

Table D1. Continued

Ground Slant range	Dose	Neutron dose	Secondary gamma dose	Primary gamma dose	Total gamma dose	Reaction	<sup>40</sup> Ca(n,γ)		<sup>56</sup> Co(n,γ)		<sup>65</sup> Cu(n,p)		<sup>151</sup> Eu-to>gnd		<sup>153</sup> Eu(n,γ)		<sup>65</sup> Ni(n,γ)		<sup>32</sup> S(n,p)		<sup>39</sup> K(n,α)		
							Abundance	MW	Half-life	Time units	Branching ratio	Detector height	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)	Units in atoms (unless otherwise indicated)
850	1028	6.40E-1	2.80E+0	4.76E+0	7.56E+0	0.00E+0	2.53E-12	1.42E-1	1.70E+5	1.31E+0	2.59E-1	4.13E+08	1.99E+2	6.02E+16	0.03634	0.9502	0.93258						
875	1049	5.40E-1	2.52E+0	4.27E+0	6.78E+0	0.00E+0	2.06E-12	1.16E-1	6.69E+5	1.07E+0	2.11E-1	3.37E+08	1.74E+2	5.36E+16	58.71	32.064	39.102						
900	1070	4.55E-1	2.26E+0	3.83E+0	6.09E+0	0.00E+0	1.68E-12	9.48E-2	5.82E+5	8.73E-1	1.72E-1	2.75E+08	1.52E+2	4.76E+16	100.1	14.262	301000						
925	1091	3.84E-1	2.04E+0	3.40E+0	5.46E+0	0.00E+0	1.37E-12	7.74E-2	5.06E+5	7.11E-1	1.40E-1	2.24E+08	1.33E+2	4.22E+16	100.1	14.262	301000						
950	1113	3.23E-1	1.84E+0	3.04E+0	4.88E+0	0.00E+0	1.12E-12	6.32E-2	4.39E+5	5.81E-1	1.15E-1	1.83E+08	1.18E+2	3.73E+16	100.1	14.262	301000						
975	1134	2.73E-1	1.66E+0	2.73E+0	4.39E+0	0.00E+0	9.13E-13	5.17E-2	3.81E+5	4.74E-1	9.37E-2	1.49E+08	1.01E+2	3.29E+16	100.1	14.262	301000						
1000	1156	2.30E-1	1.50E+0	2.44E+0	3.94E+0	0.00E+0	7.47E-13	4.22E-2	3.30E+5	3.88E-1	7.66E-2	1.22E+08	8.89E+1	2.89E+16	100.1	14.262	301000						
1025	1177	1.94E-1	1.35E+0	2.19E+0	3.54E+0	0.00E+0	6.11E-13	3.46E-2	2.88E+5	3.17E-1	6.26E-2	9.98E+07	7.76E+1	2.65E+16	100.1	14.262	301000						
1050	1199	1.64E-1	1.22E+0	1.95E+0	3.17E+0	0.00E+0	5.00E-13	2.83E-2	2.49E+5	2.59E-1	5.12E-2	8.16E+07	6.77E+1	2.24E+16	100.1	14.262	301000						
1075	1221	1.39E-1	1.11E+0	1.75E+0	2.86E+0	0.00E+0	4.10E-13	2.32E-2	2.16E+5	2.13E-1	4.20E-2	6.69E+07	5.91E+1	1.97E+16	100.1	14.262	301000						
1100	1243	1.17E-1	1.00E+0	1.56E+0	2.56E+0	0.00E+0	3.36E-13	1.91E-2	1.88E+5	1.74E-1	3.44E-2	5.49E+07	5.14E+1	1.73E+16	100.1	14.262	301000						
1125	1265	9.90E-2	9.07E-1	1.40E+0	2.30E+0	0.00E+0	2.76E-13	1.57E-2	1.63E+5	1.43E-1	2.83E-2	4.51E+07	4.49E+1	1.51E+16	100.1	14.262	301000						
