

全国物理化学计量技术委员会（MTC17）

蔗糖、果糖、葡萄糖水溶液质量浓度-折射率数
据应用指南不确定度评定报告

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本规范拟评定糖类水溶液质量浓度-折射率标准数据的不确定度。根据多项式（1），要得到糖类水溶液-折射率标准数据的不确定度，需要获得实测的蔗糖、葡萄糖、果糖的准确质量及纯度，因此无法准确计算得到标准数据的不确定度。基于此，本规范拟通过验证实验数据进行糖类水溶液质量浓度-折射率不确定度评定，因蔗糖、果糖、葡萄糖纯度标准物质不确定度较大，且实验数据的标准偏差 S_p 也与所使用的仪器相关，因此该数据仅供参考。

根据实际数据验证范围，蔗糖、果糖水溶液质量浓度为（0~60）g/100g，葡萄糖水溶液质量浓度为（0~50）g/100g，根据基本多项式(1)推导出的数据与规范给出的标准数据之间的最大偏差（见表 6），对于蔗糖为 $\Delta n_{\max}=1.45\times10^{-6}$ ，对于葡萄糖为 $\Delta n_{\max}=5.00\times10^{-7}$ ，对于果糖为 $\Delta n_{\max}=5.00\times10^{-7}$ ，不确定度评定示例如下。

一、蔗糖、葡萄糖、果糖水溶液质量浓度-折射率标准数据不确定度评定

1.1 测量模型

当蔗糖水溶液、葡萄糖水溶液、果糖水溶液的质量浓度在（0~85）g/100g 范围内，溶液温度在（15~30）℃范围内，测量波长为 589.3nm 时，其相对标况下空气的折射率可用式（1）进行计算：

$$\begin{aligned} n(w,t) = & a_1 + a_2w + a_3w^2 + a_4w^3 + a_5w^4 + a_6w^5 \\ & - (b_1 + b_2w + b_3w^2 + b_4w^3)(t - 20) \\ & - (c_1 + c_2w + c_3w^2 + c_4w^3)(t - 20)^2 \end{aligned} \tag{1}$$

式中：

$n(w,t)$ ——相对标况下空气的折射率；

w ——修正到真空中的溶液质量浓度，g/100 g；

t ——溶液温度，℃。

实验严格恒温 20℃， $t-20=0$ ，温度修正项归零，测量模型简化为：

$$n=f(w)$$

表 1 糖类水溶液的多项式(1)的系数

系数	蔗糖	葡萄糖	果糖
a_1	1.3329873	1.3329877	1.3329877
a_2	0.1427980×10^{-2}	0.1424484×10^{-2}	0.1411992×10^{-2}

a_3	0.543899×10^{-5}	0.494960×10^{-5}	0.522601×10^{-5}
a_4	0.130586×10^{-7}	0.131457×10^{-7}	0.637150×10^{-8}
a_5	0.120330×10^{-9}	0.357838×10^{-10}	0.223415×10^{-9}
a_6	-0.89754×10^{-12}	-0.41661×10^{-12}	-0.19817×10^{-11}
b_1	0.909×10^{-4}	0.897×10^{-4}	0.897×10^{-4}
b_2	0.1319×10^{-5}	0.1622×10^{-5}	0.2213×10^{-5}
b_3	0.711×10^{-8}	0.641×10^{-8}	0.1072×10^{-7}
b_4	-0.88×10^{-10}	-0.130×10^{-9}	-0.123×10^{-9}
c_1	0.1455×10^{-5}	0.163×10^{-5}	0.163×10^{-5}
c_2	-0.150×10^{-7}	-0.215×10^{-7}	-0.215×10^{-7}
c_3	0	0.62×10^{-10}	-0.62×10^{-10}

1.2 仪器设备与标准物质

根据测量模型多项式（1）和表 1 的多项式系数，计算糖类水溶液其标准不确定度需获得用于实验的蔗糖、葡萄糖、果糖的准确质量及纯度，本次用于验证标准数据的仪器设备与标准物质如下：

1) 电子天平 XP205，测量范围/量程：0.01mg~220g，精度等级为 D 级。在 $0 \leq m \leq 50$ g 范围的示值误差为 +0.02 mg，用于配制溶液；

2) Abbemat-650 全自动折射仪，有温度控制功能，试验前用液体折射率标准物质（GBW(E)130840、GBW(E)130842）进行两点校准，校准点为 1.33298 和 1.50579，校准后再以 GBW(E)130841（标准物质 1.39147）去验证仪器示值误差为 0.00001，折射率扩展不确定度 $U=0.00004$ ， $k=2$ ；

3) 蔗糖纯度标准物质 GBW10067（批次 24111），纯度标准值为 99.7%，扩展不确定度为 $U=0.8\%$ ， $k=2$ ；

4) 果糖纯度标准物质 GBW10063（批次 250601），纯度标准值为 99.7%，扩展不确定度为 $U_{rel}=0.5\%$ ， $k=2$ ；

5) 葡萄糖纯度标准物质 GBW10062（批次 25011），纯度标准值为 99.7%，扩展不确定度为 $U_{rel}=0.5\%$ ， $k=2$

1.3 不确定度来源

本次评定严格按照实验误差来源分为三个独立分量，分别为：

(1) 溶液配制不确定度 $u_1(n)$: 由糖纯度标准物质引入的不确定度、天平称量配制不确定度共同构成;

(2) 折射率测量不确定度 $u_2(n)$: 由折射仪仪器示值不确定度、多次平行测量重复性不确定度构成;

(3) 标准数据拟合不确定度 $u_3(n)$: 由多项式理论推导折射率与标准参考折射率的偏差引起。

各分量相互独立, 合成标准不确定度公式(2):

$$u_c(n) = \sqrt{u_1^2(n) + u_2^2(n) + u_3^2(n)} \tag{2}$$

扩展不确定度 (包含因子 $k = 2$, 置信概率 95%):

$$U(n) = 2u_c(n) \tag{3}$$

1.4 蔗糖水溶液质量浓度-折射率数据不确定度评定

1.4.1 溶液配制引入的不确定度 $u_1(n)$

该分量来源于标准物质纯度标准值与溶液称量过程。蔗糖水溶液质量浓度 w 的配置值 P 与纯度的关系为:

$$w = \frac{P * m_1}{m_2}$$

因此由不确定度传播定律可知 $u_{rel}(w) = \sqrt{u_{rel}^2(P) + u_{rel}^2(m_1) + u_{rel}^2(m_2)}$

蔗糖标准物质纯度扩展不确定度 $U = 0.8\%, k = 2$, 换算纯度标准不确定度:

$$u(P) = \frac{U}{k} = \frac{0.8\%}{2} = 0.4\%$$

$$u_{rel}(P) = \frac{0.4\%}{99.7\%} \approx 0.4\%$$

结合各组蔗糖、纯水称量原始数据, 通过误差传递计算得到各浓度标准不确定度 $u(w)$ 。

表 2 (0~60) /100g 蔗糖水溶液质量浓度标准不确定度 $u(w)$ 值

蔗糖纯度标准物质称量 m_1 (g)	溶液的质量 m_2 (g)	$u_{rel}(m_1)$	$u_{rel}(m_2)$	$u_{rel}(P)$	$u_{rel}(w)$	$u(w)$ /(g/100g)
1.00235	9.99451	0.0012%	0.0001%	0.40%	0.40%	0.04
2.00711	10.00743	0.0006%	0.0001%	0.40%	0.40%	0.08
3.00709	9.99470	0.0004%	0.0001%	0.40%	0.40%	0.12
4.00942	9.99409	0.0003%	0.0001%	0.40%	0.40%	0.16
5.01310	9.99661	0.0002%	0.0001%	0.40%	0.40%	0.20

6.02102	10.00713	0.0002%	0.0001%	0.40%	0.40%	0.24
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由上表可知，蔗糖水溶液质量浓度的不确定度主要由纯度标准引入，配制过程引入的不确定度可忽略不计，即

$$u_{rel}(w) \approx u_{rel}(P) \quad (4)$$

折射率对浓度的灵敏系数（20 °C）：

$$\frac{\partial n}{\partial w} = a_2 + 2a_3w + 3a_4w^2 + 4a_5w^3 + 5a_6w^4 \quad (5)$$

配制对应的折射率不确定度分量：

$$u_1(n) = \left| \frac{\partial n}{\partial w} \right| \cdot u(w) \quad (6)$$

多项式系数： $a_1 = 1.3329873$, $a_2 = 0.1427980 \times 10^{-2}$, $a_3 = 0.543899 \times 10^{-5}$, $a_4 = 0.130586 \times 10^{-7}$, $a_5 = 0.120330 \times 10^{-9}$, $a_6 = -0.89754 \times 10^{-12}$ 。

1.4.2 折射率测量引入的不确定度 $u_2(n)$

由仪器 B 类不确定度与实验重复性 A 类不确定度合成：

$$u_2(n) = \sqrt{u_{inst}^2 + u_{rep}^2} \quad (7)$$

1.4.2.1 仪器示值引入的不确定度 u_{inst}

折射仪的扩展不确定度 $U = 0.00004$, $k = 2$ ，标准不确定度为：

$$u_{inst} = \frac{0.00004}{2} = 2.0 \times 10^{-5} \quad (8)$$

1.4.2.2 测量重复性引入的不确定度 u_{rep}

每组浓度均进行 7 次平行折射率测量，采用 A 类评定： $u_{rep} = s/\sqrt{7}$ 。重复性分量数值极小，远小于仪器不确定度。

则折射率测量引入的不确定度分量： $u_2(n) \approx 2.02 \times 10^{-5}$ 。

1.4.3 标准数据引入的不确定度 $u_3(n)$

对比多项式推导折射率与标准参考折射率，得到最大偏差 $\Delta n_{max} = 1.45 \times 10^{-6}$ 。模型偏差服从矩形分布，计算可得：

$$u_3(n) = \frac{\Delta n_{max}}{\sqrt{3}} = \frac{1.45 \times 10^{-6}}{\sqrt{3}} \approx 8.39 \times 10^{-7} \quad (9)$$

1.4.4 合成标准不确定度

将三类标准不确定度分量合成，得到各浓度点最终不确定度结果，如表 1 所示。

表 3 蔗糖水溶液质量浓度-折射率测量不确定度汇总表（20 °C）

$w/(g/100g)$	$\partial n/\partial w$	$u(w)$	$u_1(n)$	$u_2(n)$	$u_3(n)$	$u_c(n)$	$U(n)(k=2)$
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10	0.001439	0.04	5.76E-05	2.02E-05	8.39E-07	6.10E-05	1.2E-04
20	0.0014509	0.08	1.16E-04	2.01E-05	8.39E-07	1.18E-04	2.4E-04
30	0.0014648	0.12	1.76E-04	2.01E-05	8.39E-07	1.77E-04	3.5E-04
40	0.0014806	0.16	2.37E-04	2.04E-05	8.39E-07	2.38E-04	4.8E-04
50	0.0014985	0.20	3.00E-04	2.01E-05	8.39E-07	3.00E-04	6.0E-04
60	0.0015184	0.24	3.64E-04	2.06E-05	8.39E-07	3.65E-04	7.3E-04

由表可知，

(1) 低浓度区间 (0~20 g/100 g): 不确定度主要由溶液配制分量主导，仪器测量分量次之，多项式拟合偏差分量极小，可忽略不计。

(2) 中高浓度区间 (>30 g/100 g): 随着浓度升高，溶液配制带来的不确定度显著增大，为折射率测量不确定度的主要来源。

(3) 全浓度范围内，仪器测量稳定性好、实验重复性优异；理论公式与标准数据偏差极小，实验数据可靠。

1.5 果糖水溶液质量浓度-折射率数据不确定度评定

1.5.1 溶液配制引入的不确定度 $u_1(n)$

该分量来源于标准物质纯度标准值与溶液称量过程。果糖标准物质纯度扩展不确定度 $U_r = 0.5\%$, $k = 2$ ，换算纯度标准不确定度：

$$u_r(P) = \frac{U}{k} = \frac{0.5\%}{2} = 0.25\%$$

与蔗糖水溶液质量浓度类似（如公式 4），果糖水溶液的不确定度主要由纯度标准引入，配置过程引入的不确定度可忽略不计，即

$$u_{rel}(w) \approx u_{rel}(P) = 0.25\% \quad (10)$$

折射率对浓度的灵敏系数 (20 °C):

$$\frac{\partial n}{\partial w} = a_2 + 2a_3w + 3a_4w^2 + 4a_5w^3 + 5a_6w^4 \quad (11)$$

配制对应的折射率不确定度分量：

$$u_1(n) = \left| \frac{\partial n}{\partial w} \right| \cdot u(w) \quad (12)$$

多项式系数： $a_1 = 1.3329873$, $a_2 = 0.1427980 \times 10^{-2}$, $a_3 = 0.543899 \times 10^{-5}$, $a_4 = 0.130586 \times 10^{-7}$, $a_5 = 0.120330 \times 10^{-9}$, $a_6 = -0.89754 \times 10^{-12}$ 。

1.5.2 折射率测量引入的不确定度 $u_2(n)$

由仪器 B 类不确定度与实验重复性 A 类不确定度合成：

$$u_2(n) = \sqrt{u_{\text{inst}}^2 + u_{\text{rep}}^2} \quad (13)$$

1.5.2.1 仪器示值引入的不确定度 u_{inst}

折射仪的扩展不确定度 $U = 0.00004$, $k = 2$, 标准不确定度为:

$$u_{\text{inst}} = \frac{0.00004}{2} = 2.0 \times 10^{-5} \quad (14)$$

1.5.2.2 测量重复性引入的不确定度 u_{rep}

每组浓度均进行 7 次平行折射率测量, 采用 A 类评定: $u_{\text{rep}} = s/\sqrt{7}$ 。重复性分量数值极小, 远小于仪器不确定度。

则折射率测量引入的不确定度分量: $u_2(n) \approx 2.02 \times 10^{-5}$ 。

1.5.3 标准数据引入的不确定度 $u_3(n)$

对比多项式推导折射率与标准参考折射率, 得到最大偏差 $\Delta n_{\text{max}} = 5.00 \times 10^{-7}$ 。模型偏差服从矩形分布, 计算可得:

$$u_3(n) = \frac{\Delta n_{\text{max}}}{\sqrt{3}} = \frac{5.00 \times 10^{-7}}{\sqrt{3}} \approx 2.89 \times 10^{-7} \quad (15)$$

1.5.4 合成标准不确定度

将三类标准不确定度分量合成, 得到各浓度点最终不确定度结果, 如表 1 所示。

表 4 果糖水溶液质量浓度-折射率测量不确定度汇总表 (20 °C)

$w/(\text{g}/100\text{g})$	$\partial n/\partial w$	$u(w)$	$u_1(n)$	$u_2(n)$	$u_3(n)$	$u_c(n)$	$U(n)(k=2)$
10	0.001439	0.025	3.60E-05	2.00E-05	2.89E-07	4.12E-05	8.2E-05
20	0.0014509	0.050	7.25E-05	2.01E-05	2.89E-07	7.53E-05	1.5E-04
30	0.0014648	0.075	1.10E-04	2.01E-05	2.89E-07	1.12E-04	2.2E-04
40	0.0014806	0.100	1.48E-04	2.04E-05	2.89E-07	1.49E-04	3.0E-04
50	0.0014985	0.125	1.87E-04	2.01E-05	2.89E-07	1.88E-04	3.8E-04
60	0.0015184	0.150	2.28E-04	2.06E-05	2.89E-07	2.29E-04	4.6E-04

由表可知, 果糖测量中, 多项式拟合偏差分量极小, 可忽略不计; 随浓度升高, 配制不确定度逐步增大, 为主要贡献分量, 测量稳定性良好。

1.6 葡萄糖水溶质量浓度-折射率数据不确定度评定

1.6.1 溶液配制引入的不确定度 $u_1(n)$

该分量来源于标准物质纯度误差与溶液称量误差。葡萄糖标准物质纯度扩展不确定度 $U_r = 0.5\%$, $k = 2$, 换算纯度标准不确定度:

$$u_r(P) = \frac{U}{k} = \frac{0.5\%}{2} = 0.25\%$$

与蔗糖水溶液质量浓度类似 (如公式 4), 果糖水溶液的不确定度主要由纯度标准引

入，配置过程引入的不确定度可忽略不计，即

$$u_{rel}(w) \approx u_{rel}(P) = 0.25\% \quad (16)$$

折射率对浓度的灵敏系数（20 °C）：

$$\frac{\partial n}{\partial w} = a_2 + 2a_3w + 3a_4w^2 + 4a_5w^3 + 5a_6w^4 \quad (17)$$

配制对应的折射率不确定度分量：

$$u_1(n) = \left| \frac{\partial n}{\partial w} \right| \cdot u(w) \quad (18)$$

多项式系数： $a_1 = 1.3329873$, $a_2 = 0.1427980 \times 10^{-2}$, $a_3 = 0.543899 \times 10^{-5}$, $a_4 = 0.130586 \times 10^{-7}$, $a_5 = 0.120330 \times 10^{-9}$, $a_6 = -0.89754 \times 10^{-12}$ 。

1.6.2 折射率测量引入的不确定度 $u_2(n)$

由仪器 B 类不确定度与实验重复性 A 类不确定度合成：

$$u_2(n) = \sqrt{u_{inst}^2 + u_{rep}^2} \quad (19)$$

1.6.2.1 仪器示值引入的不确定度 u_{inst}

折射仪的扩展不确定度 $U = 0.00004$, $k = 2$ ，标准不确定度为：

$$u_{inst} = \frac{0.00004}{2} = 2.0 \times 10^{-5} \quad (20)$$

1.6.2.2 测量重复性引入的不确定度 u_{rep}

每组浓度均进行 7 次平行折射率测量，采用 A 类评定： $u_{rep} = s/\sqrt{7}$ 。重复性分量数值极小，远小于仪器不确定度。

则折射率测量引入的不确定度分量： $u_2(n) \approx 2.02 \times 10^{-5}$ 。

1.6.3 标准数据引入的不确定度 $u_3(n)$

对比多项式推导折射率与标准参考折射率，得到最大偏差 $\Delta n_{max} = 5.00 \times 10^{-7}$ 。模型偏差服从矩形分布，计算可得：

$$u_3(n) = \frac{\Delta n_{max}}{\sqrt{3}} = \frac{5.00 \times 10^{-7}}{\sqrt{3}} \approx 2.89 \times 10^{-7} \quad (21)$$

