Can terminal settling velocity and drag of natural particles in water ever be predicted accurately? (supplementary materials)

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1 Materials and methods

1.1 Experimental set-up for terminal settling experiments

Experimental columns (D = 57 mm) were designed at Waternet for liquid-solid fluidisation (Kramer et al., 2020b); (Haynes, 2017) and terminal settling experiments and installed at three locations: in Waternet's Weesperkarspel drinking water pilot plant located in Amsterdam, the Netherlands, at the University of Applied Sciences Utrecht, the Netherlands, and at Queen Mary University of London, United Kingdom (Figure 1 and Figure 2). A schematic overview can be found in Figure 4. Extra experimental columns (D = 125 mm) were installed at Waternet and at the University of Applied Sciences Utrecht (Figure 3). In addition, an advanced experimental pilot set-up at TU Delft was used to determine particle path trajectories 3D in a quiescent fluid.

Figure 1 *Experimental pilot set-up in Amsterdam, Utrecht and London with temperature control*

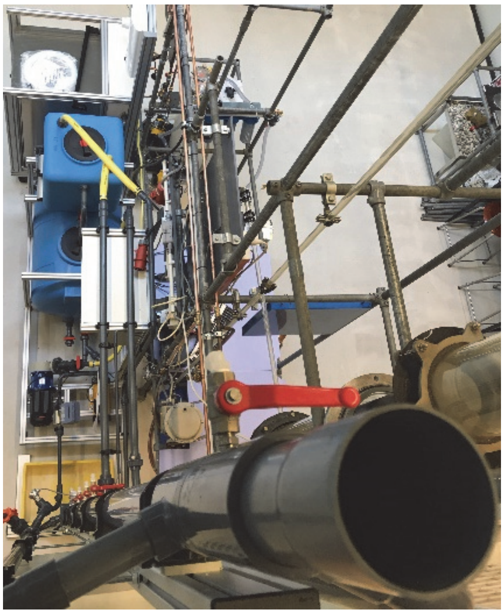


Figure 2 *Column top view D = 57 mm*

Figure 3 *Terminal settling column D = 125 mm*

1.2 Flow chart diagram

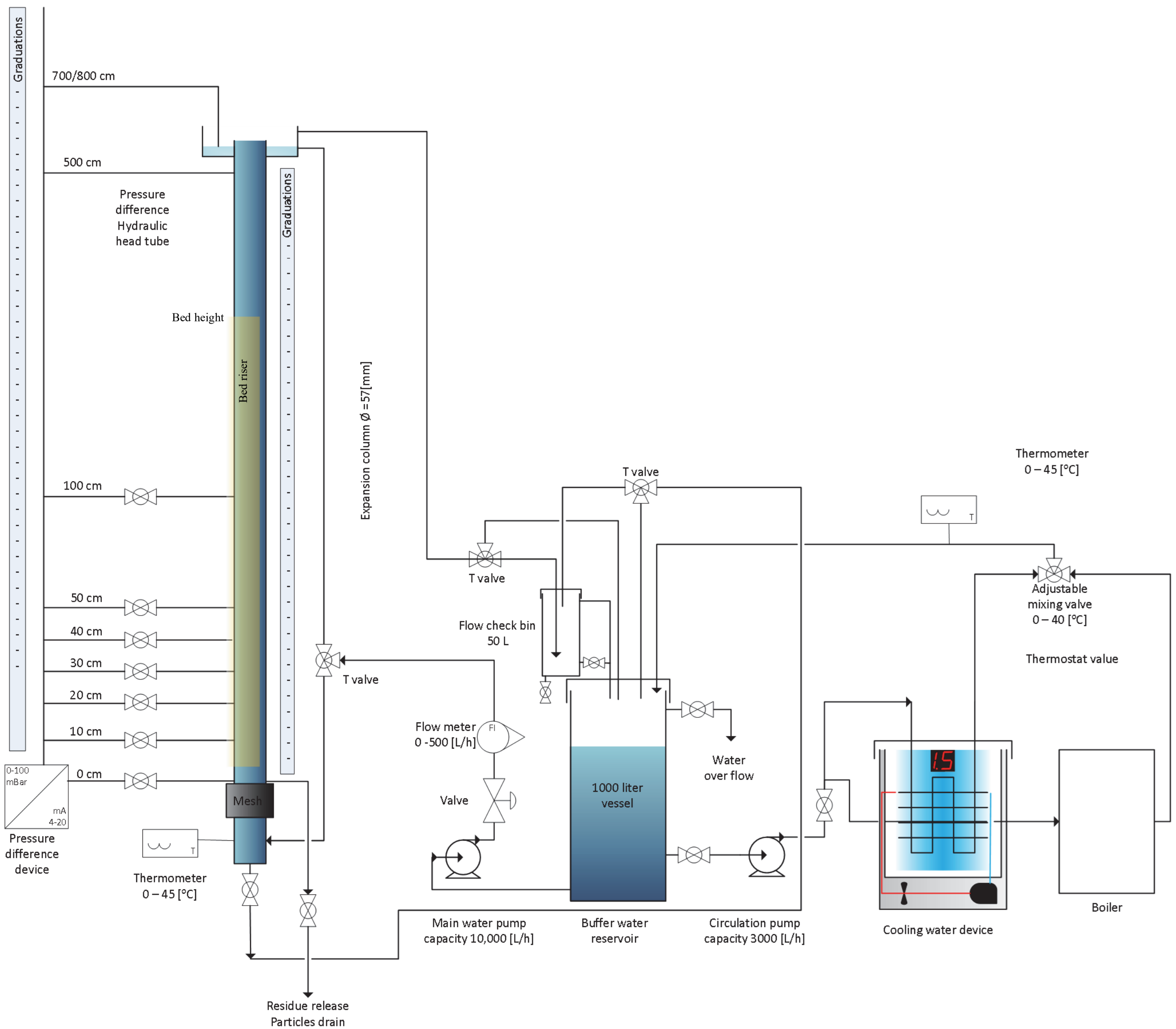
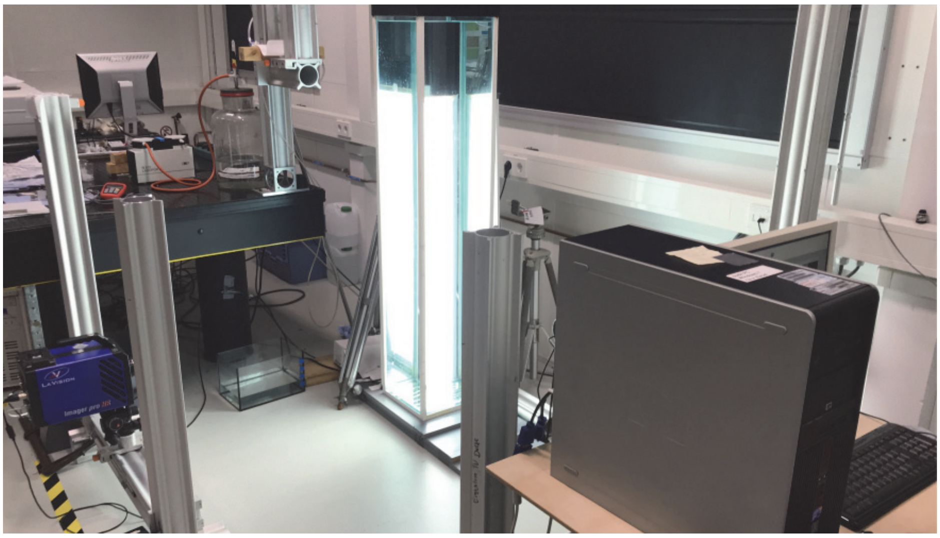


Figure 4 *Experimental set-up*



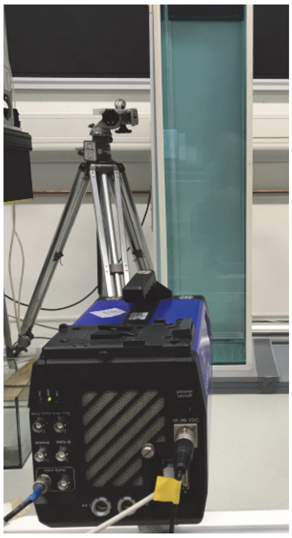


Figure 5 *Experimental pilot set-up at TU Delft D = 300 mm to determine particle path trajectories 3D in a quiescent fluid*

Figure 6 *High-speed camera*

The design of the experiment involved tracking the 3D position of a sphere falling in a tank containing still water, using 3D particle tracking velocimetry, to accurately capture the path instabilities. Installed components included a temperature conditioned tank, controlled high-speed cameras, data acquisition, particle release mechanism, LEDs and a water bath for pre-wetting purposes.

The sphere is able to travel several hundred sphere diameters (Jenny et al., 2004) before it reaches the field of view of the cameras. It is possible to track the sphere for sufficiently large distance (70 d_p for the largest sphere in the current study and 375 d_p for the smallest one).The advanced experimental set-up is thoroughly explained and discussed in (Raaghav, 2019).

1.3 Concise drinking water treatment processes

The raw water originates from seepage water from the Bethune polder. This water is pre-treated by coagulation and sedimentation, followed by approximately 90 days' retention in a lake reservoir. Subsequently, it is filtered through rapid sand filters. The treatment plant that follows contains ozonation, pellet softening, biological activated carbon filtration and slow sand filtration. Chlorination is not needed.

1.4 Physical properties of water

The density of the water was retrieved from the Handbook of Chemistry and Physics by (Haynes, 2017) and Perry's Chemical Engineers' Handbook (Perry and Green, 2007). The dynamic viscosity is given by the Vogel–Fulcher–Tammann equation (Vogel, 1921) Equation (1), and improved by (Civan, 2007) as follows:

$$\eta = \frac{1}{c_5} e^{\left(c_1 + \frac{c_2}{c_3 + (T + c_4)}\right)} \qquad (1)$$

Table 1 *Vogel–Fulcher–Tammann equation parameters 273 < T [K] < 373*

Parameter	Value
c_1	-3.7188
c_2	578.919
c_3	-137.546
c_4	273
c_5	1000

1.5 Procedure

1.5.1 Preparations

In the experiments, the produced drinking water was used (§1.4). The set-up (Figure 4) consisted of a 4-meter transparent PVC pipe with an inner diameter of 57 mm. Water temperature was regulated with a boiler, a cooler and a thermostat by recirculating water through a buffer vessel connected to a water reservoir. The effect of gradient in temperature in the vertical direction was negligible. An overflow at the top of the reactor returned water to the buffer vessel. Water from the buffer vessel was pumped through the reservoir connected to the thermostat which was set to a programmed water temperature. During the terminal settling experiments, the water pump was turned off. To avoid a large amount of disturbances in the fluid, a gap was taken of at least 15 minutes to obtain a stagnant system.To determine the terminal settling velocity in quiescent water, grains were pre-wetted to avoid air bubbles. A tweezer was used to drop individual grains at the centre of the cylindrical tubes. For the traditional experiments, the fall time was measured with a stopwatch and a measuring tape assembled to the tubes.

1.5.2 *Old-school* terminal settling velocity experiments

The settling behaviour of single particles was determined for various materials and for different grain sizes. The temperature was carefully controlled by flowing water of the exact temperature through the column before each experiment and by regularly repeating this process throughout the experiment. Individual particles were dropped at the top of the column. Steady state velocities (Equations given in Chapter 11) were reached during one second and before a distance of L = 0.1m. A condition for steady state velocity is that the particle travels a distance of at least $O(100 \cdot d_p)$ or greater before the stop clock is switched on. After steady state velocity had been reached, the required time to elapse a defined distance (L = 0.50-3.75 m) was measured visually by the laboratory researcher and assistant.

A log was used to register the particle and fluid properties, the dimensions of the particular experiment set-up, the recorded fall length and time as well as observations such as the fall trajectory and occurring path instabilities.

A wide range of grains was selected (Table 2, Table 3, Table 4, Table 5 and Table 6) and tested for various temperatures between 3 and 37 °C. A powerful flashlight at the top of the column supported the visual determination.

1.5.3 Repeating experiment of one and the same particle

For one specific sequence, the terminal settling velocity of one individual 3 mm spherical monodisperse glass bead (type B-162 surface polished dark blue SiLibeads, see Table 3) was repeated 30 times. Two iPhones were used to film the fall trajectory (first iPhone X plus) to determine the moments when the glass bead passed the start and finish marker and the time (stopwatch on second iPhone 8 plus).

1.5.4 Multiple particle experiment

It is difficult to determine the terminal settling velocity of very small particles (d_p < 0.3 mm) such as garnet sand, owing to size and visibility issues when tracking it manually. Hindered settling is a completely different phenomenon (Richardson and Zaki, 1954); (di Felice, 1995); (Baldock et al., 2004); (Kramer et al., 2020b). Nevertheless, several attempts were made to estimate the settling velocity of small particles using the lowest possible amount multiple grains without adversely affecting the visual observation. Hence, a pinch of particles was dropped to increase the visibility of passing grains. Statistical outliers beyond 3.5σ (or 99.95% confidence) for garnet grains were excluded from the statistical results.

2 Particle selection and characterisation

2.1 Photos of particles

Photos of calcite grains were taken with a Nikon D500 camera using a Sigma 150 mm f/2.8 EX DG OS HSM lens. Other photos were taken with an I-phone 8 plus and a Nikon SMZ800 laboratory Stereo Microscope (480x) (Figure 28). Morphological properties, such as the sphericity, were determined with a Retsch Camsizer XT (Retsch-Technology, 2007) (Figure 26). Accordingly, ImageJ software (Figure 27) was used for image analysis purposes (Ferreira and Rasband, 2012).

Central softening (Graveland et al., 1983) has been applied in the Netherlands since the late 1970s (Hofman et al., 2007) with garnet sand (Figure 30) being the most frequently used seeding material (van Dijk and Wilms, 1991); (van Schagen et al., 2008); (Tang et al., 2019). Based on sustainability reasons, garnet sand as a seeding material is replaced by crushed calcite (Figure 31) (Schetters et al., 2015).

Calcite pellet photos are taken from the Supplementary Material section in (Kramer et al., 2020a). Calcite pellets were extracted from full-scale pellet softening reactors located at the Waternet facility Weesperkarspel in Amsterdam. Accordingly, the pellets were fractionised (Figure 24) using a Retsch AS 200-control sieve device (Retsch-Technology, 2007) (Figure 23) and calibrated US mesh sieves.

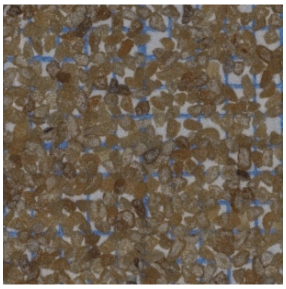


Figure 7 *$d_p<0.36$ mm*

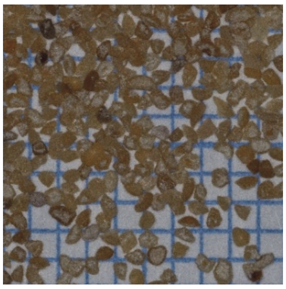


Figure 8 *$0.36<d_p<0.43$ mm*

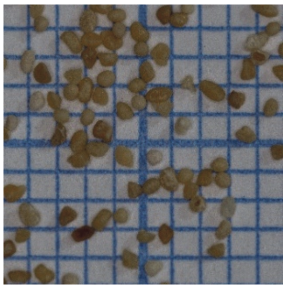


Figure 9 *$0.43<d_p<0.5$ mm*

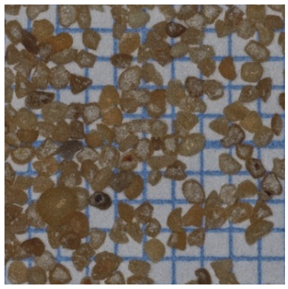


Figure 10 *$0.5<d_p<0.63$ mm*

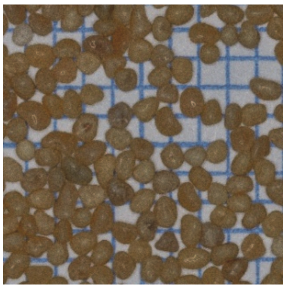


Figure 11 *$0.63<d_p<0.71$ mm*

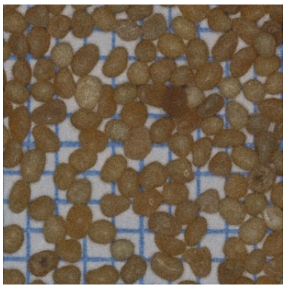


Figure 12 *$0.71<d_p<0.8$ mm*

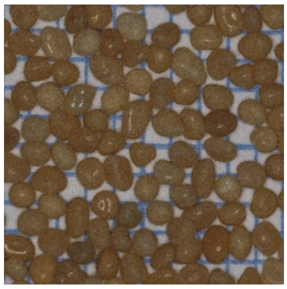


Figure 13 *$0.8<d_p<0.9$ mm*

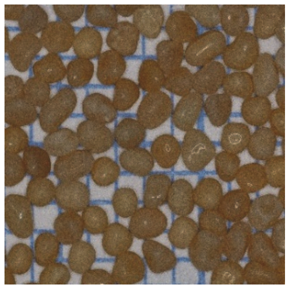


Figure 14 *$0.9<d_p<1.0$ mm*

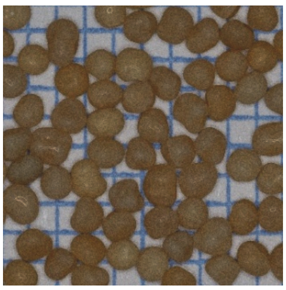


Figure 15 *$1.0<d_p<1.12$ mm*


Figure 16 *$1.12<d_p<1.25$ mm*

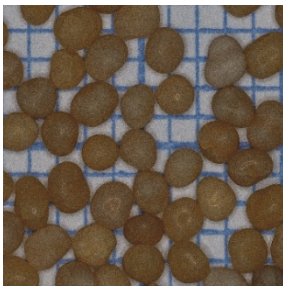


Figure 17 *$1.25<d_p<1.4$ mm*


Figure 18 *$1.4<d_p<1.7$ mm*

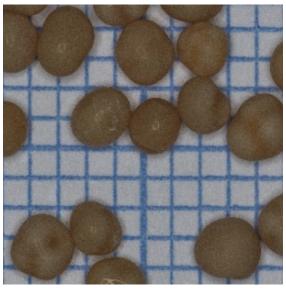


Figure 19 *1.7<d_p<2.0 mm*

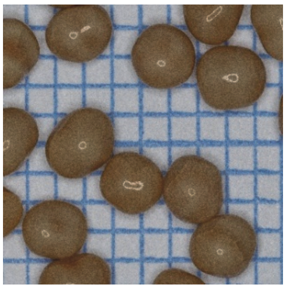


Figure 20 *2.0<d_p<2.4 mm*

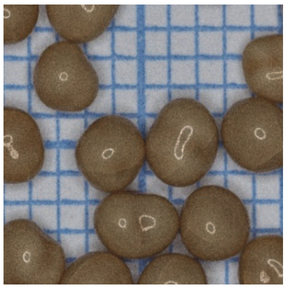


Figure 21 *2.4<d_p<2.8 mm*

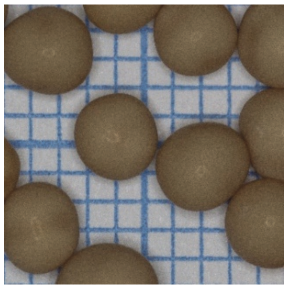


Figure 22 *d_p>2.8 mm*

Figure 23 *Retsch sieve shaker*

Figure 24 *Calcite pellet samples in different sieve sizes*

Figure 25 *Calcite pellets 1.00<d_p<1.12 mm*

Figure 26 *Retsch Camsizer XT*

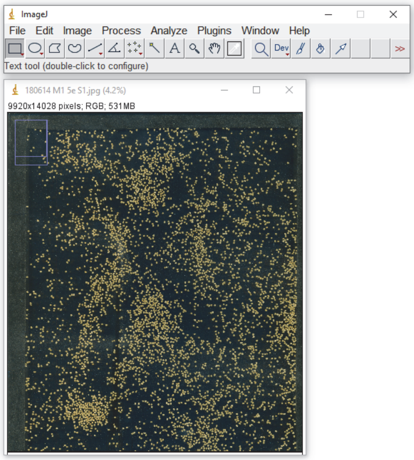


Figure 27 *ImageJ version 1.52u*

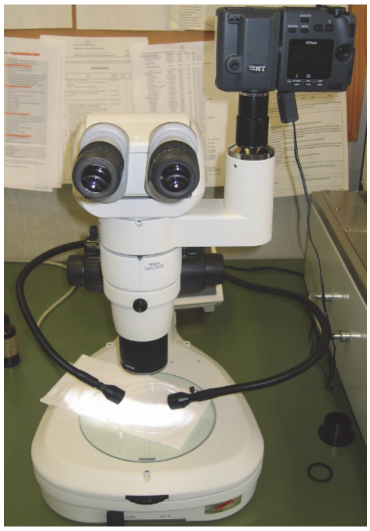


Figure 28 *Stereo microscope*

Figure 29 *Collection of grains for terminal settling experiments*

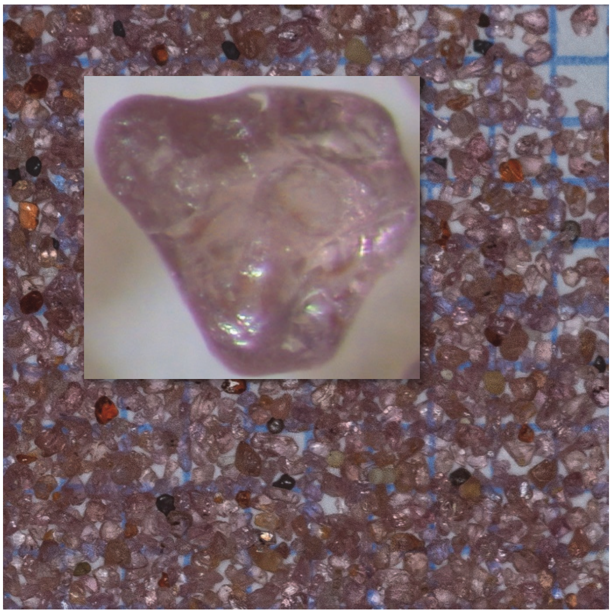


Figure 30 *Garnet sand (mesh 80) 0.2<d_p<0.3 mm*

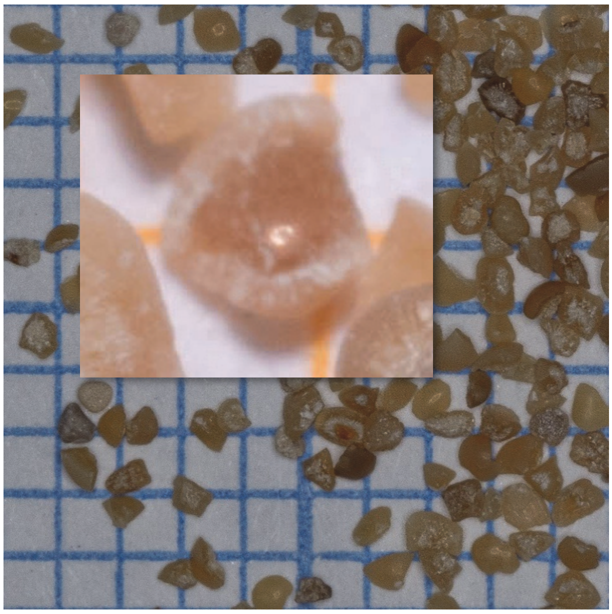


Figure 31 *Crushed calcite 0.4<d_p<0.5 mm*

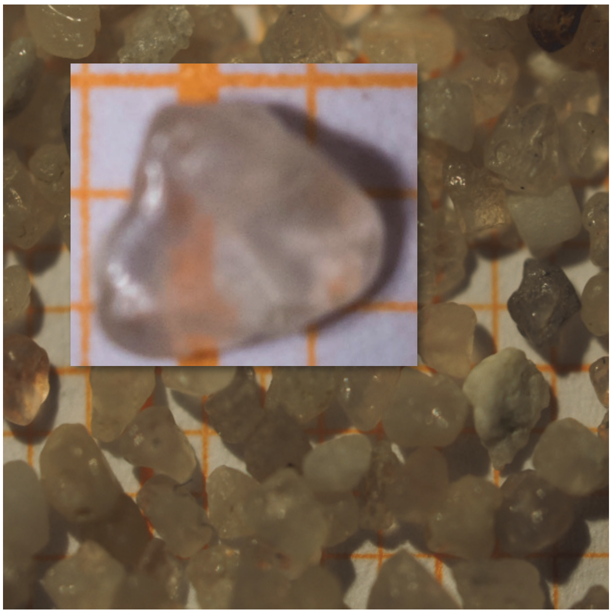


Figure 32 *Rapid filter sand 0.8<d_p<1 mm*

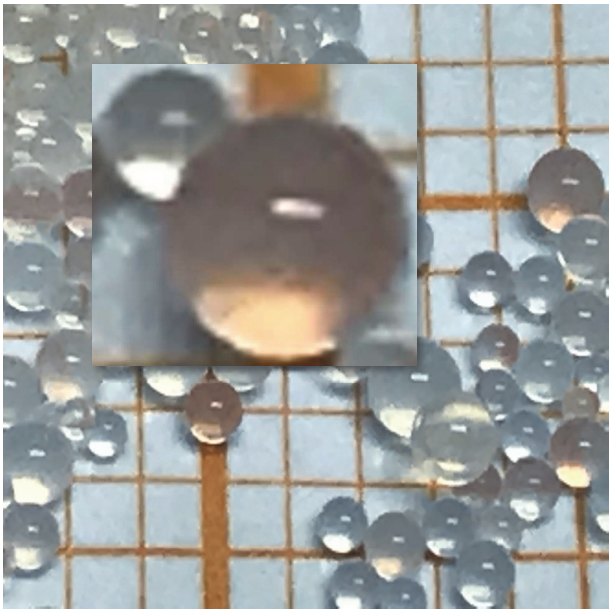


Figure 33 *Anionic exchange resins 0.9<d_p<1.18 mm*

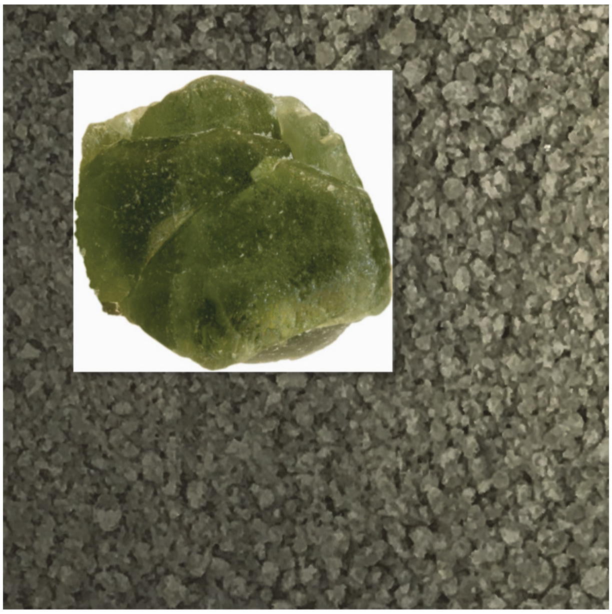


Figure 34 *Olivin grains 0.5<d_p<0.9 mm*

Figure 35 *Nylon balls (DitHolland) d_p= 3.0 mm*

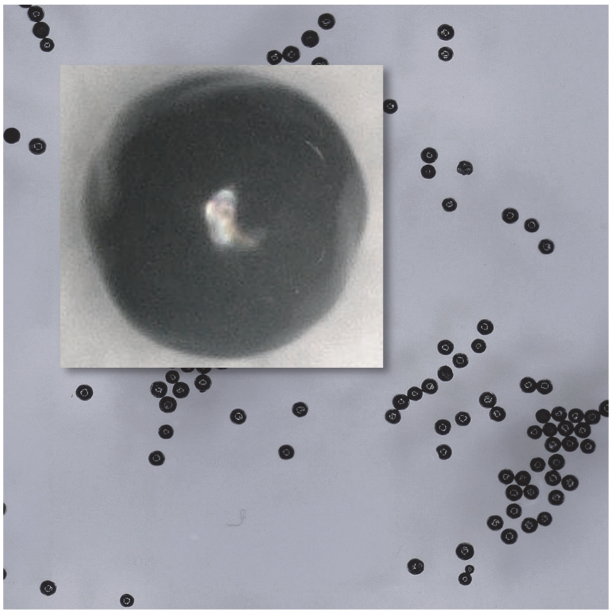


Figure 36 *GAC grains (Saratech) 0.44<d_p<0.51 mm*

Figure 37 *GAC (Norit ROW 0.8 Supra) 0.89<d_p<3.15 mm*

2.2 Particle selection

For the terminal settling experiments opaque and transparent spherical polydisperse and monodisperse glass beads were selected (Table 2 and Table 3).In this study, we also examined drinking water related particles, like calcite pellets (100% $CaCO_3$), and crushed calcite seeding material grains (Table 4 and Table 5), both applied in drinking water softening (Graveland et al., 1983); (Schetters et al., 2015). Polydisperse calcite pellets were sieved and separated to acquire more uniformly dispersed samples. The morphological particle properties obtained with a Camsizer (Retsch-Technology, 2007) show that crushed calcite and the smallest fractionised calcite pellets are relatively more irregularly shaped. The larger the grains become in the softening process due to crystallisation, the more spherically shaped they appear to be.In addition, a wide variety of grains (*exotics*) with different sizes, shapes and densities were investigated for their terminal settling velocity and behaviour (Table 6).

***Table 2** Polydisperse glass pearls [1)]*

Glass colour	Particle diameter [mm]	Particle density [kg/m^3]
Transparent	0.25-0.50	2,600
Transparent	0.50-0.75	2,412
Transparent	1.18-1.30	2,430
Transparent	1.25-1.40 [2)]	2,550
Transparent	1.70-2.35 [2)]	2,600
Transparent	2.85-3.15 [2)]	2,600

1) Boom laboratories BV
2) Fractionised fractions (Retsch sieves)

***Table 3** Monodisperse (SiLibeads) glass beads [1)]*

Glass colour	Type [2)]	Particle diameter [mm]	Particle density [kg/m^3]
Transparent	Type P soda lime	0.7	2,655
Transparent	Type P soda lime	0.8	2,588
Blue	Type P matted opaque	1.0	2,550
Green	Type P matted opaque	1.5	2,525
Red	B-707 surface matt	1.5	2,600
Green	B-592 surface matt	1.5	2,600
Green	B-260 surface polished	2.0	2,600
Red	Type P matted opaque	2.5	2,540
Red	B-707 surface polished	2.5	2,600
Black	B-850 surface polished	2.5	2,600
Dark blue	B-162 surface polished	3.0	2,600
Black	B-850 surface polished	3.0	2,600
Green	Type P matted opaque	3.5	2,525
Coral red	B-702 surface polished	3.5	2,600
Blue	B-162 surface polished	4.0	2,600
Grey	B-386 surface polished	4.0	2,600
Transparent	Type G soda lime	10.0	2,500

1) SiLi Sigmund Linder GmbH
2) Deviation given by manufacturer ±20 [μm]

Table 4 Fractionised calcite and garnet pellets

Nr.	Pellet diameter range	Particle density calcite pellets [kg/m³]	Particle density garnet pellets [kg/m³]
1	d_p<0.355 mm	2,670	3,807
2	0.355<d_p<0.425 mm	2,670	3,069
3	0.425<d_p<0.5 mm	2,658	2,908
4	0.5<d_p<0.63 mm	2,670	2,802
5	0.63<d_p<0.71 mm	2,650	2,748
6	0.71<d_p<0.8 mm	2,650	2,721
7	0.8<d_p<0.9 mm	2,663	2,708
8	0.9<d_p<1.0 mm	2,649	2,697
9	1.0<d_p<1.12 mm	2,634	2,690
10	1.12<d_p<1.25 mm	2,664	2,685
11	1.25<d_p<1.4 mm	2,666	2,680
12	1.4<d_p<1.7 mm	2,657	2,676
13	1.7<d_p<2.0 mm	2,657	2,674
14	2.0<d_p<2.36 mm	2,655	2,672
15	2.36<d_p<2.8 mm	2,657	2,671
16	d_p2.8<d_p<3.35 mm	2,657	2,671
17	d_p>3.35 mm	2,655	2,670

Table 5 Fractionised crushed calcite

Nr.	Crushed calcite diameter range	Particle density [kg/m³]
1	0.425<d_p<0.5 mm	2,582
2	0.5<d_p<0.61 mm	2,579

Table 6 Particle properties exotic grains

Grain type	Particle diameter [mm]	Particle density [kg/m³]	Sphericity [-]	Geldarts type [2)]
Crystal sand (AcquaSilica, Kremer Zand & Grind BV)	0.40-0.63	2,636	0.88	B
Olivine (Greensand BV)	0.50-0.90	3,400	0.85	B
Mined Italian Calcite	0.43-0.56	2,575	0.84	B
Garnet sand sieved fraction	0.13-0.15	4,376	0.84	B
‘’	0.15-0.18	4,370	0.84	B
‘’	0.18-0.21	4,179	0.85	B
Garnet sand (mesh 80)	0.21-0.30	4,141	0.85	B
Garnet sand (softening distortion layer particles) [3)]	0.30-0.36	3,026	0.85	B
Rapid sand filter	0.80-1.25	2,576	0.89	D
GAC Norit ROW 0.8 Supra (rod)	0.89-3.15	1,200 [1)]	0.74	B
GAC Saratech (spherical)	0.44-0.51	1,420 [1)]	0.96	A
IEX anionic exchange resins [4)]	0.90-1.18	1,090	0.95	A
Synthetic material nylon resin (DIT POM balls)	3.00	1,415	0.99	D
Zirconium balls (Baan Machines BV)	0.10	5,990	0.95	B
	1.00	5,981	0.95	D
	2.00	5,975	0.95	D
Steel shots (TU/e)	3.00	7,965	0.99	D

1) Wet density
2) Geldart's particle classification (Geldart, 1973). Type A: aeratable. B: sand-like. D: spoutable particles
3) Fluffy garnet pellets resulting from deteriorated softening
4) Lewatit VP OC 1071

Table 7 *Data spread determined particle density* (NEN-EN 933-2, n.d.)

Grain type	**Error**	**Method**
Glass pearls	3.5%	1, 2, 3, 4, 5
SiLibeads	1.5%	1, 2, 3, 4, 5
Crushed calcite	3.8%	1, 4
Synthetic material	5.0%	1, 4, 5
Calcite pellets	2.2%	1, 4
Garnet pellets	6.8%	1, 4
Crystal sand (AcquaSilica, Kremer Zand & Grind BV)	6.0%	1, 4, 5
Olivine (Greensand BV)	7.5%	5
Mined Italian Calcite	3.8%	1, 5
Garnet sand (mesh 80)	4.5%	1, 5
Rapid sand filter	4.3%	1, 4
Granular Activated Carbon	7.8%	1, 5
IEX anionic exchange resins (Lewatit VP OC 1071)	3.0%	1, 2, 5
Synthetic material nylon resin (DIT POM balls)	3.0%	1, 2, 4, 5
Zirconium balls (Baan Machines BV)	1.7%	4, 5
Steel shots (TU/e)	1.5%	1, 2, 4

1 Pycnometer
2 Particle count
3 ImageJ
4 Differential pressure
5 Supplier

2.3 Average particle diameter

The effective or average hydraulic equivalent particle diameter d_p of calcite pellets was based on the applied sieve method in which particles were divided over the slides of sieves and calculated according to the appropriate geometric mean for two sieves. The distance between successive sieve openings varied between 2, √2, 1.20 and 1.12. Available sieve sizes are usually regulated by standards such as ISO 3310-1, ISO 565, EN 933-2 and ASTM E11 (NEN-EN 933-2, n.d.).In this research, the ratios between two successive sieve openings were 1.12 and 1.20. The hydraulic equivalent particle diameter, based on the geometric mean (Davis, 2010) was calculated using Equation (2):

$$d_p = \sqrt{d_{s,1} d_{s,2}} \tag{2}$$

The particle size of glass beads (SiLibeads) was determined through static image analysis. Based on a scan of a sample using specialised software such as ImageJ that analyses pixels, it is possible to compute the size and different morph parameters of each particle in the picture. Particle size determination using ImageJ is occasionally more complex, caused by Image properties aspects like threshold and pixels.

$$d_p = 2\sqrt{\frac{\sum_i^N A_i}{N\pi}} \tag{3}$$

Table 8 shows particle sizes and the number of individual fluidisation experiments for perfectly round spheres and natural gratins applied in water treatment processes.

Table 8 *Determined particle sizes and types*

Grain material	**Mesh bottom sieve [5) [µm]**	**Mesh top sieve [µm]**	**Average grain size [mm]**	**ImageJ [6) sphere size [mm]**	**Geldart's type [7)**
Glass beads [9)			0.70	n.a. [8)	B
			0.80	n.a.	B
			1.00	1.03	D
			1.50	1.51	D
			2.50	2.48	D
			3.50	3.51	D
Calcite pellets	425	500	0.46	0.48	B
	500	600	0.55	0.54	B
	600	710	0.65	0.71[1)	B
	710	800	0.75	0.83	B
	800	900	0.85	0.94	B
	900	1000	0.95	1.03	D
	1000	1120	1.06	1.17	D
	1120	1250	1.18	1.25	D
	1250	1400	1.32	1.41	D
	1400	1700	1.54	1.62	D
	1700	2000	1.84	1.96	D
	2000	2360	2.17	2.25	D
	2360	2800	2.57	2.55	D
Crushed calcite [3)	400	500	0.49	0.49 [2)	B
	500	630	0.57	0.57 [2)	B
	400	630	0.50	n.a.	B
[4)	500	1250	0.82	0.89 [2)	B

1) Estimated value
2) Determined with a Retsch Camsizer particle size analysis system (Retsch-Technology, 2007)
3) Purchased from the Calcite Factory Amsterdam
4) Mined calcite from Italy
5) Available sieve sizes are usually regulated by standards such as ISO 3310-1, ISO 565, EN 933-2
6) https://imagej.nih.gov/ij/ (Ferreira and Rasband, 2012)
7) Geldart's particle classification (Geldart, 1973). Type A: aeratable. B: sand-like. D: spoutable particles
8) Transparent particle size measurement using static image analyses was inaccurate

The particle size of calcite pellets and crushed calcite determined with ImageJ is slightly higher (Table 8) compared to the average sieve diameter: (R^2=0.994). This can be explained by the fact that pellets and calcite are irregularly shaped due to the grinding process and therefore have a tendency to pass sieves more vertically oriented, while they are more horizontally oriented during static image analysis where particles are lying on a scanner. In case of calcite pellets, for modelling purposes, the average hydraulic equivalent particle diameter d_p is used (Equation (2)).

2.4 Particle density

The particle density was determined with the help of several methods, based on particle counting, static image analysis, differential pressure and/or pycnometer measurements.

2.4.1 Particle counting

A straightforward way to calculate the particle density is particle counting with Equation (4):

$$\rho_p = \frac{\sum_i^N m_i}{N\frac{\pi}{6}{d_p}^3} \tag{4}$$

2.4.2 Static image analyses

Using ImageJ software (Ferreira and Rasband, 2012), the particle density can also be calculated when combined with a mass measurement.

2.4.3 Differential pressure

The particle density was also obtained through fluidisation experiments (Kramer et al., 2020a); (Kramer et al., 2020b). Based on the total particle mass and differential pressure sensor value of the experimental set-up, where the pressure drop in a homogenous fluidisation state is independent of the prevalent superficial fluid velocity, the particle density can be determined using Equation (5).

$$\Delta P = \frac{mg}{\frac{\pi}{4}D^2}\frac{(\rho_p - \rho_f)}{\rho_p} \tag{5}$$

$$\Delta P = \rho_f g\, \Delta H \tag{6}$$

2.4.4 Laboratory pycnometer

A traditional laboratory tool to measure particle density is the pycnometer. The particle density of grain material was measured with a 50 mL pycnometer.

2.4.5 Grains with different densities

Due to crystallisation of $CaCO_3$ at the particle surface (van der Veen and Graveland, 1988); (Kramer et al., 2019), the particle size increases in time. Since the density of the seeding material, for instance garnet grains, is different from the density of calcium carbonate, the average density changes during the softening process. Equation 7 was used to estimate average particle density for garnet pellets based on the assumption that round particles contain an equally distributed layer of pure chalk with a density of 2,711 kg/m^3, as postulated by Anthony (Anthony et al., 2003).

$${d_p}^3\rho_p = {d_g}^3\rho_g + ({d_p}^3 - {d_g}^3)\rho_c \tag{7}$$

2.4.6 Density measurement results

The particle densities were determined through different methods and are given in Table 3 and Figure 38. For calcite pellets, the pycnometer density is the most accurate (average relative error = 0.8%) compared to the derived density based on the differential pressure sensor value, using Equation (5) (average relative error = 4.5%). For modelling purposes, the determined mean value was used.

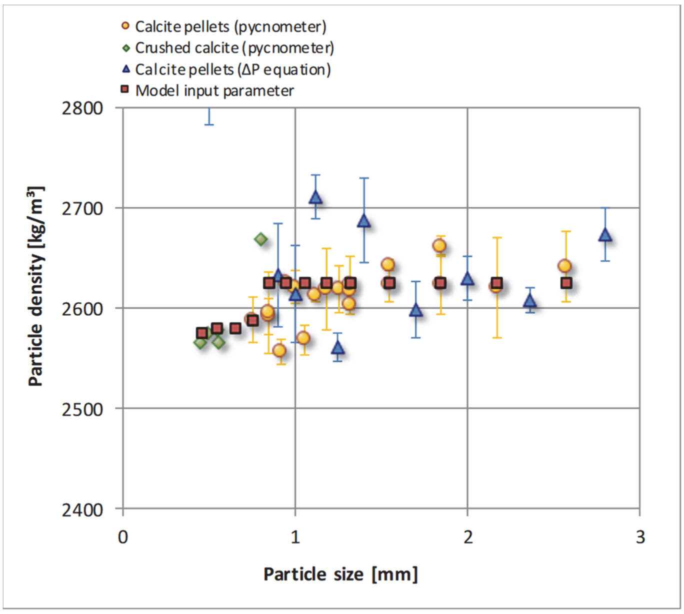


Figure 38 *Particle densities of drinking water pellet softening grains*

2.5 Particle characterisation and morphological properties

Particle characterisation is taken from (Kramer et al., 2020a) (Kramer et al., 2020b).

The following morphological properties are defined:

d_i	Effective size of a sample where i percentage of particles is smaller than the particular size	[m]
$E_{H,50}$	Ellipsoid height (cumulative 50% point)	[m]
$E_{L,50}$	Ellipsoid length (cumulative 50% point)	[m]
$E_{W,50}$	Ellipsoid width (cumulative 50% point)	[m]
UC	Non-uniformity coefficient d_{60}/d_{10}	[-]
Φ	Sphericity: ratio between surface area of the volume equivalent sphere and considered particle $\frac{\pi^{\frac{1}{3}}(6V_p)^{\frac{2}{3}}}{A_s}$	[-]
Ξ	Circularity calculated from the perimeter P and area A of the particle projection $\sqrt{\frac{4\pi A_p}{P^2}}$	[-]
$Symm$	Symmetry, the distances between the centre of area to the particle projection borders	[-]

Table 9 Determined particle properties using Retsch Camsizer XT and ImageJ

Grain type	**Diameter**	$d_{s,min}$ **[mm]**	$d_{s,max}$ **[mm]**	d_p **[mm]**	d_{10} **[mm]**	d_{50} **[mm]**	d_{90} **[mm]**	UC **[-]**	Φ **[-]**	Ξ **[-]**	$Symm$ **[-]**	$E_{L,50}$ **[mm]**	$E_{W,50}$ **[mm]**	$E_{H,50}$ **[mm]**
Calcite pellets	0.50 - 0.63	0.50	0.63	0.56	0.54	0.64	0.74	1.21	0.90	0.86	0.92	0.80	0.59	0.33
‘’	0.63 - 0.71	0.63	0.71	0.67	0.64	0.73	0.83	1.17	0.91	0.86	0.92	0.95	0.70	0.50
‘’	0.80 - 0.90	0.80	0.90	0.85	0.79	0.90	1.00	1.17	0.94	0.86	0.93	1.05	0.83	0.66
‘’	0.90 - 1.00	0.90	1.00	0.95	0.88	0.99	1.10	1.15	0.95	0.87	0.93	1.13	0.93	0.78
‘’	1.00 - 1.12	1.00	1.12	1.06	1.02	1.15	1.29	1.15	0.96	0.87	0.94	1.22	1.02	0.87
‘’	1.12 - 1.25	1.12	1.25	1.18	1.11	1.23	1.35	1.14	0.96	0.87	0.94	1.25	1.04	0.90
‘’	1.25 - 1.40	1.25	1.40	1.32	1.22	1.37	1.53	1.15	0.97	0.87	0.94	1.35	1.14	0.97
‘’	1.40 - 1.70	1.40	1.70	1.54	1.41	1.58	1.76	1.15	0.98	0.86	0.94	1.38	1.16	0.99
‘’	1.70 - 2.00	1.70	2.00	1.84	1.72	1.90	2.10	1.13	0.98	0.86	0.95	1.41	1.21	1.06
‘’	2.00 - 2.36	2.00	2.36	2.17	2.04	2.22	2.42	1.11	0.98	0.86	0.96	1.43	1.23	1.12
‘’	2.36 - 2.80	2.36	2.80	2.57	2.27	2.50	2.75	1.12	0.99	0.82	0.96	1.61	1.39	1.25
‘’	> 2.80	2.80	3.35	3.06	2.72	2.97	3.30	1.11	0.99	0.82	0.96	1.80	1.57	1.50
Crushed calcite	0.40 - 0.50	0.40	0.50	0.45	0.39	0.49	0.58	1.28	0.84	0.78	0.88	0.73	0.52	0.29
	0.50 - 0.60	0.50	0.60	0.55	0.45	0.57	0.68	1.31	0.84	0.78	0.89	0.73	0.52	0.29

The sphericity for crushed calcite and calcite pellets can be interpolated using an empirical Morgan–Mercer–Flodin growth model with Equation (8).

$$\phi_s = \frac{c_0 c_1 + c_2 {d_p}^{c_3}\ [mm]}{c_1 + {d_p}^{c_3}\ [mm]} \qquad (d_p\ \text{[mm]} > 0.4) \qquad (8)$$

Table 10 *Fitting parameters MMF model R^2=0.98*

Coefficient	**Value**
c_0	0.728
c_1	0.171
c_2	0.986
c_3	3.000

The sphericity of garnet pellets was not analysed. Nevertheless, the sphericity is assumed to be approximately the same as sphericity for calcite pellets. In fact, it is likely that the sphericity of garnet pellets is slightly higher compared to the sphericity of calcite pellets since its garnet core is smaller and therefore the $CaCO_3$ layer can become more spherical in an early state.

3 Calculation of the local gravitational field of earth

The local gravitational field of earth g is dependent on the degree of latitude, as indicated by (Stevens et al., 2016) and can be calculated with Equation (9):

$$g = g_{45} - \frac{1}{2}\left(g_{poles} - g_{equator}\right) + cos\left(2\ lat \frac{\pi}{180}\right) \qquad (9)$$

where g_{poles} = 9.780 m/s^2, g_{45} = 9.806 m/s^2, $g_{equator}$ = 9.832 m/s^2 and lat = latitude between −90° and 90°.

4 Wall effects

Wall effects are taken from the Discussion section in the Supplementary Material section in (Kramer et al., 2020b).

In the literature, many wall effect correction formulas can be found. These wall effects refer to the retardation of the motion of individual particles settling in a cylinder due to the displacement and opposing motion of the surrounding fluid (Clift et al., 1978); (Yang, 2003). Wall effects depend on the ratio of the particle diameter to the cylinder column diameter d_p/D and the sphere Reynolds number Re_t for terminal settling conditions (di Felice, 1995); (di Felice and Gibilaro, 2004); (Chhabra et al., 2003).

In the literature, correction formulas are also given (Richardson and Zaki, 1954); (Loeffler, 1953), often developed on an empirical basis. The effect of container walls, however, can be neglected in most full-scale operations (Akgiray and Soyer, 2006). Regarding relatively small laboratory columns, wall effects might have to be considered because wall friction opposes the drag force acting on the particles during fluidisation. Numerous researchers, including (Loeffler, 1953), (Dharmarajah, 1982), (Khan and Richardson, 1989), (di Felice, 1995), (Rao et al., 2010), (Whiten and Özer, 2015) and (do Nascimento et al., 2016) have proposed empirical equations based on particle–to–column ratio, Reynolds number or velocity ratio, to apply corrections. According to (Fidleris and Whitmore, 2002) the retarding effect of the wall decreases with increasing terminal Reynolds number, so that for ratios of $(d_p/D = 0.05 - 0.10)$ the wall correction becomes less than 1% for Reynolds numbers exceeding 5 and 30, respectively. However, there is no general agreement in the literature. A straightforward critical value for particle–to–column ratio varies between 0.06 and 0.2. When we take $(d_p/D)_{crit}$, then for almost all experiments corrections are not needed. Wall effects are only significant for large glass beads d_p=10 [mm]. (Fidleris and Whitmore, 2002) proposed the improved Ladenburg wall effects correction equation (Equation (10)):

$$k = 1 - 2.104\frac{d_p}{D} + 2.09\left(\frac{d_p}{D}\right)^3 + 0.95\left(\frac{d_p}{D}\right)^5 \qquad (d_p/D < 2) \tag{10}$$

where

$$k = \frac{v_t}{v_{t,\infty}} \tag{11}$$

(Arsenijević et al., 2010) and (Chhabra et al., 2003) suggested the Haberman equation (Haberman and Sayre, 1958) Equation (12), which has gained wide acceptance in the literature:

$$k = \frac{1 - 2.104\frac{d_p}{D} + 2.0865\left(\frac{d_p}{D}\right)^3 - 1.7068\left(\frac{d_p}{D}\right)^5 + 0.72603\left(\frac{d_p}{D}\right)^6}{1 - 0.75857\left(\frac{d_p}{D}\right)^5} \tag{12}$$

which can be simplified for the uncertainty analysis:

$$k = 1 - 2.104\frac{d_p}{D} \tag{13}$$

5 Drag coefficient prediction models from the literature

5.1 Spherical particles

Table 11 *Drag coefficient prediction models from the literature for spherical particles*

Reference	Equation	Boundary conditions	Eq. nr.
(Stokes, 1850)	$C_D = \frac{24}{Re_t}$	$Re_t < 0.1$	(14)
(Newton, 1726)	$C_D = 0.44$	$750 < Re_t < 350{,}000$	(15)
(Schiller and Naumann, 1933)	$C_D = \frac{24}{Re_t}\left(1 + 0.15{Re_t}^{0.681}\right)$	$Re_t < 800$	(16)
(Dallavalle, 1948)	$C_D = \left(0.63 + \frac{4.8}{\sqrt{Re_t}}\right)^2$	$0.015 < Re_t < 3{,}000$	(17)
(Fair et al., 1971)	$C_D = \frac{24}{Re_t} + \frac{4}{\sqrt{Re_t}} + 0.34$	$Re_t < 100{,}000$	(18)
(Clift and Gauvin, 1971)	$C_D = \frac{24}{Re_t}\left(1 + 0.15{Re_t}^{0.687}\right) + \frac{0.42}{1 + \frac{42500}{Re_t^{1.16}}}$	$Re_t < 300{,}000$	(19)
(Clift et al., 1978)	$C_D = \frac{24}{Re_t} + \frac{3}{16}$	$Re_t < 0.1$	(20)
	$C_D = \frac{24}{Re_t}\left(1 + 0.1315{Re_t}^{(0.82 - 0.05\log Re_t)}\right)$	$0.01 < Re_t < 20$	(21)
	$C_D = \frac{24}{Re_t}\left(1 + 0.1935{Re_t}^{0.6305}\right)$	$20 < Re_t < 260$	(22)
	$\log C_D = 1.6435 - 1.1242\log Re_t + 0.1558(Re_t)^2$	$260 < Re_t < 1{,}500$	(23)
	$\log C_D = -2.4571 + 2.5558\log Re_t - 0.9295(Re_t)^2 + 0.1049(Re_t)^3$	$1{,}500 < Re_t < 12{,}000$	(24)
	$\log C_D = -1.9181 + 0.6370\log Re_t - 0.0636(Re_t)^2$	$12{,}000 < Re_t < 44{,}000$	(25)
	$\log C_D = -4.3390 + 1.5809\log Re_t - 0.1546(Re_t)^2$	$44{,}000 < Re_t < 338{,}000$	(26)
(Graf, 1984)	$C_D = \frac{24}{Re_t} + \frac{7.3}{1 + \sqrt{Re_t}} + 0.25$	$Re_t < 200{,}000$	(27)
(Turton and Levenspiel, 1986)	$C_D = \frac{24}{Re_t}\left(1 + 0.17{Re_t}^{0.657}\right) + \frac{0.413}{1 + \frac{16300}{Re_t^{1.09}}}$	$Re_t < 260{,}000$	(28)
(Flemmer and Banks, 1986)	$C_D = \frac{24}{Re_t}10^E$ $E = 0.261{Re_t}^{0.369} - 0.105{Re_t}^{0.431} - \frac{0.124}{1 + log(Re_t)^2}$	$Re_t < 86{,}000$	(29)
(Khan and Richardson, 1987)	$C_D = \left(2.25{Re_t}^{-0.31} + 0.36{Re_t}^{0.06}\right)^{3.45}$	$0.01 < Re_t < 300{,}000$	(30)
(Haider and Levenspiel, 1989)	$C_D = \frac{24}{Re_t}\left(1 + 0.1806{Re_t}^{0.6459}\right) + \frac{0.4251}{1 + \frac{6880.95}{Re_t}}$	$100 < Re_t < 260{,}000$	(31)
(Brown and Lawler, 2003)	$C_D = \frac{24}{Re_t}\left(1 + 0.15{Re_t}^{0.681}\right) + \frac{0.407}{1 + \frac{8710}{Re_t}}$	$Re_t < 200{,}000$	(32)
(van Schagen et al., 2008)	$C_D = \frac{24}{Re_t}\left(1 + 0.079{Re_t}^{0.67}\right)$	$Re_t < 800$	(33)
(Cheng, 2009)	$C_D = \frac{24}{Re_t}(1 + 0.27Re_t)^{0.43} + 0.47\left(1 - e^{-0.04{Re_t}^{0.38}}\right)$	$0.002 < Re_t < 200{,}000$	(34)
(Morrison, 2013) [1)]	$C_D = \frac{24}{Re_t} + \frac{2.6\left(\frac{Re_t}{5}\right)}{1 + \left(\frac{Re_t}{5}\right)^{1.52}} + \frac{0.411\left(\frac{Re_t}{263{,}000}\right)^{-7.94}}{1 + \left(\frac{Re_t}{263{,}000}\right)^{-8}} + \frac{0.25\left(\frac{Re_t}{10^6}\right)}{1 + \left(\frac{Re_t}{10^6}\right)}$	$Re_t < 1{,}000{,}000$	(35)

1) Model improvements are proposed with fitted parameters by (Haider and Levenspiel, 1989)

5.2 Non-spherical particles

The sphericity Φ represents the ratio between the surface area of the volume equivalent sphere and that of the considered particle.

Table 12 *Drag coefficient prediction models from the literature for non-spherical particles with sphericity*

Reference	Equation	Boundary conditions	Eq. nr.
(Haider and Levenspiel, 1989)	$C_D = \frac{24}{Re_t}(1 + c_1 Re_t^{c_2}) + \frac{c_3}{1 + \frac{c_4}{Re_t}}$	$Re_t < 300{,}000$	(36)
	$c_1 = \exp(2.3288 - 6.4581\Phi + 2.4486\Phi^2)$		(37)
	$c_2 = 0.0964 + 0.5565\Phi$		(38)
	$c_3 = \exp(4.905 - 13.8944\Phi + 18.4222\Phi^2 - 10.2599\Phi^3)$		(39)
	$c_4 = \exp(1.4681 + 12.2584\Phi - 20.7332\Phi^2 + 15.8855\Phi^3)$		(40)
(Ganser, 1993)	$C_D = c_2\left(\frac{24}{c_1 c_2 Re_t}(1 + 0.118(c_1 c_2 Re_t)^{0.6567}) + \frac{0.4305}{1 + \frac{3305}{c_1 c_2 Re_t}}\right)$		(41)
	$c_1 = \left(\frac{1}{3} + \frac{2}{3}\Phi^{-0.5}\right)^{-1}$		(42)
	$c_2 = 10^{1.8148\left(-^{10}log(\Phi)\right)^{0.5743}}$		(43)
(Chien, 1994)	$C_D = \frac{30}{Re_t} + \frac{67.289}{e^{5.03\Phi}}$		(44)

5.3 More complex prediction models using more morphological properties

The crosswise sphericity $\Phi_{\perp}$ is defined as the ratio between the cross-sectional area of the volume equivalent sphere and the projected cross-sectional area of the considered particle perpendicular to the flow. The lengthwise sphericity $\Phi_{\parallel}$ is the ratio between the cross-sectional area of the volume equivalent sphere and the difference between half the surface area and the mean projected longitudinal cross-sectional area of the considered particle (Leith, 1987); (Hölzer and Sommerfeld, 2008).

Table 13 *Drag coefficient advanced prediction models from the literature for non-spherical particles*

Reference	Equation	Boundary conditions	Eq. nr.
(Hölzer and Sommerfeld, 2008)	$C_D = \frac{8}{Re_t}\frac{1}{\sqrt{\Phi_{\parallel}}} + \frac{16}{Re_t}\frac{1}{\sqrt{\Phi}} + \frac{3}{\sqrt{Re_t}}\frac{1}{\Phi^{\frac{3}{4}}} + \frac{0.42}{\Phi_{\perp}}10^{0.4\left(-{}^{10}\log(\Phi)\right)^{0.2}}$		(45)
	$C_D = \frac{24K_S}{Re_t}\left(1 + 0.125\left(Re_t\frac{K_N}{K_S}\right)^{\frac{2}{3}}\right) + \frac{0.46K_N}{1 + \frac{5330}{Re_t\frac{K_N}{K_S}}}$		(46)
(Bagheri and Bonadonna, 2016)	$K_S = \frac{F_S^{\frac{1}{3}} + F_S^{-\frac{1}{3}}}{2}$		(47)
	$K_N = 10^{\alpha_2\left(-{}^{10}log(F_N)\right)^{\beta_2}}$		(48)
	$F_S = fe^{1.3}\left(\frac{d_p{}^3}{D_L D_M D_S}\right)$		(49)
	$F_N = f^2 e\left(\frac{d_p{}^3}{D_L D_M D_S}\right)$		(50)
	$\alpha_2 = 0.45 + \frac{10}{e^{2.5\,log\left(\frac{\rho_p}{\rho_f}\right)+30}}$		(51)
	$\beta_2 = 1 - \frac{37}{e^{3\,log\left(\frac{\rho_p}{\rho_f}\right)+100}}$		(52)
(Dioguardi et al., 2018)	$C_D = \frac{24}{Re_t}\left(\frac{1-\Psi}{Re_t} + 1\right)^{\frac{1}{4}} + \frac{24}{Re_t}\left(0.1806Re_t{}^{0.6459}\right)\Psi^{-\left(Re_t{}^{0.08}\right)} + \frac{0.4251}{1 + \frac{6,880.95}{Re_t}\Psi^{5.05}}$		(53)

Parameters f and e are the particle flatness and elongation defined by (Dioguardi and Mele, 2015). (Dioguardi et al., 2018) defined a particle shape descriptor as a function of sphericity and circularity as follows:

$$\Psi = \frac{\Phi}{\Xi} \tag{54}$$

According to (Dioguardi et al., 2018) and (Serway and Jewett, 2014) a less accurate approximation is the following:

$$\Psi = 0.83\Phi \tag{55}$$

5.4 Brown–Lawler model

The Brown–Lawler equation is based on the implicit Schiller–Naumann equation (Schiller and Naumann, 1933) in which an extra term is appended to cover the whole range. The Brown–Lawler equation (Brown and Lawler, 2003) is the arbitrary composition of the individual terms for the manifold flow regimes, i.e. the laminar, transitional and turbulent flow regimes:

$$C_D = t_1 + t_2 + t_3 \qquad (56)$$

$$t_1 = \frac{24}{Re_t} \qquad \text{laminar regime} \qquad (57)$$

$$t_2 = 3.60 Re_t^{-0.319} \qquad \text{transitional regime} \qquad (58)$$

$$t_3 = \frac{0.407}{1 + \frac{8710}{Re_t}} \qquad \text{turbulent regime} \qquad (59)$$

$$C_D = \frac{24}{Re_t}\left(1 + 0.15 {Re_t}^{0.681}\right) + \frac{0.407}{1 + \frac{8710}{Re_t}} \qquad (Re_t < 300{,}000) \qquad (32)$$

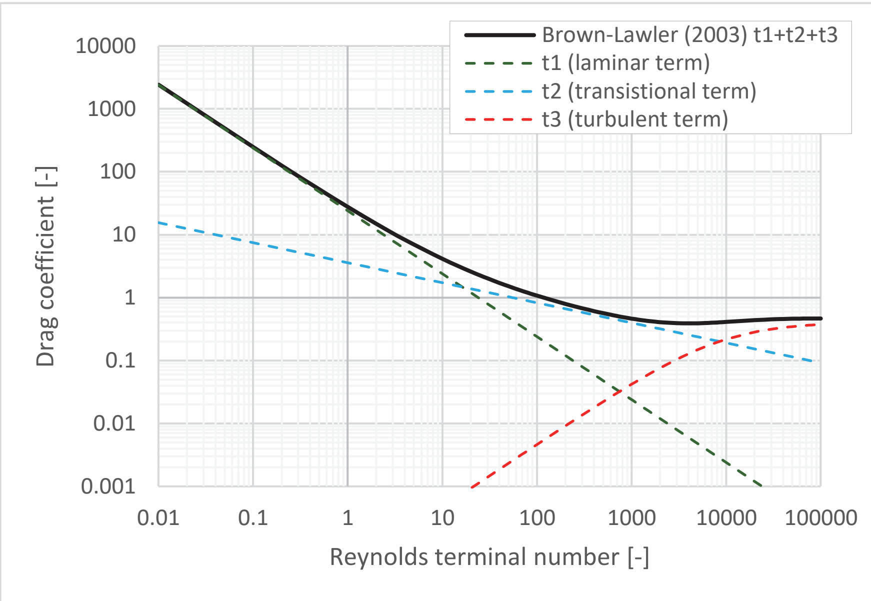


Figure 39 *Brown–Lawler model*

5.5 Range analysis

Brown and Lawler conducted an elaborate study on drag and settling velocity correlations, and they compared these with selected datasets from the literature. Their preliminary dataset ($N > 606$) was conscientiously filtered in view of a lack of precision, wall effects, non-spherical shapes and limiting Reynolds numbers, to mention but a few aspects. Subsequently, on a definite dataset containing 480 points, they presented the fit to corrected data for both drag and settling velocity correlations. They compared several customary statistical methods. Based on the range analysis method, i.e. the percentage of data points within a specified range of the correlation, they considered Equation 32 to be the most accurate. They presented their statistical results in a tabular form. In the current work, however, their results are plotted graphically, as shown in Figure 40. Brown and Lawler then discussed why the Fair–Geyer equation for drag should be abandoned in favour of the direct calculation available from new proposed models. In Figure 40, it is apparent that the accuracy of the Fair–Geyer equation is significantly lower compared with other models, except for the equation proposed by Brown and Lawler, which only has a slightly higher accuracy. The disadvantage of the latter, however, is the division of the terminal settling velocity into ten different segments, each valid for a specific Reynolds range. Figure 40 shows that the Fair–Geyer equation can be rejected in favour of the Brown–Lawler equation. However, the observed difference in accuracy between Brown–Lawler and Fair–Geyer presented in the statistical methods is marginal.

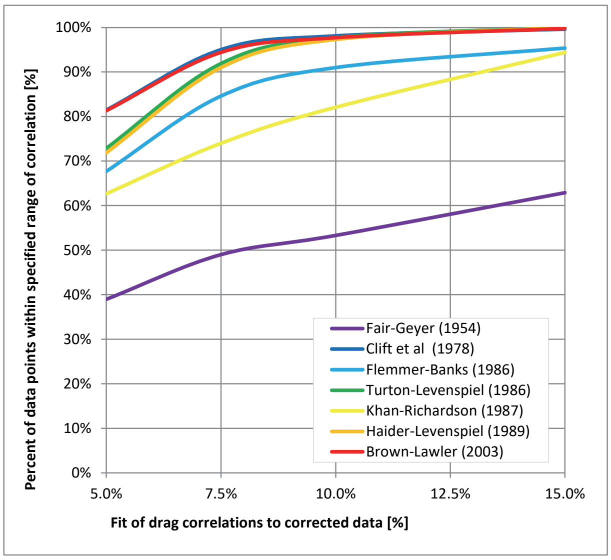


Figure 40 *Range analysis method* (Brown and Lawler, 2003)

5.6 Standard drag curve with average values and prediction models

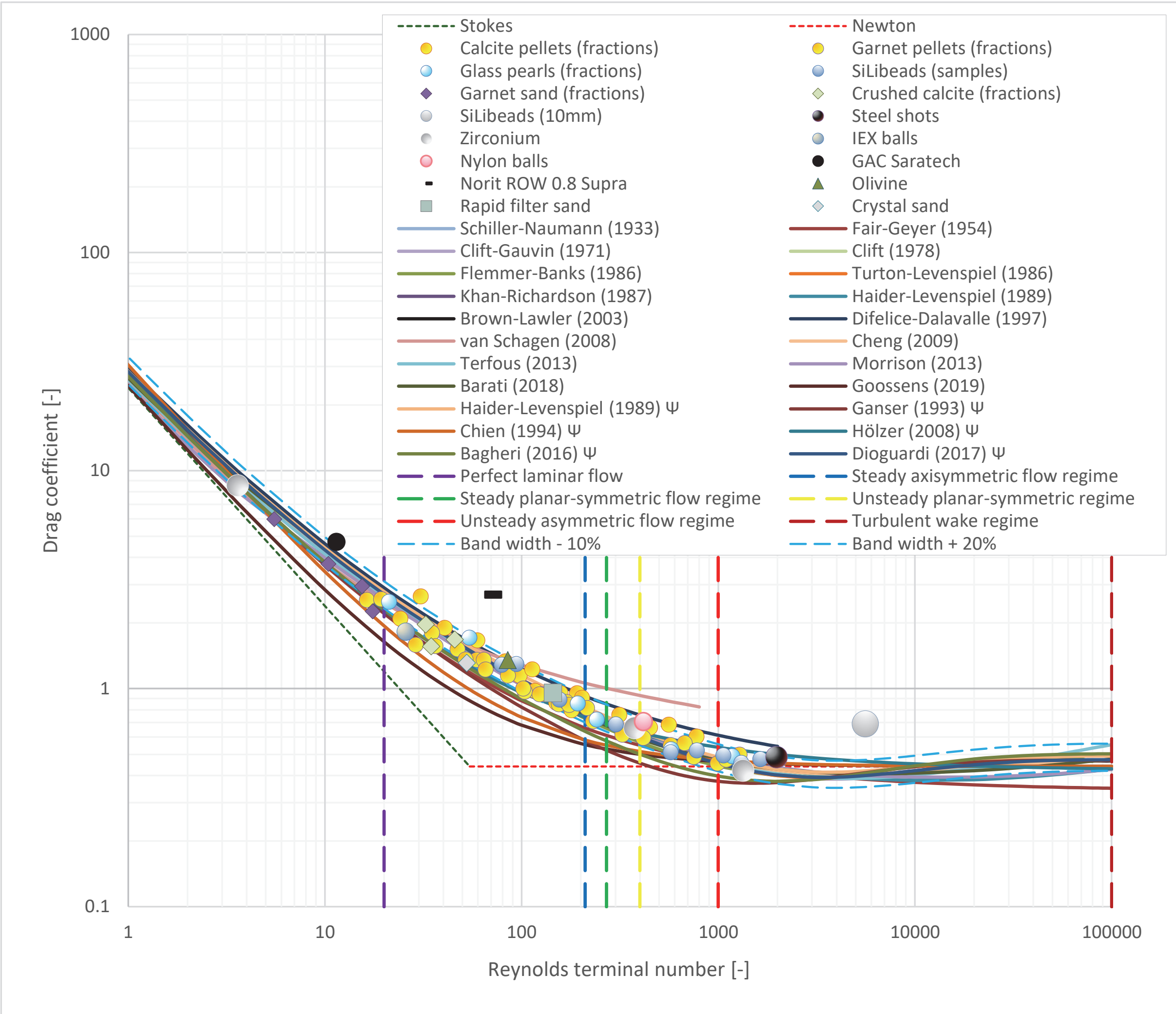


Figure 41 *Standard drag curve (SDC) for 3,629 grains, using average values for 16 types of materials compared with popular prediction models for spherical and non-spherical particles. Φ indicates that the measured sphericity is included in the model.*

5.7 Model prediction accuracy for data from the literature

Data was obtained from the literature for the dimensionless drag coefficient C_D versus the terminal Reynolds numbers Re_t (Table 14).

Table 14 *Experimental datasets from the literature*

References	Shape	Data points
(Brown and Lawler, 2003)	Spherical	480
(Wu et al., 2006)	(non)-spherical	571
(Almedeij, 2008)	Spherical	64
(Cheng, 2009)	Spherical	43
(Song et al., 2017)	(non)-spherical	336
(Breakey et al., 2018)	(non)-spherical	2,361
(Dioguardi et al., 2018)	(non)-spherical	304

Table 13 presents the prediction accuracy for C_D as a function of Re_t for exclusively spherical particles composed by (Brown and Lawler, 2003).

Table 15 *Drag coefficient prediction accuracy dataset generated by Brown and Lawler (N=480). Average relative error (ARE), Normalized root mean square error (NRMSE)*

Model	**ARE (C_D)**	**NRMSE (C_D)**
Schiller–Naumann (1933)	24.7%	38.4%
Fair–Geyer (1954)	10.5%	13.0%
Clift–Gauvin (1971)	4.7%	5.9%
Clift (1978)	4.3%	5.7%
Turton–Levenspiel (1986)	3.9%	4.9%
Flemmer–Banks (1986)	5.6%	7.2%
Khan–Richardson (1987)	6.2%	7.7%
Difelice–Dalavalle (1997)	12.4%	16.5%
Haider–Levenspiel (1989)	3.8%	4.7%
Brown–Lawler (2003)	3.9%	5.1%
van Schagen (2008)	17.0%	24.7%
Cheng (2009)	4.2%	5.8%
Terfous (2013)	7.2%	15.8%
Morrison (2013)	8.0%	9.6%
Barati (2018)	4.3%	6.0%
Goossens (2019)	14.1%	18.5%
Haider–Levenspiel (1989) Φ=1	5.6%	6.6%
Ganser (1993) Φ=1	10.1%	13.2%
Chien (1994) Φ=1	12.6%	15.7%

Table 16 presents the prediction accuracy for C_D as a function of Re_t for spherical and non-spherical particles given by (Wu et al., 2006), (Almedeij, 2008), (Cheng, 2009), (Dioguardi et al., 2018), (Song et al., 2017), (Dioguardi and Mele, 2015) and (Breakey et al., 2018).

Table 16 *Drag coefficient prediction accuracy for datasets from the literature (N=3,655). Average relative error (ARE), Normalized root mean square error (NRMSE)*

Model	**ARE (C_D)**	**NRMSE (C_D)**
Schiller-Naumann (1933)	37.9%	47.8%
Fair-Geyer (1954)	37.8%	46.0%
Clift-Gauvin (1971)	32.8%	42.4%
Clift (1978)	37.1%	47.2%
Turton-Levenspiel (1986)	32.3%	42.1%
Flemmer-Banks (1986)	33.7%	43.0%
Khan-Richardson (1987)	35.1%	43.8%
Difelice-Dalavalle (1997)	28.3%	36.5%
Haider-Levenspiel (1989)	33.7%	43.0%
Brown-Lawler (2003)	33.1%	42.6%
van Schagen (2008)	27.1%	35.3%
Cheng (2009)	32.7%	42.2%
Terfous (2013) [1)]	34.2%	43.1%
Morrison (2013)	35.1%	43.5%
Barati (2018)	32.8%	42.2%
Goossens (2019)	43.1%	50.8%
Haider-Levenspiel (1989) Ψ	30.7%	60.5%
Ganser (1993) Ψ	30.4%	58.7%
Chien (1994) Ψ	49.6%	105.2%

[1)] The model by (Terfous et al., 2013) was restricted for Re_t<0.01 to avoid considerable outliers

5.8 Comparison old-school and advanced terminal settling velocities

Table 17 Measured terminal settling velocities using old-school and advanced methods

Grain types	$d_{s,2}$ [mm]	$d_{s,2}$ [mm]	T [°C]	$v_{t,AVG}$ [m/s]	stdev	T [°C]	$v_{t,AVG}$ [m/s]	stdev	ARE [%]
			Advanced			Old-school			
Calcite pellets	1.00	1.12	21	0.15	0.01	20	0.14	0.01	-6%
Calcite pellets	1.12	1.25	21	0.16	0.01	20	0.15	0.01	-7%
Calcite pellets	1.25	1.40	21	0.18	0.00	20	0.17	0.01	-4%
Calcite pellets	1.40	1.70	21	0.22	0.01	23	0.23	0.01	4%
Calcite pellets	1.70	2.00	21	0.24	0.03	23	0.25	0.00	6%
Calcite pellets	2.00	2.36	21	0.27	0.03	23	0.28	0.00	4%
Calcite pellets	2.36	2.80	21	0.30	0.03	20	0.30	0.01	0%
Calcite pellets	2.80	3.35	21	0.35	0.01	19	0.39	0.03	12%
Steel shots	2.98	3.02	22	0.83	n.a. 1)	30 2)	0.78	0.12	-6%
Zirconium balls	1.90	2.10	22	0.54	n.a. 1)	30	0.56	0.03	3%
Glass Beads	1.49	1.51	22	0.22	n.a. 1)	20	0.21	0.00	-3%
Glass Beads	1.98	2.02	22	0.28	n.a. 1)	20	0.28	0.28	1%
Glass Beads	2.48	2.52	22	0.33	n.a. 1)	20	0.32	0.01	-3%
Glass Beads	2.98	3.02	22	0.36	n.a. 1)	20	0.35	0.01	-2%
Glass Beads	3.47	3.53	22	0.41	n.a. 1)	20	0.39	0.02	-4%
Glass Beads	3.97	4.03	22	0.44	n.a. 1)	20	0.42	0.03	-5%

1) Only one measurement available

2) Measurements only available for 3°C and 32 °C

6 Uncertainty analysis

A thorough uncertainty analysis (Raaghav, 2019) was performed to investigate the extent of deviation for the dimensionless drag coefficient C_D and the terminal Reynolds number Re_t.

6.1 Basic equations

The following basic equations were used:

The Archimedes number:

$$Ar = \frac{g{d_p}^3\rho_f(\rho_p - \rho_f)}{\eta^2} \tag{60}$$

$$Ar = \frac{3}{4}C_D{Re_t}^2 \tag{61}$$

The Galileo number is given by:

$$Ga = \sqrt{Ar} \tag{62}$$

$$Ga = \sqrt{\frac{g{d_p}^3\rho_f(\rho_p - \rho_f)}{\eta^2}} \tag{63}$$

The particle to fluid density ratio $\bar{\rho}$:

$$\bar{\rho} = \frac{\rho_p}{\rho_f} \tag{64}$$

The estimate of uncertainty in C_D and Re_t as well as in ρ_p and v_t are given by the following expressions:

$$C_D = \frac{4}{3}\frac{gd_p(\rho_p - \rho_f)}{{v_t}^2\rho_f} \tag{65}$$

$$Re_t = \frac{\rho_f d_p v_t}{\eta} \tag{66}$$

Rewriting:

$$Re_t = \frac{d_p v_t}{\upsilon_T} \tag{67}$$

Result:

$$C_D = \frac{\frac{4}{3} g d_p \rho_p}{{v_t}^2 \rho_f} - \frac{\frac{4}{3} g d_p}{{v_t}^2} \tag{68}$$

6.2 Overview uncertainty analysis equations and contribution to error

Table 18 *Uncertainty analysis equations*

Variable	Equation	Eq. nr.
Terminal Reynolds number	$\delta Re_t = \sqrt{\left(\frac{\partial Re_t}{\partial d_p}\delta d_p\right)^2 + \left(\frac{\partial Re_t}{\partial \upsilon_T}\delta \upsilon_T\right)^2 + \left(\frac{\partial Re_t}{\partial v_t}\delta v_t\right)^2}$	(69)
Drag coefficient	$\delta C_D = \sqrt{\left(\frac{\partial C_D}{\partial g}\delta g\right)^2 + \left(\frac{\partial C_D}{\partial d_p}\delta d_p\right)^2 + \left(\frac{\partial C_D}{\partial \rho_p}\delta \rho_p\right)^2 + \left(\frac{\partial C_D}{\partial \rho_f}\delta \rho_f\right)^2 + \left(\frac{\partial C_D}{\partial v_t}\delta v_t\right)^2}$	(70)
Particle density	$\delta \rho_p = \sqrt{\left(\frac{\partial \rho_p}{\partial m_p}\delta m_p\right)^2 + \left(\frac{\partial \rho_p}{\partial d_p}\delta d_p\right)^2}$	(71)
Terminal settling velocity [1)]	$\delta v_t = \sqrt{\left(\frac{\partial v_t}{\partial L}\delta L\right)^2 + \left(\frac{\partial v_t}{\partial t}\delta t\right)^2}$ $\quad \delta t = c_0 + c_1 e^{-t}$	(72)

[1)] Human response time inaccuracy correction is given in §6.9.4

Table 19 *Uncertainty analysis equations*

Variable	Term	Equation	Eq. nr. (contribution to error)
Terminal Reynolds number (Eq. 67)	1st	$\frac{\partial Re_t}{\partial d_p} = \frac{v_t}{\upsilon_T}$	(73)
	2nd	$\frac{\partial Re_t}{\partial T} = \frac{d_p v_t}{c_6}\left(-\frac{c_7 ln10(1+\alpha\Delta T)}{(T+c_8)^2 10^{c_7/(T+c_8)}} - \frac{\alpha}{10^{c_7/(T+c_8)}}\right)$	(74)
	3rd	$\frac{\partial Re_t}{\partial v_t} = \frac{1}{\upsilon_T}\left(d_p - \frac{c_2 {d_p}^2}{D}\right)$	(75)
Drag coefficient (Eq. 68)	1st	$\frac{\partial C_D}{\partial g} = \frac{4}{3}\frac{d_p}{{v_t}^2}\left(\frac{\rho_p}{\rho_f} - 1\right)$	(76)
	2nd	$\frac{\partial C_D}{\partial d_p} = \frac{\frac{4}{3}\frac{g}{{v_t}^2}\left(\frac{\rho_p}{\rho_f} - 1\right)}{\left({d_p}^{-\frac{1}{2}} - c_2\frac{{d_p}^{\frac{1}{2}}}{D}\right)^3}\left({d_p}^{-\frac{3}{2}} + \frac{c_2}{D}{d_p}^{-\frac{1}{2}}\right)$	(77)
	3rd	$\frac{\partial C_D}{\partial \rho_p} = \frac{4}{3}\frac{g d_p}{{v_t}^2 \rho_f}$	(78)
	4th	$\frac{\partial C_D}{\partial T} = \frac{4}{3}\frac{g d_p}{{v_t}^2}\left(\rho_p\left(\frac{c_3 e^{c_3 T}}{c_4 - c_5 T^2} + \frac{2 c_5 T e^{c_3 T}}{(c_4 - c_5 T^2)^2}\right) - c_3 e^{c_3 T}\right)$	(79)
	5th	$\frac{\partial C_D}{\partial v_t} = -\frac{8}{3}\frac{g d_p}{{v_t}^3}\frac{\left(\frac{\rho_p}{\rho_f} - 1\right)}{\left(1 - c_2\frac{d_p}{D}\right)^2}$	(80)
Particle density (Eq. 71)	1st	$\frac{\partial \rho_p}{\partial m_p} = \frac{6}{\pi {d_p}^3}$	(81)
	2nd	$\frac{\partial \rho_p}{\partial d_p} = -\frac{18 m_p}{\pi {d_p}^4}$	(82)
Terminal settling velocity (Eq. 72)	1st	$\frac{\partial v_t}{\partial L} = \frac{1}{t}$	(83)
	2nd	$\frac{\partial v_t}{\partial t} = -\frac{L}{t^2}$	(84)

6.3 Simplifications

6.3.1 Archimedes and Galileo numbers

$$Ar = \frac{g{d_p}^3(\bar{\rho} - 1)}{{\upsilon_T}^2} \tag{85}$$

$$Ga = \sqrt{\frac{(\bar{\rho} - 1)g{d_p}^3}{{\upsilon_T}^2}} \tag{86}$$

6.3.2 Linear thermal expansion

To take temperature variations into account, a linear heat or thermal expansion equation is used (Perry and Green, 2007); (Haynes, 2017); (Serway and Jewett, 2014) where the particle diameter is proportional to the original length, the change in temperature and its linear heat expansion coefficient, expressed as:

$$d_{p,1} = d_{p,0}(1 + \alpha\Delta T) \tag{87}$$

$$\Delta T = T_0 - T \tag{88}$$

$$d_{p,1} = d_{p,0} + \alpha T_0 d_{p,0} - \alpha T d_{p,0} \tag{89}$$

$$d_{p,1} = d_0(1 + \alpha T_0 - \alpha T) \tag{90}$$

Table 21 presents linear heat expansion coefficients.

To find analytical derivatives, a simplified empirical equation is proposed.

$$\frac{d_{p,1}}{d_{p,0}} = c_4 e^{c_5 T} \tag{91}$$

$$d_{p,1} = d_{p,0} c_4 e^{c_5 T} \tag{92}$$

Fit parameters were obtained through non-linear fitting (Koza, 1992); (Nutonian, 2019). Table 20 includes fit parameters.

6.3.3 Kinematic viscosity

A direct temperature dependency can be expressed through the following empirical equation (based on the Vogel–Fulcher–Tammann relation):

$$\upsilon_T = c_6 10^{c_7/(T+c_8)} \tag{93}$$

Table 20 includes parameters.

6.4 Drag Reynolds relationships

The dimensionless drag coefficient C_D and the terminal Reynolds number Re_t are given by:

$$C_D = \frac{4}{3}\frac{g d_p(\rho_p - \rho_f)}{{v_t}^2 \rho_f} \tag{94}$$

$$Re_t = \frac{\rho_f d_p v_t}{\eta} \tag{95}$$

Where:

C_D is a function of g, d_p, ρ_p, ρ_f, v_t.
Re_t is a function of d_p, ρ_f, v_t, η.

Direct measurements: particle properties: d_p, ρ_p, ψ
fluid properties: ρ_f, T
experimental: g, D, L, t

Rewriting:

$$Re_t = \frac{d_p v_t}{\upsilon_T} \tag{96}$$

Result:

$$C_D = \frac{\frac{4}{3} g d_p \rho_p}{{v_t}^2 \rho_f} - \frac{\frac{4}{3} g d_p}{{v_t}^2} \tag{97}$$

6.5 Uncertainty expressions

The estimate of uncertainty in C_D and Re_t as well as in ρ_p and v_t are given by the following expressions:

$$\delta Re_t = \sqrt{\left(\frac{\partial Re_t}{\partial d_p}\delta d_p\right)^2 + \left(\frac{\partial Re_t}{\partial \upsilon_T}\delta \upsilon_T\right)^2 + \left(\frac{\partial Re_t}{\partial v_t}\delta v_t\right)^2} \tag{98}$$

$$\delta C_D = \sqrt{\left(\frac{\partial C_D}{\partial g}\delta g\right)^2 + \left(\frac{\partial C_D}{\partial d_p}\delta d_p\right)^2 + \left(\frac{\partial C_D}{\partial \rho_p}\delta \rho_p\right)^2 + \left(\frac{\partial C_D}{\partial \rho_f}\delta \rho_f\right)^2 + \left(\frac{\partial C_D}{\partial v_t}\delta v_t\right)^2} \tag{99}$$

$$\delta \rho_p = \sqrt{\left(\frac{\partial \rho_p}{\partial m_p}\delta m_p\right)^2 + \left(\frac{\partial \rho_p}{\partial d_p}\delta d_p\right)^2} \tag{100}$$

$$\delta v_t = \sqrt{\left(\frac{\partial v_t}{\partial L}\delta L\right)^2 + \left(\frac{\partial v_t}{\partial t}\delta t\right)^2} \tag{101}$$

6.6 Reynolds uncertainty

Accordingly, the error (uncertainty δ) concerning the terminal Reynolds number velocity Re_t can be determined (Ku, 1966):

$$\delta Re_t = \sqrt{\left(\frac{\partial Re_t}{\partial d_p}\delta d_p\right)^2 + \left(\frac{\partial Re_t}{\partial \upsilon_T}\delta \upsilon_T\right)^2 + \left(\frac{\partial Re_t}{\partial v_t}\delta v_t\right)^2} \tag{102}$$

The kinematic viscosity converted into temperature dependency:

$$\delta Re_t = \sqrt{\left(\frac{\partial Re_t}{\partial d_p}\delta d_p\right)^2 + \left(\frac{\partial Re_t}{\partial \upsilon_T}\frac{\partial \upsilon_T}{\partial T}\delta T\right)^2 + \left(\frac{\partial Re_t}{\partial v_t}\delta v_t\right)^2} \tag{103}$$

6.6.1 First term

$$\frac{\partial Re_t}{\partial d_p} = \frac{\partial\left(\frac{d_p v_t}{\upsilon_T}\right)}{\partial d_p} \tag{104}$$

$$\frac{\partial Re_t}{\partial d_p} = \frac{v_t}{\upsilon_T}\frac{\partial\left(d_p\right)}{\partial d_p} \tag{105}$$

Result:

$$\frac{\partial Re_t}{\partial d_p} = \frac{v_t}{\upsilon_T} \tag{106}$$

Also conserving the shape factor:

$$d_p = d_{p,0}\Phi \tag{107}$$

$$\frac{\partial Re_t}{\partial d_p} = \frac{v_t}{\upsilon_T}\Phi\frac{\partial(d_p)}{\partial d_p} \tag{108}$$

Result:

$$\frac{\partial Re_t}{\partial d_p} = \frac{v_t}{\upsilon_T}\Phi \tag{109}$$

6.6.2 Second term

6.6.2.1 No heat expansion correction (viscosity dependency)

$$\frac{\partial Re_t}{\partial \upsilon_T} = \frac{\partial\left(\frac{d_p v_t}{\upsilon_T}\right)}{\partial \upsilon_T} \tag{110}$$

$$\frac{\partial Re_t}{\partial \upsilon_T} = d_p v_t \frac{\partial\left(\frac{1}{\upsilon_T}\right)}{\partial \upsilon_T} \tag{111}$$

Result:

$$\frac{\partial Re_t}{\partial \upsilon_T} = -\frac{d_p v_t}{{\upsilon_T}^2} \tag{112}$$

6.6.2.2 No heat expansion correction (temperature dependency)

$$\frac{\partial Re_t}{\partial T} = \frac{\partial\left(\frac{d_p v_t}{\upsilon_T}\right)}{\partial T} \tag{113}$$

A simplified empirical equation for the kinematic viscosity:

$$\upsilon_T = c_0 e^{c_1 T} \tag{114}$$

Table 20 includes parameters.

$$\frac{\partial Re_t}{\partial T} = \frac{\partial\left(\frac{d_p v_t}{c_0 e^{c_1 T}}\right)}{\partial T} \tag{115}$$

$$\frac{\partial Re_t}{\partial T} = \frac{d_p v_t}{c_0}\frac{\partial(e^{-c_1 T})}{\partial T} \tag{116}$$

Result:

$$\frac{\partial Re_t}{\partial T} = -\frac{c_1}{c_0} d_p v_t e^{-c_1 T} \tag{117}$$

6.6.2.3 With heat expansion correction (alternative)

$$\frac{\partial Re_t}{\partial T} = \frac{\partial\left(\frac{d_p v_t}{\upsilon_T}\right)}{\partial T} \tag{118}$$

$$\upsilon_T = c_0 e^{c_1 T} \tag{119}$$

$$d_{p,1} = d_{p,0} e^{c_3 T} \tag{120}$$

Table 20 includes parameters.

$$\frac{\partial Re_t}{\partial T} = v_t \frac{\partial\left(\frac{d_{p,0} e^{c_3 T}}{c_0 e^{c_1 T}}\right)}{\partial T} \tag{121}$$

$$\frac{\partial Re_t}{\partial T} = \frac{v_t d_p}{c_0}\frac{\partial\left(e^{(c_3 - c_1)T}\right)}{\partial T} \tag{122}$$

Result:

$$\frac{\partial Re_t}{\partial T} = \frac{(c_3 - c_1)}{c_0} v_t d_p e^{(c_3 - c_1)T} \tag{123}$$

Assumed variation in temperature 1 °C.

6.6.2.4 Check: no heat expansion

$$c_3 = 0 \tag{124}$$

$$\frac{\partial Re_t}{\partial T} = -\frac{c_1}{c_0} v_t d_p e^{-c_1 T} \tag{125}$$

Check: OK.

6.6.2.5 With heat expansion correction (original)

To take heat expansion into account, equation 87 is used; to take temperature dependency into account, equation 93 is used. Table 20 includes parameters. Plugging in the equations leads to the following:

$$\frac{\partial Re_t}{\partial T} = \frac{\partial \left(\frac{d_p v_t}{\upsilon_T}\right)}{\partial T} \tag{126}$$

$$\frac{\partial Re_t}{\partial T} = \frac{\partial \left(\frac{\left(d_0(1 + \alpha T_0 - \alpha T)\right) v_t}{c_6 10^{c_7/(T+c_8)}}\right)}{\partial T} \tag{127}$$

$$\frac{\partial Re_t}{\partial T} = \frac{d_0 v_t}{c_6} \frac{\partial \left(\frac{1 + \alpha T_0 - \alpha T}{10^{c_7/(T+c_8)}}\right)}{\partial T} \tag{128}$$

Result:

$$\frac{\partial Re_t}{\partial T} = \frac{d_p v_t}{c_6} \left(-\frac{c_7 ln10(1 + \alpha \Delta T)}{(T + c_8)^2 10^{c_7/(T+c_8)}} - \frac{\alpha}{10^{c_7/(T+c_8)}} \right) \tag{129}$$

6.6.3 Third term

6.6.3.1 No wall effects correction

$$\frac{\partial Re_t}{\partial v_t} = \frac{\partial \left(\frac{d_p v_t}{\upsilon_T}\right)}{\partial v_t} \tag{130}$$

$$\frac{\partial Re_t}{\partial v_t} = \frac{d_p}{\upsilon_T} \frac{\partial (v_t)}{\partial v_t} \tag{131}$$

Result:

$$\frac{\partial Re_t}{\partial v_t} = \frac{d_p}{v_T} \tag{132}$$

6.6.3.2 Wall effects correction

Based on the simplified Ladenburg wall effects correction equation (Equation (13), the retardation of the motion of individual particles settling in a cylinder due to the displacement and opposing motion of the surrounding fluid states is expressed as follows:

$$v_t = (1 - c_2\lambda)v_{t,\infty} \tag{133}$$

where

$$\lambda = \frac{d_p}{D} \tag{134}$$

Table 20 includes parameters.

$$v_t = \left(1 - c_2\left(\frac{d_p}{D}\right)\right)v_{t,\infty} \tag{135}$$

$$v_t = \left(v_t - c_2\frac{d_p v_t}{D}\right) \tag{136}$$

$$\frac{\partial Re_t}{\partial v_t} = \frac{1}{v_T}\frac{\partial\left(v_t d_p\right)}{\partial v_t} \tag{137}$$

Rewriting:

$$\frac{\partial Re_t}{\partial v_t} = \frac{1}{v_T}\frac{\partial\left(\left(v_t - c_2\frac{d_p v_t}{D}\right)d_p\right)}{\partial v_t} \tag{138}$$

$$\frac{\partial Re_t}{\partial v_t} = \frac{1}{v_T}\frac{\partial\left(d_p v_t - c_2\frac{{d_p}^2 v_t}{D}\right)}{\partial v_t} \tag{139}$$

$$\frac{\partial Re_t}{\partial v_t} = \frac{1}{v_T}\left(\left(d_p - \frac{c_2 {d_p}^2}{D}\right)\frac{\partial(v_t)}{\partial v_t}\right) \tag{140}$$

Result:

$$\frac{\partial Re_t}{\partial v_t} = \frac{1}{v_T}\left(d_p - \frac{c_2 {d_p}^2}{D}\right) \tag{141}$$

6.6.3.3 Check: no wall effects

$$\frac{\partial Re_t}{\partial v_t} = \frac{1}{v_T}\left(d_p - \frac{c_2 {d_p}^2}{D}\right) \tag{142}$$

$$\frac{\partial Re_t}{\partial v_t} = \frac{d_p}{v_T}\left(1 - c_2 \frac{d_p}{D}\right) \tag{143}$$

$$\frac{v_t}{v_{t,\infty}} = \left(1 - c_2 \frac{d_p}{D}\right) = 1 \tag{144}$$

$$\frac{\partial Re_t}{\partial v_t} = \frac{d_p}{v_T} \tag{145}$$

Check: OK.

6.7 Drag uncertainty

Accordingly, the error (uncertainty δ) considering the drag coefficient C_D can be determined:

$$\delta C_D = \sqrt{\left(\frac{\partial C_D}{\partial g}\delta g\right)^2 + \left(\frac{\partial C_D}{\partial d_p}\delta d_p\right)^2 + \left(\frac{\partial C_D}{\partial \rho_p}\delta \rho_p\right)^2 + \left(\frac{\partial C_D}{\partial \rho_f}\delta \rho_f\right)^2 + \left(\frac{\partial C_D}{\partial v_t}\delta v_t\right)^2} \tag{146}$$

The fluid density dependency is adjusted for a direct temperature dependency according to the following expression:

$$\delta C_D = \sqrt{\left(\frac{\partial C_D}{\partial g}\delta g\right)^2 + \left(\frac{\partial C_D}{\partial d_p}\delta d_p\right)^2 + \left(\frac{\partial C_D}{\partial \rho_p}\delta \rho_p\right)^2 + \left(\frac{\partial C_D}{\partial \rho_f}\frac{\partial \rho_f}{\partial T}\delta T\right)^2 + \left(\frac{\partial C_D}{\partial v_t}\delta v_t\right)} \tag{147}$$

6.7.1 First term

$$\frac{\partial C_D}{\partial g} = \frac{\partial\left(\frac{\frac{4}{3} g d_p \rho_p}{{v_t}^2 \rho_f} - \frac{\frac{4}{3} g d_p}{{v_t}^2}\right)}{\partial g} \tag{148}$$

$$\frac{\partial C_D}{\partial g} = \left(\frac{\frac{4}{3}d_p\rho_p}{{v_t}^2\rho_f} - \frac{\frac{4}{3}d_p}{{v_t}^2}\right)\frac{\partial(g)}{\partial g} \tag{149}$$

$$\frac{\partial C_D}{\partial g} = \frac{4}{3}\frac{d_p}{{v_t}^2}\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial(g)}{\partial g} \tag{150}$$

Result:

$$\frac{\partial C_D}{\partial g} = \frac{4}{3}\frac{d_p}{{v_t}^2}\left(\frac{\rho_p}{\rho_f} - 1\right) \tag{151}$$

6.7.2 Second term

6.7.2.1 No wall effects correction

$$\frac{\partial C_D}{\partial d_p} = \left(\frac{\frac{4}{3}g\rho_p}{{v_t}^2\rho_f} - \frac{\frac{4}{3}g}{{v_t}^2}\right)\frac{\partial(d_p)}{\partial d_p} \tag{152}$$

$$\frac{\partial C_D}{\partial d_p} = \left(\frac{\frac{4}{3}g\rho_p}{{v_t}^2\rho_f} - \frac{\frac{4}{3}g}{{v_t}^2}\right) \tag{153}$$

Result:

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}\frac{g}{{v_t}^2}\left(\frac{\rho_p}{\rho_f} - 1\right) \tag{154}$$

6.7.2.2 Wall effects correction

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}g\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(\frac{d_p}{{v_t}^2}\right)}{\partial d_p} \tag{155}$$

$$\frac{v_t}{v_{t,\infty}} = 1 - c_2\left(\frac{d_p}{D}\right) \tag{156}$$

$$v_t = \left(v_t - c_2\frac{d_p v_t}{D}\right) \tag{157}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}g\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(\frac{d_p}{\left(v_t - c_2\frac{d_p v_t}{D}\right)^2}\right)}{\partial d_p} \tag{158}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}g\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(d_p\left(v_t - c_2\frac{d_p v_t}{D}\right)^{-2}\right)}{\partial d_p} \tag{159}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}g\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(\left(d_p{}^{-\frac{1}{2}}v_t - d_p{}^{-\frac{1}{2}}c_2\frac{d_p v_t}{D}\right)^{-2}\right)}{\partial d_p} \tag{160}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}g\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(\frac{d_p}{v_t{}^2}\right)}{\partial d_p} \tag{161}$$

$$v_t = \left(v_t - c_2\frac{d_p v_t}{D}\right) \tag{162}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}g\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(\frac{d_p}{\left(v_t - c_2\frac{d_p v_t}{D}\right)^2}\right)}{\partial d_p} \tag{163}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}g\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(d_p\left(v_t - c_2\frac{d_p v_t}{D}\right)^{-2}\right)}{\partial d_p} \tag{164}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}g\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(\left(d_p{}^{-\frac{1}{2}}v_t - d_p{}^{-\frac{1}{2}}c_2\frac{d_p v_t}{D}\right)^{-2}\right)}{\partial d_p} \tag{165}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}\frac{g}{v_t{}^2}\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(\left(d_p{}^{-\frac{1}{2}} - c_2\frac{d_p{}^{\frac{1}{2}}}{D}\right)^{-2}\right)}{\partial d_p} \tag{166}$$

$$\frac{\partial C_D}{\partial d_p} = -2\frac{\frac{4}{3}\frac{g}{{v_t}^2}\left(\frac{\rho_p}{\rho_f}-1\right)}{\left({d_p}^{-\frac{1}{2}} - c_2\frac{{d_p}^{\frac{1}{2}}}{D}\right)^3}\frac{\partial\left({d_p}^{-\frac{1}{2}} - c_2\frac{{d_p}^{\frac{1}{2}}}{D}\right)}{\partial d_p} \tag{167}$$

$$\frac{\partial C_D}{\partial d_p} = -2\frac{\frac{4}{3}\frac{g}{{v_t}^2}\left(\frac{\rho_p}{\rho_f}-1\right)}{\left({d_p}^{-\frac{1}{2}} - c_2\frac{{d_p}^{\frac{1}{2}}}{D}\right)^3}\left(\frac{\partial\left({d_p}^{-\frac{1}{2}}\right)}{\partial d_p} - \frac{c_2}{D}\frac{\partial\left({d_p}^{\frac{1}{2}}\right)}{\partial d_p}\right) \tag{168}$$

Result:

$$\frac{\partial C_D}{\partial d_p} = \frac{\frac{4}{3}\frac{g}{{v_t}^2}\left(\frac{\rho_p}{\rho_f}-1\right)}{\left({d_p}^{-\frac{1}{2}} - c_2\frac{{d_p}^{\frac{1}{2}}}{D}\right)^3}\left({d_p}^{-\frac{3}{2}} + \frac{c_2}{D}{d_p}^{-\frac{1}{2}}\right) \tag{169}$$

6.7.2.3 Check: no wall effects

$$\frac{v_t}{v_{t,\infty}} = 1 - c_2\left(\frac{d_p}{D}\right) \tag{170}$$

$$c_2 = 0 \tag{171}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{\frac{4}{3}\frac{g}{{v_t}^2}\left(\frac{\rho_p}{\rho_f}-1\right)}{\left({d_p}^{-\frac{1}{2}}\right)^3}\left({d_p}^{-\frac{3}{2}}\right) \tag{172}$$

$$\frac{\partial C_D}{\partial d_p} = \frac{4}{3}\frac{g}{{v_t}^2}\left(\frac{\rho_p}{\rho_f}-1\right) \tag{173}$$

Check: OK.

6.7.3 Third term

$$\frac{\partial C_D}{\partial \rho_p} = \frac{\partial\left(\frac{\frac{4}{3}g d_p \rho_p}{{v_t}^2\rho_f} - \frac{\frac{4}{3}g d_p}{{v_t}^2}\right)}{\partial \rho_p} \tag{174}$$

$$\frac{\partial C_D}{\partial \rho_p} = \frac{\partial \left(\frac{\frac{4}{3} g d_p \rho_p}{{v_t}^2 \rho_f} \right)}{\partial \rho_p} \tag{175}$$

$$\frac{\partial C_D}{\partial \rho_p} = \frac{\frac{4}{3} g d_p}{{v_t}^2 \rho_f} \frac{\partial (\rho_p)}{\partial \rho_p} \tag{176}$$

Result:

$$\frac{\partial C_D}{\partial \rho_p} = \frac{4}{3} \frac{g d_p}{{v_t}^2 \rho_f} \tag{177}$$

6.7.4 Fourth term

6.7.4.1 Density temperature correction

$$\frac{\partial C_D}{\partial \rho_f} = \frac{\partial \left(\frac{\frac{4}{3} g d_p \rho_p}{{v_t}^2 \rho_f} - \frac{\frac{4}{3} g d_p}{{v_t}^2} \right)}{\partial \rho_f} \tag{178}$$

$$\frac{\partial C_D}{\partial \rho_f} = \frac{\frac{4}{3} g d_p \rho_p}{{v_t}^2} \frac{\partial \left(\frac{1}{\rho_f} \right)}{\partial \rho_f} \tag{179}$$

$$\frac{\partial C_D}{\partial \rho_f} = \frac{-\frac{4}{3} g d_p \rho_p}{{v_t}^2} \frac{1}{{\rho_f}^2} \tag{180}$$

Result:

$$\frac{\partial C_D}{\partial \rho_f} = -\frac{4}{3} \frac{g d_p \rho_p}{{v_t}^2 {\rho_f}^2} \tag{181}$$

6.7.4.2 With heat expansion correction

$$\frac{\partial C_D}{\partial \rho_f} = \frac{\partial \left(\frac{\frac{4}{3} g d_p \rho_p}{{v_t}^2 \rho_f} - \frac{\frac{4}{3} g d_p}{{v_t}^2} \right)}{\partial \rho_f} \tag{182}$$

$$\frac{\partial C_D}{\partial T} = \frac{\partial \left(\frac{\frac{4}{3} g d_p \rho_p}{{v_t}^2 \rho_f} - \frac{\frac{4}{3} g d_p}{{v_t}^2} \right)}{\partial T} \tag{183}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{g}{{v_t}^2}\frac{\partial\left(\frac{d_p\rho_p}{\rho_f} - d_p\right)}{\partial T} \tag{184}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{g}{{v_t}^2}\left(\rho_p\frac{\partial\left(\frac{d_p}{\rho_f}\right)}{\partial T} - \frac{\partial\left(d_p\right)}{\partial T}\right) \tag{185}$$

$$\rho_f = c_4 - c_5T^2 \tag{186}$$

$$d_{p,1} = d_{p,0}e^{c_3T} \tag{187}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{gd_p}{{v_t}^2}\left(\rho_p\frac{\partial\left(\frac{e^{c_3T}}{\rho_f}\right)}{\partial T} - \frac{\partial(e^{c_3T})}{\partial T}\right) \tag{188}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{gd_p}{{v_t}^2}\left(\rho_p\frac{\partial\left(\frac{e^{c_3T}}{c_4 - c_5T^2}\right)}{\partial T} - \frac{\partial(e^{c_3T})}{\partial T}\right) \tag{189}$$

Result:

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{gd_p}{{v_t}^2}\left(\rho_p\left(\frac{c_3e^{c_3T}}{c_4 - c_5T^2} + \frac{2c_5Te^{c_3T}}{(c_4 - c_5T^2)^2}\right) - c_3e^{c_3T}\right) \tag{190}$$

6.7.4.3 Check: density constant

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{g}{{v_t}^2}\frac{\partial\left(\frac{d_p\rho_p}{\rho_f} - d_p\right)}{\partial T} \tag{191}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{g}{{v_t}^2}\frac{\partial\left(\left(\frac{\rho_p}{\rho_f} - 1\right)d_p\right)}{\partial T} \tag{192}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{g}{{v_t}^2}\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial d_p}{\partial T} \tag{193}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{gd_p}{{v_t}^2}\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial e^{c_3T}}{\partial T} \tag{194}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{g d_p}{{v_t}^2}\left(\frac{\rho_p}{\rho_f} - 1\right) c_3 e^{c_3 T} \tag{195}$$

$$\rho_f = c_4 - c_5 T^2 \tag{196}$$

$$\rho_f = c_4 \tag{197}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{g d_p}{{v_t}^2}\left(\rho_p\left(\frac{c_3 e^{c_3 T}}{c_4 - c_5 T^2} + \frac{2 c_5 T e^{c_3 T}}{(c_4 - c_5 T^2)^2}\right) - c_3 e^{c_3 T}\right) \tag{198}$$

$$\frac{\partial C_D}{\partial T} = \tfrac{4}{3}\frac{g d_p}{{v_t}^2}\left(\left(\frac{\rho_p}{\rho_f}\right) - 1\right) c_3 e^{c_3 T} \tag{199}$$

OK.

6.7.5 Fifth term

6.7.5.1 No wall effects correction

$$\frac{\partial C_D}{\partial v_t} = \frac{\partial\left(\frac{\frac{4}{3} g d_p \rho_p}{{v_t}^2 \rho_f} - \frac{\frac{4}{3} g d_p}{{v_t}^2}\right)}{\partial v_t} \tag{200}$$

$$\frac{\partial C_D}{\partial v_t} = \tfrac{4}{3} g\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial\left(\frac{d_p}{{v_t}^2}\right)}{\partial v_t} \tag{201}$$

$$\frac{\partial C_D}{\partial v_t} = \tfrac{4}{3} g d_p\left(\frac{\rho_p}{\rho_f} - 1\right)\frac{\partial({v_t}^{-2})}{\partial v_t} \tag{202}$$

$$\frac{\partial C_D}{\partial v_t} = -\tfrac{8}{3} g d_p\left(\frac{\rho_p}{\rho_f} - 1\right){v_t}^{-3} \tag{203}$$

Result:

$$\frac{\partial C_D}{\partial v_t} = -\tfrac{8}{3} g\frac{d_p}{{v_t}^3}\left(\frac{\rho_p}{\rho_f} - 1\right) \tag{204}$$

6.7.5.2 With wall effects correction

$$\frac{\partial C_D}{\partial v_t} = \tfrac{4}{3} g \left(\frac{\rho_p}{\rho_f} - 1\right) \frac{\partial\left(\frac{d_p}{{v_t}^2}\right)}{\partial v_t} \tag{205}$$

$$v_t = \left(1 - c_2 \frac{d_p}{D}\right) v_{t,\infty} \tag{206}$$

$$\frac{\partial C_D}{\partial v_t} = \tfrac{4}{3} g \left(\frac{\rho_p}{\rho_f} - 1\right) \frac{\partial\left(\frac{d_p}{\left(\left(1 - c_2 \frac{d_p}{D}\right) v_{t,\infty}\right)^2}\right)}{\partial v_t} \tag{207}$$

$$\frac{\partial C_D}{\partial v_t} = \tfrac{4}{3} g \left(\frac{\rho_p}{\rho_f} - 1\right) \frac{\partial\left(\frac{d_p}{\left(v_t - c_2 \frac{d_p v_t}{D}\right)^2}\right)}{\partial v_t} \tag{208}$$

$$\frac{\partial C_D}{\partial v_t} = \tfrac{4}{3} g d_p \left(\frac{\rho_p}{\rho_f} - 1\right) \frac{\partial\left(\left(v_t \left(1 - c_2 \frac{d_p}{D}\right)\right)^{-2}\right)}{\partial v_t} \tag{209}$$

$$\frac{\partial C_D}{\partial v_t} = -\tfrac{8}{3} g d_p \left(\frac{\rho_p}{\rho_f} - 1\right) \left(v_t \left(1 - c_2 \frac{d_p}{D}\right)\right)^{-3} \frac{\partial\left(v_t \left(1 - c_2 \frac{d_p}{D}\right)\right)}{\partial v_t} \tag{210}$$

$$\frac{\partial C_D}{\partial v_t} = -\tfrac{8}{3} g d_p \left(\frac{\rho_p}{\rho_f} - 1\right) \left(v_t \left(1 - c_2 \frac{d_p}{D}\right)\right)^{-3} \left(1 - c_2 \frac{d_p}{D}\right) \tag{211}$$

Result:

$$\frac{\partial C_D}{\partial v_t} = -\frac{8}{3} \frac{g d_p}{{v_t}^3} \frac{\left(\frac{\rho_p}{\rho_f} - 1\right)}{\left(1 - c_2 \frac{d_p}{D}\right)^2} \tag{212}$$

6.7.5.3 Check: no wall effects

$$\frac{\partial C_D}{\partial v_t} = -\frac{8}{3} \frac{g d_p}{{v_t}^3} \frac{\left(\frac{\rho_p}{\rho_f} - 1\right)}{\left(1 - c_2 \frac{d_p}{D}\right)^2} \tag{213}$$

$$\frac{\partial C_D}{\partial v_t} = -\frac{8}{3}\frac{g d_p}{{v_t}^3}\left(\frac{\rho_p}{\rho_f} - 1\right) \tag{214}$$

OK.

