

Results: 2 different decay possibilities were found

Dataset #1:

Author: F.G. Kondev Citation: Nuclear Data Sheets 101, 521 (2004)

Parent Nucleus	Parent E(level)	Parent J π	Parent T _{1/2}	Decay Mode	GS-GS Q-value (keV)	Daughter Nucleus	Decay Scheme	ENSDF file
²⁰⁹ ₈₅ At	0.0	9/2-	5.41 h 5	α	5757.1 20	²⁰⁵ ₈₃ Bi		

Alphas:

Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
5647 2	4.1 % 5	0.23 3

Dataset #2:

Author: J. Chen and F.G. Kondev Citation: Nuclear Data Sheets 126, 373 (2015)

Parent Nucleus	Parent E(level)	Parent J π	Parent T _{1/2}	Decay Mode	GS-GS Q-value (keV)	Daughter Nucleus	Decay Scheme	ENSDF file
²⁰⁹ ₈₅ At	0.0	9/2-	5.42 h 5	ϵ	3483 5	²⁰⁹ ₈₄ Po		

Beta+:

Energy (keV)	End-point energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
442.8 22	939 5	0.05 % 4	2.2E-4 18

Mean beta+ energy: 4.E+2 keV 5, total beta+ intensity: 0.05 % 4, mean beta+ dose: 0 MeV/Bq-s AP

Electrons:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
Auger L	8.33	88 % 4	0.0074 4
CE K	11.082 5	19 % 3	0.0021 3
CE K	19.99 10	0.078 % 16	1.6E-5 3
CE K	58.29 20	0.024 % 4	1.4E-5 3
Auger K	59.7	4.6 % 6	0.0027 3
CE L	73.86 10	14.6 % 15	0.0108 11
CE M	86.65 10	3.9 % 4	0.0034 3
CE L	87.248 10	3.4 % 5	0.0029 5
CE N	89.80 10	1.00 % 10	8.9E-4 9
CE O	90.71 10	0.189 % 19	1.72E-4 17

CE P	90.80 10	0.0169 % 17	1.53E-5 15
CE L	96.16 10	0.52 % 10	5.0E-4 10
CE M	100.038 5	0.80 % 12	8.0E-4 12
CE K	101.89 10	28 % 3	0.028 3
CE N	103.192 4	0.21 % 3	2.1E-4 3
CE O	104.092 3	0.043 % 7	4.5E-5 7
CE P	104.182 3	0.0056 % 9	5.8E-6 9
CE M	108.95 10	0.14 % 3	1.5E-4 3
CE N	112.10 10	0.036 % 7	4.0E-5 8
CE O	113.01 10	0.0068 % 14	7.7E-6 15
CE P	113.10 10	6.1E-4 % 12	6.9E-7 14
CE L	134.46 20	0.062 % 11	8.3E-5 15
CE K	140.49 10	0.76 % 14	0.00107 20
CE K	146.085 18	0.542 % 21	7.9E-4 3
CE M	147.25 20	0.016 % 3	2.4E-5 4
CE N	150.40 20	0.0042 % 8	6.3E-6 11
CE O	151.31 20	8.0E-4 % 14	1.21E-6 22
CE P	151.40 20	7.4E-5 % 13	1.11E-7 20
CE L	178.06 10	5.7 % 3	0.0101 5
CE M	190.85 10	1.35 % 7	0.00258 14
CE N	194.00 10	0.350 % 19	6.8E-4 4
CE O	194.91 10	0.072 % 4	1.40E-4 7
CE P	195.00 10	0.0089 % 5	1.74E-5 10
CE L	216.66 10	0.142 % 13	3.1E-4 3
CE L	222.251 21	0.096 % 4	2.14E-4 8
CE K	227.99 10	0.0137 % 6	3.13E-5 14
CE M	229.45 10	0.034 % 3	7.7E-5 7
CE N	232.60 10	0.0087 % 7	2.02E-5 17
CE O	233.51 10	0.00180 % 16	4.2E-6 4
CE P	233.60 10	2.3E-4 % 3	5.4E-7 6
CE M	235.041 18	0.0227 % 9	5.34E-5 21
CE N	238.195 18	0.00580 % 23	1.38E-5 5
CE O	239.095 18	0.00118 % 5	2.82E-6 11
CE P	239.185 18	1.40E-4 % 6	3.36E-7 13
CE K	295.69 10	0.089 % 12	2.6E-4 4
CE L	304.16 10	0.00237 % 11	7.2E-6 3
CE M	316.95 10	5.6E-4 % 3	1.76E-6 8
CE N	320.10 10	1.42E-4 % 7	4.54E-7 21
CE O	321.01 10	2.90E-5 % 13	9.3E-8 4
CE P	321.10 10	3.53E-6 % 16	1.13E-8 5
CE L	371.86 10	0.0162 % 15	6.0E-5 6
CE M	384.65 10	0.0038 % 4	1.47E-5 14