1.6.4 合成标准不确定度

将三类标准不确定度分量合成，得到各浓度点最终不确定度结果，如表 1 所示。

表 5 葡萄糖水溶液质量浓度-折射率测量不确定度汇总表（20 °C）

$w/(g/100g)$	$\partial n/\partial w$	$u(w)$	$u_1(n)$	$u_2(n)$	$u_3(n)$	$u_c(n)$	$U(n)(k=2)$
10	0.001439	0.025	3.60E-05	2.00E-05	2.89E-07	4.12E-05	8.3E-05
20	0.0014509	0.050	7.25E-05	2.01E-05	2.89E-07	7.53E-05	1.5E-04

30	0.0014648	0.075	1.10E-04	2.01E-05	2.89E-07	1.12E-04	2.2E-04
40	0.0014806	0.100	1.48E-04	2.04E-05	2.89E-07	1.49E-04	3.0E-04
50	0.0014985	0.125	1.87E-04	2.01E-05	2.89E-07	1.88E-04	3.8E-04

由表可知，葡萄糖标准数据拟合偏差分量较小，可忽略不计；不确定度主要由配制误差与仪器测量共同决定，低浓度配制误差略大于仪器误差，高浓度配制误差占主导并逐渐增大。

1.7 结论

在可验证实验测量范围内(蔗糖水溶液质量浓度：(0~60) g/100g；葡萄糖水溶液质量浓度：(0~50) g/100g；果糖水溶液质量浓度：(0~60) g/100g)，多项式拟合推导折射率值与标准数据之间的最大偏差，可作为拟合模型引入不确定度的评定依据。本规范中，多项式(1)拟合偏差分量、称量配制分量、折射率仪器测量分量共同构成糖类水溶液溶液质量浓度-折射率关系测量结果的合成不确定度；对于测量范围之外的质量浓度，多项式已被外推，因此测量不确定度将进一步增大。

二、蔗糖、葡萄糖、果糖水溶液质量浓度-折射率标准数据与公式推导值的比较数据

表 6 蔗糖、葡萄糖、果糖水溶液质量浓度-折射率标准数据与公式推导值的比较数据

利用公式推导的折射率值				标准数据			推导值与标准数据之差			
g/100 g	蔗糖	葡萄糖	果糖	蔗糖	葡萄糖	果糖		蔗糖	葡萄糖	果糖
0	1.332987	1.332988	1.332988	1.332986	1.332988	1.332988	0	1.30E-06	3.00E-07	3.00E-07
0.1	1.333130	1.333130	1.333129	1.333129	1.333130	1.333129	0.1	1.15E-06	1.98E-07	4.85E-08
0.2	1.333273	1.333273	1.333270	1.333272	1.333273	1.333270	0.2	1.11E-06	2.05E-07	3.07E-07
0.3	1.333416	1.333415	1.333412	1.333415	1.333415	1.333412	0.3	1.18E-06	4.91E-07	2.32E-07
0.4	1.333559	1.333558	1.333553	1.333558	1.333558	1.333553	0.4	1.36E-06	2.86E-07	3.33E-07
0.5	1.333703	1.333701	1.333695	1.333702	1.333701	1.333695	0.5	6.51E-07	1.81E-07	3.31E-09
0.6	1.333846	1.333844	1.333837	1.333845	1.333844	1.333837	0.6	1.05E-06	1.75E-07	2.22E-07
0.7	1.333990	1.333987	1.333979	1.333989	1.333987	1.333979	0.7	5.56E-07	2.69E-07	3.43E-07
0.8	1.334133	1.334130	1.334121	1.334132	1.334130	1.334121	0.8	1.17E-06	4.62E-07	3.58E-07
0.9	1.334277	1.334274	1.334263	1.334276	1.334274	1.334263	0.9	8.97E-07	2.46E-07	2.69E-07
1	1.334421	1.334417	1.334405	1.334420	1.334417	1.334405	1	7.32E-07	1.47E-07	7.54E-08
1.1	1.334565	1.334561	1.334547	1.334564	1.334561	1.334547	1.1	6.77E-07	3.61E-07	2.23E-07
1.2	1.334709	1.334704	1.334690	1.334708	1.334704	1.334690	1.2	7.31E-07	2.31E-07	3.73E-07
1.3	1.334853	1.334848	1.334832	1.334852	1.334848	1.334832	1.3	8.95E-07	7.70E-08	1.36E-07
1.4	1.334997	1.334992	1.334975	1.334996	1.334992	1.334975	1.4	1.17E-06	2.85E-07	2.50E-07
1.5	1.335142	1.335136	1.335117	1.335141	1.335136	1.335117	1.5	5.52E-07	3.93E-07	4.69E-07
1.6	1.335286	1.335280	1.335260	1.335285	1.335280	1.335260	1.6	1.05E-06	4.01E-07	2.93E-07
1.7	1.335431	1.335424	1.335403	1.335430	1.335424	1.335403	1.7	6.50E-07	3.08E-07	2.23E-07
1.8	1.335575	1.335568	1.335546	1.335574	1.335568	1.335546	1.8	1.36E-06	1.15E-07	2.57E-07
1.9	1.335720	1.335712	1.335689	1.335719	1.335712	1.335689	1.9	1.19E-06	1.78E-07	3.97E-07
2	1.335865	1.335857	1.335833	1.335864	1.335857	1.335833	2	1.12E-06	4.28E-07	3.57E-07
2.1	1.336010	1.336001	1.335976	1.336009	1.336001	1.335976	2.1	1.17E-06	6.66E-08	6.83E-09
2.2	1.336155	1.336146	1.336119	1.336154	1.336146	1.336119	2.2	1.32E-06	3.38E-07	4.49E-07
2.3	1.336301	1.336290	1.336263	1.336300	1.336290	1.336263	2.3	5.88E-07	3.58E-07	1.08E-08
2.4	1.336446	1.336435	1.336407	1.336445	1.336435	1.336407	2.4	9.65E-07	1.54E-07	3.22E-07
2.5	1.336591	1.336580	1.336550	1.336590	1.336580	1.336550	2.5	1.45E-06	5.18E-08	4.51E-07

2.6	1.336737	1.336725	1.336694	1.336736	1.336725	1.336694	2.6	1.05E-06	5.03E-08	3.29E-07
2.7	1.336883	1.336870	1.336838	1.336882	1.336870	1.336838	2.7	7.60E-07	1.50E-07	3.13E-07
2.8	1.337029	1.337015	1.336982	1.337028	1.337015	1.336982	2.8	5.80E-07	3.51E-07	4.03E-07
2.9	1.337175	1.337161	1.337127	1.337174	1.337161	1.337127	2.9	5.11E-07	3.47E-07	4.02E-07
3	1.337321	1.337306	1.337271	1.337320	1.337306	1.337271	3	5.53E-07	5.61E-08	1.00E-07
3.1	1.337467	1.337452	1.337415	1.337466	1.337452	1.337415	3.1	7.07E-07	4.39E-07	3.07E-07
3.2	1.337613	1.337597	1.337560	1.337612	1.337597	1.337560	3.2	9.71E-07	1.67E-07	1.80E-07
3.3	1.337759	1.337743	1.337704	1.337758	1.337743	1.337704	3.3	1.35E-06	1.25E-07	4.40E-07
3.4	1.337906	1.337889	1.337849	1.337905	1.337889	1.337849	3.4	8.36E-07	3.16E-07	1.65E-07
3.5	1.338052	1.338035	1.337994	1.338051	1.338035	1.337994	3.5	1.44E-06	4.05E-07	3.71E-09
3.6	1.338199	1.338181	1.338139	1.338198	1.338181	1.338139	3.6	1.15E-06	3.92E-07	6.61E-08
3.7	1.338346	1.338327	1.338284	1.338345	1.338327	1.338284	3.7	9.69E-07	2.77E-07	2.23E-08
3.8	1.338493	1.338473	1.338429	1.338492	1.338473	1.338429	3.8	9.04E-07	6.01E-08	1.28E-07
3.9	1.338640	1.338619	1.338574	1.338639	1.338619	1.338574	3.9	9.51E-07	2.59E-07	3.84E-07
4	1.338787	1.338766	1.338720	1.338786	1.338766	1.338720	4	1.11E-06	3.20E-07	2.53E-07
4.1	1.338934	1.338912	1.338865	1.338933	1.338912	1.338865	4.1	1.38E-06	2.03E-07	2.16E-07
4.2	1.339082	1.339059	1.339011	1.339081	1.339059	1.339011	4.2	7.64E-07	1.72E-07	2.08E-07
4.3	1.339229	1.339206	1.339156	1.339228	1.339206	1.339156	4.3	1.26E-06	4.44E-07	4.75E-07
4.4	1.339377	1.339352	1.339302	1.339376	1.339352	1.339302	4.4	8.67E-07	3.86E-07	2.64E-07
4.5	1.339525	1.339499	1.339448	1.339524	1.339499	1.339448	4.5	5.87E-07	3.19E-07	1.59E-07
4.6	1.339672	1.339646	1.339594	1.339671	1.339646	1.339594	4.6	1.42E-06	3.55E-07	1.62E-07
4.7	1.339820	1.339793	1.339740	1.339819	1.339793	1.339740	4.7	1.37E-06	4.93E-07	2.71E-07
4.8	1.339968	1.339941	1.339886	1.339967	1.339941	1.339886	4.8	1.42E-06	2.66E-07	4.87E-07
4.9	1.340117	1.340088	1.340033	1.340116	1.340088	1.340033	4.9	5.95E-07	7.75E-08	1.90E-07
5	1.340265	1.340236	1.340179	1.340264	1.340236	1.340179	5	8.79E-07	4.76E-07	2.40E-07
5.1	1.340413	1.340383	1.340326	1.340412	1.340383	1.340326	5.1	1.28E-06	7.41E-08	2.23E-07
5.2	1.340562	1.340531	1.340472	1.340561	1.340531	1.340472	5.2	7.87E-07	2.73E-07	4.21E-07
5.3	1.340710	1.340678	1.340619	1.340709	1.340678	1.340619	5.3	1.41E-06	4.83E-07	1.73E-07

5.4	1.340859	1.340826	1.340766	1.340858	1.340826	1.340766	5.4	1.15E-06	3.42E-07	3.14E-08
5.5	1.341008	1.340974	1.340913	1.341007	1.340974	1.340913	5.5	9.98E-07	3.05E-07	2.67E-09
5.6	1.341157	1.341122	1.341060	1.341156	1.341122	1.341060	5.6	9.61E-07	3.71E-07	7.06E-08
5.7	1.341306	1.341271	1.341207	1.341305	1.341271	1.341207	5.7	1.04E-06	4.59E-07	2.51E-07
5.8	1.341455	1.341419	1.341355	1.341454	1.341419	1.341355	5.8	1.23E-06	1.86E-07	4.60E-07
5.9	1.341605	1.341567	1.341502	1.341604	1.341567	1.341502	5.9	5.35E-07	1.91E-07	6.47E-08
6	1.341754	1.341716	1.341649	1.341753	1.341716	1.341649	6	9.53E-07	3.28E-07	4.39E-07
6.1	1.341903	1.341864	1.341797	1.341903	1.341864	1.341797	6.1	4.86E-07	2.57E-07	4.98E-08
6.2	1.342053	1.342013	1.341945	1.342052	1.342013	1.341945	6.2	1.13E-06	5.45E-08	2.31E-07
6.3	1.342203	1.342162	1.342093	1.342202	1.342162	1.342093	6.3	8.93E-07	2.62E-07	4.05E-07
6.4	1.342353	1.342311	1.342241	1.342352	1.342311	1.342241	6.4	7.69E-07	3.65E-07	4.70E-07
6.5	1.342503	1.342460	1.342389	1.342502	1.342460	1.342389	6.5	7.58E-07	3.64E-07	4.27E-07
6.6	1.342653	1.342609	1.342537	1.342652	1.342609	1.342537	6.6	8.62E-07	2.59E-07	2.77E-07
6.7	1.342803	1.342758	1.342685	1.342802	1.342758	1.342685	6.7	1.08E-06	4.94E-08	1.82E-08
6.8	1.342953	1.342907	1.342833	1.342952	1.342907	1.342833	6.8	1.41E-06	2.65E-07	3.49E-07
6.9	1.343104	1.343057	1.342982	1.343103	1.343057	1.342982	6.9	8.61E-07	3.17E-07	1.76E-07
7	1.343254	1.343206	1.343130	1.343253	1.343206	1.343130	7	1.42E-06	2.06E-07	4.07E-07
7.1	1.343405	1.343356	1.343279	1.343404	1.343356	1.343279	7.1	1.10E-06	1.66E-07	9.88E-08
7.2	1.343556	1.343506	1.343428	1.343555	1.343506	1.343428	7.2	8.93E-07	4.33E-07	1.01E-07
7.3	1.343707	1.343655	1.343577	1.343706	1.343655	1.343577	7.3	8.01E-07	4.04E-07	1.92E-07
7.4	1.343858	1.343805	1.343726	1.343857	1.343805	1.343726	7.4	8.24E-07	3.47E-07	1.75E-07
7.5	1.344009	1.343955	1.343875	1.344008	1.343955	1.343875	7.5	9.62E-07	3.94E-07	4.91E-08
7.6	1.344160		1.344024	1.344159		1.344024	7.6	1.22E-06		1.86E-07
7.7	1.344312	1.344256	1.344174	1.344311	1.344256	1.344174	7.7	5.84E-07	1.95E-07	4.71E-07
7.8	1.344463	1.344406	1.344323	1.344462	1.344406	1.344323	7.8	1.07E-06	1.68E-07	1.86E-08
7.9	1.344615	1.344557	1.344473	1.344614	1.344557	1.344473	7.9	6.69E-07	3.64E-07	4.57E-07
8	1.344766	1.344707	1.344622	1.344765	1.344707	1.344622	8	1.38E-06	2.10E-07	2.13E-07
8.1	1.344918	1.344858	1.344772	1.344917	1.344858	1.344772	8.1	1.22E-06	1.11E-07	7.58E-09

8.2	1.345070	1.345009	1.344922	1.345069	1.345009	1.344922	8.2	1.16E-06	3.26E-07	1.19E-07
8.3	1.345222	1.345160	1.345072	1.345221	1.345160	1.345072	8.3	1.23E-06	4.35E-07	1.21E-07
8.4	1.345374	1.345311	1.345222	1.345373	1.345311	1.345222	8.4	1.41E-06	4.38E-07	1.41E-08
8.5	1.345527	1.345462	1.345372	1.345526	1.345462	1.345372	8.5	7.05E-07	3.36E-07	2.02E-07
8.6	1.345679	1.345613	1.345523	1.345678	1.345613	1.345523	8.6	1.12E-06	1.28E-07	4.72E-07
8.7	1.345832	1.345764	1.345673	1.345831	1.345764	1.345673	8.7	6.47E-07	1.87E-07	3.61E-08
8.8	1.345984	1.345916	1.345824	1.345983	1.345916	1.345824	8.8	1.29E-06	3.93E-07	4.91E-07
8.9	1.346137	1.346067	1.345974	1.346136	1.346067	1.345974	8.9	1.06E-06	1.34E-07	1.64E-07
9	1.346290	1.346219	1.346125	1.346289	1.346219	1.346125	9	9.34E-07	2.33E-07	7.16E-08
9.1	1.346443	1.346371	1.346276	1.346442	1.346371	1.346276	9.1	9.30E-07	4.94E-07	1.97E-07
9.2	1.346596	1.346522	1.346427	1.346595	1.346522	1.346427	9.2	1.04E-06	3.52E-07	2.13E-07
9.3	1.346749	1.346674	1.346578	1.346748	1.346674	1.346578	9.3	1.27E-06	3.05E-07	1.18E-07
9.4	1.346903	1.346826	1.346729	1.346902	1.346826	1.346729	9.4	6.21E-07	3.64E-07	8.60E-08
9.5	1.347056	1.346979	1.346880	1.347055	1.346979	1.346880	9.5	1.09E-06	4.71E-07	4.01E-07
9.6	1.347210	1.347131	1.347032	1.347209	1.347131	1.347032	9.6	6.68E-07	1.98E-07	1.75E-07
9.7	1.347363	1.347283	1.347183	1.347362	1.347283	1.347183	9.7	1.37E-06	1.81E-07	3.60E-07
9.8	1.347517	1.347436	1.347335	1.347516	1.347436	1.347335	9.8	1.18E-06	3.32E-07	5.98E-09
9.9	1.347671	1.347588	1.347487	1.347670	1.347588	1.347487	9.9	1.12E-06	2.61E-07	2.38E-07
10	1.347825	1.347741	1.347639	1.347824	1.347741	1.347639	10	1.17E-06	3.81E-08	3.72E-07
10.1	1.347979	1.347894	1.347791	1.347978	1.347894	1.347791	10.1	1.34E-06	2.30E-07	3.94E-07
10.2	1.348134	1.348047	1.347943	1.348133	1.348047	1.347943	10.2	6.30E-07	3.15E-07	3.07E-07
10.3	1.348288	1.348200	1.348095	1.348287	1.348200	1.348095	10.3	1.04E-06	2.93E-07	1.08E-07
10.4	1.348443	1.348353	1.348247	1.348442	1.348353	1.348247	10.4	5.61E-07	1.63E-07	2.02E-07
10.5	1.348597	1.348506	1.348400	1.348596	1.348506	1.348400	10.5	1.20E-06	7.50E-08	3.78E-07
10.6	1.348752	1.348659	1.348552	1.348751	1.348659	1.348552	10.6	9.65E-07	4.20E-07	1.54E-07
10.7	1.348907	1.348813	1.348705	1.348906	1.348813	1.348705	10.7	8.45E-07	1.27E-07	2.04E-07
10.8	1.349062	1.348966	1.348858	1.349061	1.348966	1.348858	10.8	8.43E-07	4.34E-07	4.50E-07
10.9	1.349217	1.349120	1.349010	1.349216	1.349120	1.349010	10.9	9.60E-07	1.03E-07	4.15E-07

