

**²¹⁴Bi - Comments on evaluation of decay data
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This evaluation was completed in 2007. Literature available by January 2007 was included.

1 Decay Scheme

²¹⁴Bi disintegrates by beta minus emissions to excited levels and to the ground state of ²¹⁴Po (99.979 (13) %) and by alpha emission to excited levels of ²¹⁰Tl (0.0210 (13) % (1960Wa14)), some alpha emissions of long range from excited levels in ²¹⁴Po to excited levels in ²¹⁰Pb have been observed. Spins and parities are from the mass-chain evaluation of Y. A. Akovali (1988Ak01 and 1995El07 for A = 214) and E. Browne (2003Br13 for A = 210).

A good agreement was found between the adopted Q(β⁻) value of Audi and the effective Q(β⁻) value of 3261 (10) keV calculated from decay scheme data.

2 Nuclear Data

The Q value is from the atomic mass evaluation of Audi *et al.* (2003Au03).

The recommended value of ²¹⁴Bi half-life is 19.9 minutes with an uncertainty of 0.4 minutes from H. Daniel (1956Da06). No recent references were found in the literature.

2.1 β⁻ Transitions and Emissions

The maximum energies of the β⁻ transitions in the decay of ²¹⁴Bi → ²¹⁴Po have been obtained from the Q⁻ value (2003Au03) and the level energies given in Table 1 from Y. A. Akovali (1995El07).

Table 1: ²¹⁴Po levels populated in the decay of ²¹⁴Bi.

Level Number	Level energy, (keV)	Spin and parity	Level Number	Level energy, (keV)	Spin and parity
0	0	0 ⁺	24	2293.34 (5)	1 ⁽⁺⁾ , 2 ⁺
1	609.316 (7)	2 ⁺	25	2348.3 (9)	1 ⁻ , 1 ⁺ , 2 ⁺
4	1377.675 (12)	2 ⁺	26	2360.8 (4)	1 ⁻ , 1 ⁺ , 2 ⁺
5	1415.489 (19)	0 ⁺	27	2423.19 (15)	1 ⁺ , 2 ⁻ , 2 ⁺
6	1543.375 (14)	2 ⁺	28	2447.70 (6)	1 ⁻
7	1661.28 (3)	2 ⁺	29	2482.46 (4)	(2) ⁺
8	1712.93 (20)	(3) ⁺	30	2505.21 (15)	1 ⁽⁻⁾ , 2 ⁺
9	1729.611 (13)	2 ⁺	31	2508.2 (2)	
10	1742.98 (3)	0 ⁺	32	2544.9 (3)	
11	1764.498 (14)	1 ⁺	34	2562.4 (3)	
12	1847.431 (14)	2 ⁺	35	2604.66 (14)	(2) ⁺
13	1890.287 (21)	2 ⁺	36	2630.85 (17)	1 ⁻ , 1 ⁺ , 2 ⁺
14	1994.63 (3)	(2) ⁻	37	2662.29 (12)	(2) ⁺
15	2010.81 (4)	2 ⁺	38	2694.6 (2)	1 ⁽⁻⁾ , 2 ⁺
16	2017.3 (5)	0 ⁺	39	2698.8 (3)	1 ⁽⁻⁾ , 2 ⁺
17	2088.41 (12)	1 ⁻ , 1 ⁺ , 2 ⁺	40	2699.2 (2)	1 ⁽⁻⁾ , 2 ⁺
18	2118.552 (17)	1 ⁺	41	2719.22 (9)	1 ⁻ , 1 ⁺ , 2 ⁺
19	2147.78 (6)	1 ⁽⁻⁾ , 2 ⁺	42	2728.59 (4)	(1,2) ⁺
20	2192.56 (4)	2 ⁺	43	2769.9 (2)	1 ⁻ , 1 ⁺ , 2 ⁺
21	2204.13 (9)	1 ⁺	44	2785.9 (2)	1 ⁻ , 1 ⁺ , 2 ⁺
23	2266.39 (18)	1 ⁽⁻⁾ , 2 ⁺	47	2827.0 (2)	1 ⁻ , 1 ⁺ , 2 ⁺