1150	1288	8.36E-2	8.22E-1	1.25E+0	2.07E+0	0.00E+0	2.27E-13	1.29E-2	1.41E+5	1.18E-1	2.33E-2	3.71E+07	3.91E+1	1.33E+16	100.1	14.262	301000						
1175	1310	7.08E-2	7.46E-1	1.11E+0	1.86E+0	0.00E+0	1.87E-13	1.06E-2	1.22E+5	9.68E-2	1.92E-2	3.05E+07	3.41E+1	1.16E+16	100.1	14.262	301000						
1200	1332	5.99E-2	6.77E-1	9.99E-1	1.68E+0	0.00E+0	1.54E-13	8.75E-3	1.06E+5	7.98E-2	1.58E-2	2.51E+07	2.97E+1	1.02E+16	100.1	14.262	301000						
1225	1355	5.07E-2	6.14E-1	8.93E-1	1.51E+0	0.00E+0	1.27E-13	7.23E-3	9.19E+4	6.59E-2	1.30E-2	2.08E+07	2.58E+1	8.94E+15	100.1	14.262	301000						
1250	1378	4.29E-2	5.58E-1	7.98E-1	1.36E+0	0.00E+0	1.05E-13	5.97E-3	7.97E+4	5.43E-2	1.08E-2	1.71E+07	2.28E+1	7.87E+17	100.1	14.262	301000						
1275	1400	3.64E-2	5.07E-1	7.14E-1	1.22E+0	0.00E+0	8.68E-14	4.95E-3	6.91E+4	4.50E-2	8.90E-3	1.42E+07	1.97E+1	6.89E+17	100.1	14.262	301000						
1300	1423	3.09E-2	4.61E-1	6.45E-1	1.11E+0	0.00E+0	7.18E-14	4.09E-3	6.00E+4	3.72E-2	7.36E-3	1.17E+07	1.71E+1	6.03E+17	100.1	14.262	301000						
1325	1446	2.62E-2	4.19E-1	5.74E-1	9.93E-1	0.00E+0	5.95E-14	3.39E-3	5.20E+4	3.08E-2	6.10E-3	9.72E+06	1.50E+1	5.28E+17	100.1	14.262	301000						
1350	1469	2.23E-2	3.82E-1	5.18E-1	9.00E-1	0.00E+0	4.93E-14	2.81E-3	4.54E+4	2.56E-2	5.06E-3	8.06E+06	1.31E+1	4.61E+17	100.1	14.262	301000						
1375	1492	1.90E-2	3.47E-1	4.65E-1	8.12E-1	0.00E+0	4.10E-14	2.34E-3	3.94E+4	2.12E-2	4.20E-3	6.70E+06	1.14E+1	4.03E+17	100.1	14.262	301000						
1400	1515	1.61E-2	3.16E-1	4.14E-1	7.30E-1	0.00E+0	3.40E-14	1.94E-3	3.42E+4	1.76E-2	3.48E-3	5.55E+06	9.96E+0	3.53E+17	100.1	14.262	301000						
1425	1538	1.37E-2	2.88E-1	3.76E-1	6.63E-1	0.00E+0	2.84E-14	1.62E-3	2.96E+4	1.47E-2	2.90E-3	4.63E+06	8.68E+0	3.08E+17	100.1	14.262	301000						
1450	1561	1.17E-2	2.62E-1	3.36E-1	5.98E-1	0.00E+0	2.36E-14	1.35E-3	2.57E+4	1.22E-2	2.41E-3	3.85E+06	7.56E+0	2.69E+17	100.1	14.262	301000						
1475	1585	9.95E-3	2.39E-1	3.02E-1	5.41E-1	0.00E+0	1.97E-14	1.12E-3	2.23E+4	1.02E-2	2.01E-3	3.21E+06	6.59E+0	2.35E+17	100.1	14.262	301000						
1500	1608	8.47E-3	2.18E-1	2.70E-1	4.88E-1	0.00E+0	1.64E-14	9.36E-4	1.94E+4	8.48E-3	1.68E-3	2.68E+06	5.74E+0	2.06E+17	100.1	14.262	301000						
