$x_{CO_2} = 0.9134; x_{CH_3OH} = 0.0079;\ x_{SO_2} = 0.0489;\ x_{CH_4} = 0.0299$					
T = 263.14±0.005 K		T = 293.12±0.002 K		T = 313.14±0.005 K	
189.97	1405.11	189.95	1326.39	189.94	1279.66
180.03	1382.97	180.14	1303.27	179.96	1255.60
170.07	1359.92	170.09	1278.58	170.30	1230.95
159.74	1335.37	160.07	1253.07	160.22	1204.41
150.25	1311.87	150.10	1226.69	149.99	1176.32
139.92	1285.11	139.82	1198.14	140.48	1149.04
129.92	1258.16	130.27	1170.48	130.24	1118.12
120.05	1230.27	120.28	1139.94	120.28	1086.60
110.04	1200.7	110.10	1106.99	110.23	1052.60
100.05	1169.35	99.98	1072.22	100.12	1016.09
89.98	1135.78	90.43	1037.06	90.08	977.33
79.97	1100.15	79.88	995.29	79.91	934.76

69.94	1061.6	69.95	952.51	74.94	912.41
65.33	1042.8	65.00	929.65	70.02	889.49
60.14	1020.79	60.00	905.17	65.03	864.78
55.03	997.9	54.76	878.08		
49.79	973.33	49.95	851.45		
44.98	948.67	44.95	822.12		
39.98	922.78				
35.11	895.2				
30.03	864.1				
25.27	832.42				
20.19	794.87				
15.45	755.81				
		T = 293.13±0.005 K			
		190.00	1327.49		
		180.02	1304.17		
		170.33	1280.44		
		159.89	1253.96		
		150.17	1228.33		
		139.85	1199.68		
		130.23	1171.81		
		120.04	1140.70		
		110.06	1108.50		
		99.97	1073.94		
		90.22	1038.07		
		79.95	997.53		
		69.90	954.27		
		65.39	933.49		
		59.97	907.27		
		54.96	881.42		
		49.86	853.43		
		45.00	824.71		

Combined standard uncertainties:

$u(T) = 0.015$ K; $u(p) = 0.02$ MPa; $u^*(c) = 6.8 \times 10^{-4} c$; $u(c) = 6.8 \times 10^{-4} c$.

$u(x_{CO_2})$= 0.0004; $u(x_{CH_3OH})$= 0.0004; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S6. *pcT* experimental data for the CO_2 + CH_3OH + SO_2 + CO mixtures**.**

x_{CO_2} = 0.9126; x_{CH_3OH} =0.0082; x_{SO_2} = 0.0493; x_{CO} = 0.0299							
***T*= 263.14±0.005 K**		***T*= 273.14±0.002 K**		***T*= 293.12±0.004 K**		***T*= 304.16±0.003 K**	
p **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**
190.10	1405.55	190.10	1378.91	189.92	1327.05	189.80	1300.08
179.64	1382.55	179.89	1355.93	179.63	1303.16	180.18	1277.19
169.97	1359.96	170.14	1332.82	170.15	1279.81	170.34	1252.69
160.15	1336.78	160.05	1308.21	159.94	1253.77	159.96	1225.81
149.95	1311.64	150.04	1282.85	150.04	1227.51	150.10	1199.17
139.98	1285.86	140.18	1256.92	140.20	1200.37	140.76	1172.85
130.03	1259.07	129.97	1228.51	130.02	1170.82	130.08	1141.09
120.39	1231.83	120.09	1199.81	120.05	1140.33	120.08	1109.91
109.98	1201.24	110.16	1169.53	109.89	1107.52	110.03	1076.57
99.95	1169.51	100.06	1136.82	100.09	1073.9	100.57	1043.32
89.90	1135.95	89.93	1102.02	89.94	1036.54	90.12	1003.79
79.96	1100.49	80.14	1065.8	80.00	997.38	80.32	963.83
75.23	1082.63	75.04	1045.83	75.10	976.69	74.97	940.48
70.02	1062.29	69.88	1024.82	69.68	952.85	70.01	917.72
65.08	1042.39	65.15	1004.31	65.25	932.05	65.23	894.82
59.92	1020.47	59.80	980.85	59.95	906.51	59.78	867.12
55.11	998.93	55.09	958.73	54.94	880.72		
49.76	973.82	50.16	934.38	49.71	851.88		
45.42	952.07	45.24	908.36	45.18	825.39		
39.95	923.24	39.89	878.42				
34.93	894.87	35.14	849.45				
29.92	864.25	29.99	815.85				
24.97	831.22	25.01	779.47				
20.09	795.09						
15.21	754.76						

Standard uncertainties:

$u(T) = 0.015$ K, $u(p) = 0.02$ MPa, $u(c) = 6.8 \times 10^{-4} c$.

$u(x_{CO_2})$= 0.0004; $u(x_{CH_3OH})$= 0.0004; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S6 (continued). pcT experimental data for the CO_2 + CH_3OH + SO_2 + CO mixtures**.**

x_{CO_2} = 0.9126; x_{CH_3OH} =0.0082; x_{SO_2} = 0.0493; x_{CO} = 0.0299							
***T*= 313.14±0.000 K**		***T*= 333.14±0.005 K**		***T*= 353.17±0.004 K**		***T*= 373.20±0.005 K**	
p **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**
190.17	1279.79	189.84	1235.49	190.16	1195.37	190.00	1157.94
185.93	1269.56	180.19	1211.45	184.69	1181.88	185.05	1145.18
183.81	1264.46	170.34	1185.78	180.26	1170.22	180.02	1132.05
180.61	1256.55	160.34	1158.66	175.11	1156.64	175.17	1119.09
170.25	1230.43	149.85	1129.06	169.51	1141.55	170.13	1105.15
160.08	1203.59	145.02	1114.90	165.17	1129.65	165.10	1091.06
150.34	1176.83	139.82	1099.14	159.90	1114.96	160.09	1076.76
144.78	1161.12	135.14	1084.71	155.08	1101.05	155.07	1062.13
140.33	1148.13	129.98	1068.41	150.13	1086.44	150.12	1047.19
135.23	1132.99	125.11	1052.52	144.69	1070.15	144.92	1031.24
130.13	1117.28	120.03	1035.49	140.19	1056.29	139.98	1015.75
125.12	1101.65	115.08	1018.43	135.08	1040.07	134.84	999.06
119.99	1085.07	109.95	1000.09	130.13	1023.9	130.00	982.91
115.19	1069.06	105.06	982.14	125.20	1007.41	125.00	965.81
110.17	1051.85	100.14	963.32	119.69	988.37		
104.97	1033.43	94.99	942.87	115.16	972.20		
100.25	1016.1	90.00	922.28	110.28	954.32		
95.13	996.7						
90.23	977.32						
85.28	957.12						
80.43	936.27						
75.31	913.53						
70.08	888.83						
65.24	865.09						

Standard uncertainties:

$u(T) = 0.015$ K, $u(p) = 0.02$ MPa, $u(c) = 6.8 \times 10^{-4} c$.

$u(x_{CO_2})$= 0.0004; $u(x_{CH_3OH})$= 0.0004; $u(x_{SO_2})$= 0.0002; $u(x_{CO})$= 0.0002

Table S6 (continued). pcT experimental data for the CO_2 + CH_3OH + SO_2 + CO mixtures**.**

x_{CO_2} = 0.9803; x_{CH_3OH} =0.0079; x_{SO_2} = 0.0008; x_{CO} = 0.0110							
***T*= 263.14±0.006 K**		***T*= 273.14±0.004 K**		***T*= 293.12±0.003 K**		***T*= 304.16±0.000 K**	
p **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**
190.24	1410.34	190.50	1383.77	189.96	1330.51	190.27	1304.07
180.00	1387.35	180.56	1361.20	179.67	1306.12	180.39	1280.26
169.78	1363.69	169.84	1335.78	170.25	1282.97	171.02	1256.76
159.93	1340.04	160.01	1311.47	159.81	1256.22	161.01	1230.74
149.99	1315.14	149.95	1285.87	149.71	1229.26	150.48	1202.09
139.81	1288.69	139.82	1258.87	139.77	1201.50	139.74	1171.49
130.02	1262.03	129.89	1231.15	129.76	1172.13	130.34	1143.30
119.79	1232.94	120.40	1203.35	120.06	1142.18	119.86	1110.31
109.91	1203.32	109.79	1170.60	110.16	1110.00	115.40	1095.56
99.87	1171.50	99.90	1138.28	99.81	1074.17	109.81	1076.71
89.93	1138.06	89.94	1103.59	94.93	1056.38	105.30	1060.79
79.93	1102.24	79.91	1066.15	89.90	1037.38	99.91	1041.32
70.07	1064.04	69.89	1025.85	84.93	1017.95	94.88	1022.48
69.90	1063.37	64.91	1004.29	79.93	997.59	89.75	1002.48
64.91	1042.77	59.91	981.81	75.01	976.68	84.99	983.21
59.85	1021.06	54.93	958.20	69.92	954.07	79.90	961.80
54.94	998.99	49.90	932.95	64.91	930.51	74.93	939.82
50.06	975.82	44.91	906.33	59.94	906.24	69.88	916.54
45.05	950.65	39.91	877.89	54.95	880.19	64.87	892.19
40.05	923.95	34.90	846.97	50.03	852.81	59.75	865.83
34.98	894.51	29.93	813.65				
30.08	864.69						
24.97	830.35						
20.16	794.48						

Standard uncertainties:

$u(T) = 0.015$ K, $u(p) = 0.02$ MPa, $u(c) = 6.8 \times 10^{-4} c$.

$u(x_{CO_2})$= 0.0005; $u(x_{CH_3OH})$= 0.0004; $u(x_{SO_2})$= 0.0003; $u(x_{CO})$= 0.0002

Table S6 (continued). pcT experimental data for the CO_2 + CH_3OH + SO_2 + CO mixtures.

x_{CO_2} = 0.9803; x_{CH_3OH} =0.0079; x_{SO_2} = 0.0008; x_{CO} = 0.0110							
***T*= 313.13±0.003 K**		***T*= 333.15±0.005 K**		***T*= 353.13±0.004 K**		***T*= 373.20±0.005 K**	
p **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**	***p*** **(MPa)**	***c*** **($m.s^{-1}$)**
190.08	1282.36	189.92	1237.36	190.22	1197.11	190.01	1159.25
180.31	1258.41	179.97	1212.19	185.01	1183.90	185.10	1146.39
170.29	1232.93	170.03	1186.15	179.90	1170.63	179.75	1132.29
160.35	1206.59	160.04	1158.88	175.27	1158.24	174.87	1119.01
149.73	1177.20	150.01	1130.25	170.07	1144.16	169.90	1105.26
140.20	1149.50	145.00	1115.41	165.35	1131.13	165.14	1091.85
130.07	1118.68	139.92	1100.03	159.95	1115.89	159.99	1077.09
120.26	1087.20	134.96	1084.56	154.91	1101.41	155.01	1062.39
109.98	1052.23	129.99	1068.67	149.88	1086.41	152.29	1054.18
105.00	1034.36	124.98	1052.22	144.57	1070.29	149.98	1047.23
99.96	1015.71	119.97	1035.29	140.01	1056.07		
94.88	996.24	114.95	1017.80	134.96	1040.09		
89.87	976.34	110.05	1000.20	130.03	1023.83		
85.11	956.57	105.16	982.04				
80.38	936.35	100.02	962.57				
75.15	912.73						

Standard uncertainties:

$u(T) = 0.015$ K, $u(p) = 0.02$ MPa, $u(c) = 6.8 \times 10^{-4}c$.

$u(x_{CO_2})$= 0.0005; $u(x_{CH_3OH})$= 0.0004; $u(x_{SO_2})$= 0.0003; $u(x_{CO})$= 0.0002

Table S7. Values of $p^{\#}$ and the a_i coefficients in equation (4) in the correlation of the experimental speed of sound, c, as a function of pressure, p, in the mixtures CO_2 + CH_3OH + SO_2 + CO (doped) with composition x at temperatures T, as well as the mean relative deviations.

mixture x_{CO_2} x_{CH_3OH} x_{SO_2} x_{CO}	T/K	$p^{\#}$ (MPa)	$10 \times a_1$ (MPa·m^{-1}·s)	$10^4 \times a_2$ (MPa·m^{-2}·s^2)	$10^8 \times a_3$ (MPa·m^{-3}·s^3)	MRD_c (%)
cocapture 0.9126 0.0082 0.0493 0.0299	263.14	35	1.70300	2.2053	8.099	0.008
	273.14	45	1.84032	2.2538	7.755	0.008
	293.12	65	2.11059	2.3324	7.658	0.007
	304.16	75	2.24003	2.3706	7.822	0.004
	313.14	85	2.38581	2.4077	7.746	0.005
	333.14	110	2.75750	2.5248	7.667	0.003
	353.17	130	3.02647	2.6006	7.945	0.004
	373.20	135	3.04823	2.5519	8.059	0.004
emissions 0.9803 0.0079 0.0008 0.0110	263.14	35	1.68570	2.1792	7.714	0.005
	273.14	45	1.81828	2.2250	7.557	0.007
	293.12	65	2.08975	2.3015	7.520	0.007
	304.16	80	2.32335	2.3833	7.483	0.003
	313.13	95	2.56431	2.4678	7.361	0.003
	333.15	120	2.91855	2.5582	7.107	0.006
	353.13	140	3.17668	2.6183	7.187	0.004
	373.20	155	3.35684	2.5826	6.210	0.003
Overall mean relative deviation $\overline{MRD_c}$ =0.005%						

$MRD_c = \frac{100}{N}\sum_i^N \left|\frac{c_i - c_{i,fit}}{c_i}\right|$; N: number of experimental points at each composition and temperature. $\overline{MRD_c} = \frac{100}{N'}\sum_i^{N'} \left|\frac{c_i - c_{i,fit}}{c_i}\right|$; N': total number of experimental points.