6.8 Particle density uncertainty

Accordingly, the error (uncertainty δ) considering the particle density ρ_p can be determined. The estimate of uncertainty is given by the following expressions:

$$\delta\rho_p = \sqrt{\left(\frac{\partial \rho_p}{\partial m_p}\delta m_p\right)^2 + \left(\frac{\partial \rho_p}{\partial d_p}\delta d_p\right)^2} \tag{215}$$

Given:

$$\rho_p = \frac{6m_p}{\pi {d_p}^3} \tag{216}$$

6.8.1 First term

$$\frac{\partial \rho_p}{\partial m_p} = \frac{\partial\left(\frac{6m_p}{\pi {d_p}^3}\right)}{\partial m_p} \tag{217}$$

$$\frac{\partial \rho_p}{\partial m_p} = \frac{6}{\pi {d_p}^3} \tag{218}$$

6.8.2 Second term

$$\frac{\partial \rho_p}{\partial d_p} = \frac{\partial\left(\frac{6m_p}{\pi {d_p}^3}\right)}{\partial d_p} \tag{219}$$

$$\frac{\partial \rho_p}{\partial d_p} = \frac{6m_p}{\pi}\frac{\partial\left(\frac{1}{{d_p}^3}\right)}{\partial d_p} \tag{220}$$

$$\frac{\partial \rho_p}{\partial d_p} = -\frac{6m_p}{\pi {d_p}^4} \tag{221}$$

Result:

$$\delta\rho_p = \sqrt{\left(\frac{6}{\pi {d_p}^3}\delta m_p\right)^2 + \left(-\frac{6m_p}{\pi {d_p}^4}\delta d_p\right)^2} \tag{222}$$

6.9 Terminal settling velocity uncertainty

What is the error (uncertainty δ) in the terminal settling velocity v_t:

$$\delta v_t = \sqrt{\left(\frac{\partial v_t}{\partial L}\delta L\right)^2 + \left(\frac{\partial v_t}{\partial t}\delta t\right)^2} \tag{223}$$

with

$$L = v_t t \tag{224}$$

6.9.1 First term

$$\frac{\partial v_t}{\partial L} = \frac{\partial\left(\frac{L}{t}\right)}{\partial L} \tag{225}$$

$$\frac{\partial v_t}{\partial L} = \frac{1}{t}\frac{\partial(L)}{\partial L} \tag{226}$$

$$\frac{\partial v_t}{\partial L} = \frac{1}{t} \tag{227}$$

6.9.2 Second term

$$\frac{\partial v_t}{\partial L} = \frac{\partial\left(\frac{L}{t}\right)}{\partial t} \tag{228}$$

$$\frac{\partial v_t}{\partial L} = L\frac{\partial\left(\frac{1}{t}\right)}{\partial t} \tag{229}$$

$$\frac{\partial v_t}{\partial L} = -L\frac{1}{t^2} \tag{230}$$

Result:

$$\delta v_t = \sqrt{\left(\frac{1}{t}\delta L\right)^2 + \left(-\frac{L}{t^2}\delta t\right)^2} \tag{231}$$

6.9.3 Relative velocity:

Given:

$$\frac{1}{v_t} = \frac{t}{L} \tag{232}$$

Rewriting:

$$\frac{\delta v_t}{v_t} = \frac{1}{v_t}\sqrt{\left(\frac{1}{t}\delta L\right)^2 + \left(-\frac{L}{t^2}\delta t\right)^2} \tag{233}$$

$$\frac{\delta v_t}{v_t} = \sqrt{\left(\frac{1}{v_t}\frac{1}{t}\delta L\right)^2 + \left(-\frac{1}{v_t}\frac{L}{t^2}\delta t\right)^2} \tag{234}$$

with

$$L = v_t t \tag{235}$$

$$\frac{\delta v_t}{v_t} = \sqrt{\left(\frac{1}{L}\delta L\right)^2 + \left(-\frac{L}{L^2}\delta t\right)^2} \tag{236}$$

Result:

$$\frac{\delta v_t}{v_t} = \sqrt{\left(\frac{\delta L}{L}\right)^2 + \left(-\frac{\delta t}{L}\right)^2} \tag{237}$$

6.9.4 Human response time inaccuracy correction

To compensate the larger inaccuracy of the measured time using a stopwatch, in particular when the particle settling velocity is high as well when the fall height is relatively short, a 'human response time' empirical correction equation is introduced:

$$\delta t = c_0 + c_1 e^{-t} \tag{238}$$

where c_0 is the fastest human reaction time, which is approximately 15/100 s. c_1, is estimated on and set to a relatively low value of 0.5 to reduce the degree of corrections. For N=3,629 experiments: δt = 16/100 ± 2/100.

6.10 Uncertainty analysis parameters and coefficients

Table 20 *Parameters of equations*

Parameter	Value
c_0	$1.651 \cdot 10^{-6}$
c_1	-0.02358
c_2	2.1
c_3	$2.499 \cdot 10^{-5}$
c_4	1000
c_5	0.004715
c_6	$2.414 \cdot 10^{-8}$
c_7	247.8
c_8	133.15

Table 21 *Linear heat expansion coefficients* (Haynes, 2017); (Perry and Green, 2007)

$\alpha \cdot 10^{-6}$ [m/mK]	Value
Calcite	25
Garnet	7
GAC	4-8
Crystal sand	10
Rapid filter sand	8-14
Glass pearls	6
Metal balls	10.8-12.5
IEX balls	50-90 [1)]
Zirconium	5.7
Synthetic material	50-90
Calcite	25
Garnet	7
GAC	4-8
Crystal sand	10

[1)] www.engineeringtoolbox.com

7 Uncertainty in drag coefficient

7.1 Natural and processed highly non-spherical polydisperse particles

The first examined grains caused the largest degree of spread in the standard drag curve, which is visible in Figure 42 but very manifest in Figure 43 where the logarithmic scales (*log-log*) are replaced by Cartesian coordinate scales (*lin-lin*).

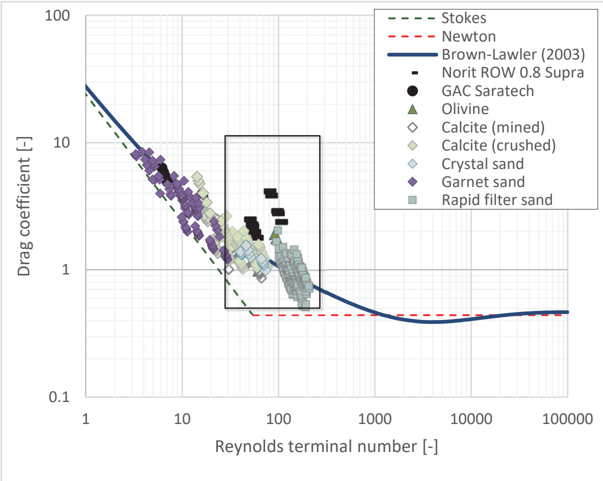


Figure 42 *SDC (log-log) natural irregularly shaped particles often applied in water treatment processes, olivine GAC, calcite and sand types*

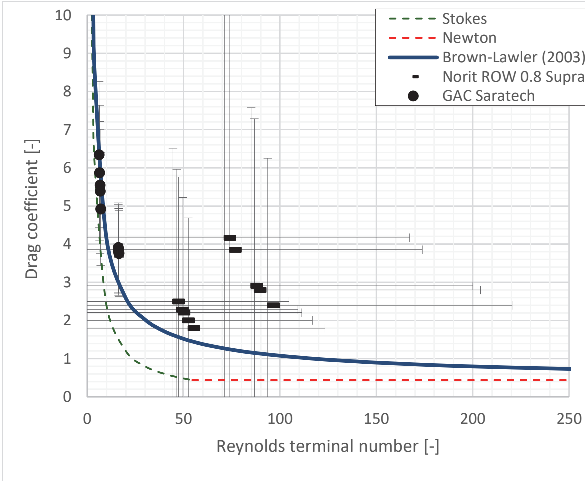


Figure 43 *SDC (lin-lin) selection of GAC grains with (uncertainty) error bars (C_D and Re_t)*

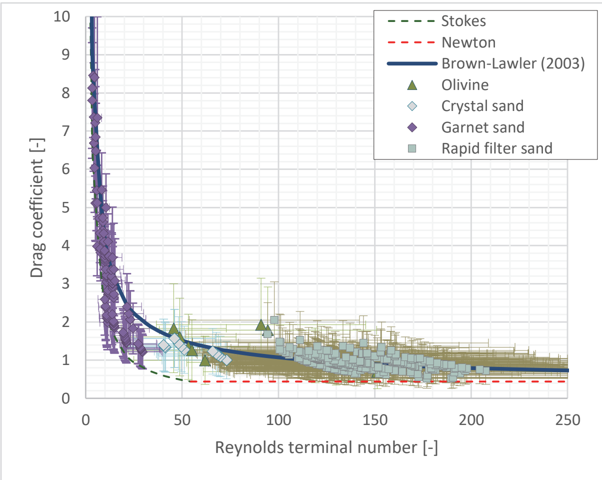


Figure 44 *SDC (lin-lin) olivine, crystal sand, garnet sand and rapid filter sand with (uncertainty) error bars (C_D and Re_t)*

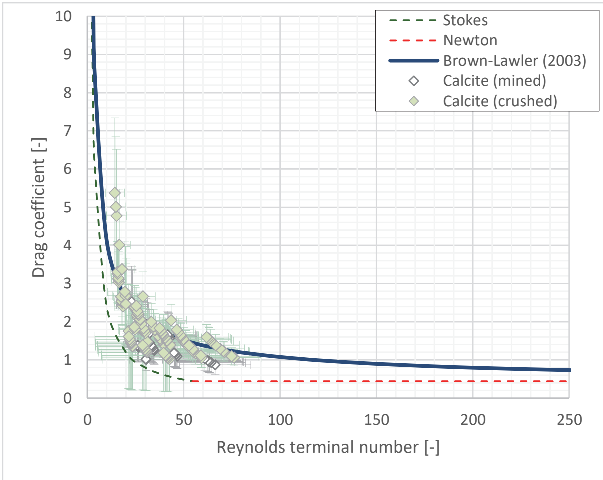


Figure 45 *SDC (lin-lin) crushed calcite with (uncertainty) error bars (C_D and Re_t)*

7.2 Medium non-spherical polydisperse particles applied in water softening

Figure 46, however, shows a considerably larger disagreement with the Brown–Lawler prediction. The error bars in Figure 47, based on the uncertainty analysis, decrease as the calcite pellets become larger. This can be explained as smaller calcite pellets are more irregularly shaped. Due to particle growth in the softening process, particles become more spherical (increased sphericity Φ) and hence demonstrate a decreased degree of spread.

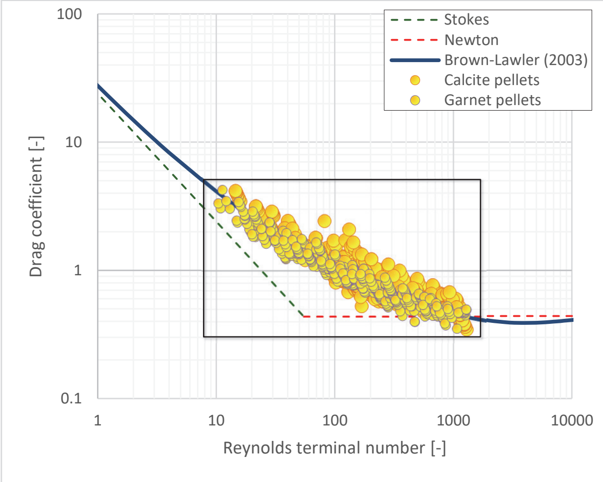


Figure 46 *SDC (log-log) 0.25-4.0 mm garnet pellets and 0.35-3.36 calcite pellets*

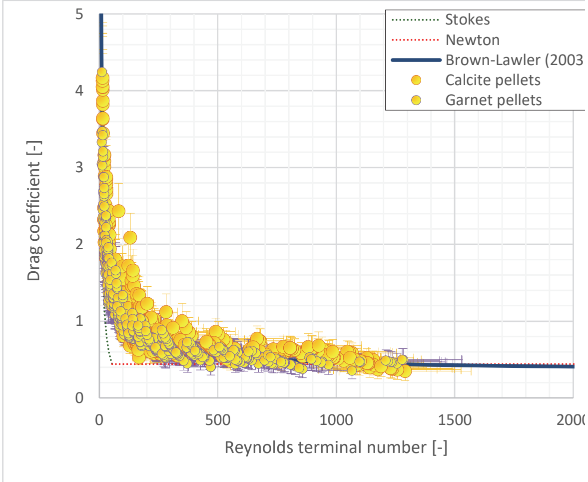


Figure 47 *SDC (lin-lin) selection with (uncertainty) error bars (C_D and Re_t)*

7.3 Spherical polydisperse and monodisperse glass beads

In the literature, glass beads are popular and frequently applied for model calibration and validation purposes. In this work 288 individual spherical glass pearls were settled. Figure 48, with *log-log* scales, shows reasonable agreement with the Brown–Lawler curve. In Figure 49, the spread remains visible due to the polydispersity (UC >1), albeit less significant.

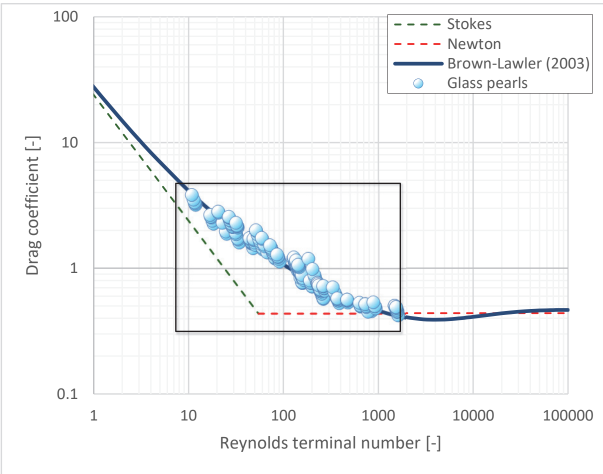


Figure 48 *SDC (log-log) 0.25-3.15 mm spherical polydisperse glass beads*

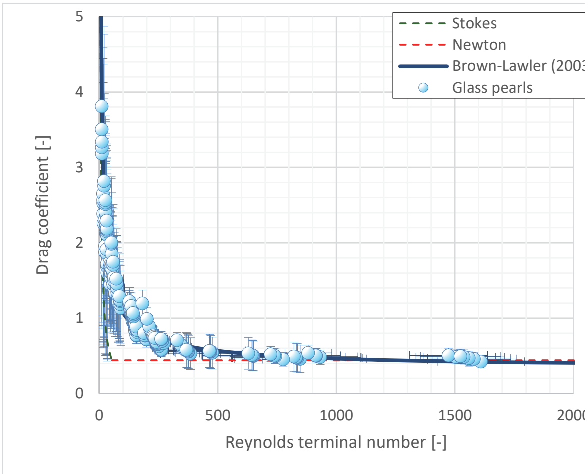


Figure 49 *SDC (lin-lin) selection with (uncertainty) error bars (C_D and Re_t)*

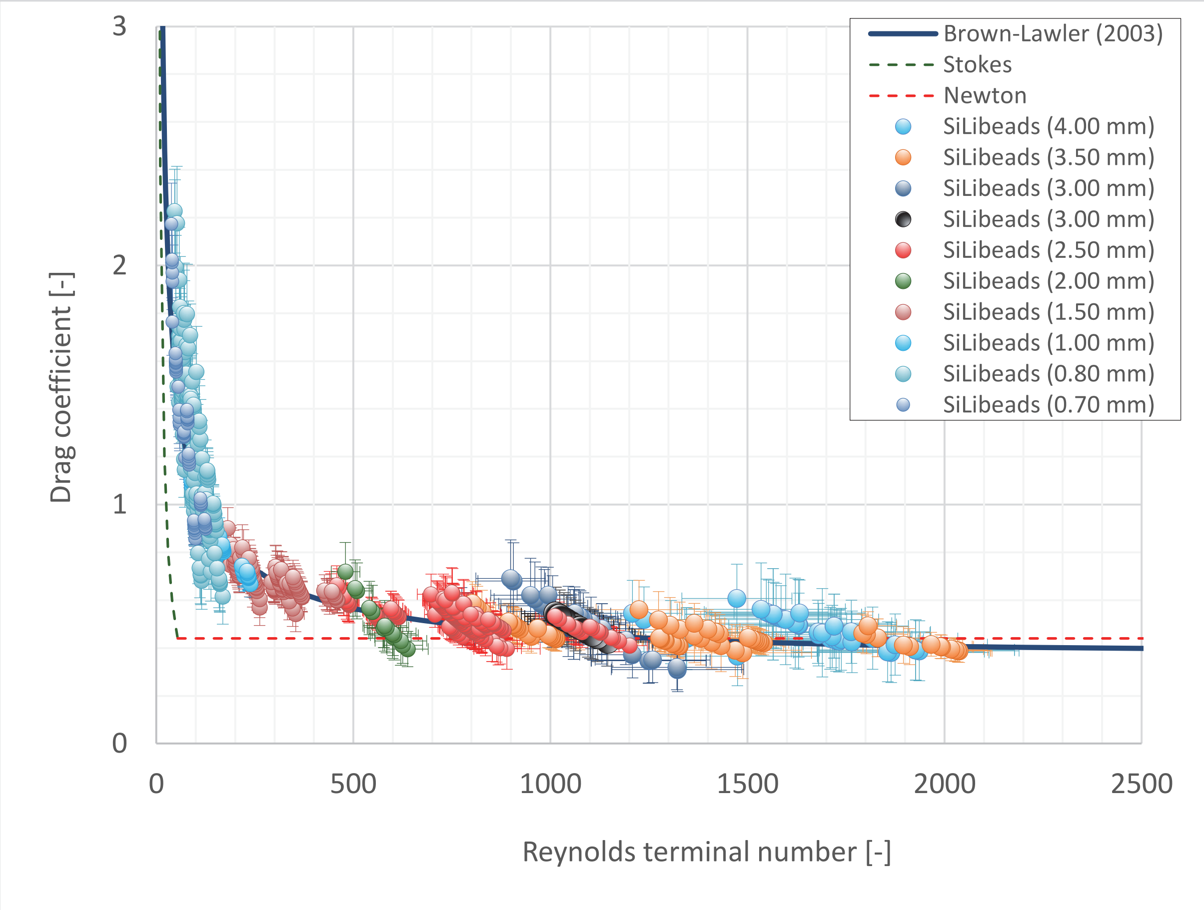


Figure 50 *SDC (lin-lin) 0.7, 0.8, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5 and 4.0 mm SiLibeads spherical monodisperse glass beads with (uncertainty) error bars (C_D and Re_t)*

7.4 Repetitive experiment with highly spherical monodisperse single glass beads

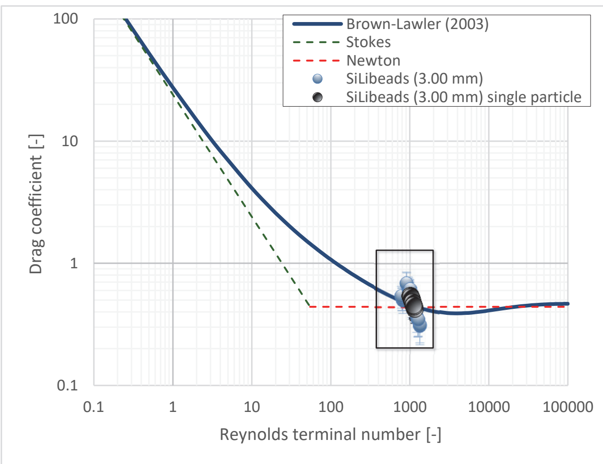


Figure 51 *SDC (log-log) 3.0 mm SiLibeads spherical monodisperse glass beads standard settling experiment (blue) and repeated with one and the same single grain plus trajectory recording (black)*

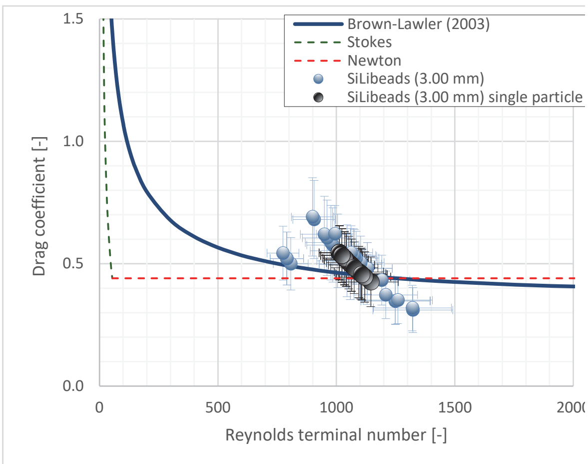


Figure 52 *SDC (lin-lin) selection 3.0 mm SiLibeads spherical monodisperse glass beads with (uncertainty) error bars (C_D and Re_t)*

7.5 Highly spherical monodisperse glass beads and wall effects

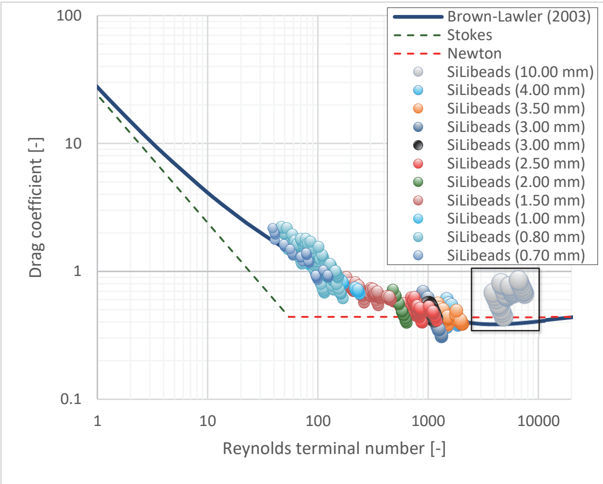


Figure 53 *SDC (log-log) 0.7-10.0 mm SiLibeads spherical monodisperse glass beads*

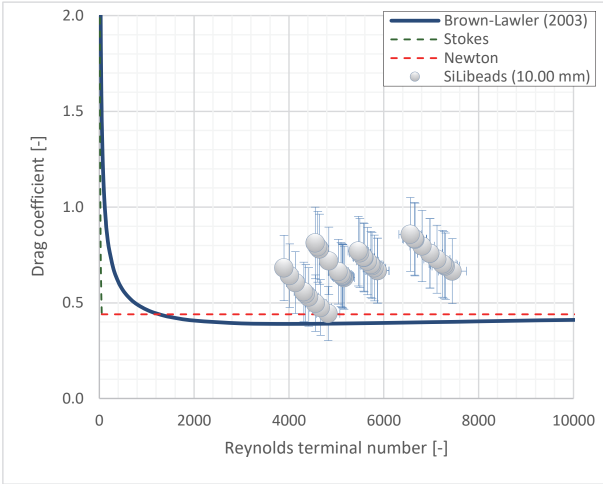


Figure 54 *SDC (lin-lin) selection with (uncertainty) error bars (C_D and Re_t) with wall effects*

7.6 Highly spherical monodisperse glass beads in different columns

To explore the influence of the column diameter, the same experiments were executed in two columns with different sizes (D = 57 mm) and (D = 125 mm), indicated with ○ and □ for three different glass bead sizes (1.5, 2.5 and 3.5 mm). Based on the results in Figure 55 and Figure 56, no distinction can be made.

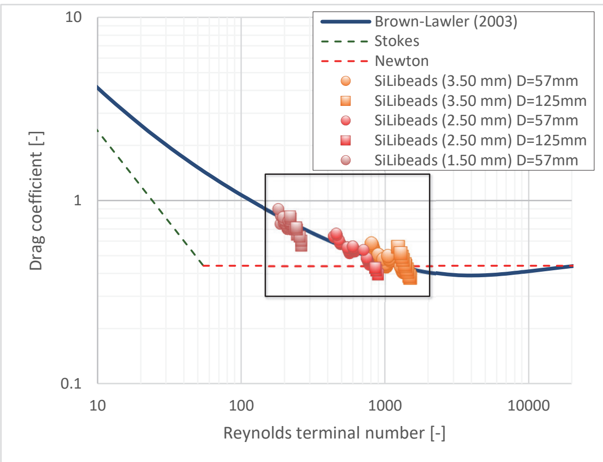


Figure 55 *SDC (log-log) 1.5, 2.5 and 3.5 mm SiLibeads spherical monodisperse glass beads standard settling experiment in two cylindrical columns 57 and 125 mm*

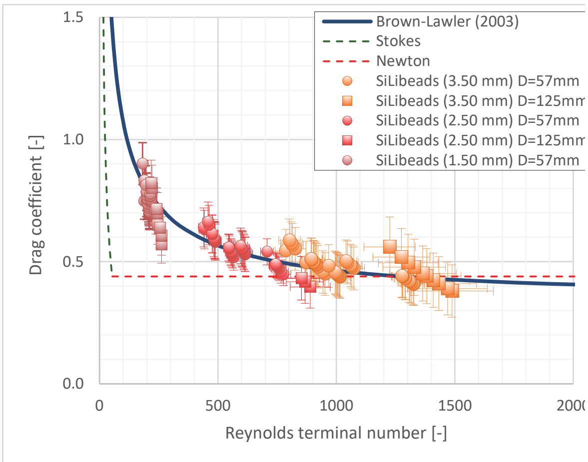


Figure 56 *SDC (lin-lin) selection SiLibeads spherical monodisperse glass beads with (uncertainty) error bars (C_D and Re_t)*

7.7 Highly spherical monodisperse glass beads with different fall lengths

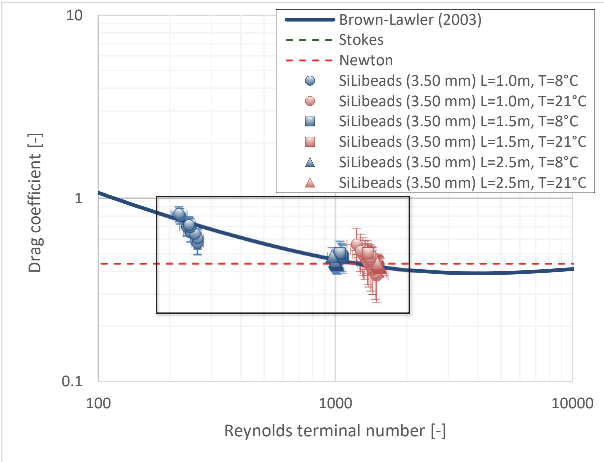


Figure 57 *SDC (log-log) 3.5 mm SiLibeads spherical monodisperse glass beads with different fall lengths*

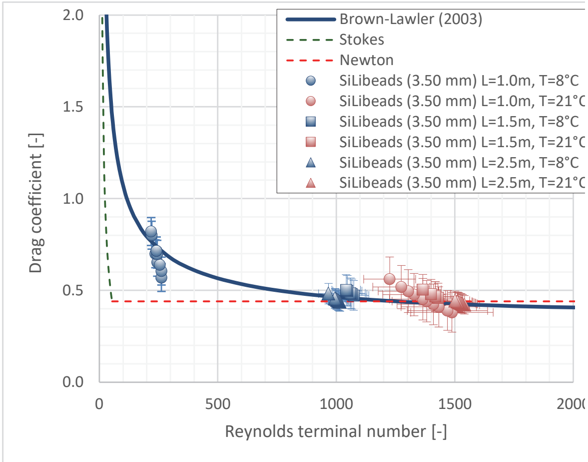


Figure 58 *SDC (lin-lin) selection SiLibeads spherical monodisperse glass beads with (uncertainty) error bars (C_D and Re_t)*

7.8 Highly spherical polydisperse synthetic particles

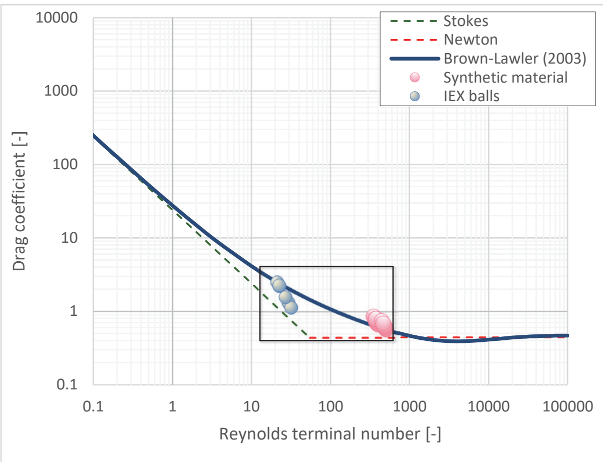


Figure 59 *SDC (log-log) 0.9-1.18 mm IEX resin balls and 3.0 mm synthetic nylon balls*

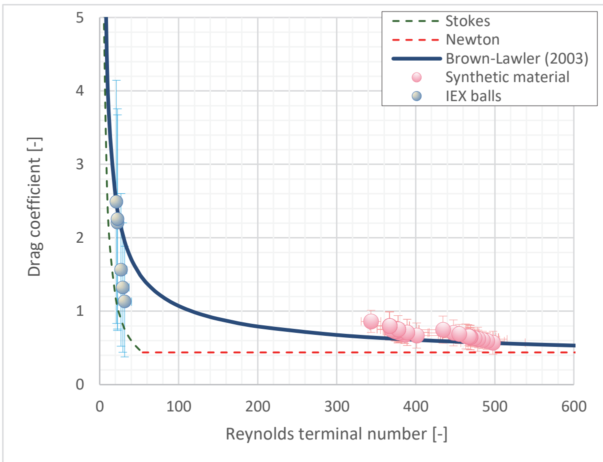


Figure 60 *SDC (lin-lin) selection with (uncertainty) error bars (C_D and Re_t) with subdivision in settling behaviour*

7.9 Highly spherical monodisperse metal balls

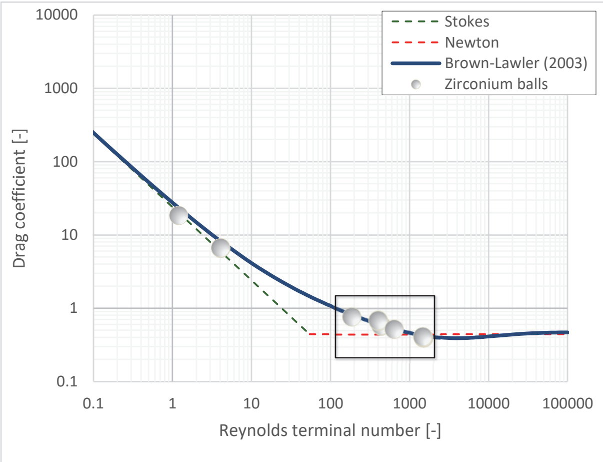


Figure 61 *SDC (log-log) 0.1, 1.0 and 2.0 mm zirconium balls*

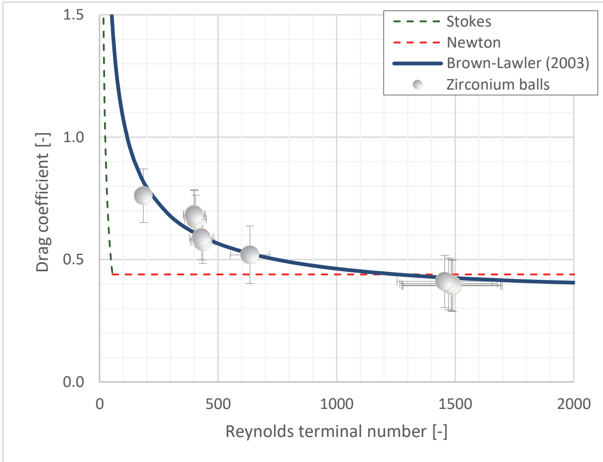


Figure 62 *SDC (lin-lin) selection with (uncertainty) error bars (C_D and Re_t) with subdivision in settling behaviour*

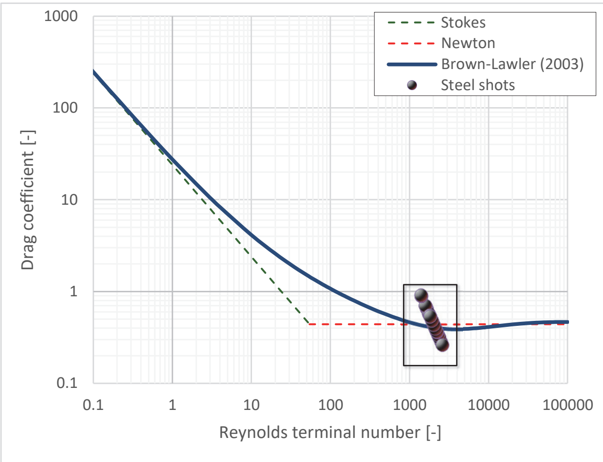


Figure 63 *SDC (log-log) 3.0 mm steel shots*

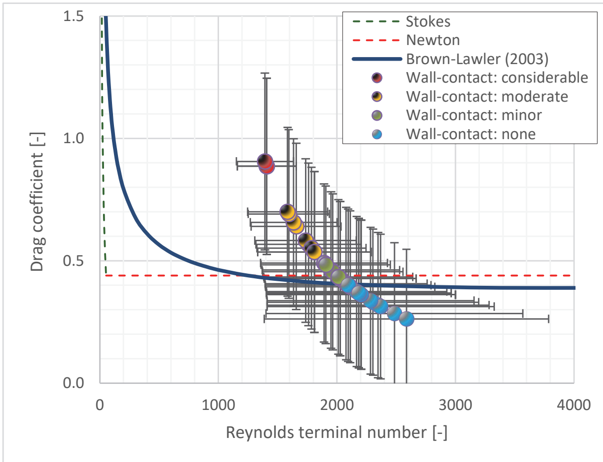


Figure 64 *SDC (lin-lin) selection with (uncertainty) error bars (C_D and Re_t) with subdivision in settling behaviour*

8 Recorded path instabilities

8.1 Path trajectories

Recorded path trajectories of fractionised calcite pellets from 1.0 mm – 2.8 mm using an advanced experimental set-up (Figure 5 and Figure 6), discussed in detail by (Raaghav, 2019). Videos can be found at (Kramer et al., 2020c).

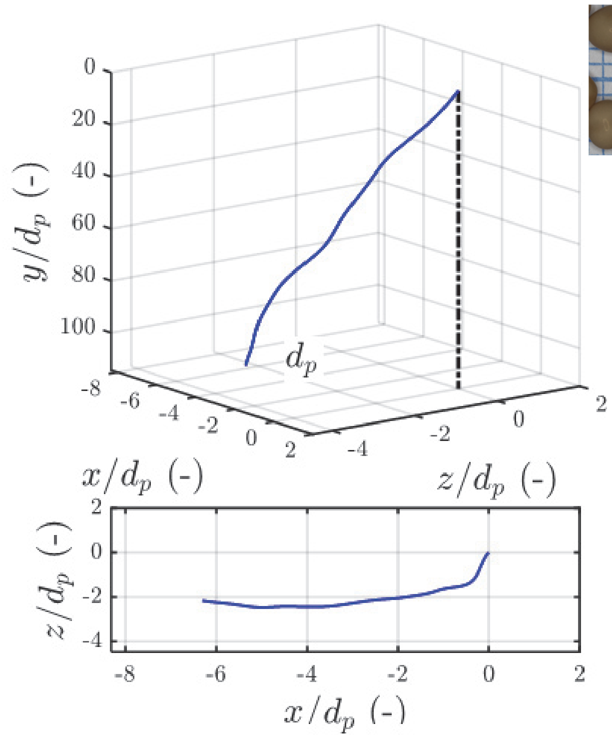
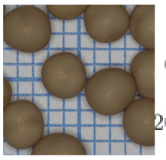


Figure 65 *Calcite pellets: d_p>2.8 mm, T=20 ºC, C_D=0.49, $\bar{\rho}$=2.7, Re_t=978, Ga=593, v_t=0.35 m/s, $v_{t,BL}$=0.39 m/s, angle=3.4º, $-\%v_t$=9%, path: CH*



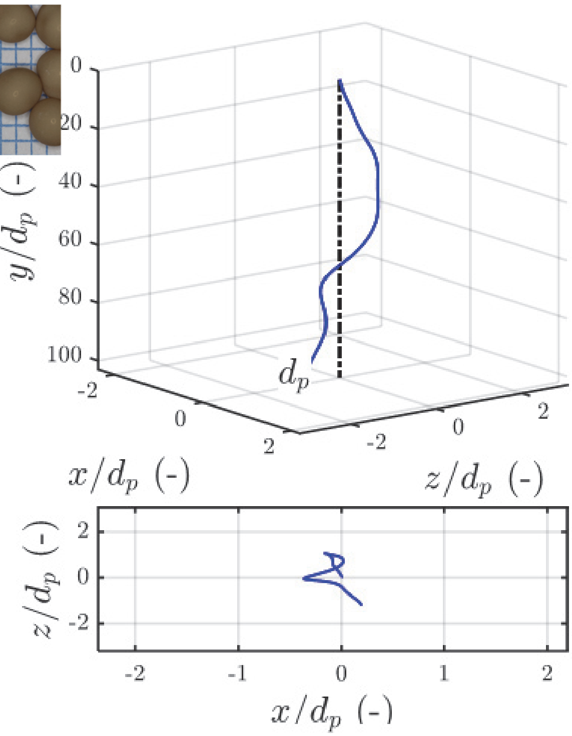
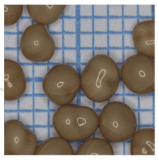


Figure 66 *Calcite pellets: d_p>2.8 mm, T=20 ºC, C_D=0.52, $\bar{\rho}$=2.7, Re_t=950, Ga=593, v_t=0.34 m/s, $v_{t,BL}$=0.39 m/s, angle=1.0º, $-\%v_t$=11%, path: CH*



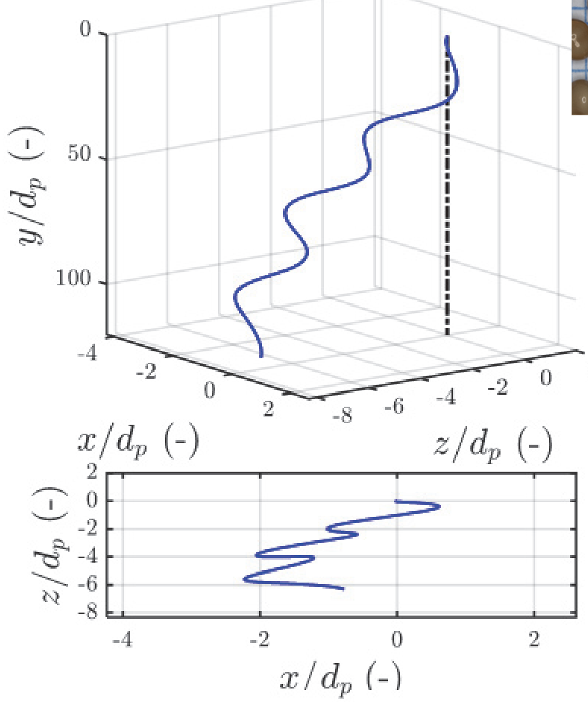


Figure 67 *Calcite pellets: 2.36<d_p<2.8 mm, T=20 ºC, C_D=0.55, $\bar{\rho}$=2.7, Re_t=809, Ga=522, v_t=0.32 m/s, $v_{t,BL}$=0.34 m/s, angle=2.8º, $-\%v_t$=7%, path: CH*

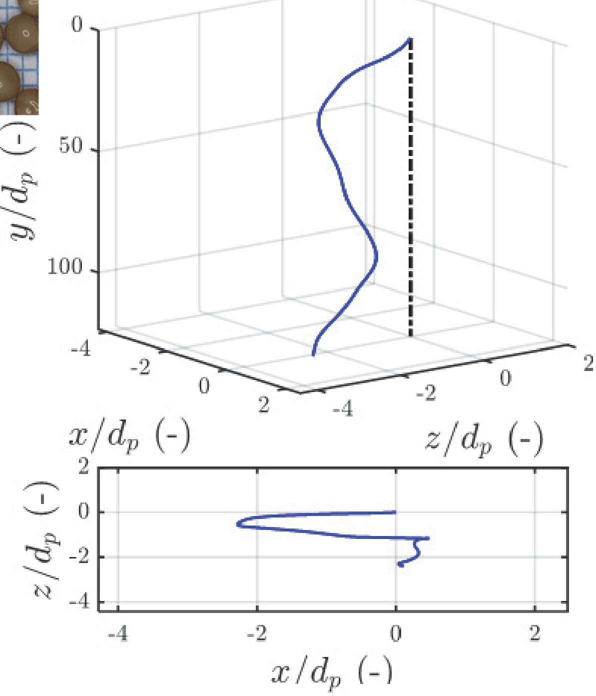
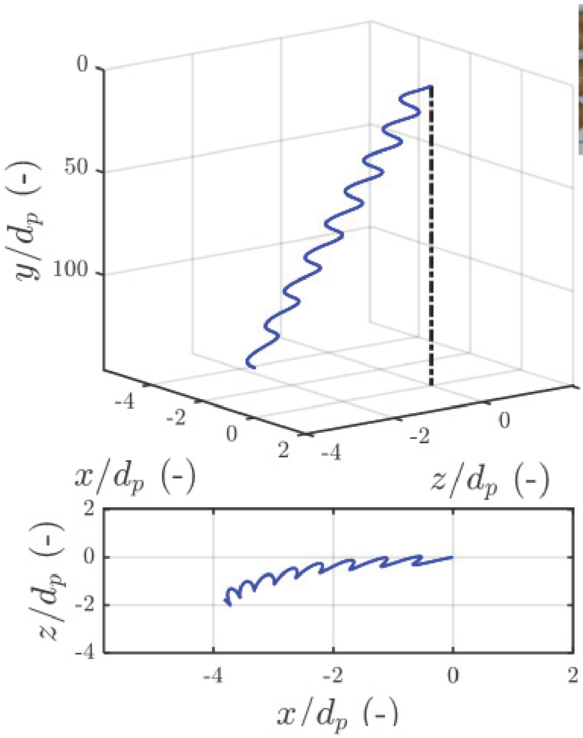
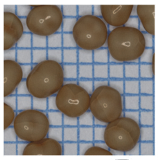


Figure 68 *Calcite pellets: 2.36<d_p<2.8, T=20 ºC, C_D=0.57, $\bar{\rho}$=2.7, Re_t=800, Ga=522, v_t=0.32 m/s, $v_{t,BL}$=0.34 m/s, angle=2.1º, $-\%v_t$=8%, path: CH*





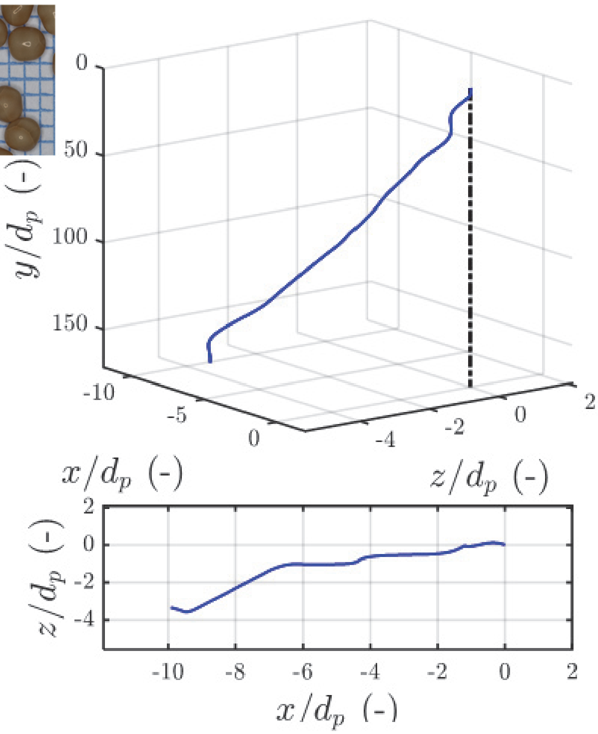
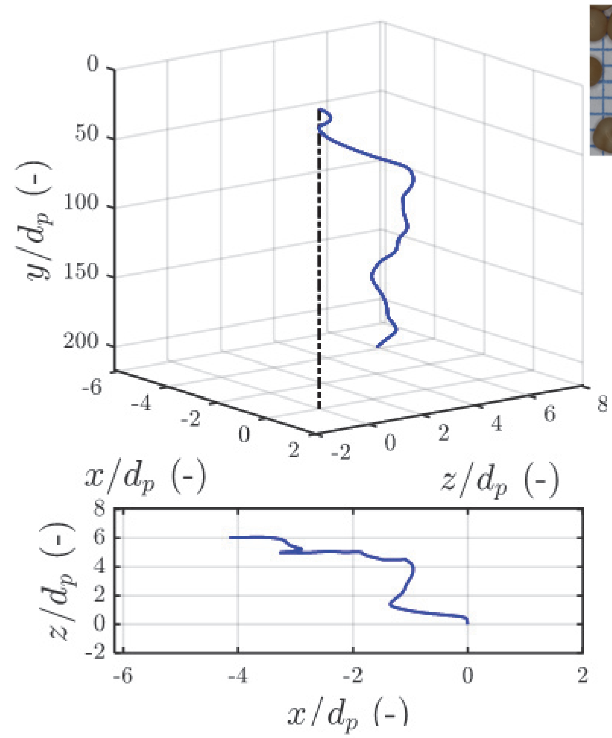
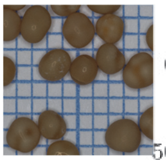


Figure 69 *Calcite pellets: 2.0<d_p<2.36 mm, T=20 ºC, C_D=0.75, $\bar{\rho}$=2.7, Re_t=540, Ga=406, v_t=0.25 m/s, $v_{t,BL}$=0.30 m/s, angle=2.3º, $-\%v_t$=17%, path: CH*

Figure 70 *Calcite pellets: 2.0<d_p<2.36 , T=20 ºC, C_D=0.76, $\bar{\rho}$=2.7, Re_t=535, Ga=406, v_t=0.25 m/s, $v_{t,BL}$=0.30 m/s, angle=3.4º, $-\%v_t$=17%, path: CH*





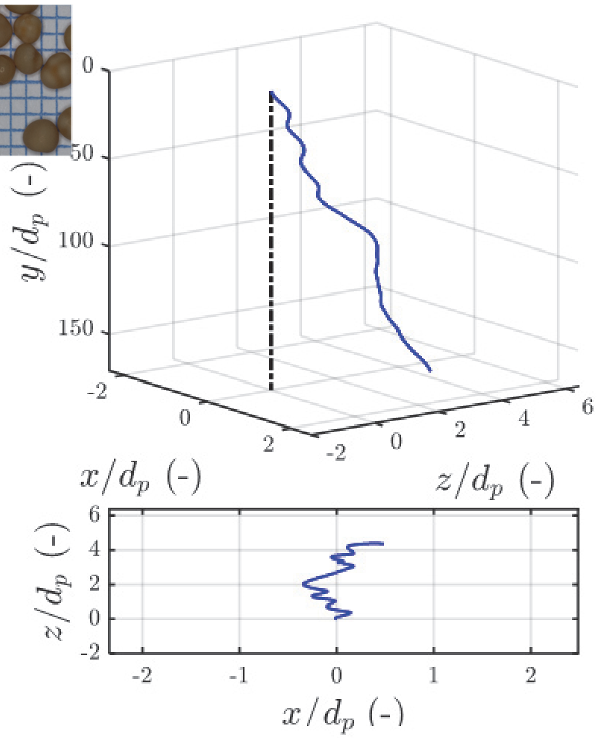


Figure 71 *Calcite pellets: 1.7<d_p<2 mm, T=20 ºC, C_D=0.62, $\bar{\rho}$=2.7, Re_t=465, Ga=317, v_t=0.26 m/s, $v_{t,BL}$=0.27 m/s, angle=2.8º, $-\%v_t$=4%, path: CH*

Figure 72 *Calcite pellets: 1.7<d_p<2 mm, T=20 ºC, C_D=0.93, $\bar{\rho}$=2.7, Re_t=380, Ga=317, v_t=0.21 m/s, $v_{t,BL}$=0.27 m/s, angle=1.6º, $-\%v_t$=22%, path: CH*

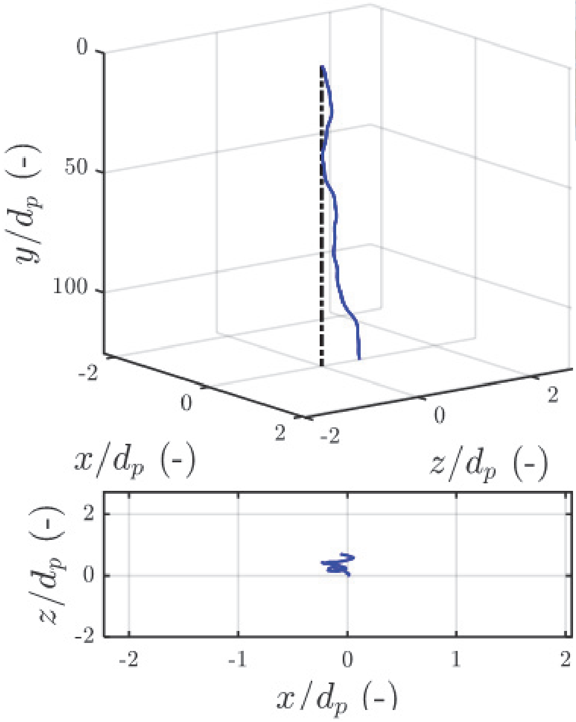
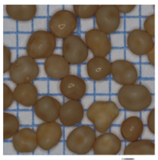


Figure 73 *Calcite pellets: 1.4<d_p<1.7 mm, T=20 ºC, C_D=0.80, $\bar{\rho}$=2.7, Re_t=314, Ga=243, v_t=0.21 m/s, $v_{t,BL}$=0.23 m/s, angle=0.4º, $-\%v_t$=10%, path: CH*



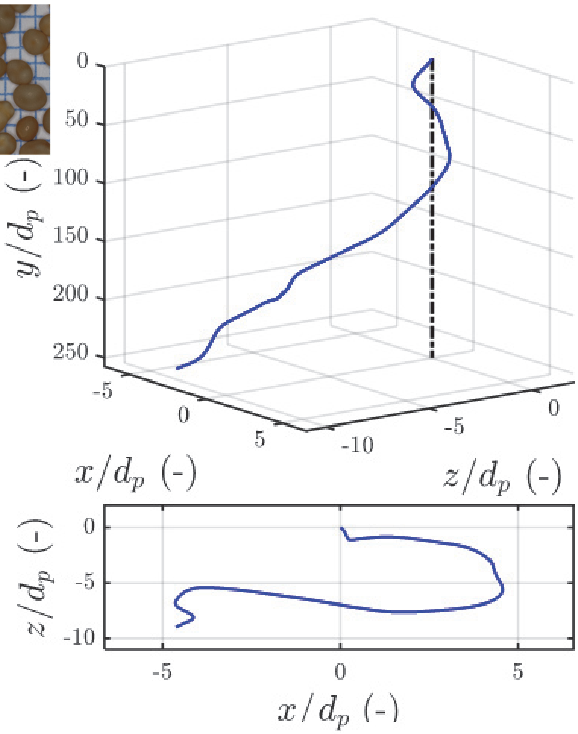
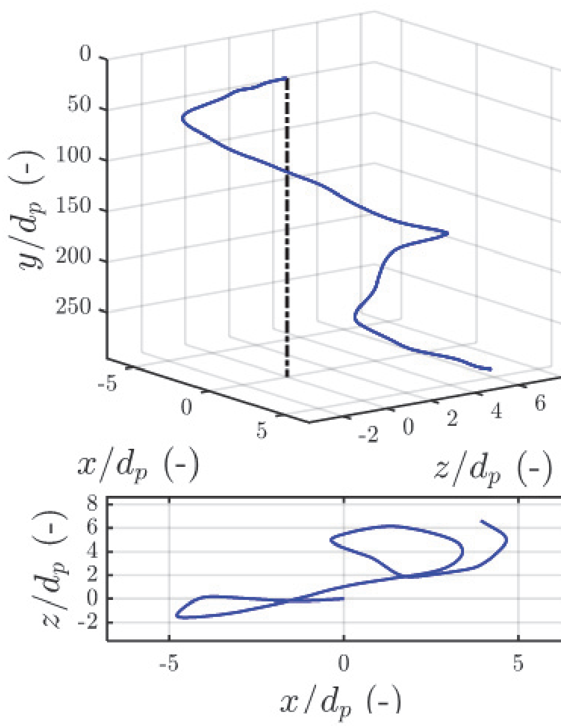
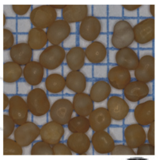


Figure 74 *Calcite pellets: 1.4<d_p<1.7 mm, T=20 ºC, C_D=0.71, $\bar{\rho}$=2.7, Re_t=332, Ga=243, v_t=0.22 m/s, $v_{t,BL}$=0.23 m/s, angle=2.9º, $-\%v_t$=5%, path: CH*





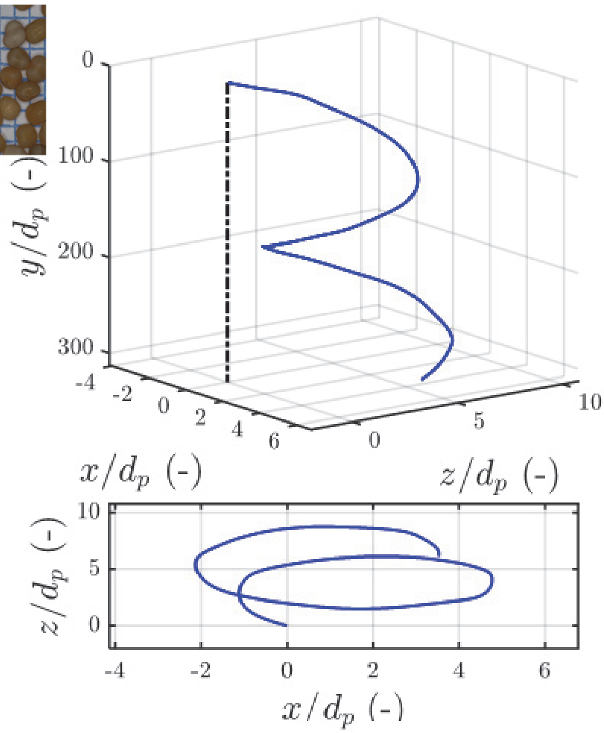
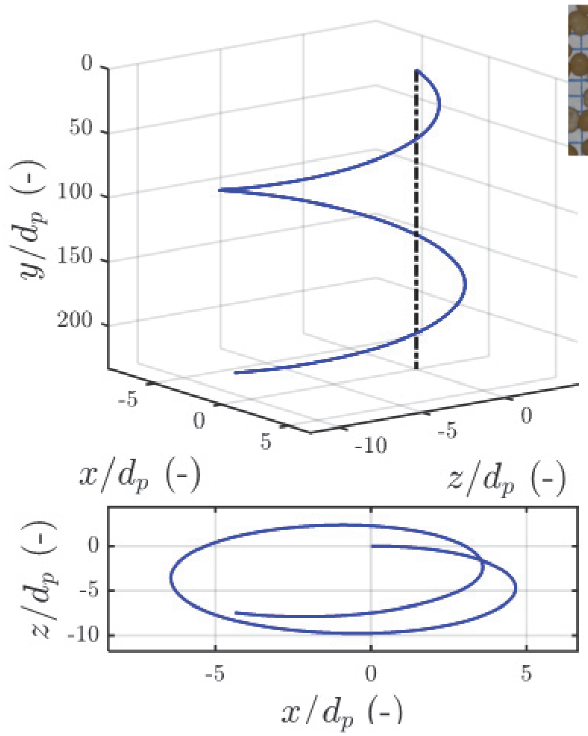
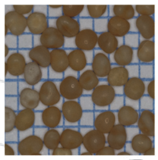


Figure 75 *Calcite pellets: 1.25<d_p<1.4 mm, T=20 ºC, C_D=0.92, $\bar{\rho}$=2.7, Re_t=231, Ga=192, v_t=0.18 m/s, $v_{t,BL}$=0.21 m/s, angle=2.4º, $-\%v_t$=17%, path: SO*

Figure 76 *Calcite pellets: 1.25<d_p<1.4 mm, T=20 ºC, C_D=0.92, $\bar{\rho}$=2.7, Re_t=232, Ga=193, v_t=0.18 m/s, $v_{t,BL}$=0.21 m/s, angle=3.0º, $-\%v_t$=17%, path: CH*





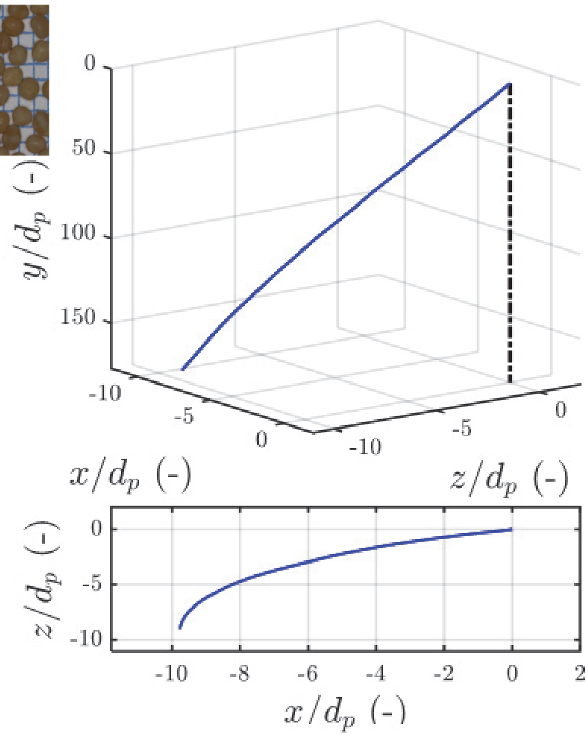


Figure 77 *Calcite pellets: 1.12<d_p<1.25 mm, T=21 ºC, C_D=1.04, $\bar{\rho}$=2.7, Re_t=189, Ga=167, v_t=0.16 m/s, $v_{t,BL}$=0.19 m/s, angle=5.1º, $-\%v_t$=17%, path: SO*

Figure 78 *Calcite pellets: 1.12<d_p<1.25 mm, T=21 ºC, C_D=0.87, $\bar{\rho}$=2.7, Re_t=207, Ga=167, v_t=0.17 m/s, $v_{t,BL}$=0.19 m/s, angle=4.7º, $-\%v_t$=9%, path: SO*

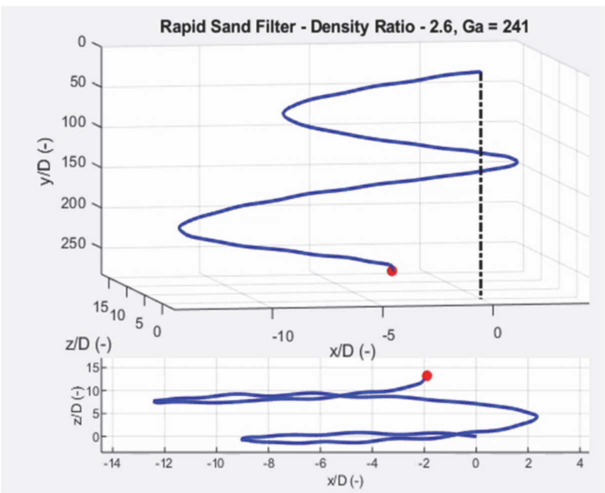


Figure 79 *Rapid filter sands: 1.0<d_p<2.0 mm, T=22 ºC, C_D=1.04, $\bar{\rho}$=2.6, Re_t=274, Ga=241, v_t=0.17 m/s, $v_{t,BL}$=0.19 m/s, path: CH*

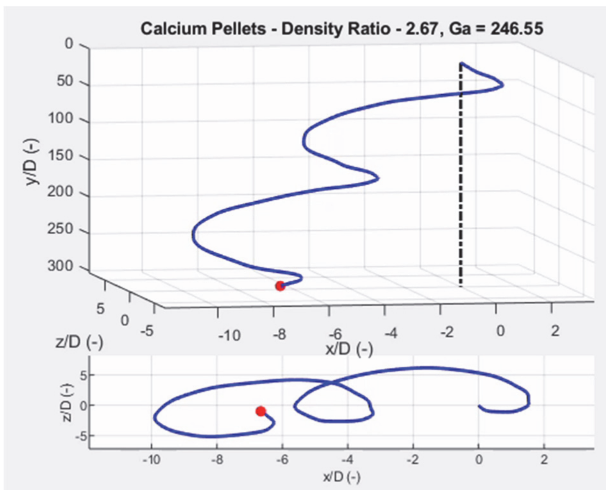
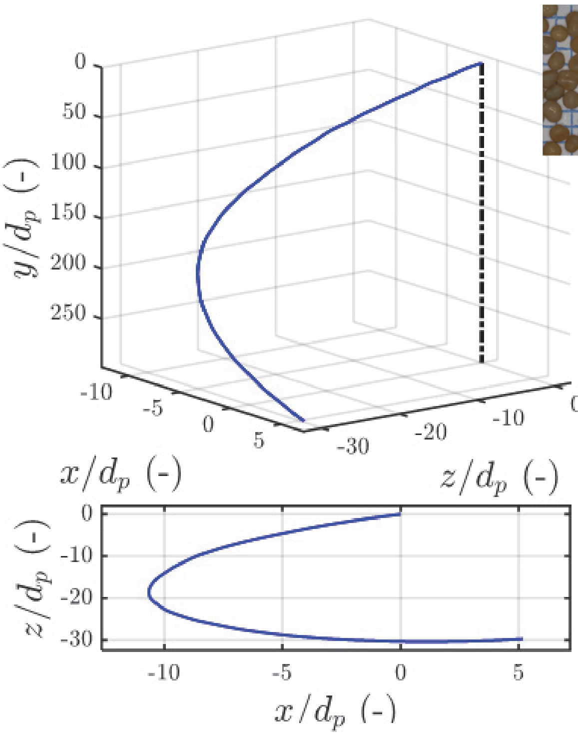
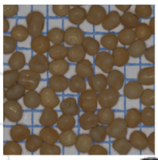


Figure 80 *Calcite pellets: 1.4<d_p<1.7 mm, T=22 ºC, C_D=0.62, $\bar{\rho}$=2.6, Re_t=361, Ga=243, v_t=0.23 m/s, $v_{t,BL}$=0.21 m/s, path: CH*





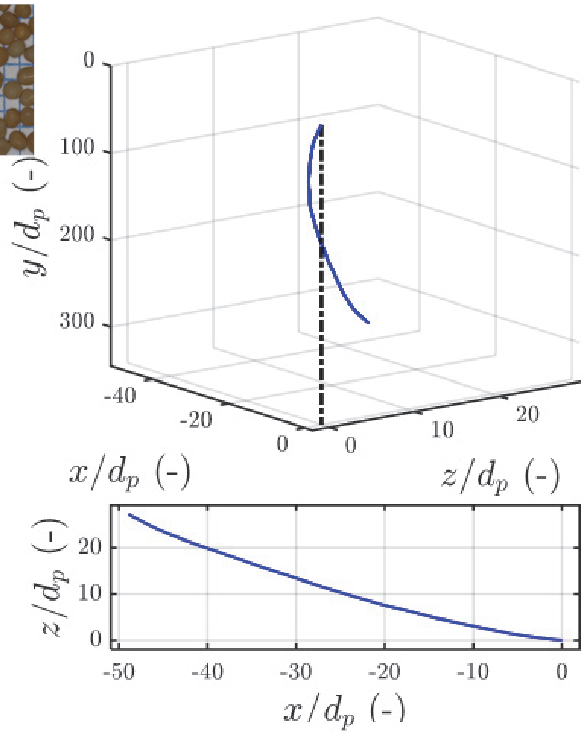


Figure 81 *Calcite pellets: 1<d_p<1.12 mm, T=21 ºC, C_D=0.93, $\bar{\rho}$=2.7, Re_t=170, Ga=142, v_t=0.16 m/s, $v_{t,BL}$=0.17 m/s, angle=7.8º, $-\%v_t$=6%, path: SO*

Figure 82 *Calcite pellets: 1<d_p<1.12 mm, T=21 ºC, C_D=1.16, $\bar{\rho}$=2.7, Re_t=152, Ga=142, v_t=0.14 m/s, $v_{t,BL}$=0.17 m/s, angle=9.1º, $-\%v_t$=15%, path: SO*

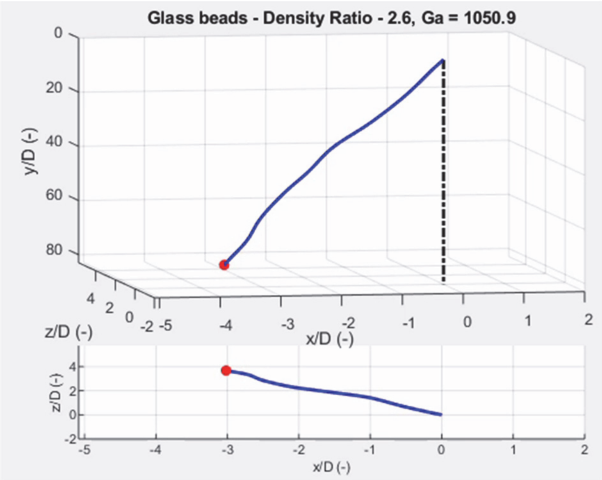


Figure 83 *Glass beads:* d_p*=4.0 mm, T=22 ºC,* C_D*=0.43,* $\bar{\rho}$*=2.6,* Re_t*=1,844, Ga=1,051,* v_t*=0.44 m/s,* $v_{t,BL}$*=0.44 m/s, path: CH*

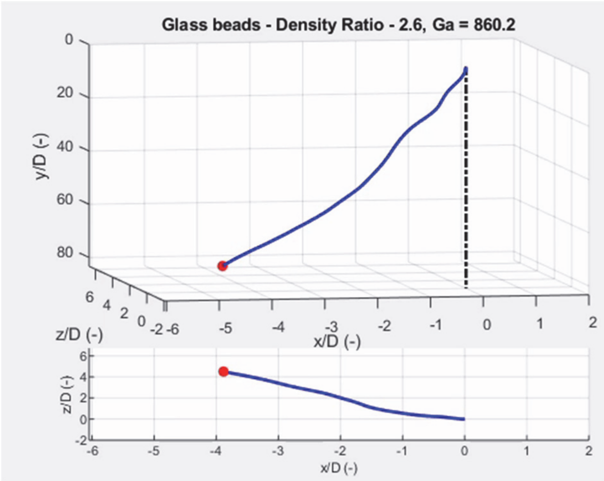


Figure 84 *Glass beads:* d_p*=3.5 mm, T=22 ºC,* C_D*=0.44,* $\bar{\rho}$*=2.5,* Re_t*=1,501, Ga=840,* v_t*=0.41 m/s,* $v_{t,BL}$*=0.39 m/s, path: CH*

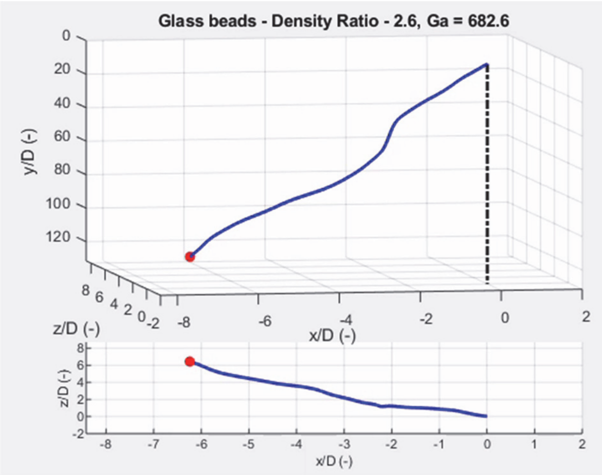


Figure 85 *Glass beads:* d_p*=3.0 mm, T=22 ºC,* C_D*=0.48,* $\bar{\rho}$*=2.6,* Re_t*=1,133, Ga=683,* v_t*=0.36 m/s,* $v_{t,BL}$*=0.36 m/s, path: CH*

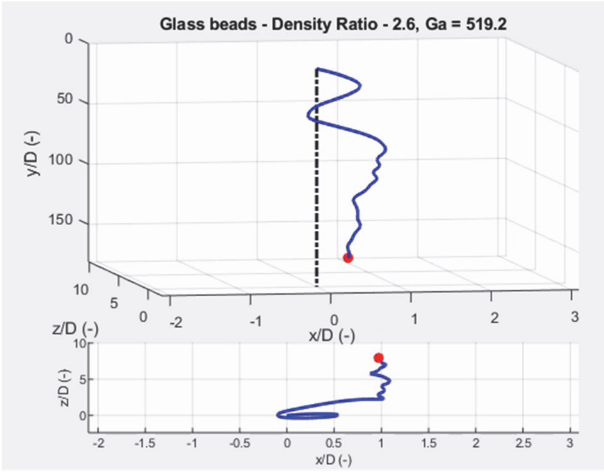
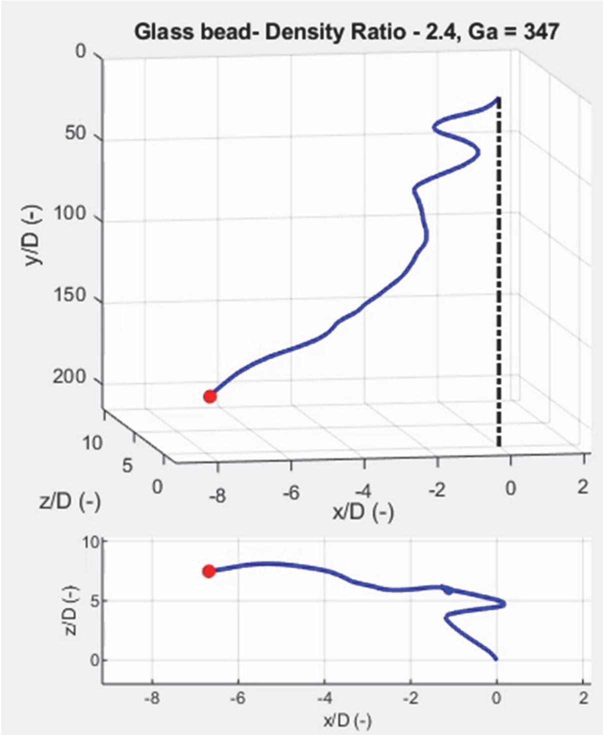


Figure 86 *Glass beads:* d_p*=2.5 mm, T=22 ºC,* C_D*=0.49,* $\bar{\rho}$*=2.5,* Re_t*=858, Ga=509,* v_t*=0.33 m/s,* $v_{t,BL}$*=0.31 m/s, path: CH*



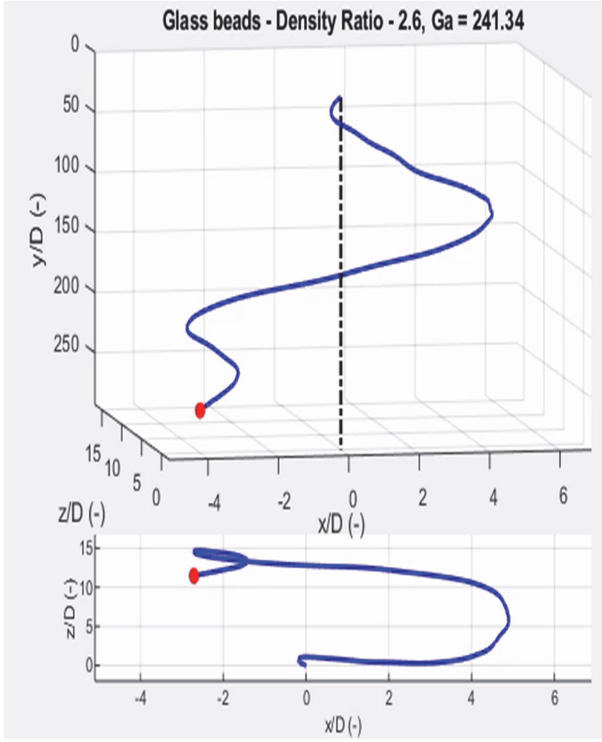
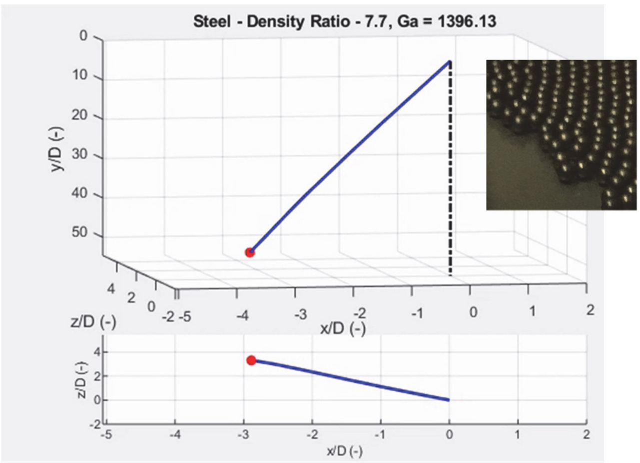


Figure 87 *Glass beads:* d_p*=2.0 mm, T=22 ºC,* C_D*=0.47,* $\bar{\rho}$*=2.6,* Re_t*=584, Ga=372,* v_t*=0.2 m/s 8,* $v_{t,BL}$*=0.26 m/s, path: CH*

Figure 88 *Glass beads:* d_p*=1.5 mm, T=22 ºC,* C_D*=0.66,* $\bar{\rho}$*=2.5,* Re_t*=341, Ga=236,* v_t*=0.22 m/s,* $v_{t,BL}$*=0.20 m/s, path: CH*



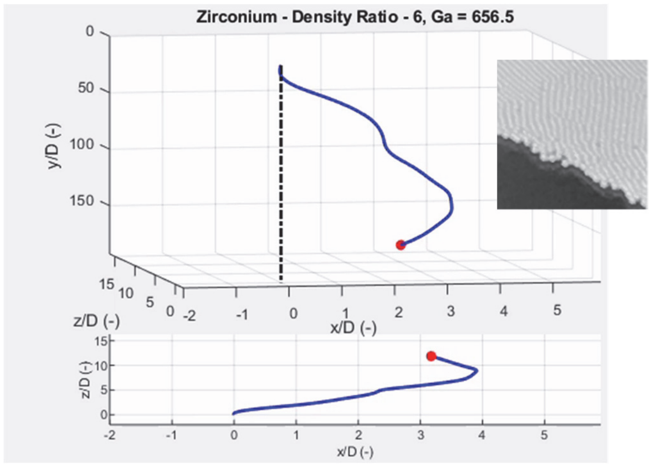


Figure 89 *Steel shots:* d_p*=3.0 mm, T=22 ºC,* C_D*=0.48,* $\bar{\rho}$*=8.0,* Re_t*=2,602, Ga=1,423,* v_t*=0.83 m/s,* $v_{t,BL}$*=0.81 m/s, path: CH*

Figure 90 *Zirconium balls:* d_p*=2.0 mm, T=22 ºC,* C_D*=0.49,* $\bar{\rho}$*=6.0,* Re_t*=1,141, Ga=655,* v_t*=0.54 m/s,* $v_{t,BL}$*=0.51 m/s, path: CH*

8.2 Path trajectory tables

The tables contain the divisions of the observed path trajectories according to (Zhou and Dušek, 2015).

Table 22 *Path trajectories of examined particles*

Abbreviation	Number	Percentage	Description
SO	2,611	71.9%	Steady oblique
LF	15	0.4%	Steady oblique: low-frequency oscillating
HF	34	0.9%	Steady oblique: high-frequency oscillating
CH	889	24.5%	Three-dimensional chaotic
PO	22	0.6%	Chaotic: high-frequency planar chaotic oblique oscillating
QR	33	0.9%	Chaotic: low-frequency rotating quasi periodic oblique oscillating
VP	25	0.7%	Chaotic: vertical periodic oscillating planar

Table 23 *Path trajectories of examined calcite and garnet pellets* [1)]

Abbreviation	Number	Percentage	Description
SO	1,459	79.7%	Steady oblique
LF	15	0.8%	Steady oblique: low-frequency oscillating
HF	24	1.3%	Steady oblique: high-frequency oscillating
CH	300	16.4%	Three-dimensional chaotic
PO	0	0.0%	Chaotic: high-frequency planar chaotic oblique oscillating
QR	33	1.8%	Chaotic: low-frequency rotating quasi periodic oblique oscillating
VP	0	0.0%	Chaotic: vertical periodic oscillating planar

[1)] Model derived for spherical particles

Table 24 *Path trajectories of examined glass beads and SiLibeads*

Abbreviation	Number	Percentage	Description
SO	584	51.2%	Steady oblique
LF	0	0.0%	Steady oblique: low-frequency oscillating
HF	10	0.9%	Steady oblique: high-frequency oscillating
CH	524	46.0%	Three-dimensional chaotic
PO	22	1.9%	Chaotic: high-frequency planar chaotic oblique oscillating
QR	0	0.0%	Chaotic: low-frequency rotating quasi periodic oblique oscillating
VP	0	0.0%	Chaotic: vertical periodic oscillating planar

Table 25 *Path trajectories of examined synthetic material (IEX and nylon balls)*

Abbreviation	Number	Percentage	Description
SO	0	0.0%	Steady oblique
LF	0	0.0%	Steady oblique: low-frequency oscillating
HF	0	0.0%	Steady oblique: high-frequency oscillating
CH	24	49.0%	Three-dimensional chaotic
PO	0	0.0%	Chaotic: high-frequency planar chaotic oblique oscillating
QR	0	0.0%	Chaotic: low-frequency rotating quasi periodic oblique oscillating
VP	25	51.0%	Chaotic: vertical periodic oscillating planar

Table 26 *Path trajectories of examined synthetic material (exotics)*

Abbreviation	Number	Percentage	Description
SO	999	84.5%	Steady oblique
LF	5	0.4%	Steady oblique: low-frequency oscillating
HF	10	0.8%	Steady oblique: high-frequency oscillating
CH	145	12.3%	Three-dimensional chaotic
PO	0	0.0%	Chaotic: high-frequency planar chaotic oblique oscillating
QR	23	1.9%	Chaotic: low-frequency rotating quasi periodic oblique oscillating
VP	0	0.0%	Chaotic: vertical periodic oscillating planar

Table 27 *Path trajectories of examined synthetic material metal balls (steel shots and zirconium balls)*

Abbreviation	Number	Percentage	Description
SO	7	13.2%	Steady oblique
LF	0	0.0%	Steady oblique: low-frequency oscillating
HF	0	0.0%	Steady oblique: high-frequency oscillating
CH	46	86.8%	Three-dimensional chaotic
PO	0	0.0%	Chaotic: high-frequency planar chaotic oblique oscillating
QR	0	0.0%	Chaotic: low-frequency rotating quasi periodic oblique oscillating
VP	0	0.0%	Chaotic: vertical periodic oscillating planar

8.3 Path trajectory videos

Videos are shared at: (Kramer et al., 2020c).

DOI: 10.4121/UUID:3FFDFA51-38F0-4188-AEC5-8CD8FC8F1941

Videos: terminal settling experiments in water: path instabilities. Twenty-four path trajectories are shown of grains settling in water in an advanced TU Delft experimental set-up. More technical information can be found here: http://resolver.tudelft.nl/uuid:cbaf6de1-dcf9-41ab-a5bc-3a4d364bfd45, Path Instabilities of a Rising or Falling Sphere in a Fluid at Rest - An Experimental Study, authored by (Raaghav, 2019).

The videos were recorded at TU Delft, Department of Mechanical, Maritime and Materials Engineering, the Netherlands.

File: Set 1 - Calcite pellets 1.4-1.7 mm.mp4
File: Set 1 - Glass beads - 1.5 mm.mp4
File: Set 1 - Glass beads - 2.0 mm.mp4
File: Set 1 - Glass beads - 2.5 mm.mp4
File: Set 1 - Glass beads - 3.0 mm.mp4
File: Set 1 - Glass beads - 3.5 mm.mp4
File: Set 1 - Glass beads - 4.0 mm.mp4
File: Set 1 - Rapid Filter Sand 1.0-2.0 mm.mp4
File: Set 1 - Steel shots 3.0 mm.mp4
File: Set 1 – Zirconium balls 2.0 mm.mp4

File: Set 2 - Calcite pellets 1-1.12 mm-case-1.mp4
File: Set 2 - Calcite pellets 1-1.12 mm-case-2.mp4
File: Set 2 - Calcite pellets 1-1.12 mm-case-3.mp4
File: Set 2 - Calcite pellets 1.12-1.25 mm-case-1.mp4
File: Set 2 - Calcite pellets 1.12-1.25 mm-case-2.mp4
File: Set 2 - Calcite pellets 1.12-1.25 mm-case-3.mp4
File: Set 2 - Calcite pellets 1.25-1.4 mm-case-1.mp4
File: Set 2 - Calcite pellets 1.25-1.4 mm-case-2.mp4
File: Set 2 - Calcite pellets 1.25-1.4 mm-case-3.mp4
File: Set 2 - Calcite pellets 1.4-1.7 m-case-2.mp4
File: Set 2 - Calcite pellets 1.4-1.7 mm-case-1.mp4
File: Set 2 - Calcite pellets 1.4-1.7 mm-case-3.mp4
File: Set 2 - Calcite pellets 1.7-2 mm-case-1.mp4
File: Set 2 - Calcite pellets 1.7-2 mm-case-2.mp4
File: Set 2 - Calcite pellets 1.7-2 mm-case-3.mp4
File: Set 2 - Calcite pellets 2-2.36 mm-case-1.mp4
File: Set 2 - Calcite pellets 2-2.36 mm-case-2.mp4
File: Set 2 - Calcite pellets 2-2.36 mm-case-3.mp4
File: Set 2 - Calcite pellets 2.36-2.8 mm-case-1.mp4
File: Set 2 - Calcite pellets 2.36-2.8 mm-case-2.mp4
File: Set 2 - Calcite pellets 2.36-2.8 mm-case-3.mp4
File: Set 2 - Calcite pellets 2.8+mm-case-1.mp4
File: Set 2 - Calcite pellets 2.8+mm-case-2.mp4
File: Set 2 - Calcite pellets 2.8+mm-case-3.mp4

File: Set 3 - Terminal settling 10mm glass bead.MP4

9 Measured and calculated drag coefficient

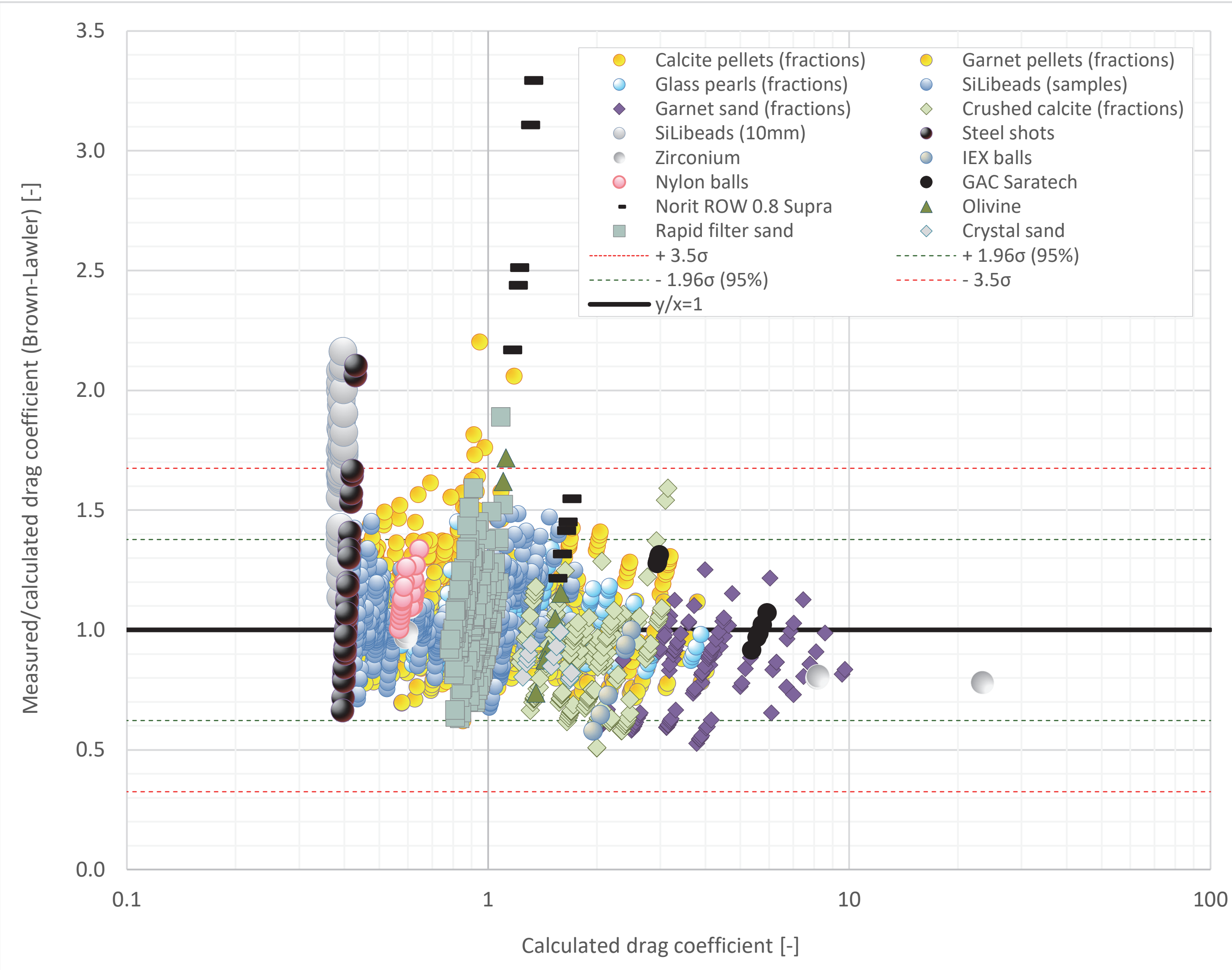


Figure 91 *Ratio of measured and calculated terminal settling velocities* (Brown and Lawler, 2003) *against calculated settling velocity. Statistical probability estimation 95% (μ ± 1.96 σ) plot and the (μ ± 3.5 σ) to show the outliers (mainly garnet) (1.2%) 42 of 3,629 experimental values*

10 Drag-Reynolds experimental data spread trends

10.1 Observed drag-Reynolds data trends

When the standard drag curve (dimensionless drag coefficient C_D versus terminal Reynolds number Re_t) is plotted using *lin-lin* scales instead of *log-log* scales, the data spread is evidently visible. This can be observed in Figure 92, where fractionised calcite and garnet pellets are plotted. These trends can be explained based on the basic drag coefficient equation.

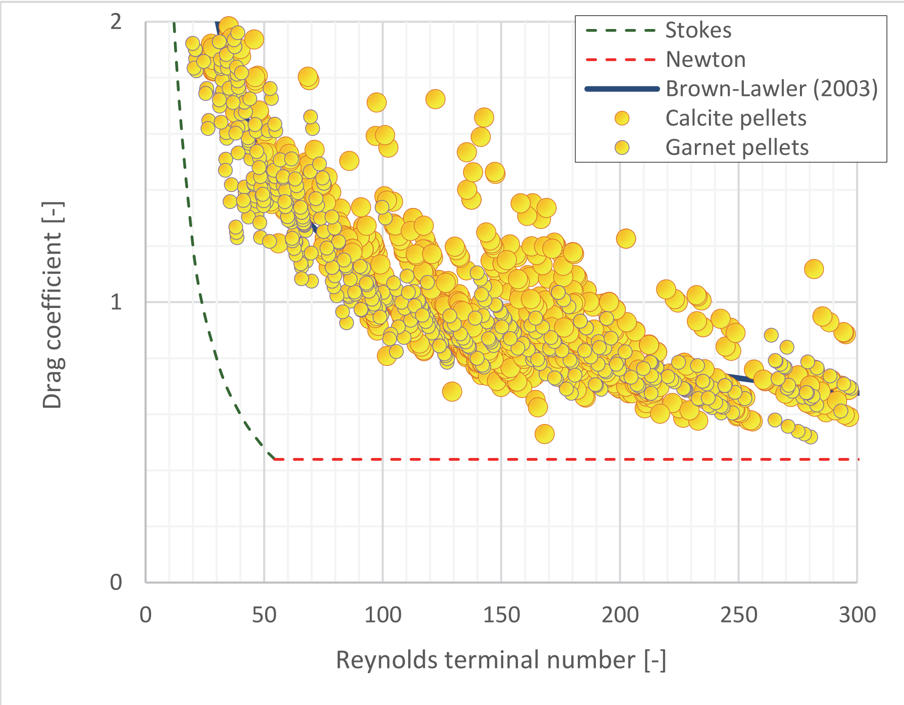


Figure 92 *Experimental data spread trends*

10.2 Error made by the laboratory researcher

To predict the steady terminal velocity of a given particle with a projected surface area A_p in the direction of the gravitational field from these correlations, one needs to consider a force balance in which the drag force balances the difference between buoyancy and weight (Gibilaro et al., 1985); (Clift et al., 1978); (Bird et al., 2007); (Brown and Lawler, 2003):

$$(\rho_p - \rho_f)gV = C_D A_p \tfrac{1}{2}\rho_f {v_t}^2 \tag{239}$$

For spherical particles:

$$(\rho_p - \rho_f)g\left(\tfrac{\pi}{6}{d_p}^3\right) = C_D\left(\tfrac{\pi}{4}{d_p}^2\right)\tfrac{1}{2}\rho_f {v_t}^2 \tag{240}$$

$$C_D {v_t}^2 = \frac{(\rho_p - \rho_f)g\left(\tfrac{\pi}{6}{d_p}^3\right)}{\left(\tfrac{\pi}{4}{d_p}^2\right)\tfrac{1}{2}\rho_f} \tag{241}$$

$$C_D {v_t}^2 = \frac{4}{3}\frac{(\rho_p - \rho_f)}{\rho_f} g d_p \tag{242}$$

Let L be the fall distance of a settling particle. The distance can be underpredicted or overpredicted by the error made by the laboratory researcher. Here:

$$L_{error} = t_{error}\overline{v_t} \tag{243}$$

where t_{error} represents the error made by the laboratory researcher.

$$\overline{v_t} + v_t' = \frac{L_{effective}}{\Delta t_{stopwatch}} = \frac{L \pm t_{error}\overline{v_t}}{\Delta t_{stopwatch}} \tag{244}$$

$$v_t' \sim O\left(\frac{t_{error}\overline{v_t}}{\Delta t_{stopwatch}}\right) \tag{245}$$

$$\frac{{v_t}'}{\overline{v_t}} \sim \pm \frac{t_{error}}{\Delta t_{stopwatch}} \tag{246}$$

$$\frac{{C_D}'}{\overline{C_D}} \sim -2\frac{{v_t}'}{\overline{v_t}} \sim O\left(\frac{2\, t_{error}}{\Delta t_{stopwatch}}\right) \tag{247}$$

So:

$$\frac{{C_D}'}{\overline{C_D}}[\%] \sim O\left(\frac{2\, t_{error}}{\Delta t_{stopwatch}}\right) \tag{248}$$

Let us take an experiment where the total fall error $\Delta t_{stopwatch}$ = 0.5 seconds. Consequently, the error made by the laboratory researcher, from start to stop and using equation (248), the experiment will yield to an net error of 20%.

Furthermore, for one particular experiment $C_D {v_t}^2 = constant$, or $C_D \sim 1/{v_t}^2$

$$C_D {v_t}^2 = \frac{4}{3}\frac{(\rho_p - \rho_f)}{\rho_f} g d_p \tag{249}$$

Now let:

$$v_t = \overline{v_t} + {v_t}' \tag{250}$$

where ${v_t}'$ is the error / uncertainty (δv_t) introduced in velocity due to the student who measures the terminal settling velocity manually using a stopwatch.

$$\overline{C_D} + C_D{}' \sim \frac{1}{(\overline{v}_t + v_t{}')^2} \tag{251}$$

$$\overline{C_D} + C_D{}' \sim \frac{1}{\overline{v}_t{}^2\left(1 + \frac{v_t{}'}{\overline{v}_t}\right)^2} \tag{252}$$

$$\overline{C_D} + C_D{}' \sim \frac{1}{\overline{v}_t{}^2}\left(1 - 2\frac{v_t{}'}{\overline{v}_t}\right) \tag{253}$$

$$\overline{C_D} + C_D{}' \sim \frac{1}{\overline{v}_t{}^2} - 2\frac{v_t{}'}{\overline{v}_t{}^3} \tag{254}$$

Now:

$$C_D{}' \sim -2\frac{v_t{}'}{\overline{v}_t{}^3} \tag{255}$$

$$\frac{C_D{}'}{\overline{C_D}} \sim \frac{-2\frac{v_t{}'}{\overline{v}_t{}^3}}{\frac{1}{\overline{v}_t{}^2}} \sim -2\frac{v_t{}'}{\overline{v}_t} \tag{256}$$

$$\frac{C_D{}'}{\overline{C_D}} \sim -2\frac{v_t{}'}{\overline{v}_t} \tag{257}$$

The slope equals -2 in the SDC and hence for a positive increase in error for $v_t{}'$ we see a negative error for $C_D{}'$.

10.3 Correlation error in C_D with error in Re_t

The force balance at *statistically* steady state is given by:

$$C_D Re_t{}^2 = \tfrac{4}{3}Ar \tag{258}$$

Error analysis in linear approximation (for small errors):

$$C_D{}'\overline{Re}_t{}^2 + \overline{C_D}\, 2\overline{Re}_t\, Re_t{}'|_{Ar=c} = \tfrac{4}{3}\, Ar'|_{Re_t=c} \tag{259}$$

$$C_D' = \tfrac{4}{3}\frac{Ar'}{\overline{Re}_t{}^2}\bigg|_{Re_t=c} - 2\overline{C_D}\frac{Re_t{}'}{\overline{Re}_t}\bigg|_{Ar=c} \tag{260}$$

For larger errors, higher order terms in Taylor expansion around base state should be taken into account. Ar' and $Re_t{}'$ will generally not be independent as both depend on d_p and ν_T. However, when $Re_t{}'$ is solely caused by errors in terminal settling velocity $v_t{}'$ and the errors in Ar' and $Re_t{}'$ are independent for multiple experiments on the same particle, we expect that Ar' will not change. So, it relates to uncertainty in measured parameters on which Ar depends, but these parameters do not change when the settling experiment is repeated. In that case, $C_D{}'$ is anti-correlated with:

$$\frac{Re_t{}'}{\overline{Re_t}} = \frac{v_t{}'}{\bar{v}_t} \tag{261}$$

So:

$$C_D{}' = \tfrac{4}{3}\frac{Ar'}{\overline{Re_t}^{\,2}} - 2\overline{C_D}\frac{v_t{}'}{\bar{v}_t} \tag{262}$$

The first right term $\tfrac{4}{3}\frac{Ar\prime}{\overline{Re_t}^2}$ stands for constant upward and downward shift. The second right term $-2\overline{C_D}\frac{v_t\prime}{\bar{v}_t}$ is the anti-correlation. For $\frac{v_t{}'}{\bar{v}_t}$ = -0.2 – 2, the spread $\frac{C_D{}'}{\overline{C_D}}$ = -0.4 – 4, plus the shift from the first term.

10.4 Direct simplified dependency of the deviation to the variation in particle diameter

To demonstrate the direct dependency of the deviation to the variation in particle diameter, the simplified drag equation (269) can be used. The relative error is given by Equation (263):

$$\frac{\Delta C_D}{C_D} = \beta\frac{\Delta Re_t}{Re_t} \approx \beta\frac{\Delta d_p}{d_p} \tag{263}$$

Coefficient β can be retrieved from a $ln(C_D)$ against $ln(Re_t)$ and has a value of approximately 0.45 for only calcite pellets. This leads to a similar deviation bandwidth of $\Delta(C_D)$ = 4% based on $\Delta\left(d_p\right)$ = 6%. Since Equation (269) does not cover the whole range of Reynolds terminal, the straightforward calculated deviation does not coincide exactly with the deviation of 5%.

11 Steady state velocity

Uniform particle motion through a fluid is the result of the action of constant external force such as gravity, buoyancy and the resistance of the fluid to particle motion. In a gravitational field, the motion of spherical particles is governed by Newton's law of motion (Newton, 1726), where all the affecting forces sum up to the net force:

$$F_p = F_g + F_b + F_D \tag{264}$$

Concerning spherical particles, the force balance becomes the following:

$$\rho_p V_P \frac{dv_t}{dt} = \rho_p V_P g - \rho_f V_P g - C_D \tfrac{1}{2} \rho_f {v_t}^2 A_p \tag{265}$$

The settling velocity of spherical particles in laminar Stokes flow as a function of time is given by (Peker et al., 2008):

$$v_t = \frac{g{d_p}^2(\rho_p - \rho_f)}{18\eta}\left(1 - e^{\frac{18\eta}{\rho_p {d_p}^2}t}\right) \qquad (Re_t < 1) \tag{266}$$

The settling velocity of spherical particles in Newton's regime (Newton, 1726) (C_D = 0.44) as a function of time is as follows:

$$v_t = \sqrt{\frac{2g(\rho_p - \rho_f)\left(\frac{\pi}{6}{d_p}^3\right)}{\rho_f\left(\frac{\pi}{4}{d_p}^2\right)C_D}}\tanh\left(\sqrt{\frac{(\rho_p - \rho_f)g\rho_f\left(\frac{\pi}{4}{d_p}^2\right)C_D}{2{\rho_p}^2\left(\frac{\pi}{6}{d_p}^3\right)}}\,t\right) \qquad (Re_t > 1{,}000) \tag{267}$$

Equations (266) and (267) demonstrate that there are two stages that can be distinguished during the motion of the particle, which are the acceleration and the steady state or constant terminal settling velocity. The terminal settling velocity of a particle is constant when all the forces are in equilibrium:

$$F_g + F_b + F_D = 0 \tag{268}$$

For the transitional regime, no analytic expression is given, so a numerical simulation is required to calculate the settling velocity of spherical particles. In order to be able to estimate the settling velocity, the simplified drag equation (269) can be used as given by (Ku, 1966) and expressed in a general form by (Oka and Anthony, 2003):

$$C_D = \alpha\, {Re_t}^{\beta} \qquad (0.4 < Re_t < 500) \tag{269}$$

in which the Lewis coefficients are α = 10 and β = -0.5. Other frequently used values coefficients are (Clark, 2009) α = 18.5 and β = -0.6. Combining the drag equation (265) and the force balance equation (265) gives the following:

$$\frac{dv_t}{dt} = \frac{(\rho_p - \rho_f)g}{\rho_p} - \frac{1}{2}\alpha\left(\frac{\rho_f d_p}{\eta}\right)^{\beta}\frac{\left(\frac{\pi}{4}{d_p}^2\right)\rho_f}{\left(\frac{\pi}{6}{d_p}^3\right)\rho_p}{v_t}^{2+\beta} \qquad (0.4 < Re_t < 500) \tag{270}$$

12 Oblate spheroids

To investigate the effects of irregularity of non-spherical particles on drag, spheroidal particles were considered to illustrate the effect of particle rotations. Spheroids have been defined by (Ardekani et al., 2016) as ellipsoids with two equal semi-diameters, existing in two shapes: prolate (needle-like) and oblate (disc-like). For oblate spheroids, the axis is aligned with the minor diameter of the spheroid, while for prolate spheroids the symmetric axis is aligned with the major diameter. Spheroids are oblate in case $c/a < 1$ and prolate in case $c/a > 1$.

For this study, natural particles with a specific average particle diameter were obtained by sieving natural particle mixtures with a wide range of particle sizes. Since sieve openings have square dimensions, there is no clear relation between sieve diameter d and actual particle size and shape. For spheroidal particles, however, a relation does in fact exist, and therefore the impact on drag could be determined: both prolate and oblate particles can pass a sieve perpendicular to the direction of the gravitational force and therefore 90° to the orientation of settling sedimentation. The volume for both oblate and prolate particles is $\frac{4}{3}\pi a^2 c$. For round spheres, $d_p < d$ applies when the expected particles are precisely able to pass a sieve. Regarding spheroids, however, it is important to realise that those spheroids which were able to pass the sieve will rotate once they have passed this hurdle and will settle in such a way that their bottom surface areas will increase. This is illustrated in Figure 93. The current study examined only those particles which can just pass a sieve. The relation between maximum spheroid size and sieve diameter can be calculated: the equation for oblate spheroids is $d^2 = a(a^2 + c^2)$, and for prolate spheroids it is $d = 2a$.

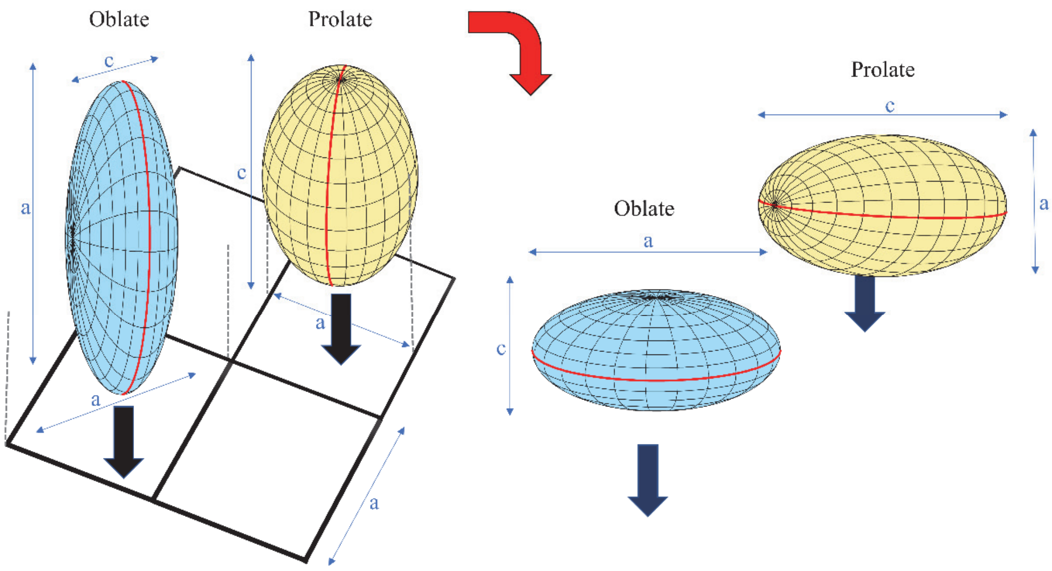


Figure 93 *The assignment of oblate and prolate spheroids upon passing a sieve mesh. Both the oblate and prolate particles change orientation, so that their broad-side becomes perpendicular to the velocity direction.*

The force balance for moving spheroids due to gravitational field, buoyancy and weight is slightly different compared to round spheres. The projected surface area regarding oblate spheroids is πa^2 and for prolate spheroids πac. The drag coefficient for an oblate spheroid is as follows:

$$C_{D,o} = \frac{4}{3}\frac{g(\rho_p - \rho_f)}{{v_t}^2 \rho_f} c \tag{271}$$

The drag coefficient for prolate spheroids is:

$$C_{D,p} = \frac{4}{3}\frac{g(\rho_p - \rho_f)}{v_t^2 \rho_f} a \tag{272}$$

In both equations, the drag coefficient is dependent on Reynolds terminal and therefore implicitly dependent on the terminal settling velocity. Because most of our particles are closer to oblate spheroids than to prolate spheroids, in the current study we focused on oblate spheroids only. When the aspect ratio a/c of oblate spheroids is increased, the ratio of volume over the projected surface area decreases. At the same time, the drag coefficient increases with a factor 2 for larger a/c values. This means that it is possible for natural particles with a shape that is similar to that of oblate spheroids to pass a specific sieve to a lower located sieve with a smaller sieve mesh size. In that case, the allocated average sieve diameter for these particles does not coincide.

In Figure 94 the ratio of the volume and area for oblate spheroids has been plotted compared to a perfectly round sphere. The volume ratio for oblate spheroids has been plotted in Figure 95, and Figure 96 shows the effect of the increasing ratio of the volume and area to drag.

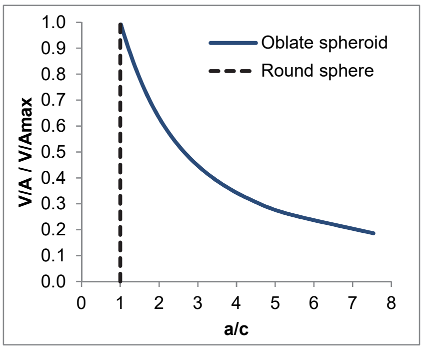


Figure 94 *The ratio of volume and area for oblate spheroids* $V/A_{max} = \frac{2}{3}d$, *when* $a = c$, $a_{max} = d/\sqrt{2}$

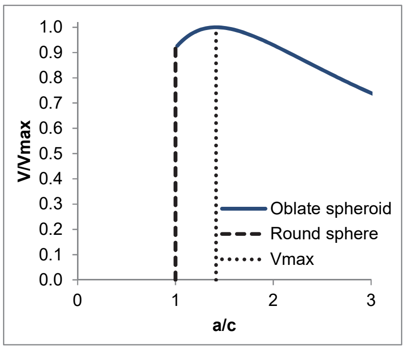


Figure 95 *The volume ratio for oblate spheroid* $V_{max} = \frac{4\pi d^3}{(9\sqrt{6})}$, *when* $a = d/\sqrt{3}$, $V = \frac{4}{3}\pi d^2 c$, *when* $a = c$

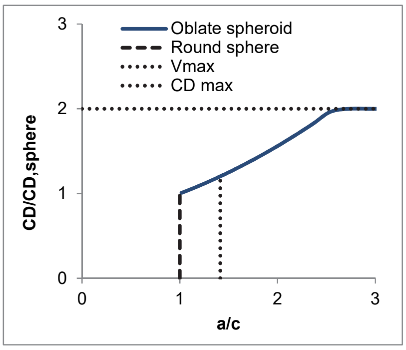


Figure 96 *The drag coefficient change for oblate spheroids* $C_{D,ref}/C_{D,max} \rightarrow 2$, *when* $a/c \uparrow$

During the terminal settling experiments in which rapid sand filter grains were examined (Figure 32), zig-zag patterns were observed on a regular basis. The vertical motion is caused by gravity and the horizontal movement is caused by particle irregularity according to (Almedeij, 2008) in terms of the influence of the aspect ratio a/c of spheroids. Oblate particles perform a zig-zagging motion, whereas prolate particles rotate around their vertical axis, something which becomes more significant for higher values of the Reynolds number due to instabilities of the vortices in the wake. The influence of particle orientation on the existing drag coefficient is particularly significant with respect to high values for Ar or Re_t, (Bagheri and Bonadonna, 2016). In our study, $20 < Ar < 27 \cdot 10^6$. In 99.6% of all measurements, $Ar > 100$. The Archimedes number presents the ratio between gravitational and viscous forces, where d_p is the diameter of a sphere with the same volume as the ellipsoidal particle.