1525	1631	7.23E-3	1.98E-1	2.45E-1	4.43E-1	0.00E+0	1.37E-14	7.84E-4	1.68E+4	7.10E-3	1.40E-3	2.24E+06	5.01E+0	1.80E+17	100.1	14.262	301000						
1550	1655	6.17E-3	1.81E-1	2.20E-1	4.01E-1	0.00E+0	1.15E-14	6.55E-4	1.46E+4	5.93E-3	1.17E-3	1.87E+06	4.37E+0	1.57E+17	100.1	14.262	301000						
1575	1678	5.27E-3	1.65E-1	1.97E-1	3.62E-1	0.00E+0	9.60E-15	5.49E-4	1.27E+4	4.97E-3	9.81E-4	1.57E+06	3.81E+0	1.39E+17	100.1	14.262	301000						
1600	1702	4.51E-3	1.51E-1	1.78E-1	3.29E-1	0.00E+0	8.04E-15	4.59E-4	1.11E+4	4.16E-3	8.22E-4	1.31E+06	3.32E+0	1.21E+17	100.1	14.262	301000						
1625	1725	3.86E-3	1.37E-1	1.60E-1	2.98E-1	0.00E+0	6.75E-15	3.96E-4	9.61E+3	3.49E-3	6.89E-4	1.10E+06	2.89E+0	1.06E+17	100.1	14.262	301000						
1650	1749	3.30E-3	1.26E-1	1.44E-1	2.70E-1	0.00E+0	5.66E-15	3.23E-4	8.35E+3	2.93E-3	5.78E-4	9.24E+05	2.52E+0	9.24E+18	100.1	14.262	301000						
1675	1772	2.83E-3	1.15E-1	1.30E-1	2.45E-1	0.00E+0	4.76E-15	2.72E-4	7.26E+3	2.46E-3	4.86E-4	7.77E+05	2.20E+0	8.07E+18	100.1	14.262	301000						



Table D2. DS02 Hiroshima total doses and activations for 600-m HOB above standard ground at 16-kt yield

Ground range	Slant range	Dose		Neutron dose		Secondary gamma dose		Primary gamma dose		Total gamma dose		Reaction		<sup>40</sup> Ca(n,γ)		<sup>35</sup> Cl(n,γ)		<sup>59</sup> Co(n,γ)		<sup>63</sup> Cu(n,p)		<sup>151</sup> Eu→sgnd		<sup>152</sup> Eu(n,γ)		<sup>65</sup> Ni(n,γ)		<sup>32</sup> S(n,p)		<sup>39</sup> K(n,α)	
		meter	meter	Units	gray	gray	gray	gray	gray	gray	gray	gray	Units in atoms (unless otherwise indicated)	<sup>41</sup> Ca/γ Ca	<sup>36</sup> Cl/Cl	Bq/mg Co	Bq/mg Cu	Bq/mg Eu	Bq/mg Eu	Bq/mg Ni	Bq/mg Ni	Bq/mg S	dpm/γ S	years	years	years	years	years	years	days	years
0	599		3.45E+1	4.61E+1	7.44E+1	1.20E+2	4.88E+10	2.54E+10	1.47E+11	1.14E+7	1.31E+2	2.01E+11	4.14E+10	2.38E+3	1.92E-15																
25	600		3.46E+1	4.63E+1	7.53E+1	1.22E+2	4.86E+10	2.53E+10	1.46E+11	1.18E+7	1.30E+2	2.00E+11	4.12E+10	2.47E+3	1.88E-15																
50	601		3.42E+1	4.58E+1	7.47E+1	1.20E+2	4.78E+10	2.48E+10	1.44E+11	1.17E+7	1.28E+2	1.96E+11	4.05E+10	2.45E+3	1.89E-15																
75	604		3.30E+1	4.44E+1	7.36E+1	1.18E+2	4.60E+10	2.39E+10	1.38E+11	1.17E+7	1.23E+2	1.89E+11	3.90E+10	2.47E+3	1.91E-15																