11	1.349372	1.349274	1.349163	1.349371	1.349274	1.349163	11	1.20E-06	1.21E-07	3.92E-07
11.1	1.349528	1.349428	1.349316	1.349527	1.349428	1.349316	11.1	5.51E-07	2.36E-07	4.79E-07
11.2	1.349683	1.349582	1.349470	1.349682	1.349582	1.349470	11.2	1.02E-06	2.43E-07	3.21E-07
11.3	1.349839	1.349736	1.349623	1.349838	1.349736	1.349623	11.3	6.17E-07	1.42E-07	1.02E-08
11.4	1.349994	1.349890	1.349776	1.349993	1.349890	1.349776	11.4	1.33E-06	6.77E-08	4.13E-07
11.5	1.350150	1.350044	1.349930	1.350149	1.350044	1.349930	11.5	1.16E-06	3.86E-07	5.30E-08
11.6	1.350306	1.350199	1.350084	1.350305	1.350199	1.350084	11.6	1.11E-06	1.88E-07	4.07E-07
11.7	1.350462	1.350353	1.350237	1.350461	1.350353	1.350237	11.7	1.18E-06	3.47E-07	3.52E-07
11.8	1.350618	1.350508	1.350391	1.350617	1.350508	1.350391	11.8	1.37E-06	9.23E-09	2.22E-07
11.9	1.350775	1.350663	1.350545	1.350774	1.350663	1.350545	11.9	6.82E-07	2.57E-07	2.04E-07
12	1.350931	1.350818	1.350699	1.350930	1.350818	1.350699	12	1.11E-06	3.95E-07	2.99E-07
12.1	1.351088	1.350973	1.350854	1.351087	1.350973	1.350854	12.1	6.61E-07	4.25E-07	4.94E-07
12.2	1.351244	1.351128	1.351008	1.351243	1.351128	1.351008	12.2	1.33E-06	3.46E-07	1.75E-07
12.3	1.351401	1.351283	1.351162	1.351400	1.351283	1.351162	12.3	1.12E-06	1.58E-07	2.57E-07
12.4	1.351558	1.351438	1.351317	1.351557	1.351438	1.351317	12.4	1.03E-06	1.40E-07	1.99E-07
12.5	1.351715	1.351594	1.351471	1.351714	1.351594	1.351471	12.5	1.06E-06	4.53E-07	4.58E-07
12.6	1.351872	1.351749	1.351626	1.351871	1.351749	1.351626	12.6	1.21E-06	6.29E-08	2.28E-07
12.7	1.352029	1.351905	1.351781	1.352029	1.351905	1.351781	12.7	4.83E-07	3.12E-07	1.10E-07
12.8	1.352187	1.352060	1.351936	1.352186	1.352060	1.351936	12.8	8.76E-07	4.24E-07	1.05E-07
12.9	1.352344	1.352216	1.352091	1.352343	1.352216	1.352091	12.9	1.39E-06	2.68E-07	2.14E-07
13	1.352502	1.352372	1.352246	1.352501	1.352372	1.352246	13	1.02E-06	2.23E-07	4.35E-07
13.1	1.352660	1.352528	1.352402	1.352659	1.352528	1.352402	13.1	7.77E-07	2.87E-07	2.30E-07
13.2	1.352818	1.352684	1.352557	1.352817	1.352684	1.352557	13.2	6.53E-07	4.61E-07	2.17E-07
13.3	1.352976	1.352841	1.352713	1.352975	1.352841	1.352713	13.3	6.51E-07	2.55E-07	2.22E-07
13.4	1.353134	1.352997	1.352868	1.353133	1.352997	1.352868	13.4	7.69E-07	1.39E-07	4.53E-07
13.5	1.353292	1.353154	1.353024	1.353291	1.353154	1.353024	13.5	1.01E-06	3.56E-07	2.41E-07
13.6	1.353450	1.353310	1.353180	1.353449	1.353310	1.353180	13.6	1.37E-06	2.58E-07	1.42E-07
13.7	1.353609	1.353467	1.353336	1.353608	1.353467	1.353336	13.7	8.54E-07	1.70E-08	1.58E-07

13.8	1.353767	1.353624	1.353492	1.353767	1.353624	1.353492	13.8	4.59E-07	1.82E-07	2.87E-07
13.9	1.353926	1.353781	1.353649	1.353925	1.353781	1.353649	13.9	1.19E-06	2.36E-07	4.71E-07
14	1.354085	1.353938	1.353805	1.354084	1.353938	1.353805	14	1.03E-06	1.80E-07	1.14E-07
14.1	1.354244	1.354095	1.353961	1.354243	1.354095	1.353961	14.1	1.01E-06	1.31E-08	3.57E-07
14.2	1.354403	1.354252	1.354118	1.354402	1.354252	1.354118	14.2	1.10E-06	2.64E-07	5.79E-08
14.3	1.354562	1.354410	1.354275	1.354561	1.354410	1.354275	14.3	1.31E-06	3.47E-07	3.59E-07
14.4	1.354722	1.354567	1.354431	1.354721	1.354567	1.354431	14.4	6.52E-07	1.52E-07	4.55E-07
14.5	1.354881	1.354725	1.354588	1.354880	1.354725	1.354588	14.5	1.11E-06	2.38E-07	3.83E-07
14.6	1.355041	1.354882	1.354745	1.355040	1.354882	1.354745	14.6	6.95E-07	4.84E-07	4.25E-07
14.7	1.355200	1.355040	1.354903	1.355199	1.355040	1.354903	14.7	1.40E-06	3.16E-07	4.18E-07
14.8	1.355360	1.355198	1.355060	1.355359	1.355198	1.355060	14.8	1.23E-06	2.60E-07	1.46E-07
14.9	1.355520	1.355356	1.355217	1.355519	1.355356	1.355217	14.9	1.18E-06	3.15E-07	2.40E-07
15	1.355680	1.355514	1.355375	1.355679	1.355514	1.355375	15	1.26E-06	4.82E-07	2.58E-07
15.1	1.355840	1.355673	1.355532	1.355840	1.355673	1.355532	15.1	4.53E-07	2.40E-07	3.58E-07
15.2	1.356001	1.355831	1.355690	1.356000	1.355831	1.355690	15.2	7.74E-07	1.50E-07	8.91E-08
15.3	1.356161	1.355990	1.355848	1.356160	1.355990	1.355848	15.3	1.22E-06	3.49E-07	6.45E-08
15.4	1.356322	1.356148	1.356006	1.356321	1.356148	1.356006	15.4	7.87E-07	2.64E-07	1.03E-07
15.5	1.356482	1.356307	1.356164	1.356482	1.356307	1.356164	15.5	4.78E-07	1.09E-08	2.58E-08
15.6	1.356643	1.356466	1.356322	1.356642	1.356466	1.356322	15.6	1.29E-06	1.74E-07	1.67E-07
15.7	1.356804	1.356625	1.356480	1.356803	1.356625	1.356480	15.7	1.23E-06	2.25E-07	4.74E-07
15.8	1.356965	1.356784	1.356639	1.356964	1.356784	1.356639	15.8	1.30E-06	1.64E-07	1.02E-07
15.9	1.357126	1.356943	1.356797	1.357126	1.356943	1.356797	15.9	4.83E-07	9.15E-09	4.37E-07
16	1.357288	1.357102	1.356956	1.357287	1.357102	1.356956	16	7.94E-07	2.95E-07	9.20E-08
16.1	1.357449	1.357262	1.357115	1.357448	1.357262	1.357115	16.1	1.23E-06	3.07E-07	1.37E-07
16.2	1.357611	1.357421	1.357274	1.357610	1.357421	1.357274	16.2	7.90E-07	2.03E-07	2.50E-07
16.3	1.357772	1.357581	1.357433	1.357772	1.357581	1.357433	16.3	4.74E-07	1.74E-07	2.48E-07
16.4	1.357934	1.357741	1.357592	1.357933	1.357741	1.357592	16.4	1.28E-06	4.39E-07	1.29E-07
16.5	1.358096	1.357900	1.357751	1.358095	1.357900	1.357751	16.5	1.22E-06	4.10E-07	1.07E-07

16.6	1.358258	1.358060	1.357910	1.358257	1.358060	1.357910	16.6	1.28E-06	3.71E-07	4.58E-07
16.7	1.358420	1.358220	1.358070	1.358420	1.358220	1.358070	16.7	4.59E-07	4.44E-07	7.36E-08
16.8	1.358583	1.358381	1.358230	1.358582	1.358381	1.358230	16.8	7.68E-07	3.69E-07	4.89E-07
16.9	1.358745	1.358541	1.358389	1.358744	1.358541	1.358389	16.9	1.20E-06	6.87E-08	2.12E-07
17	1.358908	1.358701	1.358549	1.358907	1.358701	1.358549	17	7.61E-07	3.44E-07	3.02E-08
17.1	1.359070	1.358862	1.358709	1.359070	1.358862	1.358709	17.1	4.45E-07	1.29E-07	3.50E-08
17.2	1.359233	1.359023	1.358869	1.359232	1.359023	1.358869	17.2	1.26E-06	4.90E-07	1.66E-08
17.3	1.359396	1.359183	1.359029	1.359395	1.359183	1.359029	17.3	1.19E-06	2.63E-07	1.85E-07
17.4	1.359559	1.359344	1.359189	1.359558	1.359344	1.359189	17.4	1.25E-06	1.30E-07	4.71E-07
17.5	1.359722	1.359505	1.359350	1.359722	1.359505	1.359350	17.5	4.39E-07	1.10E-07	1.26E-07
17.6	1.359886	1.359666	1.359510	1.359885	1.359666	1.359510	17.6	7.52E-07	2.04E-07	3.94E-07
17.7	1.360049	1.359827	1.359671	1.360048	1.359827	1.359671	17.7	1.19E-06	4.11E-07	3.21E-08
17.8	1.360213	1.359989	1.359832	1.360212	1.359989	1.359832	17.8	7.57E-07	2.67E-07	2.13E-07
17.9	1.360376	1.360150	1.359993	1.360376	1.360150	1.359993	17.9	4.48E-07	1.68E-07	3.40E-07
18	1.360540	1.360312	1.360154	1.360539	1.360312	1.360154	18	1.27E-06	2.83E-07	3.50E-07
18.1	1.360704	1.360473	1.360315	1.360703	1.360473	1.360315	18.1	1.21E-06	3.81E-07	2.41E-07
18.2	1.360868	1.360635	1.360476	1.360867	1.360635	1.360476	18.2	1.28E-06	1.58E-07	1.52E-08
18.3	1.361032	1.360797	1.360637	1.361032	1.360797	1.360637	18.3	4.80E-07	5.02E-08	3.29E-07
18.4	1.361197	1.360959	1.360799	1.361196	1.360959	1.360799	18.4	8.05E-07	5.64E-08	2.09E-07
18.5	1.361361	1.361121	1.360960	1.361360	1.361121	1.360960	18.5	1.26E-06	1.77E-07	3.71E-07
18.6	1.361526	1.361283	1.361122	1.361525	1.361283	1.361122	18.6	8.35E-07	4.12E-07	6.98E-08
18.7	1.361691	1.361446	1.361284	1.361690	1.361446	1.361284	18.7	5.41E-07	2.38E-07	1.13E-07
18.8	1.361855	1.361608	1.361446	1.361854	1.361608	1.361446	18.8	1.37E-06	2.26E-07	1.78E-07
18.9	1.362020	1.361771	1.361608	1.362019	1.361771	1.361608	18.9	1.34E-06	1.94E-07	1.24E-07
19	1.362185	1.361933	1.361770	1.362185	1.361933	1.361770	19	4.23E-07	5.00E-07	4.85E-08
19.1	1.362351	1.362096	1.361932	1.362350	1.362096	1.361932	19.1	6.39E-07	3.09E-07	3.40E-07
19.2	1.362516	1.362259	1.362095	1.362515	1.362259	1.362095	19.2	9.83E-07	2.33E-07	2.50E-07
19.3	1.362681	1.362422	1.362257	1.362681	1.362422	1.362257	19.3	4.55E-07	2.72E-07	2.79E-07

19.4	1.362847	1.362585	1.362420	1.362846	1.362585	1.362420	19.4	1.05E-06	4.27E-07	7.29E-08
19.5	1.363013	1.362749	1.362583	1.363012	1.362749	1.362583	19.5	7.82E-07	3.04E-07	3.06E-07
19.6	1.363179	1.362912	1.362746	1.363178	1.362912	1.362746	19.6	6.38E-07	8.16E-08	4.19E-07
19.7	1.363345	1.363076	1.362909	1.363344	1.363076	1.362909	19.7	6.22E-07	4.18E-07	4.13E-07
19.8	1.363511	1.363239	1.363072	1.363510	1.363239	1.363072	19.8	7.34E-07	1.98E-07	2.88E-07
19.9	1.363677	1.363403	1.363235	1.363676	1.363403	1.363235	19.9	9.76E-07	6.97E-08	4.34E-08
20	1.363843	1.363567	1.363398	1.363842	1.363567	1.363398	20	1.35E-06	2.22E-07	3.21E-07
20.1	1.364010	1.363731	1.363562	1.364009	1.363731	1.363562	20.1	8.44E-07	2.59E-07	1.95E-07
20.2	1.364176	1.363895	1.363725	1.364176	1.363895	1.363725	20.2	4.72E-07	1.79E-07	4.09E-07
20.3	1.364343	1.364059	1.363889	1.364342	1.364059	1.363889	20.3	1.23E-06	1.58E-08	1.33E-07
20.4	1.364510	1.364223	1.364053	1.364509	1.364223	1.364053	20.4	1.11E-06	3.27E-07	2.34E-08
20.5	1.364677	1.364388	1.364217	1.364676	1.364388	1.364217	20.5	1.13E-06	2.45E-07	5.94E-08
20.6	1.364844	1.364552	1.364381	1.364843	1.364552	1.364381	20.6	1.27E-06	2.98E-07	2.47E-08
20.7	1.365012	1.364717	1.364545	1.365011	1.364717	1.364545	20.7	5.47E-07	4.14E-08	2.29E-07
20.8	1.365179	1.364882	1.364710	1.365178	1.364882	1.364710	20.8	9.50E-07	2.65E-07	4.46E-07
20.9	1.365346	1.365047	1.364874	1.365346	1.365047	1.364874	20.9	4.84E-07	3.72E-07	5.93E-10
21	1.365514	1.365212	1.365039	1.365513	1.365212	1.365039	21	1.15E-06	3.62E-07	4.35E-07
21.1	1.365682	1.365377	1.365203	1.365681	1.365377	1.365203	21.1	9.39E-07	2.36E-07	2.52E-07
21.2	1.365850	1.365542	1.365368	1.365849	1.365542	1.365368	21.2	8.62E-07	7.07E-09	5.95E-08
21.3	1.366018	1.365707	1.365533	1.366017	1.365707	1.365533	21.3	9.15E-07	3.67E-07	1.21E-08
21.4	1.366186	1.365873	1.365698	1.366185	1.365873	1.365698	21.4	1.10E-06	1.56E-07	3.73E-08
21.5	1.366354	1.366038	1.365863	1.366354	1.366038	1.365863	21.5	4.13E-07	4.38E-07	2.08E-07
21.6	1.366523	1.366204	1.366028	1.366522	1.366204	1.366028	21.6	8.57E-07	1.49E-07	4.99E-07
21.7	1.366691	1.366370	1.366194	1.366691	1.366370	1.366194	21.7	4.32E-07	2.32E-08	8.77E-08
21.8	1.366860	1.366536	1.366359	1.366859	1.366536	1.366359	21.8	1.14E-06	7.77E-08	4.47E-07
21.9	1.367029	1.366702	1.366525	1.367028	1.366702	1.366525	21.9	9.74E-07	1.49E-08	1.03E-07
22	1.367198	1.366868	1.366691	1.367197	1.366868	1.366691	22	9.42E-07	1.65E-07	1.20E-07
22.1	1.367367	1.367034	1.366857	1.367366	1.367034	1.366857	22.1	1.04E-06	4.63E-07	2.21E-07