CE N	387.80 10	9.9E-4 % 9	3.8E-6 3
CE O	388.71 10	2.06E-4 % 19	8.0E-7 7
CE P	388.80 10	2.6E-5 % 3	1.01E-7 11
CE K	451.89 10	1.69 %	0.00764
CE K	457.89 10	0.089 % 4	4.09E-4 17
CE K	459.39 20	0.117 % 16	5.4E-4 7
CE K	461.49 20	0.0103 % 16	4.7E-5 8
CE K	503.10 10	0.023 % 23	1.1E-4 11
CE K	503.10 10	0.003 % 3	1.3E-5 14
CE L	528.06 10	0.523 %	0.00276
CE L	534.06 10	0.0273 % 11	1.46E-4 6
CE L	535.56 20	0.020 % 3	1.09E-4 14
CE K	537.20 10	0.0385 % 16	2.07E-4 9
CE L	537.66 20	0.0031 % 5	1.7E-5 3
CE M	540.85 10	0.1307 %	7.07E-4
CE N	544.00 10	0.0336 %	1.83E-4
CE O	544.91 10	0.00673 %	3.67E-5
CE P	545.00 10	7.50E-4 %	4.09E-6
CE M	546.85 10	0.0068 % 3	3.73E-5 15
CE M	548.35 20	0.0048 % 6	2.6E-5 3
CE N	550.00 10	0.00175 % 7	9.6E-6 4
CE M	550.45 20	7.8E-4 % 12	4.3E-6 7
CE O	550.91 10	3.52E-4 % 14	1.94E-6 8
CE P	551.00 10	3.92E-5 % 16	2.16E-7 9
CE N	551.50 20	0.00124 % 16	6.8E-6 9
CE O	552.41 20	2.6E-4 % 3	1.43E-6 18
CE P	552.50 20	3.3E-5 % 4	1.84E-7 24
CE N	553.60 20	2.0E-4 % 3	1.11E-6 18
CE O	554.51 20	4.0E-5 % 6	2.2E-7 4
CE P	554.60 20	4.5E-6 % 7	2.5E-8 4
CE K	572.99 10	0.026 % 3	1.47E-4 16
CE L	579.26 10	0.004 % 4	2.2E-5 22
CE L	579.26 10	4E-4 % 5	3E-6 3
CE M	592.05 10	1.1E-4 % 11	6E-7 7
CE M	592.05 10	9E-4 % 9	5E-6 5
CE N	595.20 10	3E-5 % 3	1.6E-7 17
CE N	595.20 10	2.3E-4 % 23	1.4E-6 14
CE O	596.11 10	5E-5 % 5	3E-7 3
CE O	596.11 10	6E-6 % 6	3E-8 3
CE P	596.20 10	7E-7 % 8	4E-9 4
CE P	596.20 10	6E-6 % 6	4E-8 4
CE L	613.36 10	0.0066 % 3	4.04E-5 17

CE M	626.15	10	0.00155 %	7	9.7E-6	4
CE N	629.30	10	3.99E-4 %	17	2.51E-6	11
CE O	630.21	10	8.4E-5 %	4	5.26E-7	23
CE P	630.30	10	1.08E-5 %	5	6.8E-8	3
CE L	649.16	10	0.0064 %	4	4.2E-5	3
CE M	661.95	10	0.00157 %	11	1.04E-5	7
CE N	665.10	10	4.0E-4 %	3	2.68E-6	18
CE O	666.01	10	8.2E-5 %	5	5.4E-7	4
CE P	666.10	10	9.5E-6 %	8	6.3E-8	5
CE K	688.80	10	0.765 %	25	0.00527	17
CE K	697.10	10	3 %	3	0.018	18
CE K	722.49	10	0.0061 %	18	4.4E-5	13
CE K	761.30	20	0.0165 %	14	1.26E-4	11
CE L	764.96	10	0.177 %	6	0.00136	4
CE K	770.80	10	0.045 %	10	3.5E-4	8
CE L	773.26	10	0.5 %	5	0.004	4
CE M	777.75	10	0.0432 %	14	3.36E-4	11
CE N	780.90	10	0.0111 %	4	8.7E-5	3
CE O	781.81	10	0.00226 %	7	1.76E-5	6
CE P	781.90	10	2.67E-4 %	9	2.09E-6	7
CE M	786.05	10	0.12 %	11	9E-4	9
CE N	789.20	10	0.03 %	3	3E-4	3
CE O	790.11	10	0.006 %	6	5E-5	5
CE P	790.20	10	8E-4 %	8	7E-6	6
CE L	798.66	10	0.0011 %	3	8.6E-6	23
CE K	809.90	10	0.012 %	3	9.8E-5	21
CE M	811.45	10	2.6E-4 %	7	2.1E-6	6
CE N	814.60	10	6.6E-5 %	19	5.4E-7	15
CE O	815.51	10	1.4E-5 %	4	1.1E-7	3
CE P	815.60	10	1.8E-6 %	5	1.4E-8	4
CE L	837.46	20	0.00280 %	24	2.35E-5	20
CE L	846.96	10	0.0080 %	15	6.8E-5	13
CE M	850.25	20	6.6E-4 %	6	5.6E-6	5
CE N	853.40	20	1.69E-4 %	15	1.44E-6	12
CE O	854.31	20	3.5E-5 %	3	3.0E-7	3
CE P	854.40	20	4.6E-6 %	4	3.9E-8	3
CE M	859.75	10	0.0019 %	3	1.6E-5	3
CE N	862.90	10	4.7E-4 %	8	4.1E-6	7
CE O	863.81	10	1.01E-4 %	19	8.7E-7	16
CE P	863.90	10	1.29E-5 %	23	1.12E-7	20
CE L	886.06	10	0.0020 %	5	1.8E-5	4
CE K	892.10	10	0.00198 %	21	1.77E-5	19