100	607		3.20E+1	4.32E+1	7.17E+1	1.15E+2	4.45E+10	2.31E+10	1.34E+11	1.14E+7	1.19E+2	1.83E+11	3.78E+10	2.42E+3	1.92E-15																
125	612		3.06E+1	4.16E+1	6.94E+1	1.11E+2	4.23E+10	2.20E+10	1.27E+11	1.11E+7	1.13E+2	1.74E+11	3.59E+10	2.36E+3	2.01E-15																
150	617		2.89E+1	3.96E+1	6.67E+1	1.06E+2	3.98E+10	2.07E+10	1.20E+11	1.08E+7	1.07E+2	1.63E+11	3.38E+10	2.26E+3	1.96E-15																
175	624		2.71E+1	3.76E+1	6.36E+1	1.01E+2	3.71E+10	1.93E+10	1.11E+11	1.02E+7	9.93E+1	1.52E+11	3.15E+10	2.17E+3	1.97E-15																
200	632		2.51E+1	3.53E+1	6.02E+1	9.58E+1	3.43E+10	1.78E+10	1.03E+11	9.49E+6	9.17E+1	1.40E+11	2.91E+10	2.04E+3	1.94E-15																
225	640		2.30E+1	3.31E+1	5.69E+1	8.98E+1	3.14E+10	1.63E+10	9.40E+10	8.72E+6	8.39E+1	1.28E+11	2.66E+10	1.86E+3	2.00E-15																
250	649		2.10E+1	3.08E+1	5.33E+1	8.40E+1	2.84E+10	1.48E+10	8.52E+10	7.97E+6	7.60E+1	1.16E+11	2.41E+10	1.71E+3	1.99E-15																
275	659		1.92E+1	2.85E+1	5.00E+1	7.86E+1	2.56E+10	1.33E+10	7.66E+10	7.49E+6	6.83E+1	1.05E+11	2.17E+10	1.60E+3	2.01E-15																
300	670		1.75E+1	2.63E+1	4.67E+1	7.30E+1	2.28E+10	1.19E+10	6.84E+10	7.12E+6	6.10E+1	9.32E+10	1.93E+10	1.56E+3	2.03E-15																
325	681		1.58E+1	2.41E+1	4.36E+1	6.78E+1	2.02E+10	1.05E+10	6.06E+10	6.78E+6	5.40E+1	8.25E+10	1.71E+10	1.49E+3	1.99E-15																
350	694		1.42E+1	2.20E+1	4.04E+1	6.24E+1	1.77E+10	9.23E+11	5.32E+10	6.28E+6	4.74E+1	7.24E+10	1.51E+10	1.39E+3	1.95E-15																
375	707		1.26E+1	2.01E+1	3.74E+1	5.74E+1	1.55E+10	8.05E+11	4.65E+10	5.77E+6	4.14E+1	6.32E+10	1.31E+10	1.28E+3	1.87E-15																
400	720		1.11E+1	1.82E+1	3.44E+1	5.27E+1	1.34E+10	6.98E+11	4.02E+10	5.27E+6	3.59E+1	5.47E+10	1.14E+10	1.19E+3	1.81E-15																
425	734		9.85E+0	1.65E+1	3.14E+1	4.79E+1	1.16E+10	6.01E+11	3.47E+10	4.86E+6	3.09E+1	4.72E+10	9.81E+09	1.10E+3	1.70E-15																
450	749		8.58E+0	1.49E+1	2.88E+1	4.36E+1	9.92E+09	5.16E+11	2.97E+10	4.42E+6	2.65E+1	4.04E+10	8.41E+09	1.01E+3	1.56E-15																
475	764		7.51E+0	1.34E+1	2.62E+1	3.96E+1	8.46E+09	4.40E+11	2.54E+10	3.97E+6	2.26E+1	3.45E+10	7.18E+09	9.05E+2	1.42E-15																