13 Statistical analysis

13.1 Statistical equations

To compare the experimental data with the prediction models, several well-known statistical methods were used, given an experimentally determined value y_{exp} and a calculated predicted value y_{calc}. (Haider and Levenspiel, 1989); (Ganser, 1993); (Brown and Lawler, 2003) as well as (Dioguardi et al., 2018) have presented several statistical methods.

The mean average error is given by:

$$MAE = \frac{1}{n}\sum_{i=1}^{n}\left(\left|y_{calc,i} - y_{exp,i}\right|\right) \tag{273}$$

(Brown and Lawler, 2003) presented the following value Q:

$$Q = \sum_{i=1}^{n}\left(\log y_{calc,i} - \log y_{exp,i}\right)^2 \qquad \text{BL eq. 15} \tag{274}$$

And accordingly, the sum of the relative error:

$$S = \sum_{i=1}^{n}\left(\frac{\left|y_{calc,i} - y_{exp,i}\right|}{y_{exp,i}}\right) \qquad \text{BL eq. 23} \tag{275}$$

The average relative error:

$$ARE = \frac{1}{n}\sum_{i=1}^{n} S \tag{276}$$

or:

$$ARE = \frac{1}{n}\sum_{i=1}^{n}\left(\frac{\left|y_{calc,i} - y_{exp,i}\right|}{y_{exp,i}}\right) \tag{277}$$

The sum of squared (relative) errors:

$$Q_{rel} = \sum_{i=1}^{n}\left(\frac{y_{calc,i} - y_{exp,i}}{y_{exp,i}}\right)^2 \qquad \text{BL eq. 21} \tag{278}$$

The normalised root mean squared error:

$$NRMSE = \sqrt{\frac{1}{n}Q_{rel}} \tag{279}$$

or:

$$NRMSE = \sqrt{\frac{1}{n}\sum_{i=1}^{n}\left(\frac{y_{calc,i} - y_{exp,i}}{y_{exp,i}}\right)^2} \tag{280}$$

The root mean square deviation gives an indication of the average displacement of measured C_D values from the correlations.

$$RMS_{dev} = \sqrt{\frac{1}{n}Q} \qquad \text{BL eq. 20} \tag{281}$$

In addition, (Brown and Lawler, 2003) mentions the Pearson correlation equation (282).

$$R = \frac{\sum y_{exp,i}\, y_{calc,i} - \frac{\left(\sum y_{exp,i} \sum y_{calc,i}\right)}{N}}{\sqrt{\left(\sum\left(y_{exp,i}{}^2\right) - \frac{\left(\sum y_{exp,i}\right)^2}{N}\right)\left(\sum\left(y_{calc,i}{}^2\right) - \frac{\left(\sum y_{calc,i}\right)^2}{N}\right)}} \qquad \text{BL eq. 20} \tag{282}$$

The pooled or overall weighted variance for all given particle material groups can be calculated with Equation (283).

$$\sigma_{tot} = \sqrt{\frac{\sum_{n=1}^{N}(n_i - 1)\sigma_i{}^2}{\sum_{i=1}^{N}(n_i - N)}} \tag{283}$$

To summarise the effect of random errors on the uncertainty of the experimental measurements, a simplified propagation equation by (Ku, 1966) can be used:

$$\Delta F = \sqrt{\left(\frac{\partial F}{\partial x}\right)_y^2 \cdot (\Delta x)^2 + \left(\frac{\partial F}{\partial y}\right)_y^2 \cdot (\Delta y)^2 + \cdots} \tag{284}$$

13.2 Propagated effect of parameter uncertainties on the drag coefficient and terminal Reynolds number

The summarised propagated effect of errors (Ku, 1966) on the uncertainty of the experimental measurements is 34% for v_t (figure given in the main manuscript), 35% for the drag coefficient C_D (
Figure ***97***) and 56% for the terminal Reynolds number (Figure 98).

Table 28 Contribution to error

Group	Parameter
Fluid	Fluid density and viscosity
Fluid	Linear thermal expansion
Fluid	Path instabilities
Particle	Specific particle density
Particle	Particle size
Particle	Particle shape and orientation
Particle	Particle surface roughness
External	Gravity
External	Wall effects
External	Error of measurement

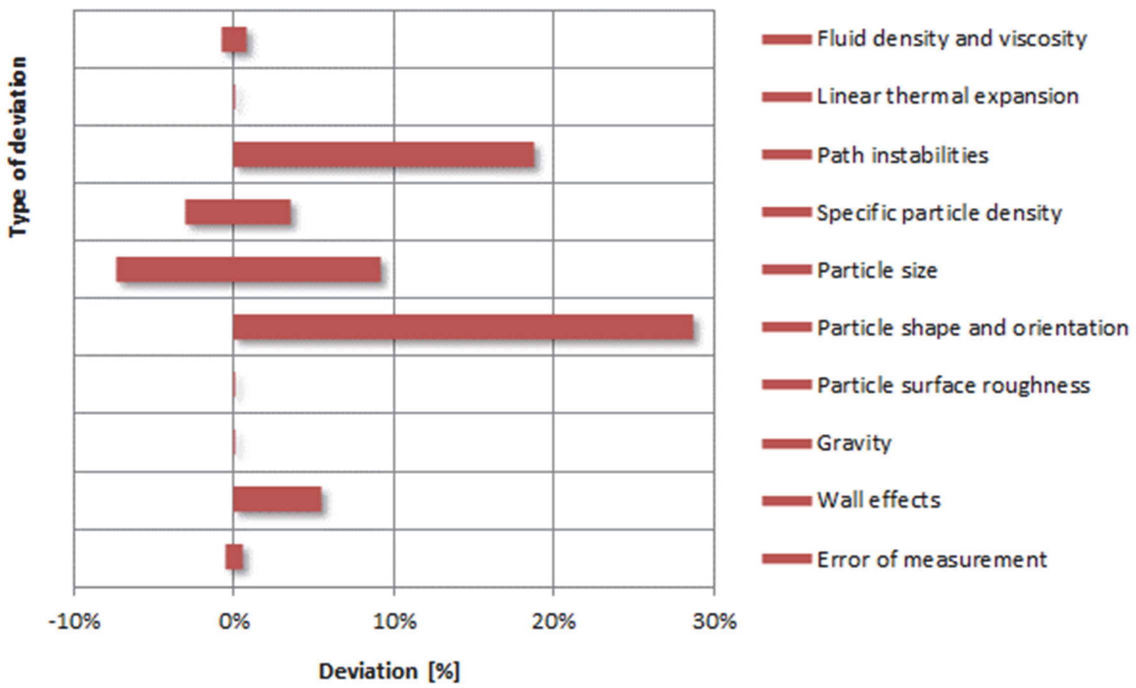


Figure 97 *Summarised propagated effect for the drag coefficient resulting from different causes*

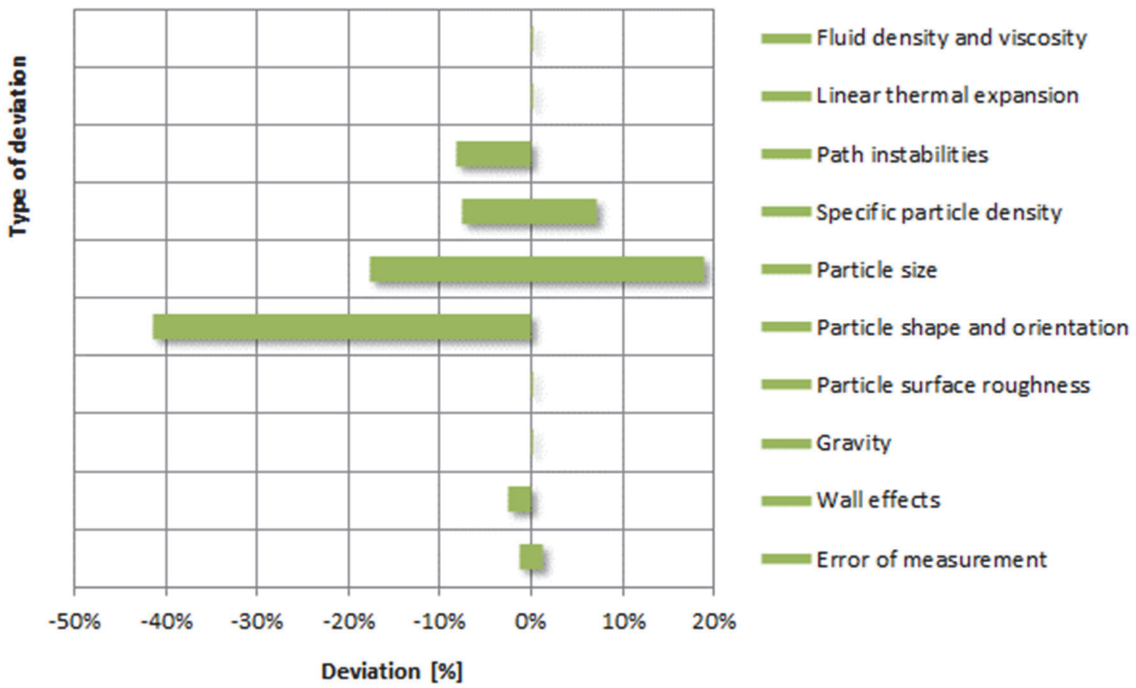


Figure 98 *Summarised propagated effect for the terminal Reynolds number resulting from different causes*

14 Acknowledgments

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15 Nomenclature

15.1 Symbols

a, b, c	Radius of spheroids	[m]
A, B, C, D	Coefficients	[-]
Ar	Archimedes number	[-]
A_p	Particle projected area	[m^2]
A_s	Area of spherical particle	[m^2]
c_i	Coefficients	[-]
C_D	Fluid dynamic drag coefficient	[-]
$\overline{C_D}$	Average drag coefficient	[-]
$C_D{}'$	Error / uncertainty introduced in drag coefficient	[-]
D	Inner column or cylinder vessel diameter	[m]
d_g	Average seeding material diameter	[m]
d_i	Effective size of a sample where i percentage of particles is smaller than the particular size	[m]
d_p	Effective or average or particle equivalent diameter	[m]
$d_{s,i}$	Sieve mesh diameter	[m]
$error$	1.96 times standard deviation	
$E_{H,50}$	Ellipsoid height (cumulative 50% point)	[m]
$E_{L,50}$	Ellipsoid length (cumulative 50% point)	[m]
$E_{W,50}$	Ellipsoid width (cumulative 50% point)	[m]
F_b	Buoyancy force exerted by a fluid that opposes the weight of an immersed object	[N]
F_D	Drag or frictional force of a spherical particle during terminal settling	[N]
F_g	Force by the gravitational field	[N]
F_p	Net force exerting on spherical particle under terminal settling conditions	[N]
Ga	Galileo number	[-]
g	Local gravitational field of earth equivalent to the free-fall acceleration	[m/s^2]
k	Wall effects correction multiplier	[-]
m	Particle mass	[kg]
n	Richardson–Zaki coefficient, expansion index	[-]
N	Total number of particles / total number of experiments	[#]
Re	Reynolds number, ratio of inertial forces to viscous forces within a fluid	[-]
Re_t	Reynolds terminal number	[-]
Re_p	Reynolds particle number	[-]
$Symm$	Symmetry, the distances between the centre of area to the particle projection borders	[-]
UC	Non-uniformity coefficient d_{60}/d_{10}	[-]
$\overline{v}_t$	Average terminal settling velocity	[m/s]
$v_t{}'$	Error / uncertainty introduced in velocity	[m/s]
v_i	Apparent free-falling settling velocity of a particle in an infinite dilution	[m/s]
v_s	Linear superficial velocity or empty tube fluidisation velocity	[m/s]

v_t	Terminal particle settling velocity	[m/s]
$v_{t,BL}$	Terminal settling velocity according Brown-Lawler	[m/s]
T	Temperature	[°C]
V	Volume	[m³]
V_p	Volume of spherical particle	[m³]
x	Average particle diameter between top and bottom sieves	[m]

15.2 Greek symbols

α	Linear heat expansion coefficient	[m/mK]
δ	Uncertainty	
ε	Voidage of the system	[m³/m³]
η	Dynamic fluid viscosity	[kg/m/s]
λ	Ratio between average particle grain diameter and inner column diameter	[-]
μ	Statistical mean	
$\bar{\rho}$	Specific gravity number, particle to fluid density ratio (ρ_p/ρ_f)	[-]
ρ_c	Density of calcium carbonate	[kg/m³]
ρ_f	Fluid density	[kg/m³]
ρ_g	Seeding material density	[kg/m³]
ρ_p	Particle density	[kg/m³]
υ_T	Kinematic fluid viscosity	[m²/s]
σ	Standard deviation	
ϕ_s	Shape of diameter correction factor	[-]
Φ	Sphericity: ratio between surface area of the volume equivalent sphere and considered particle $\frac{\pi^{\frac{1}{3}}(6V_p)^{\frac{2}{3}}}{A_p}$	[-]
$\Phi_\perp$	Crosswise sphericity	[-]
$\Phi_\parallel$	Lengthwise sphericity	[-]
Ψ	Particle shape descriptor	[-]
Ξ	Circularity calculated from the perimeter P and area A of the particle projection $\sqrt{\frac{4\pi A_p}{P^2}}$	[-]

15.3 Subscripts, superscripts and abbreviations

ARE	Average relative error
BL	Brown and Lawler
c	Calcium carbonate
calc	Calculated value
CH	Three-dimensional chaotic (regime path trajectory)
exp	Experimental value
f	Fluid properties
FG	Fair and Geyer
g	Garnet

GAC	Granular activated carbon
HF	Steady oblique: high-frequency oscillating (regime path trajectory)
i	Index number
IEX	Anionic exchange polymer resins
LF	Steady oblique: low-frequency oscillating (regime path trajectory)
MAE	Mean average error
max	Maximum
NRMSE	Normalized root mean square error
p	Particle properties
P&ID	Piping and instrumentation diagram
PO	Chaotic: high-frequency planar chaotic oblique oscillating (regime path trajectory)
QR	Chaotic: low-frequency rotating quasi periodic oblique oscillating (regime path trajectory)
R^2	Correlation coefficient
ref	Reference value
SDC	Standard drag curve
SO	Steady oblique (regime path trajectory)
t	Terminal settling conditions
TDS	Total dissolved solids
tot	Total or overall
UC	Uniformity coefficient (sieve analysis)
VP	Chaotic: vertical periodic oscillating planar (regime path trajectory)

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17 Source data

17.1 Experimental data (this work)

Experimental data of terminal settling measurements (all 3629 values)

Geldart's particle classification (Geldart, 1973):

- Group A: 'aeratable' particles
- Group B: is called 'sandlike' or 'bubbly' particles
- Group C: materials are 'cohesive', or very 'fine powders'
- Group D: is called 'spoutable' and the materials are either very large or very dense

Regime path trajectories (Zhou and Dušek, 2015):

- SO: Steady oblique
- CH: Three-dimensional chaotic
- LF: Steady oblique: low-frequency oscillating
- HF: Steady oblique: high-frequency oscillating
- PO: Chaotic: high-frequency planar chaotic oblique oscillating
- QR: Chaotic: low-frequency rotating quasi periodic oblique oscillating
- VP: Chaotic: vertical periodic oscillating planar

				L	dp,1	dp,2	T	D	t	rho_p	phi	alpha
Nr.	Grain type plain	Geldarts group	Regime type	Fall length	Particle size sieve 1	sieve 2	Temperature	Inner column diameter	Settling time	Specific particle density	Sphericity Camsizer	Linear thermal expansion coefficient
[#]	[-]	[-]	[-]	[m]	[mm]	[mm]	[°C]	[m]	[s]	[kg/m³]	[-]	[m/Km] · 10^{-6}
1	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	3.3	0.057	35.85	1,200	0.74	6.0
2	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	3.3	0.057	33.70	1,200	0.74	6.0
3	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	3.3	0.057	34.29	1,200	0.74	6.0
4	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	3.3	0.057	32.10	1,200	0.74	6.0
5	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	3.3	0.057	30.40	1,200	0.74	6.0
6	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	32.0	0.057	37.38	1,200	0.74	6.0
7	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	32.0	0.057	34.61	1,200	0.74	6.0
8	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	32.0	0.057	38.12	1,200	0.74	6.0
9	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	32.0	0.057	43.88	1,200	0.74	6.0
10	GAC (Norit ROW 0.8 Supra)	B	SO	1.50	0.89	3.15	32.0	0.057	45.61	1,200	0.74	6.0
11	GAC (Saratech)	A	SO	1.50	0.44	0.51	3.3	0.057	73.80	1,420	0.96	6.0
12	GAC (Saratech)	A	SO	1.50	0.44	0.51	3.3	0.057	68.00	1,420	0.96	6.0
13	GAC (Saratech)	A	SO	1.50	0.44	0.51	3.3	0.057	65.00	1,420	0.96	6.0
14	GAC (Saratech)	A	SO	1.50	0.44	0.51	3.3	0.057	71.00	1,420	0.96	6.0
15	GAC (Saratech)	A	SO	1.50	0.44	0.51	3.3	0.057	69.00	1,420	0.96	6.0
16	GAC (Saratech)	A	SO	1.50	0.44	0.51	32.0	0.057	56.30	1,420	0.96	6.0
17	GAC (Saratech)	A	SO	1.50	0.44	0.51	32.0	0.057	56.40	1,420	0.96	6.0
18	GAC (Saratech)	A	SO	1.50	0.44	0.51	32.0	0.057	56.65	1,420	0.96	6.0
19	GAC (Saratech)	A	SO	1.50	0.44	0.51	32.0	0.057	57.20	1,420	0.96	6.0
20	GAC (Saratech)	A	SO	1.50	0.44	0.51	32.0	0.057	57.48	1,420	0.96	6.0
21	Synthetic material (IEX)	A	SO	2.00	0.90	1.18	17.1	0.057	84.62	1,090	0.95	75.0
22	Synthetic material (IEX)	A	SO	2.00	0.90	1.18	17.1	0.057	89.91	1,090	0.95	75.0
23	Synthetic material (IEX)	A	SO	2.00	0.90	1.18	17.4	0.057	65.53	1,090	0.95	75.0
24	Synthetic material (IEX)	A	SO	2.00	0.90	1.18	17.4	0.057	60.60	1,090	0.95	75.0
25	Synthetic material (IEX)	A	SO	2.00	0.90	1.18	17.4	0.057	71.22	1,090	0.95	75.0
26	Synthetic material (IEX)	A	SO	2.00	0.90	1.18	17.4	0.057	85.57	1,090	0.95	75.0
27	Olivine	B	SO	1.50	0.50	0.90	3.3	0.057	14.00	3,400	0.85	10.0
28	Olivine	B	SO	1.50	0.50	0.90	3.3	0.057	12.00	3,400	0.85	10.0
29	Olivine	B	SO	1.50	0.50	0.90	3.3	0.057	11.60	3,400	0.85	10.0
30	Olivine	B	SO	1.50	0.50	0.90	3.3	0.057	10.33	3,400	0.85	10.0
31	Olivine	B	SO	1.50	0.50	0.90	3.3	0.057	13.10	3,400	0.85	10.0
32	Olivine	B	SO	1.50	0.50	0.90	32.0	0.057	8.60	3,400	0.85	10.0
33	Olivine	B	SO	1.50	0.50	0.90	32.0	0.057	10.01	3,400	0.85	10.0
34	Olivine	B	SO	1.50	0.50	0.90	32.0	0.057	10.93	3,400	0.85	10.0
35	Olivine	B	SO	1.50	0.50	0.90	32.0	0.057	13.76	3,400	0.85	10.0
36	Olivine	B	SO	1.50	0.50	0.90	32.0	0.057	14.30	3,400	0.85	10.0
37	Garnet (distortion layer)	B	SO	1.21	0.30	0.36	14.8	0.125	21.29	3,026	0.85	7.0
38	Garnet (distortion layer)	B	SO	1.21	0.30	0.36	14.8	0.125	23.50	3,026	0.85	7.0
39	Garnet (distortion layer)	B	SO	1.21	0.30	0.36	14.8	0.125	21.50	3,026	0.85	7.0
40	Garnet (distortion layer)	B	SO	1.21	0.30	0.36	14.8	0.125	22.31	3,026	0.85	7.0
41	Garnet (distortion layer)	B	SO	1.21	0.30	0.36	14.8	0.125	22.47	3,026	0.85	7.0
42	Mined calcite (IT)	B	SO	2.00	0.43	0.56	2.9	0.057	20.10	2,575	0.84	25.0
43	Mined calcite (IT)	B	SO	2.00	0.43	0.56	2.9	0.057	20.13	2,575	0.84	25.0
44	Mined calcite (IT)	B	SO	2.00	0.43	0.56	2.9	0.057	23.02	2,575	0.84	25.0
45	Mined calcite (IT)	B	SO	2.00	0.43	0.56	2.9	0.057	23.03	2,575	0.84	25.0
46	Mined calcite (IT)	B	SO	2.00	0.43	0.56	2.9	0.057	23.22	2,575	0.84	25.0
47	Mined calcite (IT)	B	SO	2.00	0.43	0.56	2.9	0.057	23.47	2,575	0.84	25.0
48	Mined calcite (IT)	B	SO	2.00	0.43	0.56	11.1	0.057	22.29	2,575	0.84	25.0
49	Mined calcite (IT)	B	SO	2.00	0.43	0.56	11.1	0.057	22.53	2,575	0.84	25.0
50	Mined calcite (IT)	B	SO	2.00	0.43	0.56	11.1	0.057	22.91	2,575	0.84	25.0
51	Mined calcite (IT)	B	SO	2.00	0.43	0.56	11.1	0.057	23.15	2,575	0.84	25.0
52	Mined calcite (IT)	B	SO	2.00	0.43	0.56	11.1	0.057	23.28	2,575	0.84	25.0
53	Mined calcite (IT)	B	SO	2.00	0.43	0.56	11.1	0.057	23.41	2,575	0.84	25.0
54	Mined calcite (IT)	B	SO	2.00	0.43	0.56	11.1	0.057	24.06	2,575	0.84	25.0
55	Mined calcite (IT)	B	SO	2.00	0.43	0.56	11.1	0.057	24.10	2,575	0.84	25.0
56	Mined calcite (IT)	B	SO	2.00	0.43	0.56	20.2	0.057	20.88	2,575	0.84	25.0
57	Mined calcite (IT)	B	SO	2.00	0.43	0.56	20.2	0.057	21.15	2,575	0.84	25.0
58	Mined calcite (IT)	B	SO	2.00	0.43	0.56	20.2	0.057	21.18	2,575	0.84	25.0
59	Mined calcite (IT)	B	SO	2.00	0.43	0.56	20.2	0.057	21.22	2,575	0.84	25.0
60	Mined calcite (IT)	B	SO	2.00	0.43	0.56	20.2	0.057	21.50	2,575	0.84	25.0
61	Mined calcite (IT)	B	SO	2.00	0.43	0.56	20.2	0.057	21.57	2,575	0.84	25.0
62	Mined calcite (IT)	B	SO	2.00	0.43	0.56	20.2	0.057	21.69	2,575	0.84	25.0

63	Mined calcite (IT)	B	SO	2.00	0.43	0.56	20.2	0.057	21.69	2,575	0.84	25.0
64	Mined calcite (IT)	B	SO	2.00	0.43	0.56	30.8	0.057	18.53	2,575	0.84	25.0
65	Mined calcite (IT)	B	SO	2.00	0.43	0.56	30.8	0.057	19.16	2,575	0.84	25.0
66	Mined calcite (IT)	B	SO	2.00	0.43	0.56	30.8	0.057	19.41	2,575	0.84	25.0
67	Mined calcite (IT)	B	SO	2.00	0.43	0.56	30.8	0.057	19.44	2,575	0.84	25.0
68	Mined calcite (IT)	B	SO	2.00	0.43	0.56	30.8	0.057	19.47	2,575	0.84	25.0
69	Mined calcite (IT)	B	SO	2.00	0.43	0.56	30.8	0.057	19.50	2,575	0.84	25.0
70	Mined calcite (IT)	B	SO	2.00	0.43	0.56	30.8	0.057	19.69	2,575	0.84	25.0
71	Mined calcite (IT)	B	SO	2.00	0.43	0.56	30.8	0.057	20.19	2,575	0.84	25.0
72	Mined calcite (IT)	B	SO	1.58	0.43	0.60	7.0	0.057	24.00	2,575	0.84	25.0
73	Mined calcite (IT)	B	SO	1.58	0.43	0.60	7.0	0.057	24.25	2,575	0.84	25.0
74	Mined calcite (IT)	B	SO	1.58	0.43	0.60	7.0	0.057	24.31	2,575	0.84	25.0
75	Mined calcite (IT)	B	SO	1.58	0.43	0.60	7.0	0.057	24.47	2,575	0.84	25.0
76	Mined calcite (IT)	B	SO	1.58	0.43	0.60	7.0	0.057	24.62	2,575	0.84	25.0
77	Mined calcite (IT)	B	SO	1.58	0.43	0.60	12.2	0.057	20.19	2,575	0.84	25.0
78	Mined calcite (IT)	B	SO	1.58	0.43	0.60	12.2	0.057	20.78	2,575	0.84	25.0
79	Mined calcite (IT)	B	SO	1.58	0.43	0.60	12.2	0.057	21.00	2,575	0.84	25.0
80	Mined calcite (IT)	B	SO	1.58	0.43	0.60	12.2	0.057	21.38	2,575	0.84	25.0
81	Mined calcite (IT)	B	SO	1.58	0.43	0.60	12.2	0.057	21.59	2,575	0.84	25.0
82	Mined calcite (IT)	B	SO	1.58	0.43	0.60	22.0	0.057	19.40	2,575	0.84	25.0
83	Mined calcite (IT)	B	SO	1.58	0.43	0.60	22.0	0.057	19.66	2,575	0.84	25.0
84	Mined calcite (IT)	B	SO	1.58	0.43	0.60	22.0	0.057	19.67	2,575	0.84	25.0
85	Mined calcite (IT)	B	SO	1.58	0.43	0.60	22.0	0.057	19.79	2,575	0.84	25.0
86	Mined calcite (IT)	B	SO	1.58	0.43	0.60	22.0	0.057	19.94	2,575	0.84	25.0
87	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	13.72	2,579	0.84	25.0
88	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	16.06	2,579	0.84	25.0
89	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	16.38	2,579	0.84	25.0
90	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	16.50	2,579	0.84	25.0
91	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	16.88	2,579	0.84	25.0
92	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	18.06	2,579	0.84	25.0
93	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	18.25	2,579	0.84	25.0
94	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	18.37	2,579	0.84	25.0
95	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	18.71	2,579	0.84	25.0
96	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	4.7	0.057	18.84	2,579	0.84	25.0
97	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	12.59	2,579	0.84	25.0
98	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	12.60	2,579	0.84	25.0
99	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	13.78	2,579	0.84	25.0
100	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	14.00	2,579	0.84	25.0
101	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	14.03	2,579	0.84	25.0
102	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	14.44	2,579	0.84	25.0
103	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	15.00	2,579	0.84	25.0
104	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	15.25	2,579	0.84	25.0
105	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	15.84	2,579	0.84	25.0
106	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	15.0	0.057	15.97	2,579	0.84	25.0
107	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	12.28	2,579	0.84	25.0
108	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	12.75	2,579	0.84	25.0
109	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	12.78	2,579	0.84	25.0
110	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	12.89	2,579	0.84	25.0
111	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	13.25	2,579	0.84	25.0
112	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	13.79	2,579	0.84	25.0
113	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	13.84	2,579	0.84	25.0
114	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	14.16	2,579	0.84	25.0
115	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	14.62	2,579	0.84	25.0
116	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	24.0	0.057	16.87	2,579	0.84	25.0
117	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	10.59	2,579	0.84	25.0
118	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	11.16	2,579	0.84	25.0
119	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	11.35	2,579	0.84	25.0
120	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	11.50	2,579	0.84	25.0
121	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	11.72	2,579	0.84	25.0
122	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	11.94	2,579	0.84	25.0
123	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	12.16	2,579	0.84	25.0
124	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	12.29	2,579	0.84	25.0
125	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	12.56	2,579	0.84	25.0
126	Crushed calcite (NH)	B	SO	1.00	0.40	0.50	36.3	0.057	12.97	2,579	0.84	25.0
127	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	12.22	2,579	0.84	25.0
128	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	12.41	2,579	0.84	25.0
129	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	12.66	2,579	0.84	25.0
130	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	13.06	2,579	0.84	25.0
131	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	13.41	2,579	0.84	25.0
132	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	13.47	2,579	0.84	25.0
133	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	13.81	2,579	0.84	25.0
134	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	13.94	2,579	0.84	25.0
135	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	14.12	2,579	0.84	25.0
136	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	5.3	0.057	14.56	2,579	0.84	25.0
137	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	11.04	2,579	0.84	25.0
138	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	11.47	2,579	0.84	25.0
139	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	11.50	2,579	0.84	25.0
140	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	11.50	2,579	0.84	25.0
141	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	11.75	2,579	0.84	25.0
142	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	12.00	2,579	0.84	25.0
143	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	12.13	2,579	0.84	25.0
144	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	12.19	2,579	0.84	25.0
145	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	12.43	2,579	0.84	25.0
146	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	14.6	0.057	12.66	2,579	0.84	25.0
147	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	9.85	2,579	0.84	25.0
148	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	10.59	2,579	0.84	25.0
149	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	10.98	2,579	0.84	25.0
150	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	11.62	2,579	0.84	25.0
151	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	11.94	2,579	0.84	25.0
152	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	11.94	2,579	0.84	25.0
153	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	12.01	2,579	0.84	25.0
154	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	12.28	2,579	0.84	25.0
155	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	12.50	2,579	0.84	25.0
156	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	22.9	0.057	13.35	2,579	0.84	25.0
157	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	9.59	2,579	0.84	25.0
158	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	9.59	2,579	0.84	25.0
159	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	9.75	2,579	0.84	25.0
160	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	10.28	2,579	0.84	25.0
161	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	10.34	2,579	0.84	25.0
162	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	10.60	2,579	0.84	25.0
163	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	10.97	2,579	0.84	25.0
164	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	11.40	2,579	0.84	25.0
165	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	11.56	2,579	0.84	25.0
166	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	11.66	2,579	0.84	25.0
167	Crushed calcite (NH)	B	SO	1.00	0.50	0.60	33.7	0.057	11.79	2,579	0.84	25.0
168	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	11.4	0.057	26.06	2,600	0.83	25.0
169	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	11.4	0.057	26.13	2,600	0.83	25.0
170	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	11.4	0.057	26.78	2,600	0.83	25.0
171	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	11.4	0.057	26.81	2,600	0.83	25.0
172	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	11.4	0.057	27.06	2,600	0.83	25.0
173	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	11.4	0.057	27.31	2,600	0.83	25.0
174	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	11.4	0.057	27.75	2,600	0.83	25.0
175	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	11.4	0.057	28.43	2,600	0.83	25.0
176	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	20.0	0.057	24.44	2,600	0.83	25.0
177	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	20.0	0.057	24.53	2,600	0.83	25.0
178	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	20.0	0.057	24.81	2,600	0.83	25.0
179	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	20.0	0.057	24.85	2,600	0.83	25.0
180	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	20.0	0.057	25.22	2,600	0.83	25.0
181	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	20.0	0.057	25.28	2,600	0.83	25.0
182	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	20.0	0.057	25.84	2,600	0.83	25.0
183	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	20.0	0.057	26.31	2,600	0.83	25.0
184	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	30.7	0.057	22.53	2,600	0.83	25.0
185	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	30.7	0.057	22.91	2,600	0.83	25.0
186	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	30.7	0.057	23.16	2,600	0.83	25.0

187	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	30.7	0.057	23.40	2,600	0.83	25.0
188	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	30.7	0.057	23.59	2,600	0.83	25.0
189	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	30.7	0.057	23.62	2,600	0.83	25.0
190	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	30.7	0.057	23.66	2,600	0.83	25.0
191	Crushed calcite (UK)	B	SO	2.00	0.26	0.57	30.7	0.057	24.28	2,600	0.83	25.0
192	Crushed calcite (UK)	B	SO	2.00	0.43	0.60	3.4	0.057	26.06	2,600	0.84	25.0
193	Crushed calcite (UK)	B	SO	2.00	0.43	0.60	3.4	0.057	26.56	2,600	0.84	25.0
194	Crushed calcite (UK)	B	SO	2.00	0.43	0.60	3.4	0.057	31.87	2,600	0.84	25.0
195	Crushed calcite (UK)	B	SO	2.00	0.43	0.60	3.4	0.057	35.75	2,600	0.84	25.0
196	Crushed calcite (UK)	B	SO	2.00	0.43	0.60	3.4	0.057	38.96	2,600	0.84	25.0
197	Crushed calcite (UK)	B	SO	2.00	0.43	0.60	3.4	0.057	42.50	2,600	0.84	25.0
198	Crushed calcite (UK)	B	SO	2.00	0.43	0.60	3.4	0.057	43.54	2,600	0.84	25.0
199	Crushed calcite (UK)	B	SO	2.00	0.43	0.60	3.4	0.057	45.10	2,600	0.84	25.0
200	Crushed calcite (NH)	B	SO	1.50	0.40	0.63	3.3	0.057	24.16	2,575	0.84	25.0
201	Crushed calcite (NH)	B	SO	1.50	0.40	0.60	3.3	0.057	23.43	2,575	0.84	25.0
202	Crushed calcite (NH)	B	SO	1.50	0.40	0.63	3.3	0.057	24.59	2,575	0.84	25.0
203	Crystal sand	B	SO	1.58	0.40	0.63	16.7	0.057	17.56	2,636	0.88	10.0
204	Crystal sand	B	SO	1.58	0.40	0.63	16.7	0.057	17.68	2,636	0.88	10.0
205	Crystal sand	B	SO	1.58	0.40	0.63	16.7	0.057	17.69	2,636	0.88	10.0
206	Crystal sand	B	SO	1.58	0.40	0.63	16.7	0.057	18.00	2,636	0.88	10.0
207	Crystal sand	B	SO	1.58	0.40	0.63	16.7	0.057	18.00	2,636	0.88	10.0
208	Crystal sand	B	SO	1.58	0.40	0.63	24.7	0.057	17.15	2,636	0.88	10.0
209	Crystal sand	B	SO	1.58	0.40	0.63	24.7	0.057	17.69	2,636	0.88	10.0
210	Crystal sand	B	SO	1.58	0.40	0.63	24.7	0.057	18.25	2,636	0.88	10.0
211	Crystal sand	B	SO	1.58	0.40	0.63	24.7	0.057	19.03	2,636	0.88	10.0
212	Crystal sand	B	SO	1.58	0.40	0.63	24.7	0.057	19.06	2,636	0.88	10.0
213	Crystal sand	B	SO	1.58	0.40	0.63	36.0	0.057	15.19	2,636	0.88	10.0
214	Crystal sand	B	SO	1.58	0.40	0.63	36.0	0.057	15.90	2,636	0.88	10.0
215	Crystal sand	B	SO	1.58	0.40	0.63	36.0	0.057	16.13	2,636	0.88	10.0
216	Crystal sand	B	SO	1.58	0.40	0.63	36.0	0.057	16.38	2,636	0.88	10.0
217	Crystal sand	B	SO	1.58	0.40	0.63	36.0	0.057	16.85	2,636	0.88	10.0
218	Garnet	B	SO	1.58	0.15	0.18	5.2	0.057	51.81	4,376	0.84	7.0
219	Garnet	B	SO	1.58	0.15	0.18	5.2	0.057	52.87	4,376	0.85	7.0
220	Garnet	B	SO	1.58	0.15	0.18	13.5	0.057	37.00	4,376	0.84	7.0
221	Garnet	B	SO	1.58	0.15	0.18	13.5	0.057	41.88	4,376	0.84	7.0
222	Garnet	B	SO	1.58	0.15	0.18	23.3	0.057	36.19	4,376	0.84	7.0
223	Garnet	B	SO	1.58	0.15	0.18	23.3	0.057	36.69	4,376	0.84	7.0
224	Garnet	B	SO	1.21	0.13	0.15	22.4	0.125	35.00	4,376	0.84	7.0
225	Garnet	B	SO	1.21	0.13	0.15	22.4	0.125	38.00	4,376	0.84	7.0
226	Garnet	B	SO	1.21	0.13	0.15	22.4	0.125	40.00	4,376	0.84	7.0
227	Garnet	B	SO	1.21	0.13	0.15	22.4	0.125	40.00	4,376	0.84	7.0
228	Garnet	B	SO	1.21	0.13	0.15	22.4	0.125	40.00	4,376	0.84	7.0
229	Garnet	B	SO	1.21	0.13	0.15	22.4	0.125	42.00	4,376	0.84	7.0
230	Garnet	B	SO	1.21	0.13	0.15	22.4	0.125	45.00	4,376	0.84	7.0
231	Garnet	B	SO	1.21	0.15	0.18	18.1	0.125	32.00	4,370	0.85	7.0
232	Garnet	B	SO	1.21	0.15	0.18	18.1	0.125	33.00	4,370	0.85	7.0
233	Garnet	B	SO	1.21	0.15	0.18	18.1	0.125	33.00	4,370	0.85	7.0
234	Garnet	B	SO	1.21	0.15	0.18	18.1	0.125	36.00	4,370	0.85	7.0
235	Garnet	B	SO	1.21	0.15	0.18	18.1	0.125	37.00	4,370	0.85	7.0
236	Garnet	B	SO	1.21	0.15	0.18	18.1	0.125	38.00	4,370	0.85	7.0
237	Garnet	B	SO	1.21	0.15	0.18	18.1	0.125	41.00	4,370	0.85	7.0
238	Garnet	B	SO	1.21	0.18	0.21	22.4	0.125	27.00	4,179	0.85	7.0
239	Garnet	B	SO	1.21	0.18	0.21	22.4	0.125	28.00	4,179	0.85	7.0
240	Garnet	B	SO	1.21	0.18	0.21	22.4	0.125	29.00	4,179	0.85	7.0
241	Garnet	B	SO	1.58	0.21	0.25	6.0	0.057	33.97	4,108	0.86	7.0
242	Garnet	B	SO	1.58	0.21	0.25	6.0	0.057	35.46	4,108	0.86	7.0
243	Garnet	B	SO	1.58	0.21	0.25	13.5	0.057	28.53	4,108	0.85	7.0
244	Garnet	B	SO	1.58	0.21	0.25	13.5	0.057	30.59	4,108	0.85	7.0
245	Garnet	B	SO	1.58	0.21	0.25	13.5	0.057	31.87	4,108	0.85	7.0
246	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	20.70	4,058	0.85	7.0
247	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	20.93	4,058	0.85	7.0
248	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	21.10	4,058	0.85	7.0
249	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	22.34	4,058	0.85	7.0
250	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	22.49	4,058	0.85	7.0
251	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	22.53	4,058	0.85	7.0
252	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	23.08	4,058	0.85	7.0
253	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	23.77	4,058	0.85	7.0
254	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	23.93	4,058	0.85	7.0
255	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	24.07	4,058	0.85	7.0
256	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	24.29	4,058	0.85	7.0
257	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	24.56	4,058	0.85	7.0
258	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	24.69	4,058	0.85	7.0
259	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	25.44	4,058	0.85	7.0
260	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	26.08	4,058	0.85	7.0
261	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	26.98	4,058	0.85	7.0
262	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	27.28	4,058	0.85	7.0
263	Garnet	B	SO	1.21	0.21	0.25	14.8	0.125	29.33	4,058	0.85	7.0
264	Garnet	B	SO	1.21	0.21	0.25	22.4	0.125	23.90	4,108	0.85	7.0
265	Garnet	B	SO	1.21	0.21	0.25	22.4	0.125	24.00	4,108	0.85	7.0
266	Garnet	B	SO	1.21	0.21	0.25	22.4	0.125	25.20	4,108	0.85	7.0
267	Garnet	B	SO	1.21	0.21	0.25	22.4	0.125	27.80	4,108	0.85	7.0
268	Garnet	B	SO	1.58	0.21	0.25	22.9	0.057	26.47	4,108	0.86	7.0
269	Garnet	B	SO	1.58	0.21	0.25	22.9	0.057	27.62	4,108	0.86	7.0
270	Garnet	B	SO	2.00	0.21	0.30	2.8	0.057	27.84	4,114	0.85	7.0
271	Garnet	B	SO	2.00	0.21	0.30	2.8	0.057	28.53	4,114	0.85	7.0
272	Garnet	B	SO	2.00	0.21	0.30	2.8	0.057	28.60	4,114	0.85	7.0
273	Garnet	B	SO	2.00	0.21	0.30	2.8	0.057	28.85	4,114	0.85	7.0
274	Garnet	B	SO	2.00	0.21	0.30	2.8	0.057	29.15	4,114	0.85	7.0
275	Garnet	B	SO	2.00	0.21	0.30	2.8	0.057	30.40	4,114	0.85	7.0
276	Garnet	B	SO	2.00	0.21	0.30	2.8	0.057	30.66	4,114	0.86	7.0
277	Garnet	B	SO	2.00	0.21	0.30	2.8	0.057	31.78	4,114	0.86	7.0
278	Garnet	B	SO	1.50	0.21	0.30	3.3	0.057	40.11	4,114	0.85	7.0
279	Garnet	B	SO	2.00	0.21	0.30	11.3	0.057	26.84	4,114	0.86	7.0
280	Garnet	B	SO	2.00	0.21	0.30	11.3	0.057	26.88	4,114	0.86	7.0
281	Garnet	B	SO	2.00	0.21	0.30	11.3	0.057	27.16	4,114	0.86	7.0
282	Garnet	B	SO	2.00	0.21	0.30	11.3	0.057	27.25	4,114	0.86	7.0
283	Garnet	B	SO	2.00	0.21	0.30	11.3	0.057	27.66	4,114	0.86	7.0
284	Garnet	B	SO	2.00	0.21	0.30	11.3	0.057	27.84	4,114	0.86	7.0
285	Garnet	B	SO	2.00	0.21	0.30	11.3	0.057	28.06	4,114	0.86	7.0
286	Garnet	B	SO	2.00	0.21	0.30	11.3	0.057	29.28	4,114	0.86	7.0
287	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	19.79	4,058	0.85	7.0
288	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	20.50	4,058	0.85	7.0
289	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	20.77	4,058	0.85	7.0
290	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	20.78	4,058	0.85	7.0
291	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	20.81	4,058	0.85	7.0
292	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	20.81	4,058	0.85	7.0
293	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	21.05	4,058	0.85	7.0
294	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	21.32	4,058	0.85	7.0
295	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	21.42	4,058	0.85	7.0
296	Garnet	B	SO	1.21	0.21	0.30	18.1	0.125	21.97	4,058	0.85	7.0
297	Garnet	B	SO	2.00	0.21	0.30	20.1	0.057	23.75	4,114	0.86	7.0
298	Garnet	B	SO	2.00	0.21	0.30	20.1	0.057	23.94	4,114	0.86	7.0
299	Garnet	B	SO	2.00	0.21	0.30	20.1	0.057	24.25	4,114	0.86	7.0
300	Garnet	B	SO	2.00	0.21	0.30	20.1	0.057	24.47	4,114	0.86	7.0
301	Garnet	B	SO	2.00	0.21	0.30	20.1	0.057	24.75	4,114	0.86	7.0
302	Garnet	B	SO	2.00	0.21	0.30	20.1	0.057	25.28	4,114	0.86	7.0
303	Garnet	B	SO	2.00	0.21	0.30	20.1	0.057	25.66	4,114	0.86	7.0
304	Garnet	B	SO	2.00	0.21	0.30	20.1	0.057	25.88	4,114	0.86	7.0
305	Garnet	B	SO	1.21	0.21	0.30	22.4	0.125	21.00	4,061	0.85	7.0
306	Garnet	B	SO	1.21	0.21	0.30	22.4	0.125	22.00	4,061	0.85	7.0
307	Garnet	B	SO	1.21	0.21	0.30	22.4	0.125	23.00	4,061	0.85	7.0
308	Garnet	B	SO	2.00	0.21	0.30	31.0	0.057	21.65	4,114	0.86	7.0
309	Garnet	B	SO	2.00	0.21	0.30	31.0	0.057	21.91	4,114	0.86	7.0
310	Garnet	B	SO	2.00	0.21	0.30	31.0	0.057	22.28	4,114	0.86	7.0

311	Garnet	B	SO	2.00	0.21	0.30	31.0	0.057	22.37	4,114	0.86	7.0
312	Garnet	B	SO	2.00	0.21	0.30	31.0	0.057	22.50	4,114	0.86	7.0
313	Garnet	B	SO	2.00	0.21	0.30	31.0	0.057	22.68	4,114	0.86	7.0
314	Garnet	B	SO	2.00	0.21	0.30	31.0	0.057	23.34	4,114	0.86	7.0
315	Garnet	B	SO	2.00	0.21	0.30	31.0	0.057	23.53	4,114	0.86	7.0
316	Garnet	B	SO	1.50	0.21	0.30	32.0	0.057	19.96	4,114	0.85	7.0
317	Garnet	B	SO	1.50	0.21	0.30	32.0	0.057	21.20	4,114	0.85	7.0
318	Garnet	B	SO	1.50	0.21	0.30	32.0	0.057	21.22	4,114	0.85	7.0
319	Garnet	B	SO	1.50	0.21	0.30	32.0	0.057	22.00	4,114	0.85	7.0
320	Garnet	B	SO	1.50	0.21	0.30	32.0	0.057	22.85	4,114	0.85	7.0
321	Rapid filter sand	D	SO	2.00	0.80	1.25	10.7	0.057	11.16	2,576	0.89	11.0
322	Rapid filter sand	D	SO	2.00	0.80	1.25	10.7	0.057	12.03	2,576	0.89	11.0
323	Rapid filter sand	D	SO	2.00	0.80	1.25	10.7	0.057	12.31	2,576	0.89	11.0
324	Rapid filter sand	D	SO	2.00	0.80	1.25	10.7	0.057	12.56	2,576	0.89	11.0
325	Rapid filter sand	D	SO	2.00	0.80	1.25	10.7	0.057	13.50	2,576	0.89	11.0
326	Rapid filter sand	D	SO	2.00	0.80	1.25	10.7	0.057	13.85	2,576	0.89	11.0
327	Rapid filter sand	D	SO	2.00	0.80	1.25	10.7	0.057	14.87	2,576	0.89	11.0
328	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	11.28	2,576	0.89	11.0
329	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	11.87	2,576	0.89	11.0
330	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	12.00	2,576	0.89	11.0
331	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	12.28	2,576	0.89	11.0
332	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	12.41	2,576	0.89	11.0
333	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	12.44	2,576	0.89	11.0
334	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	12.46	2,576	0.89	11.0
335	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	13.15	2,576	0.89	11.0
336	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	13.53	2,576	0.89	11.0
337	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	13.59	2,576	0.89	11.0
338	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	13.62	2,576	0.89	11.0
339	Rapid filter sand	D	SO	2.00	0.80	1.25	10.8	0.057	13.69	2,576	0.89	11.0
340	Rapid filter sand	D	SO	2.00	0.80	1.25	10.9	0.057	11.66	2,576	0.89	11.0
341	Rapid filter sand	D	SO	2.00	0.80	1.25	10.9	0.057	12.21	2,576	0.89	11.0
342	Rapid filter sand	D	SO	2.00	0.80	1.25	10.9	0.057	13.15	2,576	0.89	11.0
343	Rapid filter sand	D	SO	2.00	0.80	1.25	10.9	0.057	14.07	2,576	0.89	11.0
344	Rapid filter sand	D	SO	2.00	0.80	1.25	10.9	0.057	14.07	2,576	0.89	11.0
345	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	12.90	2,576	0.89	11.0
346	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	13.03	2,576	0.89	11.0
347	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	13.41	2,576	0.89	11.0
348	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	13.78	2,576	0.89	11.0
349	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	13.78	2,576	0.89	11.0
350	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	14.28	2,576	0.89	11.0
351	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	14.34	2,576	0.89	11.0
352	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	14.37	2,576	0.89	11.0
353	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	14.37	2,576	0.89	11.0
354	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	15.12	2,576	0.89	11.0
355	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	15.25	2,576	0.89	11.0
356	Rapid filter sand	D	SO	2.00	0.80	1.25	11.0	0.057	15.50	2,576	0.89	11.0
357	Rapid filter sand	D	SO	2.00	0.80	1.25	11.1	0.057	11.65	2,576	0.89	11.0
358	Rapid filter sand	D	SO	2.00	0.80	1.25	11.1	0.057	11.82	2,576	0.89	11.0
359	Rapid filter sand	D	SO	2.00	0.80	1.25	11.1	0.057	14.31	2,576	0.89	11.0
360	Rapid filter sand	D	SO	2.00	0.80	1.25	11.1	0.057	15.75	2,576	0.89	11.0
361	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	10.94	2,576	0.89	11.0
362	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	11.18	2,576	0.89	11.0
363	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	11.94	2,576	0.89	11.0
364	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	12.47	2,576	0.89	11.0
365	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	12.65	2,576	0.89	11.0
366	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	12.72	2,576	0.89	11.0
367	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	12.72	2,576	0.89	11.0
368	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.00	2,576	0.89	11.0
369	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.06	2,576	0.89	11.0
370	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.12	2,576	0.89	11.0
371	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.21	2,576	0.89	11.0
372	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.25	2,576	0.89	11.0
373	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.28	2,576	0.89	11.0
374	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.34	2,576	0.89	11.0
375	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.39	2,576	0.89	11.0
376	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.44	2,576	0.89	11.0
377	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.50	2,576	0.89	11.0
378	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.50	2,576	0.89	11.0
379	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	13.95	2,576	0.89	11.0
380	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.00	2,576	0.89	11.0
381	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.03	2,576	0.89	11.0
382	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.12	2,576	0.89	11.0
383	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.16	2,576	0.89	11.0
384	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.19	2,576	0.89	11.0
385	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.19	2,576	0.89	11.0
386	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.25	2,576	0.89	11.0
387	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.31	2,576	0.89	11.0
388	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.38	2,576	0.89	11.0
389	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.49	2,576	0.89	11.0
390	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.75	2,576	0.89	11.0
391	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.78	2,576	0.89	11.0
392	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	14.97	2,576	0.89	11.0
393	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	15.19	2,576	0.89	11.0
394	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	15.31	2,576	0.89	11.0
395	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	15.40	2,576	0.89	11.0
396	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	15.84	2,576	0.89	11.0
397	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	16.10	2,576	0.89	11.0
398	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	16.85	2,576	0.89	11.0
399	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	16.94	2,576	0.89	11.0
400	Rapid filter sand	D	SO	2.00	0.80	1.25	13.8	0.057	18.04	2,576	0.89	11.0
401	Rapid filter sand	D	SO	2.00	0.80	1.25	15.6	0.057	14.78	2,576	0.89	11.0
402	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	10.10	2,576	0.89	11.0
403	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	10.35	2,576	0.89	11.0
404	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	11.56	2,576	0.89	11.0
405	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	12.34	2,576	0.89	11.0
406	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	12.41	2,576	0.89	11.0
407	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	12.47	2,576	0.89	11.0
408	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	12.56	2,576	0.89	11.0
409	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	12.69	2,576	0.89	11.0
410	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	13.03	2,576	0.89	11.0
411	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	13.12	2,576	0.89	11.0
412	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	13.31	2,576	0.89	11.0
413	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	13.40	2,576	0.89	11.0
414	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	13.44	2,576	0.89	11.0
415	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	13.88	2,576	0.89	11.0
416	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	14.44	2,576	0.89	11.0
417	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	14.50	2,576	0.89	11.0
418	Rapid filter sand	D	SO	2.00	0.80	1.25	15.7	0.057	14.64	2,576	0.89	11.0
419	Rapid filter sand	D	SO	2.00	0.80	1.25	15.8	0.057	12.06	2,576	0.89	11.0
420	Rapid filter sand	D	SO	2.00	0.80	1.25	15.8	0.057	12.53	2,576	0.89	11.0
421	Rapid filter sand	D	SO	2.00	0.80	1.25	15.8	0.057	13.12	2,576	0.89	11.0
422	Rapid filter sand	D	SO	2.00	0.80	1.25	15.8	0.057	13.50	2,576	0.89	11.0
423	Rapid filter sand	D	SO	2.00	0.80	1.25	15.8	0.057	13.93	2,576	0.89	11.0
424	Rapid filter sand	D	SO	2.00	0.80	1.25	15.8	0.057	13.96	2,576	0.89	11.0
425	Rapid filter sand	D	SO	2.00	0.80	1.25	15.8	0.057	15.06	2,576	0.89	11.0
426	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	12.03	2,576	0.89	11.0
427	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	12.10	2,576	0.89	11.0
428	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	12.31	2,576	0.89	11.0
429	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	12.37	2,576	0.89	11.0
430	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	12.94	2,576	0.89	11.0
431	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	13.10	2,576	0.89	11.0
432	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	13.22	2,576	0.89	11.0
433	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	13.34	2,576	0.89	11.0
434	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	13.50	2,576	0.89	11.0

435	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	13.55	2,576	0.89	11.0
436	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	13.91	2,576	0.89	11.0
437	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	14.28	2,576	0.89	11.0
438	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	14.94	2,576	0.89	11.0
439	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	15.09	2,576	0.89	11.0
440	Rapid filter sand	D	SO	2.00	0.80	1.25	15.9	0.057	15.53	2,576	0.89	11.0
441	Rapid filter sand	D	SO	2.00	0.80	1.25	18.1	0.057	10.00	2,576	0.89	11.0
442	Rapid filter sand	D	SO	2.00	0.80	1.25	18.1	0.057	11.18	2,576	0.89	11.0
443	Rapid filter sand	D	SO	2.00	0.80	1.25	18.1	0.057	12.31	2,576	0.89	11.0
444	Rapid filter sand	D	SO	2.00	0.80	1.25	18.1	0.057	12.50	2,576	0.89	11.0
445	Rapid filter sand	D	SO	2.00	0.80	1.25	18.1	0.057	12.50	2,576	0.89	11.0
446	Rapid filter sand	D	SO	2.00	0.80	1.25	18.1	0.057	13.43	2,576	0.89	11.0
447	Rapid filter sand	D	SO	2.00	0.80	1.25	18.1	0.057	13.52	2,576	0.89	11.0
448	Rapid filter sand	D	SO	2.00	0.80	1.25	18.1	0.057	14.60	2,576	0.89	11.0
449	Rapid filter sand	D	SO	2.00	0.80	1.25	18.1	0.057	14.81	2,576	0.89	11.0
450	Rapid filter sand	D	SO	2.00	0.80	1.25	18.2	0.057	11.87	2,576	0.89	11.0
451	Rapid filter sand	D	SO	2.00	0.80	1.25	18.2	0.057	12.61	2,576	0.89	11.0
452	Rapid filter sand	D	SO	2.00	0.80	1.25	18.3	0.057	12.56	2,576	0.89	11.0
453	Rapid filter sand	D	SO	2.00	0.80	1.25	18.3	0.057	13.38	2,576	0.89	11.0
454	Rapid filter sand	D	SO	2.00	0.80	1.25	18.3	0.057	14.90	2,576	0.89	11.0
455	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	10.78	2,576	0.89	11.0
456	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	11.09	2,576	0.89	11.0
457	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	11.63	2,576	0.89	11.0
458	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	12.16	2,576	0.89	11.0
459	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	12.16	2,576	0.89	11.0
460	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	13.31	2,576	0.89	11.0
461	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	13.46	2,576	0.89	11.0
462	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	13.50	2,576	0.89	11.0
463	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	15.65	2,576	0.89	11.0
464	Rapid filter sand	D	SO	2.00	0.80	1.25	18.4	0.057	17.19	2,576	0.89	11.0
465	Rapid filter sand	D	SO	2.00	0.80	1.25	18.7	0.057	13.94	2,576	0.89	11.0
466	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	10.22	2,576	0.89	11.0
467	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	11.56	2,576	0.89	11.0
468	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	13.19	2,576	0.89	11.0
469	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	13.19	2,576	0.89	11.0
470	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	13.32	2,576	0.89	11.0
471	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	13.37	2,576	0.89	11.0
472	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	13.60	2,576	0.89	11.0
473	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	13.66	2,576	0.89	11.0
474	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	13.69	2,576	0.89	11.0
475	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	14.06	2,576	0.89	11.0
476	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	14.43	2,576	0.89	11.0
477	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	15.06	2,576	0.89	11.0
478	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	15.47	2,576	0.89	11.0
479	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	15.57	2,576	0.89	11.0
480	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	16.22	2,576	0.89	11.0
481	Rapid filter sand	D	SO	2.00	0.80	1.25	19.2	0.057	19.91	2,576	0.89	11.0
482	Rapid filter sand	D	SO	2.00	0.80	1.25	23.5	0.057	12.09	2,576	0.89	11.0
483	Rapid filter sand	D	SO	2.00	0.80	1.25	23.5	0.057	15.31	2,576	0.89	11.0
484	Rapid filter sand	D	SO	2.00	0.80	1.25	23.6	0.057	13.51	2,576	0.89	11.0
485	Rapid filter sand	D	SO	2.00	0.80	1.25	23.6	0.057	13.57	2,576	0.89	11.0
486	Rapid filter sand	D	SO	2.00	0.80	1.25	23.6	0.057	15.06	2,576	0.89	11.0
487	Rapid filter sand	D	SO	2.00	0.80	1.25	23.7	0.057	13.16	2,576	0.89	11.0
488	Rapid filter sand	D	SO	2.00	0.80	1.25	23.7	0.057	14.75	2,576	0.89	11.0
489	Rapid filter sand	D	SO	2.00	0.80	1.25	23.7	0.057	15.06	2,576	0.89	11.0
490	Rapid filter sand	D	SO	2.00	0.80	1.25	23.8	0.057	12.56	2,576	0.89	11.0
491	Rapid filter sand	D	SO	2.00	0.80	1.25	23.8	0.057	12.68	2,576	0.89	11.0
492	Rapid filter sand	D	SO	2.00	0.80	1.25	23.8	0.057	12.71	2,576	0.89	11.0
493	Rapid filter sand	D	SO	2.00	0.80	1.25	23.8	0.057	14.34	2,576	0.89	11.0
494	Rapid filter sand	D	SO	2.00	0.80	1.25	23.8	0.057	16.25	2,576	0.89	11.0
495	Rapid filter sand	D	SO	2.00	0.80	1.25	23.9	0.057	13.66	2,576	0.89	11.0
496	Rapid filter sand	D	SO	2.00	0.80	1.25	24.0	0.057	12.00	2,576	0.89	11.0
497	Rapid filter sand	D	SO	2.00	0.80	1.25	24.0	0.057	14.06	2,576	0.89	11.0
498	Rapid filter sand	D	SO	2.00	0.80	1.25	24.1	0.057	11.24	2,576	0.89	11.0
499	Rapid filter sand	D	SO	2.00	0.80	1.25	24.1	0.057	12.88	2,576	0.89	11.0
500	Rapid filter sand	D	SO	2.00	0.80	1.25	24.2	0.057	12.18	2,576	0.89	11.0
501	Rapid filter sand	D	SO	2.00	0.80	1.25	24.2	0.057	12.91	2,576	0.89	11.0
502	Rapid filter sand	D	SO	2.00	0.80	1.25	24.2	0.057	13.16	2,576	0.89	11.0
503	Rapid filter sand	D	SO	2.00	0.80	1.25	24.2	0.057	15.03	2,576	0.89	11.0
504	Rapid filter sand	D	SO	2.00	0.80	1.25	24.2	0.057	15.96	2,576	0.89	11.0
505	Rapid filter sand	D	SO	2.00	0.80	1.25	24.3	0.057	11.47	2,576	0.89	11.0
506	Rapid filter sand	D	SO	2.00	0.80	1.25	24.3	0.057	13.65	2,576	0.89	11.0
507	Rapid filter sand	D	SO	2.00	0.80	1.25	24.3	0.057	14.01	2,576	0.89	11.0
508	Rapid filter sand	D	SO	2.00	0.80	1.25	24.3	0.057	14.62	2,576	0.89	11.0
509	Rapid filter sand	D	SO	2.00	0.80	1.25	24.4	0.057	12.19	2,576	0.89	11.0
510	Rapid filter sand	D	SO	2.00	0.80	1.25	24.4	0.057	13.28	2,576	0.89	11.0
511	Rapid filter sand	D	SO	2.00	0.80	1.25	24.5	0.057	13.81	2,576	0.89	11.0
512	Rapid filter sand	D	SO	2.00	0.80	1.25	24.5	0.057	13.99	2,576	0.89	11.0
513	Rapid filter sand	D	SO	2.00	0.80	1.25	24.5	0.057	15.09	2,576	0.89	11.0
514	Rapid filter sand	D	SO	2.00	0.80	1.25	24.6	0.057	13.07	2,576	0.89	11.0
515	Rapid filter sand	D	SO	2.00	0.80	1.25	24.6	0.057	13.50	2,576	0.89	11.0
516	Rapid filter sand	D	SO	2.00	0.80	1.25	24.6	0.057	14.12	2,576	0.89	11.0
517	Rapid filter sand	D	SO	2.00	0.80	1.25	24.7	0.057	12.34	2,576	0.89	11.0
518	Rapid filter sand	D	SO	2.00	0.80	1.25	24.7	0.057	13.25	2,576	0.89	11.0
519	Rapid filter sand	D	SO	2.00	0.80	1.25	24.7	0.057	13.44	2,576	0.89	11.0
520	Rapid filter sand	D	SO	2.00	0.80	1.25	24.7	0.057	13.53	2,576	0.89	11.0
521	Rapid filter sand	D	SO	2.00	0.80	1.25	24.7	0.057	13.70	2,576	0.89	11.0
522	Rapid filter sand	D	SO	2.00	0.80	1.25	27.0	0.057	15.19	2,576	0.89	11.0
523	Rapid filter sand	D	SO	2.00	0.80	1.25	27.0	0.057	15.19	2,576	0.89	11.0
524	Rapid filter sand	D	SO	2.00	0.80	1.25	27.1	0.057	11.84	2,576	0.89	11.0
525	Rapid filter sand	D	SO	2.00	0.80	1.25	27.1	0.057	12.47	2,576	0.89	11.0
526	Rapid filter sand	D	SO	2.00	0.80	1.25	27.3	0.057	14.60	2,576	0.89	11.0
527	Rapid filter sand	D	SO	2.00	0.80	1.25	27.4	0.057	12.27	2,576	0.89	11.0
528	Rapid filter sand	D	SO	2.00	0.80	1.25	27.4	0.057	12.93	2,576	0.89	11.0
529	Rapid filter sand	D	SO	2.00	0.80	1.25	27.4	0.057	15.34	2,576	0.89	11.0
530	Rapid filter sand	D	SO	2.00	0.80	1.25	27.6	0.057	12.72	2,576	0.89	11.0
531	Rapid filter sand	D	SO	2.00	0.80	1.25	27.6	0.057	13.16	2,576	0.89	11.0
532	Rapid filter sand	D	SO	2.00	0.80	1.25	27.6	0.057	13.47	2,576	0.89	11.0
533	Rapid filter sand	D	SO	2.00	0.80	1.25	27.6	0.057	13.95	2,576	0.89	11.0
534	Rapid filter sand	D	SO	2.00	0.80	1.25	27.7	0.057	12.75	2,576	0.89	11.0
535	Rapid filter sand	D	SO	2.00	0.80	1.25	27.7	0.057	13.55	2,576	0.89	11.0
536	Rapid filter sand	D	SO	2.00	0.80	1.25	27.8	0.057	14.78	2,576	0.89	11.0
537	Rapid filter sand	D	SO	2.00	0.80	1.25	28.0	0.057	15.04	2,576	0.89	11.0
538	Rapid filter sand	D	SO	2.00	0.80	1.25	28.1	0.057	12.41	2,576	0.89	11.0
539	Rapid filter sand	D	SO	2.00	0.80	1.25	28.1	0.057	14.04	2,576	0.89	11.0
540	Rapid filter sand	D	SO	2.00	0.80	1.25	28.1	0.057	15.06	2,576	0.89	11.0
541	Rapid filter sand	D	SO	2.00	0.80	1.25	28.2	0.057	13.09	2,576	0.89	11.0
542	Rapid filter sand	D	SO	2.00	0.80	1.25	28.3	0.057	14.43	2,576	0.89	11.0
543	Rapid filter sand	D	SO	2.00	0.80	1.25	28.4	0.057	12.22	2,576	0.89	11.0
544	Rapid filter sand	D	SO	2.00	0.80	1.25	28.4	0.057	12.88	2,576	0.89	11.0
545	Rapid filter sand	D	SO	2.00	0.80	1.25	28.5	0.057	14.94	2,576	0.89	11.0
546	Rapid filter sand	D	SO	2.00	0.80	1.25	28.6	0.057	16.72	2,576	0.89	11.0
547	Rapid filter sand	D	SO	2.00	0.80	1.25	28.7	0.057	14.28	2,576	0.89	11.0
548	Rapid filter sand	D	SO	2.00	0.80	1.25	29.1	0.057	12.31	2,576	0.89	11.0
549	Rapid filter sand	D	SO	2.00	0.80	1.25	29.1	0.057	12.47	2,576	0.89	11.0
550	Rapid filter sand	D	SO	2.00	0.80	1.25	29.1	0.057	13.12	2,576	0.89	11.0
551	Rapid filter sand	D	SO	2.00	0.80	1.25	29.1	0.057	13.13	2,576	0.89	11.0
552	Rapid filter sand	D	SO	2.00	0.80	1.25	29.1	0.057	13.35	2,576	0.89	11.0
553	Rapid filter sand	D	SO	2.00	0.80	1.25	29.1	0.057	13.84	2,576	0.89	11.0
554	Rapid filter sand	D	SO	2.00	0.80	1.25	29.1	0.057	14.13	2,576	0.89	11.0
555	Rapid filter sand	D	SO	2.00	0.80	1.25	29.3	0.057	11.78	2,576	0.89	11.0
556	Rapid filter sand	D	SO	2.00	0.80	1.25	29.3	0.057	13.06	2,576	0.89	11.0
557	Rapid filter sand	D	SO	2.00	0.80	1.25	29.3	0.057	13.69	2,576	0.89	11.0
558	Rapid filter sand	D	SO	2.00	0.80	1.25	29.7	0.057	12.06	2,576	0.89	11.0

559	Rapid filter sand	D	SO	2.00	0.80	1.25	29.7	0.057	12.99	2,576	0.89	11.0
560	Rapid filter sand	D	SO	2.00	0.80	1.25	29.7	0.057	14.21	2,576	0.89	11.0
561	Rapid filter sand	D	SO	2.00	0.80	1.25	29.7	0.057	15.56	2,576	0.89	11.0
562	Rapid filter sand	D	SO	2.00	0.80	1.25	29.7	0.057	16.06	2,576	0.89	11.0
563	Garnet pellets	B	SO	1.58	0.25	0.30	6.1	0.057	27.50	3,807	0.85	25.0
564	Garnet pellets	B	SO	1.58	0.25	0.30	6.1	0.057	28.75	3,807	0.85	25.0
565	Garnet pellets	B	SO	1.58	0.25	0.30	13.4	0.057	24.19	3,807	0.85	25.0
566	Garnet pellets	B	SO	1.58	0.25	0.30	13.4	0.057	24.62	3,807	0.85	25.0
567	Garnet pellets	B	SO	1.58	0.25	0.30	13.4	0.057	32.44	3,807	0.85	25.0
568	Garnet pellets	B	SO	1.58	0.25	0.30	22.5	0.057	21.25	3,807	0.85	25.0
569	Garnet pellets	B	SO	1.58	0.25	0.30	22.5	0.057	21.50	3,807	0.85	25.0
570	Garnet pellets	B	SO	1.58	0.25	0.30	22.5	0.057	21.69	3,807	0.85	25.0
571	Garnet pellets	B	SO	1.58	0.25	0.30	22.5	0.057	21.69	3,807	0.85	25.0
572	Garnet pellets	B	SO	1.58	0.30	0.36	6.2	0.057	27.50	3,342	0.86	25.0
573	Garnet pellets	B	SO	1.58	0.30	0.36	6.2	0.057	29.44	3,342	0.86	25.0
574	Garnet pellets	B	SO	1.58	0.30	0.36	13.4	0.057	22.50	3,342	0.86	25.0
575	Garnet pellets	B	SO	1.58	0.30	0.36	13.4	0.057	22.94	3,342	0.86	25.0
576	Garnet pellets	B	SO	1.58	0.30	0.36	13.4	0.057	24.00	3,342	0.86	25.0
577	Garnet pellets	B	SO	1.58	0.30	0.36	13.4	0.057	24.97	3,342	0.86	25.0
578	Garnet pellets	B	SO	1.58	0.30	0.36	13.4	0.057	25.10	3,342	0.86	25.0
579	Garnet pellets	B	SO	1.21	0.30	0.36	14.8	0.125	19.68	3,342	0.86	25.0
580	Garnet pellets	B	SO	1.21	0.30	0.36	14.8	0.125	19.77	3,342	0.86	25.0
581	Garnet pellets	B	SO	1.21	0.30	0.36	14.8	0.125	20.42	3,342	0.86	25.0
582	Garnet pellets	B	SO	1.21	0.30	0.36	14.8	0.125	21.34	3,342	0.86	25.0
583	Garnet pellets	B	SO	1.21	0.30	0.36	14.8	0.125	21.58	3,342	0.86	25.0
584	Garnet pellets	B	SO	1.21	0.30	0.36	14.8	0.125	22.28	3,342	0.86	25.0
585	Garnet pellets	B	SO	1.58	0.30	0.36	22.2	0.057	20.25	3,342	0.86	25.0
586	Garnet pellets	B	SO	1.58	0.30	0.36	22.2	0.057	20.90	3,342	0.86	25.0
587	Garnet pellets	B	SO	1.58	0.30	0.36	22.2	0.057	20.94	3,342	0.86	25.0
588	Garnet pellets	B	SO	1.21	0.30	0.36	22.4	0.125	18.20	3,342	0.86	25.0
589	Garnet pellets	B	SO	1.21	0.30	0.36	22.4	0.125	18.50	3,342	0.86	25.0
590	Garnet pellets	B	SO	1.21	0.30	0.36	22.4	0.125	19.00	3,342	0.86	25.0
591	Garnet pellets	B	SO	1.21	0.30	0.36	22.4	0.125	19.50	3,342	0.86	25.0
592	Garnet pellets	B	SO	1.21	0.30	0.36	22.4	0.125	19.60	3,342	0.86	25.0
593	Garnet pellets	B	SO	1.21	0.30	0.36	22.4	0.125	19.90	3,342	0.86	25.0
594	Garnet pellets	B	SO	1.21	0.30	0.36	22.4	0.125	20.40	3,342	0.86	25.0
595	Garnet pellets	B	SO	1.58	0.36	0.43	6.3	0.057	20.87	3,069	0.85	25.0
596	Garnet pellets	B	SO	1.58	0.36	0.43	6.3	0.057	21.37	3,069	0.85	25.0
597	Garnet pellets	B	SO	1.58	0.36	0.43	13.3	0.057	19.60	3,069	0.85	25.0
598	Garnet pellets	B	SO	1.58	0.36	0.43	13.3	0.057	20.34	3,069	0.85	25.0
599	Garnet pellets	B	SO	1.58	0.36	0.43	13.3	0.057	21.00	3,069	0.85	25.0
600	Garnet pellets	B	SO	1.58	0.36	0.43	23.3	0.057	17.06	3,069	0.85	25.0
601	Garnet pellets	B	SO	1.58	0.36	0.43	23.3	0.057	17.19	3,069	0.85	25.0
602	Garnet pellets	B	SO	1.58	0.36	0.43	23.3	0.057	17.32	3,069	0.85	25.0
603	Garnet pellets	B	SO	1.58	0.43	0.50	6.8	0.057	21.37	2,908	0.85	25.0
604	Garnet pellets	B	SO	1.58	0.43	0.50	6.8	0.057	21.41	2,908	0.85	25.0
605	Garnet pellets	B	SO	1.58	0.43	0.50	13.3	0.057	17.16	2,908	0.85	25.0
606	Garnet pellets	B	SO	1.58	0.43	0.50	13.3	0.057	18.09	2,908	0.85	25.0
607	Garnet pellets	B	SO	1.58	0.43	0.50	13.3	0.057	19.25	2,908	0.85	25.0
608	Garnet pellets	B	SO	1.58	0.43	0.50	13.3	0.057	19.38	2,908	0.85	25.0
609	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	13.37	2,908	0.85	25.0
610	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	14.13	2,908	0.85	25.0
611	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	14.22	2,908	0.85	25.0
612	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	14.86	2,908	0.85	25.0
613	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	14.87	2,908	0.85	25.0
614	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	15.03	2,908	0.85	25.0
615	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	15.20	2,908	0.85	25.0
616	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	15.23	2,908	0.85	25.0
617	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	15.33	2,908	0.85	25.0
618	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	15.59	2,908	0.85	25.0
619	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	15.59	2,908	0.85	25.0
620	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	16.10	2,908	0.85	25.0
621	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	16.11	2,908	0.85	25.0
622	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	16.74	2,908	0.85	25.0
623	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	17.19	2,908	0.85	25.0
624	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	17.25	2,908	0.85	25.0
625	Garnet pellets	B	SO	1.21	0.43	0.50	14.8	0.125	17.29	2,908	0.85	25.0
626	Garnet pellets	B	SO	1.21	0.43	0.50	18.0	0.125	14.80	2,908	0.85	25.0
627	Garnet pellets	B	SO	1.21	0.43	0.50	18.0	0.125	14.90	2,908	0.85	25.0
628	Garnet pellets	B	SO	1.21	0.43	0.50	18.0	0.125	15.20	2,908	0.85	25.0
629	Garnet pellets	B	SO	1.21	0.43	0.50	18.0	0.125	15.30	2,908	0.85	25.0
630	Garnet pellets	B	SO	1.21	0.43	0.50	18.0	0.125	15.40	2,908	0.85	25.0
631	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	14.30	2,908	0.85	25.0
632	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	14.50	2,908	0.85	25.0
633	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	14.90	2,908	0.85	25.0
634	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	15.00	2,908	0.85	25.0
635	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	15.10	2,908	0.85	25.0
636	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	15.20	2,908	0.85	25.0
637	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	15.50	2,908	0.85	25.0
638	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	15.50	2,908	0.85	25.0
639	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	15.60	2,908	0.85	25.0
640	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	15.90	2,908	0.85	25.0
641	Garnet pellets	B	SO	1.21	0.43	0.50	22.4	0.125	16.00	2,908	0.85	25.0
642	Garnet pellets	B	SO	1.58	0.43	0.50	23.8	0.057	16.31	2,908	0.85	25.0
643	Garnet pellets	B	SO	1.58	0.43	0.50	23.8	0.057	16.85	2,908	0.85	25.0
644	Garnet pellets	B	SO	1.58	0.43	0.50	23.8	0.057	17.03	2,908	0.85	25.0
645	Garnet pellets	B	SO	1.58	0.43	0.50	23.8	0.057	17.22	2,908	0.85	25.0
646	Garnet pellets	B	SO	1.58	0.43	0.50	23.8	0.057	17.54	2,908	0.85	25.0
647	Garnet pellets	B	SO	1.58	0.50	0.56	5.9	0.057	17.03	2,828	0.90	25.0
648	Garnet pellets	B	SO	1.58	0.50	0.56	5.9	0.057	18.00	2,828	0.90	25.0
649	Garnet pellets	B	SO	1.58	0.50	0.56	5.9	0.057	18.31	2,828	0.90	25.0
650	Garnet pellets	B	SO	1.58	0.50	0.56	5.9	0.057	18.43	2,828	0.90	25.0
651	Garnet pellets	B	SO	1.58	0.50	0.56	5.9	0.057	19.97	2,828	0.90	25.0
652	Garnet pellets	B	SO	1.58	0.50	0.56	12.9	0.057	16.03	2,828	0.90	25.0
653	Garnet pellets	B	SO	1.58	0.50	0.56	12.9	0.057	16.50	2,828	0.90	25.0
654	Garnet pellets	B	SO	1.58	0.50	0.56	12.9	0.057	16.57	2,828	0.90	25.0
655	Garnet pellets	B	SO	1.58	0.50	0.56	12.9	0.057	16.68	2,828	0.90	25.0
656	Garnet pellets	B	SO	1.58	0.50	0.56	12.9	0.057	17.88	2,828	0.90	25.0
657	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	11.97	2,812	0.90	25.0
658	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	12.33	2,812	0.90	25.0
659	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	12.41	2,812	0.90	25.0
660	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	12.59	2,812	0.90	25.0
661	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	12.61	2,812	0.90	25.0
662	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	12.61	2,812	0.90	25.0
663	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	12.69	2,812	0.90	25.0
664	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	12.99	2,812	0.90	25.0
665	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	13.17	2,812	0.90	25.0
666	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	13.23	2,812	0.90	25.0
667	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	13.27	2,812	0.90	25.0
668	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	13.31	2,812	0.90	25.0
669	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	13.69	2,812	0.90	25.0
670	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	13.83	2,812	0.90	25.0
671	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	13.83	2,812	0.90	25.0
672	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	14.25	2,812	0.90	25.0
673	Garnet pellets	B	SO	1.21	0.50	0.60	14.8	0.125	14.80	2,812	0.90	25.0
674	Garnet pellets	B	SO	1.21	0.50	0.60	18.0	0.125	12.30	2,812	0.90	25.0
675	Garnet pellets	B	SO	1.21	0.50	0.60	18.0	0.125	12.40	2,812	0.90	25.0
676	Garnet pellets	B	SO	1.21	0.50	0.60	18.0	0.125	12.50	2,812	0.90	25.0
677	Garnet pellets	B	SO	1.21	0.50	0.60	18.0	0.125	12.70	2,812	0.90	25.0
678	Garnet pellets	B	SO	1.21	0.50	0.60	18.0	0.125	12.90	2,812	0.90	25.0
679	Garnet pellets	B	SO	1.21	0.50	0.60	18.0	0.125	13.00	2,812	0.90	25.0
680	Garnet pellets	B	SO	1.21	0.50	0.60	18.0	0.125	13.40	2,812	0.90	25.0
681	Garnet pellets	B	SO	1.21	0.50	0.60	18.0	0.125	13.50	2,812	0.90	25.0
682	Garnet pellets	B	SO	1.21	0.50	0.60	22.4	0.125	12.40	2,812	0.90	25.0

683	Garnet pellets	B	SO	1.21	0.50	0.60	22.4	0.125	12.50	2,812	0.90	25.0
684	Garnet pellets	B	SO	1.21	0.50	0.60	22.4	0.125	12.60	2,812	0.90	25.0
685	Garnet pellets	B	SO	1.21	0.50	0.60	22.4	0.125	12.70	2,812	0.90	25.0
686	Garnet pellets	B	SO	1.21	0.50	0.60	22.4	0.125	12.80	2,812	0.90	25.0
687	Garnet pellets	B	SO	1.21	0.50	0.60	22.4	0.125	13.40	2,812	0.90	25.0
688	Garnet pellets	B	SO	1.58	0.50	0.63	23.1	0.057	15.81	2,802	0.90	25.0
689	Garnet pellets	B	SO	1.58	0.50	0.63	23.1	0.057	15.84	2,802	0.90	25.0
690	Garnet pellets	B	SO	1.58	0.50	0.63	23.1	0.057	15.94	2,802	0.90	25.0
691	Garnet pellets	B	SO	1.58	0.50	0.63	23.1	0.057	15.94	2,802	0.90	25.0
692	Garnet pellets	B	SO	1.58	0.50	0.63	23.1	0.057	16.31	2,802	0.90	25.0
693	Garnet pellets	B	SO	1.58	0.56	0.63	6.1	0.057	15.56	2,781	0.87	25.0
694	Garnet pellets	B	SO	1.58	0.56	0.63	6.1	0.057	15.68	2,781	0.87	25.0
695	Garnet pellets	B	SO	1.58	0.56	0.63	6.1	0.057	16.62	2,781	0.87	25.0
696	Garnet pellets	B	SO	1.58	0.56	0.63	6.1	0.057	17.00	2,781	0.87	25.0
697	Garnet pellets	B	SO	1.58	0.56	0.63	6.1	0.057	17.57	2,781	0.87	25.0
698	Garnet pellets	B	SO	1.58	0.56	0.63	12.6	0.057	14.81	2,781	0.87	25.0
699	Garnet pellets	B	SO	1.58	0.56	0.63	12.6	0.057	15.56	2,781	0.87	25.0
700	Garnet pellets	B	SO	1.58	0.56	0.63	12.6	0.057	15.76	2,781	0.87	25.0
701	Garnet pellets	B	SO	1.58	0.56	0.63	12.6	0.057	15.94	2,781	0.87	25.0
702	Garnet pellets	B	SO	1.58	0.56	0.63	12.6	0.057	17.63	2,781	0.87	25.0
703	Garnet pellets	B	SO	1.58	0.56	0.63	21.8	0.057	13.90	2,781	0.87	25.0
704	Garnet pellets	B	SO	1.58	0.56	0.63	21.8	0.057	14.35	2,781	0.87	25.0
705	Garnet pellets	B	SO	1.58	0.56	0.63	21.8	0.057	14.50	2,781	0.87	25.0
706	Garnet pellets	B	SO	1.58	0.56	0.63	21.8	0.057	14.62	2,781	0.87	25.0
707	Garnet pellets	B	SO	1.58	0.56	0.63	21.8	0.057	14.72	2,781	0.87	25.0
708	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	10.44	2,754	0.91	25.0
709	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	10.49	2,754	0.91	25.0
710	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	10.84	2,754	0.91	25.0
711	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	10.86	2,754	0.91	25.0
712	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	10.96	2,754	0.91	25.0
713	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	10.97	2,754	0.91	25.0
714	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	11.16	2,754	0.91	25.0
715	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	11.20	2,754	0.91	25.0
716	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	11.32	2,754	0.91	25.0
717	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	11.64	2,754	0.91	25.0
718	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	11.82	2,754	0.91	25.0
719	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	11.84	2,754	0.91	25.0
720	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	12.08	2,754	0.91	25.0
721	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	12.49	2,754	0.91	25.0
722	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	12.58	2,754	0.91	25.0
723	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	12.93	2,754	0.91	25.0
724	Garnet pellets	B	SO	1.21	0.60	0.71	14.8	0.125	13.06	2,754	0.91	25.0
725	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	10.66	2,754	0.91	25.0
726	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.02	2,754	0.91	25.0
727	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.10	2,754	0.91	25.0
728	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.11	2,754	0.91	25.0
729	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.13	2,754	0.91	25.0
730	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.14	2,754	0.91	25.0
731	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.19	2,754	0.91	25.0
732	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.23	2,754	0.91	25.0
733	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.30	2,754	0.91	25.0
734	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.30	2,754	0.91	25.0
735	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.38	2,754	0.91	25.0
736	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.60	2,754	0.91	25.0
737	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.70	2,754	0.91	25.0
738	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	11.80	2,754	0.91	25.0
739	Garnet pellets	B	SO	1.21	0.60	0.71	18.0	0.125	12.09	2,754	0.91	25.0
740	Garnet pellets	B	SO	1.21	0.60	0.71	22.4	0.125	11.00	2,754	0.91	25.0
741	Garnet pellets	B	SO	1.21	0.60	0.71	22.4	0.125	11.00	2,754	0.91	25.0
742	Garnet pellets	B	SO	1.21	0.60	0.71	22.4	0.125	11.20	2,754	0.91	25.0
743	Garnet pellets	B	SO	1.21	0.60	0.71	22.4	0.125	11.40	2,754	0.91	25.0
744	Garnet pellets	B	SO	1.21	0.60	0.71	22.4	0.125	11.50	2,754	0.91	25.0
745	Garnet pellets	B	SO	1.21	0.60	0.71	22.4	0.125	11.90	2,754	0.91	25.0
746	Garnet pellets	B	SO	1.58	0.63	0.71	6.8	0.057	14.91	2,748	0.91	25.0
747	Garnet pellets	B	SO	1.58	0.63	0.71	6.8	0.057	15.03	2,748	0.91	25.0
748	Garnet pellets	B	SO	1.58	0.63	0.71	6.8	0.057	15.37	2,748	0.91	25.0
749	Garnet pellets	B	SO	1.58	0.63	0.71	6.8	0.057	15.54	2,748	0.91	25.0
750	Garnet pellets	B	SO	1.58	0.63	0.71	6.8	0.057	15.84	2,748	0.91	25.0
751	Garnet pellets	B	SO	1.58	0.63	0.71	12.7	0.057	13.29	2,748	0.91	25.0
752	Garnet pellets	B	SO	1.58	0.63	0.71	12.7	0.057	13.81	2,748	0.91	25.0
753	Garnet pellets	B	SO	1.58	0.63	0.71	12.7	0.057	13.94	2,748	0.91	25.0
754	Garnet pellets	B	SO	1.58	0.63	0.71	12.7	0.057	14.10	2,748	0.91	25.0
755	Garnet pellets	B	SO	1.58	0.63	0.71	12.7	0.057	14.15	2,748	0.91	25.0
756	Garnet pellets	B	SO	1.58	0.63	0.71	22.2	0.057	12.78	2,748	0.91	25.0
757	Garnet pellets	B	SO	1.58	0.63	0.71	22.2	0.057	12.88	2,748	0.91	25.0
758	Garnet pellets	B	SO	1.58	0.63	0.71	22.2	0.057	12.91	2,748	0.91	25.0
759	Garnet pellets	B	SO	1.58	0.63	0.71	22.2	0.057	13.00	2,748	0.91	25.0
760	Garnet pellets	B	SO	1.58	0.63	0.71	22.2	0.057	13.60	2,748	0.91	25.0
761	Garnet pellets	B	SO	1.58	0.70	0.80	22.2	0.057	11.34	2,726	0.91	25.0
762	Garnet pellets	B	SO	1.58	0.70	0.80	22.2	0.057	11.59	2,726	0.91	25.0
763	Garnet pellets	B	SO	1.58	0.70	0.80	22.2	0.057	12.18	2,726	0.91	25.0
764	Garnet pellets	B	SO	1.58	0.70	0.80	22.2	0.057	12.22	2,726	0.91	25.0
765	Garnet pellets	B	SO	1.58	0.70	0.80	22.2	0.057	12.34	2,726	0.91	25.0
766	Garnet pellets	B	SO	1.58	0.71	0.80	6.4	0.057	13.78	2,725	0.91	25.0
767	Garnet pellets	B	SO	1.58	0.71	0.80	6.4	0.057	13.84	2,725	0.91	25.0
768	Garnet pellets	B	SO	1.58	0.71	0.80	6.4	0.057	13.84	2,725	0.91	25.0
769	Garnet pellets	B	SO	1.58	0.71	0.80	6.4	0.057	14.03	2,725	0.91	25.0
770	Garnet pellets	B	SO	1.58	0.71	0.80	6.4	0.057	14.12	2,725	0.91	25.0
771	Garnet pellets	B	SO	1.58	0.71	0.80	12.8	0.057	11.66	2,725	0.91	25.0
772	Garnet pellets	B	SO	1.58	0.71	0.80	12.8	0.057	11.90	2,725	0.91	25.0
773	Garnet pellets	B	SO	1.58	0.71	0.80	12.8	0.057	12.25	2,725	0.91	25.0
774	Garnet pellets	B	SO	1.58	0.71	0.80	12.8	0.057	12.44	2,725	0.91	25.0
775	Garnet pellets	B	SO	1.58	0.71	0.80	12.8	0.057	12.56	2,725	0.91	25.0
776	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	8.98	2,720	0.91	25.0
777	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	8.99	2,720	0.91	25.0
778	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	9.24	2,720	0.91	25.0
779	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	9.27	2,720	0.91	25.0
780	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	9.47	2,720	0.91	25.0
781	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	9.65	2,720	0.91	25.0
782	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	9.68	2,720	0.91	25.0
783	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	9.77	2,720	0.91	25.0
784	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	10.03	2,720	0.91	25.0
785	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	10.04	2,720	0.91	25.0
786	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	10.24	2,720	0.91	25.0
787	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	10.40	2,720	0.91	25.0
788	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	10.87	2,720	0.91	25.0
789	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	10.87	2,720	0.91	25.0
790	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	10.94	2,720	0.91	25.0
791	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	11.13	2,720	0.91	25.0
792	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	11.59	2,720	0.91	25.0
793	Garnet pellets	B	SO	1.21	0.71	0.85	14.8	0.125	11.74	2,720	0.91	25.0
794	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	8.57	2,720	0.91	25.0
795	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	8.89	2,720	0.91	25.0
796	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	8.99	2,720	0.91	25.0
797	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	9.00	2,720	0.91	25.0
798	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	9.17	2,720	0.91	25.0
799	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	9.21	2,720	0.91	25.0
800	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	9.32	2,720	0.91	25.0
801	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	9.37	2,720	0.91	25.0
802	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	9.42	2,720	0.91	25.0
803	Garnet pellets	B	SO	1.21	0.71	0.85	18.0	0.125	9.64	2,720	0.91	25.0
804	Garnet pellets	B	SO	1.21	0.71	0.85	22.4	0.125	8.80	2,720	0.91	25.0
805	Garnet pellets	B	SO	1.21	0.71	0.85	22.4	0.125	9.00	2,720	0.91	25.0
806	Garnet pellets	B	SO	1.21	0.71	0.85	22.4	0.125	9.10	2,720	0.91	25.0

807	Garnet pellets	B	SO	1.21	0.71	0.85	22.4	0.125	9.30	2,720	0.91	25.0
808	Garnet pellets	B	SO	1.21	0.71	0.85	22.4	0.125	9.40	2,720	0.91	25.0
809	Garnet pellets	B	SO	1.58	0.80	0.90	7.3	0.057	12.00	2,708	0.94	25.0
810	Garnet pellets	B	SO	1.58	0.80	0.90	7.3	0.057	12.16	2,708	0.94	25.0
811	Garnet pellets	B	SO	1.58	0.80	0.90	7.3	0.057	12.16	2,708	0.94	25.0
812	Garnet pellets	B	SO	1.58	0.80	0.90	7.3	0.057	12.40	2,708	0.94	25.0
813	Garnet pellets	B	SO	1.58	0.80	0.90	7.3	0.057	12.53	2,708	0.94	25.0
814	Garnet pellets	B	SO	1.58	0.80	0.90	12.4	0.057	10.41	2,708	0.94	25.0
815	Garnet pellets	B	SO	1.58	0.80	0.90	12.4	0.057	10.69	2,708	0.94	25.0
816	Garnet pellets	B	SO	1.58	0.80	0.90	12.4	0.057	11.37	2,708	0.94	25.0
817	Garnet pellets	B	SO	1.58	0.80	0.90	12.4	0.057	11.43	2,708	0.94	25.0
818	Garnet pellets	B	SO	1.58	0.80	0.90	12.4	0.057	11.53	2,708	0.94	25.0
819	Garnet pellets	B	SO	1.58	0.80	0.90	22.4	0.057	10.63	2,708	0.94	25.0
820	Garnet pellets	B	SO	1.58	0.80	0.90	22.4	0.057	10.66	2,708	0.94	25.0
821	Garnet pellets	B	SO	1.58	0.80	0.90	22.4	0.057	10.94	2,708	0.94	25.0
822	Garnet pellets	B	SO	1.58	0.80	0.90	22.4	0.057	10.97	2,708	0.94	25.0
823	Garnet pellets	B	SO	1.58	0.80	0.90	22.4	0.057	11.85	2,708	0.94	25.0
824	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	7.76	2,700	0.94	25.0
825	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	7.77	2,700	0.94	25.0
826	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	7.87	2,700	0.94	25.0
827	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.00	2,700	0.94	25.0
828	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.08	2,700	0.94	25.0
829	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.14	2,700	0.94	25.0
830	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.19	2,700	0.94	25.0
831	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.28	2,700	0.94	25.0
832	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.28	2,700	0.94	25.0
833	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.32	2,700	0.94	25.0
834	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.34	2,700	0.94	25.0
835	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.41	2,700	0.94	25.0
836	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.43	2,700	0.94	25.0
837	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.57	2,700	0.94	25.0
838	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	8.79	2,700	0.94	25.0
839	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	9.59	2,700	0.94	25.0
840	Garnet pellets	D	SO	1.21	0.85	1.00	14.8	0.125	9.73	2,700	0.94	25.0
841	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	7.37	2,700	0.94	25.0
842	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	7.40	2,700	0.94	25.0
843	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	7.52	2,700	0.94	25.0
844	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	7.70	2,700	0.94	25.0
845	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	7.72	2,700	0.94	25.0
846	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	7.79	2,700	0.94	25.0
847	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	7.85	2,700	0.94	25.0
848	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	7.92	2,700	0.94	25.0
849	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	8.07	2,700	0.94	25.0
850	Garnet pellets	D	SO	1.21	0.85	1.00	18.0	0.125	8.20	2,700	0.94	25.0
851	Garnet pellets	D	SO	1.21	0.85	1.00	22.4	0.125	7.90	2,700	0.94	25.0
852	Garnet pellets	D	SO	1.21	0.85	1.00	22.4	0.125	8.10	2,700	0.94	25.0
853	Garnet pellets	D	SO	1.21	0.85	1.00	22.4	0.125	8.10	2,700	0.94	25.0
854	Garnet pellets	D	SO	1.21	0.85	1.00	22.4	0.125	8.10	2,700	0.94	25.0
855	Garnet pellets	D	SO	1.21	0.85	1.00	22.4	0.125	8.20	2,700	0.94	25.0
856	Garnet pellets	D	SO	1.58	0.90	1.00	6.5	0.057	10.59	2,697	0.95	25.0
857	Garnet pellets	D	SO	1.58	0.90	1.00	6.5	0.057	11.10	2,697	0.95	25.0
858	Garnet pellets	D	SO	1.58	0.90	1.00	6.5	0.057	11.22	2,697	0.95	25.0
859	Garnet pellets	D	SO	1.58	0.90	1.00	6.5	0.057	11.25	2,697	0.95	25.0
860	Garnet pellets	D	SO	1.58	0.90	1.00	6.5	0.057	11.56	2,697	0.95	25.0
861	Garnet pellets	D	SO	1.58	0.90	1.00	12.3	0.057	9.65	2,697	0.95	25.0
862	Garnet pellets	D	SO	1.58	0.90	1.00	12.3	0.057	10.43	2,697	0.95	25.0
863	Garnet pellets	D	SO	1.58	0.90	1.00	12.3	0.057	10.69	2,697	0.95	25.0
864	Garnet pellets	D	SO	1.58	0.90	1.00	12.3	0.057	10.81	2,697	0.95	25.0
865	Garnet pellets	D	SO	1.58	0.90	1.00	12.3	0.057	11.07	2,697	0.95	25.0
866	Garnet pellets	D	SO	1.58	0.90	1.00	22.6	0.057	9.37	2,697	0.95	25.0
867	Garnet pellets	D	SO	1.58	0.90	1.00	22.6	0.057	9.69	2,697	0.95	25.0
868	Garnet pellets	D	SO	1.58	0.90	1.00	22.6	0.057	10.00	2,697	0.95	25.0
869	Garnet pellets	D	SO	1.58	0.90	1.00	22.6	0.057	10.25	2,697	0.95	25.0
870	Garnet pellets	D	SO	1.58	0.90	1.00	22.6	0.057	10.41	2,697	0.95	25.0
871	Garnet pellets	D	SO	1.58	1.00	1.12	6.8	0.057	9.62	2,690	0.96	25.0
872	Garnet pellets	D	SO	1.58	1.00	1.12	6.8	0.057	9.75	2,690	0.96	25.0
873	Garnet pellets	D	SO	1.58	1.00	1.12	6.8	0.057	9.87	2,690	0.96	25.0
874	Garnet pellets	D	SO	1.58	1.00	1.12	6.8	0.057	9.97	2,690	0.96	25.0
875	Garnet pellets	D	SO	1.58	1.00	1.12	6.8	0.057	10.09	2,690	0.96	25.0
876	Garnet pellets	D	SO	1.58	1.00	1.12	21.9	0.057	8.94	2,690	0.96	25.0
877	Garnet pellets	D	SO	1.58	1.00	1.12	21.9	0.057	8.97	2,690	0.96	25.0
878	Garnet pellets	D	SO	1.58	1.00	1.12	21.9	0.057	9.10	2,690	0.96	25.0
879	Garnet pellets	D	SO	1.58	1.00	1.12	21.9	0.057	9.25	2,690	0.96	25.0
880	Garnet pellets	D	SO	1.58	1.00	1.12	21.9	0.057	9.38	2,690	0.96	25.0
881	Garnet pellets	D	SO	1.58	1.00	1.18	5.4	0.057	9.12	2,688	0.96	25.0
882	Garnet pellets	D	SO	1.58	1.00	1.18	5.4	0.057	9.18	2,688	0.96	25.0
883	Garnet pellets	D	SO	1.58	1.00	1.18	5.4	0.057	9.21	2,688	0.96	25.0
884	Garnet pellets	D	SO	1.58	1.00	1.18	5.4	0.057	9.37	2,688	0.96	25.0
885	Garnet pellets	D	SO	1.58	1.00	1.18	5.4	0.057	9.37	2,688	0.96	25.0
886	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	6.87	2,688	0.96	25.0
887	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	6.99	2,688	0.96	25.0
888	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.08	2,688	0.96	25.0
889	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.18	2,688	0.96	25.0
890	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.34	2,688	0.96	25.0
891	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.34	2,688	0.96	25.0
892	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.40	2,688	0.96	25.0
893	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.43	2,688	0.96	25.0
894	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.43	2,688	0.96	25.0
895	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.53	2,688	0.96	25.0
896	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.55	2,688	0.96	25.0
897	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.61	2,688	0.96	25.0
898	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.64	2,688	0.96	25.0
899	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.73	2,688	0.96	25.0
900	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.74	2,688	0.96	25.0
901	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	7.99	2,688	0.96	25.0
902	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	8.09	2,688	0.96	25.0
903	Garnet pellets	D	SO	1.21	1.00	1.18	14.8	0.125	8.17	2,688	0.96	25.0
904	Garnet pellets	D	SO	1.21	1.00	1.18	18.0	0.125	6.45	2,688	0.96	25.0
905	Garnet pellets	D	SO	1.21	1.00	1.18	18.0	0.125	6.52	2,688	0.96	25.0
906	Garnet pellets	D	SO	1.21	1.00	1.18	18.0	0.125	6.53	2,688	0.96	25.0
907	Garnet pellets	D	SO	1.21	1.00	1.18	18.0	0.125	6.89	2,688	0.96	25.0
908	Garnet pellets	D	SO	1.21	1.00	1.18	18.0	0.125	6.92	2,688	0.96	25.0
909	Garnet pellets	D	SO	1.21	1.00	1.18	18.0	0.125	7.08	2,688	0.96	25.0
910	Garnet pellets	D	SO	1.21	1.00	1.18	18.0	0.125	7.09	2,688	0.96	25.0
911	Garnet pellets	D	SO	1.21	1.00	1.18	18.0	0.125	7.17	2,688	0.96	25.0
912	Garnet pellets	D	SO	1.21	1.00	1.18	18.0	0.125	7.23	2,688	0.96	25.0
913	Garnet pellets	D	SO	1.58	1.00	1.18	21.7	0.057	8.41	2,688	0.96	25.0
914	Garnet pellets	D	SO	1.58	1.00	1.18	21.7	0.057	8.53	2,688	0.96	25.0
915	Garnet pellets	D	SO	1.58	1.00	1.18	21.7	0.057	8.56	2,688	0.96	25.0
916	Garnet pellets	D	SO	1.58	1.00	1.18	21.7	0.057	8.75	2,688	0.96	25.0
917	Garnet pellets	D	SO	1.58	1.00	1.18	21.7	0.057	8.88	2,688	0.96	25.0
918	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	6.90	2,688	0.96	25.0
919	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	6.90	2,688	0.96	25.0
920	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.10	2,688	0.96	25.0
921	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.20	2,688	0.96	25.0
922	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.40	2,688	0.96	25.0
923	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.40	2,688	0.96	25.0
924	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.50	2,688	0.96	25.0
925	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.50	2,688	0.96	25.0
926	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.70	2,688	0.96	25.0
927	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.80	2,688	0.96	25.0
928	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.90	2,688	0.96	25.0
929	Garnet pellets	D	SO	1.21	1.00	1.18	22.4	0.125	7.90	2,688	0.96	25.0
930	Garnet pellets	D	SO	1.58	1.00	1.25	12.2	0.057	9.19	2,687	0.96	25.0