Table S8. *pcT* extrapolated values for CO_2 + CH_3OH + SO_2 + CO mixtures, using $p^{\#}$ and the coefficients from Table S7.

p **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**
$x_{CO_2} = 0.9126$; $x_{CH_3OH} = 0.0082$; $x_{SO_2} = 0.0493$; $x_{CO} = 0.0299$							
T **= 263.14 K**		***T*** **= 273.14 K**		***T*** **= 293.12 K**		***T*** **= 304.16 K**	
14.00	743.97	24.00	771.68	44.00	818.08	59.00	863.01
13.00	734.66	23.00	763.72	43.00	811.83	58.00	857.67
12.00	725.04	22.00	755.56	42.00	805.47	57.00	852.27
11.00	715.09	21.00	747.19	41.00	799.01	56.00	846.80
10.00	704.77	20.00	738.59	40.00	792.43	55.00	841.25
9.00	694.05	19.00	729.73	39.00	785.74	54.00	835.63
8.00	682.87	18.00	720.62	38.00	778.92	53.00	829.94
7.00	671.19	17.00	711.21	37.00	771.98	52.00	824.16
6.00	658.94	16.00	701.49	36.00	764.90	51.00	818.30
5.00	646.04	15.00	691.42	35.00	757.67	50.00	812.36
4.00	632.40	14.00	680.98	34.00	750.30	49.00	806.33
		13.00	670.12	33.00	742.77	48.00	800.20
		12.00	658.79	32.00	735.07	47.00	793.98
		11.00	646.95	31.00	727.19	46.00	787.66
		10.00	634.51	30.00	719.12	45.00	781.23
		9.00	621.41	29.00	710.85	44.00	774.69
		8.00	607.52	28.00	702.37	43.00	768.04
		7.00	592.71	27.00	693.66	42.00	761.28
		6.00	576.80	26.00	684.70	41.00	754.38
		5.00	559.54	25.00	675.47	40.00	747.36
		4.90	557.73	24.00	665.96	39.00	740.20
		4.80	555.90	23.00	656.14	38.00	732.90
		4.70	554.05	22.00	645.98	37.00	725.44
				21.00	635.45	36.00	717.83
				20.00	624.50	35.00	710.05
				19.00	613.11	34.00	702.08
				18.00	601.21	33.00	693.93

				17.00	588.74	32.00	685.58
				16.00	575.62	31.00	677.01
				15.00	561.76	30.00	668.21
				14.00	547.04	29.00	659.16
				13.00	531.29	28.00	649.85
				12.00	514.31	27.00	640.26
				11.00	495.79	26.00	630.35
				10.00	475.30	25.00	620.11
				9.00	452.16	24.00	609.50
				8.00	425.16	23.00	598.49
				7.00	391.86	22.00	587.03
				6.90	387.99	21.00	575.08
				6.80	384.00	20.00	562.57
				6.70	379.86	19.00	549.44
				6.60	375.55	18.00	535.59
						17.00	520.92
						16.00	505.28
						15.00	488.48
						14.00	470.28
						13.00	450.33
						12.00	428.07
						11.00	402.67
						10.00	372.54
						9.00	334.22
						8.00	275.33
						7.90	266.38
						7.80	256.02

Table S8 (continued). *pcT* extrapolated values for CO_2 + CH_3OH + SO_2 + CO mixtures, using $p^{\#}$ and the coefficients from Table S7.

p **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**
$x_{CO_2} = 0.9126$; $x_{CH_3OH} = 0.0082$; $x_{SO_2} = 0.0493$; $x_{CO} = 0.0299$							
T **= 313.14 K**		***T*** **= 333.14 K**		***T*** **= 353.17 K**		***T*** **= 373.20 K**	
64.00	858.58	89.00	918.08	109.00	949.50	124.00	962.35
63.00	853.39	88.00	913.82	108.00	945.72	123.00	958.85
62.00	848.14	87.00	909.53	107.00	941.92	122.00	955.32
61.00	842.83	86.00	905.20	106.00	938.08	121.00	951.77
60.00	837.45	85.00	900.83	105.00	934.22	120.00	948.20
59.00	832.00	84.00	896.42	104.00	930.33	119.00	944.61
58.00	826.48	83.00	891.97	103.00	926.42	118.00	941.00
57.00	820.89	82.00	887.48	102.00	922.47	117.00	937.36
56.00	815.23	81.00	882.95	101.00	918.50	116.00	933.70
55.00	809.49	80.00	878.37	100.00	914.49	115.00	930.01
54.00	803.66	79.00	873.76	99.00	910.46	114.00	926.30
53.00	797.76	78.00	869.09	98.00	906.39	113.00	922.57
52.00	791.77	77.00	864.39	97.00	902.30	112.00	918.81
51.00	785.69	76.00	859.63	96.00	898.17	111.00	915.03
50.00	779.51	75.00	854.83	95.00	894.00	110.00	911.22
49.00	773.25	74.00	849.98	94.00	889.81	109.00	907.38
48.00	766.88	73.00	845.08	93.00	885.58	108.00	903.52
47.00	760.40	72.00	840.12	92.00	881.31	107.00	899.63
46.00	753.82	71.00	835.12	91.00	877.01	106.00	895.71
45.00	747.12	70.00	830.05	90.00	872.68	105.00	891.77
44.00	740.30	69.00	824.93	89.00	868.30	104.00	887.80
43.00	733.36	68.00	819.76	88.00	863.89	103.00	883.79
42.00	726.29	67.00	814.52	87.00	859.44	102.00	879.76
41.00	719.08	66.00	809.23	86.00	854.95	101.00	875.70
40.00	711.73	65.00	803.87	85.00	850.42	100.00	871.61
39.00	704.23	64.00	798.44	84.00	845.85	99.00	867.49
38.00	696.57	63.00	792.95	83.00	841.24	98.00	863.33
37.00	688.74	62.00	787.39	82.00	836.58	97.00	859.14
36.00	680.73	61.00	781.75	81.00	831.88	96.00	854.93
35.00	672.53	60.00	776.05	80.00	827.14	95.00	850.67
34.00	664.13	59.00	770.26	79.00	822.35	94.00	846.38
33.00	655.52	58.00	764.40	78.00	817.51	93.00	842.06
32.00	646.68	57.00	758.46	77.00	812.62	92.00	837.70
31.00	637.59	56.00	752.43	76.00	807.68	91.00	833.31
30.00	628.25	55.00	746.32	75.00	802.69	90.00	828.88
29.00	618.62	54.00	740.11	74.00	797.65	89.00	824.41

28.00	608.68	53.00	733.81	73.00	792.56	88.00	819.90
27.00	598.42	52.00	727.42	72.00	787.41	87.00	815.36
26.00	587.79	51.00	720.92	71.00	782.20	86.00	810.77
25.00	576.77	50.00	714.31	70.00	776.94	85.00	806.14
24.00	565.31	49.00	707.60	69.00	771.61	84.00	801.48
23.00	553.37	48.00	700.77	68.00	766.23	83.00	796.76
22.00	540.89	47.00	693.82	67.00	760.78	82.00	792.01
21.00	527.81	46.00	686.74	66.00	755.27	81.00	787.21
20.00	514.04	45.00	679.53	65.00	749.69	80.00	782.36
19.00	499.48	44.00	672.19	64.00	744.04	79.00	777.47
18.00	484.00	43.00	664.70	63.00	738.32	78.00	772.53
17.00	467.43	42.00	657.06	62.00	732.52	77.00	767.54
16.00	449.56	41.00	649.25	61.00	726.65	76.00	762.50
15.00	430.08	40.00	641.29	60.00	720.71	75.00	757.41
14.00	408.53	39.00	633.14	59.00	714.68	74.00	752.26
13.00	384.25	38.00	624.80	58.00	708.57	73.00	747.06
12.00	356.06	37.00	616.27	57.00	702.37	72.00	741.81
11.00	321.68	36.00	607.52	56.00	696.08	71.00	736.50
10.00	275.18	35.00	598.55	55.00	689.70	70.00	731.13
		34.00	589.34	54.00	683.23	69.00	725.70
		33.00	579.87	53.00	676.65	68.00	720.21
		32.00	570.12	52.00	669.98	67.00	714.66
		31.00	560.08	51.00	663.19	66.00	709.04
		30.00	549.71	50.00	656.29	65.00	703.35
		29.00	539.00	49.00	649.28	64.00	697.60
		28.00	527.91	48.00	642.15	63.00	691.78
		27.00	516.40	47.00	634.89	62.00	685.88
		26.00	504.44	46.00	627.50	61.00	679.91
		25.00	491.97	45.00	619.97	60.00	673.86
		24.00	478.94	44.00	612.30	59.00	667.73
		23.00	465.28	43.00	604.47	58.00	661.52
		22.00	450.92	42.00	596.49	57.00	655.22
		21.00	435.73	41.00	588.34	56.00	648.84
		20.00	419.61	40.00	580.02	55.00	642.36
		19.00	402.39	39.00	571.51	54.00	635.79
		18.00	383.86	38.00	562.81	53.00	629.13
		17.00	363.73	37.00	553.91	52.00	622.36
		16.00	341.61	36.00	544.79	51.00	615.49
		15.00	316.92	35.00	535.44	50.00	608.52
		14.00	288.72	34.00	525.84	49.00	601.43
				33.00	515.98	48.00	594.22
				32.00	505.85	47.00	586.90
				31.00	495.42	46.00	579.45
				30.00	484.67	45.00	571.87

				29.00	473.58	44.00	564.15
				28.00	462.12	43.00	556.29
				27.00	450.25	42.00	548.29
				26.00	437.96	41.00	540.13
				25.00	425.18	40.00	531.81
				24.00	411.89	39.00	523.32
				23.00	398.03	38.00	514.65
				22.00	383.54	37.00	505.80
				21.00	368.34	36.00	496.75
				20.00	352.36	35.00	487.50
				19.00	335.49	34.00	478.03
				18.00	317.61	33.00	468.34
				17.00	298.58	32.00	458.40
						31.00	448.22
						30.00	437.76
						29.00	427.02
						28.00	415.98
						27.00	404.62
						26.00	392.92
						25.00	380.86
						24.00	368.40
						23.00	355.53
						22.00	342.22
						21.00	328.42
						20.00	314.11

Table S8 (continued). *pcT* extrapolated values for CO_2 + CH_3OH + SO_2 + CO mixtures, using $p^{\#}$ and the coefficients from Table S7.

p **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**
$x_{CO_2} = 0.9803$; $x_{CH_3OH} = 0.0079$; $x_{SO_2} = 0.0008$; $x_{CO} = 0.0110$							
T **= 263.14 K**		***T*** **= 273.14 K**		***T*** **= 293.12 K**		***T*** **= 304.16 K**	
19.00	785.25	29.00	807.19	49.00	847.04	59.00	861.83
18.00	777.06	28.00	799.96	48.00	841.18	58.00	856.44
17.00	768.65	27.00	792.57	47.00	835.23	57.00	850.98
16.00	760.00	26.00	785.02	46.00	829.19	56.00	845.45
15.00	751.11	25.00	777.29	45.00	823.06	55.00	839.85
14.00	741.94	24.00	769.38	44.00	816.84	54.00	834.18
13.00	732.48	23.00	761.27	43.00	810.51	53.00	828.42
12.00	722.70	22.00	752.96	42.00	804.07	52.00	822.59
11.00	712.57	21.00	744.42	41.00	797.53	51.00	816.67
10.00	702.05	20.00	735.63	40.00	790.87	50.00	810.66
9.00	691.11	19.00	726.59	39.00	784.09	49.00	804.56
8.00	679.69	18.00	717.27	38.00	777.18	48.00	798.37
7.00	667.74	17.00	707.64	37.00	770.14	47.00	792.08
6.00	655.19	16.00	697.68	36.00	762.96	46.00	785.69
5.00	641.94	15.00	687.35	35.00	755.64	45.00	779.19
4.00	627.88	14.00	676.62	34.00	748.16	44.00	772.58
3.90	626.42	13.00	665.44	33.00	740.52	43.00	765.86
3.80	624.96	12.00	653.77	32.00	732.70	42.00	759.01
3.70	623.49	11.00	641.52	31.00	724.70	41.00	752.04
3.60	622.00	10.00	628.64	30.00	716.51	40.00	744.93
3.50	620.51	9.00	615.01	29.00	708.11	39.00	737.68
3.40	619.00	8.00	600.52	28.00	699.48	38.00	730.29
3.30	617.48	7.00	584.99	27.00	690.62	37.00	722.74
3.20	615.96	6.00	568.20	26.00	681.51	36.00	715.03
		5.00	549.84	25.00	672.12	35.00	707.14
		4.00	529.42	24.00	662.43	34.00	699.07
				23.00	652.42	33.00	690.80
				22.00	642.05	32.00	682.33
				21.00	631.29	31.00	673.63
				20.00	620.11	30.00	664.69
				19.00	608.45	29.00	655.50
				18.00	596.26	28.00	646.04
				17.00	583.46	27.00	636.28
				16.00	569.98	26.00	626.19
				15.00	555.70	25.00	615.76