CE M	898.85 10	4.8E-4 % 11	4.3E-6 10
CE N	902.00 10	1.2E-4 % 3	1.1E-6 3
CE O	902.91 10	2.5E-5 % 6	2.3E-7 5
CE P	903.00 10	3.2E-6 % 8	2.9E-8 7
CE L	968.26 10	3.1E-4 % 3	3.0E-6 3
CE M	981.05 10	7.2E-5 % 8	7.0E-7 8
CE N	984.20 10	1.83E-5 % 20	1.80E-7 19
CE O	985.11 10	3.8E-6 % 4	3.8E-8 4
CE P	985.20 10	4.9E-7 % 5	4.8E-9 5
CE K	1010.30 10	0.039 % 8	3.9E-4 8
CE K	1043.4 3	0.0020 % 3	2.0E-5 3
CE K	1048.20 10	0.0025 % 5	2.6E-5 6
CE K	1054.49 10	0.0163 % 11	1.72E-4 12
CE K	1055.7 3	0.00138 % 16	1.46E-5 17
CE K	1077.49 10	0.0131 % 4	1.41E-4 5
CE K	1082.20 10	0.0082 % 4	8.9E-5 4
CE L	1086.46 10	0.0070 % 13	7.6E-5 14
CE M	1099.25 10	0.0017 % 3	1.8E-5 4
CE K	1099.70 20	2.7E-4 % 3	3.0E-6 3
CE N	1102.40 10	4.3E-4 % 8	4.7E-6 8
CE O	1103.31 10	8.6E-5 % 16	9.5E-7 18
CE P	1103.40 10	1.13E-5 % 22	1.25E-7 24
CE L	1119.6 3	3.6E-4 % 5	4.1E-6 5
CE K	1124.09 10	0.008 % 3	9E-5 3
CE L	1124.36 10	4.4E-4 % 8	5.0E-6 9
CE L	1130.66 10	0.00274 % 19	3.10E-5 21
CE L	1131.9 3	2.13E-4 % 25	2.4E-6 3
CE M	1132.4 3	8.7E-5 % 12	9.8E-7 13
CE N	1135.5 3	2.2E-5 % 3	2.5E-7 3
CE O	1136.4 3	4.7E-6 % 6	5.3E-8 7
CE P	1136.5 3	6.0E-7 % 8	6.8E-9 9
CE M	1137.15 10	1.05E-4 % 20	1.19E-6 23
CE N	1140.30 10	2.7E-5 % 5	3.1E-7 5
CE O	1141.21 10	5.6E-6 % 10	6.4E-8 12
CE P	1141.30 10	7.2E-7 % 14	8.2E-9 16
CE M	1143.45 10	6.4E-4 % 4	7.4E-6 5
CE M	1144.7 3	4.9E-5 % 6	5.7E-7 7
CE N	1146.60 10	1.66E-4 % 11	1.90E-6 13
CE O	1147.51 10	3.48E-5 % 24	4.0E-7 3
CE P	1147.60 10	4.5E-6 % 3	5.2E-8 4
CE N	1147.8 3	1.27E-5 % 15	1.45E-7 17
CE O	1148.7 3	2.6E-6 % 3	3.0E-8 4

CE P	1148.8 3	3.4E-7 % 4	3.9E-9 5
CE L	1153.66 10	0.00248 % 8	2.87E-5 10
CE L	1158.36 10	0.00157 % 8	1.82E-5 9
CE M	1166.45 10	5.91E-4 % 20	6.89E-6 24
CE K	1169.49 10	0.0036 % 10	4.2E-5 11
CE N	1169.60 10	1.52E-4 % 5	1.78E-6 6
CE O	1170.51 10	3.14E-5 % 11	3.67E-7 12
CE P	1170.60 10	3.88E-6 % 13	4.54E-8 15
CE M	1171.15 10	3.74E-4 % 19	4.38E-6 22
CE N	1174.30 10	9.6E-5 % 5	1.13E-6 6
CE O	1175.21 10	1.98E-5 % 10	2.33E-7 12
CE P	1175.30 10	2.45E-6 % 12	2.88E-8 14
CE L	1175.86 20	4.2E-5 % 5	4.9E-7 6
CE M	1188.65 20	9.7E-6 % 11	1.15E-7 13
CE N	1191.80 20	2.5E-6 % 3	3.0E-8 3
CE O	1192.71 20	5.2E-7 % 6	6.1E-9 7
CE P	1192.80 20	6.6E-8 % 7	7.9E-10 9
CE L	1200.26 10	0.0013 % 5	1.6E-5 5
CE M	1213.05 10	3.2E-4 % 10	3.9E-6 12
CE N	1216.20 10	8.3E-5 % 24	1.0E-6 3
CE O	1217.11 10	1.8E-5 % 6	2.2E-7 7
CE P	1217.20 10	2.2E-6 % 7	2.7E-8 8
CE L	1245.66 10	5.8E-4 % 15	7.3E-6 19
CE M	1258.45 10	1.4E-4 % 4	1.7E-6 5
CE N	1261.60 10	3.6E-5 % 10	4.5E-7 12
CE O	1262.51 10	7.3E-6 % 21	9E-8 3
CE P	1262.60 10	9E-7 % 3	1.2E-8 3
CE K	1352.99 10	0.0024 % 4	3.3E-5 6
CE K	1391.59 20	1.04E-4 % 10	1.44E-6 15
CE K	1397.70 10	3.09E-4 % 21	4.3E-6 3
CE L	1429.16 10	4.1E-4 % 7	5.9E-6 10
CE M	1441.95 10	9.7E-5 % 16	1.39E-6 24
CE N	1445.10 10	2.5E-5 % 4	3.6E-7 6
CE O	1446.01 10	5.2E-6 % 9	7.5E-8 13
CE P	1446.10 10	6.7E-7 % 11	9.6E-9 17
CE L	1467.76 20	1.58E-5 % 16	2.32E-7 23
CE L	1473.86 10	4.7E-5 % 3	6.9E-7 5
CE M	1480.55 20	3.7E-6 % 4	5.4E-8 5
CE K	1482.40 10	9.0E-4 % 5	1.34E-5 7
CE N	1483.70 20	9.4E-7 % 9	1.39E-8 14
CE O	1484.61 20	1.95E-7 % 20	2.9E-9 3
CE P	1484.70 20	2.5E-8 % 3	3.7E-10 4