931	Garnet pellets	D	SO	1.58	1.00	1.25	12.2	0.057	9.38	2,687	0.96	25.0
932	Garnet pellets	D	SO	1.58	1.00	1.25	12.2	0.057	9.60	2,687	0.96	25.0
933	Garnet pellets	D	SO	1.58	1.00	1.25	12.2	0.057	10.09	2,687	0.96	25.0
934	Garnet pellets	D	SO	1.58	1.00	1.25	12.2	0.057	10.19	2,687	0.96	25.0
935	Garnet pellets	D	SO	1.58	1.12	1.25	6.9	0.057	9.00	2,684	0.96	25.0
936	Garnet pellets	D	SO	1.58	1.12	1.25	6.9	0.057	9.06	2,684	0.96	25.0
937	Garnet pellets	D	SO	1.58	1.12	1.25	6.9	0.057	9.10	2,684	0.96	25.0
938	Garnet pellets	D	SO	1.58	1.12	1.25	6.9	0.057	9.13	2,684	0.96	25.0
939	Garnet pellets	D	SO	1.58	1.12	1.25	6.9	0.057	9.50	2,684	0.96	25.0
940	Garnet pellets	D	SO	1.58	1.12	1.25	12.1	0.057	8.41	2,684	0.96	25.0
941	Garnet pellets	D	SO	1.58	1.12	1.25	12.1	0.057	8.91	2,684	0.96	25.0
942	Garnet pellets	D	SO	1.58	1.12	1.25	12.1	0.057	8.94	2,684	0.96	25.0
943	Garnet pellets	D	SO	1.58	1.12	1.25	12.1	0.057	9.25	2,684	0.96	25.0
944	Garnet pellets	D	SO	1.58	1.12	1.25	12.1	0.057	9.37	2,684	0.96	25.0
945	Garnet pellets	D	SO	1.58	1.12	1.25	22.0	0.057	8.13	2,684	0.96	25.0
946	Garnet pellets	D	SO	1.58	1.12	1.25	22.0	0.057	8.22	2,684	0.96	25.0
947	Garnet pellets	D	SO	1.58	1.12	1.25	22.0	0.057	8.28	2,684	0.96	25.0
948	Garnet pellets	D	SO	1.58	1.12	1.25	22.0	0.057	8.28	2,684	0.96	25.0
949	Garnet pellets	D	SO	1.58	1.12	1.25	22.0	0.057	8.66	2,684	0.96	25.0
950	Garnet pellets	D	SO	1.58	1.18	1.40	5.7	0.057	7.72	2,681	0.97	25.0
951	Garnet pellets	D	SO	1.58	1.18	1.40	5.7	0.057	7.81	2,681	0.97	25.0
952	Garnet pellets	D	SO	1.58	1.18	1.40	5.7	0.057	8.00	2,681	0.97	25.0
953	Garnet pellets	D	SO	1.58	1.18	1.40	5.7	0.057	8.03	2,681	0.97	25.0
954	Garnet pellets	D	SO	1.58	1.18	1.40	5.7	0.057	8.38	2,681	0.97	25.0
955	Garnet pellets	D	SO	1.58	1.18	1.40	11.9	0.057	7.72	2,681	0.97	25.0
956	Garnet pellets	D	SO	1.58	1.18	1.40	11.9	0.057	8.04	2,681	0.97	25.0
957	Garnet pellets	D	SO	1.58	1.18	1.40	11.9	0.057	8.29	2,681	0.97	25.0
958	Garnet pellets	D	SO	1.58	1.18	1.40	11.9	0.057	8.60	2,681	0.97	25.0
959	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	5.57	2,681	0.97	25.0
960	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	5.66	2,681	0.97	25.0
961	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	5.69	2,681	0.97	25.0
962	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	5.79	2,681	0.97	25.0
963	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	5.80	2,681	0.97	25.0
964	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	5.93	2,681	0.97	25.0
965	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	5.94	2,681	0.97	25.0
966	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	5.95	2,681	0.97	25.0
967	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	5.96	2,681	0.97	25.0
968	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	6.06	2,681	0.97	25.0
969	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	6.09	2,681	0.97	25.0
970	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	6.14	2,681	0.97	25.0
971	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	6.27	2,681	0.97	25.0
972	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	6.33	2,681	0.97	25.0
973	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	6.34	2,681	0.97	25.0
974	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	6.35	2,681	0.97	25.0
975	Garnet pellets	D	SO	1.21	1.18	1.40	14.8	0.125	6.95	2,681	0.97	25.0
976	Garnet pellets	D	SO	1.21	1.18	1.40	18.0	0.125	5.80	2,681	0.97	25.0
977	Garnet pellets	D	SO	1.21	1.18	1.40	18.0	0.125	5.90	2,681	0.97	25.0
978	Garnet pellets	D	SO	1.21	1.18	1.40	18.0	0.125	6.00	2,681	0.97	25.0
979	Garnet pellets	D	SO	1.21	1.18	1.40	18.0	0.125	6.00	2,681	0.97	25.0
980	Garnet pellets	D	SO	1.21	1.18	1.40	18.0	0.125	6.00	2,681	0.97	25.0
981	Garnet pellets	D	SO	1.21	1.18	1.40	18.0	0.125	6.30	2,681	0.97	25.0
982	Garnet pellets	D	SO	1.58	1.18	1.40	22.0	0.057	7.47	2,681	0.97	25.0
983	Garnet pellets	D	SO	1.58	1.18	1.40	22.0	0.057	7.63	2,681	0.97	25.0
984	Garnet pellets	D	SO	1.58	1.18	1.40	22.0	0.057	7.75	2,681	0.97	25.0
985	Garnet pellets	D	SO	1.58	1.18	1.40	22.0	0.057	7.81	2,681	0.97	25.0
986	Garnet pellets	D	SO	1.58	1.18	1.40	22.0	0.057	7.81	2,681	0.97	25.0
987	Garnet pellets	D	HF	1.21	1.18	1.40	22.4	0.125	5.80	2,681	0.97	25.0
988	Garnet pellets	D	HF	1.21	1.18	1.40	22.4	0.125	5.80	2,681	0.97	25.0
989	Garnet pellets	D	HF	1.21	1.18	1.40	22.4	0.125	5.80	2,681	0.97	25.0
990	Garnet pellets	D	HF	1.21	1.18	1.40	22.4	0.125	6.00	2,681	0.97	25.0
991	Garnet pellets	D	HF	1.21	1.18	1.40	22.4	0.125	6.10	2,681	0.97	25.0
992	Garnet pellets	D	SO	1.58	1.25	1.40	7.0	0.057	8.43	2,680	0.97	25.0
993	Garnet pellets	D	SO	1.58	1.25	1.40	7.0	0.057	8.59	2,680	0.97	25.0
994	Garnet pellets	D	SO	1.58	1.25	1.40	7.0	0.057	8.66	2,680	0.97	25.0
995	Garnet pellets	D	SO	1.58	1.25	1.40	7.0	0.057	8.84	2,680	0.97	25.0
996	Garnet pellets	D	SO	1.58	1.25	1.40	7.0	0.057	9.00	2,680	0.97	25.0
997	Garnet pellets	D	SO	1.58	1.25	1.40	12.0	0.057	7.91	2,680	0.97	25.0
998	Garnet pellets	D	SO	1.58	1.25	1.40	12.0	0.057	7.96	2,680	0.97	25.0
999	Garnet pellets	D	SO	1.58	1.25	1.40	12.0	0.057	8.09	2,680	0.97	25.0
1000	Garnet pellets	D	SO	1.58	1.25	1.40	12.0	0.057	8.40	2,680	0.97	25.0
1001	Garnet pellets	D	SO	1.58	1.25	1.40	12.0	0.057	8.65	2,680	0.97	25.0
1002	Garnet pellets	D	HF	1.58	1.25	1.40	22.2	0.057	8.10	2,680	0.97	25.0
1003	Garnet pellets	D	HF	1.58	1.25	1.40	22.2	0.057	8.12	2,680	0.97	25.0
1004	Garnet pellets	D	HF	1.58	1.25	1.40	22.2	0.057	8.16	2,680	0.97	25.0
1005	Garnet pellets	D	HF	1.58	1.25	1.40	22.2	0.057	8.22	2,680	0.97	25.0
1006	Garnet pellets	D	HF	1.58	1.25	1.40	22.2	0.057	8.23	2,680	0.97	25.0
1007	Garnet pellets	D	SO	1.58	1.40	1.70	5.5	0.057	6.68	2,676	0.98	25.0
1008	Garnet pellets	D	SO	1.58	1.40	1.70	5.5	0.057	6.79	2,676	0.98	25.0
1009	Garnet pellets	D	SO	1.58	1.40	1.70	5.5	0.057	6.81	2,676	0.98	25.0
1010	Garnet pellets	D	SO	1.58	1.40	1.70	5.5	0.057	6.88	2,676	0.98	25.0
1011	Garnet pellets	D	SO	1.58	1.40	1.70	5.5	0.057	6.97	2,676	0.98	25.0
1012	Garnet pellets	D	SO	1.58	1.40	1.70	7.2	0.057	6.19	2,676	0.98	25.0
1013	Garnet pellets	D	SO	1.58	1.40	1.70	7.2	0.057	6.25	2,676	0.98	25.0
1014	Garnet pellets	D	SO	1.58	1.40	1.70	7.2	0.057	6.31	2,676	0.98	25.0
1015	Garnet pellets	D	SO	1.58	1.40	1.70	7.2	0.057	6.41	2,676	0.98	25.0
1016	Garnet pellets	D	SO	1.58	1.40	1.70	7.2	0.057	6.54	2,676	0.98	25.0
1017	Garnet pellets	D	LF	1.58	1.40	1.70	11.8	0.057	6.50	2,676	0.98	25.0
1018	Garnet pellets	D	LF	1.58	1.40	1.70	11.8	0.057	6.72	2,676	0.98	25.0
1019	Garnet pellets	D	LF	1.58	1.40	1.70	11.8	0.057	7.00	2,676	0.98	25.0
1020	Garnet pellets	D	LF	1.58	1.40	1.70	11.8	0.057	7.06	2,676	0.98	25.0
1021	Garnet pellets	D	LF	1.58	1.40	1.70	11.8	0.057	7.07	2,676	0.98	25.0
1022	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	4.37	2,676	0.98	25.0
1023	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	4.56	2,676	0.98	25.0
1024	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	4.95	2,676	0.98	25.0
1025	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.08	2,676	0.98	25.0
1026	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.09	2,676	0.98	25.0
1027	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.19	2,676	0.98	25.0
1028	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.23	2,676	0.98	25.0
1029	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.29	2,676	0.98	25.0
1030	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.30	2,676	0.98	25.0
1031	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.37	2,676	0.98	25.0
1032	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.45	2,676	0.98	25.0
1033	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.47	2,676	0.98	25.0
1034	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.51	2,676	0.98	25.0
1035	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.62	2,676	0.98	25.0
1036	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.73	2,676	0.98	25.0
1037	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	5.81	2,676	0.98	25.0
1038	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	6.00	2,676	0.98	25.0
1039	Garnet pellets	D	QR	1.21	1.40	1.70	14.8	0.125	6.15	2,676	0.98	25.0
1040	Garnet pellets	D	CH	1.58	1.40	1.70	22.2	0.057	6.37	2,676	0.98	25.0
1041	Garnet pellets	D	CH	1.58	1.40	1.70	22.2	0.057	6.40	2,676	0.98	25.0
1042	Garnet pellets	D	CH	1.58	1.40	1.70	22.2	0.057	6.50	2,676	0.98	25.0
1043	Garnet pellets	D	CH	1.58	1.40	1.70	22.2	0.057	6.69	2,676	0.98	25.0
1044	Garnet pellets	D	CH	1.58	1.40	1.70	22.2	0.057	6.84	2,676	0.98	25.0
1045	Garnet pellets	D	CH	1.58	1.40	1.70	22.4	0.057	5.43	2,676	0.98	25.0
1046	Garnet pellets	D	CH	1.58	1.40	1.70	22.4	0.057	5.44	2,676	0.98	25.0
1047	Garnet pellets	D	CH	1.58	1.40	1.70	22.4	0.057	6.00	2,676	0.98	25.0
1048	Garnet pellets	D	CH	1.58	1.40	1.70	22.4	0.057	6.00	2,676	0.98	25.0
1049	Garnet pellets	D	CH	1.58	1.40	1.70	22.4	0.057	6.56	2,676	0.98	25.0
1050	Garnet pellets	D	CH	1.21	1.40	1.70	22.4	0.125	4.90	2,676	0.98	25.0
1051	Garnet pellets	D	CH	1.21	1.40	1.70	22.4	0.125	5.10	2,676	0.98	25.0
1052	Garnet pellets	D	CH	1.21	1.40	1.70	22.4	0.125	5.10	2,676	0.98	25.0
1053	Garnet pellets	D	CH	1.21	1.40	1.70	22.4	0.125	5.20	2,676	0.98	25.0
1054	Garnet pellets	D	CH	1.21	1.40	1.70	22.4	0.125	5.30	2,676	0.98	25.0

1055	Garnet pellets	D	CH	1.21	1.40	1.70	22.4	0.125	5.30	2,676	0.98	25.0
1056	Garnet pellets	D	QR	1.58	1.70	2.00	5.3	0.057	5.81	2,674	0.98	25.0
1057	Garnet pellets	D	QR	1.58	1.70	2.00	5.3	0.057	5.91	2,674	0.98	25.0
1058	Garnet pellets	D	QR	1.58	1.70	2.00	5.3	0.057	5.97	2,674	0.98	25.0
1059	Garnet pellets	D	QR	1.58	1.70	2.00	5.3	0.057	6.00	2,674	0.98	25.0
1060	Garnet pellets	D	QR	1.58	1.70	2.00	5.3	0.057	6.06	2,674	0.98	25.0
1061	Garnet pellets	D	CH	1.58	1.70	2.00	11.7	0.057	5.84	2,674	0.98	25.0
1062	Garnet pellets	D	CH	1.58	1.70	2.00	11.7	0.057	5.94	2,674	0.98	25.0
1063	Garnet pellets	D	CH	1.58	1.70	2.00	11.7	0.057	6.06	2,674	0.98	25.0
1064	Garnet pellets	D	CH	1.58	1.70	2.00	11.7	0.057	6.34	2,674	0.98	25.0
1065	Garnet pellets	D	CH	1.58	1.70	2.00	11.7	0.057	6.37	2,674	0.98	25.0
1066	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.17	2,674	0.98	25.0
1067	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.36	2,674	0.98	25.0
1068	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.39	2,674	0.98	25.0
1069	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.47	2,674	0.98	25.0
1070	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.52	2,674	0.98	25.0
1071	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.53	2,674	0.98	25.0
1072	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.57	2,674	0.98	25.0
1073	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.58	2,674	0.98	25.0
1074	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.70	2,674	0.98	25.0
1075	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.74	2,674	0.98	25.0
1076	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.78	2,674	0.98	25.0
1077	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.85	2,674	0.98	25.0
1078	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.91	2,674	0.98	25.0
1079	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.92	2,674	0.98	25.0
1080	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.92	2,674	0.98	25.0
1081	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	4.93	2,674	0.98	25.0
1082	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	5.01	2,674	0.98	25.0
1083	Garnet pellets	D	CH	1.21	1.70	2.00	14.8	0.125	5.09	2,674	0.98	25.0
1084	Garnet pellets	D	CH	1.58	1.70	2.00	22.3	0.057	5.66	2,674	0.98	25.0
1085	Garnet pellets	D	CH	1.58	1.70	2.00	22.3	0.057	5.68	2,674	0.98	25.0
1086	Garnet pellets	D	CH	1.58	1.70	2.00	22.3	0.057	5.72	2,674	0.98	25.0
1087	Garnet pellets	D	CH	1.58	1.70	2.00	22.3	0.057	5.78	2,674	0.98	25.0
1088	Garnet pellets	D	CH	1.58	1.70	2.00	22.3	0.057	5.79	2,674	0.98	25.0
1089	Garnet pellets	D	CH	1.58	2.00	2.36	5.1	0.057	5.28	2,672	0.98	25.0
1090	Garnet pellets	D	CH	1.58	2.00	2.36	5.1	0.057	5.50	2,672	0.98	25.0
1091	Garnet pellets	D	CH	1.58	2.00	2.36	5.1	0.057	5.60	2,672	0.98	25.0
1092	Garnet pellets	D	CH	1.58	2.00	2.36	5.1	0.057	5.68	2,672	0.98	25.0
1093	Garnet pellets	D	CH	1.58	2.00	2.36	5.1	0.057	6.19	2,672	0.98	25.0
1094	Garnet pellets	D	CH	1.58	2.00	2.36	11.6	0.057	4.81	2,672	0.98	25.0
1095	Garnet pellets	D	CH	1.58	2.00	2.36	11.6	0.057	5.25	2,672	0.98	25.0
1096	Garnet pellets	D	CH	1.58	2.00	2.36	11.6	0.057	5.25	2,672	0.98	25.0
1097	Garnet pellets	D	CH	1.58	2.00	2.36	11.6	0.057	5.60	2,672	0.98	25.0
1098	Garnet pellets	D	CH	1.58	2.00	2.36	11.6	0.057	5.72	2,672	0.98	25.0
1099	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	3.74	2,672	0.98	25.0
1100	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	3.82	2,672	0.98	25.0
1101	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	3.87	2,672	0.98	25.0
1102	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	3.93	2,672	0.98	25.0
1103	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	3.93	2,672	0.98	25.0
1104	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	3.94	2,672	0.98	25.0
1105	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.00	2,672	0.98	25.0
1106	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.08	2,672	0.98	25.0
1107	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.12	2,672	0.98	25.0
1108	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.14	2,672	0.98	25.0
1109	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.18	2,672	0.98	25.0
1110	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.29	2,672	0.98	25.0
1111	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.31	2,672	0.98	25.0
1112	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.37	2,672	0.98	25.0
1113	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.43	2,672	0.98	25.0
1114	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.47	2,672	0.98	25.0
1115	Garnet pellets	D	CH	1.21	2.00	2.36	14.8	0.125	4.50	2,672	0.98	25.0
1116	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.69	2,672	0.98	25.0
1117	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.69	2,672	0.98	25.0
1118	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.85	2,672	0.98	25.0
1119	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.85	2,672	0.98	25.0
1120	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.93	2,672	0.98	25.0
1121	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.93	2,672	0.98	25.0
1122	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.97	2,672	0.98	25.0
1123	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.97	2,672	0.98	25.0
1124	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.99	2,672	0.98	25.0
1125	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	3.99	2,672	0.98	25.0
1126	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	4.03	2,672	0.98	25.0
1127	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	4.03	2,672	0.98	25.0
1128	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	4.24	2,672	0.98	25.0
1129	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	4.24	2,672	0.98	25.0
1130	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	4.33	2,672	0.98	25.0
1131	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	4.33	2,672	0.98	25.0
1132	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	4.37	2,672	0.98	25.0
1133	Garnet pellets	D	CH	1.21	2.00	2.36	18.0	0.125	4.37	2,672	0.98	25.0
1134	Garnet pellets	D	CH	1.58	2.00	2.36	22.5	0.057	5.03	2,672	0.98	25.0
1135	Garnet pellets	D	CH	1.58	2.00	2.36	22.5	0.057	5.13	2,672	0.98	25.0
1136	Garnet pellets	D	CH	1.58	2.00	2.36	22.5	0.057	5.19	2,672	0.98	25.0
1137	Garnet pellets	D	CH	1.58	2.00	2.36	22.5	0.057	5.22	2,672	0.98	25.0
1138	Garnet pellets	D	CH	1.58	2.00	2.36	22.5	0.057	5.40	2,672	0.98	25.0
1139	Garnet pellets	D	CH	1.21	2.00	2.40	22.4	0.125	3.90	2,672	0.98	25.0
1140	Garnet pellets	D	CH	1.21	2.00	2.40	22.4	0.125	4.00	2,672	0.98	25.0
1141	Garnet pellets	D	CH	1.21	2.00	2.40	22.4	0.125	4.20	2,672	0.98	25.0
1142	Garnet pellets	D	CH	1.21	2.00	2.40	22.4	0.125	4.20	2,672	0.98	25.0
1143	Garnet pellets	D	CH	1.21	2.00	2.40	22.4	0.125	4.30	2,672	0.98	25.0
1144	Garnet pellets	D	CH	1.58	2.36	2.80	4.9	0.057	4.56	2,671	0.99	25.0
1145	Garnet pellets	D	CH	1.58	2.36	2.80	4.9	0.057	4.63	2,671	0.99	25.0
1146	Garnet pellets	D	CH	1.58	2.36	2.80	4.9	0.057	4.65	2,671	0.99	25.0
1147	Garnet pellets	D	CH	1.58	2.36	2.80	4.9	0.057	4.71	2,671	0.99	25.0
1148	Garnet pellets	D	CH	1.58	2.36	2.80	4.9	0.057	4.91	2,671	0.99	25.0
1149	Garnet pellets	D	CH	1.58	2.36	2.80	11.5	0.057	4.43	2,671	0.99	25.0
1150	Garnet pellets	D	CH	1.58	2.36	2.80	11.5	0.057	4.47	2,671	0.99	25.0
1151	Garnet pellets	D	CH	1.58	2.36	2.80	11.5	0.057	4.56	2,671	0.99	25.0
1152	Garnet pellets	D	CH	1.58	2.36	2.80	11.5	0.057	4.67	2,671	0.99	25.0
1153	Garnet pellets	D	CH	1.58	2.36	2.80	11.5	0.057	5.17	2,671	0.99	25.0
1154	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.27	2,671	0.99	25.0
1155	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.33	2,671	0.99	25.0
1156	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.34	2,671	0.99	25.0
1157	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.35	2,671	0.99	25.0
1158	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.45	2,671	0.99	25.0
1159	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.46	2,671	0.99	25.0
1160	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.51	2,671	0.99	25.0
1161	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.56	2,671	0.99	25.0
1162	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.59	2,671	0.99	25.0
1163	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.61	2,671	0.99	25.0
1164	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.63	2,671	0.99	25.0
1165	Garnet pellets	D	CH	1.21	2.36	2.80	14.8	0.125	3.80	2,671	0.99	25.0
1166	Garnet pellets	D	CH	1.58	2.36	2.80	22.7	0.057	4.56	2,671	0.99	25.0
1167	Garnet pellets	D	CH	1.58	2.36	2.80	22.7	0.057	4.57	2,671	0.99	25.0
1168	Garnet pellets	D	CH	1.58	2.36	2.80	22.7	0.057	4.75	2,671	0.99	25.0
1169	Garnet pellets	D	CH	1.58	2.36	2.80	22.7	0.057	4.81	2,671	0.99	25.0
1170	Garnet pellets	D	CH	1.58	2.36	2.80	22.7	0.057	4.84	2,671	0.99	25.0
1171	Garnet pellets	D	CH	1.58	2.80	3.35	4.8	0.057	3.75	2,671	0.99	25.0
1172	Garnet pellets	D	CH	1.58	2.80	3.35	4.8	0.057	3.81	2,671	0.99	25.0
1173	Garnet pellets	D	CH	1.58	2.80	3.35	4.8	0.057	4.13	2,671	0.99	25.0
1174	Garnet pellets	D	CH	1.58	2.80	3.35	4.8	0.057	4.19	2,671	0.99	25.0
1175	Garnet pellets	D	CH	1.58	2.80	3.35	4.8	0.057	4.45	2,671	0.99	25.0
1176	Garnet pellets	D	CH	1.58	2.80	3.35	11.5	0.057	3.64	2,671	0.99	25.0
1177	Garnet pellets	D	CH	1.58	2.80	3.35	11.5	0.057	4.01	2,671	0.99	25.0
1178	Garnet pellets	D	CH	1.58	2.80	3.35	11.5	0.057	4.14	2,671	0.99	25.0

1179	Garnet pellets	D	CH	1.58	2.80	3.35	11.5	0.057	4.23	2,671	0.99	25.0
1180	Garnet pellets	D	CH	1.58	2.80	3.35	11.5	0.057	4.34	2,671	0.99	25.0
1181	Garnet pellets	D	CH	1.58	2.80	3.35	22.9	0.057	4.09	2,671	0.99	25.0
1182	Garnet pellets	D	CH	1.58	2.80	3.35	22.9	0.057	4.16	2,671	0.99	25.0
1183	Garnet pellets	D	CH	1.58	2.80	3.35	22.9	0.057	4.18	2,671	0.99	25.0
1184	Garnet pellets	D	CH	1.58	2.80	3.35	22.9	0.057	4.22	2,671	0.99	25.0
1185	Garnet pellets	D	CH	1.58	2.80	3.35	22.9	0.057	4.25	2,671	0.99	25.0
1186	Garnet pellets	D	CH	1.21	3.15	3.35	14.8	0.125	3.10	2,671	0.99	25.0
1187	Garnet pellets	D	CH	1.21	3.15	3.35	14.8	0.125	3.11	2,671	0.99	25.0
1188	Garnet pellets	D	CH	1.21	3.35	4.00	14.8	0.125	3.00	2,670	0.99	25.0
1189	Garnet pellets	D	CH	1.21	3.35	4.00	14.8	0.125	3.01	2,670	0.99	25.0
1190	Calcite pellets	B	SO	1.58	0.36	0.43	14.5	0.057	24.40	2,670	0.85	25.0
1191	Calcite pellets	B	SO	1.58	0.36	0.43	14.5	0.057	25.27	2,670	0.85	25.0
1192	Calcite pellets	B	SO	1.58	0.36	0.43	14.5	0.057	26.11	2,670	0.85	25.0
1193	Calcite pellets	B	SO	1.58	0.36	0.43	14.5	0.057	26.12	2,670	0.85	25.0
1194	Calcite pellets	B	SO	1.58	0.36	0.43	14.5	0.057	26.97	2,670	0.85	25.0
1195	Calcite pellets	B	SO	1.58	0.36	0.43	23.1	0.057	23.12	2,670	0.85	25.0
1196	Calcite pellets	B	SO	1.58	0.36	0.43	23.1	0.057	23.47	2,670	0.85	25.0
1197	Calcite pellets	B	SO	1.58	0.36	0.43	23.1	0.057	23.51	2,670	0.85	25.0
1198	Calcite pellets	B	SO	1.58	0.36	0.43	23.1	0.057	23.73	2,670	0.85	25.0
1199	Calcite pellets	B	SO	1.58	0.36	0.43	23.1	0.057	24.78	2,670	0.85	25.0
1200	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	29.22	2,670	0.85	25.0
1201	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	30.00	2,670	0.85	25.0
1202	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	30.04	2,670	0.85	25.0
1203	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	30.78	2,670	0.85	25.0
1204	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	30.97	2,670	0.85	25.0
1205	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	31.54	2,670	0.85	25.0
1206	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	31.67	2,670	0.85	25.0
1207	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	31.69	2,670	0.85	25.0
1208	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	32.00	2,670	0.85	25.0
1209	Calcite pellets	B	SO	1.58	0.43	0.50	3.5	0.057	32.14	2,670	0.85	25.0
1210	Calcite pellets	B	SO	1.58	0.43	0.50	14.5	0.057	23.30	2,670	0.85	25.0
1211	Calcite pellets	B	SO	1.58	0.43	0.50	14.5	0.057	23.62	2,670	0.85	25.0
1212	Calcite pellets	B	SO	1.58	0.43	0.50	14.5	0.057	24.00	2,670	0.85	25.0
1213	Calcite pellets	B	SO	1.58	0.43	0.50	14.5	0.057	24.80	2,670	0.85	25.0
1214	Calcite pellets	B	SO	1.58	0.43	0.50	14.5	0.057	24.97	2,670	0.85	25.0
1215	Calcite pellets	B	SO	1.58	0.43	0.50	23.0	0.057	21.76	2,670	0.85	25.0
1216	Calcite pellets	B	SO	1.58	0.43	0.50	23.0	0.057	21.98	2,670	0.85	25.0
1217	Calcite pellets	B	SO	1.58	0.43	0.50	23.0	0.057	22.12	2,670	0.85	25.0
1218	Calcite pellets	B	SO	1.58	0.43	0.50	23.0	0.057	22.13	2,670	0.85	25.0
1219	Calcite pellets	B	SO	1.58	0.43	0.50	23.0	0.057	22.13	2,670	0.85	25.0
1220	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	25.06	2,670	0.85	25.0
1221	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	25.15	2,670	0.85	25.0
1222	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	25.27	2,670	0.85	25.0
1223	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	25.75	2,670	0.85	25.0
1224	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	25.93	2,670	0.85	25.0
1225	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	31.27	2,670	0.85	25.0
1226	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	31.41	2,670	0.85	25.0
1227	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	31.54	2,670	0.85	25.0
1228	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	31.85	2,670	0.85	25.0
1229	Calcite pellets	B	SO	2.10	0.43	0.50	34.0	0.057	32.52	2,670	0.85	25.0
1230	Calcite pellets	B	SO	1.58	0.50	0.60	3.5	0.057	24.55	2,670	0.85	25.0
1231	Calcite pellets	B	SO	1.58	0.50	0.60	3.5	0.057	25.06	2,670	0.85	25.0
1232	Calcite pellets	B	SO	1.58	0.50	0.60	3.5	0.057	25.37	2,670	0.85	25.0
1233	Calcite pellets	B	SO	1.58	0.50	0.60	3.5	0.057	25.67	2,670	0.85	25.0
1234	Calcite pellets	B	SO	1.58	0.50	0.60	3.5	0.057	25.70	2,670	0.85	25.0
1235	Calcite pellets	B	SO	1.50	0.50	0.60	5.1	0.057	19.03	2,580	0.90	25.0
1236	Calcite pellets	B	SO	1.50	0.50	0.60	5.1	0.057	19.05	2,580	0.90	25.0
1237	Calcite pellets	B	SO	1.50	0.50	0.60	5.1	0.057	19.08	2,580	0.90	25.0
1238	Calcite pellets	B	SO	1.50	0.50	0.60	5.1	0.057	19.25	2,580	0.90	25.0
1239	Calcite pellets	B	SO	1.50	0.50	0.60	5.1	0.057	19.47	2,580	0.90	25.0
1240	Calcite pellets	B	SO	1.58	0.50	0.60	7.0	0.057	20.85	2,670	0.85	25.0
1241	Calcite pellets	B	SO	1.58	0.50	0.60	7.0	0.057	20.88	2,670	0.85	25.0
1242	Calcite pellets	B	SO	1.58	0.50	0.60	7.0	0.057	21.10	2,670	0.85	25.0
1243	Calcite pellets	B	SO	1.58	0.50	0.60	7.0	0.057	21.28	2,670	0.85	25.0
1244	Calcite pellets	B	SO	1.58	0.50	0.60	7.0	0.057	21.66	2,670	0.85	25.0
1245	Calcite pellets	B	SO	1.58	0.50	0.60	12.2	0.057	18.35	2,670	0.85	25.0
1246	Calcite pellets	B	SO	1.58	0.50	0.60	12.2	0.057	18.69	2,670	0.85	25.0
1247	Calcite pellets	B	SO	1.58	0.50	0.60	12.2	0.057	19.15	2,670	0.85	25.0
1248	Calcite pellets	B	SO	1.58	0.50	0.60	12.2	0.057	19.85	2,670	0.85	25.0
1249	Calcite pellets	B	SO	1.58	0.50	0.60	12.2	0.057	20.07	2,670	0.85	25.0
1250	Calcite pellets	B	SO	1.58	0.50	0.60	14.5	0.057	18.96	2,670	0.85	25.0
1251	Calcite pellets	B	SO	1.58	0.50	0.60	14.5	0.057	19.38	2,670	0.85	25.0
1252	Calcite pellets	B	SO	1.58	0.50	0.60	14.5	0.057	19.79	2,670	0.85	25.0
1253	Calcite pellets	B	SO	1.58	0.50	0.60	14.5	0.057	19.84	2,670	0.85	25.0
1254	Calcite pellets	B	SO	1.58	0.50	0.60	14.5	0.057	19.91	2,670	0.85	25.0
1255	Calcite pellets	B	SO	1.58	0.50	0.60	22.3	0.057	17.75	2,670	0.85	25.0
1256	Calcite pellets	B	SO	1.58	0.50	0.60	22.3	0.057	17.90	2,670	0.85	25.0
1257	Calcite pellets	B	SO	1.58	0.50	0.60	22.3	0.057	17.97	2,670	0.85	25.0
1258	Calcite pellets	B	SO	1.58	0.50	0.60	22.3	0.057	18.25	2,670	0.85	25.0
1259	Calcite pellets	B	SO	1.58	0.50	0.60	22.3	0.057	18.47	2,670	0.85	25.0
1260	Calcite pellets	B	SO	1.58	0.50	0.60	23.1	0.057	17.53	2,670	0.85	25.0
1261	Calcite pellets	B	SO	1.58	0.50	0.60	23.1	0.057	17.72	2,670	0.85	25.0
1262	Calcite pellets	B	SO	1.58	0.50	0.60	23.1	0.057	17.91	2,670	0.85	25.0
1263	Calcite pellets	B	SO	1.58	0.50	0.60	23.1	0.057	18.13	2,670	0.85	25.0
1264	Calcite pellets	B	SO	1.58	0.50	0.60	23.1	0.057	18.29	2,670	0.85	25.0
1265	Calcite pellets	B	SO	2.10	0.50	0.60	34.2	0.057	22.43	2,670	0.85	25.0
1266	Calcite pellets	B	SO	2.10	0.50	0.60	34.2	0.057	22.66	2,670	0.85	25.0
1267	Calcite pellets	B	SO	2.10	0.50	0.60	34.2	0.057	22.77	2,670	0.85	25.0
1268	Calcite pellets	B	SO	2.10	0.50	0.60	34.2	0.057	22.93	2,670	0.85	25.0
1269	Calcite pellets	B	SO	2.10	0.50	0.60	34.2	0.057	23.02	2,670	0.85	25.0
1270	Calcite pellets	B	SO	1.58	0.60	0.71	3.5	0.057	21.57	2,670	0.91	25.0
1271	Calcite pellets	B	SO	1.58	0.60	0.71	3.5	0.057	21.79	2,670	0.91	25.0
1272	Calcite pellets	B	SO	1.58	0.60	0.71	3.5	0.057	22.07	2,670	0.91	25.0
1273	Calcite pellets	B	SO	1.58	0.60	0.71	3.5	0.057	22.31	2,670	0.91	25.0
1274	Calcite pellets	B	SO	1.58	0.60	0.71	3.5	0.057	22.45	2,670	0.91	25.0
1275	Calcite pellets	B	SO	1.50	0.60	0.71	5.1	0.057	17.12	2,580	0.91	25.0
1276	Calcite pellets	B	SO	1.50	0.60	0.71	5.1	0.057	17.36	2,580	0.91	25.0
1277	Calcite pellets	B	SO	1.50	0.60	0.71	5.1	0.057	17.55	2,580	0.91	25.0
1278	Calcite pellets	B	SO	1.50	0.60	0.71	5.1	0.057	18.00	2,580	0.91	25.0
1279	Calcite pellets	B	SO	1.50	0.60	0.71	5.1	0.057	18.27	2,580	0.91	25.0
1280	Calcite pellets	B	SO	1.58	0.60	0.71	7.0	0.057	18.12	2,670	0.91	25.0
1281	Calcite pellets	B	SO	1.58	0.60	0.71	7.0	0.057	18.25	2,670	0.91	25.0
1282	Calcite pellets	B	SO	1.58	0.60	0.71	7.0	0.057	18.85	2,670	0.91	25.0
1283	Calcite pellets	B	SO	1.58	0.60	0.71	7.0	0.057	19.25	2,670	0.91	25.0
1284	Calcite pellets	B	SO	1.58	0.60	0.71	7.0	0.057	19.37	2,670	0.91	25.0
1285	Calcite pellets	B	SO	1.58	0.60	0.71	12.2	0.057	16.37	2,670	0.91	25.0
1286	Calcite pellets	B	SO	1.58	0.60	0.71	12.2	0.057	16.87	2,670	0.91	25.0
1287	Calcite pellets	B	SO	1.58	0.60	0.71	12.2	0.057	17.78	2,670	0.91	25.0
1288	Calcite pellets	B	SO	1.58	0.60	0.71	12.2	0.057	18.41	2,670	0.91	25.0
1289	Calcite pellets	B	SO	1.58	0.60	0.71	12.2	0.057	19.28	2,670	0.91	25.0
1290	Calcite pellets	B	SO	1.58	0.60	0.71	14.5	0.057	15.23	2,670	0.91	25.0
1291	Calcite pellets	B	SO	1.58	0.60	0.71	14.5	0.057	15.27	2,670	0.91	25.0
1292	Calcite pellets	B	SO	1.58	0.60	0.71	14.5	0.057	15.42	2,670	0.91	25.0
1293	Calcite pellets	B	SO	1.58	0.60	0.71	14.5	0.057	15.48	2,670	0.91	25.0
1294	Calcite pellets	B	SO	1.58	0.60	0.71	14.5	0.057	15.57	2,670	0.91	25.0
1295	Calcite pellets	B	SO	1.58	0.60	0.71	22.7	0.057	15.72	2,670	0.91	25.0
1296	Calcite pellets	B	SO	1.58	0.60	0.71	22.7	0.057	16.03	2,670	0.91	25.0
1297	Calcite pellets	B	SO	1.58	0.60	0.71	22.7	0.057	16.10	2,670	0.91	25.0
1298	Calcite pellets	B	SO	1.58	0.60	0.71	22.7	0.057	16.12	2,670	0.91	25.0
1299	Calcite pellets	B	SO	1.58	0.60	0.71	22.7	0.057	16.16	2,670	0.91	25.0
1300	Calcite pellets	B	SO	1.58	0.60	0.71	23.1	0.057	14.49	2,670	0.91	25.0
1301	Calcite pellets	B	SO	1.58	0.60	0.71	23.1	0.057	14.57	2,670	0.91	25.0
1302	Calcite pellets	B	SO	1.58	0.60	0.71	23.1	0.057	15.13	2,670	0.91	25.0

1303	Calcite pellets	B	SO	1.58	0.60	0.71	23.1	0.057	15.13	2,670	0.91	25.0
1304	Calcite pellets	B	SO	1.58	0.60	0.71	23.1	0.057	15.22	2,670	0.91	25.0
1305	Calcite pellets	B	SO	1.50	0.60	0.71	30.3	0.057	13.85	2,580	0.91	25.0
1306	Calcite pellets	B	SO	1.50	0.60	0.71	30.3	0.057	14.10	2,580	0.91	25.0
1307	Calcite pellets	B	SO	1.50	0.60	0.71	30.3	0.057	14.26	2,580	0.91	25.0
1308	Calcite pellets	B	SO	1.50	0.60	0.71	30.3	0.057	14.31	2,580	0.91	25.0
1309	Calcite pellets	B	SO	1.50	0.60	0.71	30.3	0.057	14.86	2,580	0.91	25.0
1310	Calcite pellets	B	SO	2.10	0.60	0.71	34.2	0.057	18.93	2,670	0.91	25.0
1311	Calcite pellets	B	SO	2.10	0.60	0.71	34.2	0.057	19.12	2,670	0.91	25.0
1312	Calcite pellets	B	SO	2.10	0.60	0.71	34.2	0.057	19.21	2,670	0.91	25.0
1313	Calcite pellets	B	SO	2.10	0.60	0.71	34.2	0.057	19.23	2,670	0.91	25.0
1314	Calcite pellets	B	SO	2.10	0.60	0.71	34.2	0.057	19.33	2,670	0.91	25.0
1315	Calcite pellets	B	SO	1.58	0.71	0.80	3.4	0.057	13.54	2,670	0.91	25.0
1316	Calcite pellets	B	SO	1.58	0.71	0.80	3.4	0.057	14.31	2,670	0.91	25.0
1317	Calcite pellets	B	SO	1.58	0.71	0.80	3.4	0.057	14.36	2,670	0.91	25.0
1318	Calcite pellets	B	SO	1.58	0.71	0.80	3.4	0.057	14.97	2,670	0.91	25.0
1319	Calcite pellets	B	SO	1.58	0.71	0.80	3.4	0.057	15.25	2,670	0.91	25.0
1320	Calcite pellets	B	SO	1.50	0.71	0.80	4.4	0.057	15.53	2,588	0.91	25.0
1321	Calcite pellets	B	SO	1.50	0.71	0.80	4.4	0.057	15.55	2,588	0.91	25.0
1322	Calcite pellets	B	SO	1.50	0.71	0.80	4.4	0.057	15.99	2,588	0.91	25.0
1323	Calcite pellets	B	SO	1.50	0.71	0.80	4.4	0.057	16.04	2,588	0.91	25.0
1324	Calcite pellets	B	SO	1.50	0.71	0.80	4.4	0.057	16.09	2,588	0.91	25.0
1325	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	13.28	2,670	0.91	25.0
1326	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	13.28	2,670	0.91	25.0
1327	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	13.65	2,670	0.91	25.0
1328	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	13.65	2,670	0.91	25.0
1329	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	14.23	2,670	0.91	25.0
1330	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	14.23	2,670	0.91	25.0
1331	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	14.43	2,670	0.91	25.0
1332	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	14.43	2,670	0.91	25.0
1333	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	15.02	2,670	0.91	25.0
1334	Calcite pellets	B	SO	1.58	0.71	0.80	14.5	0.057	15.02	2,670	0.91	25.0
1335	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	12.95	2,670	0.91	25.0
1336	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	12.95	2,670	0.91	25.0
1337	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	13.41	2,670	0.91	25.0
1338	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	13.41	2,670	0.91	25.0
1339	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	13.48	2,670	0.91	25.0
1340	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	13.48	2,670	0.91	25.0
1341	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	13.68	2,670	0.91	25.0
1342	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	13.68	2,670	0.91	25.0
1343	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	13.85	2,670	0.91	25.0
1344	Calcite pellets	B	SO	1.58	0.71	0.80	23.1	0.057	13.85	2,670	0.91	25.0
1345	Calcite pellets	B	SO	1.50	0.71	0.80	30.3	0.057	12.96	2,588	0.91	25.0
1346	Calcite pellets	B	SO	1.50	0.71	0.80	30.3	0.057	13.46	2,588	0.91	25.0
1347	Calcite pellets	B	SO	1.50	0.71	0.80	30.3	0.057	13.51	2,588	0.91	25.0
1348	Calcite pellets	B	SO	1.50	0.71	0.80	30.3	0.057	13.96	2,588	0.91	25.0
1349	Calcite pellets	B	SO	1.50	0.71	0.80	30.3	0.057	14.02	2,588	0.91	25.0
1350	Calcite pellets	B	SO	2.10	0.71	0.80	33.9	0.057	17.54	2,670	0.91	25.0
1351	Calcite pellets	B	SO	2.10	0.71	0.80	33.9	0.057	17.62	2,670	0.91	25.0
1352	Calcite pellets	B	SO	2.10	0.71	0.80	33.9	0.057	17.78	2,670	0.91	25.0
1353	Calcite pellets	B	SO	2.10	0.71	0.80	33.9	0.057	17.96	2,670	0.91	25.0
1354	Calcite pellets	B	SO	2.10	0.71	0.80	33.9	0.057	18.04	2,670	0.91	25.0
1355	Calcite pellets	B	SO	1.58	0.80	0.90	3.4	0.057	13.50	2,670	0.94	25.0
1356	Calcite pellets	B	SO	1.58	0.80	0.90	3.4	0.057	13.70	2,670	0.94	25.0
1357	Calcite pellets	B	SO	1.58	0.80	0.90	3.4	0.057	13.79	2,670	0.94	25.0
1358	Calcite pellets	B	SO	1.58	0.80	0.90	3.4	0.057	13.88	2,670	0.94	25.0
1359	Calcite pellets	B	SO	1.58	0.80	0.90	3.4	0.057	14.47	2,670	0.94	25.0
1360	Calcite pellets	B	SO	1.50	0.80	0.90	4.4	0.057	13.47	2,625	0.94	25.0
1361	Calcite pellets	B	SO	1.50	0.80	0.90	4.4	0.057	13.58	2,625	0.94	25.0
1362	Calcite pellets	B	SO	1.50	0.80	0.90	4.4	0.057	13.69	2,625	0.94	25.0
1363	Calcite pellets	B	SO	1.50	0.80	0.90	4.4	0.057	13.72	2,625	0.94	25.0
1364	Calcite pellets	B	SO	1.50	0.80	0.90	4.4	0.057	13.81	2,625	0.94	25.0
1365	Calcite pellets	B	SO	1.58	0.80	0.90	7.0	0.057	12.31	2,670	0.94	25.0
1366	Calcite pellets	B	SO	1.58	0.80	0.90	7.0	0.057	12.53	2,670	0.94	25.0
1367	Calcite pellets	B	SO	1.58	0.80	0.90	7.0	0.057	12.53	2,670	0.94	25.0
1368	Calcite pellets	B	SO	1.58	0.80	0.90	7.0	0.057	12.65	2,670	0.94	25.0
1369	Calcite pellets	B	SO	1.58	0.80	0.90	7.0	0.057	12.69	2,670	0.94	25.0
1370	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.00	2,638	0.94	25.0
1371	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.31	2,638	0.94	25.0
1372	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.43	2,638	0.94	25.0
1373	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.50	2,638	0.94	25.0
1374	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.50	2,668	0.94	25.0
1375	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.66	2,638	0.94	25.0
1376	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.70	2,668	0.94	25.0
1377	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.71	2,638	0.94	25.0
1378	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.80	2,638	0.94	25.0
1379	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.80	2,668	0.94	25.0
1380	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.81	2,638	0.94	25.0
1381	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.90	2,668	0.94	25.0
1382	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	4.90	2,668	0.94	25.0
1383	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	5.00	2,638	0.94	25.0
1384	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	5.00	2,638	0.94	25.0
1385	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	5.00	2,668	0.94	25.0
1386	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	5.20	2,668	0.94	25.0
1387	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	5.30	2,668	0.94	25.0
1388	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	5.90	2,668	0.94	25.0
1389	Calcite pellets	B	SO	0.60	0.80	0.90	11.4	0.057	5.90	2,668	0.94	25.0
1390	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.11	2,688	0.94	25.0
1391	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.20	2,688	0.94	25.0
1392	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.21	2,688	0.94	25.0
1393	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.23	2,688	0.94	25.0
1394	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.29	2,688	0.94	25.0
1395	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.39	2,688	0.94	25.0
1396	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.50	2,688	0.94	25.0
1397	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.54	2,688	0.94	25.0
1398	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.60	2,688	0.94	25.0
1399	Calcite pellets	B	SO	2.00	0.80	0.90	11.8	0.057	14.65	2,688	0.94	25.0
1400	Calcite pellets	B	SO	1.58	0.80	0.90	12.2	0.057	11.56	2,670	0.94	25.0
1401	Calcite pellets	B	SO	1.58	0.80	0.90	12.2	0.057	11.93	2,670	0.94	25.0
1402	Calcite pellets	B	SO	1.58	0.80	0.90	12.2	0.057	12.03	2,670	0.94	25.0
1403	Calcite pellets	B	SO	1.58	0.80	0.90	12.2	0.057	12.12	2,670	0.94	25.0
1404	Calcite pellets	B	SO	1.58	0.80	0.90	12.2	0.057	12.63	2,670	0.94	25.0
1405	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	11.89	2,670	0.94	25.0
1406	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	11.89	2,670	0.94	25.0
1407	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	12.33	2,670	0.94	25.0
1408	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	12.33	2,670	0.94	25.0
1409	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	12.64	2,670	0.94	25.0
1410	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	12.64	2,670	0.94	25.0
1411	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	12.64	2,670	0.94	25.0
1412	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	12.64	2,670	0.94	25.0
1413	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	12.87	2,670	0.94	25.0
1414	Calcite pellets	B	SO	1.58	0.80	0.90	14.5	0.057	12.87	2,670	0.94	25.0
1415	Calcite pellets	B	SO	1.58	0.80	0.90	22.9	0.057	10.84	2,670	0.94	25.0
1416	Calcite pellets	B	SO	1.58	0.80	0.90	22.9	0.057	10.85	2,670	0.94	25.0
1417	Calcite pellets	B	SO	1.58	0.80	0.90	22.9	0.057	10.94	2,670	0.94	25.0
1418	Calcite pellets	B	SO	1.58	0.80	0.90	22.9	0.057	11.19	2,670	0.94	25.0
1419	Calcite pellets	B	SO	1.58	0.80	0.90	22.9	0.057	11.25	2,670	0.94	25.0
1420	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.15	2,670	0.94	25.0
1421	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.15	2,670	0.94	25.0
1422	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.67	2,670	0.94	25.0
1423	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.67	2,670	0.94	25.0
1424	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.68	2,670	0.94	25.0
1425	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.68	2,670	0.94	25.0
1426	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.68	2,670	0.94	25.0

1427	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.68	2,670	0.94	25.0
1428	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.87	2,670	0.94	25.0
1429	Calcite pellets	B	SO	1.58	0.80	0.90	23.1	0.057	11.87	2,670	0.94	25.0
1430	Calcite pellets	B	SO	1.50	0.80	0.90	30.3	0.057	11.74	2,625	0.94	25.0
1431	Calcite pellets	B	SO	1.50	0.80	0.90	30.3	0.057	11.98	2,625	0.94	25.0
1432	Calcite pellets	B	SO	1.50	0.80	0.90	30.3	0.057	12.00	2,625	0.94	25.0
1433	Calcite pellets	B	SO	1.50	0.80	0.90	30.3	0.057	12.12	2,625	0.94	25.0
1434	Calcite pellets	B	SO	1.50	0.80	0.90	30.3	0.057	12.18	2,625	0.94	25.0
1435	Calcite pellets	B	SO	2.10	0.80	0.90	33.9	0.057	15.67	2,670	0.94	25.0
1436	Calcite pellets	B	SO	2.10	0.80	0.90	33.9	0.057	16.04	2,670	0.94	25.0
1437	Calcite pellets	B	SO	2.10	0.80	0.90	33.9	0.057	16.19	2,670	0.94	25.0
1438	Calcite pellets	B	SO	2.10	0.80	0.90	33.9	0.057	16.28	2,670	0.94	25.0
1439	Calcite pellets	B	SO	2.10	0.80	0.90	33.9	0.057	16.45	2,670	0.94	25.0
1440	Calcite pellets	D	SO	1.50	0.85	1.00	7.5	0.057	11.14	2,598	0.94	25.0
1441	Calcite pellets	D	SO	1.50	0.85	1.00	7.5	0.057	14.51	2,598	0.94	25.0
1442	Calcite pellets	D	SO	1.50	0.85	1.00	7.6	0.057	11.51	2,598	0.94	25.0
1443	Calcite pellets	D	SO	1.50	0.85	1.00	7.7	0.057	12.12	2,598	0.94	25.0
1444	Calcite pellets	D	SO	2.00	0.85	1.00	7.8	0.057	13.66	2,598	0.94	25.0
1445	Calcite pellets	D	SO	2.00	0.85	1.00	7.8	0.057	16.25	2,598	0.94	25.0
1446	Calcite pellets	D	SO	2.00	0.85	1.00	7.9	0.057	15.56	2,598	0.94	25.0
1447	Calcite pellets	D	SO	2.00	0.85	1.00	7.9	0.057	15.59	2,598	0.94	25.0
1448	Calcite pellets	D	SO	2.00	0.85	1.00	7.9	0.057	16.00	2,598	0.94	25.0
1449	Calcite pellets	D	SO	2.00	0.85	1.00	7.9	0.057	16.03	2,598	0.94	25.0
1450	Calcite pellets	D	SO	2.00	0.85	1.00	8.0	0.057	14.09	2,598	0.94	25.0
1451	Calcite pellets	D	SO	2.00	0.85	1.00	8.0	0.057	14.25	2,598	0.94	25.0
1452	Calcite pellets	D	SO	2.00	0.85	1.00	8.0	0.057	14.87	2,598	0.94	25.0
1453	Calcite pellets	D	SO	2.00	0.85	1.00	8.2	0.057	14.53	2,598	0.94	25.0
1454	Calcite pellets	D	SO	2.00	0.85	1.00	8.2	0.057	14.78	2,598	0.94	25.0
1455	Calcite pellets	D	SO	2.00	0.85	1.00	8.2	0.057	15.28	2,598	0.94	25.0
1456	Calcite pellets	D	SO	2.00	0.85	1.00	8.2	0.057	15.40	2,598	0.94	25.0
1457	Calcite pellets	D	SO	2.00	0.85	1.00	8.2	0.057	16.00	2,598	0.94	25.0
1458	Calcite pellets	D	SO	2.00	0.85	1.00	8.3	0.057	13.78	2,598	0.94	25.0
1459	Calcite pellets	D	SO	2.00	0.85	1.00	8.3	0.057	14.78	2,598	0.94	25.0
1460	Calcite pellets	D	SO	2.00	0.85	1.00	8.3	0.057	15.41	2,598	0.94	25.0
1461	Calcite pellets	D	SO	2.00	0.85	1.00	8.4	0.057	14.00	2,598	0.94	25.0
1462	Calcite pellets	D	SO	2.00	0.85	1.00	8.4	0.057	14.13	2,598	0.94	25.0
1463	Calcite pellets	D	SO	2.00	0.85	1.00	8.4	0.057	14.56	2,598	0.94	25.0
1464	Calcite pellets	D	SO	2.00	0.85	1.00	8.4	0.057	14.63	2,598	0.94	25.0
1465	Calcite pellets	D	SO	2.00	0.85	1.00	8.4	0.057	14.75	2,598	0.94	25.0
1466	Calcite pellets	D	SO	2.00	0.85	1.00	8.4	0.057	14.78	2,598	0.94	25.0
1467	Calcite pellets	D	SO	2.00	0.85	1.00	8.4	0.057	15.06	2,598	0.94	25.0
1468	Calcite pellets	D	SO	2.00	0.85	1.00	8.4	0.057	15.09	2,598	0.94	25.0
1469	Calcite pellets	D	SO	2.00	0.85	1.00	8.4	0.057	15.37	2,598	0.94	25.0
1470	Calcite pellets	D	SO	2.00	0.85	1.00	8.5	0.057	15.78	2,598	0.94	25.0
1471	Calcite pellets	D	SO	2.00	0.85	1.00	8.5	0.057	15.96	2,598	0.94	25.0
1472	Calcite pellets	D	SO	2.00	0.85	1.00	8.7	0.057	14.04	2,598	0.94	25.0
1473	Calcite pellets	D	SO	2.00	0.85	1.00	8.7	0.057	15.21	2,598	0.94	25.0
1474	Calcite pellets	D	SO	2.00	0.85	1.00	8.7	0.057	15.72	2,598	0.94	25.0
1475	Calcite pellets	D	SO	2.00	0.85	1.00	8.8	0.057	14.69	2,598	0.94	25.0
1476	Calcite pellets	D	SO	2.00	0.85	1.00	8.8	0.057	15.72	2,598	0.94	25.0
1477	Calcite pellets	D	SO	2.00	0.85	1.00	12.3	0.057	13.79	2,598	0.94	25.0
1478	Calcite pellets	D	SO	2.00	0.85	1.00	12.3	0.057	14.25	2,598	0.94	25.0
1479	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	13.56	2,598	0.94	25.0
1480	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	13.68	2,598	0.94	25.0
1481	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	13.75	2,598	0.94	25.0
1482	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	13.90	2,598	0.94	25.0
1483	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	13.93	2,598	0.94	25.0
1484	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.00	2,598	0.94	25.0
1485	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.00	2,598	0.94	25.0
1486	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.00	2,598	0.94	25.0
1487	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.27	2,598	0.94	25.0
1488	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.28	2,598	0.94	25.0
1489	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.34	2,598	0.94	25.0
1490	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.37	2,598	0.94	25.0
1491	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.44	2,598	0.94	25.0
1492	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.44	2,598	0.94	25.0
1493	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.47	2,598	0.94	25.0
1494	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.66	2,598	0.94	25.0
1495	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.93	2,598	0.94	25.0
1496	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	14.97	2,598	0.94	25.0
1497	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	15.00	2,598	0.94	25.0
1498	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	15.06	2,598	0.94	25.0
1499	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	15.09	2,598	0.94	25.0
1500	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	16.25	2,598	0.94	25.0
1501	Calcite pellets	D	SO	2.00	0.85	1.00	12.4	0.057	16.66	2,598	0.94	25.0
1502	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	13.28	2,598	0.94	25.0
1503	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	13.75	2,598	0.94	25.0
1504	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	13.97	2,598	0.94	25.0
1505	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	14.00	2,598	0.94	25.0
1506	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	14.10	2,598	0.94	25.0
1507	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	14.16	2,598	0.94	25.0
1508	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	14.35	2,598	0.94	25.0
1509	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	14.40	2,598	0.94	25.0
1510	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	14.66	2,598	0.94	25.0
1511	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	14.75	2,598	0.94	25.0
1512	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	14.91	2,598	0.94	25.0
1513	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	14.93	2,598	0.94	25.0
1514	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	15.09	2,598	0.94	25.0
1515	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	15.34	2,598	0.94	25.0
1516	Calcite pellets	D	SO	2.00	0.85	1.00	12.5	0.057	17.66	2,598	0.94	25.0
1517	Calcite pellets	D	SO	2.00	0.85	1.00	17.9	0.057	13.31	2,598	0.94	25.0
1518	Calcite pellets	D	SO	2.00	0.85	1.00	17.9	0.057	14.62	2,598	0.94	25.0
1519	Calcite pellets	D	SO	2.00	0.85	1.00	18.0	0.057	12.90	2,598	0.94	25.0
1520	Calcite pellets	D	SO	2.00	0.85	1.00	18.0	0.057	13.47	2,598	0.94	25.0
1521	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	13.10	2,598	0.94	25.0
1522	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	13.22	2,598	0.94	25.0
1523	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	13.25	2,598	0.94	25.0
1524	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	13.28	2,598	0.94	25.0
1525	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	13.32	2,598	0.94	25.0
1526	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	13.50	2,598	0.94	25.0
1527	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	13.56	2,598	0.94	25.0
1528	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	13.60	2,598	0.94	25.0
1529	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	13.90	2,598	0.94	25.0
1530	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	14.22	2,598	0.94	25.0
1531	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	14.31	2,598	0.94	25.0
1532	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	15.41	2,598	0.94	25.0
1533	Calcite pellets	D	SO	2.00	0.85	1.00	18.1	0.057	16.77	2,598	0.94	25.0
1534	Calcite pellets	D	SO	2.00	0.85	1.00	18.2	0.057	12.38	2,598	0.94	25.0
1535	Calcite pellets	D	SO	2.00	0.85	1.00	18.2	0.057	13.16	2,598	0.94	25.0
1536	Calcite pellets	D	SO	2.00	0.85	1.00	18.2	0.057	13.28	2,598	0.94	25.0
1537	Calcite pellets	D	SO	2.00	0.85	1.00	18.2	0.057	13.35	2,598	0.94	25.0
1538	Calcite pellets	D	SO	2.00	0.85	1.00	18.2	0.057	13.81	2,598	0.94	25.0
1539	Calcite pellets	D	SO	2.00	0.85	1.00	18.2	0.057	14.63	2,598	0.94	25.0
1540	Calcite pellets	D	SO	2.00	0.85	1.00	18.3	0.057	12.63	2,598	0.94	25.0
1541	Calcite pellets	D	SO	2.00	0.85	1.00	18.3	0.057	13.19	2,598	0.94	25.0
1542	Calcite pellets	D	SO	2.00	0.85	1.00	18.3	0.057	13.47	2,598	0.94	25.0
1543	Calcite pellets	D	SO	2.00	0.85	1.00	18.3	0.057	13.56	2,598	0.94	25.0
1544	Calcite pellets	D	SO	2.00	0.85	1.00	18.3	0.057	13.69	2,598	0.94	25.0
1545	Calcite pellets	D	SO	2.00	0.85	1.00	18.4	0.057	10.47	2,598	0.94	25.0
1546	Calcite pellets	D	SO	2.00	0.85	1.00	18.4	0.057	12.56	2,598	0.94	25.0
1547	Calcite pellets	D	SO	2.00	0.85	1.00	18.4	0.057	13.19	2,598	0.94	25.0
1548	Calcite pellets	D	SO	2.00	0.85	1.00	18.4	0.057	13.29	2,598	0.94	25.0
1549	Calcite pellets	D	SO	2.00	0.85	1.00	18.4	0.057	13.43	2,598	0.94	25.0
1550	Calcite pellets	D	SO	2.00	0.85	1.00	18.4	0.057	13.57	2,598	0.94	25.0

1551	Calcite pellets	D	SO	2.00	0.85	1.00	18.4	0.057	14.25	2,598	0.94	25.0
1552	Calcite pellets	D	SO	2.00	0.85	1.00	18.4	0.057	18.16	2,598	0.94	25.0
1553	Calcite pellets	D	SO	2.00	0.85	1.00	18.5	0.057	12.59	2,598	0.94	25.0
1554	Calcite pellets	D	SO	2.00	0.85	1.00	18.5	0.057	13.19	2,598	0.94	25.0
1555	Calcite pellets	D	SO	2.00	0.85	1.00	18.5	0.057	13.19	2,598	0.94	25.0
1556	Calcite pellets	D	SO	2.00	0.85	1.00	18.5	0.057	13.84	2,598	0.94	25.0
1557	Calcite pellets	D	SO	2.00	0.85	1.00	20.8	0.057	13.00	2,598	0.94	25.0
1558	Calcite pellets	D	SO	2.00	0.85	1.00	20.8	0.057	13.06	2,598	0.94	25.0
1559	Calcite pellets	D	SO	2.00	0.85	1.00	20.8	0.057	13.50	2,598	0.94	25.0
1560	Calcite pellets	D	SO	2.00	0.85	1.00	20.8	0.057	13.71	2,598	0.94	25.0
1561	Calcite pellets	D	SO	2.00	0.85	1.00	20.9	0.057	13.15	2,598	0.94	25.0
1562	Calcite pellets	D	SO	2.00	0.85	1.00	20.9	0.057	13.37	2,598	0.94	25.0
1563	Calcite pellets	D	SO	2.00	0.85	1.00	21.0	0.057	13.19	2,598	0.94	25.0
1564	Calcite pellets	D	SO	2.00	0.85	1.00	21.0	0.057	13.35	2,598	0.94	25.0
1565	Calcite pellets	D	SO	2.00	0.85	1.00	21.0	0.057	13.90	2,598	0.94	25.0
1566	Calcite pellets	D	SO	2.00	0.85	1.00	21.1	0.057	12.97	2,598	0.94	25.0
1567	Calcite pellets	D	SO	2.00	0.85	1.00	21.1	0.057	14.00	2,598	0.94	25.0
1568	Calcite pellets	D	SO	2.00	0.85	1.00	21.2	0.057	12.16	2,598	0.94	25.0
1569	Calcite pellets	D	SO	2.00	0.85	1.00	21.2	0.057	13.46	2,598	0.94	25.0
1570	Calcite pellets	D	SO	2.00	0.85	1.00	21.2	0.057	13.57	2,598	0.94	25.0
1571	Calcite pellets	D	SO	2.00	0.85	1.00	21.2	0.057	13.78	2,598	0.94	25.0
1572	Calcite pellets	D	SO	2.00	0.85	1.00	21.2	0.057	13.81	2,598	0.94	25.0
1573	Calcite pellets	D	SO	2.00	0.85	1.00	21.3	0.057	13.65	2,598	0.94	25.0
1574	Calcite pellets	D	SO	2.00	0.85	1.00	21.3	0.057	14.19	2,598	0.94	25.0
1575	Calcite pellets	D	SO	2.00	0.85	1.00	21.4	0.057	12.50	2,598	0.94	25.0
1576	Calcite pellets	D	SO	2.00	0.85	1.00	21.4	0.057	12.96	2,598	0.94	25.0
1577	Calcite pellets	D	SO	2.00	0.85	1.00	21.4	0.057	12.97	2,598	0.94	25.0
1578	Calcite pellets	D	SO	2.00	0.85	1.00	21.4	0.057	13.85	2,598	0.94	25.0
1579	Calcite pellets	D	SO	2.00	0.85	1.00	21.5	0.057	12.59	2,598	0.94	25.0
1580	Calcite pellets	D	SO	2.00	0.85	1.00	21.5	0.057	12.91	2,598	0.94	25.0
1581	Calcite pellets	D	SO	2.00	0.85	1.00	21.5	0.057	14.07	2,598	0.94	25.0
1582	Calcite pellets	D	SO	2.00	0.85	1.00	21.6	0.057	13.12	2,598	0.94	25.0
1583	Calcite pellets	D	SO	2.00	0.85	1.00	21.6	0.057	13.38	2,598	0.94	25.0
1584	Calcite pellets	D	SO	2.00	0.85	1.00	21.6	0.057	13.49	2,598	0.94	25.0
1585	Calcite pellets	D	SO	2.00	0.85	1.00	21.7	0.057	13.25	2,598	0.94	25.0
1586	Calcite pellets	D	SO	2.00	0.85	1.00	21.7	0.057	13.34	2,598	0.94	25.0
1587	Calcite pellets	D	SO	2.00	0.85	1.00	21.7	0.057	13.63	2,598	0.94	25.0
1588	Calcite pellets	D	SO	2.00	0.85	1.00	21.9	0.057	13.58	2,598	0.94	25.0
1589	Calcite pellets	D	SO	2.00	0.85	1.00	21.9	0.057	13.63	2,598	0.94	25.0
1590	Calcite pellets	D	SO	2.00	0.85	1.00	21.9	0.057	13.75	2,598	0.94	25.0
1591	Calcite pellets	D	SO	2.00	0.85	1.00	21.9	0.057	14.06	2,598	0.94	25.0
1592	Calcite pellets	D	SO	2.00	0.85	1.00	21.9	0.057	14.28	2,598	0.94	25.0
1593	Calcite pellets	D	SO	2.00	0.85	1.00	21.9	0.057	14.34	2,598	0.94	25.0
1594	Calcite pellets	D	SO	2.00	0.85	1.00	21.9	0.057	14.47	2,598	0.94	25.0
1595	Calcite pellets	D	SO	2.00	0.85	1.00	22.0	0.057	12.78	2,598	0.94	25.0
1596	Calcite pellets	D	SO	2.00	0.85	1.00	22.0	0.057	13.95	2,598	0.94	25.0
1597	Calcite pellets	D	SO	1.50	0.90	1.00	4.4	0.057	12.29	2,625	0.95	25.0
1598	Calcite pellets	D	SO	1.50	0.90	1.00	4.4	0.057	12.56	2,625	0.95	25.0
1599	Calcite pellets	D	SO	1.50	0.90	1.00	4.4	0.057	12.56	2,625	0.95	25.0
1600	Calcite pellets	D	SO	1.50	0.90	1.00	4.4	0.057	12.58	2,625	0.95	25.0
1601	Calcite pellets	D	SO	1.50	0.90	1.00	4.4	0.057	13.12	2,625	0.95	25.0
1602	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.13	2,670	0.95	25.0
1603	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.36	2,670	0.95	25.0
1604	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.45	2,670	0.95	25.0
1605	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.52	2,670	0.95	25.0
1606	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.52	2,670	0.95	25.0
1607	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.52	2,670	0.95	25.0
1608	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.55	2,670	0.95	25.0
1609	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.60	2,670	0.95	25.0
1610	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.63	2,670	0.95	25.0
1611	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.70	2,670	0.95	25.0
1612	Calcite pellets	D	SO	0.60	0.90	1.00	14.6	0.057	4.86	2,670	0.95	25.0
1613	Calcite pellets	D	SO	1.50	0.90	1.00	30.3	0.057	10.25	2,625	0.95	25.0
1614	Calcite pellets	D	SO	1.50	0.90	1.00	30.3	0.057	11.02	2,625	0.95	25.0
1615	Calcite pellets	D	SO	1.50	0.90	1.00	30.3	0.057	11.34	2,625	0.95	25.0
1616	Calcite pellets	D	SO	1.50	0.90	1.00	30.3	0.057	11.38	2,625	0.95	25.0
1617	Calcite pellets	D	SO	1.50	0.90	1.00	30.3	0.057	11.56	2,625	0.95	25.0
1618	Calcite pellets	D	SO	1.58	0.90	1.12	3.3	0.057	10.47	2,670	0.95	25.0
1619	Calcite pellets	D	SO	1.58	0.90	1.12	3.3	0.057	10.61	2,670	0.95	25.0
1620	Calcite pellets	D	SO	1.58	0.90	1.12	3.3	0.057	10.96	2,670	0.95	25.0
1621	Calcite pellets	D	SO	1.58	0.90	1.12	3.3	0.057	11.19	2,670	0.95	25.0
1622	Calcite pellets	D	SO	1.58	0.90	1.12	3.3	0.057	11.57	2,670	0.95	25.0
1623	Calcite pellets	D	SO	1.58	0.90	1.12	7.0	0.057	10.12	2,670	0.95	25.0
1624	Calcite pellets	D	SO	1.58	0.90	1.12	7.0	0.057	10.19	2,670	0.95	25.0
1625	Calcite pellets	D	SO	1.58	0.90	1.12	7.0	0.057	10.22	2,670	0.95	25.0
1626	Calcite pellets	D	SO	1.58	0.90	1.12	7.0	0.057	10.44	2,670	0.95	25.0
1627	Calcite pellets	D	SO	1.58	0.90	1.12	7.0	0.057	10.78	2,670	0.95	25.0
1628	Calcite pellets	D	SO	1.58	0.90	1.12	12.2	0.057	9.60	2,670	0.95	25.0
1629	Calcite pellets	D	SO	1.58	0.90	1.12	12.2	0.057	9.97	2,670	0.95	25.0
1630	Calcite pellets	D	SO	1.58	0.90	1.12	12.2	0.057	10.00	2,670	0.95	25.0
1631	Calcite pellets	D	SO	1.58	0.90	1.12	12.2	0.057	10.12	2,670	0.95	25.0
1632	Calcite pellets	D	SO	1.58	0.90	1.12	12.2	0.057	10.13	2,670	0.95	25.0
1633	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	9.53	2,670	0.95	25.0
1634	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	9.53	2,670	0.95	25.0
1635	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	9.77	2,670	0.95	25.0
1636	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	9.77	2,670	0.95	25.0
1637	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	9.78	2,670	0.95	25.0
1638	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	9.78	2,670	0.95	25.0
1639	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	9.87	2,670	0.95	25.0
1640	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	9.87	2,670	0.95	25.0
1641	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	10.03	2,670	0.95	25.0
1642	Calcite pellets	D	SO	1.58	0.90	1.12	14.3	0.057	10.03	2,670	0.95	25.0
1643	Calcite pellets	D	SO	1.58	0.90	1.12	23.1	0.057	9.31	2,670	0.95	25.0
1644	Calcite pellets	D	SO	1.58	0.90	1.12	23.1	0.057	9.35	2,670	0.95	25.0
1645	Calcite pellets	D	SO	1.58	0.90	1.12	23.1	0.057	9.48	2,670	0.95	25.0
1646	Calcite pellets	D	SO	1.58	0.90	1.12	23.1	0.057	9.60	2,670	0.95	25.0
1647	Calcite pellets	D	SO	1.58	0.90	1.12	23.1	0.057	9.64	2,670	0.95	25.0
1648	Calcite pellets	D	SO	1.58	0.90	1.12	23.2	0.057	9.09	2,670	0.95	25.0
1649	Calcite pellets	D	SO	1.58	0.90	1.12	23.2	0.057	9.25	2,670	0.95	25.0
1650	Calcite pellets	D	SO	1.58	0.90	1.12	23.2	0.057	9.31	2,670	0.95	25.0
1651	Calcite pellets	D	SO	1.58	0.90	1.12	23.2	0.057	9.38	2,670	0.95	25.0
1652	Calcite pellets	D	SO	1.58	0.90	1.12	23.2	0.057	9.54	2,670	0.95	25.0
1653	Calcite pellets	D	SO	2.10	0.90	1.12	34.0	0.057	12.26	2,670	0.95	25.0
1654	Calcite pellets	D	SO	2.10	0.90	1.12	34.0	0.057	12.31	2,670	0.95	25.0
1655	Calcite pellets	D	SO	2.10	0.90	1.12	34.0	0.057	12.39	2,670	0.95	25.0
1656	Calcite pellets	D	SO	2.10	0.90	1.12	34.0	0.057	12.49	2,670	0.95	25.0
1657	Calcite pellets	D	SO	2.10	0.90	1.12	34.0	0.057	12.49	2,670	0.95	25.0
1658	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	5.56	2,579	0.96	25.0
1659	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.12	2,579	0.96	25.0
1660	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.13	2,579	0.96	25.0
1661	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.18	2,579	0.96	25.0
1662	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.22	2,579	0.96	25.0
1663	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.37	2,579	0.96	25.0
1664	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.41	2,579	0.96	25.0
1665	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.41	2,579	0.96	25.0
1666	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.47	2,579	0.96	25.0
1667	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.47	2,579	0.96	25.0
1668	Calcite pellets	D	SO	1.00	1.00	1.12	5.7	0.057	6.82	2,579	0.96	25.0
1669	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	3.70	2,668	0.96	25.0
1670	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	3.90	2,668	0.96	25.0
1671	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	3.90	2,668	0.96	25.0
1672	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	3.90	2,668	0.96	25.0
1673	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.00	2,638	0.96	25.0
1674	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.00	2,638	0.96	25.0

1675	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.00	2,668	0.96	25.0
1676	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.10	2,668	0.96	25.0
1677	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.10	2,668	0.96	25.0
1678	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.25	2,638	0.96	25.0
1679	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.30	2,668	0.96	25.0
1680	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.31	2,638	0.96	25.0
1681	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.31	2,638	0.96	25.0
1682	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.34	2,638	0.96	25.0
1683	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.50	2,668	0.96	25.0
1684	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.50	2,668	0.96	25.0
1685	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	4.96	2,638	0.96	25.0
1686	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	5.03	2,638	0.96	25.0
1687	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	5.21	2,638	0.96	25.0
1688	Calcite pellets	D	SO	0.60	1.00	1.12	11.4	0.057	6.21	2,638	0.96	25.0
1689	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.15	2,688	0.96	25.0
1690	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.20	2,688	0.96	25.0
1691	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.30	2,688	0.96	25.0
1692	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.33	2,688	0.96	25.0
1693	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.34	2,688	0.96	25.0
1694	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.39	2,688	0.96	25.0
1695	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.46	2,688	0.96	25.0
1696	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.54	2,688	0.96	25.0
1697	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.56	2,688	0.96	25.0
1698	Calcite pellets	D	SO	2.00	1.00	1.12	12.3	0.057	12.67	2,688	0.96	25.0
1699	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	3.60	2,670	0.96	25.0
1700	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	3.63	2,670	0.96	25.0
1701	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	3.67	2,670	0.96	25.0
1702	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	3.68	2,670	0.96	25.0
1703	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	3.75	2,670	0.96	25.0
1704	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	3.79	2,670	0.96	25.0
1705	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	3.82	2,670	0.96	25.0
1706	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	3.90	2,670	0.96	25.0
1707	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	3.98	2,670	0.96	25.0
1708	Calcite pellets	D	SO	0.60	1.00	1.12	12.9	0.057	4.00	2,670	0.96	25.0
1709	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.39	2,670	0.96	25.0
1710	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.48	2,670	0.96	25.0
1711	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.49	2,670	0.96	25.0
1712	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.50	2,670	0.96	25.0
1713	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.55	2,670	0.96	25.0
1714	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.68	2,670	0.96	25.0
1715	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.69	2,670	0.96	25.0
1716	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.74	2,670	0.96	25.0
1717	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.76	2,670	0.96	25.0
1718	Calcite pellets	D	SO	0.60	1.00	1.12	15.0	0.057	3.94	2,670	0.96	25.0
1719	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	5.75	2,579	0.96	25.0
1720	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	5.87	2,579	0.96	25.0
1721	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	5.91	2,579	0.96	25.0
1722	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	5.91	2,579	0.96	25.0
1723	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	5.94	2,579	0.96	25.0
1724	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	6.00	2,579	0.96	25.0
1725	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	6.16	2,579	0.96	25.0
1726	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	6.16	2,579	0.96	25.0
1727	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	6.28	2,579	0.96	25.0
1728	Calcite pellets	D	SO	1.00	1.00	1.12	15.5	0.057	6.35	2,579	0.96	25.0
1729	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	3.69	2,673	0.96	25.0
1730	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	3.74	2,673	0.96	25.0
1731	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	3.80	2,673	0.96	25.0
1732	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	3.81	2,673	0.96	25.0
1733	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	3.87	2,673	0.96	25.0
1734	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	3.94	2,673	0.96	25.0
1735	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	3.95	2,673	0.96	25.0
1736	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.00	2,673	0.96	25.0
1737	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.13	2,673	0.96	25.0
1738	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.20	2,673	0.96	25.0
1739	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.20	2,673	0.96	25.0
1740	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.30	2,673	0.96	25.0
1741	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.32	2,673	0.96	25.0
1742	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.33	2,673	0.96	25.0
1743	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.35	2,673	0.96	25.0
1744	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.40	2,673	0.96	25.0
1745	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.60	2,673	0.96	25.0
1746	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.60	2,673	0.96	25.0
1747	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	4.66	2,673	0.96	25.0
1748	Calcite pellets	D	SO	0.60	1.00	1.12	20.1	0.057	5.17	2,673	0.96	25.0
1749	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	5.53	2,579	0.96	25.0
1750	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	5.56	2,579	0.96	25.0
1751	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	5.60	2,579	0.96	25.0
1752	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	5.75	2,579	0.96	25.0
1753	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	5.75	2,579	0.96	25.0
1754	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	5.81	2,579	0.96	25.0
1755	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	5.94	2,579	0.96	25.0
1756	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	5.97	2,579	0.96	25.0
1757	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	5.97	2,579	0.96	25.0
1758	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	6.00	2,579	0.96	25.0
1759	Calcite pellets	D	SO	1.00	1.00	1.12	25.3	0.057	6.53	2,579	0.96	25.0
1760	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.22	2,579	0.96	25.0
1761	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.31	2,579	0.96	25.0
1762	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.35	2,579	0.96	25.0
1763	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.37	2,579	0.96	25.0
1764	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.37	2,579	0.96	25.0
1765	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.37	2,579	0.96	25.0
1766	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.57	2,579	0.96	25.0
1767	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.57	2,579	0.96	25.0
1768	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.62	2,579	0.96	25.0
1769	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.63	2,579	0.96	25.0
1770	Calcite pellets	D	SO	1.00	1.00	1.12	36.8	0.057	5.84	2,579	0.96	25.0
1771	Calcite pellets	D	SO	2.00	1.00	1.20	8.7	0.057	11.28	2,617	0.96	25.0
1772	Calcite pellets	D	SO	2.00	1.00	1.20	8.7	0.057	11.63	2,617	0.96	25.0
1773	Calcite pellets	D	SO	2.00	1.00	1.20	8.7	0.057	11.68	2,617	0.96	25.0
1774	Calcite pellets	D	SO	2.00	1.00	1.20	8.7	0.057	12.56	2,617	0.96	25.0
1775	Calcite pellets	D	SO	2.00	1.00	1.20	8.7	0.057	13.72	2,617	0.96	25.0
1776	Calcite pellets	D	SO	2.00	1.00	1.20	8.8	0.057	11.66	2,617	0.96	25.0
1777	Calcite pellets	D	SO	2.00	1.00	1.20	8.8	0.057	12.19	2,617	0.96	25.0
1778	Calcite pellets	D	SO	2.00	1.00	1.20	8.8	0.057	13.32	2,617	0.96	25.0
1779	Calcite pellets	D	SO	2.00	1.00	1.20	8.8	0.057	13.78	2,617	0.96	25.0
1780	Calcite pellets	D	SO	2.00	1.00	1.20	8.8	0.057	13.81	2,617	0.96	25.0
1781	Calcite pellets	D	SO	2.00	1.00	1.20	8.9	0.057	12.00	2,617	0.96	25.0
1782	Calcite pellets	D	SO	2.00	1.00	1.20	8.9	0.057	12.16	2,617	0.96	25.0
1783	Calcite pellets	D	SO	2.00	1.00	1.20	8.9	0.057	12.37	2,617	0.96	25.0
1784	Calcite pellets	D	SO	2.00	1.00	1.20	8.9	0.057	12.38	2,617	0.96	25.0
1785	Calcite pellets	D	SO	2.00	1.00	1.20	8.9	0.057	12.75	2,617	0.96	25.0
1786	Calcite pellets	D	SO	2.00	1.00	1.20	8.9	0.057	13.12	2,617	0.96	25.0
1787	Calcite pellets	D	SO	2.00	1.00	1.20	9.0	0.057	12.03	2,617	0.96	25.0
1788	Calcite pellets	D	SO	2.00	1.00	1.20	9.0	0.057	12.41	2,617	0.96	25.0
1789	Calcite pellets	D	SO	2.00	1.00	1.20	9.0	0.057	12.47	2,617	0.96	25.0
1790	Calcite pellets	D	SO	2.00	1.00	1.20	9.0	0.057	12.68	2,617	0.96	25.0
1791	Calcite pellets	D	SO	2.00	1.00	1.20	9.0	0.057	12.91	2,617	0.96	25.0
1792	Calcite pellets	D	SO	2.00	1.00	1.20	9.0	0.057	13.53	2,617	0.96	25.0
1793	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	10.97	2,617	0.96	25.0
1794	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	11.62	2,617	0.96	25.0
1795	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	11.93	2,617	0.96	25.0
1796	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	12.16	2,617	0.96	25.0
1797	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	12.25	2,617	0.96	25.0
1798	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	12.93	2,617	0.96	25.0

1799	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	13.06	2,617	0.96	25.0
1800	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	13.09	2,617	0.96	25.0
1801	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	13.51	2,617	0.96	25.0
1802	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	13.53	2,617	0.96	25.0
1803	Calcite pellets	D	SO	2.00	1.00	1.20	9.1	0.057	14.71	2,617	0.96	25.0
1804	Calcite pellets	D	SO	2.00	1.00	1.20	9.2	0.057	11.14	2,617	0.96	25.0
1805	Calcite pellets	D	SO	2.00	1.00	1.20	9.2	0.057	11.62	2,617	0.96	25.0
1806	Calcite pellets	D	SO	2.00	1.00	1.20	9.2	0.057	11.94	2,617	0.96	25.0
1807	Calcite pellets	D	SO	2.00	1.00	1.20	9.2	0.057	12.00	2,617	0.96	25.0
1808	Calcite pellets	D	SO	2.00	1.00	1.20	9.2	0.057	13.06	2,617	0.96	25.0
1809	Calcite pellets	D	SO	2.00	1.00	1.20	9.2	0.057	14.15	2,617	0.96	25.0
1810	Calcite pellets	D	SO	2.00	1.00	1.20	9.3	0.057	11.81	2,617	0.96	25.0
1811	Calcite pellets	D	SO	2.00	1.00	1.20	11.0	0.057	11.03	2,617	0.96	25.0
1812	Calcite pellets	D	SO	2.00	1.00	1.20	11.0	0.057	11.06	2,617	0.96	25.0
1813	Calcite pellets	D	SO	2.00	1.00	1.20	11.0	0.057	11.68	2,617	0.96	25.0
1814	Calcite pellets	D	SO	2.00	1.00	1.20	11.0	0.057	11.71	2,617	0.96	25.0
1815	Calcite pellets	D	SO	2.00	1.00	1.20	11.0	0.057	11.97	2,617	0.96	25.0
1816	Calcite pellets	D	SO	2.00	1.00	1.20	11.0	0.057	12.10	2,617	0.96	25.0
1817	Calcite pellets	D	SO	2.00	1.00	1.20	11.0	0.057	13.12	2,617	0.96	25.0
1818	Calcite pellets	D	SO	2.00	1.00	1.20	11.0	0.057	13.16	2,617	0.96	25.0
1819	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	10.94	2,617	0.96	25.0
1820	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.13	2,617	0.96	25.0
1821	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.13	2,617	0.96	25.0
1822	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.15	2,617	0.96	25.0
1823	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.16	2,617	0.96	25.0
1824	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.19	2,617	0.96	25.0
1825	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.19	2,617	0.96	25.0
1826	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.34	2,617	0.96	25.0
1827	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.35	2,617	0.96	25.0
1828	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.41	2,617	0.96	25.0
1829	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.52	2,617	0.96	25.0
1830	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.69	2,617	0.96	25.0
1831	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.75	2,617	0.96	25.0
1832	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	11.88	2,617	0.96	25.0
1833	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	12.06	2,617	0.96	25.0
1834	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	12.14	2,617	0.96	25.0
1835	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	12.22	2,617	0.96	25.0
1836	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	12.25	2,617	0.96	25.0
1837	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	12.28	2,617	0.96	25.0
1838	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	12.32	2,617	0.96	25.0
1839	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	12.37	2,617	0.96	25.0
1840	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	13.13	2,617	0.96	25.0
1841	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	13.62	2,617	0.96	25.0
1842	Calcite pellets	D	SO	2.00	1.00	1.20	11.1	0.057	14.82	2,617	0.96	25.0
1843	Calcite pellets	D	SO	2.00	1.00	1.20	11.2	0.057	10.60	2,617	0.96	25.0
1844	Calcite pellets	D	SO	2.00	1.00	1.20	11.2	0.057	11.12	2,617	0.96	25.0
1845	Calcite pellets	D	SO	2.00	1.00	1.20	11.2	0.057	11.40	2,617	0.96	25.0
1846	Calcite pellets	D	SO	2.00	1.00	1.20	11.2	0.057	11.40	2,617	0.96	25.0
1847	Calcite pellets	D	SO	2.00	1.00	1.20	11.2	0.057	11.47	2,617	0.96	25.0
1848	Calcite pellets	D	SO	2.00	1.00	1.20	11.2	0.057	11.60	2,617	0.96	25.0
1849	Calcite pellets	D	SO	2.00	1.00	1.20	11.2	0.057	12.00	2,617	0.96	25.0
1850	Calcite pellets	D	SO	2.00	1.00	1.20	11.2	0.057	12.29	2,617	0.96	25.0
1851	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	11.25	2,617	0.96	25.0
1852	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	11.29	2,617	0.96	25.0
1853	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	11.32	2,617	0.96	25.0
1854	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	11.40	2,617	0.96	25.0
1855	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	11.43	2,617	0.96	25.0
1856	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	11.79	2,617	0.96	25.0
1857	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	12.10	2,617	0.96	25.0
1858	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	12.22	2,617	0.96	25.0
1859	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	12.47	2,617	0.96	25.0
1860	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	12.87	2,617	0.96	25.0
1861	Calcite pellets	D	SO	2.00	1.00	1.20	15.9	0.057	13.43	2,617	0.96	25.0
1862	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	11.12	2,617	0.96	25.0
1863	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	11.54	2,617	0.96	25.0
1864	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	11.59	2,617	0.96	25.0
1865	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	11.64	2,617	0.96	25.0
1866	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	11.82	2,617	0.96	25.0
1867	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	11.84	2,617	0.96	25.0
1868	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	11.88	2,617	0.96	25.0
1869	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	12.06	2,617	0.96	25.0
1870	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	12.09	2,617	0.96	25.0
1871	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	12.10	2,617	0.96	25.0
1872	Calcite pellets	D	SO	2.00	1.00	1.20	16.0	0.057	12.31	2,617	0.96	25.0
1873	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	10.66	2,617	0.96	25.0
1874	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	10.69	2,617	0.96	25.0
1875	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	10.88	2,617	0.96	25.0
1876	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	11.06	2,617	0.96	25.0
1877	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	11.31	2,617	0.96	25.0
1878	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	11.35	2,617	0.96	25.0
1879	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	11.66	2,617	0.96	25.0
1880	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	11.69	2,617	0.96	25.0
1881	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	12.00	2,617	0.96	25.0
1882	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	12.13	2,617	0.96	25.0
1883	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	12.16	2,617	0.96	25.0
1884	Calcite pellets	D	SO	2.00	1.00	1.20	16.1	0.057	12.84	2,617	0.96	25.0
1885	Calcite pellets	D	SO	2.00	1.00	1.20	16.2	0.057	11.16	2,617	0.96	25.0
1886	Calcite pellets	D	SO	2.00	1.00	1.20	16.2	0.057	11.34	2,617	0.96	25.0
1887	Calcite pellets	D	SO	2.00	1.00	1.20	16.2	0.057	11.38	2,617	0.96	25.0
1888	Calcite pellets	D	SO	2.00	1.00	1.20	16.2	0.057	11.38	2,617	0.96	25.0
1889	Calcite pellets	D	SO	2.00	1.00	1.20	16.2	0.057	11.54	2,617	0.96	25.0
1890	Calcite pellets	D	SO	2.00	1.00	1.20	16.2	0.057	12.00	2,617	0.96	25.0
1891	Calcite pellets	D	SO	2.00	1.00	1.20	19.9	0.057	12.16	2,617	0.96	25.0
1892	Calcite pellets	D	SO	2.00	1.00	1.20	20.0	0.057	10.34	2,617	0.96	25.0
1893	Calcite pellets	D	SO	2.00	1.00	1.20	20.0	0.057	11.09	2,617	0.96	25.0
1894	Calcite pellets	D	SO	2.00	1.00	1.20	20.0	0.057	11.12	2,617	0.96	25.0
1895	Calcite pellets	D	SO	2.00	1.00	1.20	20.0	0.057	11.28	2,617	0.96	25.0
1896	Calcite pellets	D	SO	2.00	1.00	1.20	20.0	0.057	11.31	2,617	0.96	25.0
1897	Calcite pellets	D	SO	2.00	1.00	1.20	20.0	0.057	11.44	2,617	0.96	25.0
1898	Calcite pellets	D	SO	2.00	1.00	1.20	20.0	0.057	11.68	2,617	0.96	25.0
1899	Calcite pellets	D	SO	2.00	1.00	1.20	20.0	0.057	13.12	2,617	0.96	25.0
1900	Calcite pellets	D	SO	2.00	1.00	1.20	20.1	0.057	10.91	2,617	0.96	25.0
1901	Calcite pellets	D	SO	2.00	1.00	1.20	20.1	0.057	10.94	2,617	0.96	25.0
1902	Calcite pellets	D	SO	2.00	1.00	1.20	20.1	0.057	11.00	2,617	0.96	25.0
1903	Calcite pellets	D	SO	2.00	1.00	1.20	20.1	0.057	11.10	2,617	0.96	25.0
1904	Calcite pellets	D	SO	2.00	1.00	1.20	20.1	0.057	11.97	2,617	0.96	25.0
1905	Calcite pellets	D	SO	2.00	1.00	1.20	20.2	0.057	11.06	2,617	0.96	25.0
1906	Calcite pellets	D	SO	2.00	1.00	1.20	20.2	0.057	11.22	2,617	0.96	25.0
1907	Calcite pellets	D	SO	2.00	1.00	1.20	20.2	0.057	11.65	2,617	0.96	25.0
1908	Calcite pellets	D	SO	2.00	1.00	1.20	20.2	0.057	12.12	2,617	0.96	25.0
1909	Calcite pellets	D	SO	2.00	1.00	1.20	20.2	0.057	12.25	2,617	0.96	25.0
1910	Calcite pellets	D	SO	2.00	1.00	1.20	20.3	0.057	11.84	2,617	0.96	25.0
1911	Calcite pellets	D	SO	2.00	1.00	1.20	20.3	0.057	12.06	2,617	0.96	25.0
1912	Calcite pellets	D	SO	2.00	1.00	1.20	20.3	0.057	12.34	2,617	0.96	25.0
1913	Calcite pellets	D	SO	2.00	1.00	1.20	20.3	0.057	15.87	2,617	0.96	25.0
1914	Calcite pellets	D	SO	2.00	1.00	1.20	20.4	0.057	10.78	2,617	0.96	25.0
1915	Calcite pellets	D	SO	2.00	1.00	1.20	20.4	0.057	10.79	2,617	0.96	25.0
1916	Calcite pellets	D	SO	2.00	1.00	1.20	20.4	0.057	12.12	2,617	0.96	25.0
1917	Calcite pellets	D	SO	2.00	1.00	1.20	20.4	0.057	12.19	2,617	0.96	25.0
1918	Calcite pellets	D	SO	2.00	1.00	1.20	20.5	0.057	11.25	2,617	0.96	25.0
1919	Calcite pellets	D	SO	2.00	1.00	1.20	20.5	0.057	12.47	2,617	0.96	25.0
1920	Calcite pellets	D	SO	2.00	1.00	1.20	20.5	0.057	12.81	2,617	0.96	25.0
1921	Calcite pellets	D	SO	2.00	1.00	1.20	20.5	0.057	13.25	2,617	0.96	25.0
1922	Calcite pellets	D	SO	2.00	1.00	1.20	20.5	0.057	16.25	2,617	0.96	25.0

1923	Calcite pellets	D	SO	2.00	1.00	1.20	20.7	0.057	10.78	2,617	0.96	25.0
1924	Calcite pellets	D	SO	2.00	1.00	1.20	20.7	0.057	12.03	2,617	0.96	25.0
1925	Calcite pellets	D	SO	2.00	1.00	1.20	20.7	0.057	12.12	2,617	0.96	25.0
1926	Calcite pellets	D	SO	2.00	1.00	1.20	20.7	0.057	12.16	2,617	0.96	25.0
1927	Calcite pellets	D	SO	2.00	1.00	1.20	20.8	0.057	10.50	2,617	0.96	25.0
1928	Calcite pellets	D	SO	2.00	1.00	1.20	20.8	0.057	13.16	2,617	0.96	25.0
1929	Calcite pellets	D	SO	2.00	1.00	1.20	20.8	0.057	13.69	2,617	0.96	25.0
1930	Calcite pellets	D	SO	2.00	1.00	1.20	20.9	0.057	10.97	2,617	0.96	25.0
1931	Calcite pellets	D	SO	2.00	1.00	1.20	21.6	0.057	10.68	2,617	0.96	25.0
1932	Calcite pellets	D	SO	2.00	1.00	1.20	21.6	0.057	11.38	2,617	0.96	25.0
1933	Calcite pellets	D	SO	2.00	1.00	1.20	21.7	0.057	10.79	2,617	0.96	25.0
1934	Calcite pellets	D	SO	2.00	1.00	1.20	21.7	0.057	11.56	2,617	0.96	25.0
1935	Calcite pellets	D	SO	2.00	1.00	1.20	21.7	0.057	11.66	2,617	0.96	25.0
1936	Calcite pellets	D	SO	2.00	1.00	1.20	21.7	0.057	11.85	2,617	0.96	25.0
1937	Calcite pellets	D	SO	2.00	1.00	1.20	21.8	0.057	12.07	2,617	0.96	25.0
1938	Calcite pellets	D	SO	2.00	1.00	1.20	21.9	0.057	10.63	2,617	0.96	25.0
1939	Calcite pellets	D	SO	2.00	1.00	1.20	21.9	0.057	10.75	2,617	0.96	25.0
1940	Calcite pellets	D	SO	2.00	1.00	1.20	21.9	0.057	10.81	2,617	0.96	25.0
1941	Calcite pellets	D	SO	2.00	1.00	1.20	21.9	0.057	11.03	2,617	0.96	25.0
1942	Calcite pellets	D	SO	2.00	1.00	1.20	21.9	0.057	11.31	2,617	0.96	25.0
1943	Calcite pellets	D	SO	2.00	1.00	1.20	22.0	0.057	10.06	2,617	0.96	25.0
1944	Calcite pellets	D	SO	2.00	1.00	1.20	22.0	0.057	11.72	2,617	0.96	25.0
1945	Calcite pellets	D	SO	2.00	1.00	1.20	22.1	0.057	10.97	2,617	0.96	25.0
1946	Calcite pellets	D	SO	2.00	1.00	1.20	22.1	0.057	11.00	2,617	0.96	25.0
1947	Calcite pellets	D	SO	2.00	1.00	1.20	22.1	0.057	11.03	2,617	0.96	25.0
1948	Calcite pellets	D	SO	2.00	1.00	1.20	22.1	0.057	11.03	2,617	0.96	25.0
1949	Calcite pellets	D	SO	2.00	1.00	1.20	22.1	0.057	11.53	2,617	0.96	25.0
1950	Calcite pellets	D	SO	2.00	1.00	1.20	22.2	0.057	10.82	2,617	0.96	25.0
1951	Calcite pellets	D	SO	2.00	1.00	1.20	22.2	0.057	11.75	2,617	0.96	25.0
1952	Calcite pellets	D	SO	2.00	1.00	1.20	22.3	0.057	11.32	2,617	0.96	25.0
1953	Calcite pellets	D	SO	2.00	1.00	1.20	22.5	0.057	10.81	2,617	0.96	25.0
1954	Calcite pellets	D	SO	2.00	1.00	1.20	22.5	0.057	11.41	2,617	0.96	25.0
1955	Calcite pellets	D	SO	2.00	1.00	1.20	22.5	0.057	11.53	2,617	0.96	25.0
1956	Calcite pellets	D	SO	2.00	1.00	1.20	22.5	0.057	12.00	2,617	0.96	25.0
1957	Calcite pellets	D	SO	2.00	1.00	1.20	22.5	0.057	12.43	2,617	0.96	25.0
1958	Calcite pellets	D	SO	2.00	1.00	1.20	22.6	0.057	10.78	2,617	0.96	25.0
1959	Calcite pellets	D	SO	2.00	1.00	1.20	22.6	0.057	11.75	2,617	0.96	25.0
1960	Calcite pellets	D	SO	2.00	1.00	1.20	22.6	0.057	12.00	2,617	0.96	25.0
1961	Calcite pellets	D	SO	2.00	1.00	1.20	22.6	0.057	12.38	2,617	0.96	25.0
1962	Calcite pellets	D	SO	2.00	1.00	1.20	22.7	0.057	11.87	2,617	0.96	25.0
1963	Calcite pellets	D	SO	2.00	1.00	1.20	22.7	0.057	11.97	2,617	0.96	25.0
1964	Calcite pellets	D	SO	2.00	1.00	1.20	22.7	0.057	13.66	2,617	0.96	25.0
1965	Calcite pellets	D	SO	2.00	1.00	1.20	22.8	0.057	9.97	2,617	0.96	25.0
1966	Calcite pellets	D	SO	2.00	1.00	1.20	22.8	0.057	10.82	2,617	0.96	25.0
1967	Calcite pellets	D	SO	2.00	1.00	1.20	22.8	0.057	12.22	2,617	0.96	25.0
1968	Calcite pellets	D	SO	2.00	1.00	1.20	22.8	0.057	13.20	2,617	0.96	25.0
1969	Calcite pellets	D	SO	2.00	1.00	1.20	22.9	0.057	10.34	2,617	0.96	25.0
1970	Calcite pellets	D	SO	2.00	1.00	1.20	23.0	0.057	10.50	2,617	0.96	25.0
1971	Calcite pellets	D	SO	2.00	1.00	1.20	26.1	0.057	10.60	2,617	0.96	25.0
1972	Calcite pellets	D	SO	2.00	1.00	1.20	26.1	0.057	11.31	2,617	0.96	25.0
1973	Calcite pellets	D	SO	2.00	1.00	1.20	26.2	0.057	10.47	2,617	0.96	25.0
1974	Calcite pellets	D	SO	2.00	1.00	1.20	26.2	0.057	10.78	2,617	0.96	25.0
1975	Calcite pellets	D	SO	2.00	1.00	1.20	26.4	0.057	10.09	2,617	0.96	25.0
1976	Calcite pellets	D	SO	2.00	1.00	1.20	26.4	0.057	10.50	2,617	0.96	25.0
1977	Calcite pellets	D	SO	2.00	1.00	1.20	26.4	0.057	10.59	2,617	0.96	25.0
1978	Calcite pellets	D	SO	2.00	1.00	1.20	26.4	0.057	11.00	2,617	0.96	25.0
1979	Calcite pellets	D	SO	2.00	1.00	1.20	26.4	0.057	11.03	2,617	0.96	25.0
1980	Calcite pellets	D	SO	2.00	1.00	1.20	26.5	0.057	10.34	2,617	0.96	25.0
1981	Calcite pellets	D	SO	2.00	1.00	1.20	26.5	0.057	10.44	2,617	0.96	25.0
1982	Calcite pellets	D	SO	2.00	1.00	1.20	26.5	0.057	10.75	2,617	0.96	25.0
1983	Calcite pellets	D	SO	2.00	1.00	1.20	26.5	0.057	10.78	2,617	0.96	25.0
1984	Calcite pellets	D	SO	2.00	1.00	1.20	26.5	0.057	13.07	2,617	0.96	25.0
1985	Calcite pellets	D	SO	2.00	1.00	1.20	26.6	0.057	10.12	2,617	0.96	25.0
1986	Calcite pellets	D	SO	2.00	1.00	1.20	26.6	0.057	11.03	2,617	0.96	25.0
1987	Calcite pellets	D	SO	2.00	1.00	1.20	26.7	0.057	9.97	2,617	0.96	25.0
1988	Calcite pellets	D	SO	2.00	1.00	1.20	26.7	0.057	11.13	2,617	0.96	25.0
1989	Calcite pellets	D	SO	2.00	1.00	1.20	26.8	0.057	10.60	2,617	0.96	25.0
1990	Calcite pellets	D	SO	2.00	1.00	1.20	26.8	0.057	11.34	2,617	0.96	25.0
1991	Calcite pellets	D	SO	2.00	1.00	1.20	26.9	0.057	9.94	2,617	0.96	25.0
1992	Calcite pellets	D	SO	2.00	1.00	1.20	26.9	0.057	9.97	2,617	0.96	25.0
1993	Calcite pellets	D	SO	2.00	1.00	1.20	26.9	0.057	10.50	2,617	0.96	25.0
1994	Calcite pellets	D	SO	2.00	1.00	1.20	26.9	0.057	10.91	2,617	0.96	25.0
1995	Calcite pellets	D	SO	2.00	1.00	1.20	26.9	0.057	10.93	2,617	0.96	25.0
1996	Calcite pellets	D	SO	2.00	1.00	1.20	27.0	0.057	10.19	2,617	0.96	25.0
1997	Calcite pellets	D	SO	2.00	1.00	1.20	27.0	0.057	10.44	2,617	0.96	25.0
1998	Calcite pellets	D	SO	2.00	1.00	1.20	27.0	0.057	11.01	2,617	0.96	25.0
1999	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.19	2,617	0.96	25.0
2000	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.22	2,617	0.96	25.0
2001	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.28	2,617	0.96	25.0
2002	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.31	2,617	0.96	25.0
2003	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.41	2,617	0.96	25.0
2004	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.42	2,617	0.96	25.0
2005	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.45	2,617	0.96	25.0
2006	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.47	2,617	0.96	25.0
2007	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.56	2,617	0.96	25.0
2008	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.59	2,617	0.96	25.0
2009	Calcite pellets	D	SO	2.00	1.00	1.20	27.1	0.057	10.85	2,617	0.96	25.0
2010	Calcite pellets	D	SO	2.00	1.00	1.20	27.2	0.057	10.31	2,617	0.96	25.0
2011	Calcite pellets	D	HF	2.00	1.12	1.25	31.5	0.057	9.18	2,670	0.96	25.0
2012	Calcite pellets	D	HF	2.00	1.12	1.25	31.5	0.057	9.31	2,670	0.96	25.0
2013	Calcite pellets	D	HF	2.00	1.12	1.25	31.5	0.057	9.50	2,670	0.96	25.0
2014	Calcite pellets	D	HF	2.00	1.12	1.25	31.5	0.057	9.75	2,670	0.96	25.0
2015	Calcite pellets	D	HF	2.00	1.12	1.25	31.5	0.057	9.81	2,670	0.96	25.0
2016	Calcite pellets	D	HF	2.00	1.12	1.25	31.5	0.057	9.94	2,670	0.96	25.0
2017	Calcite pellets	D	HF	2.00	1.12	1.25	31.5	0.057	10.10	2,670	0.96	25.0
2018	Calcite pellets	D	HF	2.00	1.12	1.25	31.5	0.057	10.50	2,670	0.96	25.0
2019	Calcite pellets	D	HF	2.00	1.12	1.25	31.5	0.057	10.66	2,670	0.96	25.0
2020	Calcite pellets	D	SO	1.50	1.12	1.25	4.4	0.057	9.67	2,625	0.96	25.0
2021	Calcite pellets	D	SO	1.50	1.12	1.25	4.4	0.057	9.93	2,625	0.96	25.0
2022	Calcite pellets	D	SO	1.50	1.12	1.25	4.4	0.057	9.96	2,625	0.96	25.0
2023	Calcite pellets	D	SO	1.50	1.12	1.25	4.4	0.057	10.21	2,625	0.96	25.0
2024	Calcite pellets	D	SO	1.50	1.12	1.25	4.4	0.057	10.23	2,625	0.96	25.0
2025	Calcite pellets	D	SO	1.58	1.12	1.25	7.0	0.057	8.60	2,670	0.96	25.0
2026	Calcite pellets	D	SO	1.58	1.12	1.25	7.0	0.057	9.09	2,670	0.96	25.0
2027	Calcite pellets	D	SO	1.58	1.12	1.25	7.0	0.057	9.10	2,670	0.96	25.0
2028	Calcite pellets	D	SO	1.58	1.12	1.25	7.0	0.057	9.25	2,670	0.96	25.0
2029	Calcite pellets	D	SO	1.58	1.12	1.25	7.0	0.057	9.63	2,670	0.96	25.0
2030	Calcite pellets	D	SO	1.58	1.12	1.25	12.2	0.057	8.78	2,670	0.96	25.0
2031	Calcite pellets	D	SO	1.58	1.12	1.25	12.2	0.057	9.00	2,670	0.96	25.0
2032	Calcite pellets	D	SO	1.58	1.12	1.25	12.2	0.057	9.09	2,670	0.96	25.0
2033	Calcite pellets	D	SO	1.58	1.12	1.25	12.2	0.057	9.25	2,670	0.96	25.0
2034	Calcite pellets	D	SO	1.58	1.12	1.25	12.2	0.057	9.41	2,670	0.96	25.0
2035	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.34	2,670	0.96	25.0
2036	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.41	2,670	0.96	25.0
2037	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.42	2,670	0.96	25.0
2038	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.51	2,670	0.96	25.0
2039	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.59	2,670	0.96	25.0
2040	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.61	2,670	0.96	25.0
2041	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.62	2,670	0.96	25.0
2042	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.62	2,670	0.96	25.0
2043	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.66	2,670	0.96	25.0
2044	Calcite pellets	D	SO	0.60	1.12	1.25	12.9	0.057	3.75	2,670	0.96	25.0
2045	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	3.48	2,670	0.96	25.0
2046	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	3.56	2,670	0.96	25.0

2047	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	3.69	2,670	0.96	25.0
2048	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	3.69	2,670	0.96	25.0
2049	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	3.69	2,670	0.96	25.0
2050	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	3.72	2,670	0.96	25.0
2051	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	3.75	2,670	0.96	25.0
2052	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	3.86	2,670	0.96	25.0
2053	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	3.88	2,670	0.96	25.0
2054	Calcite pellets	D	SO	0.60	1.12	1.25	14.1	0.057	4.00	2,670	0.96	25.0
2055	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.30	2,673	0.96	25.0
2056	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.43	2,673	0.96	25.0
2057	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.60	2,673	0.96	25.0
2058	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.62	2,673	0.96	25.0
2059	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.70	2,673	0.96	25.0
2060	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.71	2,673	0.96	25.0
2061	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.80	2,673	0.96	25.0
2062	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.80	2,673	0.96	25.0
2063	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.88	2,673	0.96	25.0
2064	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.89	2,673	0.96	25.0
2065	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	3.90	2,673	0.96	25.0
2066	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	4.01	2,673	0.96	25.0
2067	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	4.02	2,673	0.96	25.0
2068	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	4.03	2,673	0.96	25.0
2069	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	4.08	2,673	0.96	25.0
2070	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	4.09	2,673	0.96	25.0
2071	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	4.10	2,673	0.96	25.0
2072	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	4.24	2,673	0.96	25.0
2073	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	4.33	2,673	0.96	25.0
2074	Calcite pellets	D	SO	0.60	1.12	1.25	20.1	0.057	5.38	2,673	0.96	25.0
2075	Calcite pellets	D	SO	1.58	1.12	1.25	22.5	0.057	8.37	2,670	0.96	25.0
2076	Calcite pellets	D	SO	1.58	1.12	1.25	22.5	0.057	8.47	2,670	0.96	25.0
2077	Calcite pellets	D	SO	1.58	1.12	1.25	22.5	0.057	8.53	2,670	0.96	25.0
2078	Calcite pellets	D	SO	1.58	1.12	1.25	22.5	0.057	8.56	2,670	0.96	25.0
2079	Calcite pellets	D	SO	1.58	1.12	1.25	22.5	0.057	8.63	2,670	0.96	25.0
2080	Calcite pellets	D	LF	1.50	1.12	1.25	30.3	0.057	8.98	2,625	0.96	25.0
2081	Calcite pellets	D	LF	1.50	1.12	1.25	30.3	0.057	9.14	2,625	0.96	25.0
2082	Calcite pellets	D	LF	1.50	1.12	1.25	30.3	0.057	9.45	2,625	0.96	25.0
2083	Calcite pellets	D	LF	1.50	1.12	1.25	30.3	0.057	9.52	2,625	0.96	25.0
2084	Calcite pellets	D	LF	1.50	1.12	1.25	30.3	0.057	9.54	2,625	0.96	25.0
2085	Calcite pellets	D	SO	2.00	1.12	1.40	3.1	0.057	9.56	2,670	0.96	25.0
2086	Calcite pellets	D	SO	2.00	1.12	1.40	3.1	0.057	10.78	2,670	0.96	25.0
2087	Calcite pellets	D	SO	2.00	1.12	1.40	3.1	0.057	10.94	2,670	0.96	25.0
2088	Calcite pellets	D	SO	2.00	1.12	1.40	3.1	0.057	11.18	2,670	0.96	25.0
2089	Calcite pellets	D	SO	2.00	1.12	1.40	3.1	0.057	11.57	2,670	0.96	25.0
2090	Calcite pellets	D	SO	2.00	1.12	1.40	3.1	0.057	11.91	2,670	0.96	25.0
2091	Calcite pellets	D	SO	2.00	1.12	1.40	3.1	0.057	12.50	2,670	0.96	25.0
2092	Calcite pellets	D	SO	2.00	1.12	1.40	3.1	0.057	13.09	2,670	0.96	25.0
2093	Calcite pellets	D	SO	1.58	1.12	1.40	3.3	0.057	8.69	2,670	0.96	25.0
2094	Calcite pellets	D	SO	1.58	1.12	1.40	3.3	0.057	8.81	2,670	0.96	25.0
2095	Calcite pellets	D	SO	1.58	1.12	1.40	3.3	0.057	9.00	2,670	0.96	25.0
2096	Calcite pellets	D	SO	1.58	1.12	1.40	3.3	0.057	9.11	2,670	0.96	25.0
2097	Calcite pellets	D	SO	1.58	1.12	1.40	3.3	0.057	9.40	2,670	0.96	25.0
2098	Calcite pellets	D	SO	2.00	1.12	1.40	12.0	0.057	9.38	2,670	0.96	25.0
2099	Calcite pellets	D	SO	2.00	1.12	1.40	12.0	0.057	10.38	2,670	0.96	25.0
2100	Calcite pellets	D	SO	2.00	1.12	1.40	12.0	0.057	10.47	2,670	0.96	25.0
2101	Calcite pellets	D	SO	2.00	1.12	1.40	12.0	0.057	10.63	2,670	0.96	25.0
2102	Calcite pellets	D	SO	2.00	1.12	1.40	12.0	0.057	10.85	2,670	0.96	25.0
2103	Calcite pellets	D	SO	2.00	1.12	1.40	12.0	0.057	10.91	2,670	0.96	25.0
2104	Calcite pellets	D	SO	2.00	1.12	1.40	12.0	0.057	11.40	2,670	0.96	25.0
2105	Calcite pellets	D	SO	2.00	1.12	1.40	12.0	0.057	11.53	2,670	0.96	25.0
2106	Calcite pellets	D	SO	1.58	1.12	1.40	14.3	0.057	8.05	2,670	0.96	25.0
2107	Calcite pellets	D	SO	1.58	1.12	1.40	14.3	0.057	8.14	2,670	0.96	25.0
2108	Calcite pellets	D	SO	1.58	1.12	1.40	14.3	0.057	8.17	2,670	0.96	25.0
2109	Calcite pellets	D	SO	1.58	1.12	1.40	14.3	0.057	8.18	2,670	0.96	25.0
2110	Calcite pellets	D	SO	1.58	1.12	1.40	14.3	0.057	8.23	2,670	0.96	25.0
2111	Calcite pellets	D	SO	2.00	1.12	1.40	19.9	0.057	9.81	2,670	0.96	25.0
2112	Calcite pellets	D	SO	2.00	1.12	1.40	19.9	0.057	9.87	2,670	0.96	25.0
2113	Calcite pellets	D	SO	2.00	1.12	1.40	19.9	0.057	9.88	2,670	0.96	25.0
2114	Calcite pellets	D	SO	2.00	1.12	1.40	19.9	0.057	10.04	2,670	0.96	25.0
2115	Calcite pellets	D	SO	2.00	1.12	1.40	19.9	0.057	10.10	2,670	0.96	25.0
2116	Calcite pellets	D	SO	2.00	1.12	1.40	19.9	0.057	10.19	2,670	0.96	25.0
2117	Calcite pellets	D	SO	2.00	1.12	1.40	19.9	0.057	10.31	2,670	0.96	25.0
2118	Calcite pellets	D	SO	2.00	1.12	1.40	19.9	0.057	10.53	2,670	0.96	25.0
2119	Calcite pellets	D	SO	1.58	1.12	1.40	23.1	0.057	7.76	2,670	0.96	25.0
2120	Calcite pellets	D	SO	1.58	1.12	1.40	23.1	0.057	7.83	2,670	0.96	25.0
2121	Calcite pellets	D	SO	1.58	1.12	1.40	23.1	0.057	8.08	2,670	0.96	25.0
2122	Calcite pellets	D	SO	1.58	1.12	1.40	23.1	0.057	8.09	2,670	0.96	25.0
2123	Calcite pellets	D	SO	1.58	1.12	1.40	23.1	0.057	8.11	2,670	0.96	25.0
2124	Calcite pellets	D	CH	2.10	1.12	1.40	34.0	0.057	10.42	2,670	0.96	25.0
2125	Calcite pellets	D	CH	2.10	1.12	1.40	34.0	0.057	10.49	2,670	0.96	25.0
2126	Calcite pellets	D	CH	2.10	1.12	1.40	34.0	0.057	10.71	2,670	0.96	25.0
2127	Calcite pellets	D	CH	2.10	1.12	1.40	34.0	0.057	10.89	2,670	0.96	25.0
2128	Calcite pellets	D	CH	2.10	1.12	1.40	34.0	0.057	11.14	2,670	0.96	25.0
2129	Calcite pellets	D	SO	1.50	1.25	1.40	3.7	0.057	7.99	2,625	0.97	25.0
2130	Calcite pellets	D	SO	1.50	1.25	1.40	3.7	0.057	8.03	2,625	0.97	25.0
2131	Calcite pellets	D	SO	1.50	1.25	1.40	3.7	0.057	8.19	2,625	0.97	25.0
2132	Calcite pellets	D	SO	1.50	1.25	1.40	3.7	0.057	8.31	2,625	0.97	25.0
2133	Calcite pellets	D	SO	1.50	1.25	1.40	3.7	0.057	8.45	2,625	0.97	25.0
2134	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	9.87	2,688	0.97	25.0
2135	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	10.00	2,688	0.97	25.0
2136	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	10.03	2,688	0.97	25.0
2137	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	10.05	2,688	0.97	25.0
2138	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	10.12	2,688	0.97	25.0
2139	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	10.15	2,688	0.97	25.0
2140	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	10.22	2,688	0.97	25.0
2141	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	10.22	2,688	0.97	25.0
2142	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	10.31	2,688	0.97	25.0
2143	Calcite pellets	D	SO	2.00	1.25	1.40	11.3	0.057	10.31	2,688	0.97	25.0
2144	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.10	2,668	0.97	25.0
2145	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.10	2,668	0.97	25.0
2146	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.10	2,668	0.97	25.0
2147	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.20	2,668	0.97	25.0
2148	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.20	2,668	0.97	25.0
2149	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.30	2,668	0.97	25.0
2150	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.50	2,668	0.97	25.0
2151	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.50	2,668	0.97	25.0
2152	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.50	2,668	0.97	25.0
2153	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.51	2,638	0.97	25.0
2154	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.55	2,638	0.97	25.0
2155	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.60	2,638	0.97	25.0
2156	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.60	2,668	0.97	25.0
2157	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.64	2,638	0.97	25.0
2158	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.79	2,638	0.97	25.0
2159	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.85	2,638	0.97	25.0
2160	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	3.90	2,638	0.97	25.0
2161	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	4.30	2,638	0.97	25.0
2162	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	4.31	2,638	0.97	25.0
2163	Calcite pellets	D	SO	0.60	1.25	1.40	11.4	0.057	4.49	2,638	0.97	25.0
2164	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	3.14	2,673	0.97	25.0
2165	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	3.32	2,673	0.97	25.0
2166	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	3.32	2,673	0.97	25.0
2167	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	3.59	2,673	0.97	25.0
2168	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	3.60	2,673	0.97	25.0
2169	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	3.68	2,673	0.97	25.0
2170	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	3.86	2,673	0.97	25.0