				14.00	540.49	24.00	604.93
				13.00	524.17	23.00	593.69
				12.00	506.50	22.00	581.97
				11.00	487.12	21.00	569.73
				10.00	465.52	20.00	556.89
				9.00	440.83	19.00	543.38
				8.00	411.47	18.00	529.10
				7.00	373.79	17.00	513.92
				6.90	369.25	16.00	497.67
				6.80	364.51	15.00	480.14
				6.70	359.53	14.00	461.00
				6.60	354.27	13.00	439.80
				6.50	348.70	12.00	415.84
				6.40	342.76	11.00	387.85
				6.30	336.35	10.00	353.28
				6.20	329.38	9.00	304.61
				6.15	325.62		

Table S8 (continued). *pcT* extrapolated values for CO_2 + CH_3OH + SO_2 + CO mixtures, using $p^{\#}$ and the coefficients from Table S7.

p **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**	***p*** **(MPa)**	***c*** **(m·s^{-1})**
$x_{CO_2} = 0.9803$; $x_{CH_3OH} = 0.0079$; $x_{SO_2} = 0.0008$; $x_{CO} = 0.0110$							
T **= 313.13 K**		***T*** **= 333.15 K**		***T*** **= 353.13 K**		***T*** **= 373.20 K**	
74.00	907.39	99.00	958.43	129.00	1020.43	149.00	1044.20
73.00	902.69	98.00	954.48	128.00	1017.08	148.00	1041.13
72.00	897.95	97.00	950.49	127.00	1013.71	147.00	1038.05
71.00	893.16	96.00	946.47	126.00	1010.32	146.00	1034.95
70.00	888.32	95.00	942.43	125.00	1006.91	145.00	1031.83
69.00	883.43	94.00	938.35	124.00	1003.48	144.00	1028.70
68.00	878.48	93.00	934.23	123.00	1000.03	143.00	1025.55
67.00	873.48	92.00	930.09	122.00	996.56	142.00	1022.39
66.00	868.43	91.00	925.91	121.00	993.07	141.00	1019.21
65.00	863.32	90.00	921.70	120.00	989.55	140.00	1016.01
64.00	858.15	89.00	917.45	119.00	986.02	139.00	1012.80
63.00	852.91	88.00	913.17	118.00	982.46	138.00	1009.57
62.00	847.62	87.00	908.85	117.00	978.88	137.00	1006.33
61.00	842.26	86.00	904.49	116.00	975.28	136.00	1003.07
60.00	836.83	85.00	900.09	115.00	971.66	135.00	999.79
59.00	831.34	84.00	895.66	114.00	968.01	134.00	996.49
58.00	825.77	83.00	891.18	113.00	964.34	133.00	993.17
57.00	820.13	82.00	886.67	112.00	960.64	132.00	989.84
56.00	814.42	81.00	882.11	111.00	956.92	131.00	986.49
55.00	808.62	80.00	877.51	110.00	953.17	130.00	983.12
54.00	802.75	79.00	872.87	109.00	949.40	129.00	979.73
53.00	796.79	78.00	868.18	108.00	945.60	128.00	976.32
52.00	790.74	77.00	863.44	107.00	941.78	127.00	972.90
51.00	784.60	76.00	858.66	106.00	937.93	126.00	969.45
50.00	778.37	75.00	853.83	105.00	934.05	125.00	965.98
49.00	772.03	74.00	848.95	104.00	930.15	124.00	962.50
48.00	765.60	73.00	844.02	103.00	926.21	123.00	958.99
47.00	759.06	72.00	839.03	102.00	922.25	122.00	955.46
46.00	752.40	71.00	833.99	101.00	918.26	121.00	951.91
45.00	745.63	70.00	828.90	100.00	914.24	120.00	948.34
44.00	738.74	69.00	823.75	99.00	910.19	119.00	944.75
43.00	731.72	68.00	818.54	98.00	906.10	118.00	941.14
42.00	724.57	67.00	813.27	97.00	901.99	117.00	937.50
41.00	717.27	66.00	807.94	96.00	897.84	116.00	933.84
40.00	709.83	65.00	802.55	95.00	893.66	115.00	930.16

39.00	702.23	64.00	797.09	94.00	889.45	114.00	926.45
38.00	694.47	63.00	791.56	93.00	885.20	113.00	922.72
37.00	686.53	62.00	785.96	92.00	880.92	112.00	918.97
36.00	678.41	61.00	780.29	91.00	876.60	111.00	915.19
35.00	670.09	60.00	774.54	90.00	872.24	110.00	911.38
34.00	661.57	59.00	768.72	89.00	867.85	109.00	907.55
33.00	652.82	58.00	762.81	88.00	863.42	108.00	903.69
32.00	643.83	57.00	756.82	87.00	858.96	107.00	899.81
31.00	634.59	56.00	750.75	86.00	854.45	106.00	895.90
30.00	625.07	55.00	744.59	85.00	849.90	105.00	891.97
29.00	615.26	54.00	738.33	84.00	845.31	104.00	888.00
28.00	605.12	53.00	731.98	83.00	840.68	103.00	884.01
27.00	594.63	52.00	725.53	82.00	836.00	102.00	879.98
26.00	583.76	51.00	718.97	81.00	831.28	101.00	875.93
25.00	572.46	50.00	712.31	80.00	826.51	100.00	871.85
24.00	560.69	49.00	705.53	79.00	821.70	99.00	867.74
23.00	548.40	48.00	698.63	78.00	816.84	98.00	863.59
22.00	535.52	47.00	691.61	77.00	811.93	97.00	859.42
21.00	521.98	46.00	684.45	76.00	806.97	96.00	855.21
20.00	507.66	45.00	677.17	75.00	801.96	95.00	850.97
19.00	492.46	44.00	669.74	74.00	796.90	94.00	846.69
18.00	476.20	43.00	662.15	73.00	791.78	93.00	842.38
17.00	458.68	42.00	654.41	72.00	786.60	92.00	838.04
16.00	439.59	41.00	646.51	71.00	781.37	91.00	833.66
15.00	418.50	40.00	638.42	70.00	776.08	90.00	829.24
14.00	394.74	39.00	630.15	69.00	770.73	89.00	824.78
13.00	367.16	38.00	621.68	68.00	765.32	88.00	820.29
12.00	333.48	37.00	613.00	67.00	759.84	87.00	815.76
		36.00	604.10	66.00	754.29	86.00	811.18
		35.00	594.95	65.00	748.68	85.00	806.57
		34.00	585.54	64.00	743.00	84.00	801.91
		33.00	575.86	63.00	737.24	83.00	797.21
		32.00	565.88	62.00	731.41	82.00	792.47
		31.00	555.57	61.00	725.50	81.00	787.68
		30.00	544.91	60.00	719.51	80.00	782.85
		29.00	533.86	59.00	713.44	79.00	777.97
		28.00	522.38	58.00	707.28	78.00	773.04
		27.00	510.44	57.00	701.03	77.00	768.06
		26.00	497.97	56.00	694.69	76.00	763.03
		25.00	484.92	55.00	688.26	75.00	757.95
		24.00	471.20	54.00	681.72	74.00	752.81
		23.00	456.73	53.00	675.09	73.00	747.62
		22.00	441.38	52.00	668.34	72.00	742.37
		21.00	425.00	51.00	661.48	71.00	737.07

		20.00	407.39	50.00	654.51	70.00	731.70
		19.00	388.27	49.00	647.41	69.00	726.27
		18.00	367.25	48.00	640.19	68.00	720.78
		17.00	343.74	47.00	632.83	67.00	715.22
				46.00	625.33	66.00	709.59
				45.00	617.68	65.00	703.90
				44.00	609.89	64.00	698.13
				43.00	601.93	63.00	692.29
				42.00	593.79	62.00	686.37
				41.00	585.48	61.00	680.37
				40.00	576.98	60.00	674.29
				39.00	568.28	59.00	668.12
				38.00	559.36	58.00	661.87
				37.00	550.21	57.00	655.52
				36.00	540.82	56.00	649.08
				35.00	531.17	55.00	642.54
				34.00	521.24	54.00	635.89
				33.00	511.02	53.00	629.14
				32.00	500.47	52.00	622.27
				31.00	489.56	51.00	615.29
				30.00	478.28	50.00	608.19
				29.00	466.58	49.00	600.96
				28.00	454.42	48.00	593.59
				27.00	441.76	47.00	586.09
				26.00	428.54	46.00	578.43
				25.00	414.69	45.00	570.62
				24.00	400.14	44.00	562.65
				23.00	384.78	43.00	554.50
				22.00	368.49	42.00	546.18
				21.00	351.13	41.00	537.65
						40.00	528.92
						39.00	519.98
						38.00	510.80
						37.00	501.36
						36.00	491.66
						35.00	481.67
						34.00	471.36
						33.00	460.72
						32.00	449.70
						31.00	438.28
						30.00	426.41
						29.00	414.04
						28.00	401.11
						27.00	387.56

Table S9. Parameters used in the modeling of the CO_2 + SO_2 + CO system with the PC-SAFT EoS.

Pure compound parameter	**CO_2**	**SO_2**	**CO**
m/M (mol/g)	0.04710[a]	0.04466[a]	0.046758[a]
σ (Å)	2.7852[a]	2.6826[a]	3.2507[a]
ε (K)	169.21[a]	205.35[a]	92.15[a]
Δv_c (cm^3/g)	0.02[b]	0.01[c]	-0,1[b]
Binary interaction parameters (Set 1): $CO_2 - SO_2 : k_{ij} = 0.03$[d] $CO_2 - CO : k_{ij} = 0.12$[b] $SO_2 - CO : k_{ij} = 0$			
Binary interaction parameters (Set 2): $CO_2 - SO_2 : k_{ij} = 0.0424$[e] $CO_2 - CO : k_{ij} = -0.0103$[e] $SO_2 - CO : k_{ij} = 0$			

[a] Gross and Sadowski, 2001.

[b] Rivas et al., 2013.

[c] Gimeno et al., 2017.

[d] Diamantonis et al., 2013a.

[e] González Pérez et al., 2017.

Table S10. Comparison between the experimental (exp) $p\rho T$, the experimental (exp) pcT and the extrapolated (ext) pcT data presented in this work for the CO_2 + SO_2 + CO mixtures and those calculated using the extended EOS-CG, the EOS-CG 2019 or the PC-SAFT EoS with binary interactions parameters, k_{ij}, from Set 1 (this work; Diamantonis et al., 2013a; Rivas et al., 2013) or from Set 2 (González Pérez et al., 2017). The doped mixtures for *c* measurements were modeled as pseudobinary mixtures in which the mole fraction of CO_2 was $x_{CO_2} = 1 - x_{SO_2} - x_{CO}$.

nominal		**$MRD_{\rho,exp}$(%)**		**$MRD_{c,exp}$(%)**		**$MRD_{c,ext}$(%)**	
***T*(K)**	**EoS**	**Cocapture mixture**	**Emissions mixture**	**Cocapture mixture**	**Emissions mixture**	**Cocapture mixture**	**Emissions mixture**
263.15	extended EOS-CG	1.98	0.51	0.77	0.47	1.32	0.28
	EOS-CG 2019	2.15	0.13	0.42	0.46	0.22	0.26
	PC-SAFT (Set 1)	1.40	0.17	4.79	5.23	1.58	1.81
	PC-SAFT (Set 2)	1.09	0.28	4.51	5.06	2.21	1.91
273.15	extended EOS-CG	2.27	0.79	0.73	0.50	0.96	0.30
	EOS-CG 2019	2.44	0.45	0.42	0.45	0.46	0.56
	PC-SAFT (Set 1)	1.84	0.51	4.79	5.19	2.93	3.25
	PC-SAFT (Set 2)	1.50	0.39	4.52	5.03	3.30	3.52
293.15	extended EOS-CG	1.40	0.86	0.84	0.35	1.18	0.63
	EOS-CG 2019	1.74	0.58	0.34	0.32	0.38	0.81
	PC-SAFT (Set 1)	1.59	0.65	4.66	5.04	4.32	5.16
	PC-SAFT (Set 2)	1.09	0.35	4.42	4.90	5.12	6.08
304.21	extended EOS-CG	1.59	0.75	0.89	0.32	1.26	0.65
	EOS-CG 2019	1.98	0.68	0.33	0.24	0.32	0.82
	PC-SAFT (Set 1)	2.14	1.74	4.65	4.93	5.13	5.48
	PC-SAFT (Set 2)	1.52	2.20	4.43	4.80	6.10	6.35
313.15	extended EOS-CG	2.02	1.06	0.97	0.32	1.09	0.48
	EOS-CG 2019	2.44	1.00	0.41	0.10	0.24	0.80
	PC-SAFT (Set 1)	3.12	1.49	4.54	4.87	4.16	4.12
	PC-SAFT (Set 2)	2.03	1.72	4.34	4.74	4.79	4.27
333.15	extended EOS-CG	1.13	0.57	0.92	0.36	0.70	0.38
	EOS-CG 2019	1.40	0.50	0.48	0.09	0.27	0.67
	PC-SAFT (Set 1)	2.20	1.81	4.41	4.66	3.77	3.80
	PC-SAFT (Set 2)	1.68	1.81	4.22	4.54	3.79	3.10
353.15	extended EOS-CG	0.34	0.65	0.92	0.33	0.68	0.32
	EOS-CG 2019	0.51	0.59	0.58	0.07	0.43	0.46
	PC-SAFT (Set 1)	1.60	2.22	4.17	4.42	3.23	3.67
	PC-SAFT (Set 2)	1.42	2.27	4.00	4.32	3.05	3.47
373.15	extended EOS-CG	0.27	0.24	0.88	0.26	0.71	0.38
	EOS-CG 2019	0.37	0.24	0.60	0.03	0.56	0.45
	PC-SAFT (Set 1)	1.56	1.94	3.93	4.18	3.04	3.63
	PC-SAFT (Set 2)	1.55	2.09	3.77	4.08	2.80	3.41
$\overline{MRD_X}$ (%)	extended EOS-CG	0.94		0.63		0.64	
	EOS-CG 2019	1.00		0.36		0.50	
	PC-SAFT (Set 1)	1.66		4.70		3.80	
	PC-SAFT (Set 2)	1.49		4.52		3.78	