22.2	1.367536	1.367201	1.367023	1.367535	1.367201	1.367023	22.2	1.27E-06	1.21E-07	2.00E-07
22.3	1.367706	1.367367	1.367189	1.367705	1.367367	1.367189	22.3	6.31E-07	4.12E-07	5.73E-08
22.4	1.367875	1.367534	1.367355	1.367874	1.367534	1.367355	22.4	1.12E-06	6.26E-08	2.07E-07
22.5	1.368045	1.367701	1.367522	1.368044	1.367701	1.367522	22.5	7.48E-07	1.69E-07	4.06E-07
22.6	1.368215	1.367868	1.367688	1.368214	1.367868	1.367688	22.6	5.04E-07	2.82E-07	1.03E-07
22.7	1.368384	1.368035	1.367855	1.368384	1.368035	1.367855	22.7	3.91E-07	2.77E-07	2.65E-07
22.8	1.368554	1.368202	1.368021	1.368554	1.368202	1.368021	22.8	4.11E-07	1.54E-07	4.88E-07
22.9	1.368725	1.368369	1.368188	1.368724	1.368369	1.368188	22.9	5.62E-07	8.70E-08	3.64E-07
23	1.368895	1.368536	1.368355	1.368894	1.368536	1.368355	23	8.46E-07	4.46E-07	3.63E-07
23.1	1.369065	1.368704	1.368522	1.369064	1.368704	1.368522	23.1	1.26E-06	7.57E-08	4.84E-07
23.2	1.369236	1.368872	1.368690	1.369235	1.368872	1.368690	23.2	8.10E-07	4.79E-07	2.71E-07
23.3	1.369406	1.369039	1.368857	1.369406	1.369039	1.368857	23.3	4.91E-07	2.36E-07	9.57E-08
23.4	1.369577	1.369207	1.369025	1.369576	1.369207	1.369025	23.4	1.30E-06	6.91E-08	4.14E-07
23.5	1.369748	1.369375	1.369192	1.369747	1.369375	1.369192	23.5	1.25E-06	2.13E-08	1.99E-07
23.6	1.369919	1.369543	1.369360	1.369918	1.369543	1.369360	23.6	1.33E-06	9.24E-08	6.50E-08
23.7	1.370091	1.369711	1.369528	1.370090	1.369711	1.369528	23.7	5.42E-07	2.82E-07	2.05E-07
23.8	1.370262	1.369880	1.369696	1.370261	1.369880	1.369696	23.8	8.87E-07	4.09E-07	2.23E-07
23.9	1.370433	1.370048	1.369864	1.370433	1.370048	1.369864	23.9	3.65E-07	1.94E-08	1.16E-07
24	1.370605	1.370217	1.370032	1.370604	1.370217	1.370032	24	9.76E-07	4.33E-07	1.14E-07
24.1	1.370777	1.370385	1.370200	1.370776	1.370385	1.370200	24.1	7.21E-07	2.33E-07	4.67E-07
24.2	1.370949	1.370554	1.370369	1.370948	1.370554	1.370369	24.2	5.99E-07	1.89E-08	5.56E-08
24.3	1.371121	1.370723	1.370538	1.371120	1.370723	1.370538	24.3	6.12E-07	7.59E-08	4.54E-07
24.4	1.371293	1.370892	1.370706	1.371292	1.370892	1.370706	24.4	7.57E-07	5.12E-08	2.71E-07
24.5	1.371465	1.371061	1.370875	1.371464	1.371061	1.370875	24.5	1.04E-06	9.30E-08	1.20E-07
24.6	1.371637	1.371230	1.371044	1.371637	1.371230	1.371044	24.6	4.51E-07	3.57E-07	9.32E-08
24.7	1.371810	1.371400	1.371213	1.371809	1.371400	1.371213	24.7	9.99E-07	2.59E-07	1.91E-07
24.8	1.371983	1.371569	1.371382	1.371982	1.371569	1.371382	24.8	6.81E-07	2.44E-07	4.13E-07
24.9	1.372155	1.371739	1.371552	1.372155	1.371739	1.371552	24.9	4.97E-07	1.32E-07	2.41E-07

25	1.372328	1.371909	1.371721	1.372328	1.371909	1.371721	25	4.48E-07	3.89E-07	2.30E-07
25.1	1.372502	1.372078	1.371891	1.372501	1.372078	1.371891	25.1	5.34E-07	4.75E-07	1.75E-07
25.2	1.372675	1.372248	1.372061	1.372674	1.372248	1.372061	25.2	7.54E-07	4.58E-07	4.54E-07
25.3	1.372848	1.372419	1.372230	1.372847	1.372419	1.372230	25.3	1.11E-06	4.38E-07	3.91E-07
25.4	1.373022	1.372589	1.372400	1.373021	1.372589	1.372400	25.4	5.99E-07	2.13E-07	3.61E-07
25.5	1.373195	1.372759	1.372570	1.373194	1.372759	1.372570	25.5	1.22E-06	1.32E-07	4.56E-07
25.6	1.373369	1.372930	1.372741	1.373368	1.372930	1.372741	25.6	9.84E-07	4.03E-07	3.24E-07
25.7	1.373543	1.373100	1.372911	1.373542	1.373100	1.372911	25.7	8.80E-07	1.83E-07	2.16E-08
25.8	1.373717	1.373271	1.373081	1.373716	1.373271	1.373081	25.8	9.11E-07	1.11E-07	4.92E-07
25.9	1.373891	1.373442	1.373252	1.373890	1.373442	1.373252	25.9	1.08E-06	2.83E-07	8.85E-08
26	1.374065	1.373613	1.373423	1.374065	1.373613	1.373423	26	3.79E-07	3.35E-07	1.90E-07
26.1	1.374240	1.373784	1.373594	1.374239	1.373784	1.373594	26.1	8.17E-07	2.66E-07	3.42E-07
26.2	1.374414	1.373955	1.373765	1.374414	1.373955	1.373765	26.2	3.91E-07	7.58E-08	3.69E-07
26.3	1.374589	1.374126	1.373936	1.374588	1.374126	1.373936	26.3	1.10E-06	2.35E-07	2.71E-07
26.4	1.374764	1.374298	1.374107	1.374763	1.374298	1.374107	26.4	9.46E-07	3.32E-07	4.58E-08
26.5	1.374939	1.374469	1.374278	1.374938	1.374469	1.374278	26.5	9.28E-07	2.22E-07	3.05E-07
26.6	1.375114	1.374641	1.374450	1.375113	1.374641	1.374450	26.6	1.05E-06	1.03E-07	2.18E-07
26.7	1.375289	1.374813	1.374621	1.375288	1.374813	1.374621	26.7	1.30E-06	3.07E-07	3.85E-07
26.8	1.375465	1.374985	1.374793	1.375464	1.374985	1.374793	26.8	6.93E-07	3.89E-07	1.14E-07
26.9	1.375640	1.375157	1.374965	1.375639	1.375157	1.374965	26.9	1.22E-06	3.49E-07	3.01E-08
27	1.375816	1.375329	1.375137	1.375815	1.375329	1.375137	27	8.86E-07	1.88E-07	4.78E-08
27.1	1.375992	1.375501	1.375309	1.375991	1.375501	1.375309	27.1	6.88E-07	9.54E-08	6.10E-08
27.2	1.376168	1.375674	1.375481	1.376167	1.375674	1.375481	27.2	6.26E-07	5.00E-07	2.97E-07
27.3	1.376344	1.375846	1.375654	1.376343	1.375846	1.375654	27.3	7.02E-07	2.74E-08	3.41E-07
27.4	1.376520	1.376019	1.375826	1.376519	1.376019	1.375826	27.4	9.16E-07	3.24E-07	1.48E-07
27.5	1.376696	1.376191	1.375999	1.376695	1.376191	1.375999	27.5	1.27E-06	4.47E-07	2.36E-07
27.6	1.376873	1.376364	1.376172	1.376872	1.376364	1.376172	27.6	7.55E-07	3.41E-07	4.93E-07
27.7	1.377049	1.376537	1.376344	1.377049	1.376537	1.376344	27.7	3.81E-07	3.56E-07	3.78E-07

27.8	1.377226	1.376710	1.376517	1.377225	1.376710	1.376517	27.8	1.14E-06	4.94E-07	3.75E-07
27.9	1.377403	1.376884	1.376691	1.377402	1.376884	1.376691	27.9	1.05E-06	2.45E-07	5.00E-07
28	1.377580	1.377057	1.376864	1.377579	1.377057	1.376864	28	1.09E-06	1.38E-07	2.47E-07
28.1	1.377757	1.377231	1.377037	1.377756	1.377231	1.377037	28.1	1.26E-06	3.57E-07	1.33E-07
28.2	1.377935	1.377404	1.377211	1.377934	1.377404	1.377211	28.2	5.78E-07	2.71E-07	3.60E-07
28.3	1.378112	1.377578	1.377384	1.378111	1.377578	1.377384	28.3	1.03E-06	2.23E-08	2.75E-07
28.4	1.378290	1.377752	1.377558	1.378289	1.377752	1.377558	28.4	6.25E-07	1.04E-07	3.86E-08
28.5	1.378467	1.377926	1.377732	1.378467	1.377926	1.377732	28.5	3.56E-07	1.07E-07	7.03E-08
28.6	1.378645	1.378100	1.377906	1.378644	1.378100	1.377906	28.6	1.23E-06	1.28E-08	5.12E-08
28.7	1.378823	1.378274	1.378080	1.378822	1.378274	1.378080	28.7	1.23E-06	2.56E-07	9.60E-08
28.8	1.379001	1.378449	1.378254	1.379001	1.378449	1.378254	28.8	3.82E-07	3.78E-07	3.71E-07
28.9	1.379180	1.378623	1.378429	1.379179	1.378623	1.378429	28.9	6.69E-07	1.11E-07	2.25E-07
29	1.379358	1.378798	1.378603	1.379357	1.378798	1.378603	29	1.09E-06	2.76E-07	3.07E-07
29.1	1.379537	1.378972	1.378778	1.379536	1.378972	1.378778	29.1	6.59E-07	4.60E-07	3.23E-08
29.2	1.379715	1.379147	1.378953	1.379715	1.379147	1.378953	29.2	3.64E-07	3.20E-07	2.43E-07
29.3	1.379894	1.379322	1.379128	1.379893	1.379322	1.379128	29.3	1.21E-06	3.04E-07	3.25E-07
29.4	1.380073	1.379497	1.379303	1.380072	1.379497	1.379303	29.4	1.19E-06	4.11E-07	2.79E-07
29.5	1.380252	1.379673	1.379478	1.380251	1.379673	1.379478	29.5	1.31E-06	3.59E-07	1.03E-07
29.6	1.380432	1.379848	1.379653	1.380431	1.379848	1.379653	29.6	5.77E-07	3.88E-09	2.01E-07
29.7	1.380611	1.380023	1.379829	1.380610	1.380023	1.379829	29.7	9.80E-07	4.75E-07	3.65E-07
29.8	1.380791	1.380199	1.380004	1.380790	1.380199	1.380004	29.8	5.23E-07	7.74E-08	1.97E-07
29.9	1.380970	1.380375	1.380180	1.380969	1.380375	1.380180	29.9	1.21E-06	1.96E-07	1.11E-07
30	1.381150	1.380551	1.380356	1.381149	1.380551	1.380356	30	1.03E-06	3.45E-07	2.90E-07
30.1	1.381330	1.380727	1.380532	1.381329	1.380727	1.380532	30.1	9.94E-07	3.70E-07	3.39E-07
30.2	1.381510	1.380903	1.380708	1.381509	1.380903	1.380708	30.2	1.10E-06	2.70E-07	2.59E-07
30.3	1.381690	1.381079	1.380884	1.381690	1.381079	1.380884	30.3	3.44E-07	4.60E-08	4.93E-08
30.4	1.381871	1.381255	1.381060	1.381870	1.381255	1.381060	30.4	7.30E-07	3.02E-07	2.90E-07
30.5	1.382051	1.381432	1.381237	1.382050	1.381432	1.381237	30.5	1.26E-06	2.24E-07	2.41E-07

30.6	1.382232	1.381608	1.381413	1.382231	1.381608	1.381413	30.6	9.25E-07	3.73E-07	3.58E-07
30.7	1.382413	1.381785	1.381590	1.382412	1.381785	1.381590	30.7	7.34E-07	9.60E-08	8.73E-08
30.8	1.382594	1.381962	1.381767	1.382593	1.381962	1.381767	30.8	6.85E-07	5.66E-08	5.36E-08
30.9	1.382775	1.382139	1.381944	1.382774	1.382139	1.381944	30.9	7.76E-07	8.43E-08	6.44E-08
31	1.382956	1.382316	1.382121	1.382955	1.382316	1.382121	31	1.01E-06	1.30E-08	5.50E-08
31.1	1.383137	1.382493	1.382298	1.383137	1.382493	1.382298	31.1	3.84E-07	2.35E-07	3.05E-07
31.2	1.383319	1.382671	1.382476	1.383318	1.382671	1.382476	31.2	9.01E-07	4.17E-07	3.15E-07
31.3	1.383501	1.382848	1.382653	1.383500	1.382848	1.382653	31.3	5.59E-07	5.59E-08	1.96E-07
31.4	1.383682	1.383026	1.382831	1.383682	1.383026	1.382831	31.4	3.60E-07	3.46E-07	1.63E-07
31.5	1.383864	1.383203	1.383009	1.383863	1.383203	1.383009	31.5	1.30E-06	3.78E-07	3.91E-07
31.6	1.384046	1.383381	1.383187	1.384046	1.383381	1.383187	31.6	3.86E-07	2.27E-07	4.88E-07
31.7	1.384229	1.383559	1.383365	1.384228	1.383559	1.383365	31.7	6.13E-07	2.01E-07	4.55E-07
31.8	1.384411	1.383737	1.383543	1.384410	1.383737	1.383543	31.8	9.83E-07	3.02E-07	2.90E-07
31.9	1.384593	1.383916	1.383721	1.384593	1.383916	1.383721	31.9	4.94E-07	4.72E-07	5.58E-09
32	1.384776	1.384094	1.383899	1.384775	1.384094	1.383899	32	1.15E-06	1.20E-07	4.32E-07
32.1	1.384959	1.384272	1.384078	1.384958	1.384272	1.384078	32.1	9.46E-07	3.57E-07	9.68E-09
32.2	1.385142	1.384451	1.384257	1.385141	1.384451	1.384257	32.2	8.86E-07	3.89E-08	3.20E-07
32.3	1.385325	1.384630	1.384436	1.385324	1.384630	1.384436	32.3	9.69E-07	3.09E-07	5.00E-07
32.4	1.385508	1.384809	1.384614	1.385507	1.384809	1.384614	32.4	1.19E-06	4.53E-07	4.52E-07
32.5	1.385692	1.384988	1.384794	1.385691	1.384988	1.384794	32.5	5.64E-07	4.71E-07	4.64E-07
32.6	1.385875	1.385167	1.384973	1.385874	1.385167	1.384973	32.6	1.08E-06	3.62E-07	2.48E-07
32.7	1.386059	1.385346	1.385152	1.386058	1.385346	1.385152	32.7	7.33E-07	1.28E-07	9.87E-08
32.8	1.386243	1.385525	1.385332	1.386242	1.385525	1.385332	32.8	5.33E-07	2.34E-07	4.22E-07
32.9	1.386426	1.385705	1.385511	1.386426	1.385705	1.385511	32.9	4.76E-07	2.78E-07	1.89E-07
33	1.386611	1.385884	1.385691	1.386610	1.385884	1.385691	33	5.63E-07	3.36E-07	6.86E-08
33.1	1.386795	1.386064	1.385871	1.386794	1.386064	1.385871	33.1	7.94E-07	7.72E-08	1.94E-07
33.2	1.386979	1.386244	1.386051	1.386978	1.386244	1.386051	33.2	1.17E-06	5.49E-08	1.86E-07
33.3	1.387164	1.386424	1.386231	1.387163	1.386424	1.386231	33.3	6.89E-07	6.01E-08	4.71E-08

33.4	1.387348	1.386604	1.386411	1.387348	1.386604	1.386411	33.4	3.52E-07	6.17E-08	2.25E-07
33.5	1.387533	1.386784	1.386592	1.387532	1.386784	1.386592	33.5	1.16E-06	3.10E-07	3.71E-07
33.6	1.387718	1.386965	1.386772	1.387717	1.386965	1.386772	33.6	1.11E-06	3.14E-07	1.66E-07
33.7	1.387903	1.387145	1.386953	1.387902	1.387145	1.386953	33.7	1.21E-06	1.89E-07	1.65E-07
33.8	1.388088	1.387326	1.387134	1.388088	1.387326	1.387134	33.8	4.51E-07	1.80E-07	3.63E-07
33.9	1.388274	1.387507	1.387315	1.388273	1.387507	1.387315	33.9	8.37E-07	4.23E-07	4.28E-07
34	1.388459	1.387687	1.387496	1.388459	1.387687	1.387496	34	3.69E-07	4.63E-07	3.61E-07
34.1	1.388645	1.387868	1.387677	1.388644	1.387868	1.387677	34.1	1.05E-06	4.75E-07	1.60E-07
34.2	1.388831	1.388050	1.387858	1.388830	1.388050	1.387858	34.2	8.67E-07	3.85E-07	1.73E-07
34.3	1.389017	1.388231	1.388040	1.389016	1.388231	1.388040	34.3	8.34E-07	1.17E-07	3.60E-07
34.4	1.389203	1.388412	1.388221	1.389202	1.388412	1.388221	34.4	9.46E-07	2.79E-07	2.40E-07
34.5	1.389389	1.388594	1.388403	1.389388	1.388594	1.388403	34.5	1.20E-06	1.98E-07	2.73E-08
34.6	1.389576	1.388775	1.388585	1.389575	1.388775	1.388585	34.6	6.08E-07	4.53E-07	1.61E-07
34.7	1.389762	1.388957	1.388767	1.389761	1.388957	1.388767	34.7	1.16E-06	2.32E-07	1.61E-07
34.8	1.389949	1.389139	1.388949	1.389948	1.389139	1.388949	34.8	8.52E-07	1.40E-07	2.77E-08
34.9	1.390136	1.389321	1.389131	1.390135	1.389321	1.389131	34.9	6.93E-07	1.75E-07	2.39E-07
35	1.390323	1.389503	1.389314	1.390322	1.389503	1.389314	35	6.80E-07	3.39E-07	3.60E-07
35.1	1.390510	1.389686	1.389496	1.390509	1.389686	1.389496	35.1	8.13E-07	3.69E-07	1.74E-07
35.2	1.390697	1.389868	1.389679	1.390696	1.389868	1.389679	35.2	1.09E-06	5.10E-08	1.58E-07
35.3	1.390885	1.390051	1.389862	1.390884	1.390051	1.389862	35.3	5.19E-07	4.00E-07	3.56E-07
35.4	1.391072	1.390233	1.390045	1.391071	1.390233	1.390045	35.4	1.09E-06	2.77E-07	4.19E-07
35.5	1.391260	1.390416	1.390228	1.391259	1.390416	1.390228	35.5	8.11E-07	8.28E-08	3.49E-07
35.6	1.391448	1.390599	1.390411	1.391447	1.390599	1.390411	35.6	6.77E-07	1.73E-08	1.45E-07
35.7	1.391636	1.390782	1.390594	1.391635	1.390782	1.390594	35.7	6.90E-07	8.05E-08	1.94E-07
35.8	1.391824	1.390965	1.390778	1.391823	1.390965	1.390778	35.8	8.49E-07	2.73E-07	3.34E-07
35.9	1.392012	1.391149	1.390961	1.392011	1.391149	1.390961	35.9	1.16E-06	4.06E-07	2.74E-07
36	1.392201	1.391332	1.391145	1.392200	1.391332	1.391145	36	6.10E-07	4.36E-08	1.53E-08
36.1	1.392389	1.391516	1.391329	1.392388	1.391516	1.391329	36.1	1.21E-06	3.77E-07	1.09E-07