Level Number	Level energy, (keV)	Spin and parity	Level Number	Level energy, (keV)	Spin and parity
48	2861.1 (3)	1 ⁻ , 1 ⁺ , 2 ⁺	61	2986.2 (2)	(1 ⁻ , 2 ⁻ , 2 ⁺)
49	2869.6 (2)		62	3000.0 (2)	1 ⁽⁻⁾ , 2 ⁺
50	2880.3 (2)	1 ⁻ , 1 ⁺ , 2 ⁺	65	3014.1 (3)	1 ⁻ , 1 ⁺ , 2 ⁺
51	2893.6 (2)	1 ⁻ , 1 ⁺ , 2 ⁺	69	3053.9 (2)	1 ⁻ , 1 ⁺ , 2 ⁺
52	2897.0 (3)		70	3068.3 (8)	
53	2919.5 (3)		72	3081.7 (3)	1 ⁻ , 1 ⁺ , 2 ⁺
54	2921.8 (4)	1 ⁻ , 1 ⁺ , 2 ⁺	73	3094.0 (4)	(1 ⁻ , 2 ⁺)
55	2928.6 (3)	1 ⁻ , 1 ⁺ , 2 ⁺	75	3142.6 (4)	1 ⁻ , 1 ⁺ , 2 ⁺
56	2934.5 (3)	1 ⁻ , 1 ⁺ , 2 ⁺	76	3149.2 (5)	1 ⁻ , 1 ⁺ , 2 ⁺
57	2940.6 (2)	1 ⁽⁻⁾ , 2 ⁻ , 2 ⁺	77	3160.4 (6)	1 ⁻ , 1 ⁺ , 2 ⁺
58	2962.8 (7)		79	3173.3 (6)	
60	2978.8 (2)	1 ⁻ , 1 ⁺ , 2 ⁺	80	3183.6 (4)	1 ⁻ , 1 ⁺ , 2 ⁺

The adopted β^- transition probabilities and the associated uncertainties were deduced from the γ transition probability balance at each level of the decay scheme.

The values of $\log ft$ and average β^- energies have been calculated with the program LOGFT for the allowed an 1st forbidden β^- transitions .

2.2 g Transitions

The γ -ray transition probabilities were calculated using the γ -ray emission intensities and the relevant internal conversion coefficients (see **4.2 g Emissions**).

Multipolarities of γ -ray transitions are from Y. A. Akovali (1995El07 for A = 214) and E. Browne (2003Br13 for A = 210) and shown in Table 2.

Table 2: Multipolarities of γ -ray transitions.

	Multipolarity	E_γ (keV)
²¹⁰ Tl	(M1)	62.5 (10)
²¹⁴ Po	[M1,E2]	221 (1), 386.823 (18), 452.92 (10), 469.756 (18), 474.52 (5), 543.0 (2), 595.32 (7), 633.14 (10), 634.72 (21), 649.19 (7), 661.1 (2), 697.88 (20), 740.73 (18), 752.84 (3), 814.885 (10), 878.03 (12), 915.74 (15), 939.6 (5), 991.49 (19), 1051.964 (31), 1103.61 (20), 1104.79 (19)
	[M1]	252.80 (6), 349.009 (24), 388.941 (50), 461.15 (20), 703.11 (4), 788.6 (5), 1594.81 (8)
	[E1]	268.614 (26), 333.35 (6), 454.850 (26), 487.95 (13), 572.76 (7), 615.53 (10), 617.0 (2), 683.22 (6), 704.9 (3), 786.1 (4), 904.29 (10), 917.8 (3), 1032.37 (8), 1069.96 (8), 1207.70 (3), 1385.314 (31)
	[E2]	405.74 (4), 528 (1), 639.62 (10), 832.38 (11), 1133.664 (31), 1172.98 (10), 1543.375 (14)
	(E2)	1407.98 (4)
	(M1 + E2)	1401.494 (41) $\delta = 1.6$ (5)
	E2	609.316 (7), 719.869 (37), 806.173 (20), 1377.675 (12), 1661.28 (6), 1729.611 (13),
	E1	665.445 (23), 2447.86 (10)
	M1 + E2	768.359 (14) $\delta = 2.8$ (7)
		934.059 (16) $\delta = -0.3$ (1)
		1120.295 (15) $\delta = 0.18$ (2)
		1155.182 (16) $\delta = 0.33$ (6)
		1238.115 (12) $\delta = -0.03$ (3)
		1509.236 (15) $\delta = -0.053$ (35)
		1583.244 (40) $\delta = -0.20$ (10)
	M1	821.18 (3), 826.46 (20), 1280.97 (2), 1764.498 (14), 2118.552 (30), 2204.21 (4)