$$\mathrm{MRD}_{X,\mathrm{exp}}(\%) = \frac{100}{N}\sum\left|\frac{X_{\mathrm{EoS}}-X_{\mathrm{exp}}}{X_{\mathrm{exp}}}\right| \qquad \mathrm{MRD}_{c,\mathrm{ext}}(\%) = \frac{100}{N}\sum\left|\frac{c_{\mathrm{ext}}-c_{\mathrm{EoS}}}{c_{\mathrm{EoS}}}\right|$$

$$\overline{\mathrm{MRD}_{X,\mathrm{exp}}}(\%) = \frac{100}{N'}\sum\left|\frac{X_{\mathrm{EoS}}-X_{\mathrm{exp}}}{X_{\mathrm{exp}}}\right| \qquad \overline{\mathrm{MRD}_{c,\mathrm{ext}}}(\%) = \frac{100}{N'}\sum\left|\frac{c_{\mathrm{ext}}-c_{\mathrm{EoS}}}{c_{\mathrm{EoS}}}\right|$$

N: number of points for each composition and temperature.

N': total number of points for each property.

Table S11. Comparison between the experimental VLE data presented in this work for the CO_2 + SO_2 + CO mixtures and those calculated using the extended EOS-CG, the EOS-CG 2019, or the PC-SAFT EoS with parameters from Set 1 (this work; Diamantonis et al., 2013a; Rivas et al., 2013) or Set 2 (González Pérez et al., 2017), in terms of mean relative deviation, MRD(%), and overall mean relative deviation, $\overline{\overline{\mathrm{MRD}}}$ (%).

Composition	**EoS**	$\mathbf{MRD}_{p_{\mathrm{dew}}}(\%)$	$\mathbf{MRD}_{p_{\mathrm{bubble}}}(\%)$	$\mathbf{MRD}_{\rho_{\mathrm{V}}}(\%)$	$\mathbf{MRD}_{\rho_{\mathrm{L}}}(\%)$
Mixture 1 (cocapture)	extended EOS-CG	0.71	0.16	1.24	2.26
	EOS-CG 2019	1.80	1.84	2.01	3.05
	PC-SAFT (Set 1)	5.45	25.85	4.49	0.60
	PC-SAFT (Set 2)	10.30	1.98	11.80	1.16
Mixture 3 (emissions)	extended EOS-CG	0.14	0.03	0.08	0.96
	EOS-CG 2019	0.13	1.05	0.09	0.54
	PC-SAFT (Set 1)	1.12	13.51	4.98	0.40
	PC-SAFT (Set 2)	1.18	1.75	4.78	0.28
$\overline{\overline{\mathbf{MRD}_X}}(\%)$	extended EOS-CG	0.46	0.10	0.74	1.71
	EOS-CG 2019	1.08	1.51	1.19	1.97
	PC-SAFT (Set 1)	3.60	20.56	4.70	0.51
	PC-SAFT (Set 2)	6.37	1.88	8.79	0.78

$$\mathrm{MRD}_X(\%) = \frac{100}{N}\left|\frac{X_{\mathrm{EoS}} - X_{\mathrm{exp}}}{X_{\mathrm{exp}}}\right|$$

N: number of experimental points for each composition.

$$\overline{\overline{\mathrm{MRD}_X}}(\%) = \frac{100}{N'}\sum\left|\frac{X_{\mathrm{EoS}} - X_{\mathrm{exp}}}{X_{\mathrm{exp}}}\right|$$

N': number of experimental points for each property.

Table S12. Equation overview for the calculation of transport parameters in pipeline design and operation and for the calculation of injection and storage parameters (ElementEnergy, 2010; Vandeginste and Piessens, 2010; Wang et al., 2011).

	Equations	Symbols
Mass flow	$m = \rho \times v \times A$	m = mass flow (kg/s); ρ = fluid density (kg/m^3); v = fluid velocity (m/s); A = pipeline inner section (m^2).
Pipeline inner diameter	$D = \left(\frac{4 \times m}{v \times \pi \times \rho}\right)^{1/2} = \left[\frac{8 \times f \times m^2}{\rho \times \pi^2 \times \frac{\Delta P}{d}}\right]^{1/5}$	D = inner diameter (m); m = mass flow (kg/s); v = fluid velocity (m/s); ρ = fluid density (kg/m^3); f = Darcy-Weisbach friction factor; $(\Delta P/d)$ = pressure drop per metre (Pa/m).
Reynolds number	$Re = \frac{\rho \times v \times D}{\eta} = \frac{4 \times m}{\pi \times \eta \times D}$	Re = Reynolds number; ρ = fluid density (kg/m^3); v = fluid velocity (m/s); D = inner diameter (m); η = fluid viscosity (Pa.s); m = mass flow (kg/s).
Darcy-Weisbach friction factor	$f = \frac{1.325}{\left[ln\left[\frac{e}{3.7 \times D} + \frac{5.74}{Re^{0.9}}\right]\right]^2}$	f = Darcy-Weisbach friction factor; e = roughness height (m); D = inner diameter (m); Re = Reynolds number.
Pressure drop per meter	$\frac{\Delta P}{d} = \frac{8 \times f \times m^2}{\rho \times \pi^2 \times D^5}$	$(\Delta P/d)$ = pressure drop per metre (Pa/m); m = mass flow (kg/s); ρ = fluid density (kg/m^3); f = Darcy-Weisbach friction factor; D = inner diameter (m).
Normalized storage capacity	$\frac{M}{M_0} = \frac{\rho}{\rho_0\left[1 + \sum \frac{m_i}{m_0}\right]}$	M/M_0 = normalized storage capacity; ρ = mixture density (kg/m^3); ρ_0 = pure CO_2 density (kg/m^3); m_i: mass of impurity in the mixture; m_0 = mass of pure CO_2 in the mixture.
Normalized flotability in saline aquifers	$\frac{F}{F_0} = \frac{(\rho_{Br} - \rho)}{(\rho_{Br} - \rho_0)}$	F/F_0 = normalized flotability; ρ_{Br} = brine density (kg/m^3); ρ = mixture density (kg/m^3); ρ_0 = pure CO_2 density (kg/m^3).
Normalized rising velocity in saline aquifers	$\frac{v}{v_0} = \frac{F(\rho_0 \eta_0)}{F_0(\rho\eta)}$	v/v_0 = normalized rising velocity; ρ_{Br} = brine density (kg/m^3); ρ = mixture density (kg/m^3); ρ_0 = pure CO_2 density (kg/m^3); η_0 = pure CO_2 viscosity (μPa.s); η = mixture viscosity (μPa.s).
Normalized permeation flux	$\frac{\dot{M}}{\dot{M}_0} = \frac{\rho\left(\frac{\eta_0}{\eta}\right)}{\rho_0\left[1 + \sum_i \left(\frac{m_i}{m_0}\right)\right]}$	$\dot{M}/\dot{M}_0$ = normalized permeation flux; ρ = mixture density (kg/m^3); ρ_0 = pure CO_2 density (kg/m^3); η_0 = pure CO_2 viscosity (μPa.s); η = mixture viscosity (μPa.s); m_i: mass of impurity in the mixture; m_0 = mass of pure CO_2 in the mixture.

Table S13. Values of $-A_{ij}$ for CO_2-SO_2 and CO_2-CO binary interactions in equation (5) at temperatures *T*, as well as the mean relative deviations.

Nominal T/**K**	**Mixture 1 (cocapture)**				**Mixture 3 (emissions)**			
	CO_2-SO_2 $-A_{ij}$	MRD_η (%)	**CO_2-CO** $-A_{ij}$	**MRD_η** (%)	**CO_2-SO_2** $-A_{ij}$	**MRD_η** (%)	**CO_2-CO** $-A_{ij}$	**MRD_η** (%)
263.15	2.176871712	0.133	1.046875024	0.312	2.283997192	0.003	1.030441615	0.107
273.15	2.113287899	0.121	1.242606511	0.542	2.215107162	0.003	1.215410305	0.186
293.15	1.932075523	0.103	1.896164546	1.744	2.016257057	0.002	1.779109874	0.634
304.21	1.781241318	0.877	2.213013978	2.789	1.832413928	0.083	2.368860147	3.540
313.15	1.586261504	3.433	2.784076348	3.925	1.652723169	0.039	2.586820920	2.009
333.15	1.498903354	1.696	1.694291323	2.372	1.506481923	0.035	1.680994321	0.957
353.15	1.310622784	1.285	1.401086862	1.420	1.278739616	0.025	1.436527663	0.547
373.15	1.202693441	1.044	1.068258243	1.136	1.151884562	0.019	1.120735617	0.395

$\mathrm{MRD}_\eta = \frac{100}{N}\sum_i^N \left|\frac{\eta_i - \eta_{i.\ fit}}{\eta_i}\right|$; *N*: number of points at each composition and temperature.

Table S14. Experimental bubble pressures, p_{bubble}, for the studied ternary and binary mixtures and saturation pressures of pure CO_2.

Nominal *T* (K)	**p_{bubble} (MPa)**						**p_{sat} (MPa)**
	cocap[a] **CO_2 + SO_2(≈5%) + CO(≈3%)**	**emiss**[a] **CO_2 + SO_2(≈0.1%) + CO(≈1%)**	**CO_2 + SO_2(≈5%)**[b]	**CO_2 + SO_2(≈0.7%)**[b]	**CO_2 + CO(3%)**[c]	**CO_2 + CO(≈1%)**[c]	**CO_2**[d]
263.15	3.842	3.106	2.530	2.633	5.400	3.578	2.649
273.15	4.580	3.917	3.263	3.462	5.991	4.277	3.485
293.15	6.453	6.105	5.316	5.699	7.465	6.345	5.729
304.21	7.752		6.689	7.182			

[a] This work.

[b] Gimeno et al., 2018.

[c] Blanco et al., 2014; Rivas et al., 2013.

[d] Span and Wagner, 1996.

Figure S1. Experimental densities, ρ, for Mixture 3 (emissions) versus pressure, p, at the nominal temperatures T.