36.2	1.392578	1.391699	1.391513	1.392577	1.391699	1.391513	36.2	9.61E-07	3.31E-07	9.77E-08
36.3	1.392767	1.391883	1.391697	1.392766	1.391883	1.391697	36.3	8.57E-07	1.68E-07	4.78E-08
36.4	1.392956	1.392067	1.391881	1.392955	1.392067	1.391881	36.4	9.01E-07	1.35E-07	3.28E-07
36.5	1.393145	1.392251	1.392066	1.393144	1.392251	1.392066	36.5	1.09E-06	2.31E-07	2.57E-07
36.6	1.393334	1.392435	1.392250	1.393334	1.392435	1.392250	36.6	4.33E-07	4.57E-07	2.93E-07
36.7	1.393524	1.392620	1.392435	1.393523	1.392620	1.392435	36.7	9.21E-07	1.88E-07	2.18E-08
36.8	1.393714	1.392804	1.392620	1.393713	1.392804	1.392620	36.8	5.57E-07	2.96E-07	2.02E-07
36.9	1.393903	1.392989	1.392805	1.393903	1.392989	1.392805	36.9	3.41E-07	8.93E-08	2.46E-07
37	1.394093	1.393174	1.392990	1.394092	1.393174	1.392990	37	1.27E-06	3.45E-07	1.56E-07
37.1	1.394283	1.393359	1.393175	1.394283	1.393359	1.393175	37.1	3.54E-07	4.71E-07	6.98E-08
37.2	1.394474	1.393544	1.393360	1.394473	1.393544	1.393360	37.2	5.84E-07	4.67E-07	4.31E-07
37.3	1.394664	1.393729	1.393546	1.394663	1.393729	1.393546	37.3	9.62E-07	3.34E-07	7.25E-08
37.4	1.394854	1.393914	1.393732	1.394854	1.393914	1.393732	37.4	4.89E-07	6.97E-08	4.40E-07
37.5	1.395045	1.394099	1.393917	1.395044	1.394099	1.393917	37.5	1.16E-06	3.24E-07	3.27E-07
37.6	1.395236	1.394285	1.394103	1.395235	1.394285	1.394103	37.6	9.89E-07	1.51E-07	2.30E-07
37.7	1.395427	1.394471	1.394289	1.395426	1.394471	1.394289	37.7	9.63E-07	4.97E-07	2.70E-07
37.8	1.395618	1.394656	1.394475	1.395617	1.394656	1.394475	37.8	1.09E-06	2.88E-07	4.44E-07
37.9	1.395809	1.394842	1.394662	1.395809	1.394842	1.394662	37.9	3.59E-07	2.03E-07	2.45E-07
38	1.396001	1.395028	1.394848	1.396000	1.395028	1.394848	38	7.81E-07	2.49E-07	2.02E-07
38.1	1.396192	1.395214	1.395035	1.396192	1.395214	1.395035	38.1	3.52E-07	4.26E-07	2.16E-07
38.2	1.396384	1.395401	1.395222	1.396383	1.395401	1.395222	38.2	1.07E-06	2.67E-07	4.97E-07
38.3	1.396576	1.395587	1.395408	1.396575	1.395587	1.395408	38.3	9.44E-07	1.71E-07	3.58E-07
38.4	1.396768	1.395774	1.395595	1.396767	1.395774	1.395595	38.4	9.65E-07	2.61E-07	3.49E-07
38.5	1.396960	1.395960	1.395782	1.396959	1.395960	1.395782	38.5	1.14E-06	4.39E-07	4.77E-07
38.6	1.397152	1.396147	1.395970	1.397152	1.396147	1.395970	38.6	4.57E-07	2.69E-07	2.60E-07
38.7	1.397345	1.396334	1.396157	1.397344	1.396334	1.396157	38.7	9.28E-07	2.31E-07	1.41E-07
38.8	1.397538	1.396521	1.396345	1.397537	1.396521	1.396345	38.8	5.49E-07	3.24E-07	3.23E-07
38.9	1.397730	1.396709	1.396532	1.397730	1.396709	1.396532	38.9	3.21E-07	4.52E-07	3.50E-07

39	1.397923	1.396896	1.396720	1.397922	1.396896	1.396720	39	1.24E-06	9.72E-08	1.60E-07
39.1	1.398116	1.397083	1.396908	1.398116	1.397083	1.396908	39.1	3.16E-07	3.89E-07	1.07E-07
39.2	1.398310	1.397271	1.397096	1.398309	1.397271	1.397096	39.2	5.40E-07	7.22E-09	1.90E-07
39.3	1.398503	1.397459	1.397284	1.398502	1.397459	1.397284	39.3	9.15E-07	2.43E-07	4.10E-07
39.4	1.398696	1.397647	1.397473	1.398696	1.397647	1.397473	39.4	4.41E-07	3.62E-07	2.32E-07
39.5	1.398890	1.397835	1.397661	1.398889	1.397835	1.397661	39.5	1.12E-06	3.50E-07	2.62E-07
39.6	1.399084	1.398023	1.397850	1.399083	1.398023	1.397850	39.6	9.45E-07	2.05E-07	1.07E-07
39.7	1.399278	1.398211	1.398039	1.399277	1.398211	1.398039	39.7	9.24E-07	7.07E-08	3.39E-07
39.8	1.399472	1.398399	1.398228	1.399471	1.398399	1.398228	39.8	1.06E-06	4.79E-07	4.34E-07
39.9	1.399666	1.398588	1.398417	1.399666	1.398588	1.398417	39.9	3.37E-07	1.86E-08	3.91E-07
40	1.399861	1.398777	1.398606	1.399860	1.398777	1.398606	40	7.71E-07	3.10E-07	2.12E-07
40.1	1.400055	1.398965	1.398795	1.400055	1.398965	1.398795	40.1	3.57E-07	4.94E-07	1.05E-07
40.2	1.400250	1.399154	1.398985	1.400249	1.399154	1.398985	40.2	1.09E-06	4.31E-07	4.40E-07
40.3	1.400445	1.399343	1.399174	1.400444	1.399343	1.399174	40.3	9.83E-07	4.99E-07	1.52E-07
40.4	1.400640	1.399533	1.399364	1.400639	1.399533	1.399364	40.4	1.02E-06	3.00E-07	1.18E-07
40.5	1.400835	1.399722	1.399554	1.400834	1.399722	1.399554	40.5	1.22E-06	3.27E-08	2.51E-07
40.6	1.401031	1.399911	1.399744	1.401030	1.399911	1.399744	40.6	5.64E-07	4.98E-07	2.47E-07
40.7	1.401226	1.400101	1.399934	1.401225	1.400101	1.399934	40.7	1.06E-06	9.62E-08	1.04E-07
40.8	1.401422	1.400291	1.400124	1.401421	1.400291	1.400124	40.8	7.13E-07	1.73E-07	1.76E-07
40.9	1.401618	1.400481	1.400315	1.401617	1.400481	1.400315	40.9	5.16E-07	3.10E-07	4.06E-07
41	1.401813	1.400671	1.400505	1.401813	1.400671	1.400505	41	4.72E-07	3.14E-07	1.50E-07
41.1	1.402010	1.400861	1.400696	1.402009	1.400861	1.400696	41.1	5.81E-07	1.85E-07	1.56E-07
41.2	1.402206	1.401051	1.400887	1.402205	1.401051	1.400887	41.2	8.43E-07	7.65E-08	3.24E-07
41.3	1.402402	1.401241	1.401078	1.402401	1.401241	1.401078	41.3	1.26E-06	4.71E-07	3.54E-07
41.4	1.402599	1.401432	1.401269	1.402598	1.401432	1.401269	41.4	8.25E-07	1.27E-09	2.46E-07
41.5	1.402796	1.401623	1.401460	1.402795	1.401623	1.401460	41.5	5.46E-07	3.41E-07	2.29E-10
41.6	1.402992	1.401813	1.401651	1.402992	1.401813	1.401651	41.6	4.21E-07	4.53E-07	3.85E-07
41.7	1.403189	1.402004	1.401843	1.403189	1.402004	1.401843	41.7	4.48E-07	3.81E-07	9.25E-08

41.8	1.403387	1.402195	1.402035	1.403386	1.402195	1.402035	41.8	6.30E-07	4.41E-07	4.31E-07
41.9	1.403584	1.402387	1.402226	1.403583	1.402387	1.402226	41.9	9.65E-07	3.65E-07	3.68E-07
42	1.403781	1.402578	1.402418	1.403781	1.402578	1.402418	42	4.54E-07	3.79E-08	3.06E-07
42.1	1.403979	1.402769	1.402610	1.403978	1.402769	1.402610	42.1	1.10E-06	4.23E-07	3.83E-07
42.2	1.404177	1.402961	1.402803	1.404176	1.402961	1.402803	42.2	8.93E-07	1.72E-08	4.02E-07
42.3	1.404375	1.403153	1.402995	1.404374	1.403153	1.402995	42.3	8.44E-07	2.55E-07	4.88E-08
42.4	1.404573	1.403345	1.403187	1.404572	1.403345	1.403187	42.4	9.48E-07	3.93E-07	4.44E-07
42.5	1.404771	1.403537	1.403380	1.404770	1.403537	1.403380	42.5	1.21E-06	3.97E-07	7.45E-08
42.6	1.404970	1.403729	1.403573	1.404969	1.403729	1.403573	42.6	6.21E-07	2.68E-07	1.56E-07
42.7	1.405168	1.403921	1.403766	1.405167	1.403921	1.403766	42.7	1.19E-06	4.49E-09	2.47E-07
42.8	1.405367	1.404113	1.403959	1.405366	1.404113	1.403959	42.8	9.12E-07	3.93E-07	2.00E-07
42.9	1.405566	1.404306	1.404152	1.405565	1.404306	1.404152	42.9	7.89E-07	7.56E-08	1.32E-08
43	1.405765	1.404499	1.404345	1.405764	1.404499	1.404345	43	8.21E-07	4.10E-07	3.12E-07
43.1	1.405964	1.404691	1.404539	1.405963	1.404691	1.404539	43.1	1.01E-06	3.90E-07	2.23E-07
43.2	1.406163	1.404884	1.404732	1.406163	1.404884	1.404732	43.2	3.50E-07	3.24E-07	3.80E-07
43.3	1.406363	1.405077	1.404926	1.406362	1.405077	1.404926	43.3	8.47E-07	3.93E-07	1.23E-07
43.4	1.406562	1.405271	1.405120	1.406562	1.405271	1.405120	43.4	4.99E-07	4.04E-07	4.24E-09
43.5	1.406762	1.405464	1.405314	1.406762	1.405464	1.405314	43.5	3.07E-07	6.69E-08	2.52E-08
43.6	1.406962	1.405657	1.405508	1.406961	1.405657	1.405508	43.6	1.27E-06	4.05E-07	1.85E-07
43.7	1.407162	1.405851	1.405702	1.407162	1.405851	1.405702	43.7	3.88E-07	1.18E-08	4.85E-07
43.8	1.407363	1.406045	1.405897	1.407362	1.406045	1.405897	43.8	6.62E-07	2.47E-07	7.63E-08
43.9	1.407563	1.406239	1.406092	1.407562	1.406239	1.406092	43.9	1.09E-06	3.71E-07	4.98E-07
44	1.407764	1.406433	1.406286	1.407763	1.406433	1.406286	44	6.78E-07	3.60E-07	2.20E-07
44.1	1.407964	1.406627	1.406481	1.407964	1.406627	1.406481	44.1	4.19E-07	2.14E-07	7.68E-08
44.2	1.408165	1.406821	1.406676	1.408165	1.406821	1.406676	44.2	3.17E-07	6.71E-08	7.34E-08
44.3	1.408366	1.407015	1.406871	1.408366	1.407015	1.406871	44.3	3.71E-07	4.83E-07	2.10E-07
44.4	1.408568	1.407210	1.407066	1.408567	1.407210	1.407066	44.4	5.81E-07	3.41E-08	4.86E-07
44.5	1.408769	1.407405	1.407262	1.408768	1.407405	1.407262	44.5	9.47E-07	2.80E-07	9.89E-08

44.6	1.408970	1.407600	1.407457	1.408970	1.407600	1.407457	44.6	4.70E-07	4.58E-07	4.56E-07
44.7	1.409172	1.407794	1.407653	1.409171	1.407794	1.407653	44.7	1.15E-06	4.99E-07	1.51E-07
44.8	1.409374	1.407990	1.407849	1.409373	1.407990	1.407849	44.8	9.85E-07	4.09E-07	1.40E-08
44.9	1.409576	1.408185	1.408045	1.409575	1.408185	1.408045	44.9	9.77E-07	1.82E-07	3.95E-08
45	1.409778	1.408380	1.408241	1.409777	1.408380	1.408241	45	1.13E-06	1.82E-07	7.49E-08
45.1	1.409980	1.408576	1.408437	1.409980	1.408576	1.408437	45.1	4.33E-07	3.20E-07	3.29E-07
45.2	1.410183	1.408771	1.408634	1.410182	1.408771	1.408634	45.2	8.96E-07	3.15E-07	2.77E-07
45.3	1.410386	1.408967	1.408830	1.410385	1.408967	1.408830	45.3	5.16E-07	8.49E-08	2.58E-07
45.4	1.410588	1.409163	1.409027	1.410588	1.409163	1.409027	45.4	2.94E-07	9.18E-09	6.81E-08
45.5	1.410791	1.409359	1.409224	1.410790	1.409359	1.409224	45.5	1.23E-06	3.26E-08	2.54E-07
45.6	1.410994	1.409555	1.409421	1.410994	1.409555	1.409421	45.6	3.21E-07	2.10E-07	2.99E-07
45.7	1.411198	1.409752	1.409618	1.411197	1.409752	1.409618	45.7	5.71E-07	4.76E-07	2.05E-07
45.8	1.411401	1.409948	1.409815	1.411400	1.409948	1.409815	45.8	9.79E-07	2.63E-08	2.96E-08
45.9	1.411605	1.410145	1.410012	1.411604	1.410145	1.410012	45.9	5.44E-07	4.40E-07	4.04E-07
46	1.411808	1.410341	1.410210	1.411808	1.410341	1.410210	46	2.67E-07	2.82E-07	8.05E-08
46.1	1.412012	1.410538	1.410408	1.412011	1.410538	1.410408	46.1	1.15E-06	1.40E-07	4.25E-07
46.2	1.412216	1.410735	1.410605	1.412215	1.410735	1.410605	46.2	1.19E-06	1.35E-07	3.70E-07
46.3	1.412420	1.410932	1.410803	1.412420	1.410932	1.410803	46.3	3.84E-07	2.65E-07	3.06E-07
46.4	1.412625	1.411130	1.411001	1.412624	1.411130	1.411001	46.4	7.39E-07	4.67E-07	3.83E-07
46.5	1.412829	1.411327	1.411200	1.412828	1.411327	1.411200	46.5	1.25E-06	6.31E-08	4.01E-07
46.6	1.413034	1.411524	1.411398	1.413033	1.411524	1.411398	46.6	9.24E-07	4.77E-07	4.37E-08
46.7	1.413239	1.411722	1.411596	1.413238	1.411722	1.411596	46.7	7.55E-07	1.55E-07	4.54E-07
46.8	1.413444	1.411920	1.411795	1.413443	1.411920	1.411795	46.8	7.44E-07	3.16E-08	9.17E-08
46.9	1.413649	1.412118	1.411994	1.413648	1.412118	1.411994	46.9	8.91E-07	8.10E-08	1.30E-07
47	1.413854	1.412316	1.412193	1.413853	1.412316	1.412193	47	1.20E-06	6.52E-09	2.11E-07
47.1	1.414060	1.412514	1.412392	1.414059	1.412514	1.412392	47.1	6.63E-07	2.31E-07	1.51E-07
47.2	1.414265	1.412713	1.412591	1.414265	1.412713	1.412591	47.2	2.87E-07	4.08E-07	4.90E-08
47.3	1.414471	1.412911	1.412790	1.414470	1.412911	1.412790	47.3	1.07E-06	9.06E-08	3.90E-07