CE M	1486.65 10	1.09E-5 % 7	1.62E-7 11
CE K	1488.49 10	0.00185 % 7	2.75E-5 11
CE N	1489.80 10	2.79E-6 % 19	4.2E-8 3
CE O	1490.71 10	5.8E-7 % 4	8.7E-9 6
CE P	1490.80 10	7.5E-8 % 5	1.12E-9 8
CE L	1558.56 10	1.37E-4 % 7	2.13E-6 12
CE L	1564.66 10	2.80E-4 % 11	4.39E-6 17
CE M	1571.35 10	3.17E-5 % 17	5.0E-7 3
CE N	1574.50 10	8.1E-6 % 4	1.28E-7 7
CE O	1575.41 10	1.69E-6 % 9	2.67E-8 15
CE P	1575.50 10	2.18E-7 % 12	3.44E-9 19
CE M	1577.45 10	6.48E-5 % 25	1.02E-6 4
CE N	1580.60 10	1.66E-5 % 6	2.63E-7 10
CE O	1581.51 10	3.47E-6 % 14	5.49E-8 21
CE P	1581.60 10	4.48E-7 % 18	7.1E-9 3
CE K	1673.90 10	0.0047 % 3	7.9E-5 4
CE L	1750.06 10	8.3E-4 % 5	1.46E-5 8
CE M	1762.85 10	1.97E-4 % 11	3.46E-6 19
CE N	1766.00 10	5.1E-5 % 3	8.9E-7 5
CE O	1766.91 10	1.06E-5 % 6	1.87E-7 10
CE P	1767.00 10	1.37E-6 % 8	2.42E-8 14

Gamma and X-ray radiation:

	Energy (keV)	Intensity (%)	Dose (MeV/Bq-s)
XR l	11.1	60 % 3	0.0066 4
XR kα2	76.863	36.3 % 21	0.0279 16
XR kα1	79.29	60 % 3	0.048 3
XR kβ3	89.256	7.3 % 4	0.0065 4
XR kβ1	89.807	14.0 % 8	0.0126 7
	90.8 1	1.83 % 18	0.00166 17
XR kβ2	92.317	5.2 % 3	0.0048 3
	104.187 3	2.4 % 4	0.0025 4
	113.1 1	0.18 % 4	2.1E-4 4
	151.4 2	0.081 % 15	1.23E-4 22
	195.0 1	23.5 % 11	0.0457 21
	233.6 1	1.00 % 8	0.00234 19
	239.190 18	12.5 % 5	0.0300 11
	321.1 1	0.63 % 3	0.00201 9
	388.8 1	0.49 % 3	0.00191 11
	415.8 6	0.055 % 18	2.3E-4 8