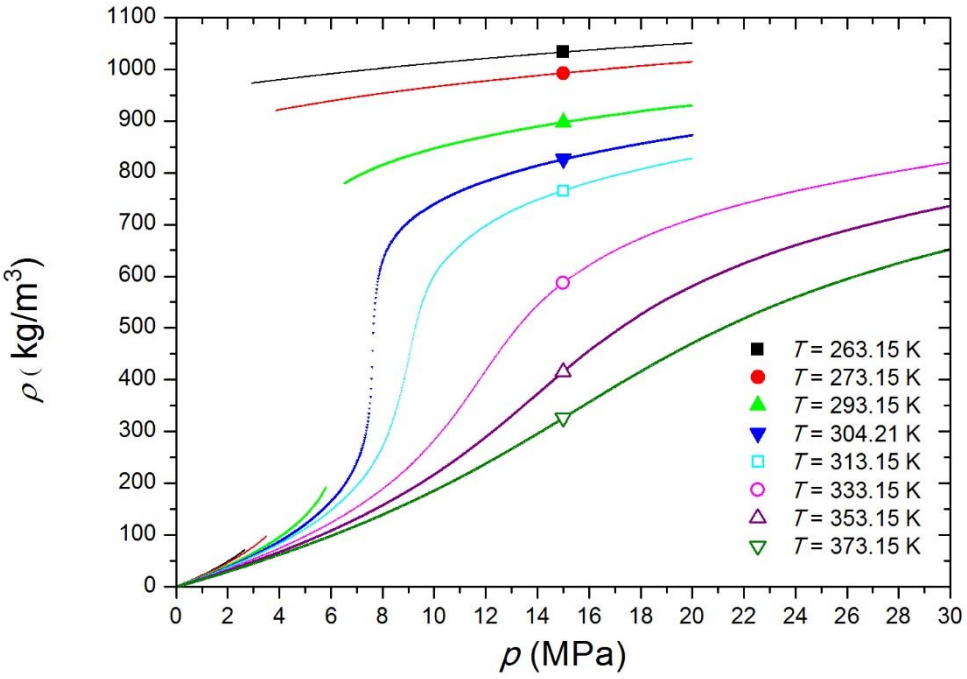
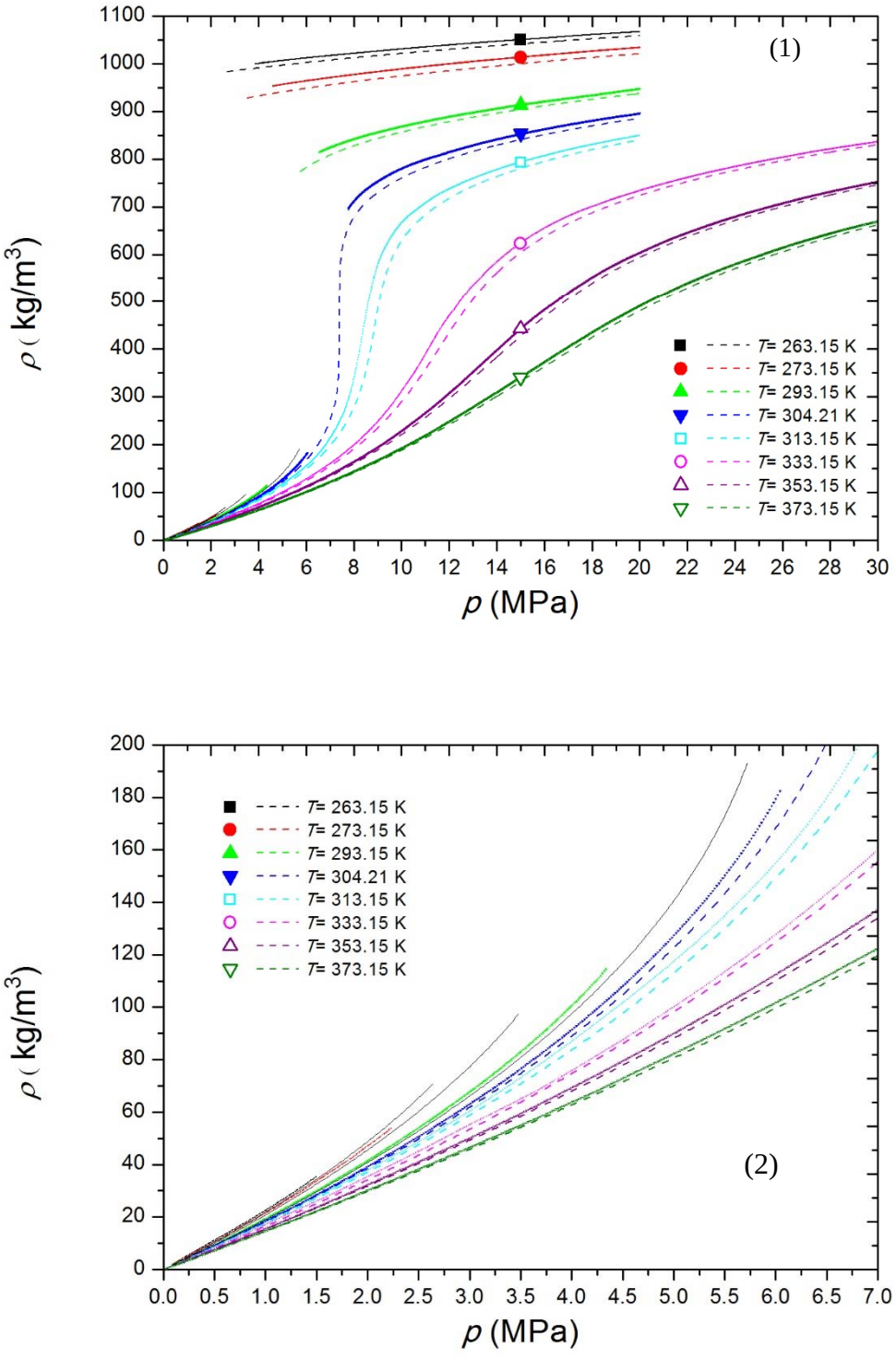
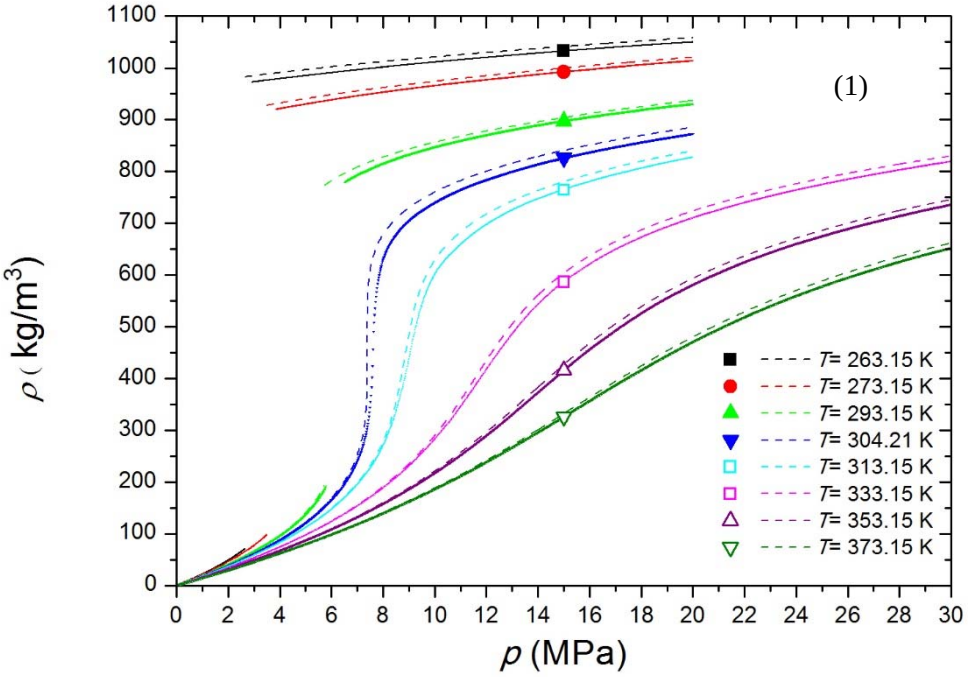


Figure S2. Experimental densities, ρ, for Mixtures 1 (cocapture) (a) and 3 (emissions) (b) (symbols), and for pure CO_2 (Span and Wagner, 1996) (dashed line) versus pressure, p, at the nominal temperatures, T. (1) Whole studied range of pressures. (2) Gas phase region.

(a)



(b)


(1)
ρ (kg/m3)
p (MPa)
T= 263.15 K
T= 273.15 K
T= 293.15 K
T= 304.21 K
T= 313.15 K
T= 333.15 K
T= 353.15 K
T= 373.15 K

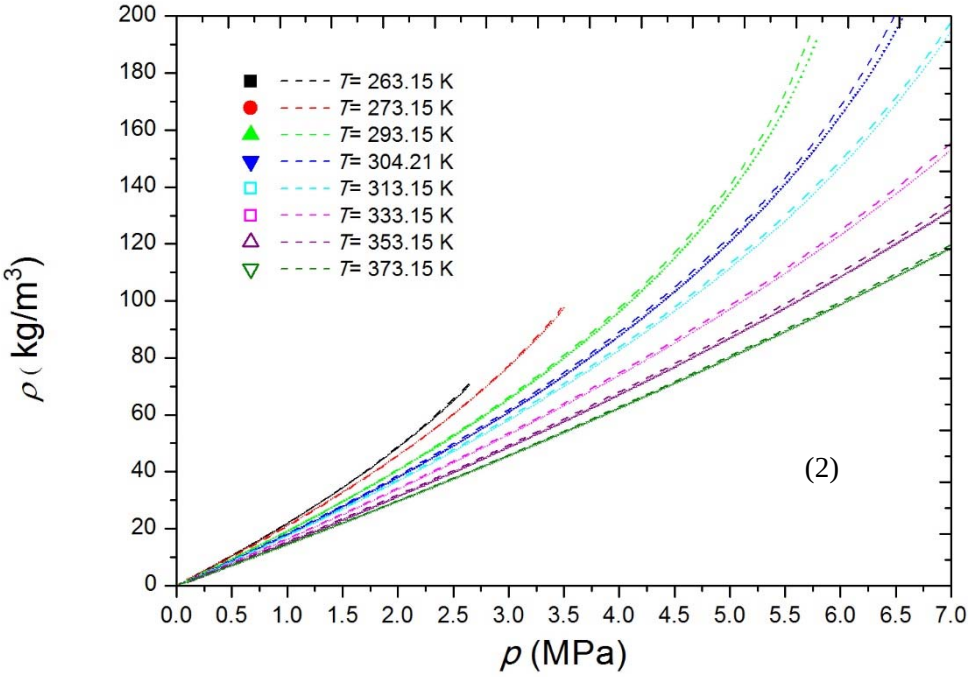

(2)
ρ (kg/m3)
p (MPa)
T= 263.15 K
T= 273.15 K
T= 293.15 K
T= 304.21 K
T= 313.15 K
T= 333.15 K
T= 353.15 K
T= 373.15 K

Figure S3. Experimental (symbols) and extrapolated (dotted lines) speed of sound, c, for Mixture 4 (emissions) versus pressure, p, at the nominal temperatures T.

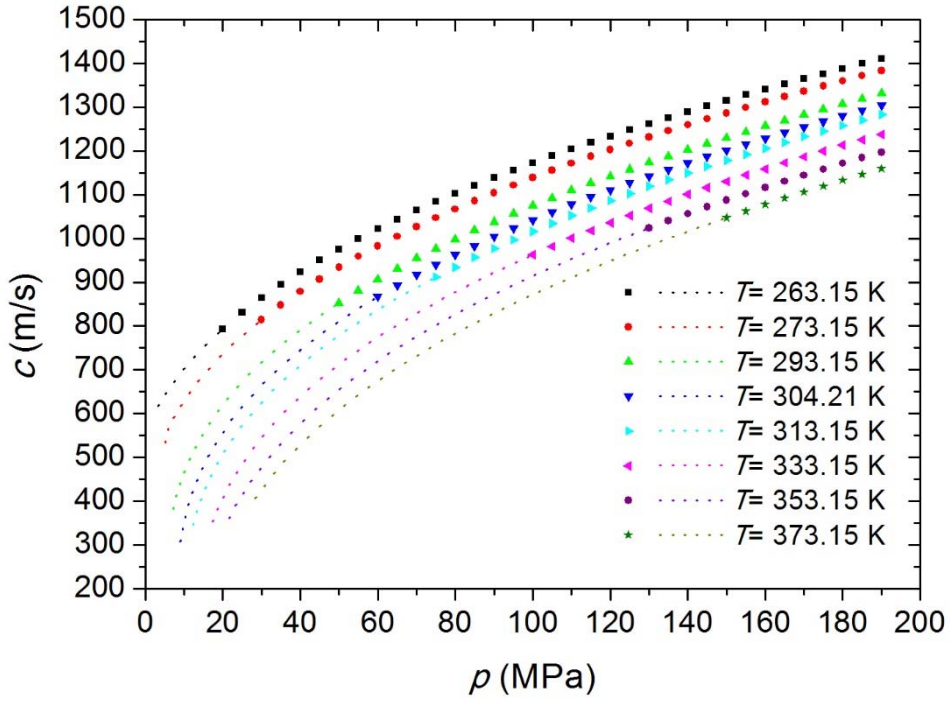
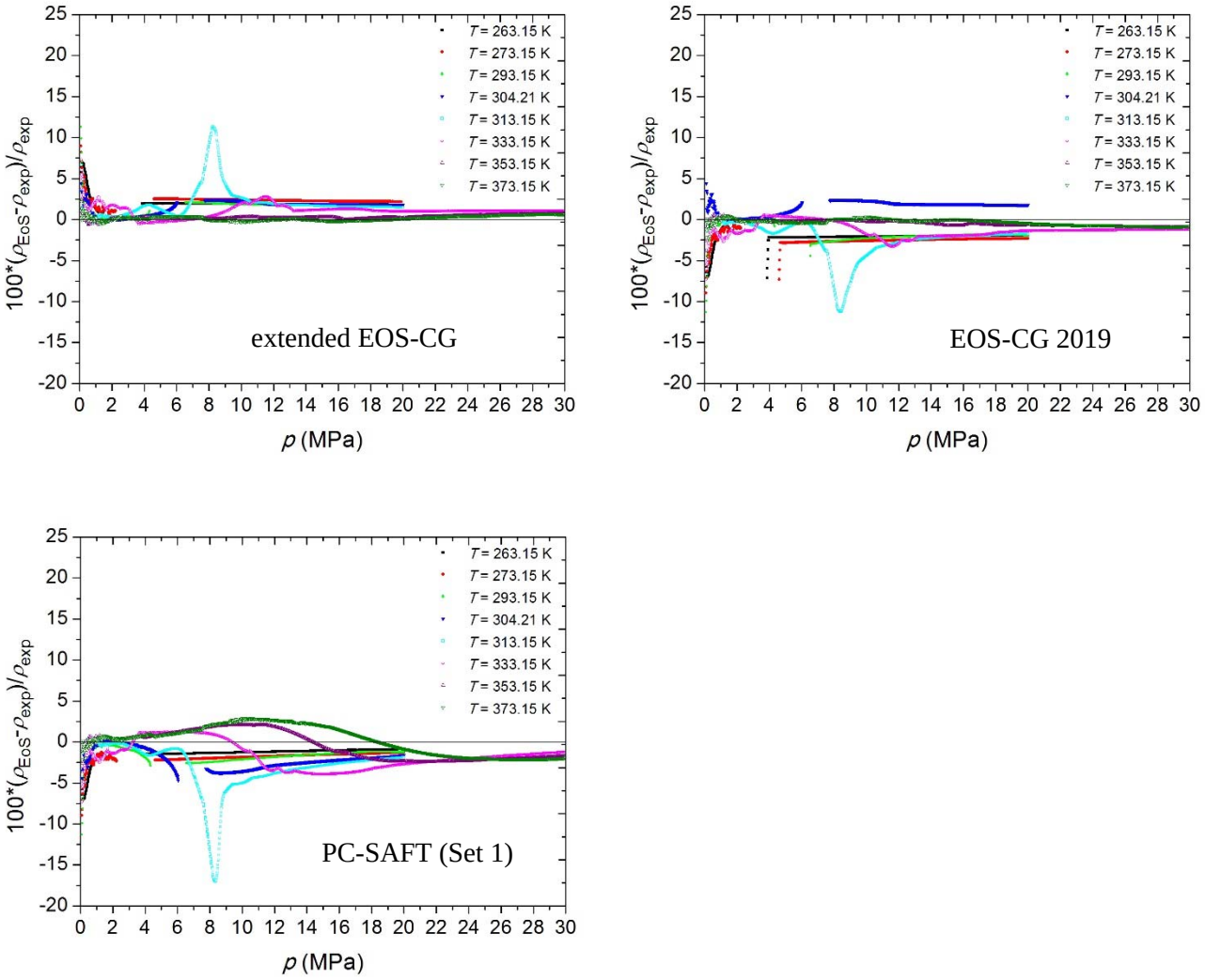
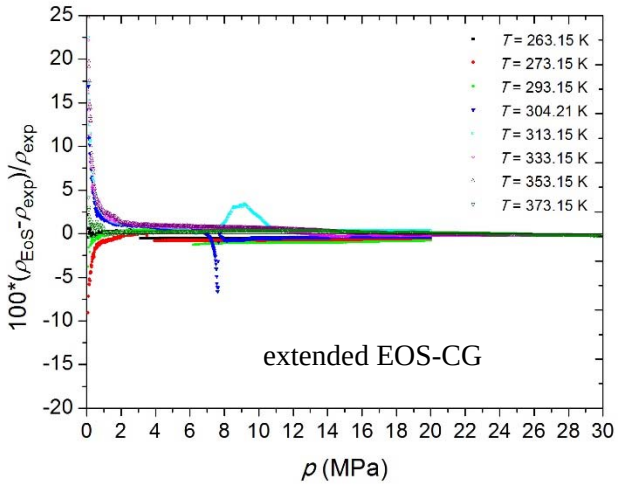