47.4	1.414677	1.413110	1.412990	1.414676	1.413110	1.412990	47.4	1.01E-06	2.74E-07	1.29E-07
47.5	1.414883	1.413308	1.413189	1.414882	1.413308	1.413189	47.5	1.11E-06	4.99E-07	4.93E-07
47.6	1.415089	1.413507	1.413389	1.415089	1.413507	1.413389	47.6	3.75E-07	4.08E-07	2.56E-07
47.7	1.415296	1.413706	1.413589	1.415295	1.413706	1.413589	47.7	7.96E-07	4.55E-07	1.60E-07
47.8	1.415502	1.413906	1.413789	1.415502	1.413906	1.413789	47.8	3.76E-07	3.60E-07	2.04E-07
47.9	1.415709	1.414105	1.413989	1.415708	1.414105	1.413989	47.9	1.12E-06	3.82E-08	3.89E-07
48	1.415916	1.414304	1.414190	1.415915	1.414304	1.414190	48	1.01E-06	4.21E-07	2.85E-07
48.1	1.416123	1.414504	1.414390	1.416122	1.414504	1.414390	48.1	1.07E-06	1.79E-08	1.81E-07
48.2	1.416330	1.414704	1.414591	1.416330	1.414704	1.414591	48.2	2.93E-07	2.48E-07	2.11E-07
48.3	1.416538	1.414904	1.414792	1.416537	1.414904	1.414792	48.3	6.72E-07	3.76E-07	4.63E-07
48.4	1.416745	1.415104	1.414992	1.416744	1.415104	1.414992	48.4	1.21E-06	3.66E-07	4.26E-07
48.5	1.416953	1.415304	1.415193	1.416952	1.415304	1.415193	48.5	9.10E-07	2.18E-07	4.56E-07
48.6	1.417161	1.415504	1.415395	1.417160	1.415504	1.415395	48.6	7.69E-07	6.72E-08	3.73E-07
48.7	1.417369	1.415704	1.415596	1.417368	1.415704	1.415596	48.7	7.89E-07	4.91E-07	6.09E-08
48.8	1.417577	1.415905	1.415797	1.417576	1.415905	1.415797	48.8	9.70E-07	5.18E-08	3.92E-07
48.9	1.417785	1.416106	1.415999	1.417785	1.416106	1.415999	48.9	3.10E-07	2.49E-07	1.43E-08
49	1.417994	1.416307	1.416201	1.417993	1.416307	1.416201	49	8.12E-07	4.11E-07	2.80E-07
49.1	1.418202	1.416508	1.416403	1.418202	1.416508	1.416403	49.1	4.74E-07	4.36E-07	4.04E-07
49.2	1.418411	1.416709	1.416605	1.418411	1.416709	1.416605	49.2	2.97E-07	3.22E-07	3.87E-07
49.3	1.418620	1.416910	1.416807	1.418620	1.416910	1.416807	49.3	2.81E-07	7.01E-08	2.29E-07
49.4	1.418829	1.417111	1.417009	1.418829	1.417111	1.417009	49.4	4.26E-07	3.20E-07	6.96E-08
49.5	1.419039	1.417313	1.417212	1.419038	1.417313	1.417212	49.5	7.32E-07	1.51E-07	4.91E-07
49.6	1.419248	1.417515	1.417414	1.419247	1.417515	1.417414	49.6	1.20E-06	4.84E-07	9.04E-08
49.7	1.419458	1.417716	1.417617	1.419457	1.417716	1.417617	49.7	8.28E-07	3.22E-07	1.88E-07
49.8	1.419668	1.417918	1.417820	1.419667	1.417918	1.417820	49.8	6.17E-07	2.66E-07	3.25E-07
49.9	1.419878	1.418120	1.418023	1.419877	1.418120	1.418023	49.9	5.69E-07	3.49E-07	3.20E-07
50	1.420088	1.418323	1.418226	1.420087	1.418323	1.418226	50	6.81E-07	4.29E-07	1.75E-07
50.1	1.420298	1.418525	1.418429	1.420297	1.418525	1.418429	50.1	9.56E-07	6.90E-08	1.11E-07

50.2	1.420508	1.418727	1.418633	1.420508	1.418727	1.418633	50.2	3.92E-07	4.30E-07	4.61E-07
50.3	1.420719	1.418930	1.418836	1.420718	1.418930	1.418836	50.3	9.90E-07	6.81E-08	1.08E-07
50.4	1.420930	1.419133	1.419040	1.420929	1.419133	1.419040	50.4	7.49E-07	1.55E-07	1.83E-07
50.5	1.421141	1.419336	1.419244	1.421140	1.419336	1.419244	50.5	6.71E-07	2.39E-07	3.32E-07
50.6	1.421352	1.419539	1.419448	1.421351	1.419539	1.419448	50.6	7.55E-07	1.84E-07	3.39E-07
50.7	1.421563	1.419742	1.419652	1.421562	1.419742	1.419652	50.7	1.00E-06	1.01E-08	2.06E-07
50.8	1.421774	1.419945	1.419856	1.421774	1.419945	1.419856	50.8	4.09E-07	3.43E-07	6.83E-08
50.9	1.421986	1.420149	1.420060	1.421985	1.420149	1.420060	50.9	9.79E-07	1.84E-07	4.84E-07
51	1.422198	1.420352	1.420265	1.422197	1.420352	1.420265	51	7.12E-07	4.27E-07	4.07E-08
51.1	1.422410	1.420556	1.420470	1.422409	1.420556	1.420470	51.1	6.07E-07	1.79E-07	2.61E-07
51.2	1.422622	1.420760	1.420675	1.422621	1.420760	1.420675	51.2	6.65E-07	6.90E-08	4.22E-07
51.3	1.422834	1.420964	1.420880	1.422833	1.420964	1.420880	51.3	8.86E-07	9.89E-08	4.42E-07
51.4	1.423046	1.421168	1.421085	1.423046	1.421168	1.421085	51.4	2.69E-07	2.68E-07	3.20E-07
51.5	1.423259	1.421373	1.421290	1.423258	1.421373	1.421290	51.5	8.15E-07	4.23E-07	5.77E-08
51.6	1.423472	1.421577	1.421495	1.423471	1.421577	1.421495	51.6	5.24E-07	2.59E-08	3.46E-07
51.7	1.423684	1.421782	1.421701	1.423684	1.421782	1.421701	51.7	3.96E-07	3.86E-07	1.09E-07
51.8	1.423897	1.421986	1.421907	1.423897	1.421986	1.421907	51.8	4.31E-07	3.42E-07	4.23E-07
51.9	1.424111	1.422191	1.422112	1.424110	1.422191	1.422112	51.9	6.30E-07	2.10E-07	4.05E-07
52	1.424324	1.422396	1.422318	1.424323	1.422396	1.422318	52	9.91E-07	2.18E-07	3.73E-07
52.1	1.424538	1.422601	1.422524	1.424537	1.422601	1.422524	52.1	5.16E-07	3.65E-07	4.83E-07
52.2	1.424751	1.422807	1.422731	1.424750	1.422807	1.422731	52.2	1.20E-06	3.47E-07	2.66E-07
52.3	1.424965	1.423012	1.422937	1.424964	1.423012	1.422937	52.3	1.06E-06	8.01E-08	1.26E-07
52.4	1.425179	1.423218	1.423144	1.425178	1.423218	1.423144	52.4	1.07E-06	3.52E-07	3.41E-07
52.5	1.425393	1.423423	1.423350	1.425393	1.423423	1.423350	52.5	2.50E-07	3.55E-07	3.33E-07
52.6	1.425608	1.423629	1.423557	1.425607	1.423629	1.423557	52.6	5.93E-07	2.03E-07	1.49E-07
52.7	1.425822	1.423835	1.423764	1.425821	1.423835	1.423764	52.7	1.10E-06	1.91E-07	1.05E-07
52.8	1.426037	1.424041	1.423971	1.426036	1.424041	1.423971	52.8	7.70E-07	3.20E-07	2.03E-07
52.9	1.426252	1.424248	1.424178	1.426251	1.424248	1.424178	52.9	6.04E-07	4.11E-07	4.42E-07

53	1.426467	1.424454	1.424386	1.426466	1.424454	1.424386	53	6.02E-07	2.25E-09	1.78E-07
53.1	1.426682	1.424661	1.424593	1.426681	1.424661	1.424593	53.1	7.65E-07	4.53E-07	3.43E-07
53.2	1.426897	1.424867	1.424801	1.426896	1.424867	1.424801	53.2	1.09E-06	2.37E-07	4.71E-09
53.3	1.427113	1.425074	1.425009	1.427112	1.425074	1.425009	53.3	5.83E-07	6.81E-08	1.92E-07
53.4	1.427328	1.425281	1.425217	1.427328	1.425281	1.425217	53.4	2.39E-07	3.94E-08	2.48E-07
53.5	1.427544	1.425488	1.425425	1.427543	1.425488	1.425425	53.5	1.06E-06	1.51E-07	1.63E-07
53.6	1.427760	1.425695	1.425633	1.427759	1.425695	1.425633	53.6	1.04E-06	4.04E-07	6.33E-08
53.7	1.427976	1.425903	1.425841	1.427975	1.425903	1.425841	53.7	1.19E-06	2.03E-07	4.31E-07
53.8	1.428193	1.426110	1.426050	1.428192	1.426110	1.426050	53.8	5.06E-07	3.32E-07	6.13E-08
53.9	1.428409	1.426318	1.426259	1.428408	1.426318	1.426259	53.9	9.85E-07	6.93E-09	4.12E-07
54	1.428626	1.426526	1.426467	1.428625	1.426526	1.426467	54	6.28E-07	1.77E-07	3.78E-07
54.1	1.428842	1.426734	1.426676	1.428842	1.426734	1.426676	54.1	4.36E-07	2.20E-07	3.09E-07
54.2	1.429059	1.426942	1.426885	1.429059	1.426942	1.426885	54.2	4.10E-07	1.22E-07	3.81E-07
54.3	1.429277	1.427150	1.427095	1.429276	1.427150	1.427095	54.3	5.48E-07	1.17E-07	4.06E-07
54.4	1.429494	1.427358	1.427304	1.429493	1.427358	1.427304	54.4	8.52E-07	4.98E-07	5.25E-08
54.5	1.429711	1.427567	1.427513	1.429711	1.427567	1.427513	54.5	3.21E-07	1.93E-08	4.42E-07
54.6	1.429929	1.427776	1.427723	1.429928	1.427776	1.427723	54.6	9.55E-07	3.18E-07	7.74E-08
54.7	1.430147	1.427984	1.427933	1.430146	1.427984	1.427933	54.7	7.54E-07	4.86E-07	1.46E-07
54.8	1.430365	1.428193	1.428143	1.430364	1.428193	1.428143	54.8	7.19E-07	4.32E-07	2.29E-07
54.9	1.430583	1.428403	1.428353	1.430582	1.428403	1.428353	54.9	8.50E-07	4.82E-07	1.72E-07
55	1.430801	1.428612	1.428563	1.430800	1.428612	1.428563	55	1.15E-06	2.53E-07	2.68E-08
55.1	1.431020	1.428821	1.428773	1.431019	1.428821	1.428773	55.1	6.08E-07	1.16E-07	3.66E-07
55.2	1.431238	1.429031	1.428984	1.431238	1.429031	1.428984	55.2	2.36E-07	3.72E-07	1.54E-07
55.3	1.431457	1.429240	1.429194	1.431456	1.429240	1.429194	55.3	1.03E-06	2.81E-07	4.66E-07
55.4	1.431676	1.429450	1.429405	1.431675	1.429450	1.429405	55.4	9.88E-07	7.53E-08	2.27E-07
55.5	1.431895	1.429660	1.429616	1.431894	1.429660	1.429616	55.5	1.11E-06	1.15E-08	1.29E-07
55.6	1.432114	1.429870	1.429827	1.432114	1.429870	1.429827	55.6	4.05E-07	8.96E-08	1.71E-07
55.7	1.432334	1.430080	1.430038	1.432333	1.430080	1.430038	55.7	8.63E-07	3.09E-07	3.54E-07

55.8	1.432553	1.430291	1.430250	1.432553	1.430291	1.430250	55.8	4.86E-07	3.29E-07	3.23E-07
55.9	1.432773	1.430501	1.430461	1.432773	1.430501	1.430461	55.9	2.76E-07	1.75E-07	1.41E-07
56	1.432993	1.430712	1.430673	1.432993	1.430712	1.430673	56	2.33E-07	1.80E-07	2.55E-07
56.1	1.433213	1.430923	1.430884	1.433213	1.430923	1.430884	56.1	3.56E-07	3.92E-07	4.90E-07
56.2	1.433434	1.431134	1.431096	1.433433	1.431134	1.431096	56.2	6.45E-07	4.63E-07	3.75E-07
56.3	1.433654	1.431345	1.431308	1.433653	1.431345	1.431308	56.3	1.10E-06	3.91E-07	4.00E-07
56.4	1.433875	1.431556	1.431521	1.433874	1.431556	1.431521	56.4	7.23E-07	1.77E-07	4.34E-07
56.5	1.434096	1.431767	1.431733	1.434095	1.431767	1.431733	56.5	5.12E-07	1.79E-07	1.28E-07
56.6	1.434316	1.431979	1.431945	1.434316	1.431979	1.431945	56.6	4.68E-07	3.23E-07	3.18E-07
56.7	1.434538	1.432190	1.432158	1.434537	1.432190	1.432158	56.7	5.91E-07	3.17E-07	9.59E-08
56.8	1.434759	1.432402	1.432371	1.434758	1.432402	1.432371	56.8	8.80E-07	1.00E-07	3.70E-07
56.9	1.434980	1.432614	1.432583	1.434980	1.432614	1.432583	56.9	3.37E-07	2.53E-08	4.97E-07
57	1.435202	1.432826	1.432797	1.435201	1.432826	1.432797	57	9.61E-07	9.29E-08	4.96E-07
57.1	1.435424	1.433038	1.433010	1.435423	1.433038	1.433010	57.1	7.51E-07	3.03E-07	3.50E-07
57.2	1.435646	1.433251	1.433223	1.435645	1.433251	1.433223	57.2	7.09E-07	3.44E-07	6.34E-08
57.3	1.435868	1.433463	1.433436	1.435867	1.433463	1.433436	57.3	8.35E-07	1.51E-07	3.63E-07
57.4	1.436090	1.433676	1.433650	1.436089	1.433676	1.433650	57.4	1.13E-06	2.11E-07	7.06E-08
57.5	1.436313	1.433889	1.433864	1.436312	1.433889	1.433864	57.5	5.87E-07	4.31E-07	3.64E-07
57.6	1.436535	1.434101	1.434077	1.436535	1.434101	1.434077	57.6	2.14E-07	4.92E-07	4.82E-07
57.7	1.436758	1.434315	1.434291	1.436757	1.434315	1.434291	57.7	1.01E-06	4.42E-07	4.67E-07
57.8	1.436981	1.434528	1.434506	1.436980	1.434528	1.434506	57.8	9.72E-07	2.33E-07	4.07E-07
57.9	1.437204	1.434741	1.434720	1.437203	1.434741	1.434720	57.9	1.10E-06	1.18E-07	1.42E-07
58	1.437427	1.434955	1.434934	1.437427	1.434955	1.434934	58	3.99E-07	3.87E-07	2.62E-07
58.1	1.437651	1.435168	1.435149	1.437650	1.435168	1.435149	58.1	8.65E-07	2.50E-07	1.93E-07
58.2	1.437874	1.435382	1.435363	1.437874	1.435382	1.435363	58.2	4.98E-07	3.03E-08	4.90E-07
58.3	1.438098	1.435596	1.435578	1.438098	1.435596	1.435578	58.3	3.00E-07	4.64E-08	3.14E-07
58.4	1.438322	1.435810	1.435793	1.438322	1.435810	1.435793	58.4	2.69E-07	2.00E-08	2.76E-07
58.5	1.438546	1.436024	1.436008	1.438546	1.436024	1.436008	58.5	4.06E-07	2.29E-07	3.78E-07

58.6	1.438771	1.436239	1.436224	1.438770	1.436239	1.436224	58.6	7.12E-07	4.18E-07	3.81E-07
58.7	1.438995	1.436453	1.436439	1.438994	1.436453	1.436439	58.7	1.19E-06	7.79E-08	2.66E-10
58.8	1.439220	1.436668	1.436655	1.439219	1.436668	1.436655	58.8	8.27E-07	2.83E-07	4.81E-07
58.9	1.439445	1.436882	1.436870	1.439444	1.436882	1.436870	58.9	6.37E-07	4.99E-07	1.78E-07
59	1.439670	1.437097	1.437086	1.439669	1.437097	1.437086	59	6.15E-07	4.25E-07	2.42E-08
59.1	1.439895	1.437312	1.437302	1.439894	1.437312	1.437302	59.1	7.62E-07	4.94E-07	8.74E-08
59.2	1.440120	1.437528	1.437518	1.440119	1.437528	1.437518	59.2	1.08E-06	2.94E-07	1.17E-08
59.3	1.440346	1.437743	1.437734	1.440345	1.437743	1.437734	59.3	5.61E-07	6.22E-08	2.03E-07
59.4	1.440571	1.437959	1.437951	1.440571	1.437959	1.437951	59.4	2.13E-07	4.38E-07	4.44E-07
59.5	1.440797	1.438174	1.438167	1.440796	1.438174	1.438167	59.5	1.03E-06	2.04E-07	4.85E-08
59.6	1.441023	1.438390	1.438384	1.441022	1.438390	1.438384	59.6	1.02E-06	9.07E-09	3.21E-07
59.7	1.441249	1.438606	1.438600	1.441248	1.438606	1.438600	59.7	1.18E-06	7.90E-08	4.49E-07
59.8	1.441476	1.438822	1.438817	1.441475	1.438822	1.438817	59.8	5.10E-07	5.27E-09	3.57E-07
59.9	1.441702	1.439038	1.439034	1.441701	1.439038	1.439034	59.9	1.01E-06	2.12E-07	4.03E-07
60	1.441929	1.439255	1.439252	1.441928	1.439255	1.439252	60	6.71E-07	4.27E-07	4.12E-07
60.1	1.442156	1.439471	1.439469	1.442155	1.439471	1.439469	60.1	5.05E-07	7.83E-08	8.82E-08
60.2	1.442383	1.439688	1.439686	1.442382	1.439688	1.439686	60.2	5.09E-07	2.73E-07	3.73E-07
60.3	1.442610	1.439905	1.439904	1.442609	1.439905	1.439904	60.3	6.81E-07	4.80E-07	2.67E-08
60.4	1.442837	1.440121	1.440122	1.442836	1.440121	1.440122	60.4	1.02E-06	4.56E-07	2.89E-07
60.5	1.443065	1.440339	1.440340	1.443064	1.440339	1.440340	60.5	5.33E-07	4.63E-07	4.13E-07
60.6	1.443292	1.440556	1.440558	1.443292	1.440556	1.440558	60.6	2.13E-07	2.39E-07	3.98E-07
60.7	1.443520	1.440773	1.440776	1.443519	1.440773	1.440776	60.7	1.06E-06	1.29E-07	2.46E-07
60.8	1.443748	1.440991	1.440994	1.443747	1.440991	1.440994	60.8	1.08E-06	3.58E-07	4.36E-08
60.9	1.443976	1.441208	1.441212	1.443976	1.441208	1.441212	60.9	2.69E-07	2.99E-07	4.71E-07
61	1.444205	1.441426	1.441431	1.444204	1.441426	1.441431	61	6.27E-07	9.93E-08	3.67E-08
61.1	1.444433	1.441644	1.441650	1.444432	1.441644	1.441650	61.1	1.15E-06	4.42E-08	2.60E-07
61.2	1.444662	1.441862	1.441869	1.444661	1.441862	1.441869	61.2	8.51E-07	1.33E-07	4.20E-07
61.3	1.444891	1.442080	1.442088	1.444890	1.442080	1.442088	61.3	7.18E-07	3.67E-07	4.41E-07