500	780		6.48E+0	1.21E+1	2.36E+1	3.57E+1	7.19E+09	3.74E+11	2.16E+10	3.59E+6	1.92E+1	2.93E+10	6.10E+09	8.23E+2	1.33E-15																
525	797		5.63E+0	1.09E+1	2.13E+1	3.21E+1	6.08E+09	3.16E+11	1.83E+10	3.17E+6	1.62E+1	2.48E+10	4.35E+09	7.36E+2	1.31E-15																
550	813		4.87E+0	9.74E+0	1.93E+1	2.91E+1	5.13E+09	2.66E+11	1.54E+10	2.83E+6	1.37E+1	2.09E+10	4.35E+09	6.54E+2	1.26E-15																
575	830		4.21E+0	8.75E+0	1.74E+1	2.62E+1	4.31E+09	2.24E+11	1.30E+10	2.53E+6	1.15E+1	1.76E+10	3.66E+09	5.91E+2	1.18E-15																
600	848		3.61E+0	7.81E+0	1.58E+1	2.36E+1	3.62E+09	1.88E+11	1.09E+10	2.28E+6	9.64E+0	1.47E+10	3.06E+09	5.44E+2	1.10E-15																
625	866		3.15E+0	7.04E+0	1.43E+1	2.13E+1	3.02E+09	1.57E+11	9.09E+09	2.04E+6	8.06E+0	1.23E+10	2.56E+09	4.72E+2	1.02E-15																
650	884		2.69E+0	6.31E+0	1.29E+1	1.92E+1	2.52E+09	1.31E+11	7.59E+09	1.82E+6	6.73E+0	1.03E+10	2.14E+09	4.39E+2	9.54E-16																
675	902		2.28E+0	5.61E+0	1.15E+1	1.71E+1	2.10E+09	1.09E+11	6.33E+09	1.68E+6	5.60E+0	8.56E+09	1.78E+09	4.11E+2	8.81E-16																
700	921		1.95E+0	5.06E+0	1.04E+1	1.55E+1	1.74E+09	9.05E+12	5.25E+09	1.44E+6	4.64E+0	7.10E+09	1.48E+09	3.46E+2	7.96E-16																
725	940		1.67E+0	4.54E+0	9.34E+0	1.39E+1	1.44E+09	7.50E+12	4.35E+09	1.30E+6	3.85E+0	5.90E+09	1.22E+09	3.15E+2	7.26E-16																
750	960		1.40E+0	4.05E+0	8.36E+0	1.24E+1	1.20E+09	6.21E+12	3.61E+09	1.18E+6	3.19E+0	4.88E+09	1.01E+09	2.92E+2	6.48E-16																
775	980		1.22E+0	3.65E+0	7.50E+0	1.12E+1	9.90E+08	5.14E+12	2.99E+09	1.03E+6	2.64E+0	4.04E+09	8.39E+08	2.45E+2	5.81E-16																
800	999		9.96E-1	3.28E+0	6.73E+0	1.00E+1	8.17E+08	4.24E+12	2.46E+09	8.48E+5	2.17E+0	3.33E+09	6.92E+08	2.07E+2	5.32E-16																
825	1020		8.55E-1	2.95E+0	6.02E+0	8.97E+0	6.73E+08	3.49E+12	2.03E+09	7.34E+5	1.79E+0	2.75E+09	5.70E+08	1.83E+2	4.80E-16																

Radiation Transport Calculations for Hiroshima and Nagasaki

Table D2. Continued

Ground range meter	Slant range meter	Dose			Reaction	<sup>40</sup> Ca(n,γ)			<sup>59</sup> Co(n,γ)			<sup>63</sup> Cu(n,p)			<sup>151</sup> Eu+sgnd			<sup>152</sup> Eu(n,γ)			<sup>63</sup> Ni(n,γ)			<sup>92</sup> S(n,p)			<sup>36</sup> K(n,α)		