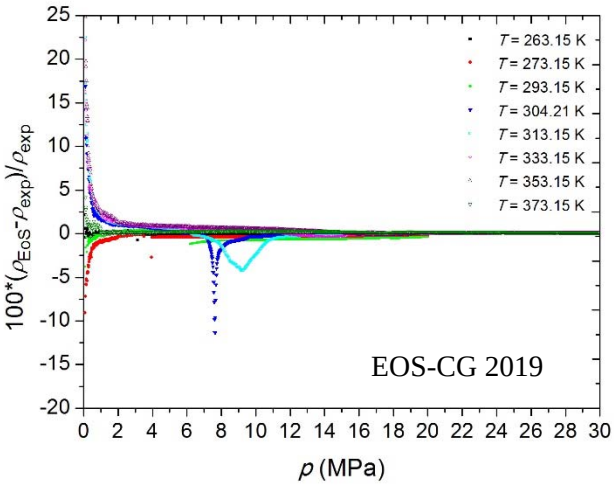
Figure S4. Relative deviations between the experimental densities, ρ_{exp}, in this work and the values calculated from the extended EOS-CG, the EOS-CG 2019, and the PC-SAFT EoS using binary interaction parameters from Set 1, ρ_{EoS}, for Mixtures 1 (cocapture) (a) and 3 (emissions) (b) at the nominal temperatures, T.

(a)



(b)


100*(ρEoS-ρexp)/ρexp
p (MPa)
T = 263.15 K
T = 273.15 K
T = 293.15 K
T = 304.21 K
T = 313.15 K
T = 333.15 K
T = 353.15 K
T = 373.15 K
extended EOS-CG


100*(ρEoS-ρexp)/ρexp
p (MPa)
T = 263.15 K
T = 273.15 K
T = 293.15 K
T = 304.21 K
T = 313.15 K
T = 333.15 K
T = 353.15 K
T = 373.15 K
EOS-CG 2019

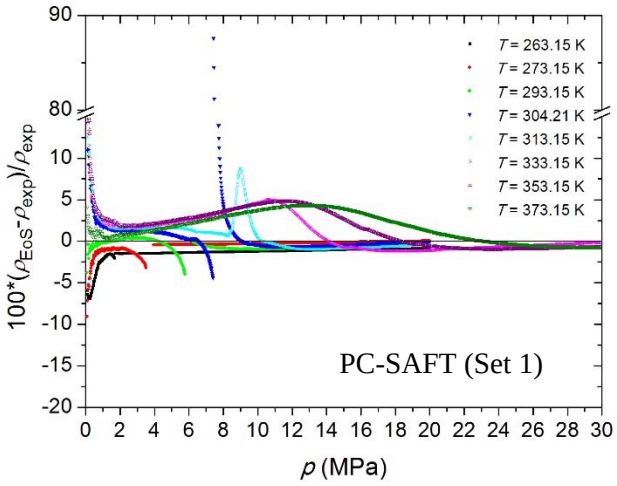
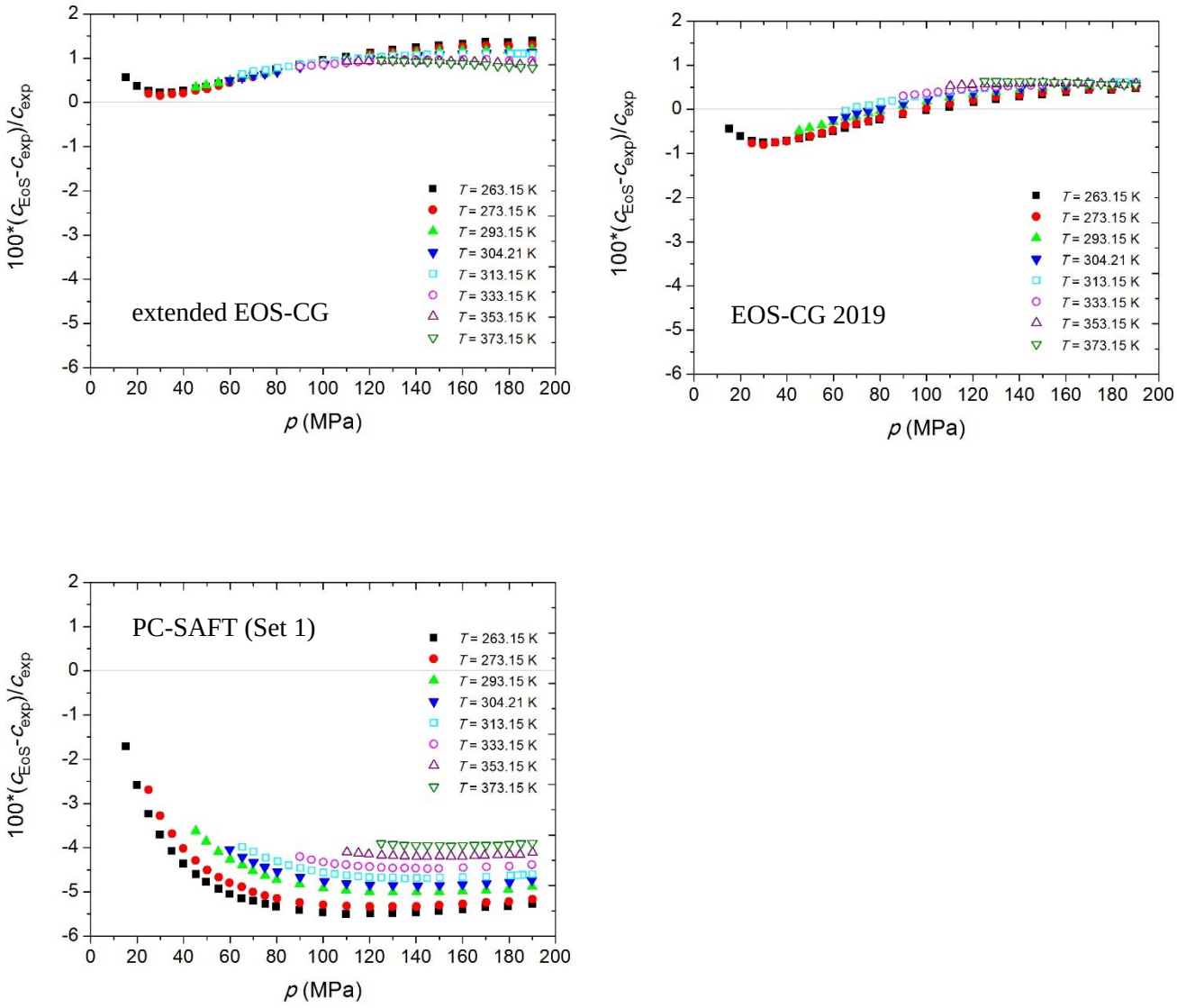
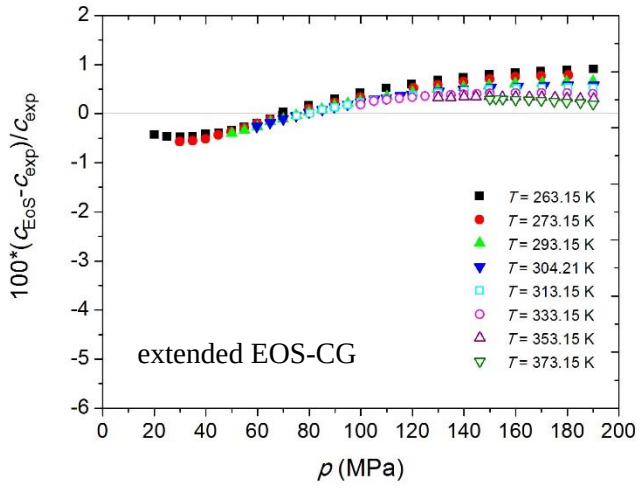

100*(ρEoS-ρexp)/ρexp
p (MPa)
T = 263.15 K
T = 273.15 K
T = 293.15 K
T = 304.21 K
T = 313.15 K
T = 333.15 K
T = 353.15 K
T = 373.15 K
PC-SAFT (Set 1)

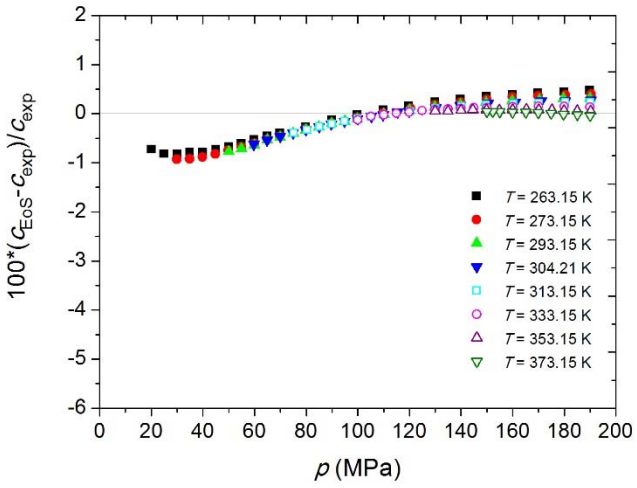
Figure S5. Relative deviations between the experimental speed of sound, c_{exp}, in this work and the values calculated from the extended EOS-CG, the EOS-CG 2019, and the PC-SAFT EoS using binary interaction parameters from Set 1, c_{EoS}, for Mixtures 2 (cocapture) (a) and 4 (emissions) (b) at the nominal temperatures, T.