Annihil.	511.0	0.10 % 8	
	545.0 1	90.9 %	0.496
	551.0 1	4.91 % 18	0.0271 10
	552.5 2	1.55 % 18	0.0085 10
	554.6 2	0.57 % 9	0.0032 5
	596.2 1	0.3 % 3	0.0021 21
	596.2 1	0.3 % 3	0.0021 21
	630.3 1	0.68 % 3	0.00430 17
	666.1 1	1.86 % 6	0.0124 4
	781.9 1	83.3 % 24	0.651 19
	790.2 1	63.5 % 19	0.501 15
	815.6 1	0.26 % 5	0.0022 4
	854.4 2	0.65 % 5	0.0055 5
	863.9 1	2.05 % 9	0.0178 8
	903.0 1	3.67 % 11	0.0332 10
	939.5 3	0.045 % 9	4.3E-4 9
	985.2 1	0.85 % 9	0.0084 9
	1074.6 1	0.200 % 18	0.00215 20
	1103.4 1	5.39 % 18	0.0595 20
	1136.5 3	0.068 % 9	7.8E-4 10
	1141.3 1	0.327 % 18	0.00374 21
	1147.6 1	1.36 % 9	0.0157 10
	1148.8 3	0.78 % 9	0.0090 10
	1170.6 1	3.00 % 9	0.0351 11
	1175.3 1	1.91 % 9	0.0224 11
	1192.8 2	0.164 % 18	0.00195 22
	1213.7 11 ?	0.44 % 4	0.0053 4
	1217.2 1	1.11 % 7	0.0135 9
	1262.6 1	1.88 % 7	0.0238 9
	1311.7 2	0.055 % 5	7.2E-4 7
	1356.9 1	0.164 % 9	0.00222 12
	1427.0 3	0.028 % 5	4.0E-4 8
	1446.1 1	0.536 % 18	0.0078 3
	1456.6 2	0.118 % 9	0.00172 13
	1478.9 3	0.040 % 4	5.9E-4 5
	1484.7 2	0.091 % 9	0.00135 14
	1490.8 1	0.273 % 18	0.0041 3
	1537.7 1	0.48 % 4	0.0074 6
	1575.5 1	0.87 % 5	0.0138 7
	1581.6 1	1.80 % 6	0.0285 10
	1651.3 3	0.041 % 4	6.8E-4 6
	1730.0 4	0.0118 % 18	2.0E-4 3

1745.9	2	0.083 %	5	0.00144	8
1767.0	1	0.51 %	3	0.0090	5
2109.5	3	0.041 %	4	8.6E-4	8
2319.6	4	0.0073 %	18	1.7E-4	4
2357.7	6	0.0055 %	18	1.3E-4	4
2363.7	4	0.0136 %	18	3.2E-4	4
2433.44	20	0.0136 %	18	3.3E-4	4
2528.1	6	0.0027 %	9	6.9E-5	23
2654.4	4	0.0027 %	9	7.2E-5	24

Gamma Coincidence Data:

For each gamma, the list of gammas in coincidence is given. If experimentally known, an estimate of the average time interval (in seconds) between both gammas is given

E(γ)	Coincidence
90.8	104.187 (2.48E-8), 151.4, 239.190 (2.48E-8), 415.8 (2.48E-8), 545.0 (7.00E-11), 551.0 (2.48E-8), 552.5 (2.48E-8), 596.2 (2.48E-8), 630.3, 666.1 (2.48E-8), 781.9, 790.2 (2.48E-8), 939.5 (2.48E-8), 1074.6 (2.48E-8), 1103.4 (2.48E-8), 1141.3 (2.48E-8), 1147.6 (2.48E-8), 1175.3, 1217.2 (2.48E-8), 1311.7 (2.48E-8), 1456.6 (2.48E-8), 1484.7 (2.48E-8), 1490.8 (2.48E-8), 1730.0 (2.48E-8)
104.187	90.8 (2.48E-8), 151.4 (2.48E-8), 239.190 (7.00E-11), 415.8 (7.00E-11), 545.0 (2.48E-8), 551.0 (7.00E-11), 552.5 (7.00E-11), 596.2 (7.00E-11), 630.3 (2.48E-8), 666.1 (7.00E-11), 781.9 (2.48E-8), 790.2 (7.00E-11), 939.5 (7.00E-11), 1074.6 (7.00E-11), 1103.4 (7.00E-11), 1141.3 (7.00E-11), 1147.6 (7.00E-11), 1175.3 (2.48E-8), 1217.2 (7.00E-11), 1311.7 (7.00E-11), 1456.6 (7.00E-11), 1730.0 (7.00E-11)
113.1	233.6, 239.190 (7.00E-11), 415.8 (7.00E-11), 545.0 (7.00E-11), 551.0 (7.00E-11), 552.5 (7.00E-11), 554.6, 596.2 (7.00E-11), 630.3, 666.1 (7.00E-11), 790.2 (7.00E-11), 854.4, 863.9, 939.5 (7.00E-11), 1074.6 (7.00E-11), 1103.4 (7.00E-11), 1141.3 (7.00E-11), 1147.6 (7.00E-11), 1175.3, 1217.2 (7.00E-11), 1311.7 (7.00E-11), 1456.6 (7.00E-11), 1730.0 (7.00E-11)
151.4	90.8, 104.187 (2.48E-8), 195.0, 239.190 (2.48E-8), 388.8, 415.8 (2.48E-8), 545.0 (7.00E-11), 551.0 (2.48E-8), 552.5 (2.48E-8), 596.2, 596.2 (2.48E-8), 630.3, 666.1 (2.48E-8), 790.2 (2.48E-8), 939.5 (2.48E-8), 985.2, 1074.6 (2.48E-8), 1103.4 (2.48E-8), 1141.3 (2.48E-8), 1147.6 (2.48E-8), 1148.8, 1175.3, 1192.8, 1217.2 (2.48E-8), 1262.6, 1311.7 (2.48E-8), 1356.9, 1456.6 (2.48E-8), 1484.7 (2.48E-8), 1490.8 (2.48E-8), 1537.7, 1575.5, 1581.6, 1651.3, 1730.0 (2.48E-8), 1745.9
195.0	151.4, 239.190 (7.00E-11), 415.8 (7.00E-11), 545.0 (7.00E-11), 551.0 (7.00E-11), 552.5 (7.00E-11), 596.2 (7.00E-11), 630.3, 666.1 (7.00E-11), 781.9, 790.2 (7.00E-11), 939.5 (7.00E-11), 1074.6 (7.00E-11), 1103.4 (7.00E-11), 1141.3 (7.00E-11), 1147.6 (7.00E-11), 1175.3, 1217.2 (7.00E-11), 1311.7 (7.00E-11), 1456.6 (7.00E-11), 1730.0 (7.00E-11)
233.6	113.1, 239.190 (7.00E-11), 415.8 (7.00E-11), 545.0 (7.00E-11), 551.0 (7.00E-11), 552.5 (7.00E-11), 596.2 (7.00E-11), 630.3, 666.1 (7.00E-11), 790.2 (7.00E-11), 903.0, 939.5 (7.00E-11), 1074.6 (7.00E-11), 1103.4 (7.00E-11), 1141.3 (7.00E-11), 1147.6 (7.00E-11), 1175.3, 1217.2 (7.00E-11), 1311.7 (7.00E-11), 1427.0, 1456.6 (7.00E-11), 1730.0 (7.00E-11)
239.190	90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11), 233.6 (7.00E-11), 415.8, 545.0 (2.49E-8), 551.0, 552.5, 554.6 (7.00E-11), 596.2, 630.3 (2.48E-8), 666.1, 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 939.5, 1074.6, 1103.4, 1141.3, 1147.6, 1175.3 (2.48E-8), 1217.2, 1311.7
321.1	545.0 (7.00E-11), 552.5, 596.2, 630.3, 666.1, 815.6, 939.5, 1175.3, 1446.1
388.8	151.4, 545.0 (7.00E-11), 552.5, 596.2, 596.2, 630.3, 666.1, 781.9, 939.5, 1148.8, 1175.3, 1192.8, 1262.6, 1356.9
415.8	90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11), 233.6 (7.00E-11), 239.190, 545.0 (2.49E-8), 554.6 (7.00E-11), 630.3 (2.48E-8),