2171	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	4.03	2,673	0.97	25.0
2172	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	4.10	2,673	0.97	25.0
2173	Calcite pellets	D	SO	0.60	1.25	1.40	12.2	0.057	4.54	2,673	0.97	25.0
2174	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.29	2,670	0.97	25.0
2175	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.31	2,670	0.97	25.0
2176	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.31	2,670	0.97	25.0
2177	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.34	2,670	0.97	25.0
2178	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.34	2,670	0.97	25.0
2179	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.35	2,670	0.97	25.0
2180	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.50	2,670	0.97	25.0
2181	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.53	2,670	0.97	25.0
2182	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.75	2,670	0.97	25.0
2183	Calcite pellets	D	SO	0.60	1.25	1.40	12.9	0.057	3.85	2,670	0.97	25.0
2184	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.20	2,670	0.97	25.0
2185	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.20	2,668	0.97	25.0
2186	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.25	2,670	0.97	25.0
2187	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.25	2,670	0.97	25.0
2188	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.25	2,670	0.97	25.0
2189	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.25	2,668	0.97	25.0
2190	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.25	2,668	0.97	25.0
2191	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.25	2,668	0.97	25.0
2192	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.34	2,670	0.97	25.0
2193	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.34	2,668	0.97	25.0
2194	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.40	2,670	0.97	25.0
2195	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.48	2,670	0.97	25.0
2196	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.48	2,668	0.97	25.0
2197	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.53	2,670	0.97	25.0
2198	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.53	2,668	0.97	25.0
2199	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.82	2,670	0.97	25.0
2200	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.82	2,668	0.97	25.0
2201	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.83	2,670	0.97	25.0
2202	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	3.83	2,668	0.97	25.0
2203	Calcite pellets	D	SO	0.60	1.25	1.40	14.6	0.057	4.08	2,668	0.97	25.0
2204	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.20	2,673	0.97	25.0
2205	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.23	2,673	0.97	25.0
2206	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.36	2,673	0.97	25.0
2207	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.36	2,673	0.97	25.0
2208	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.40	2,673	0.97	25.0
2209	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.52	2,673	0.97	25.0
2210	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.54	2,673	0.97	25.0
2211	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.60	2,673	0.97	25.0
2212	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.90	2,673	0.97	25.0
2213	Calcite pellets	D	SO	0.60	1.25	1.40	20.1	0.057	3.90	2,673	0.97	25.0
2214	Calcite pellets	D	CH	1.50	1.25	1.40	30.3	0.057	8.39	2,625	0.97	25.0
2215	Calcite pellets	D	CH	1.50	1.25	1.40	30.3	0.057	8.41	2,625	0.97	25.0
2216	Calcite pellets	D	CH	1.50	1.25	1.40	30.3	0.057	8.42	2,625	0.97	25.0
2217	Calcite pellets	D	CH	1.50	1.25	1.40	30.3	0.057	8.59	2,625	0.97	25.0
2218	Calcite pellets	D	CH	1.50	1.25	1.40	30.3	0.057	8.68	2,625	0.97	25.0
2219	Calcite pellets	D	SO	1.58	1.40	1.70	3.5	0.057	7.19	2,670	0.98	25.0
2220	Calcite pellets	D	SO	1.58	1.40	1.70	3.5	0.057	7.30	2,670	0.98	25.0
2221	Calcite pellets	D	SO	1.58	1.40	1.70	3.5	0.057	7.50	2,670	0.98	25.0
2222	Calcite pellets	D	SO	1.58	1.40	1.70	3.5	0.057	8.09	2,670	0.98	25.0
2223	Calcite pellets	D	SO	1.58	1.40	1.70	3.5	0.057	8.60	2,670	0.98	25.0
2224	Calcite pellets	D	SO	1.50	1.40	1.70	3.7	0.057	6.49	2,625	0.98	25.0
2225	Calcite pellets	D	SO	1.50	1.40	1.70	3.7	0.057	7.52	2,625	0.98	25.0
2226	Calcite pellets	D	SO	1.50	1.40	1.70	3.7	0.057	7.68	2,625	0.98	25.0
2227	Calcite pellets	D	SO	1.50	1.40	1.70	3.7	0.057	7.87	2,625	0.98	25.0
2228	Calcite pellets	D	SO	1.50	1.40	1.70	3.7	0.057	8.26	2,625	0.98	25.0
2229	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.13	2,670	0.98	25.0
2230	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.13	2,670	0.98	25.0
2231	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.20	2,670	0.98	25.0
2232	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.20	2,670	0.98	25.0
2233	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.31	2,670	0.98	25.0
2234	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.31	2,670	0.98	25.0
2235	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.32	2,670	0.98	25.0
2236	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.32	2,670	0.98	25.0
2237	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.49	2,670	0.98	25.0
2238	Calcite pellets	D	QR	1.58	1.40	1.70	14.5	0.057	7.49	2,670	0.98	25.0
2239	Calcite pellets	D	CH	1.58	1.40	1.70	23.0	0.057	6.60	2,670	0.98	25.0
2240	Calcite pellets	D	CH	1.58	1.40	1.70	23.0	0.057	7.08	2,670	0.98	25.0
2241	Calcite pellets	D	CH	1.58	1.40	1.70	23.0	0.057	7.09	2,670	0.98	25.0
2242	Calcite pellets	D	CH	1.58	1.40	1.70	23.0	0.057	7.12	2,670	0.98	25.0
2243	Calcite pellets	D	CH	1.58	1.40	1.70	23.0	0.057	7.17	2,670	0.98	25.0
2244	Calcite pellets	D	CH	1.50	1.40	1.70	30.3	0.057	7.42	2,625	0.98	25.0
2245	Calcite pellets	D	CH	1.50	1.40	1.70	30.3	0.057	7.62	2,625	0.98	25.0
2246	Calcite pellets	D	CH	1.50	1.40	1.70	30.3	0.057	7.62	2,625	0.98	25.0
2247	Calcite pellets	D	CH	1.50	1.40	1.70	30.3	0.057	7.88	2,625	0.98	25.0
2248	Calcite pellets	D	CH	1.50	1.40	1.70	30.3	0.057	8.26	2,625	0.98	25.0
2249	Calcite pellets	D	CH	2.10	1.40	1.70	34.0	0.057	9.04	2,670	0.98	25.0
2250	Calcite pellets	D	CH	2.10	1.40	1.70	34.0	0.057	9.22	2,670	0.98	25.0
2251	Calcite pellets	D	CH	2.10	1.40	1.70	34.0	0.057	9.32	2,670	0.98	25.0
2252	Calcite pellets	D	CH	2.10	1.40	1.70	34.0	0.057	9.33	2,670	0.98	25.0
2253	Calcite pellets	D	CH	2.10	1.40	1.70	34.0	0.057	9.47	2,670	0.98	25.0
2254	Calcite pellets	D	HF	1.58	1.70	2.00	3.5	0.057	6.14	2,670	0.98	25.0
2255	Calcite pellets	D	HF	1.58	1.70	2.00	3.5	0.057	6.56	2,670	0.98	25.0
2256	Calcite pellets	D	HF	1.58	1.70	2.00	3.5	0.057	6.60	2,670	0.98	25.0
2257	Calcite pellets	D	HF	1.58	1.70	2.00	3.5	0.057	6.76	2,670	0.98	25.0
2258	Calcite pellets	D	HF	1.58	1.70	2.00	3.5	0.057	6.77	2,670	0.98	25.0
2259	Calcite pellets	D	LF	1.50	1.70	2.00	3.7	0.057	6.10	2,625	0.98	25.0
2260	Calcite pellets	D	LF	1.50	1.70	2.00	3.7	0.057	6.25	2,625	0.98	25.0
2261	Calcite pellets	D	LF	1.50	1.70	2.00	3.7	0.057	6.35	2,625	0.98	25.0
2262	Calcite pellets	D	LF	1.50	1.70	2.00	3.7	0.057	6.35	2,625	0.98	25.0
2263	Calcite pellets	D	LF	1.50	1.70	2.00	3.7	0.057	7.15	2,625	0.98	25.0
2264	Calcite pellets	D	CH	1.58	1.70	2.00	14.5	0.057	5.98	2,670	0.98	25.0
2265	Calcite pellets	D	CH	1.58	1.70	2.00	14.5	0.057	6.06	2,670	0.98	25.0
2266	Calcite pellets	D	CH	1.58	1.70	2.00	14.5	0.057	6.13	2,670	0.98	25.0
2267	Calcite pellets	D	CH	1.58	1.70	2.00	14.5	0.057	6.24	2,670	0.98	25.0
2268	Calcite pellets	D	CH	1.58	1.70	2.00	14.5	0.057	6.27	2,670	0.98	25.0
2269	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.08	2,670	0.98	25.0
2270	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.08	2,670	0.98	25.0
2271	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.19	2,670	0.98	25.0
2272	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.19	2,670	0.98	25.0
2273	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.24	2,670	0.98	25.0
2274	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.24	2,670	0.98	25.0
2275	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.28	2,670	0.98	25.0
2276	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.28	2,670	0.98	25.0
2277	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.42	2,670	0.98	25.0
2278	Calcite pellets	D	CH	1.58	1.70	2.00	23.0	0.057	6.42	2,670	0.98	25.0
2279	Calcite pellets	D	CH	1.50	1.70	2.00	30.3	0.057	6.05	2,625	0.98	25.0
2280	Calcite pellets	D	CH	1.50	1.70	2.00	30.3	0.057	6.45	2,625	0.98	25.0
2281	Calcite pellets	D	CH	1.50	1.70	2.00	30.3	0.057	6.58	2,625	0.98	25.0
2282	Calcite pellets	D	CH	1.50	1.70	2.00	30.3	0.057	6.87	2,625	0.98	25.0
2283	Calcite pellets	D	CH	1.50	1.70	2.00	30.3	0.057	7.02	2,625	0.98	25.0
2284	Calcite pellets	D	CH	2.10	1.70	2.00	34.0	0.057	7.74	2,670	0.98	25.0
2285	Calcite pellets	D	CH	2.10	1.70	2.00	34.0	0.057	7.89	2,670	0.98	25.0
2286	Calcite pellets	D	CH	2.10	1.70	2.00	34.0	0.057	7.93	2,670	0.98	25.0
2287	Calcite pellets	D	CH	2.10	1.70	2.00	34.0	0.057	8.00	2,670	0.98	25.0
2288	Calcite pellets	D	CH	2.10	1.70	2.00	34.0	0.057	8.15	2,670	0.98	25.0
2289	Calcite pellets	D	CH	1.58	2.00	2.36	3.0	0.057	6.05	2,670	0.98	25.0
2290	Calcite pellets	D	CH	1.58	2.00	2.36	3.0	0.057	6.12	2,670	0.98	25.0
2291	Calcite pellets	D	CH	1.58	2.00	2.36	3.0	0.057	6.30	2,670	0.98	25.0
2292	Calcite pellets	D	CH	1.58	2.00	2.36	3.0	0.057	6.93	2,670	0.98	25.0
2293	Calcite pellets	D	CH	1.58	2.00	2.36	3.0	0.057	7.67	2,670	0.98	25.0
2294	Calcite pellets	D	CH	1.50	2.00	2.36	3.7	0.057	5.58	2,625	0.98	25.0

2295	Calcite pellets	D	CH	1.50	2.00	2.36	3.7	0.057	5.61	2,625	0.98	25.0
2296	Calcite pellets	D	CH	1.50	2.00	2.36	3.7	0.057	5.67	2,625	0.98	25.0
2297	Calcite pellets	D	CH	1.50	2.00	2.36	3.7	0.057	5.72	2,625	0.98	25.0
2298	Calcite pellets	D	CH	1.50	2.00	2.36	3.7	0.057	5.81	2,625	0.98	25.0
2299	Calcite pellets	D	CH	1.58	2.00	2.36	14.5	0.057	5.79	2,670	0.98	25.0
2300	Calcite pellets	D	CH	1.58	2.00	2.36	14.5	0.057	5.84	2,670	0.98	25.0
2301	Calcite pellets	D	CH	1.58	2.00	2.36	14.5	0.057	5.88	2,670	0.98	25.0
2302	Calcite pellets	D	CH	1.58	2.00	2.36	14.5	0.057	6.04	2,670	0.98	25.0
2303	Calcite pellets	D	CH	1.58	2.00	2.36	14.5	0.057	6.13	2,670	0.98	25.0
2304	Calcite pellets	D	CH	1.58	2.00	2.36	23.0	0.057	5.61	2,670	0.98	25.0
2305	Calcite pellets	D	CH	1.58	2.00	2.36	23.0	0.057	5.65	2,670	0.98	25.0
2306	Calcite pellets	D	CH	1.58	2.00	2.36	23.0	0.057	5.73	2,670	0.98	25.0
2307	Calcite pellets	D	CH	1.58	2.00	2.36	23.0	0.057	5.74	2,670	0.98	25.0
2308	Calcite pellets	D	CH	1.58	2.00	2.36	23.0	0.057	5.76	2,670	0.98	25.0
2309	Calcite pellets	D	CH	1.50	2.00	2.36	30.3	0.057	5.24	2,625	0.98	25.0
2310	Calcite pellets	D	CH	1.50	2.00	2.36	30.3	0.057	5.54	2,625	0.98	25.0
2311	Calcite pellets	D	CH	1.50	2.00	2.36	30.3	0.057	5.98	2,625	0.98	25.0
2312	Calcite pellets	D	CH	1.50	2.00	2.36	30.3	0.057	6.02	2,625	0.98	25.0
2313	Calcite pellets	D	CH	1.50	2.00	2.36	30.3	0.057	6.11	2,625	0.98	25.0
2314	Calcite pellets	D	CH	2.10	2.00	2.36	33.5	0.057	7.08	2,670	0.98	25.0
2315	Calcite pellets	D	CH	2.10	2.00	2.36	33.5	0.057	7.52	2,670	0.98	25.0
2316	Calcite pellets	D	CH	2.10	2.00	2.36	33.5	0.057	7.58	2,670	0.98	25.0
2317	Calcite pellets	D	CH	2.10	2.00	2.36	33.5	0.057	7.60	2,670	0.98	25.0
2318	Calcite pellets	D	CH	2.10	2.00	2.36	33.5	0.057	7.83	2,670	0.98	25.0
2319	Calcite pellets	D	CH	1.58	2.36	2.80	3.0	0.057	4.62	2,670	0.99	25.0
2320	Calcite pellets	D	CH	1.58	2.36	2.80	3.0	0.057	4.76	2,670	0.99	25.0
2321	Calcite pellets	D	CH	1.58	2.36	2.80	3.0	0.057	4.92	2,670	0.99	25.0
2322	Calcite pellets	D	CH	1.58	2.36	2.80	3.0	0.057	5.35	2,670	0.99	25.0
2323	Calcite pellets	D	CH	1.58	2.36	2.80	3.0	0.057	5.42	2,670	0.99	25.0
2324	Calcite pellets	D	CH	1.50	2.36	2.80	3.7	0.057	5.29	2,625	0.99	25.0
2325	Calcite pellets	D	CH	1.50	2.36	2.80	3.7	0.057	5.34	2,625	0.99	25.0
2326	Calcite pellets	D	CH	1.50	2.36	2.80	3.7	0.057	5.42	2,625	0.99	25.0
2327	Calcite pellets	D	CH	1.50	2.36	2.80	3.7	0.057	5.42	2,625	0.99	25.0
2328	Calcite pellets	D	CH	1.50	2.36	2.80	3.7	0.057	5.49	2,625	0.99	25.0
2329	Calcite pellets	D	CH	1.58	2.36	2.80	14.5	0.057	4.58	2,670	0.99	25.0
2330	Calcite pellets	D	CH	1.58	2.36	2.80	14.5	0.057	4.74	2,670	0.99	25.0
2331	Calcite pellets	D	CH	1.58	2.36	2.80	14.5	0.057	5.00	2,670	0.99	25.0
2332	Calcite pellets	D	CH	1.58	2.36	2.80	14.5	0.057	5.20	2,670	0.99	25.0
2333	Calcite pellets	D	CH	1.58	2.36	2.80	14.5	0.057	5.42	2,670	0.99	25.0
2334	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.08	2,670	0.99	25.0
2335	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.08	2,670	0.99	25.0
2336	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.25	2,670	0.99	25.0
2337	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.25	2,670	0.99	25.0
2338	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.32	2,670	0.99	25.0
2339	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.32	2,670	0.99	25.0
2340	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.36	2,670	0.99	25.0
2341	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.36	2,670	0.99	25.0
2342	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.37	2,670	0.99	25.0
2343	Calcite pellets	D	CH	1.58	2.36	2.80	23.0	0.057	5.37	2,670	0.99	25.0
2344	Calcite pellets	D	CH	1.50	2.36	2.80	30.3	0.057	4.21	2,625	0.99	25.0
2345	Calcite pellets	D	CH	1.50	2.36	2.80	30.3	0.057	4.64	2,625	0.99	25.0
2346	Calcite pellets	D	CH	1.50	2.36	2.80	30.3	0.057	4.96	2,625	0.99	25.0
2347	Calcite pellets	D	CH	1.50	2.36	2.80	30.3	0.057	4.99	2,625	0.99	25.0
2348	Calcite pellets	D	CH	1.50	2.36	2.80	30.3	0.057	5.12	2,625	0.99	25.0
2349	Calcite pellets	D	CH	2.10	2.36	2.80	33.5	0.057	6.22	2,670	0.99	25.0
2350	Calcite pellets	D	CH	2.10	2.36	2.80	33.5	0.057	6.37	2,670	0.99	25.0
2351	Calcite pellets	D	CH	2.10	2.36	2.80	33.5	0.057	6.74	2,670	0.99	25.0
2352	Calcite pellets	D	CH	2.10	2.36	2.80	33.5	0.057	6.82	2,670	0.99	25.0
2353	Calcite pellets	D	CH	2.10	2.36	2.80	33.5	0.057	6.87	2,670	0.99	25.0
2354	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.37	2,655	0.99	25.0
2355	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.44	2,655	0.99	25.0
2356	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.54	2,655	0.99	25.0
2357	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.56	2,655	0.99	25.0
2358	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.61	2,655	0.99	25.0
2359	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.62	2,655	0.99	25.0
2360	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.63	2,655	0.99	25.0
2361	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.70	2,655	0.99	25.0
2362	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.77	2,655	0.99	25.0
2363	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.81	2,655	0.99	25.0
2364	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.82	2,655	0.99	25.0
2365	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.82	2,655	0.99	25.0
2366	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.85	2,655	0.99	25.0
2367	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.88	2,655	0.99	25.0
2368	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.88	2,655	0.99	25.0
2369	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	2.90	2,655	0.99	25.0
2370	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	3.02	2,655	0.99	25.0
2371	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	3.09	2,655	0.99	25.0
2372	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	3.10	2,655	0.99	25.0
2373	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	3.11	2,655	0.99	25.0
2374	Calcite pellets	D	CH	1.00	2.80	3.35	16.4	0.125	3.16	2,655	0.99	25.0
2375	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	2.29	2,655	0.99	25.0
2376	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	2.35	2,655	0.99	25.0
2377	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	2.35	2,655	0.99	25.0
2378	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	2.39	2,655	0.99	25.0
2379	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	2.40	2,655	0.99	25.0
2380	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	2.55	2,655	0.99	25.0
2381	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	2.60	2,655	0.99	25.0
2382	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	2.65	2,655	0.99	25.0
2383	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	2.77	2,655	0.99	25.0
2384	Calcite pellets	D	CH	1.00	2.80	3.35	18.8	0.125	3.00	2,655	0.99	25.0
2385	Calcite pellets	D	CH	1.00	2.80	3.35	18.9	0.125	2.41	2,655	0.99	25.0
2386	Calcite pellets	D	CH	1.00	2.80	3.35	18.9	0.125	2.49	2,655	0.99	25.0
2387	Calcite pellets	D	CH	1.00	2.80	3.35	18.9	0.125	2.49	2,655	0.99	25.0
2388	Calcite pellets	D	CH	1.00	2.80	3.35	18.9	0.125	2.61	2,655	0.99	25.0
2389	Calcite pellets	D	CH	1.00	2.80	3.35	18.9	0.125	2.62	2,655	0.99	25.0
2390	Calcite pellets	D	CH	1.00	2.80	3.35	18.9	0.125	2.69	2,655	0.99	25.0
2391	Calcite pellets	D	CH	1.00	2.80	3.35	18.9	0.125	2.75	2,655	0.99	25.0
2392	Calcite pellets	D	CH	1.00	2.80	3.35	18.9	0.125	2.80	2,655	0.99	25.0
2393	Calcite pellets	D	CH	1.00	2.80	3.35	18.9	0.125	3.20	2,655	0.99	25.0
2394	Glass pearls	B	SO	1.58	0.25	0.50	6.6	0.057	32.75	2,600	0.95	6.0
2395	Glass pearls	B	SO	1.58	0.25	0.50	6.6	0.057	33.18	2,600	0.95	6.0
2396	Glass pearls	B	SO	1.58	0.25	0.50	6.6	0.057	33.56	2,600	0.95	6.0
2397	Glass pearls	B	SO	1.58	0.25	0.50	6.6	0.057	34.38	2,600	0.95	6.0
2398	Glass pearls	B	SO	1.58	0.25	0.50	6.6	0.057	35.84	2,600	0.95	6.0
2399	Glass pearls	B	SO	1.58	0.25	0.50	16.3	0.057	27.59	2,600	0.95	6.0
2400	Glass pearls	B	SO	1.58	0.25	0.50	16.3	0.057	28.34	2,600	0.95	6.0
2401	Glass pearls	B	SO	1.58	0.25	0.50	16.3	0.057	29.16	2,600	0.95	6.0
2402	Glass pearls	B	SO	1.58	0.25	0.50	16.3	0.057	29.41	2,600	0.95	6.0
2403	Glass pearls	B	SO	1.58	0.25	0.50	16.3	0.057	29.88	2,600	0.95	6.0
2404	Glass pearls	B	SO	1.58	0.25	0.50	25.9	0.057	25.09	2,600	0.95	6.0
2405	Glass pearls	B	SO	1.58	0.25	0.50	25.9	0.057	25.63	2,600	0.95	6.0
2406	Glass pearls	B	SO	1.58	0.25	0.50	25.9	0.057	27.78	2,600	0.95	6.0
2407	Glass pearls	B	SO	1.58	0.25	0.50	25.9	0.057	30.41	2,600	0.95	6.0
2408	Glass pearls	B	SO	1.58	0.25	0.50	25.9	0.057	30.75	2,600	0.95	6.0
2409	Glass pearls	B	SO	1.58	0.25	0.50	36.8	0.057	23.12	2,600	0.95	6.0
2410	Glass pearls	B	SO	1.58	0.25	0.50	36.8	0.057	23.72	2,600	0.95	6.0
2411	Glass pearls	B	SO	1.58	0.25	0.50	36.8	0.057	23.97	2,600	0.95	6.0
2412	Glass pearls	B	SO	1.58	0.25	0.50	36.8	0.057	24.94	2,600	0.95	6.0
2413	Glass pearls	B	SO	1.58	0.25	0.50	36.8	0.057	25.28	2,600	0.95	6.0
2414	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	13.65	2,412	0.95	6.0
2415	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	13.72	2,412	0.95	6.0
2416	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	13.72	2,412	0.95	6.0
2417	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	14.00	2,412	0.95	6.0
2418	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	14.09	2,412	0.95	6.0

2419	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	14.47	2,412	0.95	6.0
2420	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	14.53	2,412	0.95	6.0
2421	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	14.84	2,412	0.95	6.0
2422	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	14.90	2,412	0.95	6.0
2423	Glass pearls	B	SO	1.00	0.50	0.75	4.2	0.057	15.00	2,412	0.95	6.0
2424	Glass pearls	B	SO	1.58	0.50	0.75	6.2	0.057	20.25	2,600	0.95	6.0
2425	Glass pearls	B	SO	1.58	0.50	0.75	6.2	0.057	20.47	2,600	0.95	6.0
2426	Glass pearls	B	SO	1.58	0.50	0.75	6.2	0.057	20.56	2,600	0.95	6.0
2427	Glass pearls	B	SO	1.58	0.50	0.75	6.2	0.057	20.63	2,600	0.95	6.0
2428	Glass pearls	B	SO	1.58	0.50	0.75	6.2	0.057	21.13	2,600	0.95	6.0
2429	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	11.25	2,412	0.95	6.0
2430	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	11.75	2,412	0.95	6.0
2431	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	11.81	2,412	0.95	6.0
2432	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	11.87	2,412	0.95	6.0
2433	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	11.90	2,412	0.95	6.0
2434	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	11.97	2,412	0.95	6.0
2435	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	12.16	2,412	0.95	6.0
2436	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	12.31	2,412	0.95	6.0
2437	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	12.31	2,412	0.95	6.0
2438	Glass pearls	B	SO	1.00	0.50	0.75	15.4	0.057	12.34	2,412	0.95	6.0
2439	Glass pearls	B	SO	1.58	0.50	0.75	16.5	0.057	17.25	2,600	0.95	6.0
2440	Glass pearls	B	SO	1.58	0.50	0.75	16.5	0.057	17.66	2,600	0.95	6.0
2441	Glass pearls	B	SO	1.58	0.50	0.75	16.5	0.057	18.03	2,600	0.95	6.0
2442	Glass pearls	B	SO	1.58	0.50	0.75	16.5	0.057	18.09	2,600	0.95	6.0
2443	Glass pearls	B	SO	1.58	0.50	0.75	16.5	0.057	18.28	2,600	0.95	6.0
2444	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	11.09	2,412	0.95	6.0
2445	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	11.25	2,412	0.95	6.0
2446	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	11.25	2,412	0.95	6.0
2447	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	11.69	2,412	0.95	6.0
2448	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	11.94	2,412	0.95	6.0
2449	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	11.98	2,412	0.95	6.0
2450	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	12.25	2,412	0.95	6.0
2451	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	12.72	2,412	0.95	6.0
2452	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	13.16	2,412	0.95	6.0
2453	Glass pearls	B	SO	1.00	0.50	0.75	24.9	0.057	13.22	2,412	0.95	6.0
2454	Glass pearls	B	SO	1.58	0.50	0.75	25.4	0.057	16.09	2,600	0.95	6.0
2455	Glass pearls	B	SO	1.58	0.50	0.75	25.4	0.057	17.00	2,600	0.95	6.0
2456	Glass pearls	B	SO	1.58	0.50	0.75	25.4	0.057	17.28	2,600	0.95	6.0
2457	Glass pearls	B	SO	1.58	0.50	0.75	25.4	0.057	18.19	2,600	0.95	6.0
2458	Glass pearls	B	SO	1.58	0.50	0.75	25.4	0.057	18.41	2,600	0.95	6.0
2459	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	10.19	2,412	0.95	6.0
2460	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	10.28	2,412	0.95	6.0
2461	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	10.65	2,412	0.95	6.0
2462	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	10.81	2,412	0.95	6.0
2463	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	11.00	2,412	0.95	6.0
2464	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	11.04	2,412	0.95	6.0
2465	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	11.25	2,412	0.95	6.0
2466	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	11.25	2,412	0.95	6.0
2467	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	11.25	2,412	0.95	6.0
2468	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	11.25	2,412	0.95	6.0
2469	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	11.25	2,412	0.95	6.0
2470	Glass pearls	B	SO	1.00	0.50	0.75	34.7	0.057	11.50	2,412	0.95	6.0
2471	Glass pearls	B	SO	1.58	0.50	0.75	35.9	0.057	14.78	2,600	0.95	6.0
2472	Glass pearls	B	SO	1.58	0.50	0.75	35.9	0.057	15.12	2,600	0.95	6.0
2473	Glass pearls	B	SO	1.58	0.50	0.75	35.9	0.057	15.37	2,600	0.95	6.0
2474	Glass pearls	B	SO	1.58	0.50	0.75	35.9	0.057	15.47	2,600	0.95	6.0
2475	Glass pearls	B	SO	1.58	0.50	0.75	35.9	0.057	15.78	2,600	0.95	6.0
2476	Glass pearls	D	SO	2.00	1.25	1.40	4.9	0.057	12.41	2,430	0.95	6.0
2477	Glass pearls	D	SO	2.00	1.25	1.40	4.9	0.057	12.57	2,430	0.95	6.0
2478	Glass pearls	D	SO	2.00	1.25	1.40	4.9	0.057	13.09	2,430	0.95	6.0
2479	Glass pearls	D	SO	2.00	1.25	1.40	4.9	0.057	13.28	2,430	0.95	6.0
2480	Glass pearls	D	SO	2.00	1.25	1.40	4.9	0.057	13.47	2,430	0.95	6.0
2481	Glass pearls	D	SO	2.00	1.25	1.40	4.9	0.057	13.87	2,430	0.95	6.0
2482	Glass pearls	D	SO	2.00	1.25	1.40	4.9	0.057	13.88	2,430	0.95	6.0
2483	Glass pearls	D	SO	2.00	1.25	1.40	5.5	0.057	11.95	2,430	0.95	6.0
2484	Glass pearls	D	SO	2.00	1.25	1.40	5.5	0.057	13.23	2,430	0.95	6.0
2485	Glass pearls	D	SO	2.00	1.25	1.40	5.6	0.057	12.88	2,430	0.95	6.0
2486	Glass pearls	D	SO	2.00	1.25	1.40	5.6	0.057	13.15	2,430	0.95	6.0
2487	Glass pearls	D	SO	2.00	1.25	1.40	5.6	0.057	13.72	2,430	0.95	6.0
2488	Glass pearls	D	SO	2.00	1.25	1.40	5.6	0.057	14.06	2,430	0.95	6.0
2489	Glass pearls	D	SO	2.00	1.25	1.40	5.7	0.057	12.17	2,430	0.95	6.0
2490	Glass pearls	D	SO	2.00	1.25	1.40	5.7	0.057	12.67	2,430	0.95	6.0
2491	Glass pearls	D	SO	2.00	1.25	1.40	5.7	0.057	12.94	2,430	0.95	6.0
2492	Glass pearls	D	SO	2.00	1.25	1.40	5.7	0.057	13.06	2,430	0.95	6.0
2493	Glass pearls	D	SO	2.00	1.25	1.40	6.0	0.057	12.57	2,430	0.95	6.0
2494	Glass pearls	D	SO	2.00	1.25	1.40	6.0	0.057	12.71	2,430	0.95	6.0
2495	Glass pearls	D	SO	2.00	1.25	1.40	6.1	0.057	12.34	2,430	0.95	6.0
2496	Glass pearls	D	SO	1.58	1.18	1.30	6.3	0.057	8.59	2,600	0.95	6.0
2497	Glass pearls	D	SO	1.58	1.18	1.30	6.3	0.057	8.59	2,600	0.95	6.0
2498	Glass pearls	D	SO	1.58	1.18	1.30	6.3	0.057	8.65	2,600	0.95	6.0
2499	Glass pearls	D	SO	1.58	1.18	1.30	6.3	0.057	8.65	2,600	0.95	6.0
2500	Glass pearls	D	SO	1.58	1.18	1.30	6.3	0.057	9.00	2,600	0.95	6.0
2501	Glass pearls	D	SO	2.00	1.25	1.40	6.4	0.057	11.66	2,430	0.95	6.0
2502	Glass pearls	D	SO	2.00	1.25	1.40	6.4	0.057	11.72	2,430	0.95	6.0
2503	Glass pearls	D	SO	2.00	1.25	1.40	6.4	0.057	11.83	2,430	0.95	6.0
2504	Glass pearls	D	SO	2.00	1.25	1.40	6.4	0.057	11.85	2,430	0.95	6.0
2505	Glass pearls	D	SO	2.00	1.25	1.40	6.4	0.057	11.91	2,430	0.95	6.0
2506	Glass pearls	D	SO	2.00	1.25	1.40	6.4	0.057	12.19	2,430	0.95	6.0
2507	Glass pearls	D	SO	2.00	1.25	1.40	6.4	0.057	12.81	2,430	0.95	6.0
2508	Glass pearls	D	SO	2.00	1.25	1.40	6.4	0.057	13.40	2,430	0.95	6.0
2509	Glass pearls	D	SO	2.00	1.25	1.40	6.5	0.057	12.26	2,430	0.95	6.0
2510	Glass pearls	D	SO	2.00	1.25	1.40	6.5	0.057	12.82	2,430	0.95	6.0
2511	Glass pearls	D	SO	2.00	1.25	1.40	6.7	0.057	12.28	2,430	0.95	6.0
2512	Glass pearls	D	SO	2.00	1.25	1.40	6.7	0.057	12.81	2,430	0.95	6.0
2513	Glass pearls	D	SO	2.00	1.25	1.40	6.7	0.057	13.69	2,430	0.95	6.0
2514	Glass pearls	D	SO	2.00	1.25	1.40	6.9	0.057	11.45	2,430	0.95	6.0
2515	Glass pearls	D	SO	2.00	1.25	1.40	6.9	0.057	11.65	2,430	0.95	6.0
2516	Glass pearls	D	SO	2.00	1.25	1.40	7.0	0.057	11.99	2,430	0.95	6.0
2517	Glass pearls	D	SO	2.00	1.25	1.40	7.0	0.057	12.84	2,430	0.95	6.0
2518	Glass pearls	D	SO	2.00	1.25	1.40	7.0	0.057	13.00	2,430	0.95	6.0
2519	Glass pearls	D	SO	2.00	1.25	1.40	7.0	0.057	13.01	2,430	0.95	6.0
2520	Glass pearls	D	SO	2.00	1.25	1.40	7.0	0.057	13.15	2,430	0.95	6.0
2521	Glass pearls	D	SO	1.58	1.18	1.30	13.7	0.057	8.31	2,600	0.95	6.0
2522	Glass pearls	D	SO	1.58	1.18	1.30	13.7	0.057	8.32	2,600	0.95	6.0
2523	Glass pearls	D	SO	1.58	1.18	1.30	13.7	0.057	8.59	2,600	0.95	6.0
2524	Glass pearls	D	SO	1.58	1.18	1.30	13.7	0.057	8.63	2,600	0.95	6.0
2525	Glass pearls	D	SO	1.58	1.18	1.30	13.7	0.057	8.78	2,600	0.95	6.0
2526	Glass pearls	D	SO	2.00	1.25	1.40	18.3	0.057	10.78	2,430	0.95	6.0
2527	Glass pearls	D	SO	2.00	1.25	1.40	18.3	0.057	10.94	2,430	0.95	6.0
2528	Glass pearls	D	SO	2.00	1.25	1.40	18.3	0.057	11.19	2,430	0.95	6.0
2529	Glass pearls	D	SO	2.00	1.25	1.40	18.3	0.057	11.25	2,430	0.95	6.0
2530	Glass pearls	D	SO	2.00	1.25	1.40	18.3	0.057	11.72	2,430	0.95	6.0
2531	Glass pearls	D	SO	2.00	1.25	1.40	18.4	0.057	9.62	2,430	0.95	6.0
2532	Glass pearls	D	SO	2.00	1.25	1.40	18.4	0.057	10.59	2,430	0.95	6.0
2533	Glass pearls	D	SO	2.00	1.25	1.40	18.4	0.057	10.66	2,430	0.95	6.0
2534	Glass pearls	D	SO	2.00	1.25	1.40	18.4	0.057	10.75	2,430	0.95	6.0
2535	Glass pearls	D	SO	2.00	1.25	1.40	18.4	0.057	12.01	2,430	0.95	6.0
2536	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	9.90	2,430	0.95	6.0
2537	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	10.28	2,430	0.95	6.0
2538	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	10.44	2,430	0.95	6.0
2539	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	10.62	2,430	0.95	6.0
2540	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	10.78	2,430	0.95	6.0
2541	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	10.84	2,430	0.95	6.0
2542	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	10.90	2,430	0.95	6.0

2543	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	11.13	2,430	0.95	6.0
2544	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	11.13	2,430	0.95	6.0
2545	Glass pearls	D	SO	2.00	1.25	1.40	18.5	0.057	13.88	2,430	0.95	6.0
2546	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	9.69	2,430	0.95	6.0
2547	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.16	2,430	0.95	6.0
2548	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.25	2,430	0.95	6.0
2549	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.38	2,430	0.95	6.0
2550	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.41	2,430	0.95	6.0
2551	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.62	2,430	0.95	6.0
2552	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.66	2,430	0.95	6.0
2553	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.72	2,430	0.95	6.0
2554	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.87	2,430	0.95	6.0
2555	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.91	2,430	0.95	6.0
2556	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.94	2,430	0.95	6.0
2557	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	10.94	2,430	0.95	6.0
2558	Glass pearls	D	SO	2.00	1.25	1.40	18.6	0.057	12.62	2,430	0.95	6.0
2559	Glass pearls	D	SO	2.00	1.25	1.40	18.7	0.057	10.07	2,430	0.95	6.0
2560	Glass pearls	D	SO	2.00	1.25	1.40	18.7	0.057	10.28	2,430	0.95	6.0
2561	Glass pearls	D	SO	2.00	1.25	1.40	18.7	0.057	10.28	2,430	0.95	6.0
2562	Glass pearls	D	SO	2.00	1.25	1.40	18.7	0.057	10.34	2,430	0.95	6.0
2563	Glass pearls	D	SO	2.00	1.25	1.40	18.7	0.057	10.59	2,430	0.95	6.0
2564	Glass pearls	D	SO	2.00	1.25	1.40	18.7	0.057	10.81	2,430	0.95	6.0
2565	Glass pearls	D	SO	2.00	1.25	1.40	18.7	0.057	10.94	2,430	0.95	6.0
2566	Glass pearls	D	SO	2.00	1.25	1.40	18.7	0.057	11.03	2,430	0.95	6.0
2567	Glass pearls	D	SO	2.00	1.25	1.40	18.8	0.057	10.31	2,430	0.95	6.0
2568	Glass pearls	D	SO	2.00	1.25	1.40	18.8	0.057	10.41	2,430	0.95	6.0
2569	Glass pearls	D	SO	2.00	1.25	1.40	18.8	0.057	10.50	2,430	0.95	6.0
2570	Glass pearls	D	SO	2.00	1.25	1.40	18.8	0.057	10.90	2,430	0.95	6.0
2571	Glass pearls	D	SO	1.58	1.18	1.30	25.0	0.057	8.00	2,600	0.95	6.0
2572	Glass pearls	D	SO	1.58	1.18	1.30	25.0	0.057	8.16	2,600	0.95	6.0
2573	Glass pearls	D	SO	1.58	1.18	1.30	25.0	0.057	8.19	2,600	0.95	6.0
2574	Glass pearls	D	SO	1.58	1.18	1.30	25.0	0.057	8.31	2,600	0.95	6.0
2575	Glass pearls	D	SO	1.58	1.18	1.30	25.0	0.057	8.34	2,600	0.95	6.0
2576	Glass pearls	D	CH	1.58	1.18	1.30	35.4	0.057	7.47	2,600	0.95	6.0
2577	Glass pearls	D	CH	1.58	1.18	1.30	35.4	0.057	7.66	2,600	0.95	6.0
2578	Glass pearls	D	CH	1.58	1.18	1.30	35.4	0.057	7.72	2,600	0.95	6.0
2579	Glass pearls	D	CH	1.58	1.18	1.30	35.4	0.057	7.88	2,600	0.95	6.0
2580	Glass pearls	D	CH	1.58	1.18	1.30	35.4	0.057	8.22	2,600	0.95	6.0
2581	Glass pearls	D	CH	1.58	1.70	2.35	5.9	0.057	5.62	2,600	0.95	6.0
2582	Glass pearls	D	CH	1.58	1.70	2.35	5.9	0.057	5.75	2,600	0.95	6.0
2583	Glass pearls	D	CH	1.58	1.70	2.35	5.9	0.057	5.78	2,600	0.95	6.0
2584	Glass pearls	D	CH	1.58	1.70	2.35	5.9	0.057	5.84	2,600	0.95	6.0
2585	Glass pearls	D	CH	1.58	1.70	2.35	5.9	0.057	5.88	2,600	0.95	6.0
2586	Glass pearls	D	CH	1.58	1.70	2.35	14.0	0.057	5.66	2,600	0.95	6.0
2587	Glass pearls	D	CH	1.58	1.70	2.35	14.0	0.057	5.75	2,600	0.95	6.0
2588	Glass pearls	D	CH	1.58	1.70	2.35	14.0	0.057	5.75	2,600	0.95	6.0
2589	Glass pearls	D	CH	1.58	1.70	2.35	14.0	0.057	5.78	2,600	0.95	6.0
2590	Glass pearls	D	CH	1.58	1.70	2.35	14.0	0.057	5.81	2,600	0.95	6.0
2591	Glass pearls	D	CH	1.58	1.70	2.35	14.0	0.057	5.81	2,600	0.95	6.0
2592	Glass pearls	D	CH	1.58	1.70	2.35	25.3	0.057	5.44	2,600	0.95	6.0
2593	Glass pearls	D	CH	1.58	1.70	2.35	25.3	0.057	5.46	2,600	0.95	6.0
2594	Glass pearls	D	CH	1.58	1.70	2.35	25.3	0.057	5.47	2,600	0.95	6.0
2595	Glass pearls	D	CH	1.58	1.70	2.35	25.3	0.057	5.50	2,600	0.95	6.0
2596	Glass pearls	D	CH	1.58	1.70	2.35	25.3	0.057	5.63	2,600	0.95	6.0
2597	Glass pearls	D	CH	1.58	1.70	2.35	36.0	0.057	5.21	2,600	0.95	6.0
2598	Glass pearls	D	CH	1.58	1.70	2.35	36.0	0.057	5.28	2,600	0.95	6.0
2599	Glass pearls	D	CH	1.58	1.70	2.35	36.0	0.057	5.31	2,600	0.95	6.0
2600	Glass pearls	D	CH	1.58	1.70	2.35	36.0	0.057	5.32	2,600	0.95	6.0
2601	Glass pearls	D	CH	1.58	1.70	2.35	36.0	0.057	5.38	2,600	0.95	6.0
2602	Glass pearls	D	CH	1.58	2.85	3.15	6.5	0.057	4.25	2,600	0.95	6.0
2603	Glass pearls	D	CH	1.58	2.85	3.15	6.5	0.057	4.44	2,600	0.95	6.0
2604	Glass pearls	D	CH	1.58	2.85	3.15	6.5	0.057	4.47	2,600	0.95	6.0
2605	Glass pearls	D	CH	1.58	2.85	3.15	6.5	0.057	4.56	2,600	0.95	6.0
2606	Glass pearls	D	CH	1.58	2.85	3.15	6.5	0.057	4.56	2,600	0.95	6.0
2607	Glass pearls	D	CH	1.58	2.85	3.15	14.3	0.057	4.38	2,600	0.95	6.0
2608	Glass pearls	D	CH	1.58	2.85	3.15	14.3	0.057	4.46	2,600	0.95	6.0
2609	Glass pearls	D	CH	1.58	2.85	3.15	14.3	0.057	4.47	2,600	0.95	6.0
2610	Glass pearls	D	CH	1.58	2.85	3.15	14.3	0.057	4.47	2,600	0.95	6.0
2611	Glass pearls	D	CH	1.58	2.85	3.15	14.3	0.057	4.63	2,600	0.95	6.0
2612	Glass pearls	D	CH	1.58	2.85	3.15	35.7	0.057	4.09	2,600	0.95	6.0
2613	Glass pearls	D	CH	1.58	2.85	3.15	35.7	0.057	4.22	2,600	0.95	6.0
2614	Glass pearls	D	CH	1.58	2.85	3.15	35.7	0.057	4.38	2,600	0.95	6.0
2615	Glass pearls	D	CH	1.58	2.85	3.15	35.7	0.057	4.47	2,600	0.95	6.0
2616	Glass pearls	D	CH	1.58	2.85	3.15	35.7	0.057	4.47	2,600	0.95	6.0
2617	Glass pearls	D	CH	1.58	2.85	3.15	36.8	0.057	4.25	2,600	0.95	6.0
2618	Glass pearls	D	CH	1.58	2.85	3.15	36.8	0.057	4.31	2,600	0.95	6.0
2619	Glass pearls	D	CH	1.58	2.85	3.15	36.8	0.057	4.37	2,600	0.95	6.0
2620	Glass pearls	D	CH	1.58	2.85	3.15	36.8	0.057	4.41	2,600	0.95	6.0
2621	Glass pearls	D	CH	1.58	2.85	3.15	36.8	0.057	4.41	2,600	0.95	6.0
2622	SiLibeads	B	SO	1.50	0.69	0.71	2.9	0.057	16.18	2,655	0.99	6.0
2623	SiLibeads	B	SO	1.50	0.69	0.71	4.8	0.057	16.94	2,655	0.99	6.0
2624	SiLibeads	B	SO	1.50	0.69	0.71	4.8	0.057	17.10	2,655	0.99	6.0
2625	SiLibeads	B	SO	1.50	0.69	0.71	4.8	0.057	17.28	2,655	0.99	6.0
2626	SiLibeads	B	SO	1.50	0.69	0.71	4.8	0.057	17.33	2,655	0.99	6.0
2627	SiLibeads	B	SO	1.50	0.69	0.71	4.8	0.057	17.96	2,655	0.99	6.0
2628	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.32	2,655	0.99	6.0
2629	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.40	2,655	0.99	6.0
2630	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.48	2,655	0.99	6.0
2631	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.52	2,655	0.99	6.0
2632	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.62	2,655	0.99	6.0
2633	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.63	2,655	0.99	6.0
2634	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.66	2,655	0.99	6.0
2635	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.71	2,655	0.99	6.0
2636	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.75	2,655	0.99	6.0
2637	SiLibeads	B	SO	2.50	0.69	0.71	8.0	0.057	25.94	2,655	0.99	6.0
2638	SiLibeads	B	SO	1.50	0.69	0.71	11.3	0.057	14.06	2,655	0.99	6.0
2639	SiLibeads	B	SO	1.50	0.69	0.71	11.3	0.057	14.12	2,655	0.99	6.0
2640	SiLibeads	B	SO	1.50	0.69	0.71	11.3	0.057	14.23	2,655	0.99	6.0
2641	SiLibeads	B	SO	1.50	0.69	0.71	11.3	0.057	14.39	2,655	0.99	6.0
2642	SiLibeads	B	SO	1.50	0.69	0.71	11.3	0.057	14.88	2,655	0.99	6.0
2643	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	22.19	2,655	0.99	6.0
2644	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	22.98	2,655	0.99	6.0
2645	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	23.01	2,655	0.99	6.0
2646	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	23.02	2,655	0.99	6.0
2647	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	23.02	2,655	0.99	6.0
2648	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	23.11	2,655	0.99	6.0
2649	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	23.12	2,655	0.99	6.0
2650	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	23.15	2,655	0.99	6.0
2651	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	23.18	2,655	0.99	6.0
2652	SiLibeads	B	SO	2.50	0.69	0.71	17.1	0.057	23.18	2,655	0.99	6.0
2653	SiLibeads	B	SO	1.50	0.69	0.71	22.2	0.057	13.13	2,655	0.99	6.0
2654	SiLibeads	B	SO	1.50	0.69	0.71	22.2	0.057	13.20	2,655	0.99	6.0
2655	SiLibeads	B	SO	1.50	0.69	0.71	22.2	0.057	13.26	2,655	0.99	6.0
2656	SiLibeads	B	SO	1.50	0.69	0.71	22.2	0.057	13.34	2,655	0.99	6.0
2657	SiLibeads	B	SO	1.50	0.69	0.71	22.2	0.057	13.39	2,655	0.99	6.0
2658	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	18.76	2,655	0.99	6.0
2659	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	19.01	2,655	0.99	6.0
2660	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	19.16	2,655	0.99	6.0
2661	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	19.24	2,655	0.99	6.0
2662	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	19.26	2,655	0.99	6.0
2663	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	19.27	2,655	0.99	6.0
2664	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	19.39	2,655	0.99	6.0
2665	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	19.46	2,655	0.99	6.0
2666	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	19.51	2,655	0.99	6.0

2667	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	19.58	2,655	0.99	6.0
2668	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.45	2,655	0.99	6.0
2669	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.59	2,655	0.99	6.0
2670	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.61	2,655	0.99	6.0
2671	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.65	2,655	0.99	6.0
2672	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.67	2,655	0.99	6.0
2673	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.67	2,655	0.99	6.0
2674	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.69	2,655	0.99	6.0
2675	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.89	2,655	0.99	6.0
2676	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.89	2,655	0.99	6.0
2677	SiLibeads	B	SO	2.50	0.69	0.71	23.1	0.057	23.95	2,655	0.99	6.0
2678	SiLibeads	B	SO	1.50	0.69	0.71	32.7	0.057	12.12	2,655	0.99	6.0
2679	SiLibeads	B	SO	1.50	0.69	0.71	32.7	0.057	12.15	2,655	0.99	6.0
2680	SiLibeads	B	SO	1.50	0.69	0.71	32.7	0.057	12.16	2,655	0.99	6.0
2681	SiLibeads	B	SO	1.50	0.69	0.71	32.7	0.057	12.22	2,655	0.99	6.0
2682	SiLibeads	B	SO	1.50	0.69	0.71	32.7	0.057	12.29	2,655	0.99	6.0
2683	SiLibeads	B	SO	2.50	0.69	0.71	34.9	0.057	19.16	2,655	0.99	6.0
2684	SiLibeads	B	SO	2.50	0.69	0.71	34.9	0.057	19.24	2,655	0.99	6.0
2685	SiLibeads	B	SO	2.50	0.69	0.71	34.9	0.057	19.26	2,655	0.99	6.0
2686	SiLibeads	B	SO	2.50	0.69	0.71	34.9	0.057	19.27	2,655	0.99	6.0
2687	SiLibeads	B	SO	2.50	0.69	0.71	34.9	0.057	19.39	2,655	0.99	6.0
2688	SiLibeads	B	SO	2.50	0.69	0.71	34.9	0.057	19.46	2,655	0.99	6.0
2689	SiLibeads	B	SO	2.50	0.69	0.71	34.9	0.057	19.51	2,655	0.99	6.0
2690	SiLibeads	B	SO	2.50	0.69	0.71	34.9	0.057	19.58	2,655	0.99	6.0
2691	SiLibeads	B	SO	1.50	0.79	0.81	2.9	0.057	13.97	2,645	0.99	6.0
2692	SiLibeads	B	SO	1.50	0.79	0.81	4.8	0.057	13.66	2,645	0.99	6.0
2693	SiLibeads	B	SO	1.50	0.79	0.81	4.8	0.057	16.04	2,645	0.99	6.0
2694	SiLibeads	B	SO	1.50	0.79	0.81	4.8	0.057	16.14	2,645	0.99	6.0
2695	SiLibeads	B	SO	1.50	0.79	0.81	4.8	0.057	16.90	2,645	0.99	6.0
2696	SiLibeads	B	SO	1.50	0.79	0.81	4.8	0.057	17.06	2,645	0.99	6.0
2697	SiLibeads	B	SO	2.50	0.79	0.81	8.0	0.057	24.45	2,645	0.99	6.0
2698	SiLibeads	B	SO	2.50	0.79	0.81	8.0	0.057	24.47	2,645	0.99	6.0
2699	SiLibeads	B	SO	2.50	0.79	0.81	8.0	0.057	24.56	2,645	0.99	6.0
2700	SiLibeads	B	SO	2.50	0.79	0.81	8.0	0.057	24.61	2,645	0.99	6.0
2701	SiLibeads	B	SO	2.50	0.79	0.81	8.0	0.057	24.61	2,645	0.99	6.0
2702	SiLibeads	B	SO	2.50	0.79	0.81	8.0	0.057	24.62	2,645	0.99	6.0
2703	SiLibeads	B	SO	2.50	0.79	0.81	8.0	0.057	24.62	2,645	0.99	6.0
2704	SiLibeads	B	SO	2.50	0.79	0.81	8.0	0.057	24.71	2,645	0.99	6.0
2705	SiLibeads	B	SO	2.50	0.79	0.81	8.0	0.057	24.89	2,645	0.99	6.0
2706	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	4.15	2,588	0.99	6.0
2707	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	4.23	2,588	0.99	6.0
2708	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	4.41	2,588	0.99	6.0
2709	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	4.53	2,588	0.99	6.0
2710	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	4.65	2,588	0.99	6.0
2711	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	4.81	2,588	0.99	6.0
2712	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	4.87	2,588	0.99	6.0
2713	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	5.06	2,588	0.99	6.0
2714	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	5.12	2,588	0.99	6.0
2715	SiLibeads	B	SO	0.50	0.79	0.81	9.0	0.057	5.72	2,588	0.99	6.0
2716	SiLibeads	B	SO	0.50	0.79	0.81	9.3	0.057	4.68	2,588	0.99	6.0
2717	SiLibeads	B	SO	0.50	0.79	0.81	9.3	0.057	4.71	2,588	0.99	6.0
2718	SiLibeads	B	SO	0.50	0.79	0.81	9.3	0.057	4.75	2,588	0.99	6.0
2719	SiLibeads	B	SO	0.50	0.79	0.81	9.3	0.057	4.80	2,588	0.99	6.0
2720	SiLibeads	B	SO	0.50	0.79	0.81	9.3	0.057	4.81	2,588	0.99	6.0
2721	SiLibeads	B	SO	0.50	0.79	0.81	9.3	0.057	4.86	2,588	0.99	6.0
2722	SiLibeads	B	SO	0.50	0.79	0.81	9.3	0.057	4.91	2,588	0.99	6.0
2723	SiLibeads	B	SO	0.50	0.79	0.81	9.3	0.057	4.92	2,588	0.99	6.0
2724	SiLibeads	B	SO	0.50	0.79	0.81	9.3	0.057	5.03	2,588	0.99	6.0
2725	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	34.58	2,588	0.99	6.0
2726	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	34.65	2,588	0.99	6.0
2727	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	34.71	2,588	0.99	6.0
2728	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	34.87	2,588	0.99	6.0
2729	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	35.13	2,588	0.99	6.0
2730	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	35.33	2,588	0.99	6.0
2731	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	35.78	2,588	0.99	6.0
2732	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	36.21	2,588	0.99	6.0
2733	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	36.53	2,588	0.99	6.0
2734	SiLibeads	B	SO	3.75	0.79	0.81	10.0	0.057	36.60	2,588	0.99	6.0
2735	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	4.66	2,588	0.99	6.0
2736	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	4.91	2,588	0.99	6.0
2737	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	4.92	2,588	0.99	6.0
2738	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	4.94	2,588	0.99	6.0
2739	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	4.94	2,588	0.99	6.0
2740	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	4.94	2,588	0.99	6.0
2741	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	4.96	2,588	0.99	6.0
2742	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	4.97	2,588	0.99	6.0
2743	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	5.01	2,588	0.99	6.0
2744	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	5.24	2,588	0.99	6.0
2745	SiLibeads	B	SO	0.50	0.79	0.81	11.0	0.057	5.40	2,588	0.99	6.0
2746	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	4.68	2,588	0.99	6.0
2747	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	4.71	2,588	0.99	6.0
2748	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	4.75	2,588	0.99	6.0
2749	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	4.80	2,588	0.99	6.0
2750	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	4.81	2,588	0.99	6.0
2751	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	4.86	2,588	0.99	6.0
2752	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	4.91	2,588	0.99	6.0
2753	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	4.92	2,588	0.99	6.0
2754	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	5.03	2,588	0.99	6.0
2755	SiLibeads	B	SO	0.50	0.79	0.81	11.1	0.057	5.11	2,588	0.99	6.0
2756	SiLibeads	B	SO	1.50	0.79	0.81	11.3	0.057	14.32	2,645	0.99	6.0
2757	SiLibeads	B	SO	1.50	0.79	0.81	11.3	0.057	14.34	2,645	0.99	6.0
2758	SiLibeads	B	SO	1.50	0.79	0.81	11.3	0.057	14.46	2,645	0.99	6.0
2759	SiLibeads	B	SO	1.50	0.79	0.81	11.3	0.057	14.52	2,645	0.99	6.0
2760	SiLibeads	B	SO	1.50	0.79	0.81	11.3	0.057	14.63	2,645	0.99	6.0
2761	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	4.62	2,588	0.99	6.0
2762	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	4.63	2,588	0.99	6.0
2763	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	4.66	2,588	0.99	6.0
2764	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	4.66	2,588	0.99	6.0
2765	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	4.72	2,588	0.99	6.0
2766	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	4.76	2,588	0.99	6.0
2767	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	4.80	2,588	0.99	6.0
2768	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	4.82	2,588	0.99	6.0
2769	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	4.96	2,588	0.99	6.0
2770	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	5.10	2,588	0.99	6.0
2771	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	5.16	2,588	0.99	6.0
2772	SiLibeads	B	SO	0.50	0.79	0.81	16.4	0.057	5.20	2,588	0.99	6.0
2773	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.20	2,588	0.99	6.0
2774	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.25	2,588	0.99	6.0
2775	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.26	2,588	0.99	6.0
2776	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.32	2,588	0.99	6.0
2777	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.46	2,588	0.99	6.0
2778	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.71	2,588	0.99	6.0
2779	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.82	2,588	0.99	6.0
2780	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.89	2,588	0.99	6.0
2781	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.92	2,588	0.99	6.0
2782	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.94	2,588	0.99	6.0
2783	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	3.96	2,588	0.99	6.0
2784	SiLibeads	B	SO	0.50	0.79	0.81	16.8	0.057	4.16	2,588	0.99	6.0
2785	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.73	2,645	0.99	6.0
2786	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.78	2,645	0.99	6.0
2787	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.78	2,645	0.99	6.0
2788	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.81	2,645	0.99	6.0
2789	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.81	2,645	0.99	6.0
2790	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.82	2,645	0.99	6.0

2791	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.83	2,645	0.99	6.0
2792	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.90	2,645	0.99	6.0
2793	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.94	2,645	0.99	6.0
2794	SiLibeads	B	SO	2.50	0.79	0.81	17.1	0.057	22.98	2,645	0.99	6.0
2795	SiLibeads	B	SO	1.60	0.79	0.81	19.0	0.057	13.00	2,588	0.99	6.0
2796	SiLibeads	B	SO	1.60	0.79	0.81	19.0	0.057	13.00	2,588	0.99	6.0
2797	SiLibeads	B	SO	1.60	0.79	0.81	19.0	0.057	13.00	2,588	0.99	6.0
2798	SiLibeads	B	SO	1.60	0.79	0.81	19.0	0.057	14.00	2,588	0.99	6.0
2799	SiLibeads	B	SO	1.60	0.79	0.81	19.0	0.057	14.00	2,588	0.99	6.0
2800	SiLibeads	B	SO	1.60	0.79	0.81	19.0	0.057	14.00	2,588	0.99	6.0
2801	SiLibeads	B	SO	1.60	0.79	0.81	19.0	0.057	15.00	2,588	0.99	6.0
2802	SiLibeads	B	SO	1.60	0.79	0.81	19.0	0.057	16.00	2,588	0.99	6.0
2803	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	3.88	2,588	0.99	6.0
2804	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.15	2,588	0.99	6.0
2805	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.28	2,588	0.99	6.0
2806	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.29	2,588	0.99	6.0
2807	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.42	2,588	0.99	6.0
2808	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.50	2,588	0.99	6.0
2809	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.52	2,588	0.99	6.0
2810	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.59	2,588	0.99	6.0
2811	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.63	2,588	0.99	6.0
2812	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.64	2,588	0.99	6.0
2813	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	4.67	2,588	0.99	6.0
2814	SiLibeads	B	SO	0.50	0.79	0.81	20.7	0.057	5.19	2,588	0.99	6.0
2815	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	3.76	2,588	0.99	6.0
2816	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	3.83	2,588	0.99	6.0
2817	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	3.88	2,588	0.99	6.0
2818	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	3.89	2,588	0.99	6.0
2819	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	3.93	2,588	0.99	6.0
2820	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	3.96	2,588	0.99	6.0
2821	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	4.12	2,588	0.99	6.0
2822	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	4.23	2,588	0.99	6.0
2823	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	4.23	2,588	0.99	6.0
2824	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	4.51	2,588	0.99	6.0
2825	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	4.65	2,588	0.99	6.0
2826	SiLibeads	B	SO	0.50	0.79	0.81	20.9	0.057	4.98	2,588	0.99	6.0
2827	SiLibeads	B	SO	1.50	0.79	0.81	22.2	0.057	12.94	2,645	0.99	6.0
2828	SiLibeads	B	SO	1.50	0.79	0.81	22.2	0.057	12.99	2,645	0.99	6.0
2829	SiLibeads	B	SO	1.50	0.79	0.81	22.2	0.057	13.00	2,645	0.99	6.0
2830	SiLibeads	B	SO	1.50	0.79	0.81	22.2	0.057	13.02	2,645	0.99	6.0
2831	SiLibeads	B	SO	1.50	0.79	0.81	22.2	0.057	13.04	2,645	0.99	6.0
2832	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	22.06	2,645	0.99	6.0
2833	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	22.14	2,645	0.99	6.0
2834	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	22.15	2,645	0.99	6.0
2835	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	22.18	2,645	0.99	6.0
2836	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	22.29	2,645	0.99	6.0
2837	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	22.35	2,645	0.99	6.0
2838	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	22.48	2,645	0.99	6.0
2839	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	22.58	2,645	0.99	6.0
2840	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	22.64	2,645	0.99	6.0
2841	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	23.40	2,645	0.99	6.0
2842	SiLibeads	B	SO	2.50	0.79	0.81	23.1	0.057	24.85	2,645	0.99	6.0
2843	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	14.66	2,588	0.99	6.0
2844	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	14.72	2,588	0.99	6.0
2845	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	14.77	2,588	0.99	6.0
2846	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	14.82	2,588	0.99	6.0
2847	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	14.86	2,588	0.99	6.0
2848	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	14.86	2,588	0.99	6.0
2849	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	14.93	2,588	0.99	6.0
2850	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	14.97	2,588	0.99	6.0
2851	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	15.01	2,588	0.99	6.0
2852	SiLibeads	B	SO	2.00	0.79	0.81	25.5	0.057	15.14	2,588	0.99	6.0
2853	SiLibeads	B	SO	0.50	0.79	0.81	26.0	0.057	3.28	2,588	0.99	6.0
2854	SiLibeads	B	SO	0.50	0.79	0.81	26.0	0.057	3.40	2,588	0.99	6.0
2855	SiLibeads	B	SO	0.50	0.79	0.81	26.0	0.057	3.79	2,588	0.99	6.0
2856	SiLibeads	B	SO	0.50	0.79	0.81	26.0	0.057	3.82	2,588	0.99	6.0
2857	SiLibeads	B	SO	0.50	0.79	0.81	26.0	0.057	3.94	2,588	0.99	6.0
2858	SiLibeads	B	SO	0.50	0.79	0.81	26.0	0.057	4.18	2,588	0.99	6.0
2859	SiLibeads	B	SO	0.50	0.79	0.81	26.0	0.057	4.33	2,588	0.99	6.0
2860	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	3.56	2,588	0.99	6.0
2861	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	3.60	2,588	0.99	6.0
2862	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	3.66	2,588	0.99	6.0
2863	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	3.85	2,588	0.99	6.0
2864	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	3.85	2,588	0.99	6.0
2865	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	3.90	2,588	0.99	6.0
2866	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	3.96	2,588	0.99	6.0
2867	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	4.22	2,588	0.99	6.0
2868	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	4.36	2,588	0.99	6.0
2869	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	4.45	2,588	0.99	6.0
2870	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	4.49	2,588	0.99	6.0
2871	SiLibeads	B	SO	0.50	0.79	0.81	29.3	0.057	4.82	2,588	0.99	6.0
2872	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	27.40	2,588	0.99	6.0
2873	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	27.47	2,588	0.99	6.0
2874	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	27.50	2,588	0.99	6.0
2875	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	27.53	2,588	0.99	6.0
2876	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	27.68	2,588	0.99	6.0
2877	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	27.89	2,588	0.99	6.0
2878	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	28.35	2,588	0.99	6.0
2879	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	28.80	2,588	0.99	6.0
2880	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	28.88	2,588	0.99	6.0
2881	SiLibeads	B	SO	3.75	0.79	0.81	30.0	0.057	29.30	2,588	0.99	6.0
2882	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.03	2,588	0.99	6.0
2883	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.16	2,588	0.99	6.0
2884	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.17	2,588	0.99	6.0
2885	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.18	2,588	0.99	6.0
2886	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.21	2,588	0.99	6.0
2887	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.31	2,588	0.99	6.0
2888	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.45	2,588	0.99	6.0
2889	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.45	2,588	0.99	6.0
2890	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.45	2,588	0.99	6.0
2891	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.76	2,588	0.99	6.0
2892	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	3.85	2,588	0.99	6.0
2893	SiLibeads	B	SO	0.50	0.79	0.81	31.4	0.057	4.08	2,588	0.99	6.0
2894	SiLibeads	B	SO	1.50	0.79	0.81	32.7	0.057	11.96	2,645	0.99	6.0
2895	SiLibeads	B	SO	1.50	0.79	0.81	32.7	0.057	12.02	2,645	0.99	6.0
2896	SiLibeads	B	SO	1.50	0.79	0.81	32.7	0.057	12.09	2,645	0.99	6.0
2897	SiLibeads	B	SO	1.50	0.79	0.81	32.7	0.057	12.15	2,645	0.99	6.0
2898	SiLibeads	B	SO	1.50	0.79	0.81	32.7	0.057	12.17	2,645	0.99	6.0
2899	SiLibeads	B	SO	2.50	0.79	0.81	34.9	0.057	17.91	2,645	0.99	6.0
2900	SiLibeads	B	SO	2.50	0.79	0.81	34.9	0.057	18.16	2,645	0.99	6.0
2901	SiLibeads	B	SO	2.50	0.79	0.81	34.9	0.057	18.20	2,645	0.99	6.0
2902	SiLibeads	B	SO	2.50	0.79	0.81	34.9	0.057	18.26	2,645	0.99	6.0
2903	SiLibeads	B	SO	2.50	0.79	0.81	34.9	0.057	18.58	2,645	0.99	6.0
2904	SiLibeads	B	SO	2.50	0.79	0.81	34.9	0.057	18.66	2,645	0.99	6.0
2905	SiLibeads	B	SO	2.50	0.79	0.81	34.9	0.057	18.93	2,645	0.99	6.0
2906	SiLibeads	B	SO	2.50	0.79	0.81	34.9	0.057	18.99	2,645	0.99	6.0
2907	SiLibeads	B	SO	2.50	0.79	0.81	34.9	0.057	19.01	2,645	0.99	6.0
2908	SiLibeads	D	SO	1.50	0.99	1.01	2.9	0.057	11.21	2,550	0.99	6.0
2909	SiLibeads	D	SO	1.50	0.99	1.01	4.8	0.057	10.93	2,550	0.99	6.0
2910	SiLibeads	D	SO	1.50	0.99	1.01	4.8	0.057	11.02	2,550	0.99	6.0
2911	SiLibeads	D	SO	1.50	0.99	1.01	4.8	0.057	11.05	2,550	0.99	6.0
2912	SiLibeads	D	SO	1.50	0.99	1.01	4.8	0.057	11.44	2,550	0.99	6.0
2913	SiLibeads	D	SO	1.50	0.99	1.01	4.8	0.057	11.53	2,550	0.99	6.0
2914	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	17.09	2,550	0.99	6.0

2915	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	17.69	2,550	0.99	6.0
2916	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	18.21	2,550	0.99	6.0
2917	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	18.23	2,550	0.99	6.0
2918	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	18.32	2,550	0.99	6.0
2919	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	18.38	2,550	0.99	6.0
2920	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	18.48	2,550	0.99	6.0
2921	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	18.53	2,550	0.99	6.0
2922	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	18.80	2,550	0.99	6.0
2923	SiLibeads	D	SO	2.50	0.99	1.01	8.0	0.057	18.82	2,550	0.99	6.0
2924	SiLibeads	D	SO	1.50	0.99	1.01	11.3	0.057	10.40	2,550	0.99	6.0
2925	SiLibeads	D	SO	1.50	0.99	1.01	11.3	0.057	10.46	2,550	0.99	6.0
2926	SiLibeads	D	SO	1.50	0.99	1.01	11.3	0.057	10.59	2,550	0.99	6.0
2927	SiLibeads	D	SO	1.50	0.99	1.01	11.3	0.057	10.66	2,550	0.99	6.0
2928	SiLibeads	D	SO	1.50	0.99	1.01	11.3	0.057	10.66	2,550	0.99	6.0
2929	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.52	2,550	0.99	6.0
2930	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.53	2,550	0.99	6.0
2931	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.59	2,550	0.99	6.0
2932	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.62	2,550	0.99	6.0
2933	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.62	2,550	0.99	6.0
2934	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.63	2,550	0.99	6.0
2935	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.65	2,550	0.99	6.0
2936	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.68	2,550	0.99	6.0
2937	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.70	2,550	0.99	6.0
2938	SiLibeads	D	SO	2.50	0.99	1.01	17.1	0.057	16.71	2,550	0.99	6.0
2939	SiLibeads	D	SO	1.50	0.99	1.01	22.2	0.057	9.56	2,550	0.99	6.0
2940	SiLibeads	D	SO	1.50	0.99	1.01	22.2	0.057	9.57	2,550	0.99	6.0
2941	SiLibeads	D	SO	1.50	0.99	1.01	22.2	0.057	9.62	2,550	0.99	6.0
2942	SiLibeads	D	SO	1.50	0.99	1.01	22.2	0.057	9.65	2,550	0.99	6.0
2943	SiLibeads	D	SO	1.50	0.99	1.01	22.2	0.057	9.79	2,550	0.99	6.0
2944	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.69	2,550	0.99	6.0
2945	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.70	2,550	0.99	6.0
2946	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.77	2,550	0.99	6.0
2947	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.78	2,550	0.99	6.0
2948	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.83	2,550	0.99	6.0
2949	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.83	2,550	0.99	6.0
2950	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.86	2,550	0.99	6.0
2951	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.91	2,550	0.99	6.0
2952	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.94	2,550	0.99	6.0
2953	SiLibeads	D	SO	2.50	0.99	1.01	23.1	0.057	15.98	2,550	0.99	6.0
2954	SiLibeads	D	SO	1.50	0.99	1.01	32.7	0.057	8.79	2,550	0.99	6.0
2955	SiLibeads	D	SO	1.50	0.99	1.01	32.7	0.057	8.89	2,550	0.99	6.0
2956	SiLibeads	D	SO	1.50	0.99	1.01	32.7	0.057	8.93	2,550	0.99	6.0
2957	SiLibeads	D	SO	1.50	0.99	1.01	32.7	0.057	8.93	2,550	0.99	6.0
2958	SiLibeads	D	SO	1.50	0.99	1.01	32.7	0.057	9.05	2,550	0.99	6.0
2959	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.28	2,550	0.99	6.0
2960	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.55	2,550	0.99	6.0
2961	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.57	2,550	0.99	6.0
2962	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.59	2,550	0.99	6.0
2963	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.60	2,550	0.99	6.0
2964	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.62	2,550	0.99	6.0
2965	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.63	2,550	0.99	6.0
2966	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.64	2,550	0.99	6.0
2967	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.78	2,550	0.99	6.0
2968	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.79	2,550	0.99	6.0
2969	SiLibeads	D	SO	2.50	0.99	1.01	34.7	0.057	14.84	2,550	0.99	6.0
2970	SiLibeads	D	SO	1.50	1.49	1.51	2.9	0.057	7.50	2,525	0.99	6.0
2971	SiLibeads	D	SO	1.50	1.49	1.51	4.8	0.057	7.49	2,525	0.99	6.0
2972	SiLibeads	D	SO	1.50	1.49	1.51	4.8	0.057	7.56	2,525	0.99	6.0
2973	SiLibeads	D	SO	1.50	1.49	1.51	4.8	0.057	7.86	2,525	0.99	6.0
2974	SiLibeads	D	SO	1.50	1.49	1.51	4.8	0.057	7.91	2,525	0.99	6.0
2975	SiLibeads	D	SO	1.50	1.49	1.51	4.8	0.057	8.23	2,525	0.99	6.0
2976	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.42	2,525	0.99	6.0
2977	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.43	2,525	0.99	6.0
2978	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.45	2,525	0.99	6.0
2979	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.51	2,525	0.99	6.0
2980	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.55	2,525	0.99	6.0
2981	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.60	2,525	0.99	6.0
2982	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.68	2,525	0.99	6.0
2983	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.70	2,525	0.99	6.0
2984	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.78	2,525	0.99	6.0
2985	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.85	2,525	0.99	6.0
2986	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.86	2,525	0.99	6.0
2987	SiLibeads	D	SO	1.53	1.49	1.51	5.6	0.057	7.99	2,525	0.99	6.0
2988	SiLibeads	D	SO	2.50	1.49	1.51	7.9	0.057	12.36	2,525	0.99	6.0
2989	SiLibeads	D	SO	2.50	1.49	1.51	7.9	0.057	12.45	2,525	0.99	6.0
2990	SiLibeads	D	SO	2.50	1.49	1.51	7.9	0.057	12.48	2,525	0.99	6.0
2991	SiLibeads	D	SO	2.50	1.49	1.51	7.9	0.057	12.53	2,525	0.99	6.0
2992	SiLibeads	D	SO	2.50	1.49	1.51	7.9	0.057	12.57	2,525	0.99	6.0
2993	SiLibeads	D	SO	2.50	1.49	1.51	7.9	0.057	12.66	2,525	0.99	6.0
2994	SiLibeads	D	SO	2.50	1.49	1.51	7.9	0.057	12.67	2,525	0.99	6.0
2995	SiLibeads	D	SO	2.50	1.49	1.51	7.9	0.057	12.75	2,525	0.99	6.0
2996	SiLibeads	D	SO	2.50	1.49	1.51	7.9	0.057	12.75	2,525	0.99	6.0
2997	SiLibeads	D	SO	1.00	1.49	1.51	8.8	0.125	4.26	2,600	0.99	6.0
2998	SiLibeads	D	SO	1.00	1.49	1.51	8.8	0.125	4.56	2,600	0.99	6.0
2999	SiLibeads	D	SO	1.00	1.49	1.51	8.8	0.125	4.72	2,600	0.99	6.0
3000	SiLibeads	D	SO	1.00	1.49	1.51	8.8	0.125	5.05	2,600	0.99	6.0
3001	SiLibeads	D	SO	1.00	1.49	1.51	8.8	0.125	5.11	2,600	0.99	6.0
3002	SiLibeads	D	SO	1.00	1.49	1.51	9.9	0.125	4.39	2,600	0.99	6.0
3003	SiLibeads	D	SO	1.00	1.49	1.51	9.9	0.125	4.51	2,600	0.99	6.0
3004	SiLibeads	D	SO	1.00	1.49	1.51	9.9	0.125	4.71	2,600	0.99	6.0
3005	SiLibeads	D	SO	1.00	1.49	1.51	9.9	0.125	4.77	2,600	0.99	6.0
3006	SiLibeads	D	SO	1.00	1.49	1.51	9.9	0.125	4.77	2,600	0.99	6.0
3007	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.15	2,525	0.99	6.0
3008	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.17	2,525	0.99	6.0
3009	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.24	2,525	0.99	6.0
3010	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.28	2,525	0.99	6.0
3011	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.30	2,525	0.99	6.0
3012	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.35	2,525	0.99	6.0
3013	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.39	2,525	0.99	6.0
3014	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.40	2,525	0.99	6.0
3015	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.49	2,525	0.99	6.0
3016	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.53	2,525	0.99	6.0
3017	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.63	2,525	0.99	6.0
3018	SiLibeads	D	SO	1.53	1.49	1.51	11.0	0.057	7.64	2,525	0.99	6.0
3019	SiLibeads	D	SO	1.50	1.49	1.51	11.3	0.057	7.39	2,525	0.99	6.0
3020	SiLibeads	D	SO	1.50	1.49	1.51	11.3	0.057	7.40	2,525	0.99	6.0
3021	SiLibeads	D	SO	1.50	1.49	1.51	11.3	0.057	7.43	2,525	0.99	6.0
3022	SiLibeads	D	SO	1.50	1.49	1.51	11.3	0.057	7.53	2,525	0.99	6.0
3023	SiLibeads	D	SO	1.50	1.49	1.51	11.3	0.057	7.63	2,525	0.99	6.0
3024	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.53	2,525	0.99	6.0
3025	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.58	2,525	0.99	6.0
3026	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.61	2,525	0.99	6.0
3027	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.61	2,525	0.99	6.0
3028	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.62	2,525	0.99	6.0
3029	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.62	2,525	0.99	6.0
3030	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.64	2,525	0.99	6.0
3031	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.65	2,525	0.99	6.0
3032	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.65	2,525	0.99	6.0
3033	SiLibeads	D	HF	2.50	1.49	1.51	17.1	0.057	11.87	2,525	0.99	6.0
3034	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.15	2,600	0.99	6.0
3035	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.24	2,600	0.99	6.0
3036	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.35	2,600	0.99	6.0
3037	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.54	2,600	0.99	6.0
3038	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.57	2,600	0.99	6.0

3039	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.72	2,600	0.99	6.0
3040	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.77	2,600	0.99	6.0
3041	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.78	2,600	0.99	6.0
3042	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.84	2,600	0.99	6.0
3043	SiLibeads	D	PO	1.00	1.49	1.51	19.4	0.125	4.85	2,600	0.99	6.0
3044	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.05	2,525	0.99	6.0
3045	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.11	2,525	0.99	6.0
3046	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.12	2,525	0.99	6.0
3047	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.19	2,525	0.99	6.0
3048	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.23	2,525	0.99	6.0
3049	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.25	2,525	0.99	6.0
3050	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.35	2,525	0.99	6.0
3051	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.37	2,525	0.99	6.0
3052	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.39	2,525	0.99	6.0
3053	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.40	2,525	0.99	6.0
3054	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.44	2,525	0.99	6.0
3055	SiLibeads	D	PO	1.53	1.49	1.51	20.0	0.057	7.49	2,525	0.99	6.0
3056	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	6.95	2,525	0.99	6.0
3057	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.01	2,525	0.99	6.0
3058	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.01	2,525	0.99	6.0
3059	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.08	2,525	0.99	6.0
3060	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.15	2,525	0.99	6.0
3061	SiLibeads	D	CH	1.53	1.49	1.51	22.0	0.057	7.21	2,525	0.99	6.0
3062	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.22	2,525	0.99	6.0
3063	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.25	2,525	0.99	6.0
3064	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.29	2,525	0.99	6.0
3065	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.30	2,525	0.99	6.0
3066	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.39	2,525	0.99	6.0
3067	SiLibeads	D	CH	1.50	1.49	1.51	22.0	0.057	7.39	2,525	0.99	6.0
3068	SiLibeads	D	CH	1.50	1.49	1.51	22.2	0.057	6.92	2,525	0.99	6.0
3069	SiLibeads	D	CH	1.50	1.49	1.51	22.2	0.057	6.97	2,525	0.99	6.0
3070	SiLibeads	D	CH	1.50	1.49	1.51	22.2	0.057	6.98	2,525	0.99	6.0
3071	SiLibeads	D	CH	1.50	1.49	1.51	22.2	0.057	7.03	2,525	0.99	6.0
3072	SiLibeads	D	CH	1.50	1.49	1.51	22.2	0.057	7.10	2,525	0.99	6.0
3073	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.54	2,525	0.99	6.0
3074	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.55	2,525	0.99	6.0
3075	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.55	2,525	0.99	6.0
3076	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.62	2,525	0.99	6.0
3077	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.65	2,525	0.99	6.0
3078	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.69	2,525	0.99	6.0
3079	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.71	2,525	0.99	6.0
3080	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.71	2,525	0.99	6.0
3081	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.76	2,525	0.99	6.0
3082	SiLibeads	D	CH	2.50	1.49	1.51	23.1	0.057	11.81	2,525	0.99	6.0
3083	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	6.93	2,525	0.99	6.0
3084	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	6.95	2,525	0.99	6.0
3085	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	6.95	2,525	0.99	6.0
3086	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	7.01	2,525	0.99	6.0
3087	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	7.05	2,525	0.99	6.0
3088	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	7.12	2,525	0.99	6.0
3089	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	7.15	2,525	0.99	6.0
3090	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	7.19	2,525	0.99	6.0
3091	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	7.22	2,525	0.99	6.0
3092	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	7.28	2,525	0.99	6.0
3093	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	7.32	2,525	0.99	6.0
3094	SiLibeads	D	CH	1.54	1.49	1.51	25.0	0.057	7.39	2,525	0.99	6.0
3095	SiLibeads	D	CH	1.50	1.49	1.51	32.7	0.057	6.71	2,525	0.99	6.0
3096	SiLibeads	D	CH	1.50	1.49	1.51	32.7	0.057	6.79	2,525	0.99	6.0
3097	SiLibeads	D	CH	1.50	1.49	1.51	32.7	0.057	6.82	2,525	0.99	6.0
3098	SiLibeads	D	CH	1.50	1.49	1.51	32.7	0.057	6.83	2,525	0.99	6.0
3099	SiLibeads	D	CH	1.50	1.49	1.51	32.7	0.057	6.91	2,525	0.99	6.0
3100	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.12	2,525	0.99	6.0
3101	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.12	2,525	0.99	6.0
3102	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.14	2,525	0.99	6.0
3103	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.15	2,525	0.99	6.0
3104	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.25	2,525	0.99	6.0
3105	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.26	2,525	0.99	6.0
3106	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.29	2,525	0.99	6.0
3107	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.39	2,525	0.99	6.0
3108	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.45	2,525	0.99	6.0
3109	SiLibeads	D	CH	2.50	1.49	1.51	34.7	0.057	11.48	2,525	0.99	6.0
3110	SiLibeads	D	CH	1.00	1.98	2.02	19.4	0.125	3.07	2,600	0.99	6.0
3111	SiLibeads	D	CH	1.00	1.98	2.02	19.4	0.125	3.13	2,600	0.99	6.0
3112	SiLibeads	D	CH	1.00	1.98	2.02	19.4	0.125	3.26	2,600	0.99	6.0
3113	SiLibeads	D	CH	1.00	1.98	2.02	19.4	0.125	3.39	2,600	0.99	6.0
3114	SiLibeads	D	CH	1.00	1.98	2.02	19.4	0.125	3.39	2,600	0.99	6.0
3115	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	2.56	2,600	0.99	6.0
3116	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	2.63	2,600	0.99	6.0
3117	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	2.65	2,600	0.99	6.0
3118	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	2.72	2,600	0.99	6.0
3119	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	2.74	2,600	0.99	6.0
3120	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	2.90	2,600	0.99	6.0
3121	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	2.94	2,600	0.99	6.0
3122	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	3.12	2,600	0.99	6.0
3123	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	3.15	2,600	0.99	6.0
3124	SiLibeads	D	CH	0.80	1.98	2.02	20.0	0.125	3.31	2,600	0.99	6.0
3125	SiLibeads	D	CH	1.50	2.48	2.52	2.9	0.057	5.31	2,540	0.99	6.0
3126	SiLibeads	D	CH	1.50	2.48	2.52	2.9	0.057	5.35	2,540	0.99	6.0
3127	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.09	2,540	0.99	6.0
3128	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.11	2,540	0.99	6.0
3129	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.12	2,540	0.99	6.0
3130	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.12	2,540	0.99	6.0
3131	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.13	2,540	0.99	6.0
3132	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.16	2,540	0.99	6.0
3133	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.23	2,540	0.99	6.0
3134	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.24	2,540	0.99	6.0
3135	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.39	2,540	0.99	6.0
3136	SiLibeads	D	CH	1.50	2.48	2.52	4.8	0.057	5.44	2,540	0.99	6.0
3137	SiLibeads	D	CH	2.50	2.48	2.52	7.9	0.057	8.01	2,540	0.99	6.0
3138	SiLibeads	D	CH	2.50	2.48	2.52	7.9	0.057	8.08	2,540	0.99	6.0
3139	SiLibeads	D	CH	2.50	2.48	2.52	7.9	0.057	8.12	2,540	0.99	6.0
3140	SiLibeads	D	CH	2.50	2.48	2.52	7.9	0.057	8.16	2,540	0.99	6.0
3141	SiLibeads	D	CH	2.50	2.48	2.52	7.9	0.057	8.19	2,540	0.99	6.0
3142	SiLibeads	D	CH	2.50	2.48	2.52	7.9	0.057	8.27	2,540	0.99	6.0
3143	SiLibeads	D	CH	2.50	2.48	2.52	7.9	0.057	8.31	2,540	0.99	6.0
3144	SiLibeads	D	CH	2.50	2.48	2.52	7.9	0.057	8.32	2,540	0.99	6.0
3145	SiLibeads	D	CH	2.50	2.48	2.52	7.9	0.057	8.32	2,540	0.99	6.0
3146	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	4.86	2,540	0.99	6.0
3147	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	4.87	2,540	0.99	6.0
3148	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	4.90	2,540	0.99	6.0
3149	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	4.92	2,540	0.99	6.0
3150	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	4.95	2,540	0.99	6.0
3151	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	4.96	2,540	0.99	6.0
3152	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	4.98	2,540	0.99	6.0
3153	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	4.98	2,540	0.99	6.0
3154	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	5.02	2,540	0.99	6.0
3155	SiLibeads	D	CH	1.50	2.48	2.52	11.3	0.057	5.02	2,540	0.99	6.0
3156	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	7.45	2,540	0.99	6.0
3157	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	7.54	2,540	0.99	6.0
3158	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	7.63	2,540	0.99	6.0
3159	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	7.67	2,540	0.99	6.0
3160	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	7.71	2,540	0.99	6.0
3161	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	7.74	2,540	0.99	6.0
3162	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	7.74	2,540	0.99	6.0

3163	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	7.75	2,540	0.99	6.0
3164	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	7.78	2,540	0.99	6.0
3165	SiLibeads	D	CH	2.50	2.48	2.52	17.1	0.057	8.18	2,540	0.99	6.0
3166	SiLibeads	D	CH	1.00	2.48	2.52	19.4	0.125	2.75	2,600	0.99	6.0
3167	SiLibeads	D	CH	1.00	2.48	2.52	19.4	0.125	2.82	2,600	0.99	6.0
3168	SiLibeads	D	CH	1.00	2.48	2.52	19.4	0.125	2.87	2,600	0.99	6.0
3169	SiLibeads	D	CH	1.00	2.48	2.52	19.4	0.125	2.87	2,600	0.99	6.0
3170	SiLibeads	D	CH	1.00	2.48	2.52	19.4	0.125	2.87	2,600	0.99	6.0
3171	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	3.82	2,540	0.99	6.0
3172	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	3.86	2,540	0.99	6.0
3173	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	3.99	2,540	0.99	6.0
3174	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.04	2,540	0.99	6.0
3175	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.08	2,540	0.99	6.0
3176	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.12	2,540	0.99	6.0
3177	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.12	2,540	0.99	6.0
3178	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.14	2,540	0.99	6.0
3179	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.15	2,540	0.99	6.0
3180	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.15	2,540	0.99	6.0
3181	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.17	2,540	0.99	6.0
3182	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.17	2,540	0.99	6.0
3183	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.19	2,540	0.99	6.0
3184	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.21	2,540	0.99	6.0
3185	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.22	2,540	0.99	6.0
3186	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.22	2,540	0.99	6.0
3187	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.23	2,540	0.99	6.0
3188	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.24	2,540	0.99	6.0
3189	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.26	2,540	0.99	6.0
3190	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.26	2,540	0.99	6.0
3191	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.27	2,540	0.99	6.0
3192	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.27	2,540	0.99	6.0
3193	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.30	2,540	0.99	6.0
3194	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.31	2,540	0.99	6.0
3195	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.31	2,540	0.99	6.0
3196	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.33	2,540	0.99	6.0
3197	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.33	2,540	0.99	6.0
3198	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.33	2,540	0.99	6.0
3199	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.35	2,540	0.99	6.0
3200	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.35	2,540	0.99	6.0
3201	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.35	2,540	0.99	6.0
3202	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.37	2,540	0.99	6.0
3203	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.38	2,540	0.99	6.0
3204	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.38	2,540	0.99	6.0
3205	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.39	2,540	0.99	6.0
3206	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.39	2,540	0.99	6.0
3207	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.40	2,540	0.99	6.0
3208	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.41	2,540	0.99	6.0
3209	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.42	2,540	0.99	6.0
3210	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.43	2,540	0.99	6.0
3211	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.44	2,540	0.99	6.0
3212	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.44	2,540	0.99	6.0
3213	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.44	2,540	0.99	6.0
3214	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.45	2,540	0.99	6.0
3215	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.46	2,540	0.99	6.0
3216	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.49	2,540	0.99	6.0
3217	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.50	2,540	0.99	6.0
3218	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.51	2,540	0.99	6.0
3219	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.51	2,540	0.99	6.0
3220	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.52	2,540	0.99	6.0
3221	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.55	2,540	0.99	6.0
3222	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.56	2,540	0.99	6.0
3223	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.59	2,540	0.99	6.0
3224	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.61	2,540	0.99	6.0
3225	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.63	2,540	0.99	6.0
3226	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.65	2,540	0.99	6.0
3227	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.67	2,540	0.99	6.0
3228	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.68	2,540	0.99	6.0
3229	SiLibeads	D	CH	1.36	2.48	2.52	19.5	0.057	4.78	2,540	0.99	6.0
3230	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.15	2,600	0.99	6.0
3231	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.25	2,600	0.99	6.0
3232	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.25	2,600	0.99	6.0
3233	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.28	2,600	0.99	6.0
3234	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.28	2,600	0.99	6.0
3235	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.29	2,600	0.99	6.0
3236	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.30	2,600	0.99	6.0
3237	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.36	2,600	0.99	6.0
3238	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.38	2,600	0.99	6.0
3239	SiLibeads	D	CH	1.00	2.48	2.52	19.9	0.125	3.40	2,600	0.99	6.0
3240	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.00	2,600	0.99	6.0
3241	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.01	2,600	0.99	6.0
3242	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.01	2,600	0.99	6.0
3243	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.03	2,600	0.99	6.0
3244	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.15	2,600	0.99	6.0
3245	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.17	2,600	0.99	6.0
3246	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.24	2,600	0.99	6.0
3247	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.29	2,600	0.99	6.0
3248	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.30	2,600	0.99	6.0
3249	SiLibeads	D	CH	1.00	2.48	2.52	20.0	0.125	3.38	2,600	0.99	6.0
3250	SiLibeads	D	CH	1.00	2.48	2.52	22.0	0.125	3.07	2,600	0.99	6.0
3251	SiLibeads	D	CH	1.00	2.48	2.52	22.0	0.125	3.20	2,600	0.99	6.0
3252	SiLibeads	D	CH	1.00	2.48	2.52	22.0	0.125	3.21	2,600	0.99	6.0
3253	SiLibeads	D	CH	1.00	2.48	2.52	22.0	0.125	3.21	2,600	0.99	6.0
3254	SiLibeads	D	CH	1.00	2.48	2.52	22.0	0.125	3.21	2,600	0.99	6.0
3255	SiLibeads	D	CH	1.00	2.48	2.52	22.0	0.125	3.33	2,600	0.99	6.0
3256	SiLibeads	D	CH	1.00	2.48	2.52	22.0	0.125	3.34	2,600	0.99	6.0
3257	SiLibeads	D	CH	1.00	2.48	2.52	22.0	0.125	3.46	2,600	0.99	6.0
3258	SiLibeads	D	CH	1.00	2.48	2.52	22.0	0.125	3.47	2,600	0.99	6.0
3259	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.65	2,540	0.99	6.0
3260	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.65	2,540	0.99	6.0
3261	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.69	2,540	0.99	6.0
3262	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.70	2,540	0.99	6.0
3263	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.71	2,540	0.99	6.0
3264	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.73	2,540	0.99	6.0
3265	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.76	2,540	0.99	6.0
3266	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.82	2,540	0.99	6.0
3267	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.83	2,540	0.99	6.0
3268	SiLibeads	D	CH	1.50	2.48	2.52	22.2	0.057	4.91	2,540	0.99	6.0
3269	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	7.65	2,540	0.99	6.0
3270	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	7.71	2,540	0.99	6.0
3271	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	7.73	2,540	0.99	6.0
3272	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	7.78	2,540	0.99	6.0
3273	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	7.81	2,540	0.99	6.0
3274	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	7.87	2,540	0.99	6.0
3275	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	7.88	2,540	0.99	6.0
3276	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	7.90	2,540	0.99	6.0
3277	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	7.91	2,540	0.99	6.0
3278	SiLibeads	D	CH	2.50	2.48	2.52	23.6	0.057	8.01	2,540	0.99	6.0
3279	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.55	2,540	0.99	6.0
3280	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.59	2,540	0.99	6.0
3281	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.61	2,540	0.99	6.0
3282	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.61	2,540	0.99	6.0
3283	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.62	2,540	0.99	6.0
3284	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.64	2,540	0.99	6.0
3285	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.70	2,540	0.99	6.0
3286	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.71	2,540	0.99	6.0

3287	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.81	2,540	0.99	6.0
3288	SiLibeads	D	CH	1.50	2.48	2.52	32.7	0.057	4.86	2,540	0.99	6.0
3289	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.10	2,540	0.99	6.0
3290	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.26	2,540	0.99	6.0
3291	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.36	2,540	0.99	6.0
3292	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.39	2,540	0.99	6.0
3293	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.56	2,540	0.99	6.0
3294	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.57	2,540	0.99	6.0
3295	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.60	2,540	0.99	6.0
3296	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.61	2,540	0.99	6.0
3297	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.71	2,540	0.99	6.0
3298	SiLibeads	D	CH	2.50	2.48	2.52	34.7	0.057	7.75	2,540	0.99	6.0
3299	SiLibeads	D	CH	1.00	2.98	3.02	9.5	0.125	2.82	2,600	0.99	6.0
3300	SiLibeads	D	CH	1.00	2.98	3.02	9.5	0.125	2.88	2,600	0.99	6.0
3301	SiLibeads	D	CH	1.00	2.98	3.02	9.5	0.125	2.88	2,600	0.99	6.0
3302	SiLibeads	D	CH	1.00	2.98	3.02	9.5	0.125	2.88	2,600	0.99	6.0
3303	SiLibeads	D	CH	1.00	2.98	3.02	9.5	0.125	2.94	2,600	0.99	6.0
3304	SiLibeads	D	CH	1.00	2.98	3.02	19.4	0.125	2.22	2,600	0.99	6.0
3305	SiLibeads	D	CH	1.00	2.98	3.02	19.4	0.125	2.35	2,600	0.99	6.0
3306	SiLibeads	D	CH	1.00	2.98	3.02	19.4	0.125	2.35	2,600	0.99	6.0
3307	SiLibeads	D	CH	1.00	2.98	3.02	19.4	0.125	2.35	2,600	0.99	6.0
3308	SiLibeads	D	CH	1.00	2.98	3.02	19.4	0.125	2.35	2,600	0.99	6.0
3309	SiLibeads	D	CH	1.00	2.98	3.02	19.4	0.125	2.43	2,600	0.99	6.0
3310	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.25	2,600	0.99	6.0
3311	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.36	2,600	0.99	6.0
3312	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.60	2,600	0.99	6.0
3313	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.63	2,600	0.99	6.0
3314	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.68	2,600	0.99	6.0
3315	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.70	2,600	0.99	6.0
3316	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.70	2,600	0.99	6.0
3317	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.70	2,600	0.99	6.0
3318	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.70	2,600	0.99	6.0
3319	SiLibeads	D	CH	1.00	2.98	3.02	19.9	0.125	2.85	2,600	0.99	6.0
3320	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.25	2,600	0.99	6.0
3321	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.25	2,600	0.99	6.0
3322	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.28	2,600	0.99	6.0
3323	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.37	2,600	0.99	6.0
3324	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.42	2,600	0.99	6.0
3325	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.44	2,600	0.99	6.0
3326	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.48	2,600	0.99	6.0
3327	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.51	2,600	0.99	6.0
3328	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.63	2,600	0.99	6.0
3329	SiLibeads	D	CH	0.80	2.98	3.02	20.0	0.125	2.65	2,600	0.99	6.0
3330	SiLibeads	D	CH	1.00	2.98	3.02	22.0	0.125	2.62	2,600	0.99	6.0
3331	SiLibeads	D	CH	1.00	2.98	3.02	22.0	0.125	2.76	2,600	0.99	6.0
3332	SiLibeads	D	CH	1.00	2.98	3.02	22.0	0.125	2.76	2,600	0.99	6.0
3333	SiLibeads	D	CH	1.00	2.98	3.02	22.0	0.125	2.83	2,600	0.99	6.0
3334	SiLibeads	D	CH	1.00	2.98	3.02	22.0	0.125	2.88	2,600	0.99	6.0
3335	SiLibeads	D	CH	1.00	2.98	3.02	22.0	0.125	2.90	2,600	0.99	6.0
3336	SiLibeads	D	CH	1.00	2.98	3.02	22.0	0.125	2.91	2,600	0.99	6.0
3337	SiLibeads	D	CH	1.00	2.98	3.02	22.0	0.125	2.94	2,600	0.99	6.0
3338	SiLibeads	D	CH	1.00	2.98	3.02	22.0	0.125	3.14	2,600	0.99	6.0
3339	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.60	2,600	0.99	6.0
3340	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.80	2,600	0.99	6.0
3341	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.69	2,600	0.99	6.0
3342	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.86	2,600	0.99	6.0
3343	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.86	2,600	0.99	6.0
3344	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.91	2,600	0.99	6.0
3345	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.86	2,600	0.99	6.0
3346	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.72	2,600	0.99	6.0
3347	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.80	2,600	0.99	6.0
3348	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.83	2,600	0.99	6.0
3349	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.86	2,600	0.99	6.0
3350	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.88	2,600	0.99	6.0
3351	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.94	2,600	0.99	6.0
3352	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.88	2,600	0.99	6.0
3353	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.70	2,600	0.99	6.0
3354	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.80	2,600	0.99	6.0
3355	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.94	2,600	0.99	6.0
3356	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.66	2,600	0.99	6.0
3357	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.66	2,600	0.99	6.0
3358	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.91	2,600	0.99	6.0
3359	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.94	2,600	0.99	6.0
3360	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.88	2,600	0.99	6.0
3361	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.94	2,600	0.99	6.0
3362	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.88	2,600	0.99	6.0
3363	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.94	2,600	0.99	6.0
3364	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.91	2,600	0.99	6.0
3365	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.91	2,600	0.99	6.0
3366	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.91	2,600	0.99	6.0
3367	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.72	2,600	0.99	6.0
3368	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.77	2,600	0.99	6.0
3369	SiLibeads	D	CH	1.00	2.98	3.02	20.0	0.125	2.69	2,600	0.99	6.0
3370	SiLibeads	D	CH	1.50	3.47	3.53	2.9	0.057	4.19	2,525	0.99	6.0
3371	SiLibeads	D	CH	1.50	3.47	3.53	4.8	0.057	4.00	2,525	0.99	6.0
3372	SiLibeads	D	CH	1.50	3.47	3.53	4.8	0.057	4.22	2,525	0.99	6.0
3373	SiLibeads	D	CH	1.50	3.47	3.53	4.8	0.057	4.28	2,525	0.99	6.0
3374	SiLibeads	D	CH	1.50	3.47	3.53	4.8	0.057	4.31	2,525	0.99	6.0
3375	SiLibeads	D	CH	1.50	3.47	3.53	4.8	0.057	4.35	2,525	0.99	6.0
3376	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.28	2,525	0.99	6.0
3377	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.32	2,525	0.99	6.0
3378	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.42	2,525	0.99	6.0
3379	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.45	2,525	0.99	6.0
3380	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.46	2,525	0.99	6.0
3381	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.48	2,525	0.99	6.0
3382	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.50	2,525	0.99	6.0
3383	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.50	2,525	0.99	6.0
3384	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.51	2,525	0.99	6.0
3385	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.55	2,525	0.99	6.0
3386	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.56	2,525	0.99	6.0
3387	SiLibeads	D	CH	1.69	3.47	3.53	6.1	0.057	4.56	2,525	0.99	6.0
3388	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.26	2,525	0.99	6.0
3389	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.27	2,525	0.99	6.0
3390	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.27	2,525	0.99	6.0
3391	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.30	2,525	0.99	6.0
3392	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.30	2,525	0.99	6.0
3393	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.33	2,525	0.99	6.0
3394	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.34	2,525	0.99	6.0
3395	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.34	2,525	0.99	6.0
3396	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.37	2,525	0.99	6.0
3397	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.39	2,525	0.99	6.0
3398	SiLibeads	D	CH	2.50	3.47	3.53	7.9	0.057	6.57	2,525	0.99	6.0
3399	SiLibeads	D	CH	1.50	3.47	3.53	11.3	0.057	3.90	2,525	0.99	6.0
3400	SiLibeads	D	CH	1.50	3.47	3.53	11.3	0.057	3.93	2,525	0.99	6.0
3401	SiLibeads	D	CH	1.50	3.47	3.53	11.3	0.057	3.95	2,525	0.99	6.0
3402	SiLibeads	D	CH	1.50	3.47	3.53	11.3	0.057	4.00	2,525	0.99	6.0
3403	SiLibeads	D	CH	1.50	3.47	3.53	11.3	0.057	4.02	2,525	0.99	6.0
3404	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.56	2,525	0.99	6.0
3405	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.57	2,525	0.99	6.0
3406	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.60	2,525	0.99	6.0
3407	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.63	2,525	0.99	6.0
3408	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.64	2,525	0.99	6.0
3409	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.71	2,525	0.99	6.0
3410	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.72	2,525	0.99	6.0