(a)



(b)


extended EOS-CG
100*(cEoS-cexp)/cexp
p (MPa)
T = 263.15 K
T = 273.15 K
T = 293.15 K
T = 304.21 K
T = 313.15 K
T = 333.15 K
T = 353.15 K
T = 373.15 K


100*(cEoS-cexp)/cexp
p (MPa)
T = 263.15 K
T = 273.15 K
T = 293.15 K
T = 304.21 K
T = 313.15 K
T = 333.15 K
T = 353.15 K
T = 373.15 K

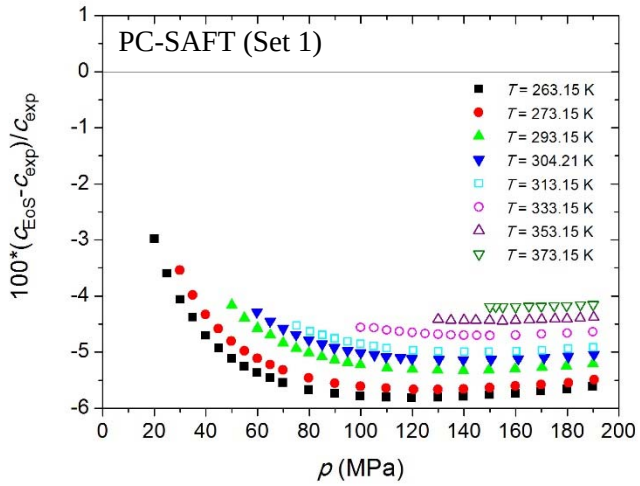
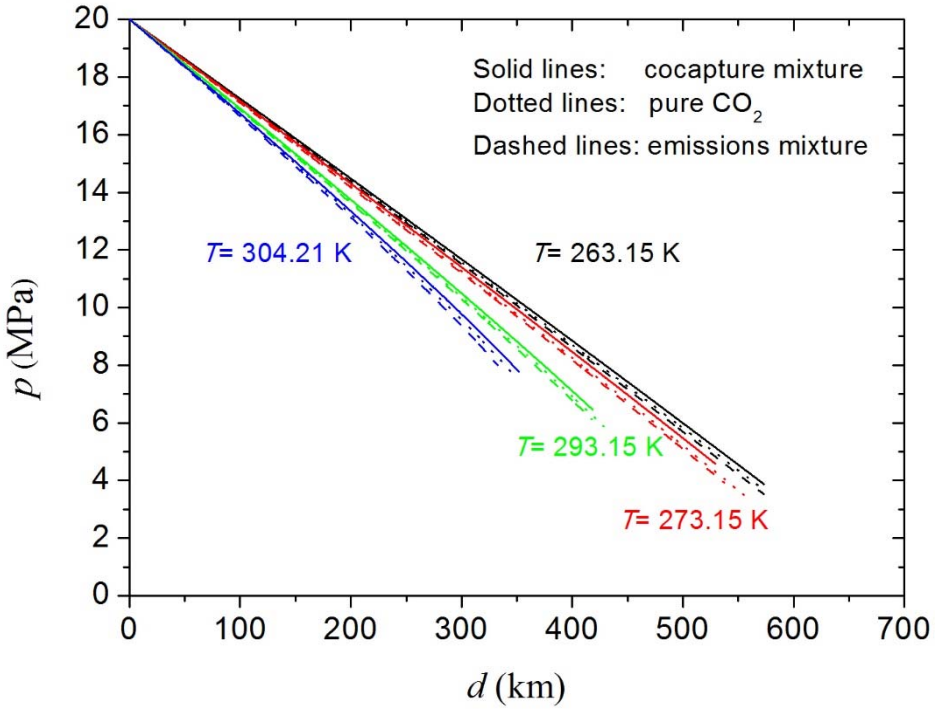

PC-SAFT (Set 1)
100*(cEoS-cexp)/cexp
p (MPa)
T = 263.15 K
T = 273.15 K
T = 293.15 K
T = 304.21 K
T = 313.15 K
T = 333.15 K
T = 353.15 K
T = 373.15 K

Figure S6. Comparison of pressure (a) and density (b) profiles along the pipeline for Mixtures 1 (cocapture) and 3 (emissions) and for pure CO_2 at several transport temperatures T. A mass flow of m = 317.1 kg/s, an inner diameter of the pipeline of D = 0.508 m, and a roughness height of $e = 4.6\times10^{-5}$ m were used, along with a pipeline inlet pressure of 20.00 MPa.

(a)



(b)

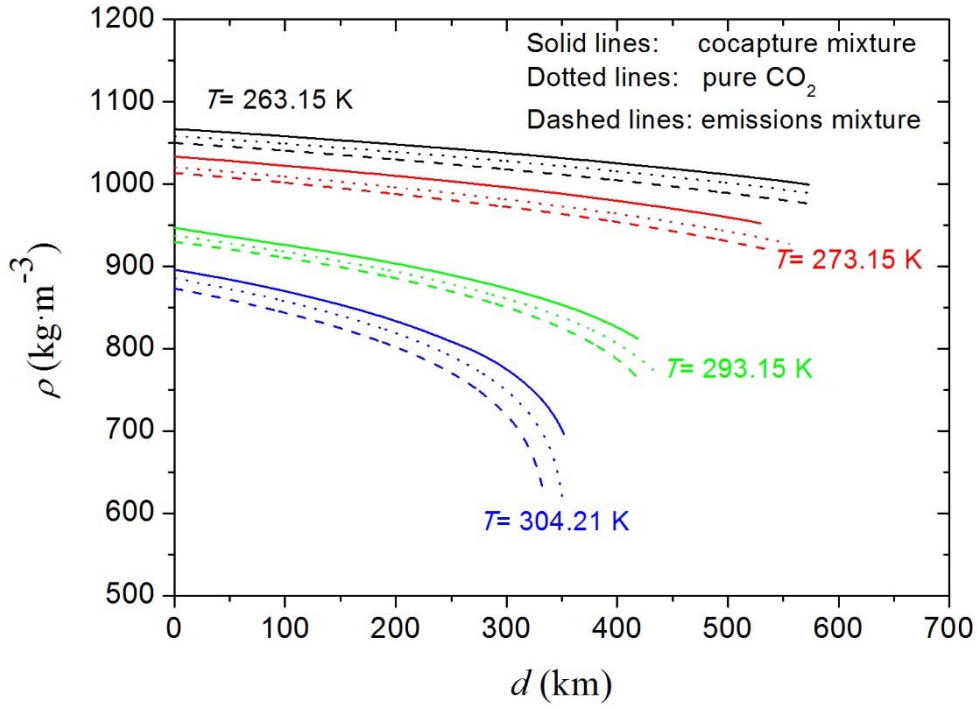
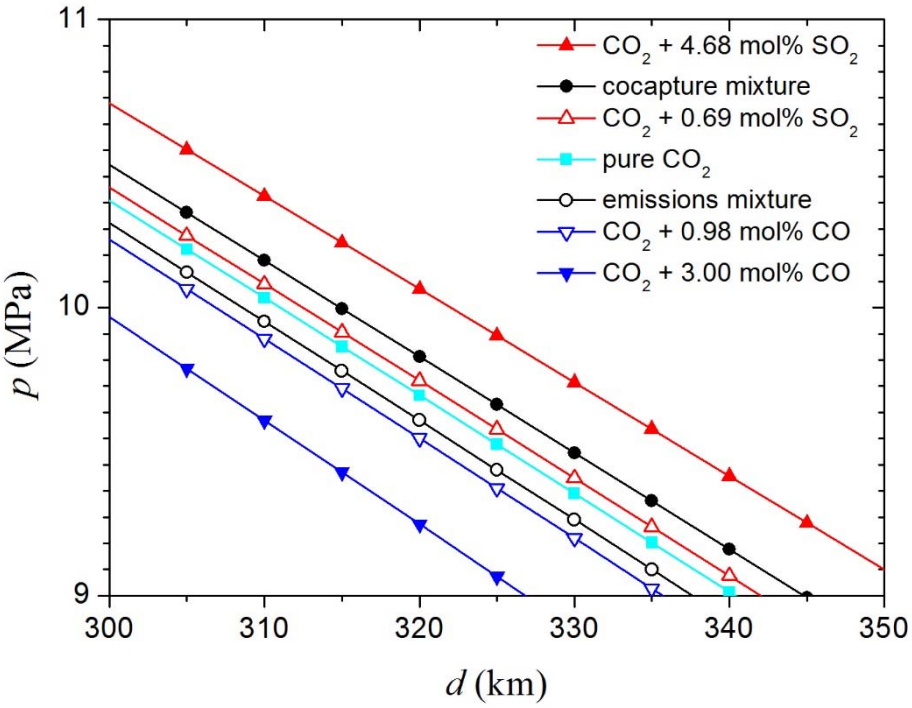

Solid lines: cocapture mixture
Dotted lines: pure CO_2
Dashed lines: emissions mixture
T= 263.15 K
T= 273.15 K
T= 293.15 K
T= 304.21 K
ρ (kg·m^{-3})
d (km)
1200
1100
1000
900
800
700
600
500
0
100
200
300
400
500
600
700

Figure S7. Comparison of pressure (a) and density (b) profiles along the pipeline for the cocapture mixture, the emissions mixture, pure CO_2, CO_2 + SO_2 with x_{SO_2}= 0.0468 and x_{SO_2}= 0.0069 (Gimeno et al., 2018), and CO_2 + CO with x_{CO}= 0.0300 and x_{CO}= 0.0098 (Blanco et al., 2014) at 293.15 K. A mass flow of m = 317.1 kg/s, an inner diameter of the pipeline of D = 0.508 m, and a roughness height of e = 4.6×10^{-5} m were used, along with a pipeline inlet pressure of 20.00 MPa.

(a)



(b)

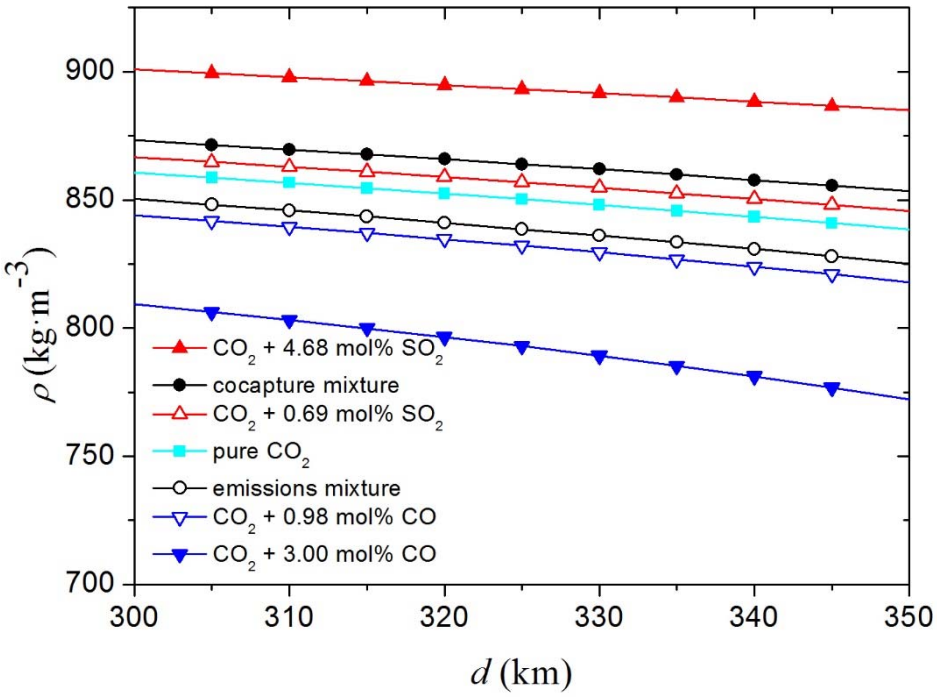
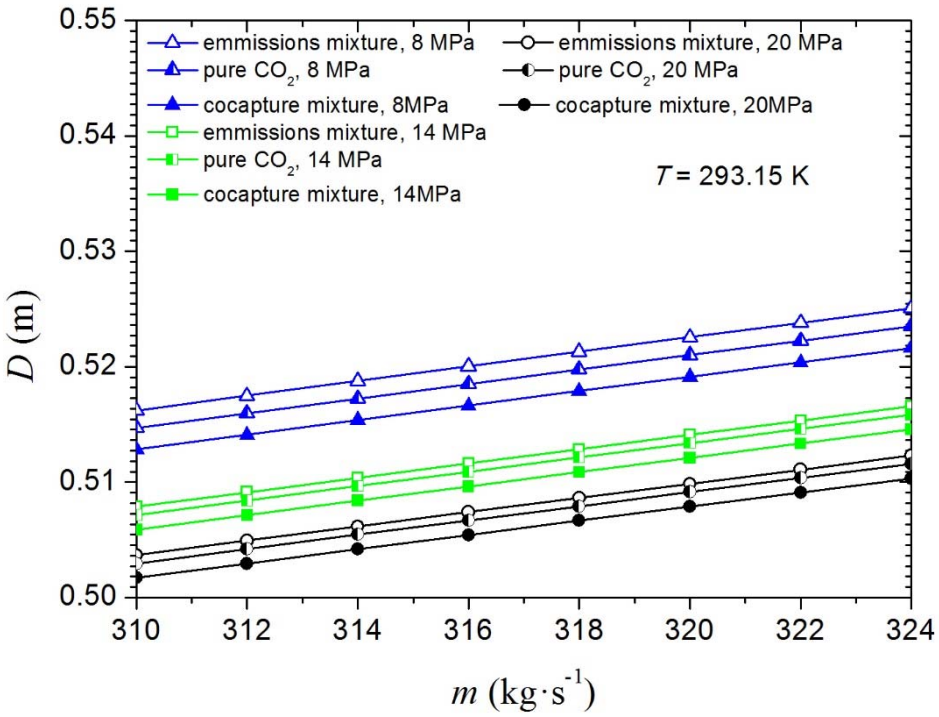

900
850
800
750
700
300
310
320
330
340
350
ρ (kg·m-3)
d (km)
CO2 + 4.68 mol% SO2
cocapture mixture
CO2 + 0.69 mol% SO2
pure CO2
emissions mixture
CO2 + 0.98 mol% CO
CO2 + 3.00 mol% CO

Figure S8. Pipeline inner diameter, *D*, versus mass flow (capacity), *m*, for Mixtures 1 (cocapture) and 3 (emissions) and for pure CO_2. (a) at 293.15 K and 8, 14, and 20 MPa; (b) at 14.00 MPa and 263.15, 273.15, 293.15 K, and 304.21 K. The roughness height was set at $e = 4.6\times10^{-5}$ m, and an average value for pressure drop per meter of 31.2 $Pa\cdot m^{-1}$ was used.