781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 1074.6, 1175.3 (2.48E-8), 1427.0

545.0 90.8 (7.00E-11), 104.187 (2.48E-8), 113.1 (7.00E-11), 151.4 (7.00E-11), 195.0 (7.00E-11), 233.6 (7.00E-11), 239.190 (2.49E-8), 321.1 (7.00E-11), 388.8 (7.00E-11), 415.8 (2.49E-8), 551.0 (2.49E-8), 552.5 (7.00E-11), 596.2 (7.00E-11), 596.2 (7.00E-11), 630.3 (7.00E-11), 666.1 (7.00E-11), 781.9 (7.00E-11), 790.2 (2.49E-8), 815.6 (7.00E-11), 863.9 (7.00E-11), 903.0 (7.00E-11), 939.5 (7.00E-11), 985.2 (7.00E-11), 1074.6 (2.49E-8), 1103.4 (2.49E-8), 1136.5 (7.00E-11), 1141.3 (2.49E-8), 1147.6 (2.49E-8), 1148.8 (7.00E-11), 1170.6 (7.00E-11), 1192.8 (7.00E-11), 1217.2 (2.49E-8), 1262.6 (7.00E-11), 1311.7 (2.49E-8), 1356.9 (7.00E-11), 1427.0 (7.00E-11), 1446.1 (7.00E-11), 1456.6 (2.49E-8), 1478.9 (7.00E-11), 1484.7 (2.48E-8), 1490.8 (2.48E-8), 1537.7 (7.00E-11), 1575.5 (7.00E-11), 1581.6 (7.00E-11), 1651.3 (7.00E-11), 1730.0 (2.49E-8), 1745.9 (7.00E-11), 1767.0 (7.00E-11), 2109.5 (7.00E-11), 2319.6 (7.00E-11), 2357.7 (7.00E-11), 2363.7 (7.00E-11), 2433.44 (7.00E-11), 2528.1 (7.00E-11)

551.0 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11), 233.6 (7.00E-11), 239.190, 545.0 (2.49E-8), 552.5, 554.6 (7.00E-11), 596.2, 630.3 (2.48E-8), 666.1, 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 939.5, 1175.3 (2.48E-8)

552.5 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11), 233.6 (7.00E-11), 239.190, 321.1, 388.8, 545.0 (7.00E-11), 551.0, 554.6 (7.00E-11), 596.2, 630.3, 781.9 (2.48E-8), 790.2, 815.6, 854.4 (7.00E-11), 863.9 (7.00E-11), 903.0, 985.2, 1136.5, 1170.6, 1175.3, 1446.1, 1767.0

554.6 113.1, 239.190 (7.00E-11), 415.8 (7.00E-11), 551.0 (7.00E-11), 552.5 (7.00E-11), 596.2 (7.00E-11), 666.1 (7.00E-11), 790.2 (7.00E-11), 854.4, 903.0, 939.5 (7.00E-11), 1074.6 (7.00E-11), 1103.4 (7.00E-11), 1141.3 (7.00E-11), 1147.6 (7.00E-11), 1217.2 (7.00E-11), 1311.7 (7.00E-11), 1427.0, 1456.6 (7.00E-11), 1730.0 (7.00E-11)