3411	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.76	2,525	0.99	6.0
3412	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.77	2,525	0.99	6.0
3413	SiLibeads	D	CH	2.30	3.47	3.53	16.7	0.057	5.78	2,525	0.99	6.0
3414	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.33	2,525	0.99	6.0
3415	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.36	2,525	0.99	6.0
3416	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.42	2,525	0.99	6.0
3417	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.46	2,525	0.99	6.0
3418	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.51	2,525	0.99	6.0
3419	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.54	2,525	0.99	6.0
3420	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.61	2,525	0.99	6.0
3421	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.66	2,525	0.99	6.0
3422	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.83	2,525	0.99	6.0
3423	SiLibeads	D	CH	1.00	3.47	3.53	19.9	0.125	2.72	2,525	0.99	6.0
3424	SiLibeads	D	CH	1.50	3.47	3.53	22.2	0.057	3.84	2,525	0.99	6.0
3425	SiLibeads	D	CH	1.50	3.47	3.53	22.2	0.057	3.87	2,525	0.99	6.0
3426	SiLibeads	D	CH	1.50	3.47	3.53	22.2	0.057	3.87	2,525	0.99	6.0
3427	SiLibeads	D	CH	1.50	3.47	3.53	22.2	0.057	3.92	2,525	0.99	6.0
3428	SiLibeads	D	CH	1.50	3.47	3.53	22.2	0.057	4.02	2,525	0.99	6.0
3429	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.13	2,525	0.99	6.0
3430	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.16	2,525	0.99	6.0
3431	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.17	2,525	0.99	6.0
3432	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.19	2,525	0.99	6.0
3433	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.19	2,525	0.99	6.0
3434	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.21	2,525	0.99	6.0
3435	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.23	2,525	0.99	6.0
3436	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.25	2,525	0.99	6.0
3437	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.25	2,525	0.99	6.0
3438	SiLibeads	D	CH	2.50	3.47	3.53	23.6	0.057	6.29	2,525	0.99	6.0
3439	SiLibeads	D	CH	1.50	3.47	3.53	32.7	0.057	3.60	2,525	0.99	6.0
3440	SiLibeads	D	CH	1.50	3.47	3.53	32.7	0.057	3.63	2,525	0.99	6.0
3441	SiLibeads	D	CH	1.50	3.47	3.53	32.7	0.057	3.76	2,525	0.99	6.0
3442	SiLibeads	D	CH	1.50	3.47	3.53	32.7	0.057	3.76	2,525	0.99	6.0
3443	SiLibeads	D	CH	1.50	3.47	3.53	32.7	0.057	3.82	2,525	0.99	6.0
3444	SiLibeads	D	CH	1.50	3.47	3.53	32.7	0.057	3.84	2,525	0.99	6.0
3445	SiLibeads	D	CH	2.50	3.47	3.53	34.7	0.057	5.86	2,525	0.99	6.0
3446	SiLibeads	D	CH	2.50	3.47	3.53	34.7	0.057	5.87	2,525	0.99	6.0
3447	SiLibeads	D	CH	2.50	3.47	3.53	34.7	0.057	5.87	2,525	0.99	6.0
3448	SiLibeads	D	CH	2.50	3.47	3.53	34.7	0.057	5.89	2,525	0.99	6.0
3449	SiLibeads	D	CH	2.50	3.47	3.53	34.7	0.057	5.92	2,525	0.99	6.0
3450	SiLibeads	D	CH	2.50	3.47	3.53	34.7	0.057	5.99	2,525	0.99	6.0
3451	SiLibeads	D	CH	2.50	3.47	3.53	34.7	0.057	6.00	2,525	0.99	6.0
3452	SiLibeads	D	CH	2.50	3.47	3.53	34.7	0.057	6.07	2,525	0.99	6.0
3453	SiLibeads	D	CH	2.30	3.47	3.53	34.7	0.057	6.08	2,525	0.99	6.0
3454	SiLibeads	D	CH	1.00	3.97	4.03	10.0	0.125	2.09	2,600	0.99	6.0
3455	SiLibeads	D	CH	1.00	3.97	4.03	10.0	0.125	2.29	2,600	0.99	6.0
3456	SiLibeads	D	CH	1.00	3.97	4.03	10.0	0.125	2.29	2,600	0.99	6.0
3457	SiLibeads	D	CH	1.00	3.97	4.03	10.0	0.125	2.36	2,600	0.99	6.0
3458	SiLibeads	D	CH	1.00	3.97	4.03	10.0	0.125	2.49	2,600	0.99	6.0
3459	SiLibeads	D	CH	1.00	3.97	4.03	10.0	0.125	2.55	2,600	0.99	6.0
3460	SiLibeads	D	CH	1.00	3.97	4.03	19.4	0.125	2.29	2,600	0.99	6.0
3461	SiLibeads	D	CH	1.00	3.97	4.03	19.4	0.125	2.27	2,600	0.99	6.0
3462	SiLibeads	D	CH	1.00	3.97	4.03	19.4	0.125	2.26	2,600	0.99	6.0
3463	SiLibeads	D	CH	1.00	3.97	4.03	19.4	0.125	2.33	2,600	0.99	6.0
3464	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.28	2,600	0.99	6.0
3465	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.31	2,600	0.99	6.0
3466	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.36	2,600	0.99	6.0
3467	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.43	2,600	0.99	6.0
3468	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.50	2,600	0.99	6.0
3469	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.52	2,600	0.99	6.0
3470	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.53	2,600	0.99	6.0
3471	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.55	2,600	0.99	6.0
3472	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.56	2,600	0.99	6.0
3473	SiLibeads	D	CH	1.00	3.97	4.03	19.9	0.125	2.69	2,600	0.99	6.0
3474	SiLibeads	D	CH	0.80	3.97	4.03	20.0	0.125	1.88	2,600	0.99	6.0
3475	SiLibeads	D	CH	0.80	3.97	4.03	20.0	0.125	1.95	2,600	0.99	6.0
3476	SiLibeads	D	CH	0.80	3.97	4.03	20.0	0.125	1.96	2,600	0.99	6.0
3477	SiLibeads	D	CH	0.80	3.97	4.03	20.0	0.125	1.99	2,600	0.99	6.0
3478	SiLibeads	D	CH	0.80	3.97	4.03	20.0	0.125	2.03	2,600	0.99	6.0
3479	SiLibeads	D	CH	0.80	3.97	4.03	20.0	0.125	2.03	2,600	0.99	6.0
3480	SiLibeads	D	CH	0.80	3.97	4.03	20.0	0.125	2.07	2,600	0.99	6.0
3481	SiLibeads	D	CH	1.00	3.97	4.03	20.0	0.125	2.13	2,600	0.99	6.0
3482	SiLibeads	D	CH	1.00	3.97	4.03	20.0	0.125	2.14	2,600	0.99	6.0
3483	SiLibeads	D	CH	1.00	3.97	4.03	20.0	0.125	2.25	2,600	0.99	6.0
3484	SiLibeads	D	CH	1.00	3.97	4.03	22.0	0.125	2.15	2,600	0.99	6.0
3485	SiLibeads	D	CH	1.00	3.97	4.03	22.0	0.125	2.16	2,600	0.99	6.0
3486	SiLibeads	D	CH	1.00	3.97	4.03	22.0	0.125	2.16	2,600	0.99	6.0
3487	SiLibeads	D	CH	1.00	3.97	4.03	22.0	0.125	2.22	2,600	0.99	6.0
3488	SiLibeads	D	CH	1.00	3.97	4.03	22.0	0.125	2.29	2,600	0.99	6.0
3489	SiLibeads	D	CH	1.00	3.97	4.03	22.0	0.125	2.36	2,600	0.99	6.0
3490	SiLibeads	D	CH	1.00	3.97	4.03	22.0	0.125	2.42	2,600	0.99	6.0
3491	SiLibeads	D	CH	1.00	3.97	4.03	22.0	0.125	2.42	2,600	0.99	6.0
3492	SiLibeads	D	CH	1.00	3.97	4.03	22.0	0.125	2.55	2,600	0.99	6.0
3493	SiLibeads	D	CH	2.50	9.92	10.08	7.9	0.057	3.76	2,500	0.99	6.0
3494	SiLibeads	D	CH	2.50	9.92	10.08	7.9	0.057	3.89	2,500	0.99	6.0
3495	SiLibeads	D	CH	2.50	9.92	10.08	7.9	0.057	3.98	2,500	0.99	6.0
3496	SiLibeads	D	CH	2.50	9.92	10.08	7.9	0.057	4.11	2,500	0.99	6.0
3497	SiLibeads	D	CH	2.50	9.92	10.08	7.9	0.057	4.17	2,500	0.99	6.0
3498	SiLibeads	D	CH	2.50	9.92	10.08	7.9	0.057	4.21	2,500	0.99	6.0
3499	SiLibeads	D	CH	2.50	9.92	10.08	7.9	0.057	4.39	2,500	0.99	6.0
3500	SiLibeads	D	CH	2.50	9.92	10.08	7.9	0.057	4.52	2,500	0.99	6.0
3501	SiLibeads	D	CH	2.50	9.92	10.08	7.9	0.057	4.66	2,500	0.99	6.0
3502	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	4.48	2,500	0.99	6.0
3503	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	4.50	2,500	0.99	6.0
3504	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	4.51	2,500	0.99	6.0
3505	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	4.52	2,500	0.99	6.0
3506	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	4.54	2,500	0.99	6.0
3507	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	4.59	2,500	0.99	6.0
3508	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	4.78	2,500	0.99	6.0
3509	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	4.98	2,500	0.99	6.0
3510	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	5.02	2,500	0.99	6.0
3511	SiLibeads	D	CH	2.50	9.92	10.08	17.1	0.057	5.08	2,500	0.99	6.0
3512	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.60	2,500	0.99	6.0
3513	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.60	2,500	0.99	6.0
3514	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.65	2,500	0.99	6.0
3515	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.69	2,500	0.99	6.0
3516	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.71	2,500	0.99	6.0
3517	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.77	2,500	0.99	6.0
3518	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.83	2,500	0.99	6.0
3519	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.84	2,500	0.99	6.0
3520	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.91	2,500	0.99	6.0
3521	SiLibeads	D	CH	2.50	9.92	10.08	23.6	0.057	4.94	2,500	0.99	6.0
3522	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	4.58	2,500	0.99	6.0
3523	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	4.67	2,500	0.99	6.0
3524	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	4.69	2,500	0.99	6.0
3525	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	4.71	2,500	0.99	6.0
3526	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	4.79	2,500	0.99	6.0
3527	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	4.89	2,500	0.99	6.0
3528	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	4.89	2,500	0.99	6.0
3529	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	5.01	2,500	0.99	6.0
3530	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	5.12	2,500	0.99	6.0
3531	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	5.13	2,500	0.99	6.0
3532	SiLibeads	D	CH	2.50	9.92	10.08	34.7	0.057	5.20	2,500	0.99	6.0
3533	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	11.89	1,415	0.99	75.0
3534	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	11.89	1,415	0.99	75.0

3535	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	12.08	1,415	0.99	75.0
3536	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	12.14	1,415	0.99	75.0
3537	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	12.24	1,415	0.99	75.0
3538	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	12.26	1,415	0.99	75.0
3539	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	12.29	1,415	0.99	75.0
3540	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	12.33	1,415	0.99	75.0
3541	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	12.44	1,415	0.99	75.0
3542	Synthetic material (nylon)	D	VP	1.84	2.97	3.03	12.9	0.057	13.37	1,415	0.99	75.0
3543	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.20	1,415	0.99	75.0
3544	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.30	1,415	0.99	75.0
3545	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.30	1,415	0.99	75.0
3546	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.40	1,415	0.99	75.0
3547	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.40	1,415	0.99	75.0
3548	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.40	1,415	0.99	75.0
3549	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.50	1,415	0.99	75.0
3550	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.50	1,415	0.99	75.0
3551	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.50	1,415	0.99	75.0
3552	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.50	1,415	0.99	75.0
3553	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.50	1,415	0.99	75.0
3554	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.50	1,415	0.99	75.0
3555	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.50	1,415	0.99	75.0
3556	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.50	1,415	0.99	75.0
3557	Synthetic material (nylon)	D	VP	0.50	2.97	3.03	14.0	0.057	3.50	1,415	0.99	75.0
3558	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	2.95	1,415	0.99	75.0
3559	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	3.07	1,415	0.99	75.0
3560	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	3.13	1,415	0.99	75.0
3561	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	3.13	1,415	0.99	75.0
3562	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	3.13	1,415	0.99	75.0
3563	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	3.13	1,415	0.99	75.0
3564	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	3.15	1,415	0.99	75.0
3565	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	3.17	1,415	0.99	75.0
3566	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	3.28	1,415	0.99	75.0
3567	Synthetic material (nylon)	D	CH	0.50	2.97	3.03	19.4	0.057	3.38	1,415	0.99	75.0
3568	Synthetic material (nylon)	D	CH	1.00	2.97	3.03	19.6	0.057	6.02	1,415	0.99	75.0
3569	Synthetic material (nylon)	D	CH	1.00	2.97	3.03	19.6	0.057	6.09	1,415	0.99	75.0
3570	Synthetic material (nylon)	D	CH	1.00	2.97	3.03	19.6	0.057	6.16	1,415	0.99	75.0
3571	Synthetic material (nylon)	D	CH	1.00	2.97	3.03	19.6	0.057	6.22	1,415	0.99	75.0
3572	Synthetic material (nylon)	D	CH	1.00	2.97	3.03	19.6	0.057	6.29	1,415	0.99	75.0
3573	Synthetic material (nylon)	D	CH	1.00	2.97	3.03	19.6	0.057	6.29	1,415	0.99	75.0
3574	Synthetic material (nylon)	D	CH	1.00	2.97	3.03	19.6	0.057	6.30	1,415	0.99	75.0
3575	Synthetic material (nylon)	D	CH	1.00	2.97	3.03	19.6	0.057	6.32	1,415	0.99	75.0
3576	Synthetic material (nylon)	D	CH	1.00	2.97	3.03	19.6	0.057	6.49	1,415	0.99	75.0
3577	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.08	7,965	0.99	11.7
3578	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.10	7,965	0.99	11.7
3579	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.02	7,965	0.99	11.7
3580	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.07	7,965	0.99	11.7
3581	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.11	7,965	0.99	11.7
3582	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.17	7,965	0.99	11.7
3583	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	0.98	7,965	0.99	11.7
3584	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.15	7,965	0.99	11.7
3585	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.16	7,965	0.99	11.7
3586	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.21	7,965	0.99	11.7
3587	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.16	7,965	0.99	11.7
3588	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.15	7,965	0.99	11.7
3589	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.15	7,965	0.99	11.7
3590	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.16	7,965	0.99	11.7
3591	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.22	7,965	0.99	11.7
3592	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.30	7,965	0.99	11.7
3593	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.34	7,965	0.99	11.7
3594	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.25	7,965	0.99	11.7
3595	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.25	7,965	0.99	11.7
3596	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.20	7,965	0.99	11.7
3597	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.29	7,965	0.99	11.7
3598	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.26	7,965	0.99	11.7
3599	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.33	7,965	0.99	11.7
3600	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.53	7,965	0.99	11.7
3601	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.55	7,965	0.99	11.7
3602	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.44	7,965	0.99	11.7
3603	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.59	7,965	0.99	11.7
3604	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.46	7,965	0.99	11.7
3605	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.60	7,965	0.99	11.7
3606	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.40	7,965	0.99	11.7
3607	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.42	7,965	0.99	11.7
3608	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.40	7,965	0.99	11.7
3609	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.80	7,965	0.99	11.7
3610	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.80	7,965	0.99	11.7
3611	Steel shots	D	CH	1.00	2.98	3.02	13.5	0.125	1.82	7,965	0.99	11.7
3612	Zirconium	B	SO	1.50	0.09	0.11	3.3	0.057	79.34	5,990	0.95	5.7
3613	Zirconium	B	SO	1.50	0.09	0.11	32.0	0.057	47.30	5,990	0.95	5.7
3614	Zirconium	B	SO	1.50	0.09	0.11	32.0	0.057	47.46	5,990	0.95	5.7
3615	Zirconium	B	SO	1.50	0.09	0.11	32.0	0.057	47.50	5,990	0.95	5.7
3616	Zirconium	B	SO	1.50	0.09	0.11	32.0	0.057	47.62	5,990	0.95	5.7
3617	Zirconium	B	SO	1.50	0.09	0.11	32.0	0.057	47.65	5,990	0.95	5.7
3618	Zirconium	D	SO	1.50	0.95	1.05	3.3	0.057	5.13	5,981	0.95	5.7
3619	Zirconium	D	CH	1.50	0.95	1.05	32.0	0.057	4.85	5,981	0.95	5.7
3620	Zirconium	D	CH	1.50	0.95	1.05	32.0	0.057	4.44	5,981	0.95	5.7
3621	Zirconium	D	CH	1.50	0.95	1.05	32.0	0.057	4.50	5,981	0.95	5.7
3622	Zirconium	D	CH	1.50	0.95	1.05	32.0	0.057	4.78	5,981	0.95	5.7
3623	Zirconium	D	CH	1.50	0.95	1.05	32.0	0.057	4.84	5,981	0.95	5.7
3624	Zirconium	D	CH	1.50	1.90	2.10	3.3	0.057	3.00	5,975	0.95	5.7
3625	Zirconium	D	CH	1.50	1.90	2.10	32.0	0.057	2.60	5,975	0.95	5.7
3626	Zirconium	D	CH	1.50	1.90	2.10	32.0	0.057	2.61	5,975	0.95	5.7
3627	Zirconium	D	CH	1.50	1.90	2.10	32.0	0.057	2.61	5,975	0.95	5.7
3628	Zirconium	D	CH	1.50	1.90	2.10	32.0	0.057	2.63	5,975	0.95	5.7
3629	Zirconium	D	CH	1.50	1.90	2.10	32.0	0.057	2.66	5,975	0.95	5.7

17.2 SDC data (this work)

Source: This work

Nr.	Terminal Reynolds number	Drag coefficient	Sphericity
	Ret	CD	phi
[#]	[-]	[-]	[-]
1	41.39650935	1.329689115	0.88
2	41.11553756	1.347924638	0.88
3	41.09229532	1.349449871	0.88
4	40.38459467	1.397159862	0.88
5	40.38459467	1.397159862	0.88
6	51.1709284	1.27181368	0.88
7	49.60889893	1.353165477	0.88
8	48.08665327	1.440193946	0.88
9	46.11568167	1.565931714	0.88
10	46.04309665	1.570872858	0.88
11	73.06264664	1.00327585	0.88
12	69.80010078	1.099256543	0.88
13	68.80481106	1.131288951	0.88
14	67.75467658	1.166628564	0.88
15	65.86478353	1.234538451	0.88
16	45.66848896	1.835007531	0.85
17	53.27990379	1.348168798	0.85
18	55.11714185	1.259788844	0.85
19	61.89340227	0.999038955	0.85
20	48.80601874	1.606661441	0.85
21	151.2351426	0.697306524	0.85
22	129.9322903	0.944702318	0.85
23	118.9956291	1.126333885	0.85
24	94.52196411	1.785104701	0.85
25	90.95260323	1.927963914	0.85
26	140.6086757	0.642354767	0.89
27	130.4399684	0.746410632	0.89
28	127.4730155	0.781560619	0.89
29	124.9357341	0.813627916	0.89
30	116.2365052	0.93997023	0.89
31	113.2991206	0.989341232	0.89
32	105.5274257	1.140429648	0.89
33	139.488745	0.656253619	0.89
34	132.5554375	0.726699648	0.89
35	131.1194203	0.742704413	0.89
36	128.1297266	0.777768313	0.89
37	126.7875135	0.794322885	0.89
38	126.4817559	0.798167928	0.89
39	126.2787354	0.800736447	0.89
40	119.6527029	0.89187711	0.89
41	116.2921687	0.944167627	0.89
42	115.7787375	0.952560186	0.89
43	115.5237183	0.956770392	0.89
44	114.9330199	0.966630309	0.89
45	135.3069192	0.701225427	0.89
46	129.2120129	0.76893899	0.89
47	119.9755648	0.891891573	0.89
48	112.1705423	1.020328524	0.89
49	112.1306807	1.021054091	0.89
50	122.6302107	0.858315808	0.89
51	121.406732	0.875702364	0.89
52	117.9664219	0.927524193	0.89
53	114.7989636	0.97941359	0.89
54	114.7989636	0.97941359	0.89
55	110.779392	1.051778056	0.89
56	110.3158799	1.060635095	0.89
57	110.0855754	1.065077541	0.89
58	110.0855754	1.065077541	0.89
59	104.6249813	1.179156021	0.89
60	103.7330963	1.199519681	0.89
61	102.0599818	1.23917056	0.89
62	136.1533184	0.700046309	0.89
63	134.1951065	0.720625909	0.89
64	110.8445953	1.056219513	0.89
65	100.7102323	1.279487465	0.89
66	155.6792804	0.617644919	0.89
67	152.337328	0.645041766	0.89
68	142.6408147	0.735720542	0.89
69	136.5782941	0.802485392	0.89
70	134.6348875	0.825819778	0.89
71	133.8939723	0.834984573	0.89
72	133.8939723	0.834984573	0.89
73	131.0101021	0.872149494	0.89
74	130.408218	0.880218684	0.89
75	129.811839	0.888325029	0.89
76	128.9274283	0.900554217	0.89
77	128.5382134	0.906016246	0.89
78	128.2478409	0.910123606	0.89
79	127.671014	0.918366193	0.89
80	127.1942739	0.925263399	0.89
81	126.7210809	0.932186408	0.89
82	126.1578761	0.940528079	0.89
83	126.1578761	0.940528079	0.89
84	122.0882672	1.004274982	0.89
85	121.6522377	1.011486988	0.89
86	121.3921117	1.015826576	0.89
87	120.6183659	1.028901078	0.89
88	120.2776361	1.034738803	0.89
89	120.0233493	1.039127934	0.89
90	120.0233493	1.039127934	0.89
91	119.5179879	1.047934063	0.89
92	119.0168642	1.05677735	0.89
93	118.4375054	1.067141479	0.89
94	117.5383939	1.083530148	0.89
95	115.4665307	1.122763458	0.89
96	115.2321602	1.127335276	0.89
97	113.7696277	1.156505838	0.89
98	112.121878	1.190747769	0.89
99	111.2430651	1.20963574	0.89
100	110.5929433	1.223899255	0.89
101	107.5209171	1.294835457	0.89
102	105.7845545	1.337691541	0.89
103	101.0760432	1.465224052	0.89
104	100.5390394	1.480918099	0.89
105	94.40861015	1.679489508	0.89
106	120.6512339	1.127823595	0.89
107	177.0023793	0.526679361	0.89

108	172.7269595	0.553075285	0.89
109	154.6474075	0.689952544	0.89
110	144.8722878	0.786201506	0.89
111	144.0551194	0.795146433	0.89
112	143.3619913	0.802853785	0.89
113	142.3347159	0.814484513	0.89
114	140.8765982	0.831432116	0.89
115	137.2006164	0.876581667	0.89
116	136.2594536	0.888732827	0.89
117	134.3143525	0.91465995	0.89
118	133.4122411	0.927071326	0.89
119	133.0151809	0.932614341	0.89
120	128.7985613	0.994677935	0.89
121	123.8036033	1.076559254	0.89
122	123.2913125	1.085524317	0.89
123	122.1122972	1.106587361	0.89
124	148.6092834	0.750947359	0.89
125	143.0349527	0.810619451	0.89
126	136.6027407	0.888756006	0.89
127	132.7576265	0.940984383	0.89
128	128.6595806	1.00188324	0.89
129	128.3830915	1.006203249	0.89
130	119.0058405	1.171021375	0.89
131	149.3546975	0.747235579	0.89
132	148.490662	0.755956887	0.89
133	145.9575151	0.782424414	0.89
134	145.2495562	0.79007021	0.89
135	138.8513918	0.864559406	0.89
136	137.155497	0.886071726	0.89
137	135.9105152	0.902379453	0.89
138	134.6879318	0.918835882	0.89
139	133.0916304	0.941009103	0.89
140	132.6005174	0.947992449	0.89
141	129.1687283	0.999034641	0.89
142	125.8219195	1.052889276	0.89
143	120.2635214	1.152464304	0.89
144	119.068059	1.175722331	0.89
145	115.6945918	1.245286268	0.89
146	189.7221081	0.516651511	0.89
147	169.6977711	0.645775124	0.89
148	154.1203153	0.782913551	0.89
149	151.7776865	0.807267987	0.89
150	151.7776865	0.807267987	0.89
151	141.2673925	0.931857982	0.89
152	140.327003	0.944389364	0.89
153	129.9466494	1.101294362	0.89
154	128.1040568	1.133203276	0.89
155	160.2229476	0.727968171	0.89
156	150.8204907	0.821563481	0.89
157	151.7895443	0.815086234	0.89
158	142.4870461	0.924988869	0.89
159	127.9514548	1.147088211	0.89
160	177.2831114	0.600447728	0.89
161	172.3274969	0.635478375	0.89
162	164.3260482	0.698871151	0.89
163	157.1638109	0.764020187	0.89
164	157.1638109	0.764020187	0.89
165	143.5846687	0.91536393	0.89
166	141.9845424	0.936111981	0.89
167	141.5638475	0.941684064	0.89
168	122.115779	1.265512292	0.89
169	111.1757964	1.526825615	0.89
170	138.0952313	1.004162292	0.89
171	190.6430952	0.539820642	0.89
172	168.5443281	0.690658504	0.89
173	147.7158781	0.899160638	0.89
174	147.7158781	0.899160638	0.89
175	146.2742067	0.916972149	0.89
176	145.7271827	0.923869245	0.89
177	143.2626789	0.955928725	0.89
178	142.6334138	0.964381996	0.89
179	142.3208497	0.968622586	0.89
180	138.5755642	1.021688104	0.89
181	135.0223446	1.076168703	0.89
182	129.3739995	1.172188994	0.89
183	125.9452122	1.236882152	0.89
184	125.1363155	1.252924555	0.89
185	120.121605	1.359719717	0.89
186	97.85898708	2.048755892	0.89
187	178.160625	0.756611895	0.89
188	140.689873	1.213307675	0.89
189	159.7962487	0.944818718	0.89
190	159.0897067	0.953229526	0.89
191	143.3497556	1.174053086	0.89
192	164.4177298	0.89653421	0.89
193	146.6940559	1.126261214	0.89
194	143.6744571	1.174099846	0.89
195	172.6617805	0.816679648	0.89
196	171.0277574	0.832359539	0.89
197	170.6240727	0.836302808	0.89
198	151.2295651	1.064561502	0.89
199	133.4542747	1.367033586	0.89
200	159.1164883	0.966031501	0.89
201	181.5362599	0.745538176	0.89
202	154.9384864	1.023476879	0.89
203	194.2476531	0.654120246	0.89
204	169.5142563	0.858927871	0.89
205	179.6598303	0.768134354	0.89
206	169.5009088	0.862968805	0.89
207	166.2809067	0.89671491	0.89
208	145.592597	1.169662519	0.89
209	137.1088178	1.318889426	0.89
210	191.2096291	0.68121964	0.89
211	160.6721206	0.96477408	0.89
212	156.5435008	1.016334329	0.89
213	150.011932	1.106764116	0.89
214	180.3196681	0.769459058	0.89
215	165.5193339	0.913217563	0.89
216	159.5237981	0.987605073	0.89
217	157.4713118	1.013517808	0.89
218	145.9922897	1.179164604	0.89
219	168.9330629	0.884636894	0.89
220	163.552232	0.943803122	0.89
221	156.37076	1.032483847	0.89
222	179.3266764	0.788609816	0.89
223	167.0106556	0.909208768	0.89
224	164.6496419	0.935471146	0.89
225	163.5544115	0.948041726	0.89
226	161.5249042	0.972015059	0.89
227	153.2368893	1.196133526	0.89
228	153.2368893	1.196133526	0.89
229	197.0196164	0.726753462	0.89
230	187.0659389	0.806151398	0.89
231	160.4666648	1.105169243	0.89

232	191.3504834	0.780606186	0.89
233	181.5831734	0.866841934	0.89
234	153.0554388	1.220094817	0.89
235	185.3771895	0.838990125	0.89
236	179.1791679	0.898037361	0.89
237	175.0555197	0.94084443	0.89
238	169.0321039	1.009092648	0.89
239	185.3386769	0.842991072	0.89
240	174.396172	0.952096998	0.89
241	160.2261693	1.132847674	0.89
242	158.131993	1.173163661	0.89
243	192.0542226	0.798779166	0.89
244	169.7573292	1.022391857	0.89
245	158.2598209	1.176340663	0.89
246	182.4663846	0.888756439	0.89
247	165.8753559	1.080081417	0.89
248	196.2915	0.774616373	0.89
249	186.2330846	0.860549757	0.89
250	160.8960641	1.157886386	0.89
251	144.0727623	1.450300028	0.89
252	169.0483392	1.057943181	0.89
253	197.766699	0.786330547	0.89
254	195.2291953	0.806904149	0.89
255	185.5570172	0.893216448	0.89
256	185.4156942	0.894578577	0.89
257	182.3601547	0.92480799	0.89
258	175.9037619	0.99394241	0.89
259	172.2935644	1.036032467	0.89
260	207.5367278	0.720147666	0.89
261	187.1962216	0.885150931	0.89
262	178.5816401	0.972608079	0.89
263	204.4264477	0.754936139	0.89
264	189.7908359	0.875858405	0.89
265	173.4963377	1.048102497	0.89
266	158.4436349	1.256709173	0.89
267	153.5107695	1.338772188	0.89
268	3.368574001	7.804536141	0.84
269	3.301036864	8.127154806	0.85
270	5.928983361	3.983714928	0.84
271	5.23811806	5.103852923	0.84
272	7.691069404	3.820339498	0.84
273	7.586257883	3.92663213	0.84
274	4.95129448	5.117998772	0.84
275	4.56040281	6.032971613	0.84
276	4.33238267	6.68473309	0.84
277	4.33238267	6.68473309	0.84
278	4.33238267	6.68473309	0.84
279	4.126078733	7.369918231	0.84
280	3.851006818	8.460365316	0.84
281	5.862429202	5.118956887	0.85
282	5.684779832	5.443890674	0.85
283	5.684779832	5.443890674	0.85
284	5.211048179	6.47867981	0.85
285	5.070209039	6.843605447	0.85
286	4.936782486	7.218529048	0.85
287	4.575554499	8.403287624	0.85
288	9.156438527	4.092046112	0.85
289	8.829422866	4.40077387	0.85
290	8.524960008	4.720728093	0.85
291	7.367511554	4.327049788	0.86
292	7.057934786	4.714962697	0.86
293	10.7729895	3.054674004	0.85
294	10.04751195	3.511723223	0.85
295	9.643972091	3.81175916	0.85
296	11.69413869	2.721138804	0.85
297	11.56563167	2.781944498	0.85
298	11.47244886	2.827319673	0.85
299	10.83566119	3.169394808	0.85
300	10.76339133	3.21209895	0.85
301	10.74428189	3.223534985	0.85
302	10.48824398	3.382841218	0.85
303	10.18378927	3.588131641	0.85
304	10.11569874	3.63659889	0.85
305	10.05686211	3.679274454	0.85
306	9.965774843	3.746839018	0.85
307	9.856216244	3.83059934	0.85
308	9.804320411	3.871258611	0.85
309	9.515277946	4.110022681	0.85
310	9.281774193	4.319417452	0.85
311	8.97215237	4.622680685	0.85
312	8.873485005	4.72605462	0.85
313	8.253278928	5.463036857	0.85
314	12.19063137	3.693480354	0.85
315	12.13983708	3.7244528	0.85
316	11.5617496	4.106209212	0.85
317	10.48043489	4.997232815	0.85
318	14.59884274	2.63557232	0.86
319	13.99099809	2.869554012	0.86
320	11.32196258	1.991021859	0.85
321	11.04814014	2.090937779	0.85
322	11.02109924	2.101210839	0.85
323	10.92559578	2.138105847	0.85
324	10.81315397	2.182803715	0.85
325	10.36853415	2.374021968	0.85
326	10.2806079	2.414803892	0.86
327	9.918295726	2.594450277	0.86
328	5.992586574	7.34709158	0.85
329	14.96399516	1.851487727	0.86
330	14.94172731	1.857010431	0.86
331	14.78768888	1.895899647	0.86
332	14.73884881	1.908485338	0.86
333	14.52037708	1.966347028	0.86
334	14.42649533	1.992022669	0.86
335	14.31338667	2.023630181	0.86
336	13.71699556	2.20342341	0.86
337	14.54884345	2.726526843	0.85
338	14.04495668	2.92567386	0.85
339	13.862379	3.003247903	0.85
340	13.85570798	3.006140508	0.85
341	13.83573339	3.014826679	0.85
342	13.83573339	3.014826679	0.85
343	13.67798631	3.084767166	0.85
344	13.50476604	3.164408847	0.85
345	13.44171858	3.194163351	0.85
346	13.10521675	3.360301944	0.85
347	21.11292023	1.452374524	0.86
348	20.94535738	1.475705469	0.86
349	20.67760229	1.514170848	0.86
350	20.49169823	1.541769086	0.86
351	20.25987295	1.577254594	0.86
352	19.83512087	1.645528975	0.86
353	19.54138174	1.695370799	0.86
354	19.3752649	1.724566472	0.86
355	15.19831454	3.077332443	0.85

356	14.50748206	3.377389802	0.85
357	13.87672197	3.691403316	0.85
358	29.50336594	1.211455923	0.86
359	29.15325754	1.240727966	0.86
360	28.66911457	1.282986803	0.86
361	28.55377169	1.293372982	0.86
362	28.38879434	1.308449159	0.86
363	28.16348645	1.329468086	0.86
364	27.36708966	1.407970384	0.86
365	27.14610593	1.430986941	0.86
366	24.49700187	1.83135095	0.85
367	23.06415836	2.06596151	0.85
368	23.04242023	2.069861389	0.85
369	22.2254617	2.224825051	0.85
370	21.39869397	2.400064499	0.85
371	16.11757847	2.703158716	0.85
372	14.60184024	3.293486956	0.85
373	15.96015096	2.756748475	0.85
374	15.38069232	2.968379091	0.85
375	15.27117248	3.011108245	0.85
376	23.39725446	1.356245349	0.83
377	23.33457525	1.36354118	0.83
378	22.76820206	1.432222804	0.83
379	22.74272478	1.435433465	0.83
380	22.53261091	1.462328767	0.83
381	22.32634387	1.489473701	0.83
382	21.97234058	1.537855089	0.83
383	21.44679744	1.61414728	0.83
384	30.94887715	1.195485594	0.83
385	30.83532644	1.204306527	0.83
386	30.48732598	1.231956781	0.83
387	30.43825182	1.235932436	0.83
388	29.99169538	1.273010859	0.83
389	29.92051256	1.279075214	0.83
390	29.2720804	1.336370753	0.83
391	28.74916601	1.385426977	0.83
392	42.60368251	1.020537729	0.83
393	41.89703042	1.055253643	0.83
394	41.44477404	1.078409716	0.83
395	41.01969944	1.100875982	0.83
396	40.6893161	1.118826034	0.83
397	40.63763619	1.121673522	0.83
398	40.56893351	1.125475803	0.83
399	39.53298875	1.185233851	0.83
400	24.69893593	1.794848744	0.84
401	24.23397102	1.864383171	0.84
402	20.19624319	2.68437484	0.84
403	18.00431525	3.377778173	0.84
404	16.52090016	4.011593594	0.84
405	15.14480636	4.773719459	0.84
406	14.78305628	5.010209454	0.84
407	30.42783222	1.015443297	0.84
408	30.38248523	1.018476733	0.84
409	26.5681767	1.331907919	0.84
410	26.55664037	1.333065345	0.84
411	26.33933797	1.355151946	0.84
412	26.05877408	1.38448974	0.84
413	34.66963643	1.249512169	0.84
414	34.3003194	1.276564422	0.84
415	33.73139223	1.319989667	0.84
416	33.38169313	1.347790354	0.84
417	33.19528334	1.362970026	0.84
418	33.01094387	1.378234701	0.84
419	32.11912702	1.455833132	0.84
420	32.06581726	1.460677832	0.84
421	46.62146077	1.099011721	0.84
422	46.02629318	1.127618206	0.84
423	45.96110013	1.130819392	0.84
424	45.87446281	1.135094697	0.84
425	45.27702794	1.165247703	0.84
426	45.13009276	1.172847715	0.84
427	44.88041036	1.18593378	0.84
428	44.88041036	1.18593378	0.84
429	66.34004096	0.869446775	0.84
430	64.15871394	0.929572295	0.84
431	63.33235235	0.953988705	0.84
432	63.23461724	0.956939945	0.84
433	63.13718331	0.959895742	0.84
434	63.04004918	0.962856097	0.84
435	62.43173992	0.981710858	0.84
436	60.88563443	1.032202247	0.84
437	23.53951701	2.40135387	0.84
438	23.29684157	2.451642639	0.84
439	23.23934217	2.463789487	0.84
440	23.08738897	2.496327832	0.84
441	22.94672657	2.52702639	0.84
442	32.27329306	1.700629153	0.84
443	31.35696761	1.80147429	0.84
444	31.02846605	1.839820999	0.84
445	30.47697788	1.907007423	0.84
446	30.18053668	1.944653666	0.84
447	42.79747973	1.574529613	0.84
448	42.23149068	1.617016309	0.84
449	42.21002068	1.618661708	0.84
450	41.95407311	1.638471764	0.84
451	41.63847075	1.663403768	0.84
452	21.50637787	1.753221093	0.84
453	18.37282095	2.402257435	0.84
454	18.01388916	2.498942476	0.84
455	17.88287905	2.535691137	0.84
456	17.48030239	2.653831525	0.84
457	16.33817854	3.037833424	0.84
458	16.16808243	3.10208863	0.84
459	16.06246622	3.143017339	0.84
460	15.77057747	3.260438699	0.84
461	15.66175713	3.305904177	0.84
462	31.06900526	1.478413627	0.84
463	31.04434732	1.480763112	0.84
464	28.38597795	1.771099384	0.84
465	27.93991259	1.828102608	0.84
466	27.88016937	1.835945728	0.84
467	27.08855791	1.944817632	0.84
468	26.07725175	2.098587177	0.84
469	25.64975582	2.169123024	0.84
470	24.69436718	2.340210111	0.84
471	24.49334854	2.378780278	0.84
472	39.50850564	1.410655798	0.84
473	38.05211367	1.52070402	0.84
474	37.96278946	1.527868693	0.84
475	37.63882462	1.554283223	0.84
476	36.61618485	1.642313569	0.84
477	35.1823386	1.778905414	0.84
478	35.05523478	1.791828767	0.84
479	34.26302608	1.87564581	0.84

480	33.18498285	1.999489232	0.84
481	28.75900707	2.662284659	0.84
482	59.19558016	1.05549979	0.84
483	56.17214999	1.172180845	0.84
484	55.23182325	1.212433574	0.84
485	54.51140816	1.244692039	0.84
486	53.48815647	1.292770563	0.84
487	52.50261255	1.341760136	0.84
488	51.55272976	1.391660757	0.84
489	51.00742017	1.421575719	0.84
490	49.91092308	1.484723252	0.84
491	48.33316838	1.583237921	0.84
492	30.09806468	1.70342615	0.84
493	29.63725628	1.75680865	0.84
494	29.0520024	1.82830358	0.84
495	28.16220141	1.945661351	0.84
496	27.42717005	2.051343804	0.84
497	27.30500003	2.069741414	0.84
498	26.63275528	2.175545924	0.84
499	26.38438669	2.216697573	0.84
500	26.04804182	2.274313303	0.84
501	25.26087572	2.418263652	0.84
502	42.95372279	1.39215042	0.84
503	41.34342629	1.502708876	0.84
504	41.23557388	1.510579883	0.84
505	41.23557388	1.510579883	0.84
506	40.35822124	1.576971153	0.84
507	39.51742496	1.644790194	0.84
508	39.09390763	1.680620349	0.84
509	38.90148479	1.697287556	0.84
510	38.15037004	1.76477878	0.84
511	37.45727485	1.830692605	0.84
512	58.83843126	1.111101758	0.84
513	54.72696392	1.284320143	0.84
514	52.78311001	1.380657811	0.84
515	49.87595077	1.546299552	0.84
516	48.53924187	1.632638477	0.84
517	48.53924187	1.632638477	0.84
518	48.25633205	1.651837757	0.84
519	47.19532149	1.726943414	0.84
520	46.36468383	1.789375142	0.84
521	43.41262531	2.041004232	0.84
522	76.08559052	1.05855619	0.84
523	76.08559052	1.05855619	0.84
524	74.83700647	1.094172847	0.84
525	70.97867831	1.216362244	0.84
526	70.56680977	1.230602461	0.84
527	68.83592576	1.293267704	0.84
528	66.51420356	1.385128154	0.84
529	64.00533448	1.495844347	0.84
530	63.1194475	1.538127617	0.84
531	62.57811433	1.564853921	0.84
532	61.88810967	1.599942268	0.84
533	19.80349128	2.68374952	0.84
534	19.92836887	2.463190765	0.84
535	19.45719192	2.780130469	0.84
536	44.44238707	2.499101688	0.74
537	47.27773223	2.208337308	0.74
538	46.46426294	2.286338755	0.74
539	49.63425471	2.003621451	0.74
540	52.40985448	1.797019439	0.74
541	86.70691487	2.797919849	0.74
542	93.64647437	2.398611291	0.74
543	85.02372712	2.909795441	0.74
544	73.86290971	3.855581723	0.74
545	71.06126897	4.165592853	0.74
546	6.158166107	6.343409205	0.96
547	6.683421451	5.385522316	0.96
548	6.991887056	4.920811373	0.96
549	6.401023362	5.871197664	0.96
550	6.586560271	5.545084721	0.96
551	16.42123664	3.753690831	0.96
552	16.39212097	3.767037277	0.96
553	16.31978151	3.800507013	0.96
554	16.16286053	3.874661499	0.96
555	16.08412705	3.912688093	0.96
556	386.176266	0.681563443	0.99
557	386.176266	0.681563443	0.99
558	380.1023015	0.703519998	0.99
559	378.223707	0.710525963	0.99
560	375.133644	0.722279709	0.99
561	374.5216805	0.724642028	0.99
562	373.6074697	0.728192739	0.99
563	372.3954422	0.73294052	0.99
564	369.1025565	0.746076463	0.99
565	343.4282575	0.861797824	0.99
566	401.2176028	0.668887579	0.99
567	389.0594936	0.711346263	0.99
568	389.0594936	0.711346263	0.99
569	377.6165674	0.755111368	0.99
570	377.6165674	0.755111368	0.99
571	377.6165674	0.755111368	0.99
572	366.8275226	0.800182895	0.99
573	366.8275226	0.800182895	0.99
574	366.8275226	0.800182895	0.99
575	366.8275226	0.800182895	0.99
576	366.8275226	0.800182895	0.99
577	366.8275226	0.800182895	0.99
578	366.8275226	0.800182895	0.99
579	366.8275226	0.800182895	0.99
580	366.8275226	0.800182895	0.99
581	497.7048279	0.57023613	0.99
582	478.2505675	0.61757179	0.99
583	469.082825	0.641947296	0.99
584	469.082825	0.641947296	0.99
585	469.082825	0.641947296	0.99
586	469.082825	0.641947296	0.99
587	466.1045213	0.650177305	0.99
588	463.1637988	0.658459735	0.99
589	447.6308665	0.704950115	0.99
590	434.3873498	0.748590134	0.99
591	490.1219095	0.593749299	0.99
592	484.4883243	0.607637702	0.99
593	478.9827752	0.621686665	0.99
594	474.3623625	0.633856425	0.99
595	469.0832902	0.64820357	0.99
596	469.0832902	0.64820357	0.99
597	468.3387135	0.650266269	0.99
598	466.856629	0.654401497	0.99
599	454.6277188	0.690080128	0.99
600	22.54513022	2.205020797	0.95
601	21.21865109	2.489330976	0.95
602	29.32899524	1.323189579	0.95
603	31.71500096	1.131584485	0.95

604	26.98580536	1.562952122	0.95
605	22.46031387	2.256237431	0.95
606	11.92333716	3.180289321	0.95
607	11.76881531	3.264350515	0.95
608	11.63555697	3.339549819	0.95
609	11.35803642	3.504739691	0.95
610	10.89534855	3.808728576	0.95
611	18.37236224	2.260852951	0.95
612	17.8861494	2.385440602	0.95
613	17.38317812	2.525480121	0.95
614	17.23541224	2.568969595	0.95
615	16.96430636	2.651734881	0.95
616	25.26992572	1.875998498	0.95
617	24.73751214	1.957619923	0.95
618	22.82298186	2.299829533	0.95
619	20.84914292	2.755903485	0.95
620	20.61861581	2.817872923	0.95
621	34.29971249	1.601822629	0.95
622	33.4320975	1.686041013	0.95
623	33.08341063	1.721768798	0.95
624	31.79668615	1.863938864	0.95
625	31.36904085	1.915106386	0.95
626	29.16542709	2.124810374	0.95
627	29.01662389	2.146659181	0.95
628	29.01662389	2.146659181	0.95
629	28.43629141	2.235171991	0.95
630	28.25465435	2.264002289	0.95
631	27.51265237	2.387766955	0.95
632	27.39904196	2.407609809	0.95
633	26.82669001	2.51143925	0.95
634	26.71866307	2.531788438	0.95
635	26.54053865	2.565886215	0.95
636	33.01792134	2.105932322	0.95
637	32.66306337	2.151939417	0.95
638	32.52008304	2.170903785	0.95
639	32.40973859	2.185711368	0.95
640	31.64282571	2.292943478	0.95
641	48.09562493	1.445614124	0.95
642	46.04900259	1.576968691	0.95
643	45.81505338	1.593115023	0.95
644	45.58346929	1.609343594	0.95
645	45.46855298	1.61748872	0.95
646	45.20265501	1.636573967	0.95
647	44.49636352	1.688941036	0.95
648	43.95416575	1.730865987	0.95
649	43.95416575	1.730865987	0.95
650	43.84730798	1.739312657	0.95
651	51.08734819	1.530824462	0.95
652	49.90128858	1.604458887	0.95
653	48.8772466	1.672394182	0.95
654	48.71513302	1.683543446	0.95
655	48.20879411	1.719093814	0.95
656	61.12365626	1.409519892	0.95
657	60.25434204	1.450484732	0.95
658	60.25434204	1.450484732	0.95
659	57.9864284	1.566163647	0.95
660	56.7723072	1.63386726	0.95
661	56.58275025	1.644832782	0.95
662	55.33562024	1.719809305	0.95
663	53.29098648	1.854309996	0.95
664	51.50922097	1.984814369	0.95
665	51.27544236	2.002954239	0.95
666	67.50248879	1.336014823	0.95
667	63.88912027	1.491409933	0.95
668	62.8538799	1.540943321	0.95
669	59.7094582	1.707515233	0.95
670	58.99592855	1.749068287	0.95
671	81.65632995	1.196017155	0.95
672	80.9414399	1.217237351	0.95
673	78.12938987	1.306436353	0.95
674	76.97298817	1.345985647	0.95
675	75.64345474	1.393716403	0.95
676	75.36938425	1.403870951	0.95
677	73.96248908	1.457787043	0.95
678	73.96248908	1.457787043	0.95
679	73.96248908	1.457787043	0.95
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682	72.35460888	1.523297473	0.95
683	91.33412589	1.133242562	0.95
684	89.28031618	1.185980617	0.95
685	87.82813147	1.225523784	0.95
686	87.26039952	1.241522619	0.95
687	85.54615847	1.291778365	0.95
688	158.1084904	0.766445701	0.95
689	158.1084904	0.766445701	0.95
690	157.0117841	0.777190136	0.95
691	157.0117841	0.777190136	0.95
692	150.9057703	0.841356557	0.95
693	200.015385	0.718045739	0.95
694	199.7749819	0.719774927	0.95
695	193.4956751	0.767249103	0.95
696	192.5988238	0.77441125	0.95
697	189.3084111	0.801565642	0.95
698	272.4656152	0.667901444	0.95
699	267.1231522	0.694884662	0.95
700	266.1446791	0.700003501	0.95
701	262.3014346	0.720666702	0.95
702	261.3579043	0.725879464	0.95
703	361.9625779	0.585314136	0.95
704	352.9843938	0.615467817	0.95
705	350.2409918	0.625147372	0.95
706	343.1294996	0.651328744	0.95
707	328.9367952	0.708747344	0.95
708	142.0624851	0.95310116	0.95
709	140.2542116	0.977835929	0.95
710	134.6826157	1.060412231	0.95
711	132.7556807	1.091419189	0.95
712	130.8831062	1.122872968	0.95
713	127.1085393	1.190551968	0.95
714	127.0169625	1.192269317	0.95
715	150.1424547	0.883770888	0.95
716	135.6162006	1.083237208	0.95
717	139.7072848	1.026685457	0.95
718	136.8387702	1.070180886	0.95
719	131.1537776	1.164967761	0.95
720	127.9822069	1.223422112	0.95
721	148.2879897	0.916618792	0.95
722	142.4360564	0.993483891	0.95
723	139.4640521	1.0362777	0.95
724	138.182606	1.055586808	0.95
725	144.8221841	0.977877766	0.95
726	143.2269752	0.999781549	0.95
727	147.9481232	0.94242478	0.95

728	157.9347897	0.841436259	0.95
729	157.1262498	0.850118261	0.95
730	155.665228	0.866150999	0.95
731	155.4025019	0.869082134	0.95
732	154.6196178	0.877905247	0.95
733	151.0680597	0.919668969	0.95
734	143.7564128	1.015599273	0.95
735	137.4268394	1.111306152	0.95
736	150.637399	0.93026753	0.95
737	144.0572942	1.017192087	0.95
738	151.2562372	0.933317878	0.95
739	144.9981728	1.015619687	0.95
740	135.6776182	1.159951278	0.95
741	163.1500817	0.81142837	0.95
742	160.3492219	0.840022783	0.95
743	156.2469142	0.889776485	0.95
744	145.9034658	1.020405065	0.95
745	144.1077309	1.045994167	0.95
746	143.996964	1.047604008	0.95
747	142.4639164	1.070271753	0.95
748	233.9546923	0.720917091	0.95
749	230.5330515	0.742476041	0.95
750	225.3826259	0.776797775	0.95
751	224.1805852	0.78515038	0.95
752	215.1904081	0.852124444	0.95
753	262.8028546	0.574132164	0.95
754	238.7312051	0.695750703	0.95
755	237.1635517	0.704978939	0.95
756	235.1779964	0.71693315	0.95
757	210.5048677	0.894844861	0.95
758	255.9900923	0.608059582	0.95
759	246.5274235	0.655634769	0.95
760	242.7492254	0.676202457	0.95
761	238.6348318	0.699720795	0.95
762	235.0929419	0.720963484	0.95
763	233.7916894	0.729011386	0.95
764	232.5047627	0.737103958	0.95
765	227.7000821	0.768539292	0.95
766	227.7000821	0.768539292	0.95
767	182.5865932	1.19523879	0.95
768	262.1720259	0.582555619	0.95
769	250.0439893	0.640438243	0.95
770	247.8484811	0.651834844	0.95
771	244.7444057	0.668474043	0.95
772	244.0390904	0.672343639	0.95
773	239.2134587	0.699743503	0.95
774	238.3158472	0.705024567	0.95
775	236.9819898	0.712983389	0.95
776	233.7117692	0.733075878	0.95
777	232.8548974	0.738481028	0.95
778	232.2163557	0.742547919	0.95
779	232.2163557	0.742547919	0.95
780	201.3032433	0.988117409	0.95
781	252.8896232	0.629162684	0.95
782	247.7235901	0.655677446	0.95
783	247.7235901	0.655677446	0.95
784	246.2861224	0.663353604	0.95
785	240.4720025	0.695818443	0.95
786	235.5780302	0.725029043	0.95
787	232.7786569	0.742572154	0.95
788	230.8792843	0.754840234	0.95
789	247.6000612	0.659531588	0.95
790	245.2215783	0.672387652	0.95
791	243.1196791	0.684064209	0.95
792	234.197856	0.737176133	0.95
793	385.2388801	0.529424024	0.95
794	376.5291315	0.554200232	0.95
795	374.5748281	0.559998277	0.95
796	370.7264566	0.571684882	0.95
797	368.2045079	0.579543002	0.95
798	477.5946591	0.537598002	0.95
799	470.1192644	0.554830687	0.95
800	470.1192644	0.554830687	0.95
801	467.679199	0.560635327	0.95
802	465.2643322	0.566470174	0.95
803	465.2643322	0.566470174	0.95
804	651.1773473	0.498463809	0.95
805	648.7920823	0.502135722	0.95
806	647.6059907	0.503976731	0.95
807	644.0735944	0.509519971	0.95
808	629.2015576	0.533891027	0.95
809	848.1517688	0.459652326	0.95
810	836.9073325	0.472086804	0.95
811	832.1790425	0.477466667	0.95
812	830.6147962	0.479266728	0.95
813	821.3514341	0.490138217	0.95
814	776.4203137	0.453880842	0.95
815	743.1951201	0.495370263	0.95
816	738.2072334	0.502087071	0.95
817	723.6373538	0.522508882	0.95
818	723.6373538	0.522508882	0.95
819	932.3367897	0.48263865	0.95
820	915.6132599	0.500430296	0.95
821	913.5649081	0.502676894	0.95
822	913.5649081	0.502676894	0.95
823	881.9946305	0.539306753	0.95
824	1610.211483	0.424566356	0.95
825	1560.607812	0.451984833	0.95
826	1503.599307	0.486908304	0.95
827	1473.325495	0.507123815	0.95
828	1473.325495	0.507123815	0.95
829	1581.292022	0.458711181	0.95
830	1559.278676	0.471754451	0.95
831	1537.869815	0.48498057	0.95
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833	1523.920883	0.493899566	0.95
834	40.73829435	1.764143399	0.99
835	41.18011437	1.933751824	0.99
836	40.79480336	1.970453294	0.99
837	40.36985749	2.012154854	0.99
838	40.25338358	2.023816115	0.99
839	38.84137736	2.173634852	0.99
840	50.34102313	1.555558556	0.99
841	50.18246873	1.565403839	0.99
842	50.02490996	1.57528018	0.99
843	49.94650101	1.580229996	0.99
844	49.75154979	1.592638508	0.99
845	49.73213834	1.593882028	0.99
846	49.67399477	1.5976155	0.99
847	49.57739034	1.603847659	0.99
848	49.50037692	1.608842122	0.99
849	49.1378067	1.63267185	0.99
850	59.54471551	1.332962957	0.99
851	59.29169264	1.344363871	0.99

852	58.83335911	1.365391639	0.99
853	58.17920084	1.396268778	0.99
854	56.2633535	1.492977633	0.99
855	72.99621871	1.196833174	0.99
856	70.48677516	1.283568536	0.99
857	70.39487584	1.286922077	0.99
858	70.36429597	1.288040897	0.99
859	70.36429597	1.288040897	0.99
860	70.09026799	1.298132147	0.99
861	70.05995213	1.299255828	0.99
862	69.96916169	1.302629787	0.99
863	69.87860626	1.30600812	0.99
864	69.87860626	1.30600812	0.99
865	83.60057465	1.165912033	0.99
866	83.15723827	1.178376831	0.99
867	82.78096117	1.189113694	0.99
868	82.28452362	1.203505257	0.99
869	81.97726252	1.212543943	0.99
870	99.55217974	0.857138628	0.99
871	98.24297169	0.880135692	0.99
872	97.47384613	0.894080059	0.99
873	97.06854947	0.901561868	0.99
874	96.96775139	0.903437191	0.99
875	96.91743082	0.904375584	0.99
876	96.31763238	0.915674284	0.99
877	95.97116608	0.922297585	0.99
878	95.72521229	0.927043127	0.99
879	95.38298733	0.933707343	0.99
880	79.64174379	1.339279106	0.99
881	79.16909249	1.355318234	0.99
882	79.10202846	1.357617332	0.99
883	78.96824067	1.362221372	0.99
884	78.90151634	1.364526314	0.99
885	78.90151634	1.364526314	0.99
886	78.83490468	1.366833205	0.99
887	78.17492222	1.390009278	0.99
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889	77.9790769	1.397000093	0.99
890	113.5738395	0.998117428	0.99
891	113.2934102	1.003064719	0.99
892	113.2002413	1.004716534	0.99
893	112.64443	1.014655961	0.99
894	112.0028425	1.026313792	0.99
895	125.0899964	0.899047886	0.99
896	124.5698717	0.906571266	0.99
897	124.4405156	0.90845701	0.99
898	124.3759383	0.909400616	0.99
899	123.6062058	0.920762096	0.99
900	123.1615792	0.927422198	0.99
901	122.8459421	0.932194108	0.99
902	122.4067585	0.938895353	0.99
903	53.92335434	1.49346694	0.99
904	58.36361744	1.427911422	0.99
905	49.70367919	1.968831715	0.99
906	49.39572579	1.993457264	0.99
907	47.17437954	2.185613064	0.99
908	46.73194691	2.227193356	0.99
909	59.57977006	1.647186716	0.99
910	59.53107389	1.649882603	0.99
911	59.31292256	1.662041369	0.99
912	59.19241682	1.668815527	0.99
913	59.19241682	1.668815527	0.99
914	59.16837441	1.670172011	0.99
915	59.16837441	1.670172011	0.99
916	58.95286839	1.682405174	0.99
917	58.52653186	1.70700541	0.99
918	72.18767741	1.145626159	0.99
919	70.82242582	1.190220601	0.99
920	67.93171456	1.293671192	0.99
921	66.13219895	1.365032943	0.99
922	64.42556156	1.438310444	0.99
923	62.28250753	1.538993839	0.99
924	61.51516658	1.577628164	0.99
925	59.20530854	1.703129855	0.99
926	58.51149633	1.743759756	0.99
927	52.37392679	2.176400344	0.99
928	64.54498363	1.456983596	0.99
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933	62.15442868	1.571214558	0.99
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1320	446.7874356	0.63390969	0.99
1321	445.6198726	0.637235839	0.99
1322	637.6789024	0.395659683	0.99
1323	625.4550257	0.411276337	0.99
1324	600.5135676	0.446149332	0.99
1325	577.4850237	0.482441261	0.99
1326	577.4850237	0.482441261	0.99
1327	620.5888272	0.429963033	0.99
1328	604.0712539	0.453798112	0.99
1329	599.5122256	0.460726227	0.99
1330	584.0836021	0.485387956	0.99
1331	579.8202181	0.492552257	0.99
1332	547.8301371	0.551756151	0.99
1333	540.3766659	0.567081982	0.99
1334	509.201089	0.638646263	0.99
1335	504.3515548	0.650986969	0.99
1336	479.9720235	0.718798521	0.99
1337	443.3317209	0.631258832	0.99
1338	440.0170912	0.640805144	0.99
1339	489.4689429	0.580030702	0.99
1340	487.5532132	0.584597856	0.99
1341	486.6009608	0.586888149	0.99
1342	486.6009608	0.586888149	0.99
1343	485.6524209	0.589182919	0.99
1344	482.8288604	0.596094097	0.99
1345	476.3665238	0.612376894	0.99
1346	475.4574274	0.614720918	0.99
1347	462.2257735	0.650418594	0.99

1348	457.9773749	0.662541699	0.99
1349	566.728689	0.517205984	0.99
1350	561.8189107	0.526285289	0.99
1351	559.0513299	0.531508932	0.99
1352	556.3108822	0.536758371	0.99
1353	554.2731134	0.540712379	0.99
1354	548.911342	0.551327338	0.99
1355	546.2691695	0.556673511	0.99
1356	545.612596	0.558014085	0.99
1357	545.612596	0.558014085	0.99
1358	615.2253822	0.529138292	0.99
1359	613.9620857	0.531318056	0.99
1360	610.2031342	0.537884231	0.99
1361	607.7226336	0.542284084	0.99
1362	604.0394662	0.548917467	0.99
1363	602.8216447	0.551137555	0.99
1364	600.4006742	0.555591174	0.99
1365	600.4006742	0.555591174	0.99
1366	595.6166051	0.564552178	0.99
1367	595.6166051	0.564552178	0.99
1368	776.5034004	0.448225768	0.99
1369	767.2347922	0.459120797	0.99
1370	758.1848405	0.470146655	0.99
1371	754.2308126	0.47508903	0.99
1372	750.3178123	0.480057247	0.99
1373	747.4096037	0.483800369	0.99
1374	747.4096037	0.483800369	0.99
1375	746.4452042	0.485051307	0.99
1376	743.5668808	0.488813811	0.99
1377	707.2066422	0.540369566	0.99
1378	889.8519229	0.396844575	0.99
1379	867.7634	0.417304701	0.99
1380	852.6455707	0.432233928	0.99
1381	852.6455707	0.432233928	0.99
1382	852.6455707	0.432233928	0.99
1383	872.6610682	0.399094434	0.99
1384	863.6179484	0.407496192	0.99
1385	835.4800202	0.435406328	0.99
1386	825.139921	0.446387141	0.99
1387	817.0503139	0.455270249	0.99
1388	809.1177866	0.464240876	0.99
1389	809.1177866	0.464240876	0.99
1390	805.209005	0.468759009	0.99
1391	803.2687423	0.47102628	0.99
1392	803.2687423	0.47102628	0.99
1393	799.4161344	0.475577232	0.99
1394	799.4161344	0.475577232	0.99
1395	795.6003056	0.480150064	0.99
1396	791.8207317	0.484744775	0.99
1397	789.9443793	0.487050335	0.99
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1399	788.0768985	0.489361366	0.99
1400	786.2182266	0.491677866	0.99
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1403	780.6944451	0.498660186	0.99
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1405	775.2477397	0.505691736	0.99
1406	773.449021	0.508046525	0.99
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1409	769.8765082	0.512772514	0.99
1410	769.8765082	0.512772514	0.99
1411	766.3368461	0.517520382	0.99
1412	766.3368461	0.517520382	0.99
1413	766.3368461	0.517520382	0.99
1414	762.8295837	0.52229013	0.99
1415	761.0879636	0.524683209	0.99
1416	761.0879636	0.524683209	0.99
1417	759.3542781	0.527081758	0.99
1418	759.3542781	0.527081758	0.99
1419	757.6284729	0.529485776	0.99
1420	755.9104945	0.531895265	0.99
1421	754.2002897	0.534310223	0.99
1422	752.497806	0.536730651	0.99
1423	750.8029911	0.539156549	0.99
1424	750.8029911	0.539156549	0.99
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1426	749.1157934	0.541587917	0.99
1427	747.4361616	0.544024755	0.99
1428	742.442156	0.551368089	0.99
1429	740.7922846	0.553826806	0.99
1430	739.1497296	0.556290994	0.99
1431	739.1497296	0.556290994	0.99
1432	737.5144426	0.558760651	0.99
1433	732.65171	0.566202442	0.99
1434	731.0450177	0.568693979	0.99
1435	726.2669457	0.576201409	0.99
1436	723.1161129	0.581233712	0.99
1437	719.9925012	0.586287894	0.99
1438	716.8957593	0.591363956	0.99
1439	713.8255419	0.596461898	0.99
1440	712.3002736	0.599019073	0.99
1441	697.3985943	0.624891674	0.99
1442	786.1787168	0.52077214	0.99
1443	761.9886025	0.554361878	0.99
1444	761.9886025	0.554361878	0.99
1445	755.0191945	0.564643486	0.99
1446	755.0191945	0.564643486	0.99
1447	752.7243034	0.568091683	0.99
1448	750.4433206	0.571550376	0.99
1449	737.042547	0.592522968	0.99
1450	732.6813485	0.599597807	0.99
1451	728.3714582	0.606714632	0.99
1452	827.4517696	0.472371497	0.99
1453	824.7027604	0.475525889	0.99
1454	824.7027604	0.475525889	0.99
1455	819.2591779	0.481866164	0.99
1456	788.0493044	0.520789575	0.99
1457	783.0773845	0.52742377	0.99
1458	766.159046	0.550974114	0.99
1459	754.5152915	0.568110702	0.99
1460	752.2288815	0.571569511	0.99
1461	734.4246476	0.599617881	0.99
1462	847.384436	0.495021602	0.99
1463	812.9594433	0.53783289	0.99
1464	810.4268593	0.541199597	0.99
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1467	781.2222878	0.582419446	0.99
1468	778.8832989	0.585922713	0.99
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1470	749.703233	0.632421098	0.99
1471	843.068775	0.485878593	0.99

1472	843.068775	0.485878593	0.99
1473	835.878423	0.494273748	0.99
1474	834.0999583	0.496383772	0.99
1475	832.3290454	0.498498291	0.99
1476	828.8096837	0.50274081	0.99
1477	823.5860933	0.509138296	0.99
1478	813.3339842	0.522054611	0.99
1479	811.6500629	0.524223059	0.99
1480	798.425622	0.541732441	0.99
1481	881.8538545	0.473678993	0.99
1482	874.9911785	0.48113839	0.99
1483	872.7272945	0.483637806	0.99
1484	867.1185073	0.489914675	0.99
1485	863.7877063	0.493700222	0.99
1486	857.2022855	0.501315023	0.99
1487	856.1144653	0.502589822	0.99
1488	853.9470869	0.505144277	0.99
1489	852.8675078	0.506423933	0.99
1490	842.2199734	0.519309523	0.99
1491	1080.466982	0.467457326	0.99
1492	1071.051147	0.475712483	0.99
1493	1066.404505	0.479867157	0.99
1494	1066.404505	0.479867157	0.99
1495	1064.09627	0.481951269	0.99
1496	1059.509648	0.486133039	0.99
1497	1045.983993	0.498786732	0.99
1498	1043.76322	0.500911487	0.99
1499	1022.063361	0.522407411	0.99
1500	1011.548306	0.533324721	0.99
1501	1200.872333	0.41021972	0.99
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1503	1158.450212	0.440814087	0.99
1504	1153.747437	0.444415004	0.99
1505	1127.803381	0.465096881	0.99
1506	1126.313549	0.46632811	0.99
1507	1121.867574	0.470031561	0.99
1508	1120.393372	0.4712693	0.99
1509	1105.861681	0.483736204	0.99
1510	1100.154008	0.488768536	0.99
1511	807.8115026	0.499614409	0.99
1512	790.9820963	0.521100768	0.99
1513	790.9820963	0.521100768	0.99
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1515	774.8396045	0.543039473	0.99
1516	1322.752858	0.310343215	0.99
1517	1249.579296	0.347753917	0.99
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1519	1249.579296	0.347753917	0.99
1520	1249.579296	0.347753917	0.99
1521	1208.440883	0.37183379	0.99
1522	1320.780244	0.318840086	0.99
1523	1259.218453	0.350777628	0.99
1524	1142.982904	0.425749922	0.99
1525	1129.945076	0.435631603	0.99
1526	1108.864011	0.452352994	0.99
1527	1100.650204	0.459129724	0.99
1528	1100.650204	0.459129724	0.99
1529	1100.650204	0.459129724	0.99
1530	1100.650204	0.459129724	0.99
1531	1042.721245	0.511561204	0.99
1532	1059.138265	0.498204313	0.99
1533	1059.138265	0.498204313	0.99
1534	1045.202235	0.511578331	0.99
1535	1005.511011	0.552763221	0.99
1536	984.7359903	0.57633259	0.99
1537	976.6643838	0.585898113	0.99
1538	960.9117325	0.605265344	0.99
1539	949.4267317	0.61999743	0.99
1540	906.1068808	0.680697168	0.99
1541	899.2683383	0.691089341	0.99
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1543	1131.074008	0.480116698	0.99
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1545	1103.096912	0.504779277	0.99
1546	1083.945924	0.522773569	0.99
1547	1076.470435	0.530059524	0.99
1548	1072.771224	0.533721409	0.99
1549	1061.824579	0.544782699	0.99
1550	994.1924402	0.621423886	0.99
1551	1145.70245	0.425764176	0.99
1552	1063.866561	0.493785671	0.99
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1554	1041.547682	0.515174653	0.99
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1562	1034.314712	0.522405086	0.99
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1582	786.5699315	0.54490869	0.99
1583	871.9889218	0.496606788	0.99
1584	826.5297837	0.55273577	0.99
1585	814.9429176	0.568565111	0.99
1586	809.2704611	0.576563584	0.99
1587	801.8288936	0.587315121	0.99
1588	951.921334	0.449525102	0.99
1589	943.1072476	0.457966704	0.99
1590	921.7699796	0.479414261	0.99
1591	915.5557999	0.485944233	0.99
1592	913.5029842	0.488130706	0.99
1593	909.4248459	0.492518376	0.99
1594	905.3829577	0.496925677	0.99
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1596	903.3754567	0.499136689	0.99
1597	895.4336944	0.508029819	0.99
1598	893.4700241	0.510265371	0.99
1599	893.4700241	0.510265371	0.99
1600	1015.222926	0.437950209	0.99
1601	1013.603751	0.439350529	0.99
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1603	1008.777066	0.443564898	0.99
1604	1008.777066	0.443564898	0.99
1605	1003.996132	0.447799384	0.99
1606	1002.412542	0.449215349	0.99
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1609	994.5689387	0.456328704	0.99
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1612	1065.138295	0.479689368	0.99
1613	1059.74519	0.484584126	0.99
1614	1046.498375	0.496929724	0.99
1615	1041.291916	0.501911444	0.99
1616	1326.899612	0.408873655	0.99
1617	1324.517386	0.410345746	0.99
1618	1317.421758	0.414777892	0.99
1619	1310.401748	0.419233844	0.99
1620	1308.078341	0.420724452	0.99
1621	1292.042354	0.431232776	0.99
1622	1289.783539	0.432744546	0.99
1623	1280.826709	0.43881808	0.99
1624	1278.606905	0.440343076	0.99
1625	1276.394782	0.441870718	0.99
1626	1488.003494	0.380224455	0.99
1627	1469.088195	0.390078676	0.99
1628	1432.664521	0.410165318	0.99
1629	1409.369163	0.423836562	0.99
1630	1381.29408	0.441240783	0.99
1631	1364.979583	0.451851405	0.99
1632	1328.370935	0.477099782	0.99
1633	1303.401557	0.49555456	0.99
1634	1225.10535	0.560920193	0.99
1635	1274.650052	0.518162538	0.99
1636	1429.265033	0.459375435	0.99
1637	1418.185459	0.466581214	0.99
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1639	1400.096359	0.47871546	0.99
1640	1365.268091	0.503451252	0.99
1641	1540.726718	0.421664052	0.99
1642	1533.223179	0.425801368	0.99
1643	1530.738214	0.427184962	0.99
1644	1525.792372	0.429958883	0.99
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1646	1520.878387	0.432741782	0.99
1647	1515.995952	0.435533657	0.99
1648	1511.144765	0.438334509	0.99
1649	1511.144765	0.438334509	0.99
1650	1501.534941	0.443963145	0.99
1651	1911.826298	0.405709998	0.99
1652	1896.026081	0.412500005	0.99
1653	1830.471987	0.442574511	0.99
1654	1830.471987	0.442574511	0.99
1655	1801.721118	0.456811927	0.99
1656	1792.337154	0.461607819	0.99
1657	2036.974571	0.387425707	0.99
1658	2033.504427	0.388749107	0.99
1659	2033.504427	0.388749107	0.99
1660	2026.599488	0.391402677	0.99
1661	2016.329559	0.395399955	0.99
1662	1992.766442	0.404805913	0.99
1663	1989.445165	0.406158646	0.99
1664	1966.502634	0.415690964	0.99
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1666	1474.520591	0.365931471	0.99
1667	1345.7415	0.439317146	0.99
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1669	1305.825439	0.466585454	0.99
1670	1237.649813	0.51940471	0.99
1671	1208.528641	0.544737847	0.99
1672	1709.759153	0.440297285	0.99
1673	1724.82311	0.432640087	0.99
1674	1732.455071	0.428836676	0.99
1675	1680.407065	0.455813186	0.99
1676	1737.868742	0.436532228	0.99
1677	1715.299019	0.448095495	0.99
1678	1678.957938	0.467703504	0.99
1679	1630.592894	0.495860101	0.99
1680	1584.936293	0.524839647	0.99
1681	1572.357434	0.533270672	0.99
1682	1566.142582	0.537511376	0.99
1683	1553.859111	0.546043169	0.99
1684	1547.789349	0.550334258	0.99
1685	1472.98912	0.607646748	0.99
1686	1690.114253	0.463763838	0.99
1687	1629.443485	0.498942393	0.99
1688	1621.129998	0.504072873	0.99
1689	1596.690852	0.519621768	0.99
1690	1565.228963	0.540721028	0.99
1691	1565.228963	0.540721028	0.99
1692	1534.982993	0.562240174	0.99
1693	1864.680044	0.380995954	0.99
1694	1855.966586	0.384581779	0.99
1695	1765.230442	0.425134347	0.99
1696	1935.977837	0.388458208	0.99
1697	1927.014977	0.392080176	0.99
1698	1927.014977	0.392080176	0.99
1699	1874.933491	0.414164939	0.99
1700	1817.621113	0.440695227	0.99
1701	1763.708623	0.468049072	0.99
1702	1719.98031	0.492150708	0.99
1703	1719.98031	0.492150708	0.99
1704	1632.295039	0.546446619	0.99
1705	4829.251913	0.444023366	0.99
1706	4667.863032	0.475257892	0.99
1707	4562.30834	0.497503658	0.99
1708	4418.001751	0.53053468	0.99
1709	4354.43338	0.54613781	0.99
1710	4313.061091	0.556665526	0.99
1711	4136.215762	0.605283974	0.99
1712	4017.253804	0.64166301	0.99
1713	3896.563776	0.682027628	0.99
1714	5165.134226	0.631509907	0.99
1715	5142.178074	0.637160974	0.99
1716	5130.776348	0.639995947	0.99
1717	5119.425073	0.642837213	0.99
1718	5096.87254	0.648538624	0.99
1719	5041.351053	0.662902278	0.99

1720	4840.962622	0.718918953	0.99
1721	4646.546452	0.780338125	0.99
1722	4609.522178	0.792924021	0.99
1723	4555.079002	0.811991653	0.99
1724	5866.245206	0.66730904	0.99
1725	5866.245206	0.66730904	0.99
1726	5803.1673	0.681894599	0.99
1727	5753.673336	0.693676577	0.99
1728	5729.241602	0.69960541	0.99
1729	5657.17567	0.717543282	0.99
1730	5586.900196	0.735708216	0.99
1731	5575.357014	0.738757781	0.99
1732	5495.871272	0.760281336	0.99
1733	5462.495536	0.769600325	0.99
1734	7446.45726	0.665128047	0.99
1735	7302.949518	0.691525288	0.99
1736	7271.806876	0.6974611	0.99
1737	7240.928715	0.703422279	0.99
1738	7119.994624	0.727520662	0.99
1739	6974.391462	0.758214392	0.99
1740	6974.391462	0.758214392	0.99
1741	6807.340169	0.795883969	0.99
1742	6661.08872	0.831216637	0.99
1743	6648.104142	0.834466748	0.99
1744	6558.610432	0.857395091	0.99
1745	6558.610432	0.857395091	0.99
1746	21.80794639	2.026711021	0.85
1747	21.05713858	2.173815396	0.85
1748	20.37969713	2.320736967	0.85
1749	20.37189479	2.322514969	0.85
1750	19.72984397	2.476133577	0.85
1751	28.32939863	1.824485258	0.85
1752	27.9069321	1.880142983	0.85
1753	27.85945114	1.886557113	0.85
1754	27.60116714	1.922030059	0.85
1755	26.43162616	2.095884294	0.85
1756	15.93354347	3.445007663	0.85
1757	15.51927134	3.63138486	0.85
1758	15.49860653	3.641075009	0.85
1759	15.12599546	3.822671689	0.85
1760	15.03319794	3.870010825	0.85
1761	14.76151364	4.013776141	0.85
1762	14.70092012	4.046931896	0.85
1763	14.69164217	4.052044885	0.85
1764	14.54931688	4.131708996	0.85
1765	14.48594089	4.167940533	0.85
1766	27.10313335	2.193283867	0.85
1767	26.73594442	2.253942272	0.85
1768	26.3126253	2.327048771	0.85
1769	25.46383093	2.484770966	0.85
1770	25.29046885	2.518953131	0.85
1771	35.64074061	1.917947865	0.85
1772	35.2840089	1.956925948	0.85
1773	35.06069239	1.981934333	0.85
1774	35.04484933	1.983726722	0.85
1775	35.04484933	1.983726722	0.85
1776	51.97641952	1.447302586	0.85
1777	51.7904204	1.457716882	0.85
1778	51.54448251	1.471660687	0.85
1779	50.58365333	1.528099633	0.85
1780	50.23251343	1.549538025	0.85
1781	41.65427161	2.253476156	0.85
1782	41.46861105	2.273699559	0.85
1783	41.2976878	2.292559324	0.85
1784	40.89573228	2.33784696	0.85
1785	40.05316953	2.437239895	0.85
1786	22.5331675	2.889441607	0.85
1787	22.07459146	3.010738683	0.85
1788	21.80485857	3.08568695	0.85
1789	21.55002969	3.159094858	0.85
1790	21.52487401	3.166483111	0.85
1791	28.93762232	1.82249723	0.90
1792	28.90724162	1.826330031	0.90
1793	28.86178998	1.832086781	0.90
1794	28.60690664	1.86487947	0.90
1795	28.28366476	1.907748863	0.90
1796	29.38957238	2.084350274	0.85
1797	29.34734598	2.09035272	0.85
1798	29.0413547	2.13463436	0.85
1799	28.79570414	2.171210009	0.85
1800	28.29051635	2.249445574	0.85
1801	38.51536955	1.615575755	0.85
1802	37.81471542	1.675999144	0.85
1803	36.90637239	1.75951408	0.85
1804	35.60488822	1.890497955	0.85
1805	35.21460046	1.93263542	0.85
1806	39.57475638	1.725602766	0.85
1807	38.71709912	1.802900286	0.85
1808	37.9149763	1.879990916	0.85
1809	37.81942445	1.889502618	0.85
1810	37.68645811	1.902859323	0.85
1811	51.08799659	1.515944373	0.85
1812	50.65988489	1.541674229	0.85
1813	50.46254533	1.553755593	0.85
1814	49.68832545	1.602552582	0.85
1815	49.09647751	1.641422346	0.85
1816	52.68600333	1.479042035	0.85
1817	52.12108569	1.511277164	0.85
1818	51.56815401	1.543859792	0.85
1819	50.94239594	1.582021178	0.85
1820	50.49675442	1.610067545	0.85
1821	69.27220837	1.377792242	0.85
1822	68.56909239	1.406193218	0.85
1823	68.23784074	1.419878716	0.85
1824	67.76169357	1.439903201	0.85
1825	67.49676949	1.451228593	0.85
1826	30.56101461	2.65800254	0.91
1827	30.25245916	2.712498845	0.91
1828	29.86864908	2.782657582	0.91
1829	29.54733685	2.843506609	0.91
1830	29.36307729	2.879305801	0.91
1831	38.33028464	1.757684784	0.91
1832	37.80037287	1.807311093	0.91
1833	37.39113807	1.847088541	0.91
1834	36.45635961	1.943025422	0.91
1835	35.91759568	2.001753365	0.91
1836	40.2981682	1.875940865	0.91
1837	40.01111276	1.902954897	0.91
1838	38.73754949	2.030137561	0.91
1839	37.93261339	2.117211406	0.91
1840	37.69761527	2.143690083	0.91
1841	51.44766048	1.532133896	0.91
1842	49.92283356	1.627157256	0.91
1843	47.3677279	1.80743578	0.91

1844	45.74677904	1.93779102	0.91
1845	43.68247936	2.12526662	0.91
1846	58.70848211	1.326808182	0.91
1847	58.55469433	1.33378678	0.91
1848	57.98509614	1.360119546	0.91
1849	57.76034771	1.370724727	0.91
1850	57.42647286	1.38670972	0.91
1851	69.37441736	1.417099414	0.91
1852	68.03280354	1.473541188	0.91
1853	67.73700875	1.486438643	0.91
1854	67.65296779	1.490133952	0.91
1855	67.48550995	1.497538333	0.91
1856	75.95440357	1.204197241	0.91
1857	75.53735811	1.217530812	0.91
1858	72.74152728	1.312921357	0.91
1859	72.74152728	1.312921357	0.91
1860	72.31138684	1.3285875	0.91
1861	88.23325044	1.158670847	0.91
1862	86.66883111	1.20087764	0.91
1863	85.69638981	1.228286233	0.91
1864	85.39696147	1.236914842	0.91
1865	82.23623948	1.333822847	0.91
1866	97.80968602	1.169420191	0.91
1867	96.83772784	1.19301289	0.91
1868	96.38403729	1.204270616	0.91
1869	96.28379388	1.206779512	0.91
1870	95.78568838	1.219363155	0.91
1871	56.04865038	1.209378922	0.91
1872	53.03275515	1.350841312	0.91
1873	52.84810071	1.360297646	0.91
1874	50.69463769	1.478320731	0.91
1875	49.7638509	1.534139154	0.91
1876	47.79628235	1.678846074	0.91
1877	47.73480803	1.683172995	0.91
1878	46.42127986	1.779774153	0.91
1879	46.27657512	1.7909221	0.91
1880	46.13276973	1.802104852	0.91
1881	77.74492493	1.164860323	0.91
1882	77.74492493	1.164860323	0.91
1883	75.63755334	1.230673943	0.91
1884	75.63755334	1.230673943	0.91
1885	72.55464533	1.337480636	0.91
1886	72.55464533	1.337480636	0.91
1887	71.54903694	1.375340921	0.91
1888	71.54903694	1.375340921	0.91
1889	68.73852218	1.490107389	0.91
1890	68.73852218	1.490107389	0.91
1891	98.1343258	1.110630925	0.91
1892	98.1343258	1.110630925	0.91
1893	94.76804766	1.190934238	0.91
1894	94.76804766	1.190934238	0.91
1895	94.27592872	1.203400007	0.91
1896	94.27592872	1.203400007	0.91
1897	92.89762567	1.239374111	0.91
1898	92.89762567	1.239374111	0.91
1899	91.757366	1.270368663	0.91
1900	91.757366	1.270368663	0.91
1901	108.8795754	1.177618791	0.91
1902	104.8350147	1.270237248	0.91
1903	104.4470243	1.279691903	0.91
1904	101.0801789	1.366361324	0.91
1905	100.6475961	1.378131791	0.91
1906	121.1688745	1.159118286	0.91
1907	120.618732	1.169715884	0.91
1908	119.5332991	1.191055757	0.91
1909	118.3353039	1.215293693	0.91
1910	117.8105354	1.226144475	0.91
1911	63.29102596	1.353582354	0.94
1912	62.36706938	1.39398558	0.94
1913	61.96003266	1.412360878	0.94
1914	61.55827453	1.430856495	0.94
1915	59.04829651	1.555085275	0.94
1916	62.04260986	1.454856507	0.94
1917	61.54005558	1.478715106	0.94
1918	61.04557741	1.502767748	0.94
1919	60.91209583	1.509361237	0.94
1920	60.51513069	1.529228301	0.94
1921	77.1164261	1.125590222	0.94
1922	75.7624266	1.166182038	0.94
1923	75.7624266	1.166182038	0.94
1924	75.04373164	1.188626085	0.94
1925	74.80718718	1.196154973	0.94
1926	101.7589626	0.808982775	0.94
1927	94.43987247	0.939234058	0.94
1928	91.8816818	0.992262879	0.94
1929	90.45241119	1.023868825	0.94
1930	90.45241119	1.042210572	0.94
1931	87.346749	1.097971647	0.94
1932	86.60337242	1.136910199	0.94
1933	86.41950114	1.121659674	0.94
1934	84.79913549	1.164935196	0.94
1935	84.79913549	1.185804028	0.94
1936	84.62283791	1.169794149	0.94
1937	83.06854089	1.235727201	0.94
1938	83.06854089	1.235727201	0.94
1939	81.40717007	1.264035586	0.94
1940	81.40717007	1.264035586	0.94
1941	81.40717007	1.286679718	0.94
1942	78.27612507	1.391672783	0.94
1943	76.79921705	1.445713331	0.94
1944	68.98912718	1.79157284	0.94
1945	68.98912718	1.79157284	0.94
1946	97.18876569	0.933253995	0.94
1947	96.57278055	0.945197401	0.94
1948	96.50481941	0.946529134	0.94
1949	96.36918369	0.949195412	0.94
1950	95.9645545	0.957216746	0.94
1951	95.29767087	0.970660637	0.94
1952	94.57472303	0.985557199	0.94
1953	94.31454497	0.991002256	0.94
1954	93.92695095	0.999197967	0.94
1955	93.60638115	1.006053507	0.94
1956	94.71481701	0.993290951	0.94
1957	91.77730802	1.057892889	0.94
1958	91.01440438	1.075702221	0.94
1959	90.33855484	1.091857723	0.94
1960	86.69067971	1.185680048	0.94
1961	97.76431222	1.051316529	0.94
1962	97.76431222	1.051316529	0.94
1963	94.27556142	1.130566041	0.94
1964	94.27556142	1.130566041	0.94
1965	91.96342344	1.188129916	0.94
1966	91.96342344	1.188129916	0.94
1967	91.96342344	1.188129916	0.94

1968	91.96342344	1.188129916	0.94
1969	90.31994346	1.231762213	0.94
1970	90.31994346	1.231762213	0.94
1971	131.3927501	0.876088382	0.94
1972	131.2716508	0.877705526	0.94
1973	130.1917195	0.892326931	0.94
1974	127.2830573	0.93357568	0.94
1975	126.6042144	0.943614056	0.94
1976	128.3240106	0.926983578	0.94
1977	128.3240106	0.926983578	0.94
1978	122.6060598	1.015462799	0.94
1979	122.6060598	1.015462799	0.94
1980	122.5010889	1.017203841	0.94
1981	122.5010889	1.017203841	0.94
1982	122.5010889	1.017203841	0.94
1983	122.5010889	1.017203841	0.94
1984	120.5402459	1.050566973	0.94
1985	120.5402459	1.050566973	0.94
1986	135.3241799	1.113065503	0.94
1987	132.6131779	1.159039309	0.94
1988	132.392156	1.162912454	0.94
1989	131.0813425	1.186286994	0.94
1990	130.4356216	1.198061483	0.94
1991	152.7016559	1.041594439	0.94
1992	149.1792362	1.091363406	0.94
1993	147.7970938	1.111870883	0.94
1994	146.9800337	1.124266994	0.94
1995	145.4610911	1.147869362	0.94
1996	89.1578172	1.063200403	0.94
1997	68.45059156	1.803763422	0.94
1998	86.53591402	1.135008753	0.94
1999	82.41274878	1.25851303	0.94
2000	97.77067005	0.899249938	0.94
2001	82.18752941	1.27258192	0.94
2002	86.0738959	1.166815846	0.94
2003	85.908263	1.171319473	0.94
2004	83.70686376	1.233738446	0.94
2005	83.55020712	1.238369302	0.94
2006	95.32132133	0.956773933	0.94
2007	94.25104685	0.978626737	0.94
2008	90.32127892	1.065636986	0.94
2009	92.95443799	1.017483341	0.94
2010	91.38213694	1.052797747	0.94
2011	88.39188377	1.125233847	0.94
2012	87.70311584	1.142977077	0.94
2013	84.414249	1.233775222	0.94
2014	98.28816716	0.915164212	0.94
2015	91.63808819	1.052808691	0.94
2016	87.89169003	1.144473841	0.94
2017	97.0142153	0.944629008	0.94
2018	96.12165705	0.962253569	0.94
2019	93.28289932	1.021710736	0.94
2020	92.83656966	1.031558493	0.94
2021	92.0812891	1.048550248	0.94
2022	91.89438526	1.052819875	0.94
2023	90.18585751	1.09308806	0.94
2024	90.00656158	1.09744733	0.94
2025	88.36688446	1.138552187	0.94
2026	86.31129223	1.20011791	0.94
2027	85.33785661	1.227653181	0.94
2028	97.54941926	0.950066173	0.94
2029	90.04561778	1.115008217	0.94
2030	87.12429049	1.191035546	0.94
2031	93.49232911	1.040083577	0.94
2032	87.36655946	1.191049279	0.94
2033	109.4901276	0.917039789	0.94
2034	105.9557094	0.97924052	0.94
2035	111.6413991	0.886721813	0.94
2036	110.6620886	0.902485448	0.94
2037	110.098718	0.91174504	0.94
2038	108.9106023	0.931746164	0.94
2039	108.6760497	0.93577243	0.94
2040	108.1326694	0.945200808	0.94
2041	108.1326694	0.945200808	0.94
2042	108.1326694	0.945200808	0.94
2043	106.0867114	0.982010111	0.94
2044	106.012421	0.983386921	0.94
2045	105.5688544	0.991668037	0.94
2046	105.3484601	0.995821616	0.94
2047	104.8377681	1.005547057	0.94
2048	104.8377681	1.005547057	0.94
2049	104.6204127	1.009729571	0.94
2050	103.2644865	1.036420402	0.94
2051	101.3970108	1.074948427	0.94
2052	101.1260769	1.080716081	0.94
2053	100.9238248	1.085051948	0.94
2054	100.5217378	1.093749725	0.94
2055	100.3218934	1.098111633	0.94
2056	93.16045366	1.273429023	0.94
2057	90.86778943	1.338498865	0.94
2058	114.2959934	0.85049667	0.94
2059	110.3891486	0.91176279	0.94
2060	108.6507368	0.94117261	0.94
2061	108.4179138	0.945219209	0.94
2062	107.6489924	0.958770566	0.94
2063	107.1928526	0.966947677	0.94
2064	105.7735744	0.993070932	0.94
2065	105.406305	1.000003343	0.94
2066	103.536889	1.036440579	0.94
2067	102.9051385	1.049205379	0.94
2068	101.800858	1.072091258	0.94
2069	101.6644871	1.074969354	0.94
2070	100.5865336	1.098133011	0.94
2071	98.94724855	1.134820538	0.94
2072	85.94851601	1.504034735	0.94
2073	130.7766016	0.855490533	0.94
2074	119.0585887	1.032176203	0.94
2075	135.2629214	0.803621488	0.94
2076	129.5391007	0.876208196	0.94
2077	133.5230084	0.82875815	0.94
2078	132.3109993	0.844011047	0.94
2079	132.0114272	0.847846004	0.94
2080	131.7132086	0.851689653	0.94
2081	131.3176735	0.85682804	0.94
2082	129.5667711	0.880142024	0.94
2083	128.9934668	0.887982895	0.94
2084	128.6140743	0.893229459	0.94
2085	125.838231	0.933071279	0.94
2086	123.0064283	0.976527356	0.94
2087	122.232803	0.988927579	0.94
2088	113.5075542	1.146807431	0.94
2089	104.3024097	1.358161284	0.94
2090	141.6329348	0.740183993	0.94
2091	133.2382776	0.836392593	0.94

2092	132.0343172	0.851715497	0.94
2093	131.3420024	0.86071809	0.94
2094	126.9671059	0.921055408	0.94
2095	119.8506994	1.033682233	0.94
2096	139.1674305	0.770403694	0.94
2097	133.2588816	0.840235926	0.94
2098	130.488838	0.876287965	0.94
2099	129.6227616	0.888036946	0.94
2100	128.3918662	0.905145823	0.94
2101	168.2863563	0.529441953	0.94
2102	140.2832922	0.761911042	0.94
2103	133.5828772	0.840261722	0.94
2104	132.5777389	0.85305091	0.94
2105	131.1956925	0.871118053	0.94
2106	129.8421629	0.889374522	0.94
2107	123.646186	0.980741872	0.94
2108	97.02412721	1.59278324	0.94
2109	140.2888192	0.765578731	0.94
2110	133.9072202	0.840287669	0.94
2111	133.9072202	0.840287669	0.94
2112	127.618225	0.925146648	0.94
2113	143.5295026	0.816872828	0.94
2114	142.8701022	0.824430594	0.94
2115	138.2135951	0.880917591	0.94
2116	136.0965379	0.908537077	0.94
2117	142.2258447	0.835861773	0.94
2118	139.8855541	0.864063724	0.94
2119	142.1274162	0.840984197	0.94
2120	140.4240165	0.861510897	0.94
2121	134.8676705	0.93395907	0.94
2122	144.8770866	0.813192856	0.94
2123	134.2182724	0.947479176	0.94
2124	154.889427	0.714819158	0.94
2125	139.9298241	0.875828662	0.94
2126	138.7955367	0.890202335	0.94
2127	136.6803652	0.917967845	0.94
2128	136.3834492	0.921969153	0.94
2129	138.3047233	0.900761552	0.94
2130	133.0415414	0.973440315	0.94
2131	151.3814342	0.755405496	0.94
2132	146.0083277	0.812026341	0.94
2133	145.8957538	0.813279952	0.94
2134	136.6258431	0.927384133	0.94
2135	150.6497848	0.766350109	0.94
2136	146.9156306	0.805801827	0.94
2137	134.8031834	0.957114638	0.94
2138	144.9007665	0.832260254	0.94
2139	142.0850565	0.865573021	0.94
2140	140.9264682	0.879863666	0.94
2141	143.812809	0.848865796	0.94
2142	142.8425576	0.860436722	0.94
2143	139.8033543	0.898253648	0.94
2144	140.9702659	0.891740765	0.94
2145	140.4531336	0.898319428	0.94
2146	139.2273608	0.914206862	0.94
2147	136.1576253	0.955893969	0.94
2148	134.0599588	0.986042185	0.94
2149	133.4990385	0.994345661	0.94
2150	132.2996691	1.012455963	0.94
2151	150.1417081	0.789799395	0.94
2152	137.5491777	0.941030077	0.94
2153	76.02576129	1.354078186	0.95
2154	74.39144955	1.414227425	0.95
2155	74.39144955	1.414227425	0.95
2156	74.27318015	1.41873492	0.95
2157	71.21620475	1.543148234	0.95
2158	119.8042904	0.983437275	0.95
2159	113.4843393	1.096022678	0.95
2160	111.1891504	1.141738337	0.95
2161	109.4671945	1.17794071	0.95
2162	109.4671945	1.17794071	0.95
2163	109.4671945	1.17794071	0.95
2164	108.7454328	1.193628982	0.95
2165	107.5634172	1.220006727	0.95
2166	106.866462	1.235971749	0.95
2167	105.2748339	1.27362706	0.95
2168	101.8089957	1.361818095	0.95
2169	173.2904549	0.948609057	0.95
2170	161.1821382	1.096485076	0.95
2171	156.6337886	1.161089359	0.95
2172	156.0832305	1.169294912	0.95
2173	153.6528687	1.206577449	0.95
2174	96.2693043	0.963330339	0.95
2175	94.9990213	0.989264996	0.95
2176	91.96529343	1.055608754	0.95
2177	90.07503271	1.100378377	0.95
2178	87.11664788	1.176382601	0.95
2179	110.9911759	0.900096865	0.95
2180	110.2287243	0.912591862	0.95
2181	109.9051566	0.917973228	0.95
2182	107.5891475	0.957919957	0.95
2183	104.1957978	1.021329193	0.95
2184	134.9486497	0.810526642	0.95
2185	129.9405253	0.874208742	0.95
2186	129.5507037	0.879477693	0.95
2187	128.0145294	0.900711802	0.95
2188	127.8881577	0.902492745	0.95
2189	143.5841795	0.799097281	0.95
2190	143.5841795	0.799097281	0.95
2191	140.0570348	0.839852422	0.95
2192	140.0570348	0.839852422	0.95
2193	139.9138272	0.84157255	0.95
2194	139.9138272	0.84157255	0.95
2195	138.6380173	0.857132884	0.95
2196	138.6380173	0.857132884	0.95
2197	136.4264437	0.885147644	0.95
2198	136.4264437	0.885147644	0.95
2199	181.8432266	0.764690484	0.95
2200	181.0652876	0.771275517	0.95
2201	178.5823248	0.792871849	0.95
2202	176.3500458	0.813071596	0.95
2203	175.6183028	0.819861309	0.95
2204	186.6689229	0.72900527	0.95
2205	183.440055	0.754894684	0.95
2206	182.257842	0.764719674	0.95
2207	180.8977089	0.776262449	0.95
2208	177.863785	0.802970612	0.95
2209	231.3916881	0.754447361	0.95
2210	230.4518356	0.76061364	0.95
2211	228.9638496	0.770531888	0.95
2212	227.1306722	0.783020046	0.95
2213	227.1306722	0.783020046	0.95
2214	129.3126745	0.681374039	0.96
2215	117.4801422	0.825541373	0.96

2216	117.2884943	0.828241425	0.96
2217	116.3395583	0.841807807	0.96
2218	115.5913939	0.852740262	0.96
2219	112.8694616	0.894365141	0.96
2220	112.165128	0.905632623	0.96
2221	112.165128	0.905632623	0.96
2222	111.1249568	0.922666092	0.96
2223	111.1249568	0.922666092	0.96
2224	105.4220631	1.025190914	0.96
2225	137.2061888	0.878772905	0.96
2226	130.169974	0.976343015	0.96
2227	130.169974	0.976343015	0.96
2228	130.169974	0.976343015	0.96
2229	126.9157247	1.008978792	0.96
2230	126.9157247	1.008978792	0.96
2231	126.9157247	1.027053797	0.96
2232	123.8202192	1.079048395	0.96
2233	123.8202192	1.079048395	0.96
2234	119.4500938	1.139042465	0.96
2235	118.0611392	1.186889044	0.96
2236	117.7872155	1.171430684	0.96
2237	117.7872155	1.171430684	0.96
2238	116.9730181	1.187795059	0.96
2239	112.8139775	1.299864961	0.96
2240	112.8139775	1.299864961	0.96
2241	102.3513909	1.551405791	0.96
2242	100.9270176	1.59550447	0.96
2243	97.44009572	1.711738827	0.96
2244	81.74925905	2.43189744	0.96
2245	142.6469527	0.863139135	0.96
2246	142.062334	0.870257778	0.96
2247	140.9073557	0.884582769	0.96
2248	140.5645154	0.888903069	0.96
2249	140.4506058	0.890345508	0.96
2250	139.8838156	0.897575243	0.96
2251	139.0979515	0.907745986	0.96
2252	138.2105642	0.919439855	0.96
2253	137.9904837	0.922375017	0.96
2254	136.7924605	0.938602015	0.96
2255	146.7262549	0.833257158	0.96
2256	145.5136412	0.847202643	0.96
2257	143.9276615	0.865976647	0.96
2258	143.5365537	0.870702295	0.96
2259	140.8572047	0.904141882	0.96
2260	139.3705851	0.923533113	0.96
2261	138.2760517	0.938211555	0.96
2262	135.4396199	0.977919859	0.96
2263	132.7172155	1.018451134	0.96
2264	132.0536294	1.028712541	0.96
2265	164.4899263	0.739222091	0.96
2266	160.2358765	0.778993849	0.96
2267	159.7767479	0.783477257	0.96
2268	159.3202429	0.787973531	0.96
2269	157.0762958	0.810647871	0.96
2270	151.5274049	0.871106347	0.96
2271	151.1167615	0.875847053	0.96
2272	149.096484	0.899743556	0.96
2273	148.3034176	0.909392211	0.96
2274	141.5281345	0.998545788	0.96
2275	163.0350292	0.729841778	0.96
2276	159.7021155	0.760622614	0.96
2277	158.6212213	0.77102417	0.96
2278	158.6212213	0.77102417	0.96
2279	157.820104	0.778871693	0.96
2280	156.241903	0.794685944	0.96
2281	152.1836718	0.837634304	0.96
2282	152.1836718	0.837634304	0.96
2283	149.2757035	0.870587281	0.96
2284	147.6301446	0.890103443	0.96
2285	171.2783425	0.878583954	0.96
2286	168.9885251	0.902555131	0.96
2287	166.3202852	0.93174641	0.96
2288	165.883749	0.936656791	0.96
2289	163.311908	0.966390084	0.96
2290	160.4104274	1.001666106	0.96
2291	160.004325	1.006757158	0.96
2292	158.004271	1.032405995	0.96
2293	153.0307709	1.100602863	0.96
2294	150.480258	1.138227609	0.96
2295	150.480258	1.138227609	0.96
2296	146.9807172	1.193074178	0.96
2297	146.3002509	1.204198352	0.96
2298	145.962375	1.209779797	0.96
2299	145.2912836	1.220981402	0.96
2300	143.6402463	1.249211254	0.96
2301	137.3950182	1.365356928	0.96
2302	137.3950182	1.365356928	0.96
2303	135.6259836	1.401207226	0.96
2304	122.2470181	1.724692287	0.96
2305	213.7300905	0.677332993	0.96
2306	212.5768706	0.684701929	0.96
2307	211.0584644	0.694589194	0.96
2308	205.5525914	0.732297679	0.96
2309	205.5525914	0.732297679	0.96
2310	203.4298452	0.747660149	0.96
2311	198.9776768	0.781492579	0.96
2312	197.977789	0.789406377	0.96
2313	197.977789	0.789406377	0.96
2314	196.9879001	0.797360044	0.96
2315	180.9996019	0.944448608	0.96
2316	286.9326982	0.607054664	0.96
2317	282.0694321	0.62816804	0.96
2318	279.9605018	0.637667611	0.96
2319	278.9178183	0.64244413	0.96
2320	278.9178183	0.64244413	0.96
2321	278.9178183	0.64244413	0.96
2322	268.9028159	0.691189583	0.96
2323	268.9028159	0.691189583	0.96
2324	266.5104421	0.703654429	0.96
2325	266.0370665	0.706160765	0.96
2326	256.4706652	0.759823092	0.96
2327	144.2659555	0.737327443	0.96
2328	139.9243318	0.783793448	0.96
2329	139.3253406	0.790547346	0.96
2330	129.5636925	0.91415845	0.96
2331	118.6093279	1.090813294	0.96
2332	139.9524111	0.787851353	0.96
2333	133.8675236	0.861101995	0.96
2334	122.5108944	1.028147997	0.96
2335	118.4212709	1.100387426	0.96
2336	118.1640198	1.105183879	0.96
2337	136.364691	0.834477744	0.96
2338	134.5704188	0.856878836	0.96
2339	132.2858765	0.886730538	0.96

2340	132.179022	0.888164797	0.96
2341	128.3432386	0.942047141	0.96
2342	124.7238028	0.997516151	0.96
2343	136.4017881	0.83866535	0.96
2344	132.2251016	0.89248517	0.96
2345	131.5888942	0.901136026	0.96
2346	129.4095829	0.931742601	0.96
2347	127.1040674	0.965850547	0.96
2348	121.2796386	1.060847699	0.96
2349	149.9960585	0.697390419	0.96
2350	141.6055733	0.78248312	0.96
2351	137.925965	0.824790422	0.96
2352	135.317168	0.856899464	0.96
2353	134.323001	0.869630772	0.96
2354	127.258837	0.9688572	0.96
2355	125.9920951	0.988437185	0.96
2356	125.7033432	0.99298346	0.96
2357	121.7954672	1.057726583	0.96
2358	121.6154296	1.060860586	0.96
2359	111.8597391	1.253972657	0.96
2360	148.1154436	0.719181448	0.96
2361	141.9970776	0.7824928	0.96
2362	138.1914608	0.826183938	0.96
2363	137.5005035	0.834508157	0.96
2364	126.340432	0.988449413	0.96
2365	116.6082008	1.160328538	0.96
2366	140.0983356	0.80830145	0.96
2367	157.1094453	0.705232036	0.96
2368	156.6832895	0.709073511	0.96
2369	148.3661971	0.790800059	0.96
2370	147.9860958	0.794867605	0.96
2371	144.7716944	0.830556743	0.96
2372	143.216296	0.848695204	0.96
2373	132.0821023	0.997811897	0.96
2374	131.6806369	1.00390539	0.96
2375	158.8281426	0.69378165	0.96
2376	156.1167906	0.718089363	0.96
2377	156.1167906	0.718089363	0.96
2378	155.8367605	0.720672416	0.96
2379	155.6971218	0.721965682	0.96
2380	155.2797033	0.725852435	0.96
2381	155.2797033	0.725852435	0.96
2382	153.2257389	0.745442714	0.96
2383	153.0907383	0.746758007	0.96
2384	152.2857037	0.754674114	0.96
2385	150.8315868	0.769295378	0.96
2386	148.638142	0.792167804	0.96
2387	147.8791387	0.80032042	0.96
2388	146.2609326	0.818127604	0.96
2389	144.0779336	0.843107166	0.96
2390	143.1284909	0.854329767	0.96
2391	142.1914795	0.865626567	0.96
2392	141.8432555	0.869881996	0.96
2393	141.4967329	0.87414786	0.96
2394	141.0373279	0.879851909	0.96
2395	140.4672498	0.887008056	0.96
2396	132.3366245	0.999350001	0.96
2397	127.5756152	1.07533153	0.96
2398	117.2456059	1.273164651	0.96
2399	164.3630649	0.651339092	0.96
2400	156.6770223	0.71681154	0.96
2401	152.8288147	0.753364439	0.96
2402	152.8288147	0.753364439	0.96
2403	151.8961193	0.762644688	0.96
2404	150.1938352	0.780030155	0.96
2405	145.187374	0.834752841	0.96
2406	141.7614717	0.875586747	0.96
2407	174.9534916	0.734412654	0.96
2408	174.3336387	0.739644429	0.96
2409	173.8716238	0.743580446	0.96
2410	172.651472	0.754127554	0.96
2411	172.1983186	0.758101869	0.96
2412	166.9403546	0.806608356	0.96
2413	162.6633703	0.849583066	0.96
2414	161.0660214	0.86651786	0.96
2415	157.8369512	0.902335437	0.96
2416	152.9313738	0.96115228	0.96
2417	146.5544885	1.046615427	0.96
2418	177.4435081	0.717556428	0.96
2419	170.9854255	0.772783966	0.96
2420	170.2477835	0.779495041	0.96
2421	169.5164786	0.786235131	0.96
2422	166.9350093	0.810739696	0.96
2423	166.6530245	0.813485637	0.96
2424	166.0919032	0.818991447	0.96
2425	163.6129196	0.843997384	0.96
2426	163.2069322	0.848201598	0.96
2427	163.0720504	0.849605324	0.96
2428	160.2901552	0.879351666	0.96
2429	185.5649571	0.659435546	0.96
2430	185.0441948	0.663152413	0.96
2431	181.8127245	0.686935142	0.96
2432	178.8537471	0.709852634	0.96
2433	174.9003044	0.742306313	0.96
2434	174.2839157	0.747566217	0.96
2435	169.6502953	0.788960108	0.96
2436	169.2149224	0.79302516	0.96
2437	164.8435369	0.835642339	0.96
2438	163.0768708	0.853845995	0.96
2439	162.674543	0.858074694	0.96
2440	154.0593803	0.956726914	0.96
2441	177.6952214	0.722766264	0.96
2442	174.8746624	0.74626933	0.96
2443	174.2599887	0.751543301	0.96
2444	174.2599887	0.751543301	0.96
2445	171.8439057	0.772824892	0.96
2446	165.2565559	0.835664544	0.96
2447	178.48132	0.859050742	0.96
2448	210.3962103	0.621165357	0.96
2449	196.1674314	0.714544435	0.96
2450	195.6382027	0.718415549	0.96
2451	192.8631928	0.739238111	0.96
2452	192.3516193	0.743175457	0.96
2453	190.1658055	0.760358137	0.96
2454	186.2582889	0.792595924	0.96
2455	165.815306	1.000077874	0.96
2456	199.8777371	0.691560542	0.96
2457	199.3296263	0.695369037	0.96
2458	198.2423738	0.703017402	0.96
2459	196.4564065	0.715857637	0.96
2460	182.1776201	0.832470794	0.96
2461	197.6347864	0.71073154	0.96
2462	194.8164651	0.731443944	0.96
2463	187.6258144	0.788582591	0.96

2464	180.3498959	0.8534942	0.96
2465	178.4359786	0.871901675	0.96
2466	185.0524227	0.814541926	0.96
2467	181.6766737	0.845093291	0.96
2468	177.5543505	0.88479031	0.96
2469	138.0605347	1.463402835	0.96
2470	203.7296796	0.675246494	0.96
2471	203.5408662	0.676499851	0.96
2472	181.2051111	0.85355214	0.96
2473	180.1645567	0.863440126	0.96
2474	195.6796902	0.735435707	0.96
2475	176.5354062	0.903592409	0.96
2476	171.849845	0.953537828	0.96
2477	166.1431332	1.020167358	0.96
2478	135.4705548	1.534427586	0.96
2479	205.1756537	0.675316111	0.96
2480	183.8564877	0.841009388	0.96
2481	182.4912167	0.853640141	0.96
2482	181.8909167	0.859284027	0.96
2483	211.1428568	0.64071259	0.96
2484	168.4650453	1.006459813	0.96
2485	161.9430238	1.089159681	0.96
2486	202.5717161	0.699379759	0.96
2487	211.5019741	0.663056208	0.96
2488	198.4921866	0.752822108	0.96
2489	209.8326971	0.676809509	0.96
2490	195.8559517	0.776853685	0.96
2491	194.1762265	0.790352194	0.96
2492	191.0628524	0.816319673	0.96
2493	188.0160511	0.846942441	0.96
2494	213.9809861	0.656934016	0.96
2495	211.5923612	0.671849734	0.96
2496	210.4179355	0.679370381	0.96
2497	206.2210229	0.707304215	0.96
2498	201.1156395	0.743670289	0.96
2499	226.6289495	0.588392487	0.96
2500	194.5296273	0.798594621	0.96
2501	208.3100982	0.699681547	0.96
2502	207.7419797	0.703513662	0.96
2503	207.1769517	0.707356242	0.96
2504	207.1769517	0.707356242	0.96
2505	198.1926953	0.772939995	0.96
2506	211.6859068	0.680703158	0.96
2507	194.9311925	0.802747528	0.96
2508	202.8026881	0.745096026	0.96
2509	213.3498411	0.679521642	0.96
2510	202.1307434	0.757047612	0.96
2511	200.027041	0.773055224	0.96
2512	192.1926486	0.837364215	0.96
2513	185.5439889	0.898450516	0.96
2514	214.4352695	0.675780706	0.96
2515	196.7329536	0.802867725	0.96
2516	192.6343504	0.837395762	0.96
2517	186.7215028	0.891270549	0.96
2518	195.1910515	0.819381466	0.96
2519	193.5603827	0.833245543	0.96
2520	169.6133076	1.085140811	0.96
2521	232.9216154	0.578084756	0.96
2522	214.6237066	0.68085671	0.96
2523	190.0350659	0.868447586	0.96
2524	175.9264019	1.013325713	0.96
2525	225.1010028	0.621811644	0.96
2526	222.1776539	0.64122879	0.96
2527	235.8795893	0.654328765	0.96
2528	221.0719404	0.744919755	0.96
2529	239.3319153	0.638405259	0.96
2530	232.4494576	0.676769245	0.96
2531	249.4333849	0.592957059	0.96
2532	239.6936051	0.642124897	0.96
2533	237.6565489	0.653179929	0.96
2534	228.7984412	0.704735715	0.96
2535	228.1761426	0.70858497	0.96
2536	243.9341423	0.622731732	0.96
2537	241.5976084	0.634835078	0.96
2538	234.6306076	0.673095748	0.96
2539	233.9776467	0.676857804	0.96
2540	192.9823284	0.994972537	0.96
2541	249.8547086	0.596186986	0.96
2542	229.1731719	0.708647103	0.96
2543	254.0908736	0.579013175	0.96
2544	227.6088059	0.721586597	0.96
2545	239.5091316	0.654529256	0.96
2546	223.8797879	0.749106287	0.96
2547	255.9670458	0.57558487	0.96
2548	255.196834	0.579064468	0.96
2549	242.31547	0.642266394	0.96
2550	233.2092058	0.693403616	0.96
2551	232.7824735	0.695948214	0.96
2552	250.2289423	0.604928856	0.96
2553	244.2368699	0.634975445	0.96
2554	231.5924543	0.706204648	0.96
2555	250.7711725	0.604955876	0.96
2556	250.0350536	0.608523176	0.96
2557	248.5757051	0.615689236	0.96
2558	247.8524004	0.619287996	0.96
2559	245.4714936	0.631359603	0.96
2560	245.2359163	0.632573172	0.96
2561	244.5318898	0.636220872	0.96
2562	244.0647801	0.638658497	0.96
2563	241.9846826	0.649685491	0.96
2564	241.2991736	0.653382129	0.96
2565	235.5168892	0.685858946	0.96
2566	248.3887883	0.61931575	0.96
2567	329.8204589	0.548883149	0.96
2568	325.2150175	0.564538933	0.96
2569	318.7107171	0.587816465	0.96
2570	310.5386474	0.619161248	0.96
2571	308.6393285	0.626805142	0.96
2572	304.602798	0.643527788	0.96
2573	299.7774072	0.664411718	0.96
2574	288.3573155	0.718080501	0.96
2575	284.0292507	0.740131597	0.96
2576	120.511627	1.045528046	0.96
2577	117.3562369	1.102506697	0.96
2578	117.0027543	1.109178432	0.96
2579	114.1378484	1.165558896	0.96
2580	113.914705	1.170129711	0.96
2581	153.9232645	0.766053107	0.96
2582	145.6259708	0.855834406	0.96
2583	145.4659423	0.857718466	0.96
2584	143.1070351	0.886227947	0.96
2585	137.4600285	0.960537998	0.96
2586	173.8917637	0.799001532	0.96
2587	169.6410762	0.839544265	0.96