61.4	1.445120	1.442299	1.442307	1.445119	1.442299	1.442307	61.4	7.54E-07	2.56E-07	3.26E-07
61.5	1.445349	1.442517	1.442526	1.445348	1.442517	1.442526	61.5	9.60E-07	2.66E-07	7.31E-08
61.6	1.445578	1.442736	1.442745	1.445578	1.442736	1.442745	61.6	3.36E-07	6.75E-08	3.17E-07
61.7	1.445808	1.442955	1.442965	1.445807	1.442955	1.442965	61.7	8.81E-07	2.57E-07	1.56E-07
61.8	1.446038	1.443174	1.443185	1.446037	1.443174	1.443185	61.8	5.97E-07	3.02E-07	4.92E-07
61.9	1.446267	1.443393	1.443404	1.446267	1.443393	1.443404	61.9	4.83E-07	2.02E-07	3.10E-07
62	1.446498	1.443612	1.443624	1.446497	1.443612	1.443624	62	5.38E-07	4.21E-08	2.48E-07
62.1	1.446728	1.443831	1.443844	1.446727	1.443831	1.443844	62.1	7.64E-07	4.31E-07	3.23E-07
62.2	1.446958	1.444051	1.444065	1.446957	1.444051	1.444065	62.2	1.16E-06	3.59E-08	4.65E-07
62.3	1.447189	1.444271	1.444285	1.447188	1.444271	1.444285	62.3	7.26E-07	3.58E-07	1.17E-07
62.4	1.447419	1.444490	1.444505	1.447419	1.444490	1.444505	62.4	4.62E-07	4.64E-07	3.68E-07
62.5	1.447650	1.444710	1.444726	1.447650	1.444710	1.444726	62.5	3.69E-07	4.32E-07	1.05E-08
62.6	1.447881	1.444931	1.444947	1.447881	1.444931	1.444947	62.6	4.46E-07	4.56E-07	2.53E-07
62.7	1.448113	1.445151	1.445168	1.448112	1.445151	1.445168	62.7	6.93E-07	2.00E-07	3.59E-07
62.8	1.448344	1.445371	1.445389	1.448343	1.445371	1.445389	62.8	1.11E-06	2.02E-07	3.28E-07
62.9	1.448576	1.445592	1.445610	1.448575	1.445592	1.445610	62.9	6.99E-07	2.52E-07	1.62E-07
63	1.448807	1.445812	1.445831	1.448807	1.445812	1.445831	63	4.57E-07	4.39E-07	1.40E-07
63.1	1.449039	1.446033	1.446053	1.449039	1.446033	1.446053	63.1	3.87E-07	2.75E-07	4.21E-07
63.2	1.449271	1.446254	1.446274	1.449271	1.446254	1.446274	63.2	4.86E-07	2.56E-07	1.53E-07
63.3	1.449504	1.446475	1.446496	1.449503	1.446475	1.446496	63.3	7.57E-07	3.82E-07	1.37E-07
63.4	1.449736	1.446697	1.446718	1.449736	1.446697	1.446718	63.4	1.98E-07	3.47E-07	2.92E-07
63.5	1.449969	1.446918	1.446940	1.449968	1.446918	1.446940	63.5	8.10E-07	6.88E-08	3.11E-07
63.6	1.450202	1.447140	1.447162	1.450201	1.447140	1.447162	63.6	5.93E-07	3.70E-07	1.95E-07
63.7	1.450435	1.447361	1.447384	1.450434	1.447361	1.447384	63.7	5.47E-07	3.36E-07	5.71E-08
63.8	1.450668	1.447583	1.447606	1.450667	1.447583	1.447606	63.8	6.71E-07	1.87E-07	4.44E-07
63.9	1.450901	1.447805	1.447829	1.450900	1.447805	1.447829	63.9	9.66E-07	1.83E-07	3.40E-08
64	1.451134	1.448027	1.448052	1.451134	1.448027	1.448052	64	4.33E-07	3.25E-07	3.77E-07
64.1	1.451368	1.448250	1.448274	1.451367	1.448250	1.448274	64.1	1.07E-06	3.88E-07	4.15E-07

64.2	1.451602	1.448472	1.448497	1.451601	1.448472	1.448497	64.2	8.79E-07	4.37E-08	3.42E-07
64.3	1.451836	1.448695	1.448720	1.451835	1.448695	1.448720	64.3	8.58E-07	3.79E-07	4.03E-07
64.4	1.452070	1.448917	1.448944	1.452069	1.448917	1.448944	64.4	1.01E-06	3.44E-07	4.01E-07
64.5	1.452304	1.449140	1.449167	1.452304	1.449140	1.449167	64.5	3.31E-07	2.12E-07	7.05E-08
64.6	1.452539	1.449363	1.449390	1.452538	1.449363	1.449390	64.6	8.24E-07	2.25E-07	3.94E-07
64.7	1.452773	1.449586	1.449614	1.452773	1.449586	1.449614	64.7	4.88E-07	3.84E-07	6.67E-09
64.8	1.453008	1.449810	1.449838	1.453008	1.449810	1.449838	64.8	3.24E-07	3.12E-07	2.73E-07
64.9	1.453243	1.450033	1.450062	1.453243	1.450033	1.450062	64.9	3.31E-07	1.37E-07	4.06E-07
65	1.453479	1.450257	1.450286	1.453478	1.450257	1.450286	65	5.09E-07	2.68E-07	4.05E-07
65.1	1.453714	1.450480	1.450510	1.453713	1.450480	1.450510	65.1	8.59E-07	4.73E-07	2.70E-07
65.2	1.453949	1.450704	1.450734	1.453949	1.450704	1.450734	65.2	3.80E-07	3.59E-07	1.57E-09
65.3	1.454185	1.450928	1.450958	1.454184	1.450928	1.450958	65.3	1.07E-06	3.91E-07	4.01E-07
65.4	1.454421	1.451153	1.451183	1.454420	1.451153	1.451183	65.4	9.37E-07	4.32E-07	6.38E-08
65.5	1.454657	1.451377	1.451408	1.454656	1.451377	1.451408	65.5	9.73E-07	1.09E-07	3.95E-07
65.6	1.454893	1.451601	1.451632	1.454893	1.451601	1.451632	65.6	1.81E-07	3.60E-07	4.07E-07
65.7	1.455130	1.451826	1.451857	1.455129	1.451826	1.451857	65.7	5.60E-07	2.58E-08	3.43E-07
65.8	1.455366	1.452051	1.452082	1.455365	1.452051	1.452082	65.8	1.11E-06	2.66E-07	4.11E-07
65.9	1.455603	1.452276	1.452308	1.455602	1.452276	1.452308	65.9	8.33E-07	3.60E-07	3.88E-07
66	1.455840	1.452501	1.452533	1.455839	1.452501	1.452533	66	7.27E-07	3.08E-07	5.45E-08
66.1	1.456077	1.452726	1.452758	1.456076	1.452726	1.452758	66.1	7.93E-07	1.11E-07	4.12E-07
66.2	1.456314	1.452951	1.452984	1.456313	1.452951	1.452984	66.2	1.03E-06	2.32E-07	1.06E-08
66.3	1.456551	1.453177	1.453210	1.456551	1.453177	1.453210	66.3	4.41E-07	2.79E-07	2.58E-07
66.4	1.456789	1.453402	1.453436	1.456788	1.453402	1.453436	66.4	1.02E-06	3.56E-07	3.95E-07
66.5	1.457027	1.453628	1.453662	1.457026	1.453628	1.453662	66.5	7.76E-07	1.37E-07	3.99E-07
66.6	1.457265	1.453854	1.453888	1.457264	1.453854	1.453888	66.6	7.01E-07	6.38E-08	2.72E-07
66.7	1.457503	1.454080	1.454114	1.457502	1.454080	1.454114	66.7	7.98E-07	1.37E-07	1.30E-08
66.8	1.457741	1.454306	1.454340	1.457740	1.454306	1.454340	66.8	1.07E-06	3.55E-07	3.78E-07
66.9	1.457980	1.454533	1.454567	1.457979	1.454533	1.454567	66.9	5.09E-07	2.80E-07	9.97E-08

67	1.458218	1.454759	1.454794	1.458217	1.454759	1.454794	67	1.12E-06	2.31E-07	4.46E-07
67.1	1.458457	1.454986	1.455020	1.458456	1.454986	1.455020	67.1	9.09E-07	1.13E-07	3.39E-07
67.2	1.458696	1.455213	1.455247	1.458695	1.455213	1.455247	67.2	8.66E-07	3.10E-07	2.55E-07
67.3	1.458935	1.455440	1.455474	1.458934	1.455440	1.455474	67.3	9.96E-07	3.61E-07	3.03E-07
67.4	1.459174	1.455667	1.455701	1.459174	1.455667	1.455701	67.4	2.98E-07	2.66E-07	4.81E-07
67.5	1.459414	1.455894	1.455929	1.459413	1.455894	1.455929	67.5	7.73E-07	2.44E-08	2.10E-07
67.6	1.459653	1.456121	1.456156	1.459653	1.456121	1.456156	67.6	4.19E-07	3.63E-07	2.29E-07
67.7	1.459893	1.456349	1.456384	1.459893	1.456349	1.456384	67.7	2.38E-07	1.03E-07	2.01E-07
67.8	1.460133	1.456577	1.456611	1.460133	1.456577	1.456611	67.8	2.29E-07	4.24E-07	4.99E-07
67.9	1.460373	1.456804	1.456839	1.460373	1.456804	1.456839	67.9	3.93E-07	4.02E-07	3.29E-07
68	1.460614	1.457032	1.457067	1.460613	1.457032	1.457067	68	7.29E-07	3.75E-07	2.90E-07
68.1	1.460854	1.457260	1.457295	1.460854	1.457260	1.457295	68.1	2.37E-07	4.93E-07	3.80E-07
68.2	1.461095	1.457489	1.457524	1.461094	1.457489	1.457524	68.2	9.18E-07	2.42E-07	4.00E-07
68.3	1.461336	1.457717	1.457752	1.461335	1.457717	1.457752	68.3	7.71E-07	1.70E-07	5.08E-08
68.4	1.461577	1.457946	1.457980	1.461576	1.457946	1.457980	68.4	7.97E-07	2.73E-07	4.28E-07
68.5	1.461818	1.458174	1.458209	1.461817	1.458174	1.458209	68.5	9.95E-07	4.31E-07	3.63E-08
68.6	1.462059	1.458403	1.458438	1.462059	1.458403	1.458438	68.6	3.65E-07	2.81E-07	2.26E-07
68.7	1.462301	1.458632	1.458667	1.462300	1.458632	1.458667	68.7	9.08E-07	2.78E-07	3.60E-07
68.8	1.462543	1.458861	1.458896	1.462542	1.458861	1.458896	68.8	6.24E-07	4.21E-07	3.65E-07
68.9	1.462785	1.459091	1.459125	1.462784	1.459091	1.459125	68.9	5.12E-07	2.89E-07	2.42E-07
69	1.463027	1.459320	1.459354	1.463026	1.459320	1.459354	69	5.73E-07	1.47E-07	1.06E-08
69.1	1.463269	1.459550	1.459583	1.463268	1.459550	1.459583	69.1	8.06E-07	2.70E-07	3.91E-07
69.2	1.463511	1.459779	1.459813	1.463511	1.459779	1.459813	69.2	2.13E-07	4.59E-07	1.00E-07
69.3	1.463754	1.460009	1.460043	1.463753	1.460009	1.460043	69.3	7.91E-07	3.34E-07	4.63E-07
69.4	1.463997	1.460239	1.460272	1.463996	1.460239	1.460272	69.4	5.43E-07	3.56E-07	3.01E-07
69.5	1.464239	1.460470	1.460502	1.464239	1.460470	1.460502	69.5	4.67E-07	4.75E-07	1.93E-07
69.6	1.464483	1.460700	1.460732	1.464482	1.460700	1.460732	69.6	5.64E-07	1.60E-07	2.13E-07
69.7	1.464726	1.460930	1.460962	1.464725	1.460930	1.460962	69.7	8.33E-07	3.02E-07	3.60E-07

69.8	1.464969	1.461161	1.461193	1.464969	1.461161	1.461193	69.8	2.76E-07	8.92E-08	3.65E-07
69.9	1.465213	1.461392	1.461423	1.465212	1.461392	1.461423	69.9	8.91E-07	3.34E-07	3.62E-08
70	1.465457	1.461623	1.461654	1.465456	1.461623	1.461654	70	6.79E-07	4.32E-07	4.36E-07
70.1	1.465701	1.46185	1.46188	1.465700	1.461850	1.461880	70.1	6.39E-07	3.62E-06	4.22E-06
70.2	1.465945	1.46208	1.46212	1.465944	1.462080	1.462120	70.2	7.73E-07	4.81E-06	5.00E-06
70.3	1.466189	1.46232	1.46235	1.466188	1.462320	1.462350	70.3	1.08E-06	3.85E-06	4.09E-06
70.4	1.466434	1.46255	1.46258	1.466433	1.462550	1.462580	70.4	5.59E-07	2.36E-06	3.06E-06
70.5	1.466678	1.46278	1.46281	1.466678	1.462780	1.462810	70.5	2.11E-07	7.23E-07	1.90E-06
70.6	1.466923	1.46301	1.46304	1.466922	1.463010	1.463040	70.6	1.04E-06	1.06E-06	6.11E-07
70.7	1.467168	1.46324	1.46327	1.467167	1.463240	1.463270	70.7	1.03E-06	2.99E-06	8.01E-07
70.8	1.467413	1.46348	1.46350	1.467413	1.463480	1.463500	70.8	2.04E-07	4.94E-06	2.34E-06
70.9	1.467659	1.46371	1.46373	1.467658	1.463710	1.463730	70.9	5.48E-07	2.71E-06	4.00E-06
71	1.467904	1.46394	1.46397	1.467903	1.463940	1.463970	71	1.06E-06	3.45E-07	4.21E-06
71.1	1.468150	1.46417	1.46420	1.468149	1.464170	1.464200	71.1	7.54E-07	2.17E-06	2.30E-06
71.2	1.468396	1.46440	1.46443	1.468395	1.464400	1.464430	71.2	6.17E-07	4.83E-06	2.62E-07
71.3	1.468642	1.46464	1.46466	1.468641	1.464640	1.464660	71.3	6.53E-07	2.36E-06	1.90E-06
71.4	1.468888	1.46487	1.46489	1.468887	1.464870	1.464890	71.4	8.61E-07	6.00E-07	4.19E-06
71.5	1.469134	1.46510	1.46513	1.469134	1.465100	1.465130	71.5	2.43E-07	3.70E-06	3.40E-06
71.6	1.469381	1.46534	1.46536	1.469380	1.465340	1.465360	71.6	7.97E-07	3.05E-06	8.69E-07
71.7	1.469628	1.46557	1.46559	1.469627	1.465570	1.465590	71.7	5.25E-07	3.50E-07	1.79E-06
71.8	1.469874	1.46580	1.46582	1.469874	1.465800	1.465820	71.8	4.25E-07	3.89E-06	4.57E-06
71.9	1.470121	1.46604	1.46606	1.470121	1.466040	1.466060	71.9	4.99E-07	2.41E-06	2.52E-06
72	1.470369	1.46627	1.46629	1.470368	1.466270	1.466290	72	7.46E-07	1.42E-06	5.06E-07
72.1	1.470616	1.46651	1.46652	1.470616	1.466510	1.466520	72.1	1.65E-07	4.59E-06	3.66E-06
72.2	1.470864	1.46674	1.46676	1.470863	1.466740	1.466760	72.2	7.58E-07	4.60E-07	3.07E-06
72.3	1.471112	1.46697	1.46699	1.471111	1.466970	1.466990	72.3	5.24E-07	3.82E-06	3.30E-07
72.4	1.471359	1.46721	1.46722	1.471359	1.467210	1.467220	72.4	4.63E-07	1.76E-06	3.85E-06
72.5	1.471608	1.46744	1.46746	1.471607	1.467440	1.467460	72.5	5.75E-07	2.82E-06	2.51E-06