596.2 151.4, 388.8, 545.0 (7.00E-11), 552.5, 596.2, 630.3, 666.1, 781.9, 939.5, 1170.6, 1175.3

596.2 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11), 233.6 (7.00E-11), 239.190, 321.1, 388.8, 545.0 (7.00E-11), 551.0, 554.6 (7.00E-11), 596.2, 630.3, 781.9 (2.48E-8), 790.2, 815.6, 854.4 (7.00E-11), 863.9 (7.00E-11), 903.0, 985.2, 1136.5, 1170.6, 1175.3, 1446.1, 1767.0

630.3 90.8, 104.187 (2.48E-8), 113.1, 151.4, 195.0, 233.6, 239.190 (2.48E-8), 321.1, 388.8, 415.8 (2.48E-8), 545.0 (7.00E-11), 551.0 (2.48E-8), 552.5, 596.2, 596.2, 666.1, 790.2 (2.48E-8), 815.6, 903.0, 939.5, 985.2, 1074.6 (2.48E-8), 1103.4 (2.48E-8), 1136.5, 1141.3 (2.48E-8), 1147.6 (2.48E-8), 1148.8, 1192.8, 1217.2 (2.48E-8), 1262.6, 1311.7 (2.48E-8), 1356.9, 1427.0, 1456.6 (2.48E-8), 1478.9, 1484.7 (2.48E-8), 1490.8 (2.48E-8), 1537.7, 1575.5, 1581.6, 1651.3, 1730.0 (2.48E-8), 1745.9

666.1 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11), 233.6 (7.00E-11), 239.190, 321.1, 388.8, 545.0 (7.00E-11), 551.0, 554.6 (7.00E-11), 596.2, 630.3, 781.9 (2.48E-8), 790.2, 815.6, 854.4 (7.00E-11), 863.9 (7.00E-11), 903.0, 985.2, 1136.5, 1170.6, 1175.3, 1446.1, 1767.0

781.9 90.8, 104.187 (2.48E-8), 195.0, 239.190 (2.48E-8), 388.8, 415.8 (2.48E-8), 545.0 (7.00E-11), 551.0 (2.48E-8), 552.5 (2.48E-8), 596.2, 596.2 (2.48E-8), 666.1 (2.48E-8), 790.2 (2.48E-8), 939.5 (2.48E-8), 985.2, 1074.6 (2.48E-8), 1103.4 (2.48E-8), 1141.3 (2.48E-8), 1147.6 (2.48E-8), 1148.8, 1192.8, 1217.2 (2.48E-8), 1262.6, 1311.7 (2.48E-8), 1356.9, 1456.6 (2.48E-8), 1484.7 (2.48E-8), 1490.8 (2.48E-8), 1537.7, 1575.5, 1581.6, 1651.3, 1730.0 (2.48E-8), 1745.9

790.2 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11), 233.6 (7.00E-11), 545.0 (2.49E-8), 552.5, 554.6 (7.00E-11), 596.2, 630.3 (2.48E-8), 666.1, 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 939.5, 1175.3 (2.48E-8)

815.6 321.1, 545.0 (7.00E-11), 552.5, 596.2, 630.3, 666.1, 939.5, 1175.3

854.4 113.1, 239.190 (7.00E-11), 415.8 (7.00E-11), 551.0 (7.00E-11), 552.5 (7.00E-11), 554.6, 596.2 (7.00E-11), 666.1 (7.00E-11), 790.2 (7.00E-11), 903.0, 939.5 (7.00E-11), 1074.6 (7.00E-11), 1103.4 (7.00E-11), 1141.3 (7.00E-11), 1147.6 (7.00E-11), 1217.2 (7.00E-11), 1311.7 (7.00E-11), 1427.0, 1456.6 (7.00E-11), 1730.0 (7.00E-11)

863.9 113.1, 239.190 (7.00E-11), 415.8 (7.00E-11), 545.0 (7.00E-11), 551.0 (7.00E-11), 552.5 (7.00E-11), 596.2 (7.00E-11), 666.1 (7.00E-11), 790.2 (7.00E-11), 903.0,