2588	167.9614615	0.856419104	0.96
2589	165.0561822	0.886833409	0.96
2590	162.2497009	0.917778389	0.96
2591	176.8149054	0.801903284	0.96
2592	173.1852739	0.835868225	0.96
2593	172.6788842	0.840777866	0.96
2594	168.2512205	0.885611589	0.96
2595	164.5018897	0.926441403	0.96
2596	163.5905219	0.936792623	0.96
2597	163.1386144	0.941989798	0.96
2598	163.1386144	0.941989798	0.96
2599	161.3556787	0.962922266	0.96
2600	157.4831424	1.010861355	0.96
2601	175.0714119	0.870759354	0.96
2602	171.1372229	0.911254439	0.96
2603	165.1079983	0.979021869	0.96
2604	165.1079983	0.979021869	0.96
2605	165.1079983	0.979021869	0.96
2606	163.7764821	0.995005636	0.96
2607	162.4662703	1.011118825	0.96
2608	157.8364025	1.071307808	0.96
2609	157.0228128	1.082438204	0.96
2610	152.3121284	1.15042853	0.96
2611	214.1262367	0.78562161	0.96
2612	206.0106651	0.848738263	0.96
2613	196.2823837	0.934954644	0.96
2614	195.1979506	0.945371885	0.96
2615	190.9774544	0.987617984	0.96
2616	190.4626903	0.992963674	0.96
2617	185.9517319	1.041724156	0.96
2618	185.9517319	1.041724156	0.96
2619	182.1176756	1.086047931	0.96
2620	181.6495067	1.091653331	0.96
2621	181.1837388	1.097273158	0.96
2622	176.2136113	1.160043531	0.96
2623	175.7752689	1.165836499	0.96
2624	175.339102	1.171643895	0.96
2625	173.1903385	1.200897298	0.96
2626	172.7668903	1.206791264	0.96
2627	172.3455076	1.212699658	0.96
2628	166.654854	1.296932145	0.96
2629	163.1908963	1.352574932	0.96
2630	131.341372	2.088094228	0.96
2631	235.1218801	0.728237391	0.96
2632	232.3459429	0.745742473	0.96
2633	230.7116221	0.756345314	0.96
2634	229.9030533	0.7616748	0.96
2635	228.0382545	0.774183034	0.96
2636	246.6976052	0.908102711	0.96
2637	242.3790475	0.940751004	0.96
2638	234.4279888	1.005647819	0.96
2639	232.7042536	1.020601485	0.96
2640	232.216404	1.024894231	0.96
2641	165.4533696	0.625167461	0.96
2642	146.7285912	0.79491026	0.96
2643	144.582652	0.818681968	0.96
2644	141.47891	0.854996207	0.96
2645	136.7099579	0.915687527	0.96
2646	132.8072387	0.970295693	0.96
2647	126.5387371	1.068810242	0.96
2648	120.8353104	1.172087067	0.96
2649	144.6630115	0.827683296	0.96
2650	142.6925732	0.850700043	0.96
2651	139.6801744	0.887788789	0.96
2652	137.9935862	0.909622913	0.96
2653	133.7363372	0.968457005	0.96
2654	216.8967596	0.602298021	0.96
2655	196.001118	0.737565284	0.96
2656	194.3162947	0.750410882	0.96
2657	191.3914962	0.773521321	0.96
2658	187.510747	0.805870459	0.96
2659	186.4795238	0.814807956	0.96
2660	178.4641759	0.889642378	0.96
2661	176.4520039	0.910048157	0.96
2662	212.005132	0.711128977	0.96
2663	209.661095	0.727118885	0.96
2664	208.8912256	0.73248836	0.96
2665	208.6358573	0.734282575	0.96
2666	207.3683248	0.743286569	0.96
2667	252.8947089	0.660127597	0.96
2668	251.357355	0.668227246	0.96
2669	251.1029447	0.66958199	0.96
2670	247.1013042	0.691444458	0.96
2671	245.6333756	0.699733428	0.96
2672	243.4638954	0.712259487	0.96
2673	240.630174	0.729133756	0.96
2674	235.602763	0.760583004	0.96
2675	272.0995676	0.662601675	0.96
2676	269.6670044	0.674609746	0.96
2677	261.3233471	0.718375989	0.96
2678	261.0003269	0.720155248	0.96
2679	260.3566763	0.723720368	0.96
2680	339.5574542	0.679713983	0.96
2681	337.2915798	0.688877092	0.96
2682	330.363088	0.718074837	0.96
2683	324.9025411	0.742414638	0.96
2684	317.6111914	0.776892893	0.96
2685	159.7057738	0.798051256	0.97
2686	158.9102282	0.806061758	0.97
2687	155.8057549	0.838503791	0.97
2688	153.5558523	0.863255341	0.97
2689	151.0117317	0.892587179	0.97
2690	213.7396094	0.711861428	0.97
2691	210.9609945	0.730737098	0.97
2692	210.3300045	0.735128098	0.97
2693	209.9114373	0.738062738	0.97
2694	208.4594808	0.748380015	0.97
2695	207.8433444	0.752823627	0.97
2696	206.4197598	0.763243207	0.97
2697	206.4197598	0.763243207	0.97
2698	204.6178414	0.776745037	0.97
2699	204.6178414	0.776745037	0.97
2700	204.7027817	0.771092733	0.97
2701	204.7027817	0.771092733	0.97
2702	204.7027817	0.771092733	0.97
2703	198.3058198	0.821643037	0.97
2704	198.3058198	0.821643037	0.97
2705	192.2965525	0.873798113	0.97
2706	181.3081781	0.982922579	0.97
2707	181.3081781	0.982922579	0.97
2708	181.3081781	0.982922579	0.97
2709	180.7916306	0.97114997	0.97
2710	178.7545418	0.993410565	0.97
2711	176.2718398	1.021591027	0.97

2712	176.2718398	1.039891969	0.97
2713	174.3347866	1.044419172	0.97
2714	167.434993	1.132271271	0.97
2715	164.8256165	1.168405324	0.97
2716	162.7124675	1.19895058	0.97
2717	147.576424	1.457501396	0.97
2718	147.2340194	1.464288355	0.97
2719	141.331542	1.58914948	0.97
2720	206.4396196	0.793603572	0.97
2721	195.2471101	0.887197859	0.97
2722	195.2471101	0.887197859	0.97
2723	180.5627871	1.037368879	0.97
2724	180.0612238	1.043156142	0.97
2725	176.1468493	1.090033776	0.97
2726	167.9327475	1.199275405	0.97
2727	160.8487359	1.307237236	0.97
2728	158.1025379	1.353044348	0.97
2729	142.779825	1.659036816	0.97
2730	200.6894064	0.869913079	0.97
2731	199.4767816	0.880521677	0.97
2732	199.4767816	0.880521677	0.97
2733	197.685074	0.896555127	0.97
2734	197.685074	0.896555127	0.97
2735	197.0949693	0.901931757	0.97
2736	188.648042	0.984510049	0.97
2737	187.0448009	1.001459696	0.97
2738	176.0715059	1.130177352	0.97
2739	171.49822	1.191257159	0.97
2740	215.6106526	0.823273788	0.97
2741	215.6106526	0.822175108	0.97
2742	212.2935656	0.849202088	0.97
2743	212.2935656	0.849202088	0.97
2744	212.2935656	0.849202088	0.97
2745	212.2935656	0.848068806	0.97
2746	212.2935656	0.848068806	0.97
2747	212.2935656	0.848068806	0.97
2748	206.5730803	0.896886042	0.97
2749	206.5730803	0.895689124	0.97
2750	202.927673	0.929398925	0.97
2751	198.262669	0.973649891	0.97
2752	198.262669	0.97235053	0.97
2753	195.4544159	1.00182933	0.97
2754	195.4544159	1.000492363	0.97
2755	180.6162535	1.173197307	0.97
2756	180.6162535	1.171631645	0.97
2757	180.1446705	1.179347741	0.97
2758	180.1446705	1.177773871	0.97
2759	169.1063942	1.336548409	0.97
2760	246.8816734	0.825924796	0.97
2761	244.5886547	0.841483477	0.97
2762	235.1254032	0.910582087	0.97
2763	235.1254032	0.910582087	0.97
2764	232.359222	0.932391664	0.97
2765	224.4378849	0.999369003	0.97
2766	223.1698742	1.010757732	0.97
2767	219.4503763	1.04531107	0.97
2768	202.5695781	1.226788686	0.97
2769	202.5695781	1.226788686	0.97
2770	295.21221	0.88626016	0.97
2771	294.5101595	0.890490513	0.97
2772	294.160385	0.892609467	0.97
2773	288.3388174	0.92901694	0.97
2774	285.3491292	0.948586099	0.97
2775	216.7068813	0.698066121	0.98
2776	213.4414352	0.719588975	0.98
2777	207.7496636	0.759558638	0.98
2778	192.5985756	0.883763017	0.98
2779	181.1770322	0.998701456	0.98
2780	229.2937168	0.614039168	0.98
2781	197.8877954	0.824408312	0.98
2782	193.765133	0.859862722	0.98
2783	189.0871946	0.902934289	0.98
2784	180.1593489	0.994641958	0.98
2785	296.4114012	0.687339137	0.98
2786	296.4114012	0.687339137	0.98
2787	293.5296237	0.700901527	0.98
2788	293.5296237	0.700901527	0.98
2789	289.1126253	0.722481561	0.98
2790	289.1126253	0.722481561	0.98
2791	288.7176627	0.724459606	0.98
2792	288.7176627	0.724459606	0.98
2793	282.1646583	0.758500111	0.98
2794	282.1646583	0.758500111	0.98
2795	393.2517708	0.590494556	0.98
2796	366.5906338	0.67950795	0.98
2797	366.0735807	0.68142882	0.98
2798	364.5311358	0.687207696	0.98
2799	361.9890777	0.696893379	0.98
2800	389.2797617	0.808378157	0.98
2801	379.0624451	0.852543804	0.98
2802	379.0624451	0.852543804	0.98
2803	366.5553086	0.911715198	0.98
2804	349.6919893	1.001767307	0.98
2805	482.2008889	0.630293861	0.98
2806	472.7869887	0.65564395	0.98
2807	467.7141669	0.669943288	0.98
2808	467.2128655	0.671381706	0.98
2809	460.3058116	0.691681522	0.98
2810	303.3082347	0.608452252	0.98
2811	283.8891099	0.694540282	0.98
2812	282.1685699	0.703036109	0.98
2813	275.4900238	0.737535879	0.98
2814	275.0830962	0.739719552	0.98
2815	291.5801774	0.648361668	0.98
2816	284.5822532	0.680640356	0.98
2817	280.1006429	0.702595092	0.98
2818	280.1006429	0.702595092	0.98
2819	248.7607108	0.890778537	0.98
2820	422.4100382	0.577890242	0.98
2821	416.8336681	0.593455613	0.98
2822	412.0737404	0.607244993	0.98
2823	404.8096199	0.629233988	0.98
2824	402.8727318	0.635298859	0.98
2825	510.2253393	0.598943927	0.98
2826	510.2253393	0.598943927	0.98
2827	501.15833	0.620812289	0.98
2828	501.15833	0.620812289	0.98
2829	497.1426383	0.630882072	0.98
2830	497.1426383	0.630882072	0.98
2831	493.9761246	0.638996228	0.98
2832	493.9761246	0.638996228	0.98
2833	483.2040596	0.667804072	0.98
2834	483.2040596	0.667804072	0.98
2835	570.6388507	0.642345209	0.98

2836	535.2503948	0.730091293	0.98
2837	524.675539	0.759817911	0.98
2838	502.5276633	0.828268631	0.98
2839	491.7898927	0.864832424	0.98
2840	673.1416399	0.552254314	0.98
2841	660.3442703	0.573866935	0.98
2842	657.0134038	0.579700361	0.98
2843	651.2645366	0.589979838	0.98
2844	639.2780727	0.612311496	0.98
2845	357.2661876	0.696043158	0.98
2846	353.1798096	0.712243122	0.98
2847	343.0889579	0.754755903	0.98
2848	311.8990526	0.913254643	0.98
2849	281.8070971	1.118706464	0.98
2850	375.5650523	0.639230663	0.98
2851	373.556683	0.646122588	0.98
2852	369.6037022	0.6600173	0.98
2853	366.3729006	0.671709142	0.98
2854	360.6975889	0.693013136	0.98
2855	514.0299114	0.63831002	0.98
2856	509.6289704	0.649381973	0.98
2857	506.1621066	0.658308081	0.98
2858	492.7538389	0.694621804	0.98
2859	485.5192801	0.71547668	0.98
2860	651.5297962	0.600808779	0.98
2861	646.9171959	0.609407007	0.98
2862	637.8851931	0.626786728	0.98
2863	636.7738949	0.628976374	0.98
2864	634.5628744	0.633367121	0.98
2865	776.2774396	0.567743086	0.98
2866	734.2407552	0.634612774	0.98
2867	680.2163518	0.739420775	0.98
2868	675.6966418	0.749345775	0.98
2869	665.7436634	0.771918947	0.98
2870	858.4749943	0.544301077	0.98
2871	808.2450744	0.614056538	0.98
2872	801.8473562	0.623894403	0.98
2873	799.7372315	0.627191065	0.98
2874	776.2455887	0.665727048	0.98
2875	553.5659039	0.480256652	0.99
2876	537.2845538	0.509804122	0.99
2877	519.8118853	0.544652678	0.99
2878	478.0326123	0.644016511	0.99
2879	471.8587594	0.660979531	0.99
2880	468.7353609	0.679774022	0.99
2881	464.3464531	0.692684921	0.99
2882	457.4926309	0.713594991	0.99
2883	457.4926309	0.713594991	0.99
2884	451.6593915	0.732146361	0.99
2885	768.8922702	0.472573656	0.99
2886	742.9381007	0.506168641	0.99
2887	704.3053195	0.563220639	0.99
2888	677.2166534	0.609179443	0.99
2889	649.7281545	0.661815791	0.99
2890	851.3290414	0.58291065	0.99
2891	851.3290414	0.58291065	0.99
2892	823.7621963	0.622577143	0.99
2893	823.7621963	0.622577143	0.99
2894	812.92322	0.639289881	0.99
2895	812.92322	0.639289881	0.99
2896	806.8566288	0.648939403	0.99
2897	806.8566288	0.648939403	0.99
2898	805.3541025	0.651363078	0.99
2899	805.3541025	0.651363078	0.99
2900	1143.220948	0.433628172	0.99
2901	1037.275903	0.526731461	0.99
2902	970.3548773	0.601889339	0.99
2903	964.5210804	0.609192278	0.99
2904	940.0312874	0.641347225	0.99
2905	1156.204194	0.4970699	0.99
2906	1128.978036	0.521333414	0.99
2907	1067.001496	0.583655375	0.99
2908	1054.48535	0.597592923	0.99
2909	1046.810784	0.606387402	0.99
2910	1175.550993	0.373169238	0.99
2911	1141.82617	0.395538531	0.99
2912	1096.872383	0.428624091	0.99
2913	1088.303068	0.435400651	0.99
2914	1067.45435	0.452574581	0.99
2915	1063.380097	0.456049229	0.99
2916	1059.336827	0.459537165	0.99
2917	1031.872538	0.48432476	0.99
2918	1005.796337	0.509763436	0.99
2919	991.4789516	0.524592145	0.99
2920	987.9630688	0.528332541	0.99
2921	987.9630688	0.528332541	0.99
2922	977.5634575	0.539633452	0.99
2923	967.3805048	0.551053949	0.99
2924	967.3805048	0.551053949	0.99
2925	960.7089151	0.558734051	0.99
2926	922.535051	0.605930801	0.99
2927	901.6361987	0.634345849	0.99
2928	898.7276948	0.638458291	0.99
2929	895.8378952	0.642584021	0.99
2930	881.6632449	0.663411978	0.99
2931	1290.405869	0.348643786	0.99
2932	1257.459337	0.367152668	0.99
2933	1257.459337	0.367152668	0.99
2934	1236.413992	0.379757856	0.99
2935	1231.262267	0.382942394	0.99
2936	1158.835075	0.432306062	0.99
2937	1136.549785	0.449425448	0.99
2938	1115.105449	0.46687725	0.99
2939	1066.797632	0.510117829	0.99
2940	985.0098136	0.598347491	0.99
2941	1229.114339	0.386152263	0.99
2942	1189.624722	0.412214433	0.99
2943	1189.624722	0.412214433	0.99
2944	1134.929332	0.45290333	0.99
2945	1130.597541	0.456380502	0.99
2946	1101.176787	0.481093024	0.99
2947	1077.151112	0.502793769	0.99
2948	1057.91627	0.521243392	0.99
2949	925.6767367	0.680807695	0.99
2950	10.85751967	3.047240633	0.85
2951	10.3854536	3.33055846	0.85
2952	15.07532348	2.359789944	0.85
2953	14.8120258	2.444430571	0.85
2954	11.24143265	4.243882005	0.85
2955	21.43513304	1.825172482	0.85
2956	21.18588731	1.868370335	0.85
2957	21.00030323	1.901538608	0.85
2958	21.00030323	1.901538608	0.85
2959	12.97559282	3.029578954	0.86

2960	12.12054356	3.47210219	0.86
2961	19.31364135	2.029826307	0.86
2962	18.94319662	2.109991315	0.86
2963	18.10653877	2.309491264	0.86
2964	17.40316101	2.499947712	0.86
2965	17.31302511	2.526046166	0.86
2966	17.43614053	2.670551906	0.86
2967	17.35676508	2.695033537	0.86
2968	16.80427256	2.87516194	0.86
2969	16.0798147	3.140072428	0.86
2970	15.90098451	3.211099153	0.86
2971	15.40140241	3.422797517	0.86
2972	26.61984062	1.647921993	0.86
2973	25.79195084	1.755412421	0.86
2974	25.74268254	1.762138133	0.86
2975	22.69287815	2.288748132	0.86
2976	22.32488553	2.364823234	0.86
2977	21.73738854	2.494378926	0.86
2978	21.1800196	2.627389437	0.86
2979	21.07195828	2.654406117	0.86
2980	20.75429057	2.736285315	0.86
2981	20.24560697	2.875514498	0.86
2982	20.40900672	1.834321339	0.85
2983	19.93149135	1.923266931	0.85
2984	26.32053253	1.619287004	0.85
2985	25.3629517	1.743867905	0.85
2986	24.56583036	1.858875387	0.85
2987	38.56763836	1.230202302	0.85
2988	38.27596919	1.249022423	0.85
2989	37.98867843	1.267985412	0.85
2990	23.99584997	2.10589567	0.85
2991	23.95101886	2.113786607	0.85
2992	35.67831088	1.35906713	0.85
2993	33.84410253	1.510370434	0.85
2994	31.8046657	1.710282333	0.85
2995	31.59132171	1.73346025	0.85
2996	36.25339733	1.418870487	0.85
2997	34.3034623	1.584762787	0.85
2998	34.08635178	1.605015141	0.85
2999	32.61829895	1.752740249	0.85
3000	32.5963633	1.755100047	0.85
3001	32.24936276	1.793072715	0.85
3002	31.8886791	1.833863965	0.85
3003	31.82586489	1.841110045	0.85
3004	31.61825977	1.865366833	0.85
3005	31.09095076	1.929177425	0.85
3006	31.09095076	1.929177425	0.85
3007	30.10608213	2.057461385	0.85
3008	30.08739431	2.060018031	0.85
3009	28.95507302	2.224287126	0.85
3010	28.19708681	2.345479785	0.85
3011	28.09900999	2.361881692	0.85
3012	28.03400361	2.372848046	0.85
3013	35.51679869	1.74005051	0.85
3014	35.27843091	1.763644146	0.85
3015	34.58214609	1.835378332	0.85
3016	34.35611899	1.859607487	0.85
3017	34.13302731	1.883995522	0.85
3018	40.79712836	1.626738477	0.85
3019	40.23440935	1.672559855	0.85
3020	39.15429098	1.766111835	0.85
3021	38.89326237	1.789897585	0.85
3022	38.6356911	1.813842438	0.85
3023	38.38150892	1.837946392	0.85
3024	37.63864101	1.911212866	0.85
3025	37.63864101	1.911212866	0.85
3026	37.39736767	1.935953228	0.85
3027	36.69175695	2.011128927	0.85
3028	36.46243347	2.036505697	0.85
3029	48.42152376	1.231499682	0.85
3030	46.86973606	1.31439589	0.85
3031	46.37434249	1.342627932	0.85
3032	45.86266275	1.372753869	0.85
3033	45.0259437	1.424247809	0.85
3034	33.6811347	1.470109397	0.90
3035	31.86609577	1.642348688	0.90
3036	31.32658241	1.699405605	0.90
3037	31.12261117	1.721753712	0.90
3038	28.72257005	2.021512762	0.90
3039	43.3863037	1.30364509	0.90
3040	42.15045141	1.3812116	0.90
3041	41.97238674	1.39295583	0.90
3042	41.69559042	1.411511501	0.90
3043	38.89722865	1.621912263	0.90
3044	48.11351964	1.28314441	0.90
3045	46.70874534	1.361486654	0.90
3046	46.40764142	1.379211274	0.90
3047	45.74414853	1.419510782	0.90
3048	45.67159636	1.424024327	0.90
3049	45.67159636	1.424024327	0.90
3050	45.38367455	1.44215015	0.90
3051	44.33555274	1.511142909	0.90
3052	43.72959985	1.553312315	0.90
3053	43.53127967	1.567497742	0.90
3054	43.40006255	1.576990515	0.90
3055	43.26963411	1.586511945	0.90
3056	42.0685778	1.678394825	0.90
3057	41.6427209	1.712898368	0.90
3058	41.6427209	1.712898368	0.90
3059	40.41535649	1.81851532	0.90
3060	38.91343446	1.961600964	0.90
3061	50.77753075	1.356008712	0.90
3062	50.36803453	1.378147264	0.90
3063	49.96509025	1.400465075	0.90
3064	49.17823844	1.445638476	0.90
3065	48.41578513	1.491528916	0.90
3066	48.04335601	1.514743025	0.90
3067	46.60922598	1.609392057	0.90
3068	46.26397246	1.633502463	0.90
3069	55.90171187	1.380110718	0.90
3070	55.45449817	1.402460326	0.90
3071	55.01438311	1.424989449	0.90
3072	54.58119899	1.447698086	0.90
3073	54.15478337	1.470586239	0.90
3074	51.72994233	1.611684967	0.90
3075	59.86044633	1.330124402	0.90
3076	59.74707427	1.335177101	0.90
3077	59.37224946	1.352088613	0.90
3078	59.37224946	1.352088613	0.90
3079	58.02536214	1.4155866	0.90
3080	41.61859192	1.342809631	0.87
3081	41.30008228	1.363601213	0.87
3082	38.96421722	1.531994835	0.87
3083	38.09325237	1.602850825	0.87

3084	36.85744395	1.712138074	0.87
3085	52.2996105	1.217450745	0.87
3086	49.77874239	1.34387993	0.87
3087	49.14703246	1.378648997	0.87
3088	48.59204715	1.410320819	0.87
3089	43.93404603	1.725225654	0.87
3090	69.93396523	1.075137297	0.87
3091	67.74091406	1.145877335	0.87
3092	67.04014598	1.169958163	0.87
3093	66.48988487	1.189403118	0.87
3094	66.03818728	1.205729668	0.87
3095	65.73625397	1.125841752	0.91
3096	65.42292578	1.136651501	0.91
3097	63.31056194	1.21376586	0.91
3098	63.1939679	1.218248832	0.91
3099	62.6173806	1.240787648	0.91
3100	62.56030004	1.243052892	0.91
3101	61.49520532	1.286485046	0.91
3102	61.27557959	1.295723688	0.91
3103	60.62601514	1.32363794	0.91
3104	58.95932057	1.399530327	0.91
3105	58.06146289	1.443149444	0.91
3106	57.9633861	1.44803733	0.91
3107	56.81179565	1.507336521	0.91
3108	54.94687681	1.611392099	0.91
3109	54.55377515	1.634698392	0.91
3110	53.07706817	1.726924707	0.91
3111	52.54873594	1.761824752	0.91
3112	69.8173976	1.174789561	0.91
3113	67.53661147	1.255477282	0.91
3114	67.04986112	1.273771792	0.91
3115	66.98951021	1.27606791	0.91
3116	66.86913373	1.280666349	0.91
3117	66.80910758	1.28296867	0.91
3118	66.5105861	1.29451129	0.91
3119	66.27368285	1.303782604	0.91
3120	65.86313791	1.320087007	0.91
3121	65.86313791	1.320087007	0.91
3122	65.40012816	1.338844669	0.91
3123	64.1597809	1.391110562	0.91
3124	63.6114067	1.415198609	0.91
3125	63.07232699	1.43949342	0.91
3126	61.55942584	1.511117625	0.91
3127	75.09279678	1.252727491	0.91
3128	75.09279678	1.252727491	0.91
3129	73.75185398	1.298695342	0.91
3130	72.4579618	1.345491444	0.91
3131	71.82789257	1.369200088	0.91
3132	69.41350963	1.466105289	0.91
3133	49.8979839	1.36234926	0.91
3134	49.4995968	1.384366669	0.91
3135	48.40461548	1.44770778	0.91
3136	47.87509266	1.479909651	0.91
3137	46.96836742	1.537600558	0.91
3138	65.79677444	1.08323265	0.91
3139	63.31927099	1.169658651	0.91
3140	62.72877564	1.191783388	0.91
3141	62.01695974	1.219298404	0.91
3142	61.79781854	1.227961243	0.91
3143	86.44189316	1.004356131	0.91
3144	85.77076045	1.020135247	0.91
3145	85.57144807	1.024892964	0.91
3146	84.97903035	1.039232528	0.91
3147	81.22995548	1.137375435	0.91
3148	109.0025439	0.873510696	0.91
3149	106.6513242	0.91244982	0.91
3150	101.485127	1.007712613	0.91
3151	101.1529335	1.014342284	0.91
3152	100.1692745	1.034361714	0.91
3153	60.14636342	1.293643029	0.91
3154	59.88561329	1.304932951	0.91
3155	59.88561329	1.304932951	0.91
3156	59.07461781	1.341007971	0.91
3157	58.69807988	1.358267818	0.91
3158	84.73153285	0.926985416	0.91
3159	83.0226616	0.965538784	0.91
3160	80.65058556	1.023170425	0.91
3161	79.41878401	1.055155729	0.91
3162	78.66000582	1.075610615	0.91
3163	90.96261804	0.972119602	0.91
3164	90.86143604	0.974285884	0.91
3165	88.40306385	1.029226523	0.91
3166	88.11696979	1.035920661	0.91
3167	86.25599894	1.081102782	0.91
3168	84.64707875	1.122591252	0.91
3169	84.38474277	1.129581943	0.91
3170	83.60740123	1.150684212	0.91
3171	81.44011067	1.212743325	0.91
3172	81.35899502	1.215162762	0.91
3173	79.76995215	1.264057821	0.91
3174	78.54272211	1.303868236	0.91
3175	75.14667065	1.424380813	0.91
3176	75.14667065	1.424380813	0.91
3177	74.66584186	1.442785174	0.91
3178	73.39122282	1.493335384	0.91
3179	70.47837015	1.619324545	0.91
3180	69.5778799	1.661510999	0.91
3181	103.3650876	0.886136545	0.91
3182	99.64440956	0.953547925	0.91
3183	98.53601791	0.975120725	0.91
3184	98.42653345	0.977291277	0.91
3185	96.60183217	1.014559858	0.91
3186	96.18228024	1.023430284	0.91
3187	95.04708165	1.048023035	0.91
3188	94.53989338	1.059298081	0.91
3189	94.03808928	1.070633453	0.91
3190	91.89199181	1.121225771	0.91
3191	111.722882	0.935695235	0.91
3192	109.2401513	0.97871015	0.91
3193	108.0397101	1.000580093	0.91
3194	105.7162755	1.045044949	0.91
3195	104.5916342	1.067639862	0.91
3196	79.7859553	1.094122185	0.94
3197	78.7361401	1.123493288	0.94
3198	78.7361401	1.123493288	0.94
3199	77.21221481	1.168279356	0.94
3200	76.41113038	1.192903943	0.94
3201	105.7348387	0.823958199	0.94
3202	102.9653574	0.86887866	0.94
3203	96.80735893	0.982934662	0.94
3204	96.29918382	0.993336014	0.94
3205	95.46397841	1.010793255	0.94
3206	132.4613537	0.861570804	0.94
3207	132.0885731	0.866440719	0.94

3208	128.7078784	0.912555083	0.94
3209	128.3558969	0.917566818	0.94
3210	118.8239822	1.070683587	0.94
3211	124.9247223	0.851491393	0.94
3212	124.763944	0.853687373	0.94
3213	123.1786334	0.87580271	0.94
3214	121.1769806	0.904975442	0.94
3215	119.9772085	0.923165448	0.94
3216	119.0928556	0.936926731	0.94
3217	118.365793	0.948472238	0.94
3218	117.0792083	0.969432318	0.94
3219	117.0792083	0.969432318	0.94
3220	116.5163275	0.978821438	0.94
3221	116.2369118	0.983532966	0.94
3222	115.2694227	1.000112399	0.94
3223	114.9959484	1.004874832	0.94
3224	113.1173681	1.038528607	0.94
3225	110.2862167	1.092533016	0.94
3226	101.0861152	1.300451124	0.94
3227	99.63163871	1.338697648	0.94
3228	142.6454873	0.768715043	0.94
3229	142.0671948	0.774985976	0.94
3230	139.800165	0.800324451	0.94
3231	136.5321092	0.839096394	0.94
3232	136.1783991	0.843460997	0.94
3233	134.9547165	0.858826269	0.94
3234	133.9232154	0.87210689	0.94
3235	132.7395507	0.887729736	0.94
3236	130.2722728	0.921674291	0.94
3237	128.2069806	0.951608054	0.94
3238	147.6959331	0.884539794	0.94
3239	144.0491199	0.929893541	0.94
3240	144.0491199	0.929893541	0.94
3241	144.0491199	0.929893541	0.94
3242	142.2924233	0.952995606	0.94
3243	98.79993071	0.946568951	0.95
3244	94.26047443	1.039935232	0.95
3245	93.25234102	1.062541859	0.95
3246	93.00366811	1.068231498	0.95
3247	90.5096251	1.12791404	0.95
3248	127.1893646	0.786561145	0.95
3249	117.6776	0.918853935	0.95
3250	114.8154694	0.96523547	0.95
3251	113.5409221	0.987027494	0.95
3252	110.8741977	1.035078063	0.95
3253	168.7847135	0.743739571	0.95
3254	163.2108117	0.79540673	0.95
3255	158.1512766	0.847113703	0.95
3256	154.2939283	0.889998834	0.95
3257	151.9224559	0.918001025	0.95
3258	122.375684	0.867451084	0.96
3259	120.7440082	0.891054118	0.96
3260	119.2759959	0.913122734	0.96
3261	118.0796469	0.931719461	0.96
3262	116.67533	0.95428299	0.96
3263	194.1853267	0.751682152	0.96
3264	193.5358774	0.756735463	0.96
3265	190.7710792	0.778828769	0.96
3266	187.6774941	0.804716055	0.96
3267	185.0764201	0.827494046	0.96
3268	127.250732	0.799472224	0.96
3269	126.4190279	0.810026198	0.96
3270	126.0072396	0.815329138	0.96
3271	123.8555684	0.843903688	0.96
3272	123.8555684	0.843903688	0.96
3273	166.2589056	0.780969227	0.96
3274	163.4046755	0.808490272	0.96
3275	161.3274974	0.829443795	0.96
3276	159.0805963	0.853039881	0.96
3277	155.6128994	0.891481976	0.96
3278	155.6128994	0.891481976	0.96
3279	154.3511732	0.906116183	0.96
3280	153.7279518	0.913477963	0.96
3281	153.7279518	0.913477963	0.96
3282	151.6864119	0.938232342	0.96
3283	151.2845936	0.943222931	0.96
3284	150.091811	0.958274123	0.96
3285	149.5024453	0.965844396	0.96
3286	147.7617958	0.988733923	0.96
3287	147.5708891	0.991293751	0.96
3288	142.9535271	1.056365006	0.96
3289	141.1864872	1.082972654	0.96
3290	139.8040002	1.10449705	0.96
3291	192.0425	0.688992363	0.96
3292	189.980694	0.704028387	0.96
3293	189.6897588	0.706189639	0.96
3294	179.7785377	0.786200694	0.96
3295	178.999151	0.793062049	0.96
3296	174.9539724	0.830159409	0.96
3297	174.7072108	0.832506148	0.96
3298	172.7578975	0.851399303	0.96
3299	171.324222	0.865708285	0.96
3300	210.8997591	0.682136106	0.96
3301	207.9328223	0.701741415	0.96
3302	207.2040857	0.706686143	0.96
3303	202.704797	0.73840589	0.96
3304	199.7372718	0.760510085	0.96
3305	199.2407088	0.789637115	0.96
3306	199.2407088	0.789637115	0.96
3307	193.6282945	0.836076601	0.96
3308	190.9390126	0.85979391	0.96
3309	185.7784988	0.908223659	0.96
3310	185.7784988	0.908223659	0.96
3311	183.3014521	0.9329361	0.96
3312	183.3014521	0.9329361	0.96
3313	178.5403754	0.983356113	0.96
3314	176.2513963	1.009063686	0.96
3315	174.0203659	1.035102969	0.96
3316	174.0203659	1.035102969	0.96
3317	156.9816919	0.835417824	0.96
3318	153.8018922	0.870318852	0.96
3319	150.2772655	0.911622804	0.96
3320	142.9793606	1.007059305	0.96
3321	141.5762266	1.027119755	0.96
3322	146.6636056	0.846047858	0.96
3323	145.6923235	0.857366099	0.96
3324	145.0519177	0.864953372	0.96
3325	144.5911327	0.870475046	0.96
3326	138.9444685	0.942664435	0.96
3327	181.0625238	0.739252307	0.96
3328	170.9018883	0.829766897	0.96
3329	170.328392	0.83536396	0.96
3330	164.6200892	0.894301918	0.96
3331	162.5118276	0.917655937	0.96

3332	239.2893152	0.692739291	0.96
3333	236.6693592	0.708161586	0.96
3334	234.9543639	0.718537441	0.96
3335	234.9543639	0.718537441	0.96
3336	224.6445881	0.786003561	0.96
3337	179.4288791	0.674925401	0.97
3338	177.3611967	0.690753732	0.97
3339	173.1488683	0.724771565	0.97
3340	172.5019858	0.730217544	0.97
3341	165.297249	0.795260129	0.97
3342	213.1304385	0.67539934	0.97
3343	204.647635	0.732551444	0.97
3344	198.476114	0.778816407	0.97
3345	191.3217425	0.838152286	0.97
3346	242.6333404	0.604831128	0.97
3347	238.7752131	0.624534747	0.97
3348	237.5162928	0.631172802	0.97
3349	233.4141116	0.653553088	0.97
3350	233.0116734	0.655812561	0.97
3351	227.9034917	0.685540522	0.97
3352	227.5198158	0.687854581	0.97
3353	227.1374296	0.690172539	0.97
3354	226.7563265	0.692494396	0.97
3355	223.0144729	0.715927413	0.97
3356	221.9158795	0.723033349	0.97
3357	220.1087469	0.734954555	0.97
3358	215.5450887	0.766405875	0.97
3359	213.5020072	0.781144113	0.97
3360	213.1652533	0.783614132	0.97
3361	212.82956	0.78608805	0.97
3362	194.455785	0.941658331	0.97
3363	252.6929292	0.656379276	0.97
3364	248.4099982	0.679208162	0.97
3365	244.2698316	0.702427287	0.97
3366	244.2698316	0.702427287	0.97
3367	244.2698316	0.702427287	0.97
3368	232.6379348	0.774426083	0.97
3369	282.9008513	0.634120629	0.97
3370	276.9684612	0.661576018	0.97
3371	272.6799173	0.68254939	0.97
3372	270.5850652	0.693158807	0.97
3373	270.5850652	0.693158807	0.97
3374	280.4550039	0.657340307	0.97
3375	280.4550039	0.657340307	0.97
3376	280.4550039	0.657340307	0.97
3377	271.1065038	0.703455739	0.97
3378	266.6621349	0.727099668	0.97
3379	175.5618501	0.827918803	0.97
3380	172.2917807	0.85964457	0.97
3381	170.8991219	0.873712161	0.97
3382	167.4192756	0.910410225	0.97
3383	164.4429329	0.943664496	0.97
3384	214.6606821	0.729399604	0.97
3385	213.312311	0.738649982	0.97
3386	209.8845483	0.762973755	0.97
3387	202.138809	0.822566708	0.97
3388	196.2966469	0.872257618	0.97
3389	269.7675328	0.76702806	0.97
3390	269.1030807	0.77082053	0.97
3391	267.783948	0.778433526	0.97
3392	265.8293206	0.789923164	0.97
3393	265.5063202	0.791846287	0.97
3394	247.452303	0.60485883	0.98
3395	243.4435028	0.624943347	0.98
3396	242.728544	0.62863032	0.98
3397	240.2589221	0.641620124	0.98
3398	237.1565831	0.658516493	0.98
3399	280.4186045	0.519427961	0.98
3400	277.7265859	0.52954645	0.98
3401	275.0857625	0.539762545	0.98
3402	270.794253	0.557006272	0.98
3403	265.4114926	0.579828453	0.98
3404	303.0254084	0.573097753	0.98
3405	293.1049338	0.612548582	0.98
3406	281.3807364	0.664657749	0.98
3407	278.9893987	0.676100714	0.98
3408	278.5947885	0.67801737	0.98
3409	371.1997649	0.445626101	0.98
3410	355.733108	0.48521859	0.98
3411	327.705651	0.57176576	0.98
3412	319.3194828	0.602192262	0.98
3413	318.6921361	0.604565431	0.98
3414	312.5516325	0.628553808	0.98
3415	310.1611802	0.638279835	0.98
3416	306.6432841	0.653008885	0.98
3417	306.0647118	0.655480061	0.98
3418	302.0750415	0.67290897	0.98
3419	297.6409124	0.693107743	0.98
3420	296.5526458	0.698204107	0.98
3421	294.3998136	0.708452837	0.98
3422	288.6375396	0.737021874	0.98
3423	283.0965048	0.766155617	0.98
3424	279.1984462	0.787698487	0.98
3425	270.3571621	0.840059886	0.98
3426	263.763085	0.882587918	0.98
3427	400.0411994	0.551983597	0.98
3428	398.1660063	0.557195057	0.98
3429	392.0403754	0.574743437	0.98
3430	380.9061943	0.608834905	0.98
3431	372.5529883	0.636442995	0.98
3432	398.454342	0.561579802	0.98
3433	382.8286815	0.608358627	0.98
3434	382.8286815	0.608358627	0.98
3435	375.4665915	0.632449723	0.98
3436	368.3823162	0.657008606	0.98
3437	368.3823162	0.657008606	0.98
3438	471.4600025	0.401124232	0.98
3439	470.5933481	0.402603029	0.98
3440	426.6713023	0.489758227	0.98
3441	426.6713023	0.489758227	0.98
3442	390.2481423	0.585446101	0.98
3443	338.0727952	0.546031803	0.98
3444	332.3524433	0.564989836	0.98
3445	329.0122178	0.576519944	0.98
3446	327.3671567	0.582328672	0.98
3447	324.1258977	0.594033479	0.98
3448	402.045375	0.552061955	0.98
3449	395.2769343	0.571130054	0.98
3450	387.4496683	0.594439107	0.98
3451	370.3383265	0.650639822	0.98
3452	368.59419	0.656811865	0.98
3453	464.9476473	0.4842257	0.98
3454	444.6861673	0.529357053	0.98
3455	441.6473097	0.536666846	0.98

3456	433.7431072	0.556404677	0.98
3457	428.945064	0.568921826	0.98
3458	427.9981654	0.571441964	0.98
3459	424.2520108	0.581578209	0.98
3460	423.3256964	0.584126194	0.98
3461	412.5173807	0.615136421	0.98
3462	409.0362214	0.625651383	0.98
3463	405.6133241	0.636255455	0.98
3464	399.7591112	0.655027002	0.98
3465	394.8740712	0.671334104	0.98
3466	394.0714816	0.674071447	0.98
3467	394.0714816	0.674071447	0.98
3468	393.2721479	0.67681436	0.98
3469	386.9923532	0.698958157	0.98
3470	380.9099586	0.721458394	0.98
3471	539.3611108	0.520073427	0.98
3472	537.461952	0.523755352	0.98
3473	533.7034768	0.531158162	0.98
3474	528.1633023	0.542359784	0.98
3475	527.2511031	0.544238085	0.98
3476	435.7565359	0.530868042	0.98
3477	418.3262745	0.576028692	0.98
3478	410.8561624	0.597165612	0.98
3479	405.0694559	0.614349357	0.98
3480	371.6953974	0.729625552	0.98
3481	573.6107529	0.440859781	0.98
3482	525.5367089	0.5252051	0.98
3483	525.5367089	0.5252051	0.98
3484	492.6906646	0.597566691	0.98
3485	482.3544968	0.623451085	0.98
3486	610.8014341	0.458537466	0.98
3487	598.009781	0.478363845	0.98
3488	590.2835565	0.490968413	0.98
3489	581.2715938	0.506310254	0.98
3490	581.2715938	0.506310254	0.98
3491	579.7962852	0.508890174	0.98
3492	571.0993409	0.524507382	0.98
3493	559.9013146	0.54569748	0.98
3494	554.4653795	0.556449881	0.98
3495	551.7868028	0.56186542	0.98
3496	546.5065463	0.572775174	0.98
3497	532.4935579	0.603317894	0.98
3498	530.0225901	0.608956348	0.98
3499	522.7453921	0.626029064	0.98
3500	515.6653191	0.643337807	0.98
3501	511.0508643	0.655008096	0.98
3502	507.6438586	0.663829655	0.98
3503	671.3680893	0.446745526	0.98
3504	671.3680893	0.446745526	0.98
3505	643.4670778	0.486327624	0.98
3506	643.4670778	0.486327624	0.98
3507	630.3685114	0.506748627	0.98
3508	630.3685114	0.506748627	0.98
3509	624.0171913	0.517116617	0.98
3510	624.0171913	0.517116617	0.98
3511	620.8892856	0.522339984	0.98
3512	620.8892856	0.522339984	0.98
3513	614.7266128	0.532865462	0.98
3514	614.7266128	0.532865462	0.98
3515	584.2802476	0.589846753	0.98
3516	584.2802476	0.589846753	0.98
3517	572.1358544	0.615153179	0.98
3518	572.1358544	0.615153179	0.98
3519	566.898913	0.626571092	0.98
3520	566.898913	0.626571092	0.98
3521	718.3854047	0.483566371	0.98
3522	704.3817906	0.502984788	0.98
3523	696.2386485	0.51481932	0.98
3524	692.237277	0.520788189	0.98
3525	669.1627011	0.557323865	0.98
3526	710.9551048	0.503974129	0.98
3527	693.1812272	0.5301503	0.98
3528	660.1725973	0.584490706	0.98
3529	660.1725973	0.584490706	0.98
3530	644.8197462	0.612654941	0.98
3531	593.5118991	0.46824779	0.99
3532	584.5387171	0.482734161	0.99
3533	582.0245721	0.486913658	0.99
3534	574.6102463	0.49956024	0.99
3535	551.2045336	0.542886492	0.99
3536	735.4615491	0.441618996	0.99
3537	728.1069336	0.45058565	0.99
3538	713.830327	0.46878931	0.99
3539	697.8660705	0.490482506	0.99
3540	629.4872625	0.602828528	0.99
3541	826.5857528	0.414530774	0.99
3542	811.6923158	0.429882474	0.99
3543	809.2620993	0.432468227	0.99
3544	806.8463916	0.435061734	0.99
3545	783.4595396	0.461423238	0.99
3546	781.1952057	0.464102032	0.99
3547	770.0670689	0.477612303	0.99
3548	759.2515202	0.491316408	0.99
3549	752.9067999	0.499631912	0.99
3550	748.7355711	0.505214348	0.99
3551	744.6103063	0.510827798	0.99
3552	711.2987926	0.559794292	0.99
3553	941.927042	0.470015358	0.99
3554	939.8659325	0.472079089	0.99
3555	904.2499603	0.509999304	0.99
3556	892.9703351	0.52296487	0.99
3557	887.435395	0.529508684	0.99
3558	857.3394177	0.377162058	0.99
3559	843.8380096	0.389327797	0.99
3560	778.4558878	0.457473103	0.99
3561	767.3085481	0.470861853	0.99
3562	722.4770374	0.531111228	0.99
3563	1066.578923	0.355005347	0.99
3564	967.4544877	0.431479138	0.99
3565	936.1340187	0.46083434	0.99
3566	916.3565394	0.480941133	0.99
3567	894.3135986	0.504941679	0.99
3568	1256.934214	0.45038323	0.99
3569	1235.783879	0.465931697	0.99
3570	1229.871037	0.470422579	0.99
3571	1218.213492	0.47946896	0.99
3572	1209.614338	0.486310286	0.99
3573	1101.835187	0.470594823	0.99
3574	1098.292309	0.473635816	0.99
3575	1283.015182	0.496578223	0.99
3576	1278.752673	0.499894262	0.99
3577	2347.090553	0.319115691	0.99
3578	2304.416179	0.331044226	0.99
3579	2485.154703	0.284643317	0.99

3580	2369.025978	0.3132335	0.99
3581	2283.655673	0.337090571	0.99
3582	2166.545125	0.37451772	0.99
3583	2586.589589	0.262756095	0.99
3584	2204.224171	0.361823132	0.99
3585	2185.222239	0.368143067	0.99
3586	2094.923799	0.400563514	0.99
3587	2185.222239	0.368143067	0.99
3588	2204.224171	0.361823132	0.99
3589	2204.224171	0.361823132	0.99
3590	2185.222239	0.368143067	0.99
3591	2077.752292	0.407211757	0.99
3592	1949.890613	0.462367556	0.99
3593	1891.684923	0.491258688	0.99
3594	2027.886237	0.427484796	0.99
3595	2027.886237	0.427484796	0.99
3596	2112.381497	0.393969988	0.99
3597	1965.006044	0.455281568	0.99
3598	2011.791902	0.434351912	0.99
3599	1905.908118	0.483953828	0.99
3600	1656.769802	0.640447462	0.99
3601	1635.392127	0.657300623	0.99
3602	1760.317914	0.567316783	0.99
3603	1594.250187	0.691663561	0.99
3604	1736.20397	0.583185019	0.99
3605	1584.286123	0.70039109	0.99
3606	1810.612712	0.536236929	0.99
3607	1785.111125	0.55166742	0.99
3608	1810.612712	0.536236929	0.99
3609	1408.254332	0.886432474	0.99
3610	1408.254332	0.886432474	0.99
3611	1392.779009	0.906240409	0.99
3612	1.199722183	18.24376337	0.95
3613	4.093720973	6.522797222	0.95
3614	4.079919975	6.567000719	0.95
3615	4.076484253	6.578074917	0.95
3616	4.066211718	6.611353489	0.95
3617	4.063651669	6.619686252	0.95
3618	185.5476764	0.761340625	0.95
3619	399.2433031	0.684557743	0.95
3620	436.1103649	0.573710172	0.95
3621	430.2955601	0.589320621	0.95
3622	405.0899624	0.664939915	0.95
3623	400.068186	0.681737735	0.95
3624	634.5730534	0.520051712	0.95
3625	1489.484631	0.392946675	0.95
3626	1483.777793	0.395975155	0.95
3627	1483.777793	0.395975155	0.95
3628	1472.494312	0.402066991	0.95
3629	1455.887233	0.411291937	0.95

17.3 SDC data (literature)

Source: (Brown and Lawler, 2003)

Nr. [#]	Terminal Reynolds number Ret [-]	Drag coefficient CD [-]	Sphericity phi [-]
1	0.00195	12610	1.00
2	0.00529	4734	1.00
3	0.00734	3433	1.00
4	0.00778	3240	1.00
5	0.00927	2702	1.00
6	0.01163	2070	1.00
7	0.0202	1254	1.00
8	0.0204	1182	1.00
9	0.0204	1250	1.00
10	0.0221	1134	1.00
11	0.0234	1099	1.00
12	0.0284	903	1.00
13	0.0302	845	1.00
14	0.0321	801	1.00
15	0.035	713	1.00
16	0.0359	670	1.00
17	0.039	648	1.00
18	0.0455	577	1.00
19	0.05074	483.5	1.00
20	0.0531	475.6	1.00
21	0.0539	480	1.00
22	0.0623	405	1.00
23	0.0624	408	1.00
24	0.0647	374	1.00
25	0.07	346.4	1.00
26	0.0743	355	1.00
27	0.0773	341	1.00
28	0.0865	283.7	1.00
29	0.0882	275.8	1.00
30	0.0918	265.7	1.00
31	0.1	244.2	1.00
32	0.1	244.9	1.00
33	0.1008	243.2	1.00
34	0.1008	263.1	1.00
35	0.103	264	1.00
36	0.1059	238.6	1.00
37	0.109	242	1.00
38	0.1201	203.6	1.00
39	0.1258	194.6	1.00
40	0.1355	182.5	1.00
41	0.145	187	1.00
42	0.149	180	1.00
43	0.151	176	1.00
44	0.1515	175.6	1.00
45	0.1537	166.3	1.00
46	0.157	171	1.00
47	0.157	175	1.00
48	0.1588	156	1.00
49	0.16	158.5	1.00
50	0.1636	160.5	1.00
51	0.1703	146.2	1.00
52	0.173	143.1	1.00
53	0.175	155	1.00
54	0.1873	132.4	1.00
55	0.19	143	1.00
56	0.2	124	1.00
57	0.2016	123.9	1.00
58	0.2038	122.4	1.00
59	0.2126	116.6	1.00
60	0.227	121	1.00
61	0.236	118	1.00
62	0.2437	109.6	1.00
63	0.263	106	1.00
64	0.2687	93.64	1.00
65	0.273	101	1.00
66	0.2751	90.04	1.00
67	0.2777	90.3	1.00
68	0.287	94.6	1.00
69	0.3	92.4	1.00
70	0.314	88.2	1.00
71	0.316	78.8	1.00
72	0.319	88.1	1.00
73	0.3287	82.62	1.00
74	0.341	82.5	1.00
75	0.344	80.2	1.00
76	0.381	74.1	1.00
77	0.3847	66.42	1.00
78	0.387	73.9	1.00
79	0.3884	65.65	1.00
80	0.391	71.5	1.00
81	0.3914	64.59	1.00
82	0.396	71	1.00
83	0.405	69.6	1.00
84	0.422	66.5	1.00
85	0.438	63.1	1.00
86	0.462	60.6	1.00
87	0.465	61	1.00
88	0.4755	58.84	1.00
89	0.479	61.4	1.00
90	0.4886	52.78	1.00
91	0.492	60.1	1.00
92	0.4924	54.16	1.00
93	0.4953	57.57	1.00
94	0.5	51.7	1.00
95	0.511	49.8	1.00
96	0.5157	52.59	1.00
97	0.5246	49.28	1.00
98	0.5547	46.78	1.00
99	0.555	51.5	1.00
100	0.5592	46.32	1.00
101	0.566	48.4	1.00
102	0.568	45.5	1.00
103	0.57	52.9	1.00
104	0.587	51.6	1.00
105	0.588	50.3	1.00
106	0.615	47.2	1.00
107	0.6203	42.2	1.00

108	0.623	41.89	1.00
109	0.6464	40.65	1.00
110	0.6491	40.56	1.00
111	0.654	47.4	1.00
112	0.668	47.1	1.00
113	0.6693	41.66	1.00
114	0.672	44.6	1.00
115	0.6807	38.77	1.00
116	0.681	38.6	1.00
117	0.686	38.45	1.00
118	0.706	42.9	1.00
119	0.7277	38.82	1.00
120	0.748	41.4	1.00
121	0.7489	37.1	1.00
122	0.764	36.34	1.00
123	0.788	38.4	1.00
124	0.79	39.8	1.00
125	0.8	33.52	1.00
126	0.812	38.3	1.00
127	0.818	37.3	1.00
128	0.838	37	1.00
129	0.8389	31.27	1.00
130	0.868	31.18	1.00
131	0.88	35	1.00
132	0.907	29.89	1.00
133	0.9241	30.97	1.00
134	0.951	32.8	1.00
135	1	27.44	1.00
136	1	30.9	1.00
137	1.005	27.87	1.00
138	1.042	28.38	1.00
139	1.087	26.65	1.00
140	1.096	25	1.00
141	1.169	22.91	1.00
142	1.18	26.4	1.00
143	1.24	25.5	1.00
144	1.242	23.2	1.00
145	1.27	25	1.00
146	1.28	25.2	1.00
147	1.282	20.82	1.00
148	1.315	21.53	1.00
149	1.34	24.2	1.00
150	1.46	21.8	1.00
151	1.492	18.35	1.00
152	1.493	19.4	1.00
153	1.501	18.33	1.00
154	1.53	18.4	1.00
155	1.54	21.9	1.00
156	1.603	17.54	1.00
157	1.77	18.4	1.00
158	1.8	15	1.00
159	1.87	17.4	1.00
160	1.873	15.87	1.00
161	1.927	15.21	1.00
162	2.32	13.12	1.00
163	2.53	12.35	1.00
164	3.005	10.67	1.00
165	3.108	10.47	1.00
166	3.258	10.27	1.00
167	3.606	9.772	1.00
168	3.82	8.88	1.00
169	3.94	8.54	1.00
170	3.94	8.36	1.00
171	4.07	8.35	1.00
172	4.16	8.05	1.00
173	4.67	7.18	1.00
174	5	7.21	1.00
175	5.189	7.004	1.00
176	5.33	7.06	1.00
177	5.397	7.003	1.00
178	5.99	6.41	1.00
179	6.088	6.287	1.00
180	6.32	5.997	1.00
181	7.07	5.66	1.00
182	7.69	5.17	1.00
183	8.99	4.721	1.00
184	9.61	4.2	1.00
185	9.84	4.377	1.00
186	10	4.424	1.00
187	10.1	4.32	1.00
188	10.24	4.249	1.00
189	11	4.01	1.00
190	12.1	3.605	1.00
191	12.77	3.765	1.00
192	13.1	3.76	1.00
193	13.2	3.66	1.00
194	13.9	3.59	1.00
195	14.6	3.41	1.00
196	14.61	3.33	1.00
197	16.01	3.14	1.00
198	16.2	3.29	1.00
199	17.92	2.956	1.00
200	19.18	2.895	1.00
201	19.234	2.764	1.00
202	19.39	2.754	1.00
203	20	2.73	1.00
204	21.1	2.82	1.00
205	23.4	2.4	1.00
206	23.4	2.48	1.00
207	24.17	2.415	1.00
208	29.1	2.28	1.00
209	30.21	2.106	1.00
210	30.538	2.094	1.00
211	32.6	1.99	1.00
212	38.99	1.667	1.00
213	40	1.808	1.00
214	43.2	1.66	1.00
215	44.57	1.704	1.00
216	45	1.79	1.00
217	50.295	1.572	1.00
218	50.6	1.58	1.00
219	54.4	1.52	1.00
220	55.4	1.485	1.00
221	68.7	1.28	1.00
222	68.9	1.35	1.00
223	68.9	1.33	1.00
224	70	1.314	1.00
225	77.09	1.245	1.00
226	78.2	1.27	1.00
227	78.249	1.246	1.00
228	82.7	1.196	1.00
229	84	1.174	1.00
230	88.1	1.12	1.00
231	93.8	1.03	1.00

232	98.9	1.07	1.00
233	101	1.08	1.00
234	104	1.05	1.00
235	108	1.02	1.00
236	109	1.03	1.00
237	124	0.994	1.00
238	125	1.005	1.00
239	130	0.927	1.00
240	134	0.926	1.00
241	138	0.907	1.00
242	144.3	0.903	1.00
243	158.5	0.8913	1.00
244	161.8	0.8299	1.00
245	163	0.879	1.00
246	163.3	0.877	1.00
247	168	0.799	1.00
248	170	0.819	1.00
249	175	0.815	1.00
250	183.2	0.8241	1.00
251	184.3	0.795	1.00
252	185.4	0.8185	1.00
253	186	0.799	1.00
254	186	0.841	1.00
255	189	0.778	1.00
256	190	0.751	1.00
257	191	0.799	1.00
258	193	0.732	1.00
259	220	0.729	1.00
260	229	0.711	1.00
261	229	0.71	1.00
262	240	0.7	1.00
263	250	0.727	1.00
264	258	0.721	1.00
265	269	0.671	1.00
266	277.3	0.672	1.00
267	280	0.674	1.00
268	284	0.646	1.00
269	286	0.675	1.00
270	311	0.592	1.00
271	312	0.607	1.00
272	318	0.656	1.00
273	327.3	0.6516	1.00
274	337.5	0.622	1.00
275	358	0.627	1.00
276	361	0.6	1.00
277	364	0.632	1.00
278	379	0.595	1.00
279	409	0.579	1.00
280	444	0.585	1.00
281	468	0.578	1.00
282	472	0.566	1.00
283	480	0.572	1.00
284	500	0.547	1.00
285	509	0.563	1.00
286	522	0.544	1.00
287	532	0.543	1.00
288	532	0.556	1.00
289	557	0.552	1.00
290	579	0.523	1.00
291	588	0.52	1.00
292	603	0.531	1.00
293	611	0.59	1.00
294	644	0.525	1.00
295	647	0.517	1.00
296	696	0.527	1.00
297	713	0.505	1.00
298	727	0.48	1.00
299	790	0.469	1.00
300	833	0.485	1.00
301	844	0.481	1.00
302	861	0.4875	1.00
303	932	0.472	1.00
304	961	0.478	1.00
305	984	0.466	1.00
306	985	0.477	1.00
307	985	0.485	1.00
308	1000	0.472	1.00
309	1000	0.483	1.00
310	1070	0.452	1.00
311	1090	0.423	1.00
312	1148	0.379	1.00
313	1150	0.492	1.00
314	1219	0.4603	1.00
315	1330	0.436	1.00
316	1410	0.446	1.00
317	1446	0.448	1.00
318	1480	0.429	1.00
319	1650	0.44	1.00
320	1690	0.435	1.00
321	1850	0.429	1.00
322	1950	0.427	1.00
323	2000	0.43	1.00
324	2027	0.409	1.00
325	2058	0.41	1.00
326	2070	0.41	1.00
327	2110	0.424	1.00
328	2118	0.409	1.00
329	2310	0.405	1.00
330	2337	0.388	1.00
331	2360	0.437	1.00
332	2380	0.368	1.00
333	2402	0.36	1.00
334	2501	0.391	1.00
335	2903	0.417	1.00
336	3160	0.383	1.00
337	3500	0.4	1.00
338	3950	0.386	1.00
339	4188	0.427	1.00
340	4244	0.38	1.00
341	4318	0.415	1.00
342	4420	0.382	1.00
343	4749	0.385	1.00
344	4873	0.378	1.00
345	5026	0.399	1.00
346	5069	0.391	1.00
347	5122	0.379	1.00
348	5260	0.382	1.00
349	6750	0.382	1.00
350	6930	0.387	1.00
351	8156	0.407	1.00
352	8400	0.396	1.00
353	9871	0.419	1.00
354	9884	0.42	1.00
355	10081	0.416	1.00

356	10088	0.42	1.00
357	10118	0.42	1.00
358	10121	0.419	1.00
359	10200	0.407	1.00
360	10353	0.412	1.00
361	10386	0.411	1.00
362	10625	0.412	1.00
363	10641	0.405	1.00
364	10763	0.407	1.00
365	10835	0.415	1.00
366	10900	0.395	1.00
367	10939	0.396	1.00
368	11290	0.471	1.00
369	11470	0.472	1.00
370	12000	0.418	1.00
371	12711	0.413	1.00
372	14334	0.415	1.00
373	15000	0.438	1.00
374	15200	0.42	1.00
375	15400	0.434	1.00
376	15900	0.42	1.00
377	15924	0.418	1.00
378	16327	0.425	1.00
379	17000	0.468	1.00
380	18200	0.442	1.00
381	18400	0.425	1.00
382	19765	0.431	1.00
383	19899	0.433	1.00
384	19955	0.431	1.00
385	19959	0.434	1.00
386	20342	0.424	1.00
387	20400	0.459	1.00
388	20565	0.427	1.00
389	20840	0.4072	1.00
390	21700	0.435	1.00
391	21900	0.433	1.00
392	21900	0.452	1.00
393	22640	0.458	1.00
394	23020	0.414	1.00
395	23600	0.46	1.00
396	26350	0.4207	1.00
397	26500	0.443	1.00
398	26580	0.4244	1.00
399	26630	0.4297	1.00
400	26900	0.46	1.00
401	28700	0.465	1.00
402	29880	0.4266	1.00
403	31990	0.4293	1.00
404	32800	0.467	1.00
405	33310	0.4383	1.00
406	34070	0.434	1.00
407	34390	0.435	1.00
408	35350	0.43	1.00
409	36220	0.4334	1.00
410	37600	0.472	1.00
411	38200	0.466	1.00
412	38890	0.4358	1.00
413	40500	0.446	1.00
414	41100	0.475	1.00
415	44700	0.477	1.00
416	47630	0.453	1.00
417	47854	0.463	1.00
418	48473	0.464	1.00
419	48593	0.459	1.00
420	48600	0.486	1.00
421	48971	0.461	1.00
422	49100	0.493	1.00
423	49528	0.462	1.00
424	49900	0.481	1.00
425	50600	0.4453	1.00
426	53790	0.4463	1.00
427	54570	0.4538	1.00
428	54860	0.437	1.00
429	56720	0.4516	1.00
430	58400	0.482	1.00
431	58560	0.4615	1.00
432	58700	0.4646	1.00
433	60810	0.4499	1.00
434	62920	0.4609	1.00
435	64220	0.4423	1.00
436	68400	0.484	1.00
437	69340	0.4615	1.00
438	69730	0.4514	1.00
439	72000	0.499	1.00
440	73450	0.4552	1.00
441	76760	0.4659	1.00
442	77510	0.4588	1.00
443	82700	0.4609	1.00
444	83430	0.4654	1.00
445	83500	0.487	1.00
446	85020	0.4649	1.00
447	86190	0.4718	1.00
448	87800	0.4666	1.00
449	92110	0.4608	1.00
450	92450	0.464	1.00
451	97400	0.47	1.00
452	97940	0.4621	1.00
453	100000	0.491	1.00
454	101700	0.4647	1.00
455	102300	0.4639	1.00
456	102800	0.484	1.00
457	111100	0.4661	1.00
458	111600	0.4679	1.00
459	114800	0.4819	1.00
460	115900	0.4746	1.00
461	117300	0.467	1.00
462	117300	0.469	1.00
463	117300	0.476	1.00
464	119000	0.417	1.00
465	120800	0.468	1.00
466	130200	0.4694	1.00
467	134800	0.4798	1.00
468	135900	0.4794	1.00
469	137200	0.4712	1.00
470	139300	0.469	1.00
471	147500	0.4792	1.00
472	147700	0.4795	1.00
473	148000	0.476	1.00
474	157200	0.46	1.00
475	166900	0.4777	1.00
476	176900	0.4813	1.00
477	178600	0.4819	1.00
478	182300	0.439	1.00
479	196100	0.4837	1.00

480	197500	0.443	1.00

Source: (Almedeij, 2008)

Nr. [#]	Terminal Reynolds number Ret [-]	Drag coefficient CD [-]	Sphericity phi [-]
1	0.1	240	1.00
2	0.2	120	1.00
3	0.3	80	1.00
4	0.4	62	1.00
5	0.8	33	1.00
6	1	25	1.00
7	4	8	1.00
8	5.33	7.06	1.00
9	5.99	6.41	1.00
10	6	6.3	1.00
11	10	4.2	1.00
12	13.1	3.76	1.00
13	14.6	3.41	1.00
14	16.2	3.29	1.00
15	21.1	2.82	1.00
16	29.1	2.28	1.00
17	45	1.79	1.00
18	54.4	1.52	1.00
19	78.2	1.27	1.00
20	200	0.74	1.00
21	400	0.58	1.00
22	1000	0.46	1.00
23	0.1	238	1.00
24	0.5	49.5	1.00
25	1	26.5	1.00
26	10	4.1	1.00
27	50	1.5	1.00
28	100	1.07	1.00
29	500	0.55	1.00
30	1000	0.46	1.00
31	5000	0.39	1.00
32	10000	0.41	1.00
33	50000	0.49	1.00
34	100000	0.48	1.00
35	200000	0.4	1.00
36	300000	0.18	1.00
37	500000	0.09	1.00
38	600000	0.1	1.00
39	700000	0.15	1.00
40	1000000	0.2	1.00

Source: (Cheng, 2009)

Nr. [#]	Terminal Reynolds number Ret [-]	Drag coefficient CD [-]	Sphericity phi [-]
1	5.02437E-07	66358879.66	1.00
2	6.21435E-05	542226.2462	1.00
3	0.000498029	67538.56997	1.00
4	0.003924296	8702.187413	1.00
5	0.062072982	543.4589283	1.00
6	0.126358448	238.1457673	1.00
7	0.176826021	173.715988	1.00
8	0.240958112	149.950173	1.00
9	0.334971971	122.4256837	1.00
10	0.453956058	81.2894712	1.00
11	0.840259441	44.15200832	1.00
12	1.504666001	24.9721245	1.00
13	2.996991449	14.92041522	1.00
14	3.435081081	16.1709487	1.00
15	5.046404718	10.27821743	1.00
16	7.247871231	6.631916869	1.00
17	8.488537544	6.277112994	1.00
18	8.823495412	7.386363636	1.00
19	13.81701205	4.62729791	1.00
20	16.25427127	4.05795192	1.00
21	24.98961987	3.353147386	1.00
22	27.32551027	2.804370447	1.00
23	44.7812727	1.674876627	1.00
24	30.98617473	1.960243588	1.00
25	38.50252543	2.440828402	1.00
26	49.60285288	2.335300322	1.00
27	56.7224705	2.196521427	1.00
28	68.92859965	1.641225011	1.00
29	67.13477787	1.556711759	1.00
30	98.28369015	1.734199361	1.00
31	107.2746645	1.455685648	1.00
32	182.8386699	1.437333333	1.00
33	179.8703095	1.325494581	1.00
34	339.3652081	1.163636364	1.00
35	492.6762552	1.257905669	1.00
36	475.9927595	1.15526406	1.00
37	422.5604816	1.245839497	1.00
38	385.7653884	1.334125393	1.00
39	608.2129704	1.22268431	1.00
40	843.4604937	1.20736	1.00
41	783.0080893	1.171476458	1.00
42	646.0322958	1.124908692	1.00
43	920.4871414	1.228707843	1.00

Source: (Wu et al., 2006)

Nr. [#]	Terminal Reynolds number Ret [-]	Drag coefficient CD [-]	Sphericity phi [-]
1	1700	2.482819	0.63
2	1430	1.489691	0.80

3	2310	1.426029	0.73
4	2220	1.311438	0.43
5	1260	1.782537	0.80
6	2070	1.604283	0.76
7	1700	1.158649	0.84
8	2280	1.209579	0.60
9	990	2.419157	0.47
10	925	1.451494	0.74
11	810	1.566086	0.66
12	920	1.757072	0.43
13	875	1.120452	0.56
14	1280	1.413297	0.62
15	956	1.69341	0.72
16	1330	0.9040008	0.64
17	1090	1.591551	0.49
18	547	1.298705	0.66
19	612	0.9549304	0.68
20	534	0.9803952	0.83
21	601	1.74434	0.69
22	465	1.527889	0.69
23	467	1.629748	0.80
24	362	1.948058	0.76
25	452	1.3751	0.68
26	455	1.438762	0.76
27	430	1.196846	0.65
28	360	1.566086	0.62
29	275	2.584678	0.68
30	320	2.075382	0.62
31	375	1.464227	0.87
32	430	1.438762	0.80
33	390	1.578818	0.79
34	400	1.438762	0.83
35	420	1.158649	0.44
36	290	1.64248	0.82
37	345	1.285973	0.59
38	330	1.438762	0.78
39	313	1.311438	0.68
40	430	1.082255	0.73
41	306	1.718875	0.68
42	326	1.285973	0.97
43	270	1.3751	0.73
44	21628.48	1.02439	0.62
45	401.3616	0.9549304	0.62
46	17816.06	0.7958896	0.77
47	291.3166	0.9676628	0.77
48	7750	3.078121	0.28
49	143.6666	2.724735	0.28
50	10065.5	1.83328	0.48
51	191.3333	1.731607	0.48
52	10638.4	1.97358	0.47
53	4503.529	2.250228	0.38
54	84.48	2.113579	0.38
55	4914.175	2.711486	0.28
56	93.24	2.673805	0.28
57	2749.899	1.565012	0.54
58	36.62666	2.839326	0.54
59	2713.535	2.312171	0.38
60	44.46666	2.839326	0.38
61	4005.833	1.135202	0.66
62	49.98666	2.279101	0.66
63	3420.7	0.9084254	0.71
64	35.81333	2.597411	0.71
65	5324.499	1.156575	0.72
66	79.15833	1.74434	0.72
67	7872.688	1.1832	0.49
68	120.3583	1.413297	0.49
69	4318.6	3.29839	0.24
70	85.79999	2.762932	0.24
71	3282.291	3.222378	0.38
72	54.81666	3.38682	0.38
73	5653.333	1.279771	0.56
74	80.18665	1.808002	0.56
75	4242.856	1.426069	0.61
76	59.32499	2.33003	0.61
77	5731.428	1.12368	0.78
78	90.63833	1.413297	0.78
79	8581.011	1.557302	0.64
80	8783.334	1.280857	0.76
81	161.975	1.247776	0.76
82	44	1.858931	0.88
83	6826.427	1.085242	0.73
84	95.75999	1.74434	0.73
85	6495.52	1.101323	0.78
86	96.51999	1.540621	0.78
87	3142.857	2.896594	0.42
88	47.3	2.877524	0.42
89	11629.28	1.307085	0.60
90	191.285	1.464227	0.60
91	4292.187	2.434549	0.34
92	73.18499	2.508284	0.34
93	5284.062	1.125018	0.76
94	72.52	1.782537	0.76
95	7639.896	1.23494	0.62
96	9315.268	0.7007031	0.81
97	115.3733	1.3751	0.81
98	4975.816	1.60625	0.48
99	80.465	1.96079	0.48
100	6056.733	1.75216	0.47
101	98.92665	2.06265	0.47
102	6333.473	1.565107	0.52
103	104.65	1.706142	0.52
104	6566.326	2.225401	0.30
105	115.225	2.317298	0.30
106	8068.957	1.304315	0.62
107	142.45	1.273241	0.62
108	4457.142	1.520197	0.37
109	54.32	2.96665	0.37
110	5133.673	2.325034	0.39
111	6577.082	1.420974	0.68
112	115.0333	1.426029	0.68
113	15373.06	0.897056	0.81
114	253.2333	1.031325	0.81
115	9382.082	1.480678	0.48
116	149.8167	1.757072	0.48
117	255.0167	1.018592	0.71
118	12461.35	2.082539	0.38
119	222.46	1.909861	0.38
120	8012.04	1.531782	0.58
121	152.1667	1.349635	0.58
122	4121.02	1.574323	0.64
123	62.89332	2.139044	0.64
124	3119.285	1.002221	0.62
125	35.67666	2.673805	0.62
126	4811.428	1.312819	0.64

127	51.14666	3.75606	0.64
128	8936.733	0.8465172	0.65
129	122.0417	1.438762	0.65
130	5323.01	1.228489	0.59
131	71.49332	1.948058	0.59
132	4648.541	1.305005	0.58
133	67.48666	1.808002	0.58
134	8494.897	1.049889	0.65
135	4696.773	1.558683	0.75
136	72.42666	1.858931	0.75
137	4780.407	2.047603	0.46
138	78.50665	2.393692	0.46
139	1396.734	2.291659	0.36
140	16.42167	5.322145	0.36
141	2571.428	1.150362	0.66
142	29.4	2.864791	0.66
143	7576.25	0.9260029	0.72
144	96.58	1.69341	0.72
145	5485.713	1.273406	0.61
146	79.39999	1.922593	0.61
147	4313.571	1.13515	0.66
148	61.21499	1.795269	0.66
149	10939.79	0.491502	1.00
150	136.7933	1.018592	1.00
151	12192.19	0.5124055	1.00
152	159.375	0.9167333	1.00
153	13471.43	0.4927111	1.00
154	180.4	0.878536	1.00
155	13197.25	0.9473426	0.72
156	157.5	1.107719	0.72
157	14256.88	0.9530962	0.71
158	155.6413	1.32417	0.71
159	14055.14	0.9877916	0.66
160	11555.96	1.752815	0.59
161	148.4076	1.757072	0.59
162	17493.94	0.8718508	0.61
163	198.6739	1.133184	0.61
164	13172.66	0.8698719	0.58
165	139.9456	1.273241	0.58
166	14924.68	1.327274	0.63
167	203.5	1.184114	0.63
168	7784.128	3.171439	0.37
169	117.2272	2.33003	0.37
170	16205.5	1.159257	0.55
171	193.3913	1.349635	0.55
172	11230.18	1.147177	0.50
173	112.0793	1.922593	0.50
174	8345.688	1.177304	0.69
175	89.67609	1.706142	0.69
176	8416.881	1.701987	0.55
177	110.3478	1.64248	0.55
178	7618.349	1.60902	0.54
179	98.91087	1.578818	0.54
180	9782.02	1.375971	0.61
181	112.0609	1.731607	0.61
182	11190.83	1.023968	0.66
183	133.2065	1.196846	0.66
184	10801.38	0.7243962	0.74
185	103.6489	1.298705	0.74
186	8332.569	1.328607	0.69
187	101.5435	1.489691	0.69
188	9729.267	0.9564808	0.78
189	104.5522	1.387832	0.78
190	10486.24	0.9332521	0.75
191	8983.12	1.372073	0.50
192	104.0565	1.69341	0.50
193	4408.073	2.134858	0.57
194	5271.743	1.164091	0.67
195	5652.11	1.350893	0.61
196	65.78261	1.667945	0.61
197	3133.486	1.749753	0.48
198	30.34565	3.119439	0.48
199	4045.504	1.552655	0.57
200	43.43695	2.253636	0.57
201	6612.11	1.228416	0.72
202	3077.982	2.734766	0.50
203	41.25	2.482819	0.50
204	5171.009	1.262166	0.59
205	51.18695	2.164509	0.59
206	2917.431	2.677729	0.34
207	31.8	3.717863	0.34
208	1069.358	3.575646	0.21
209	9.569564	7.512119	0.21
210	16.64022	5.984231	0.20
211	9.921738	5.156625	0.75
212	18.03261	3.208566	0.77
213	2057.339	1.348632	0.58
214	15.675	3.896116	0.58
215	2914.495	0.8979912	0.61
216	19.41304	3.38682	0.61
217	2826.605	1.072282	0.58
218	20.26522	3.501412	0.58
219	1967.89	1.38797	0.69
220	1695.688	1.389052	0.56
221	11.40435	5.13116	0.56
222	1945.871	1.623882	0.50
223	15.06522	4.583666	0.50
224	1413.578	0.9860528	0.73
225	7.408695	6.111555	0.73
226	1005.505	1.134751	0.79
227	5.130435	7.384796	0.79
228	644.0367	2.090615	0.41
229	1169.725	1.597499	0.63
230	7.336956	6.748175	0.63
231	876.422	1.559133	0.47
232	4.723913	9.040008	0.47
233	5.001087	8.912684	0.57
234	1206.972	1.698385	0.49
235	7.743477	6.875499	0.49
236	1045.505	1.31986	0.48
237	5.308696	8.530711	0.48
238	5.75	8.78536	0.48
239	822.0184	1.074639	0.69
240	3.446739	10.44057	0.69
241	172.1822	1.879364	0.54
242	177.1196	1.122224	0.78
243	202.9152	1.12103	0.90
244	200.2254	1.168023	0.74
245	213.2818	1.194123	0.70
246	202.6873	1.16478	0.81
247	121.8259	2.551069	0.43
248	200.1722	1.186164	0.71
249	153.5556	1.354575	0.64
250	222	1.215821	0.76

251	213.6698	1.203386	0.69
252	133.0094	1.64951	0.51
253	167.8283	1.531474	0.63
254	181.7359	1.159286	0.90
255	94.66191	2.384628	0.34
256	126.72	1.710894	0.58
257	144.24	1.78902	0.66
258	170.19	1.351604	0.74
259	171.405	1.1753	0.71
260	169.726	1.047159	0.78
261	167.76	1.323747	0.72
262	131.652	1.481496	0.66
263	78.232	2.400585	0.49
264	139.194	1.079699	0.87
265	75.89273	2.075095	0.59
266	83.59637	2.326982	0.55
267	80.91	2.189259	0.56
268	116.7409	1.513472	0.61
269	116.2146	1.571264	0.66
270	145.7146	1.028012	0.89
271	82.63126	1.896869	0.67
272	97.91429	1.395961	0.79
273	71.97273	2.265033	0.45
274	72.96001	1.469345	0.82
275	59.76364	2.189875	0.74
276	52.41667	2.726132	0.61
277	71.69717	1.621474	0.73
278	104.0094	1.669394	0.65
279	54.00001	1.756697	0.77
280	35.22728	3.421918	0.37
281	56.29092	2.098812	0.60
282	58.45833	1.776826	0.73
283	41.79259	2.522126	0.55
284	53.14815	2.244442	0.65
285	74.91668	2.168659	0.61
286	51.05455	2.551416	0.57
287	47.43818	3.757338	0.38
288	60	2.088016	0.66
289	33.53637	3.775685	0.43
290	50.33273	1.676203	0.79
291	54.28704	1.722417	0.78
292	41.48149	2.6794	0.59
293	50.4889	1.90081	0.73
294	46.34259	2.952052	0.49
295	35	2.331942	0.78
296	31.39151	3.239589	0.67
297	34.36132	3.009617	0.69
298	22.19418	3.759439	0.61
299	23.34757	4.122909	0.55
300	9.786408	6.952913	0.49
301	18.5534	4.373856	0.63
302	10.58218	6.184364	0.49
303	19.82673	4.89926	0.52
304	17.88119	4.897227	0.56
305	10.83565	5.89842	0.45
306	31.12872	2.412107	0.81
307	29.46535	2.692129	0.73
308	10.88	5.968017	0.51
309	16.65	7.086748	0.49
310	25.41	2.473868	0.75
311	27.45	2.607299	0.70
312	12.844	7.171138	0.48
313	28.35	2.444384	0.88
314	15.9901	4.535693	0.82
315	15.9901	4.535693	0.75
316	18.50495	4.572642	0.67
317	23.16832	3.587929	0.68
318	10.90909	4.905976	0.75
319	9.018182	7.179011	0.64
320	11.61111	7.523045	0.53
321	8.622224	8.147079	0.40
322	14.9537	4.535693	0.71
323	12.28679	4.164848	0.74
324	8.452831	8.799782	0.51
325	20.61321	2.477912	0.75
326	13.08491	6.149444	0.67
327	9.358491	7.179011	0.64
328	6.312727	9.815053	0.50
329	4.058182	14.95627	0.48
330	5.296297	11.58153	0.47
331	3.328302	16.04127	0.34
332	4.746364	9.623081	0.82
333	4.16	10.96312	0.87
334	3.648	11.11192	0.69
335	7.15	6.589401	0.68
336	6.831	9.09412	0.58
337	9300	0.5	0.93
338	7640	0.77	0.89
339	7030	0.87	0.75
340	5700	1.28	0.61
341	7410	0.78	0.82
342	5170	1.53	0.42
343	3520	3.72	0.22
344	7020	0.85	0.72
345	5710	1.28	0.51
346	4960	1.82	0.43
347	6750	0.97	0.73
348	6680	0.96	0.68
349	4840	1.84	0.35
350	7430	0.87	0.84
351	5160	1.69	0.59
352	5540	1.46	0.44
353	3760	3.26	0.17
354	138000.4	0.4776005	1.00
355	125587.6	0.5511098	0.88
356	84549.95	0.8297004	0.78
357	67655.5	1.010894	0.59
358	66481.03	0.8949075	0.64
359	55824.91	0.8566666	0.59
360	20470.68	3.530694	0.22
361	56948.04	0.7865797	0.74
362	48828.03	1.189853	0.55
363	31399.95	1.813717	0.41
364	58011.92	0.6403614	0.83
365	52992.35	0.644904	0.87
366	30630.27	1.697541	0.43
367	17952.09	3.0963	0.24
368	32314.62	1.263559	0.51
369	52865.41	0.5977843	0.94
370	42230.73	0.8836951	0.73
371	37361.9	1.034436	0.57
372	26966.68	1.378103	0.51
373	34337.45	0.8367435	0.62
374	48375.16	0.4858377	1.00

375	28568.61	1.202977	0.52
376	41554.09	0.6376725	0.80
377	19890.9	2.088028	0.36
378	13922.35	2.891059	0.26
379	19142.08	1.910616	0.42
380	33419.02	0.7204961	0.81
381	25679.24	1.041754	0.46
382	18553.53	1.456547	0.46
383	28882.15	0.7996575	0.75
384	11975.34	3.247287	0.28
385	13470.03	2.323254	0.34
386	34500.12	0.4890633	1.00
387	16329.88	1.629924	0.41
388	10619.79	2.687794	0.27
389	22207.27	0.9351111	0.75
390	19203.12	1.109206	0.55
391	28080.1	0.4805797	1.00
392	16182.57	1.062033	0.51
393	15675.3	1.230591	0.59
394	16532.93	1.039187	0.61
395	8983.974	2.436134	0.24
396	9012.45	2.443855	0.28
397	19020.43	0.7437326	0.80
398	11751.15	1.442628	0.43
399	13209.88	1.194983	0.48
400	4863.186	3.199697	0.19
401	15101.21	0.6126249	0.95
402	15660.07	0.4631312	1.00
403	10356.78	0.7766601	0.67
404	11668.14	0.6739723	0.80
405	4699.109	2.577607	0.29
406	11921.18	0.5415934	0.88
407	4783.297	1.611333	0.36
408	9253.456	0.5816314	0.76
409	10033.04	0.4387221	1.00
410	5653.645	1.036044	0.58
411	5076.411	1.054147	0.52
412	5931.013	0.7281197	0.78
413	6677.624	0.4786692	0.86
414	4603.267	0.8973883	0.62
415	5906.211	0.5555111	0.80
416	3725.386	1.182575	0.51
417	5796.246	0.5045519	0.78
418	5337.831	0.546326	0.78
419	4642.313	0.6722717	0.71
420	2653.354	1.455447	0.39
421	2260.267	1.717506	0.31
422	4046.741	0.6462363	0.66
423	4388.995	0.571855	0.77
424	4664.423	0.4702538	1.00
425	2544.44	1.301645	0.48
426	2431.55	1.322081	0.42
427	3117.7	0.7999262	0.57
428	3759.251	0.5062206	0.84
429	3151.476	0.5882542	0.77
430	2946.739	0.6612768	0.72
431	1374.032	2.169907	0.33
432	2280.544	0.7682392	0.64
433	3154.497	0.4726875	1.00
434	2198.505	0.8988177	0.67
435	2520.258	0.6002663	0.74
436	1698.166	1.028088	0.64
437	2394.553	0.4756716	1.00
438	1212.058	1.521606	0.49
439	1778.19	0.781939	0.74
440	1778.219	0.7387486	0.73
441	1489.794	0.6941938	0.69
442	1442.099	0.7441227	0.68
443	1299.487	0.8794923	0.72
444	1692.01	0.4819697	1.00
445	1138.021	0.9557016	0.65
446	1134.22	0.6332642	0.85
447	1188.167	0.4818945	1.00
448	27.4	3.7	0.44
449	15.5	4.76	0.48
450	24	3.41	0.69
451	10.7	7.26	0.33
452	14.2	5.2	0.35
453	1.8	25.15	0.36
454	8.4	7.75	0.44
455	17.4	4.45	0.51
456	18.7	3.36	0.62
457	17.2	5.91	0.32
458	7.3	8.14	0.30
459	2	20.9	0.44
460	30.4	2.46	0.65
461	15.9	4.25	0.57
462	3.3	24.25	0.25
463	6.2	7.84	0.49
464	1.7	25.01	0.47
465	1.6	19.71	0.42
466	21.6	3.32	0.63
467	2.3	14.81	0.56
468	11.6	10	0.19
469	9.7	7.62	0.43
470	3.9	13.12	0.35
471	8	11.8	0.28
472	9	8.16	0.24
473	8.4	10.85	0.24
474	4.5	17.51	0.35
475	1.7	25.35	0.49
476	5.3	12.75	0.36
477	3.9	13.06	0.47
478	1.3	25.5	0.36
479	4.9	14.37	0.24
480	4.3	16.1	0.24
481	1.5	58.5	0.26
482	7.4	8.02	0.35
483	3.2	16.07	0.51
484	2.8	20.2	0.39
485	3.9	13.01	0.49
486	23.5	3.46	0.53
487	32.8	3.74	0.36
488	32.2	3.45	0.58
489	11.6	6.49	0.37
490	18.5	4.69	0.29
491	12.4	8.31	0.21
492	5.5	8.81	0.40
493	1.9	20.75	0.68
494	4.2	9.66	0.55
495	11.3	5.54	0.54
496	30	3.47	0.46
497	8.4	7.2	0.31
498	4.5	10.41	0.36

499	1.5	20.71	0.56
500	3.6	13	0.27
501	1.4	25.1	0.31
502	7.7	6.5	0.61
503	8.2	7.6	0.46
504	8.6	7.25	0.42
505	21.8	4.25	0.58
506	27.2	2.96	0.61
507	28.9	3.24	0.59
508	39.2	2.28	0.76
509	8.6	6.1	0.45
510	20.5	4.14	0.52
511	17.1	4.39	0.36
512	24.8	3.72	0.58
513	9.1	6.52	0.51
514	38.5	2.32	0.63
515	31.8	2.99	0.65
516	31.9	2.99	0.52
517	17.1	4.16	0.51
518	19.1	3.9	0.50
519	13.5	4.56	0.50
520	15.6	6.46	0.29
521	11.6	7.02	0.33
522	4.5	8.85	0.62
523	7	7.78	0.42
524	6.7	8	0.38
525	37.6	2.72	0.55
526	28.8	2.89	0.55
527	36.6	3.47	0.39
528	17	3.34	0.88
529	11	6.8	0.28
530	7.6	7.6	0.47
531	21.8	4.91	0.32
532	13.5	4.8	0.50
533	4.2	12.31	0.55
534	21.5	3.68	0.59
535	6.2	8.33	0.65
536	11.7	5.65	0.51
537	4.1	14.35	0.51
538	5.3	8.95	0.62
539	10.4	5.75	0.58
540	5.3	9.77	0.58
541	43.8	2.87	0.50
542	41.8	2.55	0.64
543	18.1	5.44	0.69
544	27	3.66	0.45
545	3.9	11.68	0.53
546	2.4	13.45	0.57
547	1.8	25.7	0.40
548	1.8	25.6	0.40
549	2.4	19.29	0.37
550	3.8	12.37	0.42
551	1.8	28.39	0.32
552	2.6	13.35	0.85
553	4	16.62	0.35
554	0.8	37.19	0.58
555	22.6	3.45	0.62
556	18.6	4.2	0.52
557	15.9	4.88	0.48
558	24.6	3.78	0.49
559	21.6	4.13	0.56
560	30.4	2.69	0.60
561	19.8	4.37	0.40
562	24.7	3.69	0.53
563	10.9	5.98	0.47
564	10.5	5.56	0.61
565	10.4	6.89	0.47
566	5	10.07	0.58
567	4.4	15.35	0.33
568	3.5	10.9	0.52
569	4.8	9	0.80
570	3.6	15.55	0.24
571	2.2	16.77	0.45

Source: (Dioguardi et al., 2018)

1	0.032076364	1860.372569	0.58
2	0.048192011	1467.40357	0.54
3	0.076095136	618.7473442	0.69
4	0.142769061	286.8478685	0.75
5	0.137125397	301.3033679	0.67
6	0.161338523	280.3993143	0.64
7	0.206780302	244.462989	0.65
8	0.201949638	209.1531874	0.54
9	0.209362575	240.8064663	0.66
10	0.248184032	158.1944031	0.60
11	0.218300627	181.8579297	0.61
12	0.377094218	133.381916	0.71
13	0.547637189	95.34828835	0.76
14	0.674406484	62.65470259	0.85
15	0.347950744	118.6276563	0.57
16	0.612150494	90.11383489	0.71
17	0.802209723	59.42103546	0.83
18	0.771808955	67.67445937	0.72
19	1.131706077	52.57866321	0.85
20	0.566782588	76.85856294	0.60
21	0.745707769	55.18965316	0.67
22	1.348184921	37.825806	0.93
23	0.581725095	90.62815846	0.49
24	1.277208947	49.93482608	0.75
25	0.666933462	52.06184147	0.64
26	0.600917611	115.0541753	0.44
27	0.992571085	54.28447021	0.67
28	1.380108657	39.63274182	0.81
29	0.993136536	61.86665431	0.56
30	0.786311038	55.5231404	0.64
31	1.421567227	41.85678858	0.72
32	1.027925166	66.65136977	0.57
33	0.754238805	64.65432319	0.43
34	1.395886195	35.03745393	0.71
35	1.057325609	37.57426252	0.66
36	1.005140243	53.41980972	0.54
37	1.058259266	42.04969592	0.60
38	1.665886499	37.23255335	0.65
39	1.97404242	27.34220547	0.67
40	0.88306405	102.1248142	0.36
41	1.7974689	31.5963232	0.64
42	1.063942151	34.37217736	0.51
43	1.900012127	25.50669919	0.67
44	2.497209605	26.50192529	0.70
45	1.316595384	37.66859784	0.52

46	3.147596607	19.11666131	0.78
47	1.918564297	28.91290671	0.57
48	3.625895659	20.66753619	0.72
49	2.326470317	24.05207713	0.59
50	3.634843843	18.84901304	0.64
51	2.37997765	22.47885109	0.53
52	2.956321664	20.89604327	0.61
53	3.688847083	17.44564825	0.66
54	2.085781131	25.14296051	0.47
55	2.368346678	27.57347714	0.48
56	2.457651225	23.68804467	0.47
57	4.003360265	14.34773957	0.65
58	3.521108447	14.88691065	0.55
59	5.778852134	11.530272	0.71
60	7.130674107	10.70064462	0.79
61	7.247466221	12.91317052	0.65
62	4.90514049	15.33803362	0.61
63	5.349354439	13.0707204	0.58
64	3.747074981	18.09943812	0.41
65	9.298032549	8.621064471	0.71
66	4.580210673	19.15299666	0.45
67	5.436777628	13.28433198	0.48
68	5.607512005	11.18942133	0.56
69	7.804699006	10.51534298	0.60
70	5.766916882	10.67991764	0.58
71	9.134110973	8.489407923	0.70
72	7.690470486	10.14590263	0.56
73	10.19738945	9.454941296	0.58
74	7.463387122	9.224421484	0.53
75	10.14711444	7.116092901	0.67
76	9.258452122	9.81745708	0.69
77	6.503728493	12.50848762	0.57
78	8.405657891	6.825267295	0.67
79	8.349605432	7.399432799	0.53
80	9.105279793	8.524894122	0.51
81	5.99421484	11.92490487	0.35
82	13.69248683	10.19007573	0.54
83	15.20392971	6.310158962	0.67
84	34.50050736	2.630527488	0.94
85	18.57243915	7.386942562	0.65
86	31.32491413	4.235220411	0.71
87	32.5601565	3.305832528	0.74
88	24.00080428	3.791627573	0.60
89	19.78610725	5.524200371	0.61
90	51.83820041	2.226773096	0.94
91	40.6255878	3.789945988	0.76
92	46.40659021	2.570671778	0.85
93	46.93730692	2.155521954	0.85
94	26.49197646	3.89001794	0.66
95	25.24808332	4.258015474	0.59
96	51.99765214	2.338273085	0.85
97	47.94588627	3.225662189	0.71
98	54.01572009	2.996892522	0.72
99	29.88360313	3.942328031	0.57
100	79.78150577	2.275593748	0.85
101	90.07656554	1.838966268	0.93
102	51.74668286	2.561035228	0.67
103	40.85902434	3.455717974	0.60
104	38.90206427	4.534103647	0.49
105	40.18553732	5.613712498	0.44
106	87.31980854	2.294938299	0.75
107	90.92556325	1.976784852	0.81
108	67.7799111	2.550615173	0.67
109	62.34420119	2.062475303	0.75
110	94.70046412	1.587197643	0.85
111	88.72765975	2.320165397	0.72
112	73.51945922	2.422037768	0.56
113	56.66566523	2.539550521	0.64
114	87.12476831	1.976273209	0.71
115	152.656669	1.453808521	0.86
116	67.99612319	2.094425797	0.66
117	50.3771703	3.180153585	0.43
118	44.73986092	1.968163384	0.54
119	66.12440356	2.713451409	0.54
120	64.29496204	2.614771024	0.60
121	110.9252862	1.727902043	0.78
122	103.9769401	2.055542756	0.65
123	84.14914064	2.17323568	0.57
124	152.4956735	1.291097232	0.84
125	71.01659478	3.498387183	0.69
126	108.570683	1.890376253	0.64
127	120.9788532	1.582343906	0.67
128	65.18508813	2.144346552	0.51
129	144.5846358	1.706351187	0.70
130	77.19307261	1.862189659	0.55
131	112.6017286	1.618773297	0.67
132	84.50236384	2.012149727	0.74
133	176.7969716	1.305840248	0.78
134	81.70444899	2.221105735	0.52
135	182.9095304	1.732220091	0.72
136	114.5254465	1.813661594	0.64
137	107.4463423	2.41213797	0.53
138	125.1302204	1.814835541	0.59
139	168.7692671	1.868582414	0.64
140	109.6615003	1.969870648	0.57
141	76.93932645	2.945593092	0.36
142	102.6907124	2.295319395	0.47
143	186.4950441	1.470968376	0.66
144	154.8649515	1.662169176	0.61
145	121.2251076	3.632229908	0.62
146	126.3590146	1.973977922	0.47
147	186.9463598	1.463153757	0.65
148	300.6820698	1.293355466	0.79
149	152.4257265	1.771236046	0.55
150	141.505029	1.697963151	0.48
151	129.3164019	1.014997753	0.63
152	256.7799599	1.264922053	0.71
153	334.6803602	1.281432869	0.65
154	255.8295255	1.233463305	0.58
155	217.4732878	1.642118691	0.56
156	183.0301053	2.618577968	0.45
157	230.5583507	1.488726661	0.58
158	175.4063337	1.798962821	0.41
159	335.6466975	1.216084152	0.60
160	242.189204	1.444902665	0.48
161	438.9949015	0.828125248	0.71
162	283.5881776	1.62497398	0.56
163	209.0989406	1.713281648	0.59
164	262.6905273	1.239724349	0.67
165	358.0946405	1.260496639	0.67
166	328.6472423	1.332531047	0.74
167	397.8403174	1.330121227	0.58
168	298.4752174	1.265328234	0.53
169	235.4333321	1.768480355	0.59

170	279.47089	1.497137528	0.53
171	192.2904858	2.558771904	0.35
172	470.1059513	1.105588334	0.73
173	450.9923669	0.985961292	0.72
174	336.8273408	1.373766342	0.51
175	604.6689661	1.124942284	0.75
176	379.4570943	1.693403198	0.61
177	366.7921488	2.024087608	0.54
178	370.6943663	0.777186576	0.71
179	176.7257844	1.238826433	0.36
180	495.3600576	1.17510359	0.69
181	464.3886316	0.88556471	0.67
182	583.7257428	0.982855767	0.60
183	592.3707426	0.850835234	0.78
184	565.7218282	0.920980892	0.70
185	641.5025036	0.731801023	0.77
186	549.2878348	0.861027104	0.66
187	623.1842797	1.405524236	0.64
188	930.2390557	0.779493767	0.80
189	488.9177122	1.278476836	0.57
190	604.579302	1.001094743	0.69
191	473.6226488	1.021363169	0.57
192	1158.1397	0.731066494	0.94
193	586.0020149	0.987879316	0.73
194	1255.841982	0.754251055	0.89
195	1400.864154	0.907555666	0.94
196	1166.88207	1.065199824	0.85
197	1002.67215	1.237378918	0.71
198	1011.265678	1.045889768	0.74
199	780.471555	1.125320535	0.60
200	1176.136921	1.348696751	0.76
201	701.5527443	1.216288754	0.54
202	715.8201394	1.125592483	0.67
203	1334.5015	0.942918321	0.85
204	1079.259345	1.101994222	0.69
205	734.0798358	1.066557902	0.62
206	1463.002938	0.660439127	0.86
207	1515.359224	1.090913431	0.83
208	1503.028601	0.860034796	0.85
209	1528.137074	1.09631829	0.72
210	963.9710835	0.999654584	0.65
211	2100.920532	0.942777778	0.85
212	1461.959415	1.043434316	0.71
213	1190.617292	0.967983048	0.57
214	901.6377798	1.005554971	0.61
215	919.6859437	1.219235967	0.59
216	2443.95172	0.732322721	0.93
217	2101.90412	1.134573281	0.75
218	1438.921162	1.032974705	0.67
219	1005.409088	2.660493844	0.44
220	1175.945126	1.41640306	0.60
221	1035.329621	1.207997977	0.57
222	2270.039984	0.828787999	0.85
223	1223.060183	0.726247912	0.66
224	1344.916453	1.575051252	0.64
225	1050.569905	1.436183399	0.56
226	3381.184122	0.828506106	0.86
227	1712.716002	0.92953536	0.75
228	1363.125055	1.911658594	0.60
229	2277.492962	1.02081238	0.72
230	2663.921722	0.671454312	0.81
231	2007.424769	0.870381144	0.67
232	2132.252432	0.993743077	0.71
233	2049.285381	0.890344666	0.56
234	2365.687345	1.140602471	0.65
235	2633.93563	0.909849748	0.78
236	1342.118892	1.191120408	0.49
237	1305.625919	1.421742872	0.43
238	1733.122653	1.190743489	0.54
239	2567.01659	1.033764594	0.67
240	1931.381445	0.860003146	0.66
241	1236.193664	1.147704756	0.54
242	1700.352498	0.710587268	0.64
243	2258.543224	1.248566849	0.67
244	3478.839217	0.973265169	0.78
245	3717.978234	0.633614483	0.84
246	2558.738663	1.010465033	0.64
247	2039.795071	1.995550574	0.53
248	3729.938576	1.173550191	0.72
249	1768.384671	1.190200047	0.55
250	3329.39478	1.359144401	0.64
251	2521.530261	1.326884391	0.59
252	2483.673381	0.7423664	0.57
253	3556.080723	0.81680028	0.70
254	2512.711539	1.160939486	0.57
255	1860.855683	0.896842777	0.51
256	1601.608072	2.031718245	0.36
257	2876.140728	0.907179773	0.64
258	2203.515993	0.983215589	0.52
259	4092.549955	0.881475308	0.66
260	2418.368782	1.752500631	0.48
261	3495.945056	0.968393953	0.61
262	2818.302743	1.608629918	0.55
263	5658.970173	1.047037278	0.79
264	3761.691651	1.115997319	0.65
265	5027.601357	0.963092004	0.71
266	2759.982804	1.252781995	0.47
267	3995.172168	1.492429157	0.61
268	2722.267839	0.998421424	0.47
269	1572.646553	1.537494423	0.42
270	6619.336111	0.905821046	0.65
271	2829.27648	2.043057628	0.41
272	3964.654197	1.502465382	0.56
273	4939.570625	0.958066281	0.58
274	6360.406493	1.08885472	0.70
275	7061.37358	0.910066897	0.71
276	4369.990831	1.284766836	0.58
277	6086.113664	1.048988137	0.60
278	4606.441397	1.177115488	0.55
279	5260.984135	1.394847393	0.56
280	4245.312028	1.445721864	0.45
281	5195.389234	0.909197768	0.48
282	6804.602281	1.060199391	0.67
283	7437.179529	1.082253491	0.58
284	5454.211863	1.589953741	0.51
285	5327.466106	1.321959554	0.53
286	6515.315793	0.797067675	0.53
287	2993.862812	1.665027856	0.36
288	3845.97118	1.946565252	0.35
289	3696.730608	2.078970775	0.36
290	10217.72398	0.934670892	0.60
291	7467.894688	1.601479281	0.50
292	13294.40096	1.264615892	0.73
293	9602.765496	1.843066883	0.55

294	13756.18392	1.487925923	0.75
295	11913.25285	1.463552095	0.64
296	20606.1022	2.09507434	0.55
297	10483.01456	1.566321536	0.37
298	14242.83193	1.772478256	0.44
299	17185.62015	1.655987669	0.48
300	21391.59039	1.724811783	0.46
301	19146.78111	1.575007493	0.38
302	17857.80707	1.62054788	0.35
303	20704.96363	1.194655778	0.33

Source: (Breakey et al., 2018)

1	2.097303544	13.92404322	1.00
2	1.156013908	27.14865788	0.90
3	0.886331418	29.95849533	1.00
4	1.316579366	21.01233001	0.92
5	1.04352583	26.05222855	0.95
6	0.363970084	83.79817917	0.78
7	0.863198876	33.46942907	0.98
8	1.703538147	16.17068677	0.87
9	0.854493637	32.73739373	1.00
10	0.634834252	43.27017058	1.00
11	0.547401406	51.85646815	0.85
12	2.215022715	14.97425544	0.89
13	1.627316473	20.09807323	0.83
14	0.787322907	42.83869179	0.74
15	1.381100694	20.72269714	0.79
16	1.223821628	25.18911004	0.85
17	0.630746406	42.08666625	0.86
18	0.595170079	56.23391778	0.82
19	0.730453526	38.28979126	0.95
20	0.470309622	54.09771434	0.95
21	0.581194437	52.80097495	0.75
22	0.083537611	339.27868	0.58
23	0.081066598	345.1757562	0.80
24	0.654286038	41.26548312	0.89
25	0.106338487	264.5487431	0.74
26	0.366675057	67.69810132	1.00
27	0.391090837	66.18310329	1.00
28	0.439525677	59.88607556	0.95
29	0.5488997	45.40937493	0.97
30	0.092795112	289.7788349	0.97
31	1.0848208	26.44252532	0.91
32	0.704806251	40.01406894	0.87
33	0.615245112	46.48144647	0.85
34	0.430210184	63.65665982	1.00
35	0.645900529	46.18408823	0.88
36	0.417413032	65.82952334	0.93
37	0.407272878	60.34453129	1.00
38	0.452389519	59.64613115	0.90
39	0.456978276	60.15154802	0.89
40	0.476391917	61.40856462	0.92
41	0.307958748	85.06117387	0.90
42	0.206811564	118.6690833	0.90
43	0.262135076	94.49730025	0.81
44	0.72159074	37.13955231	0.95
45	0.595367516	41.03753705	0.80
46	0.320110837	77.75704716	0.95
47	0.242052412	99.45513037	0.85
48	0.486896396	57.591364	1.00
49	0.148869529	173.3651743	0.83
50	0.406866406	66.88851676	0.85
51	0.321321709	78.68259661	0.98
52	0.481537654	58.63572491	0.81
53	0.098103511	337.3421257	0.76
54	0.156437234	163.9496063	0.78
55	0.073743047	419.7473094	0.87
56	0.074747601	367.9405763	0.90
57	0.164946364	176.6519369	0.92
58	0.122479897	225.8772415	1.00
59	0.115557859	214.4650829	0.96
60	0.1362276	191.7554459	0.94
61	0.106039871	249.6496745	0.96
62	0.090941735	284.5678382	0.74
63	0.141352596	204.3568072	0.94
64	0.057211042	524.118945	1.00
65	0.119873439	245.673104	0.77
66	0.110213552	273.1178318	0.83
67	0.101297445	268.0457631	0.89
68	0.132652966	178.8641246	0.99
69	0.065299679	415.6158689	0.84
70	0.059205269	444.9140893	0.91
71	0.038662824	749.2800107	0.61
72	0.066457504	381.9997785	0.84
73	2221.340379	1.281584386	0.77
74	1701.105559	2.442737869	0.86
75	2311.557919	1.39706265	0.96
76	2071.342152	1.640150944	0.99
77	1561.084632	3.206258668	0.85
78	2281.351173	1.181549648	1.00
79	990.3071117	2.375647899	0.80
80	1700.666848	1.145281719	0.93
81	1260.439063	1.74581763	1.00
82	1430.526392	1.471520734	0.95
83	920.2091031	1.7256885	0.80
84	1090.292044	1.573261285	0.80
85	1330.362363	1.083552615	0.90
86	1280.389836	1.382471338	0.95
87	810.1444744	1.547881164	0.79
88	925.1874098	1.436834764	0.81
89	465.0389101	1.509708744	0.56
90	452.0340546	1.365132775	0.73
91	547.0509604	1.281634916	0.65
92	534.0399272	0.96695514	0.67
93	375.0229675	1.453712459	0.58
94	612.0541523	0.947704309	0.70
95	390.0260596	1.531562126	0.68
96	467.0409523	1.605783095	0.67
97	420.0253232	1.131941884	0.77
98	320.0200021	2.058268027	0.54
99	601.0773603	1.723996357	0.83
100	275.0161391	2.535557963	0.67
101	430.0276802	1.19131473	0.91
102	400.0259955	1.396520186	0.70
103	455.0355672	1.423727227	0.66
104	345.0173521	1.278185515	0.75
105	326.0152371	1.282410865	0.74
106	306.0158152	1.692453676	0.97
107	430.0257888	1.071335621	1.00
108	360.0218203	1.552925453	0.69