72.6	1.471856	1.46768	1.46769	1.471855	1.467680	1.467690	72.6	8.60E-07	2.46E-06	1.26E-06
72.7	1.472104	1.46791	1.46793	1.472104	1.467910	1.467930	72.7	3.18E-07	2.40E-06	4.86E-06
72.8	1.472353	1.46815	1.46816	1.472352	1.468150	1.468160	72.8	9.49E-07	2.58E-06	8.48E-07
72.9	1.472602	1.46838	1.46839	1.472601	1.468380	1.468390	72.9	7.53E-07	2.58E-06	3.28E-06
73	1.472851	1.46862	1.46863	1.472850	1.468620	1.468630	73	7.31E-07	2.11E-06	2.47E-06
73.1	1.473100	1.46885	1.46886	1.473099	1.468850	1.468860	73.1	8.81E-07	3.34E-06	1.90E-06
73.2	1.473349	1.46909	1.46910	1.473349	1.469090	1.469100	73.2	2.05E-07	1.06E-06	3.60E-06
73.3	1.473599	1.46932	1.46933	1.473598	1.469320	1.469330	73.3	7.01E-07	4.69E-06	1.01E-06
73.4	1.473848	1.46956	1.46957	1.473848	1.469560	1.469570	73.4	3.71E-07	5.87E-07	4.25E-06
73.5	1.474098	1.46980	1.46980	1.474098	1.469800	1.469800	73.5	2.14E-07	3.37E-06	6.00E-07
73.6	1.474348	1.47003	1.47004	1.474348	1.470030	1.470040	73.6	2.30E-07	2.82E-06	4.43E-06
73.7	1.474598	1.47027	1.47027	1.474598	1.470270	1.470270	73.7	4.19E-07	8.42E-07	6.69E-07
73.8	1.474849	1.47051	1.47051	1.474848	1.470510	1.470510	73.8	7.81E-07	4.36E-06	4.12E-06
73.9	1.475099	1.47074	1.47074	1.475099	1.470740	1.470740	73.9	3.17E-07	2.27E-06	1.22E-06
74	1.475350	1.47098	1.47098	1.475349	1.470980	1.470980	74	1.02E-06	9.48E-07	3.33E-06
74.1	1.475601	1.47122	1.47121	1.475600	1.471220	1.471210	74.1	9.06E-07	4.02E-06	2.24E-06
74.2	1.475852	1.47145	1.47145	1.475851	1.471450	1.471450	74.2	9.61E-07	3.05E-06	2.07E-06
74.3	1.476103	1.47169	1.47168	1.476103	1.471690	1.471680	74.3	1.88E-07	2.70E-07	3.74E-06
74.4	1.476355	1.47193	1.47192	1.476354	1.471930	1.471920	74.4	5.89E-07	2.36E-06	3.32E-07
74.5	1.476606	1.47217	1.47216	1.476606	1.472170	1.472160	74.5	1.63E-07	4.85E-06	4.29E-06
74.6	1.476858	1.47240	1.47239	1.476857	1.472400	1.472390	74.6	9.10E-07	2.81E-06	1.88E-06
74.7	1.477110	1.47264	1.47263	1.477109	1.472640	1.472630	74.7	8.30E-07	6.21E-07	1.84E-06
74.8	1.477362	1.47288	1.47286	1.477361	1.472880	1.472860	74.8	9.22E-07	1.42E-06	4.56E-06
74.9	1.477614	1.47312	1.47310	1.477614	1.473120	1.473100	74.9	1.88E-07	3.32E-06	1.07E-06
75	1.477867	1.47335	1.47334	1.477866	1.473350	1.473340	75	6.28E-07	4.93E-06	2.29E-06
75.1	1.478119	1.47359	1.47357	1.478119	1.473590	1.473570	75.1	2.40E-07	3.33E-06	4.46E-06
75.2	1.478372	1.47383	1.47381	1.478371	1.473830	1.473810	75.2	1.02E-06	1.87E-06	1.32E-06
75.3	1.478625	1.47407	1.47405	1.478624	1.474070	1.474050	75.3	9.83E-07	5.61E-07	1.70E-06

75.4	1.478878	1.47431	1.47429	1.478877	1.474310	1.474290	75.4	1.11E-06	6.00E-07	4.60E-06
75.5	1.479131	1.47455	1.47452	1.479131	1.474550	1.474520	75.5	4.18E-07	1.61E-06	2.62E-06
75.6	1.479385	1.47479	1.47476	1.479384	1.474790	1.474760	75.6	8.95E-07	2.48E-06	5.15E-08
75.7	1.479639	1.47503	1.47500	1.479638	1.475030	1.475000	75.7	5.45E-07	3.20E-06	2.61E-06
75.8	1.479892	1.47527	1.47523	1.479892	1.475270	1.475230	75.8	3.68E-07	3.78E-06	4.96E-06
75.9	1.480146	1.47551	1.47547	1.480146	1.475510	1.475470	75.9	3.64E-07	4.20E-06	2.63E-06
76	1.480401	1.47575	1.47571	1.480400	1.475750	1.475710	76	5.33E-07	4.48E-06	4.21E-07
76.1	1.480655	1.47599	1.47595	1.480654	1.475990	1.475950	76.1	8.75E-07	4.61E-06	1.67E-06
76.2	1.480909	1.47623	1.47619	1.480909	1.476230	1.476190	76.2	3.90E-07	4.60E-06	3.65E-06
76.3	1.481164	1.47647	1.47642	1.481163	1.476470	1.476420	76.3	1.08E-06	4.43E-06	4.48E-06
76.4	1.481419	1.47671	1.47666	1.481418	1.476710	1.476660	76.4	9.38E-07	4.12E-06	2.73E-06
76.5	1.481674	1.47695	1.47690	1.481673	1.476950	1.476900	76.5	9.72E-07	3.67E-06	1.09E-06
76.6	1.481929	1.47719	1.47714	1.481929	1.477190	1.477140	76.6	1.78E-07	3.06E-06	4.41E-07
76.7	1.482185	1.47743	1.47738	1.482184	1.477430	1.477380	76.7	5.57E-07	2.31E-06	1.85E-06
76.8	1.482440	1.47767	1.47762	1.482439	1.477670	1.477620	76.8	1.11E-06	1.41E-06	3.16E-06
76.9	1.482696	1.47791	1.47786	1.482695	1.477910	1.477860	76.9	8.34E-07	3.65E-07	4.34E-06
77	1.482952	1.47815	1.47809	1.482951	1.478150	1.478090	77	7.32E-07	8.28E-07	4.58E-06
77.1	1.483208	1.47839	1.47833	1.483207	1.478390	1.478330	77.1	8.02E-07	2.17E-06	3.62E-06
77.2	1.483464	1.47863	1.47857	1.483463	1.478630	1.478570	77.2	1.05E-06	3.66E-06	2.76E-06
77.3	1.483720	1.47888	1.47881	1.483720	1.478880	1.478810	77.3	4.61E-07	4.71E-06	2.02E-06
77.4	1.483977	1.47912	1.47905	1.483976	1.479120	1.479050	77.4	1.05E-06	2.93E-06	1.39E-06
77.5	1.484234	1.47936	1.47929	1.484233	1.479360	1.479290	77.5	8.11E-07	1.00E-06	8.73E-07
77.6	1.484491	1.47960	1.47953	1.484490	1.479600	1.479530	77.6	7.45E-07	1.08E-06	4.65E-07
77.7	1.484748	1.47984	1.47977	1.484747	1.479840	1.479770	77.7	8.52E-07	3.30E-06	1.68E-07
77.8	1.485005	1.48009	1.48001	1.485005	1.480090	1.480010	77.8	1.31E-07	4.33E-06	2.00E-08
77.9	1.485263	1.48033	1.48025	1.485262	1.480330	1.480250	77.9	5.83E-07	1.81E-06	9.77E-08
78	1.485520	1.48057	1.48049	1.485520	1.480570	1.480490	78	2.07E-07	8.50E-07	6.58E-08
78.1	1.485778	1.48081	1.48073	1.485777	1.480810	1.480730	78.1	1.00E-06	3.66E-06	7.55E-08

78.2	1.486036	1.48106	1.48097	1.486035	1.481060	1.480970	78.2	9.74E-07	3.38E-06	3.26E-07
78.3	1.486294	1.48130	1.48121	1.486293	1.481300	1.481210	78.3	1.12E-06	2.74E-07	6.85E-07
78.4	1.486552	1.48154	1.48145	1.486552	1.481540	1.481450	78.4	4.30E-07	2.98E-06	1.15E-06
78.5	1.486811	1.48179	1.48169	1.486810	1.481790	1.481690	78.5	9.17E-07	3.62E-06	1.73E-06
78.6	1.487070	1.48203	1.48193	1.487069	1.482030	1.481930	78.6	5.76E-07	7.55E-08	2.41E-06
78.7	1.487328	1.48227	1.48217	1.487328	1.482270	1.482170	78.7	4.08E-07	3.62E-06	3.20E-06
78.8	1.487587	1.48252	1.48241	1.487587	1.482520	1.482410	78.8	4.12E-07	2.54E-06	4.10E-06
78.9	1.487847	1.48276	1.48266	1.487846	1.482760	1.482660	78.9	5.89E-07	1.45E-06	4.89E-06
79	1.488106	1.48301	1.48290	1.488105	1.483010	1.482900	79	9.38E-07	4.42E-06	3.78E-06
79.1	1.488365	1.48325	1.48314	1.488365	1.483250	1.483140	79.1	4.59E-07	1.36E-07	2.56E-06
79.2	1.488625	1.48349	1.48338	1.488625	1.483490	1.483380	79.2	1.52E-07	4.29E-06	1.23E-06
79.3	1.488885	1.48374	1.48362	1.488884	1.483740	1.483620	79.3	1.02E-06	1.13E-06	2.03E-07
79.4	1.489145	1.48398	1.48386	1.489144	1.483980	1.483860	79.4	1.06E-06	3.59E-06	1.74E-06
79.5	1.489405	1.48423	1.48410	1.489405	1.484230	1.484100	79.5	2.66E-07	1.54E-06	3.38E-06
79.6	1.489666	1.48447	1.48435	1.489665	1.484470	1.484350	79.6	6.48E-07	3.48E-06	4.87E-06
79.7	1.489926	1.48472	1.48459	1.489926	1.484720	1.484590	79.7	2.02E-07	1.36E-06	3.01E-06
79.8	1.490187	1.48496	1.48483	1.490186	1.484960	1.484830	79.8	9.28E-07	3.95E-06	1.05E-06
79.9	1.490448	1.48521	1.48507	1.490447	1.48521	1.48507	79.9	8.27E-07	5.89E-07	1.01E-06
80	1.490709	1.48546	1.48531	1.490708	1.48546	1.48531	80	8.97E-07	4.98E-06	3.18E-06
80.1	1.490970	1.4857	1.4856	1.490970	1.4857	1.4856	80.1	1.39E-07	7.67E-07	4.46E-05
80.2	1.491232	1.4859	1.4858	1.491231	1.4859	1.4858	80.2	5.53E-07	4.67E-05	2.18E-06
80.3	1.491493	1.4862	1.4860	1.491493	1.4862	1.4860	80.3	1.40E-07	7.29E-06	4.03E-05
80.4	1.491755	1.4864	1.4863	1.491754	1.4864	1.4863	80.4	8.98E-07	3.89E-05	1.71E-05
80.5	1.492017	1.4867	1.4865	1.492016	1.4867	1.4865	80.5	8.27E-07	1.48E-05	2.56E-05
80.6	1.492279	1.4869	1.4868	1.492278	1.4869	1.4868	80.6	9.29E-07	3.17E-05	3.17E-05
80.7	1.492541	1.4872	1.4870	1.492541	1.4872	1.4870	80.7	2.02E-07	2.16E-05	1.12E-05
80.8	1.492804	1.4874	1.4873	1.492803	1.4874	1.4873	80.8	6.47E-07	2.51E-05	4.58E-05
80.9	1.493066	1.4877	1.4875	1.493066	1.4877	1.4875	80.9	2.64E-07	2.79E-05	2.69E-06

81	1.493329	1.4879	1.4877	1.493328	1.4879	1.4877	81	1.05E-06	1.91E-05	4.05E-05
81.1	1.493592	1.4882	1.4880	1.493591	1.4882	1.4880	81.1	1.01E-06	3.36E-05	1.62E-05
81.2	1.493855	1.4884	1.4882	1.493855	1.4884	1.4882	81.2	1.44E-07	1.37E-05	2.72E-05
81.3	1.494118	1.4887	1.4885	1.494118	1.4887	1.4885	81.3	4.47E-07	3.88E-05	2.93E-05
81.4	1.494382	1.4889	1.4887	1.494381	1.4889	1.4887	81.4	9.21E-07	8.90E-06	1.43E-05
81.5	1.494646	1.4892	1.4890	1.494645	1.4892	1.4890	81.5	5.67E-07	4.33E-05	4.20E-05
81.6	1.494909	1.4894	1.4892	1.494909	1.4894	1.4892	81.6	3.84E-07	4.66E-06	1.75E-06
81.7	1.495173	1.4897	1.4894	1.495173	1.4897	1.4894	81.7	3.73E-07	4.72E-05	4.56E-05
81.8	1.495438	1.4899	1.4897	1.495437	1.4899	1.4897	81.8	5.32E-07	1.01E-06	1.04E-05
81.9	1.495702	1.4901	1.4899	1.495701	1.4901	1.4899	81.9	8.63E-07	4.94E-05	3.37E-05
82	1.495966	1.4904	1.4902	1.495966	1.4904	1.4902	82	3.66E-07	2.06E-06	2.21E-05
82.1	1.496231	1.4906	1.4904	1.496230	1.4906	1.4904	82.1	1.04E-06	4.66E-05	2.22E-05
82.2	1.496496	1.4909	1.4907	1.496495	1.4909	1.4907	82.2	8.84E-07	4.54E-06	3.34E-05
82.3	1.496761	1.4911	1.4909	1.496760	1.4911	1.4909	82.3	8.99E-07	4.44E-05	1.10E-05
82.4	1.497026	1.4914	1.4912	1.497025	1.4914	1.4912	82.4	1.09E-06	6.43E-06	4.44E-05
82.5	1.497291	1.4916	1.4914	1.497291	1.4916	1.4914	82.5	4.43E-07	4.28E-05	2.84E-07
82.6	1.497557	1.4919	1.4916	1.497556	1.4919	1.4916	82.6	9.71E-07	7.74E-06	4.50E-05
82.7	1.497823	1.4921	1.4919	1.497822	1.4921	1.4919	82.7	6.71E-07	4.18E-05	1.01E-05
82.8	1.498089	1.4924	1.4921	1.498088	1.4924	1.4921	82.8	5.41E-07	8.46E-06	3.49E-05
82.9	1.498355	1.4926	1.4924	1.498354	1.4926	1.4924	82.9	5.82E-07	4.14E-05	2.01E-05
83	1.498621	1.4929	1.4926	1.498620	1.4929	1.4926	83	7.93E-07	8.60E-06	2.51E-05
83.1	1.498887	1.4931	1.4929	1.498887	1.4931	1.4929	83.1	1.75E-07	4.16E-05	2.97E-05
83.2	1.499154	1.4934	1.4931	1.499153	1.4934	1.4931	83.2	7.28E-07	8.15E-06	1.56E-05
83.3	1.499420	1.4936	1.4934	1.499420	1.4936	1.4934	83.3	4.51E-07	4.23E-05	3.89E-05
83.4	1.499687	1.4939	1.4936	1.499687	1.4939	1.4936	83.4	3.45E-07	7.11E-06	6.59E-06
83.5	1.499954	1.4941	1.4939	1.499954	1.4941	1.4939	83.5	4.09E-07	4.36E-05	4.78E-05
83.6	1.500222	1.4944	1.4941	1.500221	1.4944	1.4941	83.6	6.44E-07	5.49E-06	2.09E-06
83.7	1.500489	1.4946	1.4943	1.500488	1.4946	1.4943	83.7	1.05E-06	4.55E-05	4.37E-05

83.8	1.500757	1.4949	1.4946	1.500756	1.4949	1.4946	83.8	6.24E-07	3.29E-06	1.04E-05
83.9	1.501024	1.4951	1.4948	1.501024	1.4951	1.4948	83.9	3.69E-07	4.80E-05	3.56E-05
84	1.501292	1.4954	1.4951	1.501292	1.4954	1.4951	84	2.85E-07	4.97E-07	1.83E-05
84.1	1.501560	1.4957	1.4953	1.501560	1.4957	1.4953	84.1	3.70E-07	4.89E-05	2.78E-05
84.2	1.501829	1.4959	1.4956	1.501828	1.4959	1.4956	84.2	6.26E-07	2.88E-06	2.59E-05
84.3	1.502097	1.4962	1.4958	1.502096	1.4962	1.4958	84.3	1.05E-06	4.52E-05	2.04E-05
84.4	1.502366	1.4964	1.4961	1.502365	1.4964	1.4961	84.4	6.47E-07	6.84E-06	3.31E-05
84.5	1.502634	1.4967	1.4963	1.502634	1.4967	1.4963	84.5	4.12E-07	4.10E-05	1.34E-05
84.6	1.502903	1.4969	1.4966	1.502903	1.4969	1.4966	84.6	3.47E-07	1.14E-05	4.00E-05
84.7	1.503172	1.4972	1.4968	1.503172	1.4972	1.4968	84.7	4.52E-07	3.61E-05	6.70E-06
84.8	1.503442	1.4974	1.4971	1.503441	1.4974	1.4971	84.8	7.26E-07	1.65E-05	4.65E-05
84.9	1.503711	1.4977	1.4973	1.503711	1.4977	1.4973	84.9	1.70E-07	3.07E-05	3.67E-07
85	1.503981	1.4979	1.4975	1.503980	1.4979	1.4975	85	7.84E-07	2.22E-05	4.73E-05