(a)



(b)

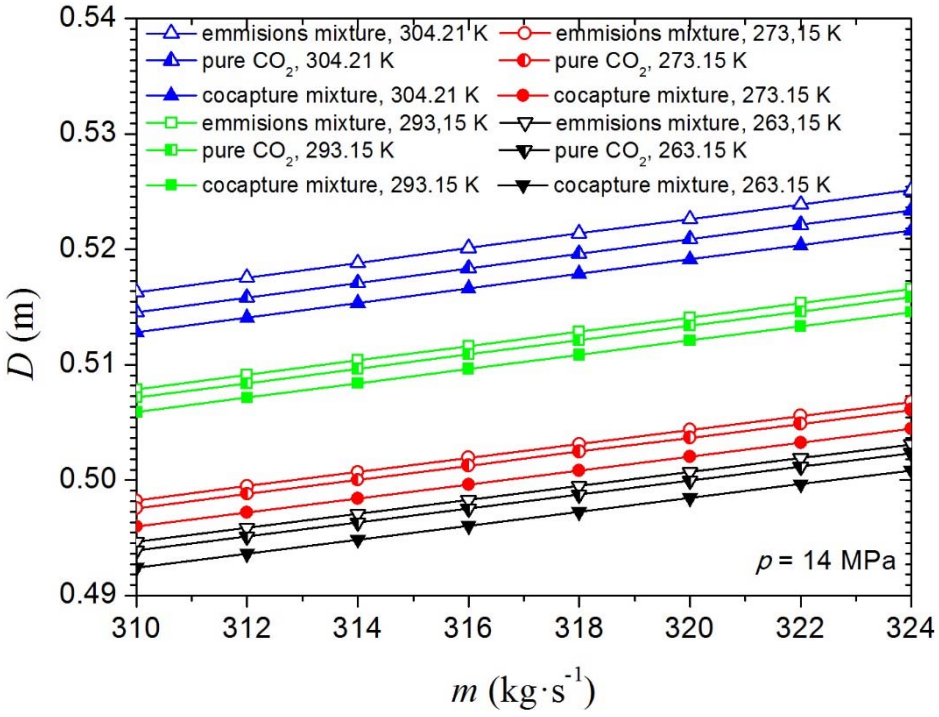

emmisions mixture, 304.21 K
emmisions mixture, 273,15 K
pure CO2, 304.21 K
pure CO2, 273.15 K
cocapture mixture, 304.21 K
cocapture mixture, 273.15 K
emmisions mixture, 293,15 K
emmisions mixture, 263,15 K
pure CO2, 293.15 K
pure CO2, 263.15 K
cocapture mixture, 293.15 K
cocapture mixture, 263.15 K
p = 14 MPa
D (m)
m (kg·s-1)
0.54
0.53
0.52
0.51
0.50
0.49
310
312
314
316
318
320
322
324

Figure S9. Pipeline inner diameter, *D*, versus mass flow (capacity), *m*, for the cocapture mixture, the emissions mixture, pure CO_2, CO_2 + SO_2 with x_{SO_2}= 0.0468 and x_{SO_2}= 0.0069 (Gimeno et al., 2018), and CO_2 + CO with x_{CO}= 0.0300 and x_{CO}= 0.0098 (Blanco et al., 2014) at 293.15 K and 14 MPa. The roughness height was set at e = 4.6×10^{-5} m, and an average value for the pressure drop per meter of 31.2 Pa·m^{-1} was used.

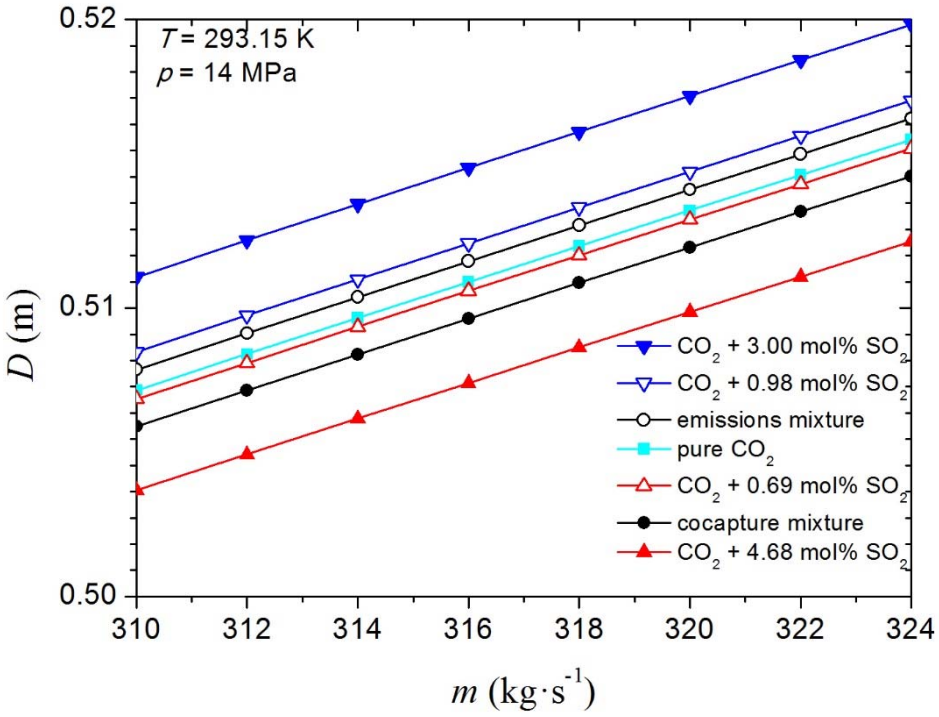
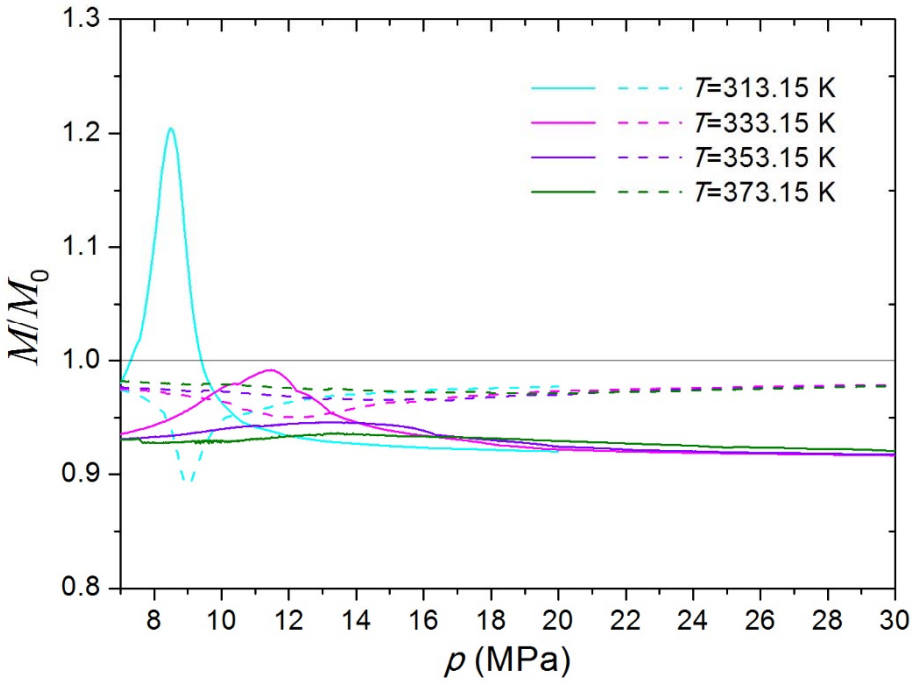
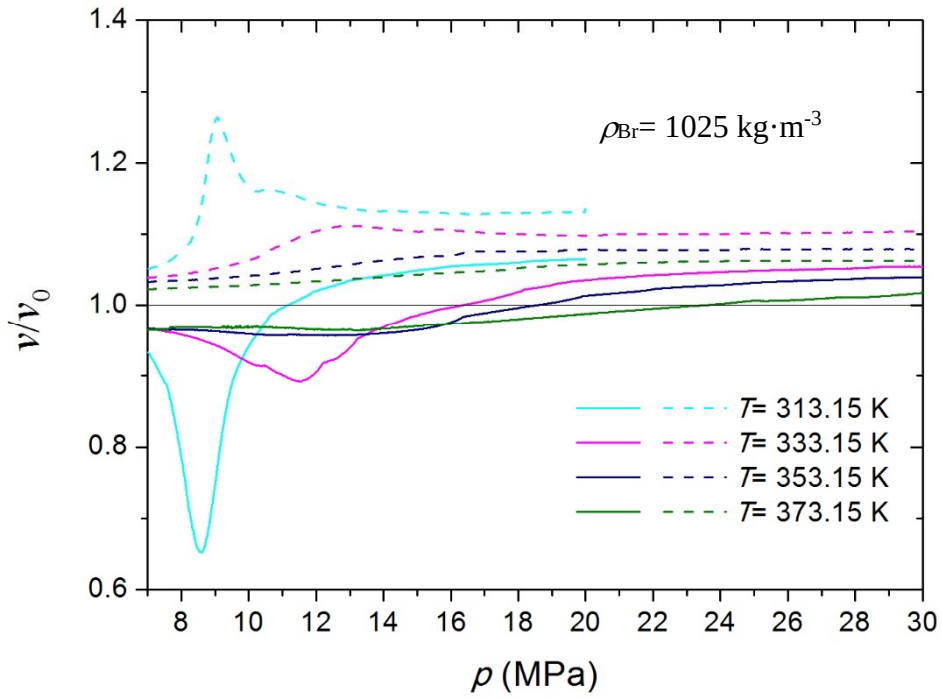


Figure S10. Normalized storage capacity, M/M_0 (a), normalized rising velocity, v/v_0 (b), and normalized permeation flux, $\dot{M}/\dot{M}_0$ (c), for Mixtures 1, cocapture, (solid line) and 3, emissions, (dashed line) versus pressure, p, at the nominal temperatures, T.

(a)



(b)


1.4
1.2
1.0
0.8
0.6
v/v_0
ρ_{Br}= 1025 kg·m^{-3}
T= 313.15 K
T= 333.15 K
T= 353.15 K
T= 373.15 K
8
10
12
14
16
18
20
22
24
26
28
30
p (MPa)

(c)

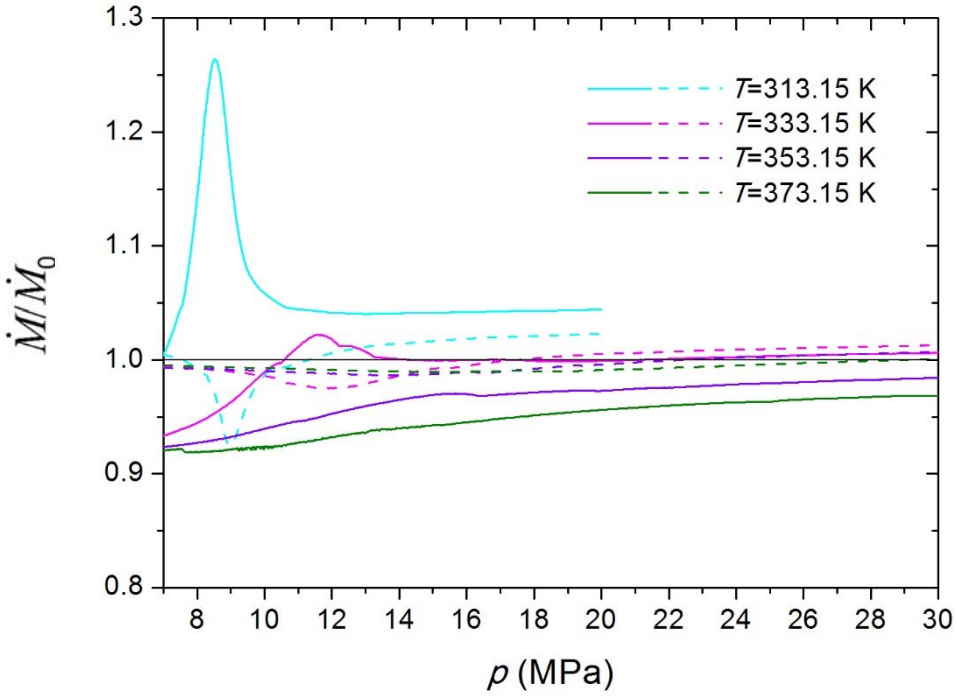

1.3
1.2
1.1
1.0
0.9
0.8
$\dot{M}/\dot{M}_0$
T=313.15 K
T=333.15 K
T=353.15 K
T=373.15 K
8
10
12
14
16
18
20
22
24
26
28
30
p (MPa)

Figure S11. Normalized permeation flux, $\dot{M}/\dot{M}_0$, for the cocapture mixture, the emissions mixture, CO_2 + SO_2 with x_{SO_2}= 0.0468 and x_{SO_2}= 0.0069 (Gimeno et al., 2017), and CO_2 + CO with x_{CO}= 0.0300 and x_{CO}= 0.0098 (Blanco et al., 2014) at the reservoir conditions presented in Table 1.