The internal conversion coefficients (ICC) and the associated uncertainties for these γ -ray transitions have been obtained using the BrIcc computer program (calculation for ‘hole’), which interpolated the new values from theoretical values of I. M. Band (2002Ba85).

2.3 a Transitions and Emissions

The energies of the α -particle transitions given in Section 2.3 have been obtained from Q_α (2003Au03) and the level energies given by E. Browne (2003Br13).

The adopted $\alpha_{0,0}$, $\alpha_{0,2}$ and $\alpha_{0,3}$ emission energies are the recommended values of A. Rytz (1991Ry01) and the other α emission energies are from E. Browne (2003Br13).

The recommended α emission probabilities come from the measured values of R. J. Walen (1960Wa14).

For the α of long range, the energy and emission probabilities are from the measurements of C.-F. Leang (1965Le08).

3 Atomic Data

Atomic values, ω_K , $\bar{\omega}_L$, $\bar{\omega}_M$, n_{KL} and \bar{n}_{LM} and the X-ray and Auger electron relative probabilities are from Schönfeld and Janßen (1996Sc06).

4 Electron Emissions

The conversion electron emission probabilities have been deduced from γ -ray transition data.

5 Photon Emissions

5.1 X-ray Emissions

The X-ray absolute intensities have been calculated from γ -ray data and ICC using the EMISSION computer program and compared in Table 3 with the measured values of U. Schötzig (1983Sc13). These values are not consistent, it is difficult to draw a conclusion since, as said in 1983Sc03, “the x-ray spectrum is rather complex, as the Po and Bi x-ray peaks overlap, a deconvolution is difficult”.

Table 3: Experimental and recommended (calculated) values of X-ray absolute intensities.

	U. Schötzig (1983Sc13)	Recommended values
K α x-ray	1.77 (5) %	1.135 (25) %
K β x-ray	4.94 (12)	0.320 (9) %

5.2 γ Emissions

The γ -ray energies are from Y. A. Akovali (1995El07 for $A = 214$) and E. Browne (2003Br13 for $A = 210$).

For the ^{210}Tl γ -rays, the absolute γ -ray emission intensities have been deduced from the α emission intensities measured by R. J. Walen (1960Wa14).

The experimental relative γ -ray emission intensities in ^{214}Po are based on all available relative and absolute measurements of γ -rays for the ^{226}Ra decay chain. The normalization factor to convert the relative γ -ray emission intensities to absolute intensities is the weighted average of the measured values of the 609.3-keV γ -ray absolute intensity (Table 4).

Table 4: The experimental values of 609.3-keV γ -ray absolute intensity.

References	Experimental values (%)	Comments
E. W. A. Lingeman (1969Li10)	42.8 (40)	
D. G. Olson (1983Ol01)	45.0 (7)	
U. Schötzig (1983Sc13)	44.6 (5)	
W. –J. Lin (1991Li11)	46.1 (5)	
J. Morel (1998Mo14)	44.8 (6)	Omitted: superseded by 2004Mo07
J. Morel (2004Mo07)	45.57 (18)	
Recommended value	45.49 (19)	$\chi^2 = 1.45$

Evaluators' recommended normalization factor is the weighted average of the five experimental values: 45.49 with an external uncertainty of 0.19.

The experimental relative γ -ray emission intensities are given in Table 5 relatively to the ²¹⁴Bi 609-keV γ -ray intensity.

The evaluated relative and absolute γ -ray intensities are given in Table 6.