109	430.0311579	1.422698178	0.83
110	270.0101463	1.347832908	0.76
111	290.0133435	1.58287952	0.99
112	0.050728174	1026.253434	0.32
113	0.063602786	652.8310609	0.32
114	0.074716767	473.0607852	0.32
115	0.063050915	704.8870055	0.44
116	0.073209117	522.8437878	0.44
117	0.091423824	335.2613793	0.44
118	0.037042298	1277.908392	0.29
119	0.045882767	832.9067095	0.29
120	0.040142659	1088.998084	0.30
121	0.048405173	748.9551866	0.30
122	0.037278837	1264.810504	0.36
123	0.047459108	780.3887948	0.36
124	0.052585863	635.6413663	0.36
125	0.07877835	525.254103	0.50
126	0.095213142	359.574944	0.50
127	0.111512108	262.1435399	0.50
128	0.05212982	813.3968675	0.46
129	0.060603218	601.8435054	0.46
130	0.074050132	403.1097292	0.46
131	0.058295122	625.6725865	0.55
132	0.068837856	448.7008435	0.55
133	0.076545569	362.8870293	0.55
134	0.03510189	1088.719338	0.56
135	0.037952521	931.3130279	0.56
136	0.047845888	585.986627	0.56
137	0.059840103	604.0109206	0.59
138	0.065517703	503.862611	0.59
139	0.079576521	341.5541448	0.59
140	0.03998791	1054.786834	0.43
141	0.052708141	607.1090637	0.43
142	0.065586383	501.2664829	0.63
143	0.079332569	342.6044438	0.63
144	0.059455226	546.2242188	0.65
145	0.060822938	521.9347817	0.65
146	0.074741413	345.6435159	0.65
147	0.069686801	499.1204392	0.61
148	0.071706708	471.3970286	0.61
149	0.09079483	294.0249415	0.61
150	0.070960399	471.7042747	0.64
151	0.091248935	285.2635613	0.64
152	0.09177738	335.2543297	0.69
153	0.095189616	311.6495907	0.69
154	0.11213313	224.5834862	0.69
155	0.100379318	258.4751891	0.64
156	0.079977902	407.1620875	0.64
157	0.082011891	303.8800652	0.68
158	0.066852892	457.3150125	0.68
159	0.098955219	253.4278248	0.72
160	0.084272209	349.4322145	0.72
161	0.084005436	368.1592525	0.72
162	0.092557535	303.2682468	0.72
163	0.10273345	246.1652552	0.72
164	0.063463464	450.196888	0.74
165	0.06633443	412.0709807	0.74
166	0.073662949	334.1579807	0.74
167	0.070864617	403.6583391	0.76
168	0.078550767	328.527675	0.76
169	0.095699613	257.7401138	0.77
170	0.086257515	317.2550188	0.77
171	0.092523287	288.8534455	0.80
172	0.096335493	266.4446518	0.80
173	0.06638105	387.5073107	0.81
174	0.289836828	99.01171342	0.83
175	1.033885861	28.72968053	0.83
176	0.312770288	92.89832211	0.82
177	0.146117621	200.1469513	0.80
178	0.600299767	51.058517	0.78
179	0.604103922	51.26294995	0.78
180	0.407801864	75.55968208	0.77
181	1.392531298	24.17138353	0.77
182	0.426138364	73.43879755	0.76
183	0.678742848	48.6453019	0.75
184	0.456111655	71.80834157	0.75
185	0.710160713	46.45523265	0.74
186	0.191990174	168.1043597	0.74
187	1.570082477	22.95782654	0.74
188	0.091732108	349.4543336	0.74
189	0.480639462	70.39202266	0.73
190	0.754479125	44.73530363	0.73
191	0.505488172	66.59517954	0.73
192	0.207732805	159.458341	0.72
193	0.51169768	67.54427546	0.72
194	0.235017277	143.3846972	0.71
195	0.802681975	44.53601845	0.71
196	0.110675682	313.9628455	0.69
197	0.239054139	149.5517938	0.69
198	0.114093142	305.3422623	0.69
199	0.26426388	143.2602329	0.66
200	0.138963406	271.0334562	0.64
201	0.160097489	265.3607587	0.60
202	0.184897589	251.4605599	0.56
203	7.083483494	5.346309561	0.59
204	2.649816928	6.777654832	0.55
205	9.822597838	4.337302832	0.52
206	3.965126845	6.21119694	0.44
207	0.333359505	109.3362821	0.43
208	0.382684989	88.15279191	0.42
209	0.193763479	163.9240198	0.40
210	0.241690143	138.4586384	0.39
211	0.273573046	122.9607887	0.39
212	0.217273725	147.7507466	0.38
213	0.937124323	47.48600588	0.65
214	1.537326067	35.29052143	0.69
215	1.807762843	31.90194482	0.68
216	2.168030094	26.61648518	0.68
217	2.556806665	22.32710048	0.66
218	2.782682648	21.54233095	0.65
219	0.000120472	267491.176	0.69
220	0.002784372	11210.9961	0.69
221	0.171713069	185.0145403	0.69
222	4.857436478	10.27886247	0.69
223	25.39890413	3.80237956	0.69
224	189.883489	2.352017016	0.69
225	0.272876866	106.7370653	0.69
226	0.000193768	170038.3827	0.69
227	0.004509785	7027.551149	0.69
228	6.839363673	8.525683664	0.69
229	35.10609393	3.272942176	0.69
230	236.1845746	2.499846719	0.69
231	0.000448152	75064.28336	0.69
232	0.010958323	2810.666591	0.69

233	0.61693199	55.65919059	0.69
234	13.3211356	5.307325509	0.69
235	60.81044208	2.575894137	0.69
236	0.000565638	44531.94929	0.87
237	0.024525479	984.5753869	0.87
238	0.866621775	31.33257375	0.87
239	15.50465586	3.433847437	0.87
240	88.39013621	1.263042124	0.87
241	0.000669512	50680.14564	0.87
242	0.000944774	27010.43911	0.87
243	0.041145373	591.9299508	0.87
244	26.12432569	2.418927501	0.87
245	123.6052401	1.092903987	0.87
246	0.001514629	22376.86601	0.87
247	0.000419643	75286.68572	0.73
248	0.018728885	1633.882499	0.73
249	0.626813944	54.0550127	0.73
250	13.27213481	5.360168701	0.73
251	63.27708395	2.385026574	0.73
252	513.7462752	1.250887364	0.73
253	0.001741218	18317.65446	0.73
254	0.07751094	399.591742	0.73
255	2.206849644	18.26693264	0.73
256	35.47973802	3.141934042	0.73
257	154.2655943	1.680915293	0.73
258	1059.968706	1.230912937	0.73
259	0.002883444	11276.64495	0.73
260	0.128509382	245.4085498	0.73
261	3.353543735	13.35405735	0.73
262	50.50306677	2.617728265	0.73
263	209.1284033	1.544104775	0.73
264	0.000458705	80526.16507	0.49
265	0.020973999	1718.726832	0.49
266	0.509361858	82.29740662	0.49
267	10.72109949	8.881539678	0.49
268	47.8148037	4.785381135	0.49
269	0.001047539	37008.86586	0.49
270	0.045195873	887.184504	0.49
271	1.089816839	43.08976691	0.49
272	18.38125189	7.242006651	0.49
273	0.022252114	1142.392231	0.89
274	0.000972709	26794.32367	0.89
275	0.042496101	602.3442948	0.89
276	0.026336261	974.3621677	0.89
277	0.650093095	45.15930054	0.89
278	15.03542881	4.036403703	0.89
279	73.19789233	1.825170565	0.89
280	531.1239965	1.336854096	0.89
281	0.056427791	461.1774688	0.89
282	1.334608338	23.28177911	0.89
283	25.76699275	2.986237063	0.89
284	113.4415393	1.651132421	0.89
285	789.6360266	1.314157651	0.89
286	0.000540652	59065.58198	0.77
287	0.012274406	2565.512669	0.77
288	0.705482158	48.74264351	0.77
289	14.5039429	5.126817576	0.77
290	66.70886596	2.451295431	0.77
291	536.9286304	1.308105385	0.77
292	105.9874356	2.090229455	0.77
293	0.045062687	717.7159134	0.77
294	1.437121833	27.16156311	0.77
295	23.43134389	4.236270939	0.77
296	787.6555098	1.310875133	0.77
297	0.000139031	214163.7778	0.78
298	0.002932684	10775.60519	0.78
299	0.186949831	166.4286429	0.78
300	5.223021943	9.479237513	0.78
301	27.82925552	3.377199168	0.78
302	249.3004633	1.454878634	0.78
303	0.000577548	52901.60461	0.78
304	0.012540004	2512.206503	0.78
305	0.786848028	42.94154569	0.78
306	70.49261394	2.243629281	0.78
307	551.0833928	1.269161148	0.78
308	0.002434644	15254.92965	0.70
309	0.056985321	604.1610936	0.70
310	5.341771466	10.02714361	0.70
311	36.24606994	3.484945234	0.70
312	177.4376022	2.423154703	0.70
313	0.002246042	13871.74314	0.78
314	0.095847507	326.8428777	0.78
315	2.826491561	14.4663999	0.78
316	40.7732377	2.882316349	0.78
317	173.1046336	1.617399861	0.78
318	1255.727224	1.062569278	0.78
319	110.5008123	1.03407669	1.00
320	931.006844	0.503637952	1.00
321	0.000372247	96162.56049	0.64
322	0.008477098	4151.254133	0.64
323	0.52695921	67.42574213	0.64
324	11.16541272	6.593611176	0.64
325	63.65990866	2.862433357	0.64
326	0.000910269	36380.61799	0.64
327	0.040282509	828.9756842	0.64
328	1.232622276	31.7809802	0.64
329	21.63621954	4.528534858	0.64
330	92.48541164	2.538414075	0.64
331	0.000389306	84317.22509	0.68
332	0.017504061	1789.597246	0.68
333	0.611505466	56.4400566	0.68
334	12.27926584	5.803360039	0.68
335	76.01384358	2.110511521	0.68
336	0.78658709	35.1900077	0.81
337	16.26614326	3.411771959	0.81
338	80.65655772	1.403500461	0.81
339	1.419806141	20.77016982	0.81
340	26.01880146	2.564246457	0.81
341	123.9248556	1.143300095	0.81
342	0.002971503	11060.36564	0.68
343	0.136456531	234.044717	0.68
344	3.773888644	11.77780917	0.68
345	52.59557158	2.514088193	0.68
346	261.7123482	1.415074266	0.68
347	0.000967422	35771.70844	0.81
348	0.041356473	873.5087941	0.81
349	1.320503143	30.75666556	0.81
350	28.49719892	2.93606635	0.81
351	261.256914	3.665960989	0.68
352	118.7586461	4.138785267	0.68
353	117.3601358	3.619245684	0.69
354	152.722738	4.252164416	0.70
355	220.8936234	3.323772961	0.70
356	88.76535965	4.314050377	0.71

357	364.9470675	3.36064137	0.71
358	10.5716632	9.003116959	0.71
359	169.6232627	3.431779031	0.71
360	227.1032055	3.828896338	0.71
361	39.52679303	6.019577371	0.71
362	110.4772178	5.581737642	0.71
363	218.0190773	4.351018566	0.71
364	1078.301911	2.732297264	0.71
365	279.3363461	3.253983971	0.72
366	268.7966791	1.324685257	0.82
367	303.405614	2.030453083	0.82
368	548.5700252	1.6976342	0.82
369	256.021369	1.855281019	0.83
370	431.3413943	1.709827356	0.83
371	186.2871882	1.850174466	0.83
372	723.3375566	1.647553309	0.83
373	340.64092	1.638838232	0.83
374	427.5546338	2.080541971	0.83
375	410.4524485	2.36425224	0.83
376	1933.485454	1.63669011	0.83
377	338.2271516	1.063242093	0.85
378	275.3605654	1.212070421	0.86
379	376.9570266	1.266601977	0.86
380	621.820408	1.193785055	0.86
381	792.7288299	1.227706617	0.86
382	31.80028138	2.763854032	0.87
383	619.2427259	1.430526176	0.87
384	106.2696729	2.31327877	0.87
385	310.9417287	1.957286312	0.87
386	594.4730169	1.625597927	0.87
387	3006.826326	0.976089202	0.87
388	431.7998029	1.55486546	0.87
389	479.3147724	1.209757551	0.87
390	1007.01246	1.291443959	0.87
391	752.4185967	1.297413017	0.87
392	338.9224334	1.074073313	0.87
393	755.8547901	1.080893278	0.87
394	986.3757499	1.060871064	0.87
395	41.42727525	2.149701798	0.87
396	730.6209667	1.35646098	0.87
397	131.3386483	1.999104543	0.87
398	370.9800738	1.815035572	0.87
399	579.2655732	1.078961965	0.87
400	701.3961281	1.541432932	0.87
401	3543.238029	0.927853628	0.87
402	463.1475356	1.122505836	0.87
403	526.8510673	1.374258321	0.87
404	433.415921	1.072089187	0.87
405	921.8267385	1.120477063	0.87
406	1223.205642	1.163344952	0.87
407	606.8883947	1.050275724	0.84
408	1086.005255	1.031323987	0.83
409	489.9448057	1.027945851	0.83
410	657.5077589	1.102672225	0.83
411	1416.576101	1.023525313	0.83
412	748.4396582	1.348328487	0.83
413	58.71055495	2.162287261	0.83
414	1080.348457	1.253310439	0.83
415	182.7505754	2.085921141	0.83
416	552.0391268	1.655927765	0.83
417	827.0982886	1.069158587	0.83
418	1037.134518	1.424216408	0.83
419	4761.916172	1.037794672	0.83
420	1334.090805	1.06484839	0.83
421	1814.058148	1.052839184	0.83
422	752.3866224	1.250267629	0.78
423	557.3149811	1.183558963	0.78
424	694.7002182	1.21057587	0.78
425	1256.212296	1.162105646	0.78
426	1623.000932	1.16760692	0.78
427	919.8128291	1.275115333	0.78
428	68.18173456	2.388888819	0.78
429	1246.530829	1.402705788	0.78
430	205.9027181	2.448372543	0.78
431	636.1716919	1.857884437	0.78
432	1196.669596	1.59398385	0.78
433	5493.888802	1.161720003	0.78
434	2074.976051	1.207446894	0.77
435	1528.527212	1.222577724	0.77
436	606.0737031	1.329809178	0.74
437	836.5023053	1.355571567	0.74
438	1344.216414	1.349779194	0.74
439	1739.558584	1.347134074	0.74
440	934.9458375	1.719362382	0.74
441	757.8283106	1.371433355	0.74
442	75.63087165	2.579958615	0.74
443	980.9654003	1.504922669	0.74
444	1340.317437	1.612264249	0.74
445	221.6419032	2.807868989	0.74
446	682.4903018	2.145128585	0.74
447	1286.704739	1.832118465	0.74
448	5911.719677	1.333252645	0.74
449	1606.464241	1.447662632	0.73
450	2202.324455	1.425251852	0.73
451	1762.340763	1.641501441	0.70
452	768.0365614	1.659728174	0.70
453	944.0109121	2.101704077	0.70
454	0.001929455	13351.85175	0.81
455	0.142928455	185.5043999	0.81
456	2.925585892	11.87682518	0.81
457	325.9938673	1.103963724	0.81
458	1.68017E-05	1542992.863	0.81
459	0.001341847	19160.71326	0.81
460	0.006849254	3786.699108	0.81
461	0.577399157	48.47719582	0.81
462	9.064606038	5.128439425	0.81
463	649.6224641	1.039472552	0.81
464	2.70348E-05	957549.9252	0.81
465	0.002188713	11670.02937	0.81
466	0.010598179	2442.323454	0.81
467	0.884727171	32.59701851	0.81
468	12.92602963	3.968655788	0.81
469	825.0294029	1.001268407	0.81
470	0.003087076	8393.923195	0.81
471	4.303778083	8.835005307	0.81
472	406.1170932	1.144874861	0.81
473	4.30839E-05	605588.5729	0.81
474	0.003486504	7346.101412	0.81
475	1.354117133	22.47272672	0.81
476	18.24791121	3.215931259	0.81
477	1035.067671	1.027218506	0.81
478	0.001773447	14423.25681	0.81
479	312.7200899	1.019043092	0.81
480	3.26763E-05	794426.5768	0.81

481	0.002542212	10134.21961	0.81
482	0.013294337	1950.269173	0.81
483	1.0579561	28.01690301	0.81
484	14.90457782	3.680540458	0.81
485	898.5786412	1.054142595	0.81
486	2.5947E-05	1002158.236	0.81
487	0.000210059	124019.8586	0.81
488	0.017026328	1495.881724	0.81
489	5.031770031	7.816743101	0.81
490	54.82573942	1.711039828	0.81
491	2117.791447	1.17846757	0.81
492	1.68311E-05	1544707.74	0.81
493	0.000135045	193537.8026	0.81
494	0.01102126	2321.28712	0.81
495	0.054390313	479.9285351	0.81
496	3.583570615	10.06096539	0.81
497	41.55477596	1.950772798	0.81
498	1707.653785	1.20236857	0.81
499	0.002407896	10612.1921	0.81
500	0.015180036	1727.540517	0.81
501	1.017404948	28.96252202	0.81
502	14.73748651	3.710549342	0.81
503	870.2742745	1.236960754	0.81
504	0.007788857	3303.749234	0.81
505	0.397316505	67.88355696	0.81
506	7.288336432	5.810059439	0.81
507	644.9002565	1.056216711	0.81
508	0.004616888	5538.683131	0.81
509	0.028636316	912.5334325	0.81
510	1.801366514	17.50220388	0.81
511	23.89620888	2.670017808	0.81
512	1229.86903	1.166430307	0.81
513	0.014038965	1853.163198	0.81
514	0.691844719	40.54428816	0.81
515	11.51123425	4.224049448	0.81
516	853.5213481	1.097611657	0.81
517	0.015884322	1593.009198	0.81
518	0.097220595	270.8889535	0.81
519	5.002163363	7.700085526	0.81
520	57.06133191	1.590922659	0.81
521	2134.483616	1.322313568	0.81
522	2164.852648	1.322953242	0.81
523	0.050446509	517.0484522	0.81
524	28.607535	2.408233715	0.81
525	1551.330578	1.190642095	0.81
526	0.000206929	127279.328	0.81
527	0.001643277	16127.01342	0.81
528	0.13019351	201.2218131	0.81
529	24.38402976	2.618145773	0.81
530	196.5596432	1.047119705	0.81
531	5567.072673	1.278520671	0.81
532	0.001093479	24041.84909	0.81
533	0.086158346	303.8772205	0.81
534	18.03075815	3.179467555	0.81
535	171.7204268	0.913951042	0.81
536	4620.324736	1.371456788	0.81
537	3.11254E-05	851227.0587	0.81
538	0.019805834	1271.005644	0.81
539	5.898007063	6.870010755	0.81
540	65.3346583	1.505172524	0.81
541	2378.213757	1.321006497	0.81
542	2404.858266	1.330097744	0.81
543	0.000135362	197905.7007	0.81
544	0.059130032	444.0141003	0.81
545	3.830215367	9.424552058	0.81
546	47.84832434	1.755486042	0.81
547	2103.734801	1.323169253	0.81
548	0.002025519	13190.28781	0.81
549	0.161232343	163.3548469	0.81
550	217.4240628	1.073288963	0.81
551	6364.450564	1.360841611	0.81
552	5.87428E-05	453696.9031	0.81
553	0.038012786	659.4647785	0.81
554	9.804589501	4.72565403	0.81
555	101.0080624	1.197134341	0.81
556	3264.079176	1.333408889	0.81
557	0.229922425	115.408277	0.81
558	16.40886131	3.328670242	0.81
559	157.8927725	0.966543277	0.81
560	4495.070985	1.386910192	0.81
561	7.333047349	5.574367496	0.81
562	80.87502222	1.330446522	0.81
563	3084.368144	1.32849613	0.81
564	10.63620956	4.365140342	0.81
565	113.400983	1.115058702	0.81
566	4014.854	1.292713178	0.81
567	0.122190163	215.552317	0.81
568	24.36798897	2.583789259	0.81
569	222.5957859	0.83252629	0.81
570	5903.08352	1.376916455	0.81
571	0.001620099	16654.18209	0.81
572	0.006598019	4114.136814	0.81
573	0.013037149	2054.999954	0.81
574	0.96086607	29.62899506	0.81
575	103.2289408	1.17155841	0.81
576	556.8328474	1.046346977	0.81
577	16092.84618	1.343508038	0.81
578	0.000239378	112773.1361	0.81
579	0.152505266	172.7140648	0.81
580	28.52008545	2.353766266	0.81
581	207.4964262	1.195367114	0.81
582	241.9960722	0.8788321	0.81
583	6613.855059	1.414523366	0.81
584	0.001068283	25333.04267	0.81
585	0.004386852	6156.316832	0.81
586	0.008550152	3161.845732	0.81
587	0.6561694	42.12624105	0.81
588	78.90002304	1.335070108	0.81
589	452.541453	1.058067378	0.81
590	12712.25947	1.459651442	0.81
591	0.000306473	87684.92425	0.81
592	0.002423518	11080.7245	0.81
593	0.193546872	136.6834283	0.81
594	33.80646662	2.135676209	0.81
595	7371.848876	1.439334045	0.81
596	15.41863495	3.398559823	0.81
597	156.0084652	0.964529586	0.81
598	5105.501673	1.310712738	0.81
599	0.000460569	59111.97384	0.81
600	0.293125821	90.71570662	0.81
601	45.65859908	1.782022049	0.81
602	295.101415	1.146761808	0.81
603	9177.341534	1.425538471	0.81
604	0.00765803	3408.075644	0.81

605	0.033591976	770.238253	0.81
606	0.053447079	481.3929448	0.81
607	0.012457319	2073.583562	0.81
608	0.085455831	304.1193637	0.81
609	0.06498745	399.3018764	0.81
610	0.393213877	68.98760314	0.81
611	0.260340529	102.5192326	0.81
612	0.060373963	433.1369101	0.81
613	0.114484301	228.4112719	0.81
614	0.375095886	72.10817473	0.81
615	0.129361852	201.4583659	0.81
616	2.519081084	13.22115719	0.81
617	1.76324003	17.88017721	0.81
618	0.460526974	59.33718872	0.81
619	0.259125523	102.2278132	0.81
620	3.024067848	11.44354645	0.81
621	0.839479843	33.94291412	0.81
622	1.553703528	19.55021764	0.81
623	0.549467158	49.34202101	0.81
624	0.872647945	32.22188299	0.81
625	2.471321712	13.22775083	0.81
626	13.08226572	3.931555326	0.81
627	2.993117752	11.25434633	0.81
628	9.780554824	4.672531038	0.81
629	3.628034738	9.764570504	0.81
630	1.368413997	21.42863387	0.81
631	5.141439881	7.401020646	0.81
632	194.9854659	0.851613411	0.90
633	0.00591668	4115.018689	0.90
634	0.11186964	223.0462191	0.90
635	2.371868049	13.3209723	0.90
636	330.0173677	0.796385842	0.90
637	0.001250357	19303.84071	0.90
638	0.030736628	787.2911597	0.90
639	0.53143318	48.97544715	0.90
640	8.563526946	4.918300324	0.90
641	722.1255007	0.720354043	0.90
642	0.002461147	10025.38662	0.90
643	0.009885404	2489.013302	0.90
644	0.183188459	137.4838114	0.90
645	3.557529008	9.784682348	0.90
646	430.4955978	0.772754213	0.90
647	290.0351342	0.872356538	0.90
648	2.84637E-05	865619.9325	0.90
649	0.002312639	10592.18924	0.90
650	0.011573889	2132.203153	0.90
651	0.056541702	436.7185252	0.90
652	0.938315014	29.48978552	0.90
653	13.66217265	3.627241852	0.90
654	7.6888E-05	322537.5749	0.90
655	0.00625261	3915.253919	0.90
656	0.031003977	801.5606791	0.90
657	0.150312833	166.9467257	0.90
658	2.253517917	13.81080272	0.90
659	28.22123947	2.295874864	0.90
660	1614.909897	0.729666381	0.90
661	7.77842E-05	318663.6451	0.90
662	0.006317923	3875.201316	0.90
663	0.031256539	797.1830961	0.90
664	0.15111612	166.9231714	0.90
665	2.233031745	14.21439742	0.90
666	28.5162942	2.272506408	0.90
667	1606.818211	0.744956917	0.90
668	5.944592711	6.535231513	0.90
669	651.1338438	0.793925947	0.90
670	0.002116625	11452.50429	0.90
671	0.01309738	1894.682091	0.90
672	0.052281094	471.2014678	0.90
673	0.899042409	30.26039284	0.90
674	13.27789558	3.729867618	0.90
675	985.6209615	0.787233986	0.90
676	0.000184206	135072.5328	0.90
677	0.014787372	1641.553882	0.90
678	4.495682805	8.105241045	0.90
679	52.10297959	1.568148944	0.90
680	2363.314027	0.783246939	0.90
681	0.002119813	11686.07775	0.90
682	0.013358817	1863.475826	0.90
683	0.053266878	464.5649425	0.90
684	0.895485552	31.21552199	0.90
685	13.56553991	3.656902766	0.90
686	979.2705219	0.816011237	0.90
687	0.011049787	2203.505023	0.90
688	0.000135654	183480.1936	0.90
689	0.260773534	97.68528583	0.90
690	3.57602978	9.659166856	0.90
691	42.23033655	1.805819829	0.90
692	2120.727683	0.745349853	0.90
693	0.004108676	5969.094582	0.90
694	0.02550534	971.2754655	0.90
695	0.101673019	244.4647912	0.90
696	1.620474926	18.2575226	0.90
697	21.89021646	2.686071683	0.90
698	1346.967642	0.821035355	0.90
699	9.961870599	4.522104059	0.90
700	889.3641072	0.822489107	0.90
701	0.012750796	1935.436725	0.90
702	0.000254351	98150.78767	0.90
703	0.020798303	1165.4729	0.90
704	0.471505673	55.88331107	0.90
705	5.979567293	6.460999117	0.90
706	65.71029282	1.394922891	0.90
707	2818.148834	0.789370705	0.90
708	0.000509678	49205.50167	0.90
709	0.041672268	577.5978953	0.90
710	0.899606599	30.54407072	0.90
711	10.27844624	4.350880117	0.90
712	104.6670265	1.093994113	0.90
713	3931.452534	0.807266786	0.90
714	0.013864497	1735.139795	0.90
715	0.326837144	78.37788255	0.90
716	4.448219392	8.03580448	0.90
717	50.46202462	1.678798582	0.90
718	2361.375936	0.891662192	0.90
719	0.000922749	27290.87954	0.90
720	0.073495033	337.5788649	0.90
721	1.536183189	19.04188539	0.90
722	16.09445544	3.225777783	0.90
723	150.0647974	0.96742853	0.90
724	5160.456333	0.851603847	0.90
725	0.001439262	17413.59396	0.90
726	0.113613556	218.8639582	0.90
727	2.225113715	14.03519316	0.90
728	22.3186272	2.588362494	0.90

729	205.6944846	0.79190722	0.90
730	6345.181857	0.855219944	0.90
731	0.004876176	4929.706192	0.90
732	0.049253229	507.8116383	0.90
733	0.124975	199.4463501	0.90
734	28.19158441	2.30222394	0.90
735	1765.840961	0.858677548	0.90
736	0.000946308	26792.07576	0.90
737	0.075517896	330.1123669	0.90
738	1.570741709	18.80356635	0.90
739	16.31463653	3.24090855	0.90
740	151.4958169	0.979898372	0.90
741	5300.121659	0.83317506	0.90
742	0.001768018	14246.92284	0.90
743	0.139969935	178.3775889	0.90
744	2.735522691	11.50912577	0.90
745	25.79707655	2.406483499	0.90
746	6962.745693	0.896729288	0.90
747	5.22609E-05	480487.1719	0.90
748	0.033527102	709.8407143	0.90
749	0.747801096	35.81957218	0.90
750	8.864984248	4.840734406	0.90
751	90.22531841	1.256544715	0.90
752	0.00346675	7303.589681	0.90
753	0.27209471	93.03432742	0.90
754	4.741986759	7.548534946	0.90
755	41.65267472	1.81921071	0.90
756	348.4733399	0.677658388	0.90
757	9856.614427	0.881656002	0.90
758	0.005465519	4582.577214	0.90
759	0.409991872	63.78037988	0.90
760	6.702675009	5.869869036	0.90
761	422.1852804	0.713365424	0.90
762	12315.62672	0.861477197	0.90
763	0.000102475	245997.1631	0.90
764	0.066544948	354.6619134	0.90
765	0.062989806	395.825896	0.90
766	1.395175827	20.25331597	0.90
767	15.18737362	3.245855934	0.90
768	150.1588644	0.892713155	0.90
769	5119.7235	0.893100588	0.90
770	0.000165471	151862.6147	0.90
771	0.101746069	244.0135351	0.90
772	2.117407519	14.13591458	0.90
773	21.25086032	2.663589582	0.90
774	194.6813771	0.852572493	0.90
775	6634.395508	0.851421285	0.90
776	0.005920549	4245.980601	0.90
777	0.449169833	57.8903127	0.90
778	7.239334936	5.492272142	0.90
779	59.80927765	1.49631782	0.90
780	445.4947595	0.703227685	0.90
781	13031.63213	0.855735918	0.90
782	0.107111749	232.9668073	0.90
783	2.19743399	13.8947099	0.90
784	22.04159742	2.622645786	0.90
785	192.8338171	0.921264641	0.90
786	6688.497303	0.890620126	0.90
787	0.010706389	2293.430275	0.90
788	0.769690733	34.75384708	0.90
789	11.77886052	3.650184395	0.90
790	87.31836083	1.232380329	0.90
791	584.1818785	0.715509221	0.90
792	17477.19473	0.821482559	0.90
793	0.000274289	91866.27064	0.90
794	0.167680024	149.450422	0.90
795	3.224889948	10.14256844	0.90
796	30.27984412	2.184845582	0.90
797	269.6145124	0.740925523	0.90
798	8386.159925	0.890759951	0.90
799	0.055570226	413.7299412	0.90
800	143.6877214	0.95979307	0.90
801	5621.193957	0.912140697	0.90
802	0.000421237	60207.29235	0.90
803	0.258524342	97.16668469	0.90
804	4.639062544	7.57406239	0.90
805	41.34449135	1.810712588	0.90
806	340.2580944	0.718659525	0.90
807	10588.11024	0.86271467	0.90
808	0.002220267	11181.27648	0.85
809	0.001483515	17349.37233	0.85
810	3.25805E-05	790927.841	0.85
811	0.002611699	9789.439965	0.85
812	0.012902606	1993.426918	0.85
813	0.006842003	3708.575483	0.85
814	0.000212337	121158.2798	0.85
815	0.017239638	1456.509748	0.85
816	0.000137137	187484.6551	0.85
817	0.011199301	2245.809456	0.85
818	0.054702496	469.9072293	0.85
819	0.015411848	1704.573445	0.85
820	0.007984861	3124.689929	0.85
821	0.002830015	9042.447821	0.85
822	0.017559497	1468.373	0.85
823	0.001709428	15217.96776	0.85
824	0.001095421	23988.15734	0.85
825	0.061281812	429.3734913	0.85
826	0.00196563	13472.58646	0.85
827	0.013410125	1980.128117	0.85
828	0.008790153	3049.636258	0.85
829	2.60604E-05	991700.2439	0.85
830	1.76952E-05	1438296.144	0.85
831	0.000212552	123185.2917	0.85
832	0.000137469	191102.4004	0.85
833	3.18273E-05	849981.6924	0.85
834	0.000247378	107660.732	0.85
835	0.001679314	15802.43053	0.85
836	0.001076033	25123.57036	0.85
837	0.004450639	5999.418499	0.85
838	0.008790993	2866.795946	0.85
839	0.16284531	158.5669888	0.85
840	3.255952408	10.65548726	0.85
841	373.956536	0.936843802	0.85
842	0.037309749	698.6336138	0.85
843	9.887853446	4.822606862	0.85
844	763.7621007	0.841459053	0.85
845	0.064728902	400.7452024	0.85
846	1.051130217	28.19617755	0.85
847	14.69984171	3.746617418	0.85
848	998.6912207	0.83417244	0.85
849	0.027680856	910.7212696	0.85
850	0.489104087	55.36464932	0.85
851	8.168647233	5.332133006	0.85
852	661.0705833	0.944247027	0.85

853	0.060377305	419.6716476	0.85
854	1.014299302	28.22379739	0.85
855	14.80295455	3.559729585	0.85
856	989.1321599	0.92466668	0.85
857	0.39625632	67.81200282	0.85
858	5.094200381	7.61281703	0.85
859	55.32753179	1.677166707	0.85
860	2172.846574	1.117517517	0.85
861	0.264395948	99.30103169	0.85
862	3.590661709	10.01174807	0.85
863	41.34466609	1.968865939	0.85
864	1749.028688	1.145313953	0.85
865	0.061770323	426.516969	0.85
866	1.040487293	28.53074575	0.85
867	14.9741879	3.700549755	0.85
868	985.240688	0.991398279	0.85
869	0.416273286	61.02792237	0.85
870	7.508412826	5.4227306	0.85
871	719.3790333	0.848896795	0.85
872	0.070784856	363.204077	0.85
873	1.17600697	24.97481368	0.85
874	16.69409761	3.329371605	0.85
875	1038.473386	0.997878028	0.85
876	0.134634098	192.1390104	0.85
877	2.592461527	12.74648231	0.85
878	24.85625832	2.572657344	0.85
879	210.5699617	0.93158396	0.85
880	5958.124858	1.139456729	0.85
881	0.087403989	295.6703253	0.85
882	1.785176284	17.4669312	0.85
883	18.03626759	3.181859723	0.85
884	163.7039776	1.007052554	0.85
885	5006.913579	1.169597159	0.85
886	0.467539552	60.03693654	0.85
887	5.981446079	6.961991295	0.85
888	63.46326961	1.661372792	0.85
889	2526.003213	1.216253817	0.85
890	0.157678336	164.6269302	0.85
891	3.067335486	10.91462341	0.85
892	28.25943799	2.440590384	0.85
893	240.3389237	0.906441609	0.85
894	7019.907763	1.232268307	0.85
895	7137.997422	1.232650353	0.85
896	0.984456589	28.77617557	0.85
897	13.42993971	3.80335969	0.85
898	96.79719734	1.358402353	0.85
899	634.4555629	0.821699377	0.85
900	0.662359736	41.47073629	0.85
901	9.701680291	4.763698399	0.85
902	75.48150939	1.463364669	0.85
903	505.9825685	0.849099992	0.85
904	13406.51521	1.199784922	0.85
905	0.036302278	663.6814475	1.00
906	0.623918551	41.77854796	1.00
907	9.877413889	4.346084687	1.00
908	961.0776655	0.477805126	1.00
909	0.628270425	41.43557845	1.00
910	0.070577264	342.3005767	1.00
911	0.121251364	200.1523333	1.00
912	0.189366939	129.7677543	1.00
913	0.011972917	1975.105426	1.00
914	0.281089286	88.30765262	1.00
915	3.856601405	8.722864509	1.00
916	44.73489789	1.690251327	1.00
917	2902.680944	0.417857949	1.00
918	0.065521677	368.0413534	1.00
919	1.108007866	24.4395549	1.00
920	1445.360322	0.448901014	1.00
921	0.39376755	63.91687499	1.00
922	0.532822388	47.90148071	1.00
923	0.127734107	189.3899459	1.00
924	0.697089191	37.23368528	1.00
925	0.21646514	113.2693367	1.00
926	0.882884695	30.12458511	1.00
927	1.342175217	20.71026611	1.00
928	1.915654286	15.18174419	1.00
929	19.64147728	2.685278615	1.00
930	184.3047854	0.795133365	1.00
931	8116.565923	0.406624655	1.00
932	0.021663874	1069.964557	1.00
933	0.500359968	50.34549557	1.00
934	6.432661738	5.78437792	1.00
935	70.02100541	1.312383129	1.00
936	4189.075866	0.426309982	1.00
937	4319.174279	0.414749456	1.00
938	0.93391973	28.26788285	1.00
939	84.05835921	1.174299808	1.00
940	21796.49318	0.45161489	1.00
941	22645.18507	0.458237084	1.00
942	10.57185561	3.995438543	1.00
943	3.242735046	9.609837749	1.00
944	30.91271081	2.008062198	1.00
945	277.521758	0.669786672	1.00
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947	11478.25489	0.470813391	1.00
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953	0.029706619	952.192199	0.67
954	0.04581335	616.647213	0.67
955	0.510646377	59.92083186	0.67
956	0.762208137	41.33451423	0.67
957	7.979662535	6.397836539	0.67
958	11.04988057	5.111015605	0.67
959	469.688746	1.922193704	0.67
960	613.3890575	1.704542618	0.67
961	0.001709113	17123.11166	0.67
962	0.006963194	4129.081816	0.67
963	0.13014848	224.2104556	0.67
964	2.635695923	14.67522402	0.67
965	236.0930034	2.115915583	0.67
966	0.002193252	12953.63604	0.67
967	0.0555543	520.4335791	0.67
968	0.932600474	35.03265376	0.67
969	13.21681468	4.682221836	0.67
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971	2.32832E-05	1245449.623	0.67
972	0.000189254	152703.7594	0.67
973	0.015472167	1812.748932	0.67
974	0.35461681	84.88113828	0.67
975	4.512801516	9.724706232	0.67
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981	0.049025414	591.4551677	0.67
982	0.235136507	125.8180338	0.67
983	3.212169085	12.53641856	0.67
984	35.22817993	2.717526044	0.67
985	1300.584878	2.075353087	0.67
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990	0.425817667	71.64513269	0.67
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994	0.000186998	158416.0039	0.67
995	0.001516189	19254.79042	0.67
996	0.119743934	241.7721366	0.67
997	2.302806491	16.08008267	0.67
998	21.36299474	3.466714075	0.67
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1001	0.000121262	244207.6423	0.67
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1004	1.580962293	22.21280289	0.67
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1033	30.00002333	1.879112826	0.91
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1035	200	0.641957361	0.91
1036	300	0.536080258	0.91
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1040	30.00002333	2.724504285	0.91
1041	100	1.479582877	0.91
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1044	400	0.900428543	0.91
1045	1.000001119	32.40889139	0.89
1046	10.00000755	4.998375479	0.89
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1048	100	1.435794503	0.89
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1055	100	0.738165586	0.89
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1087	0.201129984	318.5160867	0.22
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1091	1.214815913	59.88698997	0.25
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1093	3.330896522	44.8705627	0.12
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1095	15.81444149	17.59451771	0.18
1096	16.56820772	18.42690266	0.17
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1100	21.02348152	23.47139447	0.12

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1103	24.45304459	31.7847663	0.10
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1105	42.6075222	13.88430039	0.22
1106	54.52611249	20.64359248	0.16
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1108	69.49967678	28.4745755	0.13
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1112	58.98960964	16.87059012	0.19
1113	25.78731309	16.54222201	0.18
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1115	37.89171673	22.39696809	0.13
1116	146.3696514	1.033520215	0.89
1117	3.370920854	16.14188422	0.60
1118	4.024068768	14.72566607	0.80
1119	5.460648306	11.85105849	0.70
1120	6.4228202	9.909173043	0.78
1121	7.000481503	9.251878616	0.86
1122	11.43754977	6.177522277	0.76
1123	7.399947706	6.774516018	0.85
1124	4.91056217	9.888793502	0.77
1125	11.48432773	6.250458939	0.80
1126	11.81917509	7.589138468	0.88
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1131	18.75463632	4.595079354	0.87
1132	20.97074816	2.502503771	0.83
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1134	16.27136632	4.578503262	0.79
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1144	29.90999407	2.709997653	0.82
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1146	31.84637935	3.255395185	0.85
1147	46.56185956	2.933981877	0.83
1148	51.20113876	1.689241754	0.86
1149	31.59677399	2.428376835	0.81
1150	35.41975498	2.339269278	0.91
1151	41.91310263	2.679721602	0.83
1152	34.83932226	3.0223304	0.81
1153	95.09831643	2.397710827	0.77
1154	51.65524141	2.553341478	0.86
1155	56.94746884	2.100819984	0.85
1156	60.15710578	2.070887511	0.94
1157	72.3363155	2.278573132	0.82
1158	53.39188895	2.231348925	0.90
1159	51.00400982	1.901800465	0.85
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1161	54.12991462	1.743910813	0.88
1162	55.25377642	1.736252492	0.86
1163	78.46715899	2.410014799	0.68
1164	75.29512694	2.181623784	0.91
1165	75.95617113	2.078734382	0.83
1166	71.79530684	1.625235026	0.84
1167	81.47599916	2.206565182	0.83
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1169	72.97842354	1.47111484	0.93
1170	83.72437513	2.332625952	0.81
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1172	133.2230587	1.653531686	0.89
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1178	127.5491954	1.723535704	0.86
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1196	75.66948797	3.823750308	0.64
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1198	174.0060101	1.946668496	0.64
1199	1.331234146	20.80612688	0.79
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1205	0.262978001	157.0752123	0.26
1206	0.193603492	295.1485413	0.35
1207	0.219878244	228.8244856	0.35
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1209	0.126881882	564.6237959	0.23
1210	0.150364495	402.0386483	0.23
1211	0.199223474	229.0220952	0.23
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1222	0.242535623	151.0730096	0.46
1223	0.29437528	102.5499091	0.46
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1235	0.009221885	12822.48615	0.04
1236	0.010170024	11033.84554	0.04
1237	0.017791797	5488.940796	0.05
1238	0.033042276	2560.926096	0.07
1239	0.007540234	23610.67276	0.02
1240	0.009430164	17857.16305	0.02
1241	0.017059573	8377.273726	0.03
1242	0.020601254	6516.394342	0.03
1243	0.036221598	3209.347446	0.04
1244	0.065180528	1594.868887	0.06
1245	0.002531322	48664.93466	0.03
1246	0.002620285	53726.31379	0.03
1247	0.003941136	36461.05931	0.05
1248	0.004479338	32297.26448	0.05
1249	0.007366252	18182.66109	0.06
1250	0.01357136	8620.107408	0.09
1251	0.002759791	78831.24572	0.03
1252	0.003335742	63832.04363	0.03
1253	0.005600474	34766.58654	0.04
1254	0.007000953	23283.94065	0.04
1255	0.011199301	13853.0805	0.05
1256	0.020569977	6607.988965	0.07
1257	0.00440335	69232.74448	0.02
1258	0.005477702	52924.18177	0.02
1259	0.009958861	24582.14103	0.03
1260	0.012211265	18546.98712	0.03
1261	0.02128153	9297.073737	0.04
1262	0.039675104	4304.518522	0.06
1263	0.105506498	1760.423019	0.03
1264	0.13067123	1357.652039	0.03
1265	0.221883	722.9169453	0.05
1266	0.25285435	620.2419654	0.05
1267	0.404513473	368.9719282	0.06
1268	0.71015219	192.6483217	0.09
1269	0.169870798	1309.913171	0.03
1270	0.199515774	1123.307017	0.03
1271	0.327133212	641.4926695	0.04
1272	0.376147852	540.6165592	0.04
1273	0.621445249	301.5491266	0.05
1274	1.04991189	170.007035	0.07
1275	0.270463003	1197.684046	0.02
1276	0.328827902	958.5033911	0.02
1277	0.554206651	518.0546059	0.03
1278	0.630103173	446.5408709	0.03
1279	1.004904686	267.295783	0.04
1280	1.672278292	155.3221984	0.06
1281	0.899892097	285.0259198	0.03
1282	1.057480286	244.1707592	0.03
1283	1.617116906	160.3036481	0.05
1284	1.845591097	137.1263167	0.05
1285	2.81174071	89.94945724	0.06
1286	4.579582354	54.56399011	0.09
1287	1.205471306	287.2663092	0.03
1288	1.450197084	234.8104259	0.03
1289	2.229482777	152.528576	0.04
1290	2.522738651	132.7334796	0.04
1291	3.716360413	93.12079019	0.05
1292	5.966074789	58.1451774	0.07
1293	1.943765217	298.1188164	0.02
1294	2.211899126	272.3449639	0.02
1295	3.504256283	166.5889877	0.03
1296	3.888716656	150.7269645	0.03
1297	5.856906228	101.1636087	0.04
1298	9.243141879	65.3627625	0.06
1299	93169.26169	0.504875547	1.00
1300	119347.6574	0.498547328	1.00
1301	64424.48408	0.485076506	1.00
1302	42721.07832	0.507113254	1.00
1303	46231.02607	0.41762268	1.00
1304	43999.46978	0.625552266	1.00
1305	45820.1375	0.58645525	1.00
1306	26936.30023	0.504851762	1.00
1307	6919.683622	0.417613948	1.00
1308	18452.39324	0.457391485	1.00
1309	18105.00504	0.381217974	1.00
1310	10553.27699	0.42566935	1.00
1311	19.4373331	3.267357316	1.00
1312	52.35498105	1.504594577	1.00
1313	46.96278596	1.652684019	1.00
1314	80.40497233	1.277038147	1.00
1315	187.1128526	0.8015859	1.00
1316	156.7702279	0.938442029	1.00
1317	146.7390745	1.059248696	1.00
1318	15.93339155	3.589393596	1.00
1319	30.97339243	2.12145494	1.00
1320	64.73485209	1.436815362	1.00
1321	62.17621728	1.531283161	1.00
1322	111.5618991	1.12854534	1.00
1323	253.8666271	0.762484149	1.00
1324	260.9465729	0.723382398	1.00
1325	184.9314364	0.871157806	1.00
1326	22.16761169	2.60254817	1.00
1327	41.41671966	1.755670483	1.00
1328	94.06783195	1.133813483	1.00
1329	84.23874599	1.25286804	1.00
1330	148.7491988	0.930554929	1.00
1331	336.8031348	0.645178895	1.00
1332	256.2908493	0.861258285	1.00
1333	328.7117682	0.674505209	1.00
1334	61.39261557	1.237589308	1.00
1335	103.5238404	1.019602577	1.00
1336	224.5490182	0.742843316	1.00
1337	783.8511395	0.410568388	1.00
1338	205.5826539	0.755698183	1.00
1339	541.7285011	0.554373149	1.00
1340	140.3986442	0.904839676	1.00
1341	228.1544833	0.821621494	1.00
1342	500.6836217	0.576680995	1.00
1343	446.2647853	0.616490623	1.00
1344	809.0750341	0.435578903	1.00
1345	1426.103363	0.498547328	1.00
1346	1085.467127	0.524674588	1.00
1347	486.3784739	0.527000049	1.00
1348	766.1754586	0.447448191	1.00

1349	1175.950421	0.395962166	1.00
1350	2326.408747	0.400744421	1.00
1351	1855.258096	0.497169857	1.00
1352	3155.895164	0.395980821	1.00
1353	5916.811827	0.40079295	1.00
1354	4623.285909	0.395980821	1.00
1355	12303.87885	1.912165295	0.47
1356	6091.327026	2.349669906	0.48
1357	3450.962641	3.004873214	0.47
1358	8370.532171	1.245124224	0.48
1359	6847.700415	1.867686336	0.48
1360	4957.018591	1.462636962	0.47
1361	8168.832601	6.577067473	0.48
1362	16430.2754	5.358286641	0.47
1363	7.301845122	12.60045453	0.47
1364	14.72556826	8.824920248	0.48
1365	31.53633438	5.813182707	0.47
1366	10.72431798	9.309500574	0.47
1367	11.42008166	10.19506282	0.47
1368	20.93682366	6.663239063	0.48
1369	45.99629337	4.602409239	0.47
1370	6.386514648	13.25052124	0.48
1371	14.90692917	7.520039805	0.47
1372	15.94884824	7.059301641	0.47
1373	8.48160595	10.72128277	0.48
1374	19.06824172	7.04083273	0.47
1375	15.5227627	7.813381513	0.47
1376	28.16338181	5.594292044	0.48
1377	62.49437129	3.773085863	0.47
1378	60.43305415	3.999701332	0.47
1379	12.3717711	7.66383423	0.47
1380	21.97020184	5.971609802	0.48
1381	43.8662181	4.1169765	0.47
1382	39.00723167	4.429700684	0.47
1383	64.54386252	3.956281808	0.48
1384	125.2307576	3.413427046	0.47
1385	122.2252194	3.453118058	0.47
1386	126.2326037	3.353890527	0.47
1387	142.2621406	2.659297815	0.47
1388	122.2252194	3.542422835	0.47
1389	130.2399879	3.175280973	0.47
1390	114.2104509	4.108019758	0.47
1391	114.2104509	4.127865264	0.47
1392	123.2270655	3.49280907	0.47
1393	128.2362958	3.234817491	0.47
1394	3490.858163	1.940232704	0.47
1395	2603.182802	3.482468956	0.47
1396	5556.823164	1.867686336	0.48
1397	8310.0223	0.833429924	0.48
1398	7902.491296	3.021815621	0.47
1399	10803.40582	1.634752713	0.47
1400	2870.030434	14.66604941	0.47
1401	4485.676937	6.046616959	0.47
1402	6353.536467	7.27996018	0.48
1403	17732.67527	3.085976195	0.47
1404	12422.89115	6.310870933	0.47
1405	27.62021233	5.164326275	0.47
1406	49.79029323	4.451505371	0.48
1407	94.02964327	4.022482434	0.47
1408	75.26303585	4.464886033	0.47
1409	116.9857508	4.568802596	0.48
1410	97.03058933	3.82433059	0.47
1411	72.25251442	5.145630989	0.47
1412	129.087725	3.735372672	0.48
1413	173.3193685	6.797085832	0.47
1414	212.3913649	4.524775386	0.47
1415	99.03122003	3.675716707	0.47
1416	76.266543	4.444864122	0.47
1417	129.087725	3.735372672	0.48
1418	110.7100732	5.472451217	0.47
1419	120.6839536	4.666508401	0.47
1420	252.8838005	5.886441676	0.47
1421	245.8592505	6.186770333	0.47
1422	182.5381112	5.392191195	0.48
1423	397.3481537	5.834009468	0.48
1424	310.0977597	5.696865516	0.47
1425	738.3605468	5.655969233	0.47
1426	11897.05115	1.27138508	0.74
1427	6368.516044	1.349430714	0.74
1428	3907.45324	1.445080544	0.73
1429	32638.40334	0.845063011	0.73
1430	18156.13743	0.805555713	0.73
1431	14.47356681	5.417207945	0.73
1432	33.35825814	3.282985994	0.73
1433	9.651898107	6.945719665	0.74
1434	10.47062466	6.983352704	0.73
1435	19.57499626	4.680823371	0.73
1436	41.58193949	3.448854537	0.73
1437	13.8481309	5.524247515	0.74
1438	60.06104978	2.444098333	0.73
1439	26.70061597	3.716327944	0.73
1440	19.06531223	4.617033022	0.74
1441	15.649186	5.128826476	0.73
1442	10.42698167	6.533951124	0.73
1443	19.07602241	4.652384338	0.74
1444	48.08858884	2.607219893	0.74
1445	37.31166785	3.09077024	0.73
1446	63.84575798	2.426612272	0.73
1447	146.1719904	1.570823008	0.73
1448	13966.25956	0.895061904	0.73
1449	24428.7436	1.004133695	0.73
1450	10082.24673	1.181286924	0.74
1451	25.86905372	4.081317385	0.73
1452	47.29044187	3.08608227	0.74
1453	110.9047141	1.89206126	0.74
1454	84.33981284	2.292403915	0.73
1455	151.6336752	1.611111426	0.73
1456	308.3628291	1.322275064	0.73
1457	151.8440378	1.768455211	0.73
1458	458.2801879	1.156345338	0.73
1459	262.5346388	1.523221033	0.74
1460	719.2623673	1.064129152	0.73
1461	530.3261782	1.241352361	0.74
1462	1491.755244	0.845063011	0.73
1463	32391.3002	0.938458626	0.92
1464	12213.40404	0.852190422	0.92
1465	28966.23824	1.168285229	0.92
1466	21798.66729	0.595974791	0.92
1467	40645.41366	0.834262122	0.93
1468	27986.13089	0.849453268	0.93
1469	53.04443497	2.021000626	0.93
1470	115.8265533	1.51124006	0.91
1471	15.72765523	3.985922737	0.92
1472	37.68970655	2.434682353	0.92

1473	43.66311601	2.438007076	0.93
1474	68.55852906	1.998348805	0.93
1475	150.4755223	1.462802879	0.91
1476	13.446613	4.494267152	0.92
1477	23.91543407	3.0243425	0.92
1478	57.09447584	1.838149283	0.92
1479	17.5107639	3.699007268	0.92
1480	32.06989651	2.486907864	0.92
1481	67.52264996	1.896069469	0.92
1482	60.88210931	1.796544842	0.93
1483	95.98194068	1.523013409	0.93
1484	194.0342261	1.307803898	0.91
1485	47.80153333	1.828153304	0.92
1486	75.95010774	1.61206296	0.92
1487	155.5956716	1.311926855	0.92
1488	145.3314867	1.152132018	0.93
1489	213.5108476	1.125283793	0.93
1490	420.73748	1.026868246	0.91
1491	105.3898575	1.439907954	0.92
1492	172.6138812	1.201719661	0.92
1493	346.420552	1.024643602	0.92
1494	308.3384246	0.966619236	0.93
1495	445.6304389	0.979772958	0.93
1496	847.4147833	0.949368756	0.91
1497	500.355585	0.969733928	0.92
1498	1306.019442	0.781106453	0.93
1499	796.9829488	0.908617305	0.92
1500	1851.080285	0.853663567	0.93
1501	3306.501608	0.939681319	0.91
1502	1516.813151	0.823545325	0.92
1503	24475.128	0.768976996	0.93
1504	9355.640473	0.654736941	0.94
1505	14486.0615	0.665390548	0.93
1506	25773.80826	0.69996624	0.93
1507	9285.97081	0.674577455	0.94
1508	33813.76244	0.635077706	0.93
1509	57185.38544	0.749421258	0.93
1510	34600.12901	0.654618558	0.93
1511	20.28549092	3.190529419	0.93
1512	37.70512115	2.054446453	0.93
1513	77.98007106	1.696058636	0.93
1514	23.39679786	2.940260003	0.93
1515	27.29752239	2.751063625	0.93
1516	50.79233864	1.902788617	0.93
1517	110.9716396	1.360791231	0.93
1518	14.69340448	3.950410194	0.93
1519	37.9173243	1.897928856	0.93
1520	148.9619306	1.124131886	0.93
1521	66.84115832	1.582809052	0.93
1522	36.29849058	2.395940417	0.93
1523	19.84509349	3.180060756	0.93
1524	46.19182713	1.963967385	0.93
1525	27.67729131	2.450168208	0.94
1526	50.58002644	1.786083482	0.93
1527	110.8873146	1.242193609	0.93
1528	94.16341602	1.290328728	0.93
1529	162.1881048	1.006353903	0.93
1530	333.9146632	0.828307706	0.93
1531	67.67910129	1.58724107	0.94
1532	121.8827244	1.181813062	0.93
1533	248.7472192	0.946433226	0.93
1534	209.9059482	0.977521764	0.93
1535	342.0694573	0.85979751	0.93
1536	581.8512994	0.749421258	0.93
1537	338.3955065	0.476172321	0.94
1538	1000.486295	0.625613929	0.93
1539	599.4232346	0.794496176	0.93
1540	1612.051465	0.576455148	0.93
1541	1198.781779	0.630955484	0.93
1542	3119.202842	0.532483525	0.93
1543	3.545781019	9.002097905	0.94
1544	4.100538721	7.995932518	0.94
1545	4.919210024	6.893589932	0.94
1546	6.56732503	5.598891648	0.94
1547	3.59425502	9.823385891	0.80
1548	4.154398422	8.805115905	0.80
1549	4.989228026	7.67965892	0.80
1550	6.658887032	6.24604124	0.80
1551	3.599640825	10.96224085	0.90
1552	4.149012628	9.850182865	0.90
1553	4.989228033	8.630937886	0.90
1554	6.648114741	7.049938913	0.90
1555	3.56193903	12.82460379	0.70
1556	4.105924633	11.56516481	0.70
1557	4.940754039	10.15834284	0.70
1558	6.588869048	8.336174878	0.70
1559	0.354590051	86.67942443	0.43
1560	2.491362916	14.874886	0.43
1561	11.68884936	4.742683799	0.43
1562	27.6939473	2.873755507	0.43
1563	34.73172541	2.316362461	0.43
1564	53.73695123	1.868227359	0.43
1565	91.74401695	1.380442309	0.43
1566	105.8782009	1.320080486	0.43
1567	315.0167327	0.950174873	0.43
1568	552.1156649	0.800371886	0.43
1569	912.9605837	0.676259935	0.43
1570	1346.230168	0.679884647	0.43
1571	1909.122891	0.846007557	0.43
1572	0.338009599	108.6017415	0.41
1573	2.256479258	20.28698763	0.41
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1575	18.44881665	4.314177844	0.41
1576	34.46139831	3.241870188	0.41
1577	84.88219961	2.160551889	0.41
1578	273.5179199	1.49211656	0.41
1579	290.1952676	1.326519315	0.41
1580	463.7951832	1.343528857	0.41
1581	767.9264971	1.184343465	0.41
1582	1154.222094	1.147330198	0.41
1583	1762.670934	1.174417579	0.41
1584	0.170545012	180.2219857	0.52
1585	1.359741441	27.91920783	0.52
1586	5.371936912	9.594804389	0.52
1587	21.1481132	4.574646766	0.52
1588	23.64264567	4.302066779	0.52
1589	52.0338409	2.934544356	0.52
1590	57.90641031	2.771448325	0.52
1591	159.2888306	1.815914095	0.52
1592	220.5731035	1.529487855	0.52
1593	349.3511369	1.393269451	0.52
1594	562.1908135	1.062313196	0.52
1595	876.3164754	0.944402072	0.52
1596	1324.661894	0.853063426	0.52

1597	0.13790864	240.2285165	0.52
1598	1.246247647	34.44369855	0.52
1599	4.505383213	13.37018397	0.52
1600	8.847355329	8.169205271	0.52
1601	15.36607792	6.539119375	0.52
1602	16.39616755	6.241411807	0.52
1603	30.52350507	4.541681192	0.52
1604	36.49899844	4.102249417	0.52
1605	106.6386829	2.870621868	0.52
1606	113.9106943	2.719648201	0.52
1607	151.5835303	2.440729247	0.52
1608	232.5615026	2.190751704	0.52
1609	407.6000901	1.933258177	0.52
1610	612.638099	1.755645187	0.52
1611	962.5806899	1.595958323	0.52
1612	0.163603409	224.0603755	0.52
1613	1.414234649	31.7538236	0.52
1614	1.493664433	30.63070809	0.52
1615	4.929588561	12.36635946	0.52
1616	9.404071085	8.294049866	0.52
1617	15.81122826	6.7135328	0.52
1618	16.81366399	6.233483324	0.52
1619	17.90914389	6.138578395	0.52
1620	38.50450989	4.220814385	0.52
1621	45.46720069	4.165125396	0.52
1622	104.8388771	3.011768745	0.52
1623	114.0502487	2.79647432	0.52
1624	162.8609751	2.512648353	0.52
1625	172.6002591	2.238610189	0.52
1626	247.3059699	2.134352399	0.52
1627	261.4973177	1.985953383	0.52
1628	443.6945955	1.826491956	0.52
1629	705.52353	1.743298387	0.52
1630	846.427288	1.788227794	0.52
1631	0.147313018	242.5245113	0.52
1632	1.440004579	31.54434236	0.52
1633	4.768519043	12.54846978	0.52
1634	8.968363291	9.375498385	0.52
1635	15.32994182	6.574182675	0.52
1636	17.15917715	6.248666903	0.52
1637	38.01987783	4.120090487	0.52
1638	43.88334887	4.248659005	0.52
1639	108.3443514	2.895073526	0.52
1640	160.26688	2.425477904	0.52
1641	248.6897375	2.191039815	0.52
1642	467.7217718	1.616446534	0.52
1643	724.1017841	1.546137886	0.52
1644	878.7128871	1.515340357	0.52
1645	0.001000004	43823.31451	0.74
1646	0.010000036	4382.338451	0.74
1647	1.000003526	48.56865753	0.74
1648	10.00002377	6.938967008	0.74
1649	50.00007208	2.096993954	0.74
1650	100	1.264	0.74
1651	0.001000003	29506.65349	0.93
1652	0.010000027	2950.674349	0.93
1653	1.000002598	32.68683018	0.93
1654	10.00001752	4.767983297	0.93
1655	50.00005311	1.60499659	0.93
1656	100	1.119	0.93
1657	0.001000001	22313.02082	0.93
1658	0.010000013	2231.304082	0.93
1659	1.000001299	25.1759346	0.93
1660	10.00000876	4.331792412	0.93
1661	50.00002656	1.732798159	0.93
1662	100	1.1744	0.93
1663	0.001000001	21260.33939	0.74
1664	0.010000007	2126.036939	0.74
1665	1.000000705	24.6799652	0.74
1666	10.00000475	4.665995563	0.74
1667	50.00001442	2.198998732	0.74
1668	100	1.607	0.74
1669	1314.901047	0.871628991	0.84
1670	2389.549242	0.890757766	0.84
1671	3863.37981	0.807742593	0.84
1672	5556.118665	0.762772118	0.84
1673	7206.470479	0.783495217	0.84
1674	8837.942709	0.827217242	0.84
1675	162.6698023	2.06151781	0.84
1676	332.4240373	1.666057195	0.84
1677	534.3561587	1.528372861	0.84
1678	875.6390977	1.111656739	0.84
1679	1187.68969	1.044140064	0.84
1680	1504.510494	1.033271996	0.84
1681	27.71570323	5.532473989	0.84
1682	61.04777561	3.848622143	0.84
1683	111.374559	2.74087467	0.84
1684	187.1239224	1.89641153	0.84
1685	262.0333441	1.671174618	0.84
1686	347.5043273	1.508880634	0.84
1687	929.0410985	1.746014942	0.84
1688	1444.890134	2.436250464	0.84
1689	2055.095365	2.854590634	0.84
1690	3900.490158	1.547745187	0.84
1691	5301.367346	1.447790677	0.84
1692	7021.330985	1.310638888	0.84
1693	151.9505628	2.362633418	0.84
1694	290.9083295	2.175516757	0.84
1695	431.9897043	2.338536555	0.84
1696	636.1263705	2.106367745	0.84
1697	816.471446	2.209442638	0.84
1698	981.2343129	2.429179729	0.84
1699	29.22150097	4.97698287	0.84
1700	62.91093386	3.624037632	0.84
1701	111.1310477	2.752899488	0.84
1702	176.0367229	2.142814918	0.84
1703	228.1729015	2.203975789	0.84
1704	281.4327952	2.300519455	0.84
1705	9038.244029	0.620983247	0.88
1706	9795.438634	0.632006414	0.89
1707	11283.44094	0.539314671	0.89
1708	12337.12532	0.494913669	0.88
1709	13404.73318	0.44466082	0.84
1710	1465.769275	0.854672915	0.88
1711	1680.859579	0.77694371	0.89
1712	1925.940838	0.670073789	0.89
1713	2090.475881	0.623950645	0.88
1714	2191.586415	0.602158988	0.84
1715	322.418967	1.376132405	0.88
1716	368.5337151	1.259123091	0.89
1717	418.8762845	1.10358855	0.89
1718	465.3076996	0.981138459	0.88
1719	482.5719411	0.967552315	0.84
1720	5476.942251	1.691109332	0.88

1721	7038.911153	1.223934834	0.89
1722	8336.499368	0.9880022	0.89
1723	9245.536848	0.881237832	0.88
1724	11197.47527	0.637242875	0.84
1725	1036.212729	1.710146531	0.88
1726	1189.796575	1.550625756	0.89
1727	1750.605454	0.811020739	0.89
1728	2013.052546	0.672868718	0.88
1729	2094.990166	0.658968105	0.84
1730	297.9741527	1.611180508	0.88
1731	354.2927198	1.362379758	0.89
1732	413.0836331	1.134756699	0.89
1733	466.0504004	0.978013854	0.88
1734	487.8881921	0.946581417	0.84
1735	21978.21133	0.994985158	1.00
1736	407.8515713	0.925959932	1.00
1737	18065.23991	0.78376198	1.00
1738	295.391085	0.9483182	1.00
1739	10292.52116	1.829903652	0.87
1740	195.648739	1.702766861	0.87
1741	10755.24628	1.942566622	0.74
1742	4468.727479	2.21311439	0.86
1743	83.82716374	2.09964894	0.86
1744	4978.192994	2.714238518	0.79
1745	94.45466182	2.650777451	0.79
1746	2750.911777	1.561119787	0.76
1747	37.72142448	2.671919982	0.76
1748	2747.793899	2.332048142	0.63
1749	46.44156074	2.660181545	0.63
1750	3403.179258	0.901480906	0.78
1751	36.64673066	2.449409799	0.78
1752	7861.153587	1.168856762	0.87
1753	120.1819916	1.402244807	0.87
1754	4347.131385	3.284121378	0.70
1755	86.36684871	2.740978406	0.70
1756	3277.610366	3.196652483	0.60
1757	56.73069207	3.137119804	0.60
1758	11.80842015	6.991336701	0.74
1759	5669.089869	1.273241399	0.92
1760	80.41015677	1.797252478	0.92
1761	4268.710789	1.427004779	0.84
1762	61.64122517	2.175200908	0.84
1763	5739.920178	1.117301301	0.90
1764	90.77262185	1.405573623	0.90
1765	8680.864238	1.552254126	0.92
1766	45.27341015	1.757305619	0.95
1767	6869.937985	1.082038927	0.93
1768	96.37034279	1.732338525	0.93
1769	6552.247742	1.101598396	0.86
1770	97.36293182	1.530903527	0.86
1771	11599.39502	1.275325061	0.87
1772	190.7933412	1.44187821	0.87
1773	4290.533215	2.414942601	0.83
1774	73.15679321	2.493701058	0.83
1775	5284.659186	1.118313437	0.84
1776	72.5281891	1.774076185	0.84
1777	9423.373784	0.701858003	0.97
1778	116.7122566	1.36510958	0.97
1779	5014.689722	1.606609916	0.88
1780	81.09363006	1.949575268	0.88
1781	6077.60762	1.739518691	0.77
1782	99.26759113	2.046586705	0.77
1783	6368.742164	1.558037555	0.88
1784	105.2327523	1.693533803	0.88
1785	6640.094868	2.216907083	0.71
1786	116.5194767	2.292647101	0.71
1787	8133.588842	1.297968397	0.98
1788	143.5909919	1.261494829	0.98
1789	6631.992937	1.417918873	0.93
1790	115.9937035	1.415126948	0.93
1791	15464.42146	0.879664201	0.93
1792	254.7382682	1.013231432	0.93
1793	9447.400779	1.465207187	0.87
1794	150.8596804	1.735549421	0.87
1795	256.3997708	1.000740422	0.96
1796	12458.85566	2.023788761	0.87
1797	222.4153967	1.87271447	0.87
1798	8090.973732	1.523621089	0.87
1799	153.6657802	1.335145051	0.87
1800	4130.40991	1.569267085	0.88
1801	63.03663209	2.129740306	0.88
1802	5337.412649	1.224129893	0.82
1803	71.68676514	1.93859703	0.82
1804	8553.942766	1.044449524	0.96
1805	4696.91026	1.549066204	0.82
1806	68.69532339	1.84995087	0.82
1807	4793.660259	2.035937403	0.72
1808	78.72430036	2.378536426	0.72
1809	2589.35062	1.156252086	0.90
1810	30.4102799	2.709844808	0.90
1811	7527.473542	0.911890309	0.92
1812	95.95821081	1.682220076	0.92
1813	5512.549016	1.270240594	0.76
1814	79.78840477	1.911838312	0.76
1815	4334.375068	1.135289067	0.98
1816	61.5102298	1.78841824	0.98
1817	12274.40759	0.509380037	1.00
1818	160.4497724	0.908405137	1.00
1819	13565.6026	0.488928905	1.00
1820	181.6611131	0.869378028	1.00
1821	13335.73286	0.93387011	0.98
1822	159.1527243	1.08882329	0.98
1823	14233.30832	0.972568023	0.97
1824	11687.70326	1.718311405	0.79
1825	150.0994808	1.71968349	0.79
1826	17781.88147	0.855822131	0.95
1827	201.9439288	1.106365221	0.95
1828	13327.59123	0.859349388	1.00
1829	141.5916275	1.252271463	1.00
1830	15134.87815	1.297803676	1.00
1831	206.3660949	1.154888811	1.00
1832	16429.88556	1.132278841	0.93
1833	196.068995	1.315571965	0.93
1834	11329.94969	1.131560573	0.85
1835	113.0750333	1.89258487	0.85
1836	8434.320535	1.171894086	0.91
1837	90.62846048	1.687797387	0.91
1838	8484.451458	1.682357756	0.94
1839	111.2336985	1.620032545	0.94
1840	7670.354861	1.593617226	0.93
1841	99.58607917	1.560538872	0.93
1842	9858.819534	1.357466499	0.89
1843	112.9406888	1.705933317	0.89
1844	11259.52194	1.009899675	0.94

1845	134.0242263	1.180206784	0.94
1846	8399.108466	1.317350702	0.89
1847	102.3543529	1.472404811	0.89
1848	9817.142645	0.949327949	0.90
1849	105.4965091	1.371694609	0.90
1850	10552.28734	0.922534161	1.00
1851	9034.450964	1.35499227	0.90
1852	104.6511257	1.671793134	0.90
1853	4439.023821	2.13022685	0.81
1854	5316.619667	1.164981179	0.95
1855	5707.346947	1.35072226	0.97
1856	66.42548797	1.655870797	0.97
1857	3159.559661	1.755989312	0.79
1858	31.76175156	2.883939327	0.79
1859	4075.477114	1.555486615	0.88
1860	45.34360093	2.08963081	0.88
1861	6636.557985	1.219650612	0.83
1862	3075.418	2.716279229	0.88
1863	42.78011807	2.293822327	0.88
1864	47.79033245	1.961143859	0.87
1865	5203.157712	1.260305996	0.85
1866	53.54127049	1.99140535	0.85
1867	2919.924409	2.665386793	0.72
1868	33.09600083	3.42334564	0.72
1869	1071.171997	3.577437392	0.66
1870	9.919518925	7.004697015	0.66
1871	17.43729453	5.536900005	0.60
1872	10.11909324	4.847311745	1.00
1873	18.64065284	3.00697751	1.00
1874	2084.878312	1.364236426	0.90
1875	16.41425626	3.641935055	0.90
1876	2930.338171	0.900759806	0.91
1877	20.18146673	3.160832422	0.91
1878	1699.391256	1.390520583	0.78
1879	11.80004101	4.806795772	0.78
1880	1958.974958	1.63181596	0.85
1881	15.68416206	4.277950595	0.85
1882	1440.078567	1.004192988	0.90
1883	7.768711963	5.763251177	0.90
1884	1013.265682	1.14362476	0.96
1885	5.30711125	7.003825741	0.96
1886	658.1692315	2.137042528	0.80
1887	1171.857303	1.599752036	0.86
1888	7.57259108	6.351686192	0.86
1889	867.1797601	1.542827874	0.86
1890	4.801662577	8.560593441	0.86
1891	5.064258878	8.42497534	0.80
1892	1205.075973	1.694834251	0.63
1893	7.970361701	6.462504646	0.63
1894	1036.063806	1.307863851	0.96
1895	5.411175543	8.05709887	0.96
1896	6.036899273	8.274121688	0.88
1897	150.6383334	1.015749135	1.00
1898	13221.93087	1.366139456	0.88
1899	16629.17567	1.270726445	0.96
1900	227.3610659	1.040044447	0.96
1901	20403.79627	0.830536417	0.98
1902	232.9374448	1.016047652	0.98
1903	13399.7511	0.910391175	0.94
1904	151.749736	1.139407804	0.94
1905	21454.90278	0.996333685	0.91
1906	311.9123095	0.752889233	0.91
1907	16077.51296	1.110893368	0.91
1908	196.6128723	1.180526177	0.91
1909	11296.53418	1.126345946	0.96
1910	17913.80008	0.988704174	0.89
1911	180.8650173	1.564264486	0.89
1912	6186.695734	1.517259368	0.86
1913	6694.8341	1.259353984	0.77
1914	74.87511866	1.604030397	0.77
1915	7830.60588	0.933905498	0.92
1916	81.25326794	1.389163266	0.92
1917	9577.791651	1.44525675	0.81
1918	9179.402215	1.296805183	0.90
1919	110.5168246	1.433194141	0.90
1920	5977.522726	1.76245437	0.79
1921	76.70178043	1.716652322	0.79
1922	9434.375878	1.425906585	0.92
1923	127.8760411	1.243237508	0.92
1924	7786.262614	1.115795573	0.95
1925	91.72074492	1.287082792	0.95
1926	10138.81074	1.118052094	0.88
1927	117.7189147	1.332251993	0.88
1928	99.16840825	1.272736215	0.96
1929	4430.50273	1.115576152	0.82
1930	47.41756243	1.573312677	0.82
1931	5234.20623	1.498742211	0.78
1932	58.34076786	1.925671343	0.78
1933	4312.4177	1.886937123	0.81
1934	55.33437919	1.827959696	0.81
1935	5394.171473	1.037596541	0.88
1936	56.97370833	1.494871764	0.88
1937	6754.128277	1.010026218	0.99
1938	72.29826643	1.416220666	0.99
1939	4038.638358	1.913961928	0.82
1940	49.870912	2.006120043	0.82
1941	3739.876903	1.403221297	0.82
1942	36.78621815	2.32205082	0.82
1943	6303.241393	1.086690088	0.77
1944	68.01168559	1.492409129	0.77
1945	6507.215829	1.357998583	0.78
1946	78.03699048	1.515663157	0.78
1947	5923.223545	1.427221347	0.86
1948	66.46717142	1.794540026	0.86
1949	2564.033656	1.70537566	0.75
1950	3625.445221	1.002285178	0.75
1951	32.49532407	1.994724699	0.75
1952	2221.526679	1.267751485	0.84
1953	1846.615279	1.479164988	0.76
1954	15.15352676	3.476850867	0.76
1955	2380.477888	1.275015047	0.77
1956	18.49991456	3.392254945	0.77
1957	2257.250438	1.454487472	0.80
1958	20.24351528	2.909494327	0.80
1959	1611.948581	1.430831435	0.86
1960	12.85967613	3.626694314	0.86
1961	2847.257294	1.604563683	1.00
1962	31.9262871	2.053608459	1.00
1963	3029.990555	1.515338617	0.78
1964	31.85218455	2.252622517	0.78
1965	0.417843271	246.4974495	0.13
1966	2.01757968	67.31339446	0.12
1967	2.707161231	96.15795638	0.06
1968	3.993354138	111.9001666	0.04

1969	7.643976997	60.27171948	0.06
1970	10.54691288	51.45377857	0.06
1971	18.59244301	24.94611034	0.12
1972	14.51096249	73.15591012	0.04
1973	43.10810166	9.450774375	0.29
1974	40.56023951	9.314309278	0.29
1975	39.04698381	8.719612259	0.29
1976	37.29647351	10.42750501	0.28
1977	37.98747823	8.900563433	0.25
1978	39.22179433	11.42193729	0.24
1979	37.62640919	12.00193973	0.24
1980	33.32814382	11.29366504	0.24
1981	30.33866023	14.29149705	0.19
1982	30.70081604	17.11193986	0.16
1983	28.68199666	18.57918552	0.13
1984	27.49493201	23.83314739	0.13
1985	26.04798428	22.54234251	0.12
1986	26.43652058	32.97233425	0.11
1987	27.67351218	36.20897967	0.10
1988	27.25161044	34.9535749	0.10
1989	26.0695885	34.94598466	0.10
1990	18.0603589	93.29640645	0.03
1991	18.64288779	92.17672908	0.03
1992	18.98484405	107.6081565	0.03
1993	23.24175487	68.88500561	0.04
1994	29.67126983	38.59800034	0.06
1995	25.67221465	25.78766029	0.08
1996	26.72732045	34.38698761	0.08
1997	27.06632685	33.31169736	0.09
1998	28.37631053	56.33535342	0.05
1999	26.97773512	51.94456653	0.05
2000	1119.793877	11.34179887	0.39
2001	280.747724	15.56169098	0.23
2002	569.707294	22.43074953	0.25
2003	3494.610293	5.652787376	0.26
2004	2674.677166	4.342401013	0.53
2005	214.0236368	5.245174894	0.36
2006	419.5529297	10.26877434	0.38
2007	710.9056613	7.600357347	0.37
2008	328.9226376	34.07894611	0.17
2009	2570.559324	11.21649104	0.33
2010	3084.740472	8.049506449	0.37
2011	598.5958352	10.8116416	0.37
2012	1401.336836	7.781951617	0.37
2013	983.0138005	11.98567252	0.37
2014	1852.81228	13.11236075	0.37
2015	1252.041966	56.33579966	0.16
2016	1456.864866	64.08105699	0.13
2017	552.775273	25.5547744	0.06
2018	1990.557668	90.52906827	0.10
2019	2259.573764	119.4861298	0.08
2020	2978.686846	62.92350623	0.14
2021	9762.328213	10.43913043	0.21
2022	0.029838032	1640.079712	0.64
2023	0.037564057	1325.615014	0.60
2024	0.059702748	557.4793131	0.76
2025	0.066442466	296.4389789	0.79
2026	0.097976937	260.3315449	0.81
2027	0.10527403	184.8914536	0.87
2028	0.108102724	120.1802032	0.87
2029	0.119866763	249.2785087	0.71
2030	0.124027187	257.1526752	0.75
2031	0.139009756	187.4889038	0.68
2032	0.171839864	141.0460562	0.87
2033	0.177846417	206.4155562	0.73
2034	0.193765491	197.7144369	0.73
2035	0.192947737	153.5425296	0.67
2036	0.233924744	118.2955269	0.81
2037	0.286317715	47.77000269	0.86
2038	0.304570651	98.0804482	0.67
2039	0.296193118	67.55632983	1.06
2040	0.304648674	73.03904648	0.78
2041	0.338650364	83.31511406	0.88
2042	0.357200413	56.43121815	0.75
2043	0.359125657	46.4778513	0.87
2044	0.368156472	99.1018225	0.50
2045	0.385438746	61.99231791	0.97
2046	0.390159103	77.75524584	0.78
2047	0.40086734	56.22333651	1.02
2048	0.409969951	76.85126868	0.60
2049	0.410973201	48.25150765	0.96
2050	0.459726911	63.43242197	0.68
2051	0.449931022	58.96065523	0.81
2052	0.454686458	53.87983245	0.92
2053	0.481198281	46.48328833	0.69
2054	0.465284752	36.54938538	1.13
2055	0.4792539	55.64803887	0.63
2056	0.503754916	51.18579643	0.90
2057	0.522116477	46.92066691	0.75
2058	0.522945733	53.9331699	0.86
2059	0.566382706	33.81515753	0.69
2060	0.564960467	84.40674052	0.56
2061	0.586754226	41.940394	0.71
2062	0.614773152	45.42218898	0.93
2063	0.630115813	45.95630337	0.76
2064	0.645078606	55.77316633	0.67
2065	0.669534161	44.26911979	0.72
2066	0.652689453	44.97979368	0.81
2067	0.687042244	42.86391898	0.83
2068	0.799333158	32.14227561	1.05
2069	0.802518865	33.6579648	0.87
2070	0.808981984	35.50450576	0.79
2071	0.832623191	33.88206453	0.67
2072	0.83967169	30.39715049	0.79
2073	0.858278567	25.37281469	0.84
2074	0.879564905	27.55976753	0.66
2075	0.908990916	29.18477209	0.80
2076	0.909743899	27.11835298	0.91
2077	0.913201909	31.5348743	0.73
2078	1.008959403	30.04948942	0.69
2079	1.129200888	26.01157245	0.82
2080	1.161938465	18.66692457	0.68
2081	1.199174628	22.65731599	0.84
2082	1.22484847	20.40234083	0.98
2083	1.252262087	20.18019717	0.86
2084	1.355871654	20.43855936	0.83
2085	1.366768202	22.96151803	0.68
2086	1.438515593	20.14901895	0.59
2087	1.439055379	21.73162147	0.78
2088	1.470993685	19.54680203	0.85
2089	1.525925054	18.23480715	0.62
2090	1.586513249	21.81572588	0.61
2091	1.629557977	15.05414325	0.94
2092	1.663062147	18.7994035	0.60

2093	1.790001978	15.65217131	0.88
2094	1.83968995	13.63668032	0.74
2095	1.830600281	17.0400551	0.80
2096	1.888583778	16.63583607	0.76
2097	1.883113883	15.53680424	0.77
2098	2.111063205	14.10513918	0.81
2099	2.376139536	14.18386316	0.74
2100	2.57144071	11.41772875	0.67
2101	2.90607882	10.88055471	0.74
2102	3.014585238	14.40474955	0.58
2103	3.172832291	11.70784294	0.76
2104	3.149331016	10.26893441	0.80
2105	3.206427992	10.40015005	0.85
2106	3.278733481	10.45891648	0.75
2107	3.523986001	8.976287536	0.85
2108	4.110280044	6.133461472	0.51
2109	3.948440645	8.383872851	0.68
2110	4.043529392	8.341859949	0.86
2111	4.266992438	8.7761537	0.56
2112	4.288611723	7.850485295	0.71
2113	4.187173373	8.242920148	0.78
2114	4.995681859	7.567793244	0.69
2115	5.099523968	6.848772855	0.72
2116	5.074452317	6.701308935	0.83
2117	5.377012864	6.48693058	0.89
2118	4.923552572	4.885703217	0.82
2119	5.622148853	7.201569284	0.83
2120	5.648506187	11.39249366	0.64
2121	6.519938921	6.113396088	0.68
2122	6.802736532	5.163013083	0.75
2123	7.267981844	5.120361731	0.78
2124	6.789766147	9.117540705	0.76
2125	6.934128597	6.317853947	0.79
2126	9.848437902	4.559863796	0.79
2127	8.668572936	4.035341334	0.87
2128	8.782424978	9.474361962	0.68
2129	8.89818816	6.058270232	0.87
2130	12.64230125	5.738601826	0.75
2131	14.62317798	6.702573818	0.73
2132	15.37929964	3.554638612	0.87
2133	15.98793154	5.02565592	0.67
2134	16.96203281	2.724876004	0.86
2135	17.93581868	3.970622899	0.81
2136	19.61728504	3.101670669	0.87
2137	20.47816244	3.871871786	0.75
2138	20.90023271	2.867783624	1.04
2139	22.15479536	3.522825644	0.73
2140	22.01340143	2.466266836	1.06
2141	22.51547209	5.206707645	0.50
2142	23.04832232	3.543260867	0.88
2143	23.6605049	3.587806599	0.67
2144	24.94512557	4.182567856	0.60
2145	27.55467763	2.408405224	0.97
2146	27.88974603	3.009255627	0.78
2147	28.32053958	2.024085442	0.96
2148	28.80569667	2.809867275	0.81
2149	29.18648777	2.965098533	0.63
2150	29.13100997	2.095284586	1.02
2151	29.87308722	3.161267575	0.68
2152	30.57366459	1.685324047	1.13
2153	31.92348348	2.183818734	0.92
2154	32.88446785	2.380259074	0.75
2155	33.90380489	2.228985641	0.90
2156	35.35361325	2.279994812	0.86
2157	38.80662742	2.519011092	0.81
2158	39.55275789	1.768168459	0.69
2159	38.94476066	2.373871248	0.76
2160	39.44520655	2.137238744	0.93
2161	40.88742424	1.510633616	0.69
2162	42.88303666	2.308504298	0.72
2163	42.64792404	2.152055121	0.83
2164	44.17656108	2.722103101	0.56
2165	45.08680062	2.388525461	0.67
2166	45.6587932	1.888606847	0.84
2167	45.66922624	2.166563695	0.79
2168	47.9296736	1.957366334	0.66
2169	47.53700423	2.021074811	0.67
2170	48.14511523	1.919526262	0.79
2171	47.81610039	1.848511164	0.87
2172	48.30221967	1.720401009	1.05
2173	50.99713122	1.834859862	0.80
2174	51.48289528	1.921794964	0.73
2175	52.57644445	1.145964274	0.71
2176	54.74573059	1.479283275	0.91
2177	55.52346213	2.029220524	0.69
2178	55.6486505	1.701053171	0.68
2179	61.01455717	1.751368302	0.82
2180	61.40626873	2.21783392	0.62
2181	60.15486963	1.719133779	0.86
2182	60.37687253	2.279369396	0.59
2183	62.36329109	3.489403018	0.79
2184	63.64425058	1.574525067	0.84
2185	63.60056645	1.448738669	0.98
2186	66.31467648	1.955212348	0.68
2187	67.8950951	1.803665144	0.85
2188	68.49637751	1.60761735	0.83
2189	71.80256353	1.696734324	0.78
2190	72.0684996	1.798400764	0.74
2191	72.56829164	1.958725487	0.60
2192	75.5449763	1.858077608	0.77
2193	77.91806937	1.284095074	0.94
2194	79.04750229	1.021303474	0.68
2195	79.49324047	2.003931698	0.81
2196	79.7959133	1.722560491	0.80
2197	80.33102219	1.684619104	0.61
2198	84.09481864	1.649354649	0.76
2199	86.593472	1.298081996	0.88
2200	91.38779076	1.460811939	0.81
2201	93.02547107	1.751781395	0.67
2202	93.87623511	1.782424996	0.74
2203	97.45662215	3.627685756	0.69
2204	99.79684517	2.584350764	0.58
2205	100.4567008	0.968475152	0.77
2206	112.3771165	2.516176727	0.56
2207	112.186427	0.889476446	0.83
2208	112.8420341	1.445228346	0.74
2209	112.3341275	1.012629981	0.71
2210	120.5403076	1.430423367	0.85
2211	126.7117858	1.618272036	0.68
2212	127.3087606	1.221495916	0.80
2213	129.80687	1.271674338	0.75
2214	131.8231218	1.251314649	0.85
2215	139.8584025	1.207015592	0.51
2216	140.6879116	1.463723669	0.71

2217	143.6667451	1.278953495	0.86
2218	152.224474	1.598590744	0.69
2219	152.1235204	1.202940588	0.78
2220	152.4157122	0.86165452	0.86
2221	166.9968789	1.70646139	0.79
2222	168.184754	1.244024041	0.72
2223	182.9464734	1.457297662	0.75
2224	183.0277335	1.310361996	0.83
2225	196.0656455	1.342579002	0.68
2226	195.6790854	1.75828955	0.69
2227	201.7057946	0.817889271	0.83
2228	201.6419579	1.237995374	0.82
2229	208.9287437	1.231016407	0.78
2230	220.1729966	2.021482852	0.60
2231	234.8370202	1.327319846	0.85
2232	251.9680333	1.686113488	0.69
2233	277.5706917	1.102275842	0.82
2234	282.0380252	0.984788464	0.87
2235	300.1745322	0.956733678	0.79
2236	298.9126126	1.173507803	0.76
2237	306.5658974	0.77256822	0.80
2238	314.7195366	0.884241942	0.79
2239	316.194685	1.272609836	0.67
2240	320.2840499	1.12361036	0.81
2241	335.2815374	1.019358668	0.64
2242	353.7866086	1.403084777	0.71
2243	369.4752906	0.859488604	0.71
2244	370.4918584	1.214455429	0.68
2245	381.4030532	0.916255618	0.86
2246	406.1577874	0.846175565	0.86
2247	407.4227399	0.995179797	0.74
2248	413.51073	1.123447857	0.87
2249	437.6968819	0.730287357	0.87
2250	459.8886394	0.984105615	0.80
2251	463.422611	1.05967491	0.73
2252	463.5582376	2.652892327	0.50
2253	474.7362861	1.235110447	0.81
2254	475.6951133	0.778328178	0.86
2255	485.0715254	1.122092292	0.75
2256	504.0339886	1.043905659	0.87
2257	518.3751344	1.096377307	0.76
2258	544.770527	0.966248412	0.78
2259	551.141306	1.345545419	0.88
2260	582.8121833	1.06271217	0.96
2261	593.9832485	1.001967356	0.67
2262	603.8220781	0.75285406	1.04
2263	608.2024193	1.214099342	0.75
2264	611.1495715	0.729539974	1.06
2265	617.9759595	0.996098113	0.73
2266	624.1244456	1.417581851	0.63
2267	652.2920665	0.90553284	1.02
2268	655.2144498	0.940598607	0.97
2269	668.7567548	1.202514333	0.67
2270	674.1208135	1.093607935	0.81
2271	701.8267744	1.040512437	0.78
2272	703.2972787	1.409727159	0.68
2273	706.4977734	1.186966531	0.60
2274	716.1702566	1.087744781	0.90
2275	719.5410858	1.427154607	0.69
2276	728.6930037	0.65893394	1.13
2277	753.4739629	1.029431012	0.75
2278	756.070574	2.022157376	0.56
2279	762.0238281	0.857497029	0.92
2280	781.9443638	1.899835351	0.67
2281	816.8094309	0.888141755	0.86
2282	830.7465646	1.564580389	0.72
2283	832.5071162	0.722762697	0.73
2284	837.815564	1.186099272	0.81
2285	849.5478981	1.13104533	0.83
2286	860.1414487	0.940104065	0.93
2287	887.3566493	1.138618779	0.69
2288	951.1762352	0.867199732	0.76
2289	956.7868985	1.982983836	0.62
2290	968.1991381	1.136309901	0.73
2291	968.3107341	1.017084578	0.79
2292	1027.188707	0.924039341	0.84
2293	1028.438096	0.989245208	0.80
2294	1043.228045	1.181969614	0.68
2295	1083.27127	0.825272604	0.91
2296	1083.490734	0.729707132	1.05
2297	1090.468123	0.706310891	0.71
2298	1119.037221	0.891019037	0.66
2299	1120.401651	0.854867256	0.79
2300	1152.260773	1.028656452	0.84
2301	1156.89791	0.739267795	0.67
2302	1157.966639	0.669038406	0.87
2303	1167.381386	1.318717356	0.85
2304	1171.403008	1.738727982	0.61
2305	1172.258367	1.23996222	0.83
2306	1184.060013	1.00517463	0.82
2307	1201.950026	0.825616865	0.98
2308	1218.758836	0.905232702	0.86
2309	1225.461603	0.97644595	0.69
2310	1275.0695	1.504899141	0.56
2311	1271.598208	1.351503556	0.77
2312	1291.987079	2.024275845	0.74
2313	1296.49395	1.152300645	0.68
2314	1352.444442	1.243102062	0.60
2315	1365.660308	0.99148347	0.59
2316	1388.412079	1.167005973	0.80
2317	1453.841552	0.967482812	0.88
2318	1467.586256	1.590961276	0.67
2319	1506.821484	0.812196856	0.78
2320	1544.279859	0.899546421	0.74
2321	1619.769004	0.9609281	0.76
2322	1620.913697	0.630178127	0.94
2323	1711.146766	0.87538908	0.81
2324	1839.249191	1.47451161	0.76
2325	1917.778747	1.914161313	0.56
2326	1937.356189	1.102324996	0.74
2327	1971.009843	1.480646755	0.68
2328	1975.041781	1.426824959	0.58
2329	2021.589295	1.622272926	0.51
2330	2097.341801	0.948770868	0.80
2331	2190.555558	0.898922921	0.75
2332	2202.235143	0.952731539	0.85
2333	2206.317421	0.900086742	0.85
2334	2240.258817	1.160362237	0.66
2335	2275.248518	1.263189326	0.71
2336	2326.958715	2.014186004	0.53
2337	2307.05801	1.035378147	0.86
2338	2353.566295	1.037650564	0.78
2339	2409.54888	1.372200515	0.69
2340	2669.29096	1.073310475	0.89

2341	2708.93484	1.553858499	0.68
2342	2768.346675	0.898818087	0.83
2343	2919.367457	1.066176387	0.83
2344	2975.641094	1.286781295	0.75
2345	3132.464848	0.783647534	0.72
2346	3387.470381	1.03540367	0.78
2347	4021.486595	1.534651548	0.57
2348	4483.235481	0.909829449	0.79
2349	4902.96334	1.743000524	0.66
2350	5362.275799	1.480235654	0.55
2351	6815.917226	1.345386148	0.84
2352	6767.781328	1.184162951	1.00
2353	7487.901483	1.360825015	0.99
2354	7642.683738	1.604031771	0.66
2355	8002.832699	1.929577895	0.66
2356	8652.448257	1.470016726	0.57
2357	8918.355437	1.109554344	0.42
2358	9285.263272	1.466190331	0.81
2359	9244.509737	1.420348998	0.68
2360	9503.832887	1.704895721	0.63
2361	10472.52164	1.517083814	0.74

Source: (Song et al., 2017)

1	0.002368487	9326.293629	1.00
2	0.016704064	1500.018712	1.00
3	0.053477936	493.9300699	1.00
4	0.131388681	193.9612788	1.00
5	0.414360509	65.81850409	1.00
6	0.927449514	31.14156087	1.00
7	1.725255547	17.57697384	1.00
8	0.035028671	763.3216398	1.00
9	0.121727749	213.3288029	1.00
10	0.27399651	99.80558056	1.00
11	0.883694839	32.38277228	1.00
12	1.94315632	15.8752069	1.00
13	3.427449514	9.966043521	1.00
14	0.009411618	2771.461603	1.00
15	0.073921715	359.4043833	1.00
16	0.252430815	104.0199111	1.00
17	0.565445026	49.14016965	1.00
18	1.749813014	17.31840615	1.00
19	3.612066816	9.633760921	1.00
20	6.252804787	6.27895996	1.00
21	0.013126182	1622.449658	1.00
22	0.08617624	301.13622	1.00
23	0.286350519	92.04832797	1.00
24	0.681420069	38.52993023	1.00
25	1.926980623	16.26099609	1.00
26	4.015470358	8.876570397	1.00
27	6.799933103	6.045591643	1.00
28	0.186334717	143.4151107	1.00
29	0.60565917	45.81415221	1.00
30	1.317754556	22.94052776	1.00
31	3.771779931	9.450472966	1.00
32	7.501327797	5.663516327	1.00
33	12.44561822	4.018458933	1.00
34	0.04865248	550.2181433	1.00
35	0.370101269	76.06654812	1.00
36	1.173223875	25.54740828	1.00
37	2.471146482	13.64984952	1.00
38	6.79793564	6.087577783	1.00
39	13.2003737	3.826858267	1.00
40	21.75664706	2.751445635	1.00
41	0.061351111	339.8115489	1.00
42	0.399537778	64.09989045	1.00
43	1.182293333	24.70564988	1.00
44	2.636586667	11.77548682	1.00
45	6.803626667	5.968370864	1.00
46	13.24216889	3.734519365	1.00
47	21.88995556	2.669274516	1.00
48	0.81056	34.50687563	1.00
49	2.38544	13.4466084	1.00
50	4.811377778	7.834784327	1.00
51	12.48117333	3.92942415	1.00
52	23.55882667	2.61425914	1.00
53	37.90471111	1.972420946	1.00
54	0.224248889	117.669282	1.00
55	1.52864	20.2583118	1.00
56	4.369226667	8.369091503	1.00
57	8.458595556	5.293064151	1.00
58	21.42816	2.783605548	1.00
59	39.41219556	1.950439153	1.00
60	62.92871111	1.494259514	1.00
61	0.026292591	1156.313395	0.81
62	0.220857766	131.101292	0.81
63	0.722891597	41.30092205	0.81
64	1.581267369	20.46028561	0.81
65	2.804800836	12.70130347	0.81
66	0.064648842	427.9911382	0.81
67	0.492135443	59.08496419	0.81
68	1.500533648	21.4500626	0.81
69	3.122322541	11.74304492	0.81
70	5.290997331	7.987138309	0.81
71	0.130689645	219.6071441	0.81
72	0.949007881	33.31801867	0.81
73	2.797377045	12.94167738	0.81
74	5.640843457	7.544330364	0.81
75	9.30371074	5.416595853	0.81
76	0.143384679	207.7466168	0.81
77	1.066357165	30.04858726	0.81
78	3.167208232	11.49608544	0.81
79	6.389646118	6.695234856	0.81
80	10.69012436	4.671796872	0.81
81	0.328545634	88.10335534	0.81
82	2.179447113	16.01699963	0.81
83	5.945684669	7.263465321	0.81
84	11.48635188	4.613171385	0.81
85	18.54264824	3.457405687	0.81
86	0.6408056	48.46002534	0.81
87	4.001317621	9.943062463	0.81
88	10.42141086	4.947057546	0.81
89	19.75947081	3.261862046	0.81
90	31.67031214	2.479942204	0.81
91	0.597698048	54.70294269	0.81
92	3.970154914	9.918578736	0.81
93	10.51108638	4.775764673	0.81
94	20.28123715	3.040643131	0.81
95	32.68965861	2.285933579	0.81
96	1.34388319	23.97476228	0.81
97	7.520346331	6.124796402	0.81

98	18.91410599	3.267905431	0.81
99	35.2139392	2.23474568	0.81
100	55.05646449	1.7855447	0.81
101	2.465785674	14.86977571	0.81
102	13.15535654	4.179264032	0.81
103	31.75149016	2.42131118	0.81
104	57.02804312	1.779172689	0.81
105	88.2973252	1.449539271	0.81
106	0.011956402	2744.803219	0.70
107	0.09784729	327.8722161	0.70
108	0.281829477	133.3838258	0.70
109	0.622220923	64.86388955	0.70
110	0.02854896	1077.322156	0.70
111	0.196182597	182.5135888	0.70
112	0.585619692	69.12873281	0.70
113	1.233705485	36.92182493	0.70
114	0.050875711	711.3408318	0.70
115	0.381140816	101.3952908	0.70
116	1.150376683	37.564909	0.70
117	2.365903556	21.05157615	0.70
118	0.060882739	565.6150874	0.70
119	0.483152013	71.85082406	0.70
120	1.322942823	32.34379438	0.70
121	2.703417042	18.35960072	0.70
122	0.126513215	291.6634194	0.70
123	0.938934721	42.36165666	0.70
124	2.513507581	19.95065288	0.70
125	4.91195237	12.38298729	0.70
126	0.253864266	151.5664178	0.70
127	1.672320377	27.94197865	0.70
128	4.464827299	13.23002202	0.70
129	8.521349256	8.609330408	0.70
130	0.26147836	140.3048745	0.70
131	1.804318997	23.57260651	0.70
132	4.603675553	12.2207711	0.70
133	8.736453427	8.043663705	0.70
134	0.553127299	69.46996255	0.70
135	3.372005995	14.9541097	0.70
136	8.167353468	8.6029681	0.70
137	14.9456771	6.089701919	0.70
138	1.029940778	41.83699274	0.70
139	5.611727872	11.27409651	0.70
140	13.69211908	6.391567736	0.70
141	24.65468804	4.672678677	0.70
142	0.007923473	3750.009191	0.78
143	0.064005197	459.7513362	0.78
144	0.204672566	151.7427605	0.78
145	0.447830572	75.13044879	0.78
146	1.408937543	25.6173235	0.78
147	0.016258555	1993.028685	0.78
148	0.134801941	231.9397149	0.78
149	0.408419012	85.27648475	0.78
150	0.906362977	41.04432194	0.78
151	2.570909698	17.21700208	0.78
152	0.037456417	787.4037846	0.78
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154	0.83227336	43.06076531	0.78
155	1.781443672	22.27849003	0.78
156	4.770136486	10.48677881	0.78
157	0.045697226	602.3944052	0.78
158	0.315169527	101.3122941	0.78
159	0.951161847	37.54183741	0.78
160	2.034233211	19.45535215	0.78
161	5.598145727	8.670136902	0.78
162	0.085741187	381.0009132	0.78
163	0.652009904	52.7092212	0.78
164	1.854977598	21.97816468	0.78
165	3.788629802	12.48879765	0.78
166	9.542711424	6.64377884	0.78
167	0.174897888	191.596801	0.78
168	1.23994947	30.49575539	0.78
169	3.447078371	13.31738123	0.78
170	6.750940694	8.230169347	0.78
171	16.34076266	4.74096217	0.78
172	0.181121716	175.4504414	0.78
173	1.279328044	28.13336369	0.78
174	3.511665668	12.60181078	0.78
175	6.869652304	7.805594294	0.78
176	17.2020724	4.201338968	0.78
177	0.374218422	91.0643048	0.78
178	2.463854087	16.805774	0.78
179	6.355725671	8.523775021	0.78
180	12.07478107	5.597833094	0.78
181	28.18014402	3.468692779	0.78
182	0.73247019	49.63137504	0.78
183	4.400808637	10.99920346	0.78
184	10.96459975	5.980182192	0.78
185	20.17186979	4.188165921	0.78
186	45.89115347	2.7310649	0.78
187	0.053407765	687.8178408	0.64
188	0.419334402	89.25884016	0.64
189	1.247989251	34.01138472	0.64
190	2.529358354	19.62643796	0.64
191	0.108693146	371.613824	0.64
192	0.871214161	46.27392251	0.64
193	2.438398255	19.9365803	0.64
194	4.77916044	12.30192098	0.64
195	0.245759167	152.4225661	0.64
196	1.635195544	27.54351221	0.64
197	4.372343483	13.00181379	0.64
198	8.248161654	8.660328538	0.64
199	0.284148035	129.8344799	0.64
200	1.886360905	23.56783939	0.64
201	5.045896031	11.11646041	0.64
202	9.45568251	7.50366726	0.64
203	0.537254688	80.86550885	0.64
204	3.575012085	14.61028575	0.64
205	8.842495826	8.060050976	0.64
206	16.14151863	5.733435644	0.64
207	1.111759035	39.51434636	0.64
208	6.022983223	10.77067241	0.64
209	14.40702172	6.353184675	0.64
210	25.67170046	4.74293134	0.64
211	1.10263045	39.45066279	0.64
212	6.290051504	9.698305299	0.64
213	15.14346591	5.64712581	0.64
214	26.94869284	4.226869433	0.64
215	2.038348952	25.5776233	0.64
216	11.10520833	6.893722892	0.64
217	25.05500091	4.57079953	0.64
218	44.01215195	3.511171334	0.64
219	3.916867067	14.46363009	0.64
220	17.63601768	5.707473544	0.64
221	39.44888043	3.849899305	0.64

222	66.58269379	3.203407746	0.64
223	0.021667965	1504.34861	0.76
224	0.179873792	174.63808	0.76
225	0.559656822	60.88424152	0.76
226	1.215186968	30.61106973	0.76
227	3.409587862	13.12304803	0.76
228	0.047639841	696.3989005	0.76
229	0.363606262	95.63700339	0.76
230	1.174077199	30.95773203	0.76
231	2.417313793	17.31061886	0.76
232	6.299144563	8.603779685	0.76
233	0.779749918	43.60643005	0.76
234	2.219482305	18.16484151	0.76
235	4.427388574	10.82071396	0.76
236	10.98387732	5.933536608	0.76
237	0.118564303	268.4565186	0.76
238	0.880569263	38.93541431	0.76
239	2.512272262	16.14403964	0.76
240	5.021147266	9.579788338	0.76
241	12.51957504	5.200635712	0.76
242	0.247660105	136.9979743	0.76
243	1.669412562	24.12064322	0.76
244	4.736117323	10.11451614	0.76
245	9.054371917	6.55978442	0.76
246	21.49852783	3.927015004	0.76
247	3.179154	13.9169957	0.76
248	7.936334322	7.537069036	0.76
249	14.96831857	5.022414778	0.76
250	34.28105063	3.231648683	0.76
251	0.515249216	65.04023306	0.76
252	3.285793185	12.79458801	0.76
253	8.305155312	6.759039983	0.76
254	15.4315701	4.640625374	0.76
255	35.90193211	2.893575887	0.76
256	1.027619945	36.22886318	0.76
257	5.754095995	9.243906363	0.76
258	14.64358422	4.817134163	0.76
259	26.30937338	3.537355608	0.76
260	58.88953122	2.38285334	0.76
261	10.15530299	6.196717367	0.76
262	23.43664312	3.926724412	0.76
263	41.96546549	2.903042249	0.76
264	90.16717358	2.122336829	0.76
265	0.024258467	1066.855295	0.87
266	0.186362104	144.6128859	0.87
267	0.593761651	48.08080081	0.87
268	1.314523511	23.25281173	0.87
269	2.34379599	14.28573588	0.87
270	0.054224808	477.804359	0.87
271	0.397838857	71.01036564	0.87
272	1.218345824	25.55458097	0.87
273	2.619343635	13.10512527	0.87
274	4.53561982	8.536559707	0.87
275	0.116440641	217.2748832	0.87
276	0.814513699	35.52318526	0.87
277	2.34379599	14.47914277	0.87
278	4.827720301	8.089365757	0.87
279	8.102327935	5.609305314	0.87
280	0.132781703	190.2623546	0.87
281	0.931595121	30.9218103	0.87
282	2.69385167	12.48089536	0.87
283	5.485043924	7.135905494	0.87
284	9.221223796	4.931309079	0.87
285	0.282549011	93.55912392	0.87
286	1.832485494	17.79437038	0.87
287	5.019246364	8.004983993	0.87
288	10.01889395	4.762271424	0.87
289	16.41397434	3.46542291	0.87
290	0.569344424	48.21431188	0.87
291	3.355310338	11.10582211	0.87
292	8.702836188	5.571450312	0.87
293	16.9411814	3.485127764	0.87
294	27.16063615	2.648233365	0.87
295	0.58259341	45.22026568	0.87
296	3.496944295	10.04099624	0.87
297	9.20179307	4.894215462	0.87
298	17.53315561	3.195391279	0.87
299	28.33050735	2.39037234	0.87
300	1.170030234	24.84122826	0.87
301	6.443123323	6.553364634	0.87
302	16.15555052	3.517932276	0.87
303	30.18415076	2.388852227	0.87
304	48.2369354	1.826912849	0.87
305	2.219667055	14.4121667	0.87
306	11.16891073	4.553793126	0.87
307	26.7875343	2.671795617	0.87
308	49.04855306	1.889002458	0.87
309	76.82345173	1.503928985	0.87
310	0.164591532	289.6858308	0.47
311	1.149160195	47.54130166	0.47
312	3.070940199	22.46794104	0.47
313	0.38945602	115.7815417	0.47
314	2.116839184	31.35237364	0.47
315	5.467286936	15.86266676	0.47
316	0.734204079	68.31170536	0.47
317	3.866741914	19.7028172	0.47
318	9.325087257	11.43369673	0.47
319	0.820241268	62.32411444	0.47
320	4.596989881	15.87384881	0.47
321	10.72984742	9.833678819	0.47
322	1.706435393	32.06299168	0.47
323	7.565626487	13.04920148	0.47
324	17.6162353	8.123090687	0.47
325	2.890554488	23.38157744	0.47
326	12.60533439	9.83597403	0.47
327	27.99357608	6.731054848	0.47
328	2.922547212	22.46214299	0.47
329	13.47904467	8.447846633	0.47
330	29.34751255	6.014443217	0.47
331	5.586561401	13.62034456	0.47
332	21.03270515	7.68735552	0.47
333	44.87394606	5.699706437	0.47
334	8.847931393	11.3378699	0.47
335	33.37163525	6.376024441	0.47
336	66.9086674	5.353206123	0.47