939.5 (7.00E-11), 1074.6 (7.00E-11), 1103.4 (7.00E-11), 1141.3 (7.00E-11),
 1147.6 (7.00E-11), 1217.2 (7.00E-11), 1311.7 (7.00E-11), 1427.0, 1456.6 (7.00E-11),
 1730.0 (7.00E-11)
 903.0 233.6, 545.0 (7.00E-11), 552.5, 554.6, 596.2, 630.3, 666.1, 854.4, 863.9, 939.5,
 1175.3
 939.5 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11),
 233.6 (7.00E-11), 239.190, 321.1, 388.8, 545.0 (7.00E-11), 551.0, 554.6 (7.00E-11),
 596.2, 630.3, 781.9 (2.48E-8), 790.2, 815.6, 854.4 (7.00E-11),
 863.9 (7.00E-11), 903.0, 985.2, 1136.5, 1170.6, 1175.3, 1446.1, 1767.0
 985.2 151.4, 545.0 (7.00E-11), 552.5, 596.2, 630.3, 666.1, 781.9, 939.5, 1175.3
 1074.6 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11),
 233.6 (7.00E-11), 239.190, 415.8, 545.0 (2.49E-8), 554.6 (7.00E-11),
 630.3 (2.48E-8), 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 1175.3 (2.48E-8)
 1103.4 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11),
 233.6 (7.00E-11), 239.190, 545.0 (2.49E-8), 554.6 (7.00E-11), 630.3 (2.48E-8),
 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 1175.3 (2.48E-8)
 1136.5 545.0 (7.00E-11), 552.5, 596.2, 630.3, 666.1, 939.5, 1175.3
 1141.3 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11),
 233.6 (7.00E-11), 239.190, 545.0 (2.49E-8), 554.6 (7.00E-11), 630.3 (2.48E-8),
 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 1175.3 (2.48E-8)
 1147.6 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11),
 233.6 (7.00E-11), 239.190, 545.0 (2.49E-8), 554.6 (7.00E-11), 630.3 (2.48E-8),
 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 1175.3 (2.48E-8)
 1148.8 151.4, 388.8, 545.0 (7.00E-11), 630.3, 781.9, 1170.6, 1175.3
 1170.6 545.0 (7.00E-11), 552.5, 596.2, 596.2, 666.1, 939.5, 1148.8, 1192.8, 1262.6, 1356.9
 1175.3 90.8, 104.187 (2.48E-8), 113.1, 151.4, 195.0, 233.6, 239.190 (2.48E-8), 321.1, 388.8,
 415.8 (2.48E-8), 551.0 (2.48E-8), 552.5, 596.2, 596.2, 666.1, 790.2 (2.48E-8),
 815.6, 903.0, 939.5, 985.2, 1074.6 (2.48E-8), 1103.4 (2.48E-8), 1136.5,
 1141.3 (2.48E-8), 1147.6 (2.48E-8), 1148.8, 1192.8, 1217.2 (2.48E-8), 1262.6,
 1311.7 (2.48E-8), 1356.9, 1427.0, 1456.6 (2.48E-8), 1478.9, 1484.7 (2.48E-8),
 1490.8 (2.48E-8), 1537.7, 1575.5, 1581.6, 1651.3, 1730.0 (2.48E-8),
 1745.9
 1192.8 151.4, 388.8, 545.0 (7.00E-11), 630.3, 781.9, 1170.6, 1175.3
 1217.2 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11),
 233.6 (7.00E-11), 239.190, 545.0 (2.49E-8), 554.6 (7.00E-11), 630.3 (2.48E-8),
 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 1175.3 (2.48E-8)
 1262.6 151.4, 388.8, 545.0 (7.00E-11), 630.3, 781.9, 1170.6, 1175.3
 1311.7 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11),
 233.6 (7.00E-11), 239.190, 545.0 (2.49E-8), 554.6 (7.00E-11), 630.3 (2.48E-8),
 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 1175.3 (2.48E-8)
 1356.9 151.4, 388.8, 545.0 (7.00E-11), 630.3, 781.9, 1170.6, 1175.3
 1427.0 233.6, 415.8, 545.0 (7.00E-11), 554.6, 630.3, 854.4, 863.9, 1175.3
 1446.1 321.1, 545.0 (7.00E-11), 552.5, 596.2, 666.1, 939.5
 1456.6 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11),
 233.6 (7.00E-11), 545.0 (2.49E-8), 554.6 (7.00E-11), 630.3 (2.48E-8),
 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 1175.3 (2.48E-8)
 1478.9 545.0 (7.00E-11), 630.3, 1175.3
 1484.7 90.8 (2.48E-8), 151.4 (2.48E-8), 545.0 (2.48E-8), 630.3 (2.48E-8), 781.9 (2.48E-8),
 1175.3 (2.48E-8)
 1490.8 90.8 (2.48E-8), 151.4 (2.48E-8), 545.0 (2.48E-8), 630.3 (2.48E-8), 781.9 (2.48E-8),
 1175.3 (2.48E-8)
 1537.7 151.4, 545.0 (7.00E-11), 630.3, 781.9, 1175.3
 1575.5 151.4, 545.0 (7.00E-11), 630.3, 781.9, 1175.3
 1581.6 151.4, 545.0 (7.00E-11), 630.3, 781.9, 1175.3
 1651.3 151.4, 545.0 (7.00E-11), 630.3, 781.9, 1175.3
 1730.0 90.8 (2.48E-8), 104.187 (7.00E-11), 113.1 (7.00E-11), 151.4 (2.48E-8), 195.0 (7.00E-11),
 233.6 (7.00E-11), 545.0 (2.49E-8), 554.6 (7.00E-11), 630.3 (2.48E-8),
 781.9 (2.48E-8), 854.4 (7.00E-11), 863.9 (7.00E-11), 1175.3 (2.48E-8)
 1745.9 151.4, 545.0 (7.00E-11), 630.3, 781.9, 1175.3
 1767.0 545.0 (7.00E-11), 552.5, 596.2, 666.1, 939.5

2109.5	545.0 (7.00E-11)
2319.6	545.0 (7.00E-11)
2357.7	545.0 (7.00E-11)
2363.7	545.0 (7.00E-11)
2433.44	545.0 (7.00E-11)
2528.1	545.0 (7.00E-11)