The adopted values are the weighted means calculated by the Lweight program (version 3).

Table 5: The experimental data set of the relative γ -ray emission intensities. (see next pages)

Energy (keV)	1969Li10	1696Wa27*	1969Gr33*	1975Ha31*	1977Zo01	1982AK03*	1982Fa10*	1983OI01	1983Sc13	1990Mouze	1991Li11	2000Sa32	2002De03	2002MoZP	2004Mo07*	Evaluated	χ^2
221						0.012 (7)						0.130 (13)				0.130 (13)	
230												0.0063 (21)				0.0063 (21)	
252						0.033 (7)				0.028 (4)		0.019 (7)				0.0258 (39)	1.3
268						0.031 (8)				0.035 (4)		0.059 (28)				0.0355 (40)	0.72
273	0.18 (9)			0.384 (50)		0.25 (5)				0.27 (3)		0.29 (10)	0.265 (23)		0.278 (17)	0.264 (18)	0.33
280	0.132 (22)			0.136 (50)		0.13 (2)				0.13 (2)		0.17 (4)				0.136 (14)	0.42
304	0.18 (9)			0.074 (25)		0.069 (15)				0.055 (5)		0.065 (20)				0.056 (5)	1.1
333			0.148 (23)	0.15 (7)		0.16 (3)				0.14 (1)		0.13 (3)				0.139 (9)	0.1
334	0.132 (44)			0.074 (37)		0.072 (14)				0.066 (8)		0.090 (17)				0.072 (10)	1.8
348										0.34 (5)		0.20 (5)				0.27 (7)	3.9
386	0.68 (26)		1.41 (18)	0.64 (7)		0.64 (10)				0.63 (5)		0.70 (15)	0.651 (12)		0.647 (11)	0.650 (12)	0.10
388	0.81 (26)			0.83 (7)		0.87 (12)				0.85 (1)	0.92 (6)	0.86 (4)	0.888 (14)		0.89 (13)	0.864 (10)	1.5
394				0.019 (9)		0.033 (4)				0.032 (3)		0.024 (3)				0.0280 (40)	3.6
396				0.050 (25)		0.060 (9)				0.059 (7)		0.053 (10)				0.057 (4)	0.24
405	0.33 (9)		0.341 (34)	0.40 (7)		0.38 (5)				0.37 (2)		0.39 (3)				0.375 (16)	0.28
452						0.068 (11)				0.067 (8)						0.067 (8)	
454	0.62 (11)		0.64 (7)	0.64 (7)		0.67 (8)	0.63 (2)			0.64 (3)		0.59 (3)	0.640 (12)		0.642 (12)	0.634 (10)	0.82
461						0.078 (13)				0.14 (2)		0.10 (3)				0.128 (18)	1.2
469						0.30 (5)				0.27 (2)		0.34 (3)				0.292 (32)	3.8
474	0.15 (7)			0.24 (7)		0.23 (4)				0.22 (2)		0.190 (20)				0.203 (14)	0.86
485						0.052 (11)				0.048 (9)		0.035 (20)				0.046 (8)	0.35
487										0.061 (20)						0.061 (20)	
494						0.031 (5)				0.031 (4)		0.019 (3)				0.023 (6)	5.8
496						0.015 (4)				0.015 (4)						0.015 (4)	
501				0.038 (7)		0.041 (7)				0.040 (5)		0.035 (19)				0.0397 (48)	0.06
519				0.0124 (50)		0.035 (6)				0.036 (4)		0.039 (11)				0.0364 (38)	0.07
524				0.033 (12)		0.038 (6)				0.037 (4)		0.039 (13)				0.0372 (38)	0.02
528						0.025 (5)				0.024 (3)		0.022 (11)				0.0239 (29)	0.03
536				0.124 (50)		0.14 (2)				0.14 (2)		0.12 (3)				0.134 (17)	0.31
543	0.22 (7)		0.296 (34)	0.20 (7)		0.14 (2)				0.13 (2)		0.27 (4)				0.194 (46)	3.4
547	0.066 (22)			0.071 (14)		0.08 (1)				0.08 (1)		0.074 (7)				0.075 (6)	0.22
551										0.012 (3)						0.012 (3)	
572	0.132 (44)		0.159 (23)	0.161 (25)		0.17 (2)				0.16 (2)		0.16 (4)				0.156 (17)	0.17