		Neutron dose gray	Secondary gamma dose gray	Primary gamma dose gray		Total gamma dose gray	Abundance	MW	Half-life years	Time units years	Branching ratio	Detector height	Units in atoms (unless otherwise indicated)	<sup>41</sup> Ca/g Ca	<sup>36</sup> Cl/Cl	<sup>65</sup> Ni/g Ni	<sup>63</sup> Ni/g Ni	<sup>92</sup> S(n,p)	<sup>36</sup> K(n,α)										
850	1040	7.13E-1	2.64E+0	5.37E+0	8.01E+0	0.96941	0.7577	1	0.6917	0.4782	0.5218	2.27E-1	1.48E+0	2.27E-1	4.70E+08	1.63E+2	4.25E-16												
875	1060	5.98E-1	2.38E+0	4.80E+0	7.18E+0	40.08	35.453	58.9332	63.54	151.96	151.96	1.87E-1	1.22E+0	1.87E-1	3.87E+08	1.45E+2	3.88E-16												
900	1081	5.17E-1	2.15E+0	4.32E+0	6.47E+0	80000	301000	5.2714	100.1	13.542	8.593	1.07E+0	1.01E+0	1.55E-1	3.20E+08	1.28E+2	3.73E-16												
925	1102	4.41E-1	1.93E+0	3.88E+0	5.81E+0							1.28E-1	8.29E-1	1.28E-1	2.64E+08	1.13E+2	3.20E-16												
960	1123	3.71E-1	1.75E+0	3.46E+0	5.21E+0							6.83E-1	6.83E-1	1.06E-1	2.18E+08	9.72E+1	2.89E-16												
975	1144	3.09E-1	1.57E+0	3.10E+0	4.67E+0							8.65E-2	5.62E-1	8.65E-2	1.79E+08	8.37E+1	2.64E-16												
1000	1166	2.60E-1	1.42E+0	2.80E+0	4.22E+0							4.62E-1	4.62E-1	7.11E-2	1.47E+08	7.23E+1	2.37E-16												
1025	1187	2.16E-1	1.28E+0	2.49E+0	3.78E+0							3.80E-1	2.42E+5	5.85E-2	1.21E+08	6.15E+1	1.94E-16												
1050	1209	1.82E-1	1.16E+0	2.24E+0	3.40E+0							3.13E-1	3.13E-1	4.81E-2	9.96E+07	5.48E+1	1.67E-16												
1075	1231	1.55E-1	1.05E+0	2.01E+0	3.06E+0							2.58E-1	2.58E-1	3.98E-2	8.22E+07	4.76E+1	1.53E-16												
1100	1253	1.29E-1	9.48E-1	1.80E+0	2.78E+0							1.85E+5	1.85E+5	3.28E-2	6.78E+07	4.13E+1	1.37E-16												
1125	1275	1.09E-1	8.62E-1	1.62E+0	2.48E+0							1.37E+5	1.37E+5	2.71E-2	5.60E+07	3.63E+1	1.22E-16												
1150	1297	9.33E-2	7.80E-1	1.47E+0	2.25E+0							1.45E-1	1.45E-1	2.24E-2	4.62E+07	3.20E+1	1.07E-16												
1175	1319	7.79E-2	7.10E-1	1.31E+0	2.02E+0							1.05E+5	1.05E+5	1.85E-2	3.82E+07	2.78E+1	9.26E-17												
1200	1341	6.66E-2	6.44E-1	1.16E+0	1.81E+0							9.10E+4	9.10E+4	1.53E-2	3.15E+07	2.42E+1	8.06E-17												