Energy (keV)	1969Li10	1696Wa27*	1969Gr33*	1975Ha31*	1977Zn01	1982Ak03*	1982Fa10*	1983OI01	1983Sc13	1990Mouze	1991Li11	2000Sa32	2002De03	2002MoZP	2004Mo07*	Evaluated	χ^2
595						0.035 (7)				0.038 (4)		0.039 (6)				0.0383 (33)	0.02
600										0.018 (8)						0.018 (8)	
609	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
615	0.20 (7)			0.099 (25)		0.13 (5)				0.12 (2)		0.11 (3)				0.121 (16)	0.71
617				0.074 (25)		0.066 (44)				0.053 (6)		0.077 (11)				0.059 (10)	3.7
626						0.036 (6)						0.009 (3)				0.009 (3)	
630			0.228 (34)	0.037 (12)		0.039 (6)				0.035 (4)		0.039 (5)				0.0366 (31)	0.39
633	0.110 (44)			0.124 (12)		0.12 (2)				0.11 (1)		0.130 (10)				0.120 (7)	1.0
634						0.014 (5)				0.014 (5)						0.014 (5)	
639				0.074 (25)		0.061 (11)				0.065 (10)		0.085 (10)				0.075 (10)	2.0
649	0.110 (44)			0.124 (12)		0.114 (15)				0.13 (2)		0.10 (3)				0.119 (16)	0.37
658						0.037 (8)				0.046 (8)		0.030 (8)				0.038 (8)	2.0
661				0.094 (37)		0.077 (13)				0.11 (2)		0.120 (10)				0.118 (9)	0.2
665	3.08 (44)		3.49 (30)	3.59 (37)		3.36 (37)	2.87 (6)			3.51 (20)	3.21 (7)	3.33 (10)	3.359 (17)	3.386 (21)	3.364 (17)	3.364 (15)	1.4
677						0.012 (5)				0.012 (5)						0.012 (5)	
683	0.176 (44)		0.296 (46)	0.186 (25)		0.18 (3)				0.18 (2)		0.190 (20)				0.184 (13)	0.08
687				0.012 (6)		0.016 (5)				0.015 (4)		0.014 (5)				0.0146 (31)	0.02
693				0.012 (6)		0.012 (5)				0.015 (6)		0.012 (4)				0.0129 (33)	0.17
697	0.154 (44)		0.501 (46)	0.100 (50)		0.14 (2)				0.14 (2)		0.150 (10)				0.148 (9)	0.11
699						0.044 (9)				0.035 (10)						0.035 (10)	
703	1.03 (13)		1.55 (16)	1.14 (12)		1.08 (15)	0.82 (3)			1.11 (7)	1.038 (27)	1.12 (8)				1.053(24)	0.57
704										0.11 (3)		0.113 (29)				0.112 (21)	0.006
708						0.031 (9)				0.042 (11)		0.025 (3)				0.0262 (43)	2.2
710	0.13 (7)		0.364 (34)	0.161 (50)		0.16 (2)				0.16 (2)		0.170 (9)				0.168 (8)	0.25
719	0.84 (11)		1.22 (13)	0.94 (12)		0.90 (13)				0.91 (8)	0.833 (24)	0.91 (3)				0.865 (22)	1.5
722				0.099 (50)		0.075 (11)				0.073 (9)		0.107 (15)				0.082 (15)	3.8
733	0.066 (22)			0.087 (25)		0.086 (12)				0.085 (8)		0.092 (17)				0.084 (7)	0.45
740						0.11 (2)				0.088 (13)		0.095 (5)				0.0941 (47)	0.25
752	0.24 (7)			0.31 (7)		0.30 (4)				0.28 (2)		0.28 (4)				0.278 (17)	0.15
768		9.90 (21)	10.6 (10)	11.4 (12)	10.90 (15)	11.9 (17)	10.64 (20)		10.46 (16)	10.91 (8)	10.86 (14)	10.39 (31)	10.66 (5)	10.77 (3)	10.68 (5)	10.755 (36)	2.3
786	0.64 (18)											0.70 (10)				0.69 (10)	0.09
788										0.041 (8)		0.020 (10)				0.033 (10)	2.7
806	2.42 (44) μ		2.68 (25)	2.97 (37)		2.92 (43)	2.49 (6)			2.90 (22)	2.682 (45)	2.76 (11)	2.788 (22)	2.777 (14)	2.791 (20)	2.774 (13)	1.2
815	0.088 (44)			0.050 (25)		0.087 (13)				0.081 (8)		0.110 (20)				0.085 (7)	0.91
821	0.35 (9)			0.40 (7)		0.37 (6)				0.36 (3)		0.37 (3)				0.364 (21)	0.04