1225	1364	5.99E-2	5.89E-1	1.04E+0	1.63E+0							7.90E+4	7.90E+4	1.26E-2	2.61E+07	2.11E+1	6.89E-17												
1250	1386	4.74E-2	5.31E-1	9.25E-1	1.46E+0							8.19E-2	8.19E-2	1.05E-2	1.78E+07	1.82E+1	5.98E-17												
1275	1409	3.99E-2	4.83E-1	8.30E-1	1.31E+0							6.77E-2	6.77E-2	8.65E-3	1.68E+07	1.59E+1	5.22E-17												
1300	1431	3.37E-2	4.39E-1	7.47E-1	1.19E+0							5.09E+4	5.09E+4	7.16E-3	1.47E+07	1.36E+1	4.69E-17												
1325	1454	2.85E-2	3.99E-1	6.83E-1	1.08E+0							4.33E+4	4.33E+4	5.92E-3	1.22E+07	1.17E+1	4.04E-17												
1350	1477	2.40E-2	3.62E-1	6.14E-1	9.76E-1							3.76E+4	3.76E+4	4.90E-3	1.01E+07	1.03E+1	3.56E-17												
1375	1500	2.05E-2	3.30E-1	5.45E-1	8.75E-1							3.29E+4	3.29E+4	4.06E-3	8.37E+06	8.86E+0	3.14E-17												
1400	1523	1.71E-2	3.01E-1	4.88E-1	7.89E-1							2.63E-2	2.63E-2	3.37E-3	6.96E+06	7.75E+0	2.76E-17												
1425	1546	1.47E-2	2.74E-1	4.39E-1	7.13E-1							2.18E-2	2.18E-2	2.80E-3	5.78E+06	6.75E+0	2.38E-17												
1450	1569	1.24E-2	2.50E-1	3.93E-1	6.43E-1							1.81E-2	1.81E-2	2.80E-3	5.78E+06	6.75E+0	2.38E-17												
1475	1592	1.06E-2	2.28E-1	3.51E-1	5.79E-1							1.51E-2	1.51E-2	2.33E-3	4.81E+06	5.92E+0	2.10E-17												
1500	1615	9.04E-3	2.08E-1	3.18E-1	5.27E-1							1.26E-2	1.26E-2	1.94E-3	4.01E+06	5.13E+0	1.82E-17												
1525	1638	7.67E-3	1.90E-1	2.88E-1	4.78E-1							1.05E-2	1.05E-2	1.62E-3	3.33E+06	4.50E+0	1.57E-17												
1550	1662	6.53E-3	1.73E-1	2.61E-1	4.34E-1							8.77E-3	8.77E-3	1.35E-3	2.80E+06	3.90E+0	1.38E-17												
1575	1686	5.66E-3	1.56E-1	2.35E-1	3.93E-1							7.32E-3	7.32E-3	1.13E-3	2.33E+06	3.39E+0	1.16E-17												
1600	1708	4.72E-3	1.44E-1	2.08E-1	3.53E-1							6.12E-3	6.12E-3	9.43E-4	1.95E+06	2.96E+0	1.03E-17												
1625	1732	4.04E-3	1.28E-1	1.88E-1	3.20E-1							5.11E-3	5.11E-3	7.90E-4	1.68E+06	2.57E+0	8.99E-18												
1650	1755	3.41E-3	1.20E-1	1.70E-1	2.90E-1							4.28E-3	4.28E-3	6.59E-4	1.37E+06	2.22E+0	7.75E-18												
1675	1779	2.94E-3	1.10E-1	1.52E-1	2.62E-1							3.58E-3	3.58E-3	5.53E-4	1.14E+06	1.94E+0	6.90E-18												
												3.00E-3	3.00E-3	4.63E-4	9.58E+05	1.69E+0	5.94E-18												