Energy (keV)	1969Li10	1696Wa27*	1969Gr33*	1975Ha31*	1977Zn01	1982Ak03*	1982Fa10*	1983OI01	1983Sc13	1990Mouze	1991Li11	2000Sa32	2002De03	2002MoZP	2004Mo07*	Evaluated	χ^2
826	0.29 (13)			0.21 (7)		0.29 (4)				0.28 (3)		0.29 (4)				0.284 (24)	0.02
832	0.066 (22)			0.062 (25)		0.064 (10)				0.062 (6)		0.080 (3)				0.076 (5)	3.7
847				0.037 (12)		0.052 (12)				0.057 (7)		0.053 (15)				0.035 (13)	0.06
873						0.032 (10)				0.042 (9)		0.040 (10)				0.041 (7)	0.02
878						0.022 (7)				0.026 (6)						0.026 (6)	
904	0.15 (7)			0.198 (50)		0.15 (2)				0.14 (2)		0.16 (4)				0.144 (17)	0.1
915				0.050 (12)		0.070 (14)				0.065 (8)		0.043 (6)				0.051 (11)	4.8
917						0.010 (7)				0.010 (7)						0.010 (7)	
930						0.058 (13)				0.10 (2)		0.08 (3)				0.094 (17)	0.31
934	6.8 (7)	6.26 (18)	7.0 (7)	7.3 (7)	6.93 (10)	7.0 (9)	6.54 (13)		6.75 (9)	6.88 (5)	6.66 (9)	6.70 (20)	6.783 (34)	6.83 (4)	6.788 (34)	6.814 (22)	1.05
939						0.030 (8)				0.028 (8)		0.045 (9)				0.036 (8)	2.0
943			0.205 (34)	0.037 (12)		0.034 (8)				0.037 (6)		0.050 (26)				0.038 (6)	0.24
949						0.009 (6)				0.012 (5)						0.012 (5)	
952										0.013 (5)						0.013 (5)	
961						0.046 (12)				0.03 (2)		0.022 (3)				0.0222 (30)	0.16
964	0.81 (11)		0.78 (8)	0.85 (9)		0.82 (10)				0.80 (5)	0.796 (38)	0.80 (7)				0.799 (27)	0.01
976				0.050 (25)		0.029 (8)				0.033 (5)		0.035 (13)				0.0333 (47)	0.02
991				0.0031 (15)		0.009 (6)				0.022 (5)		0.050 (22)				0.023 (6)	1.5
1013				0.022 (11)						0.018 (3)		0.034 (11)				0.0191 (41)	1.9
1021				0.025 (12)						0.034 (6)		0.036 (15)				0.034 (6)	0.02
1032	0.154 (44)			0.161 (50)						0.13 (1)		0.17 (3)				0.135 (9)	0.9
1038				0.025 (12)						0.018 (3)		0.030 (10)				0.0190 (33)	1.3
1045				0.062 (12)						0.051 (6)		0.037 (20)				0.050 (6)	0.45
1051	0.73 (9)		0.71 (7)	0.68 (7)			0.76 (3)			0.66 (5)	0.692 (24)	0.72 (4)				0.713 (17)	1.1
1067				0.062 (25)						0.055 (20)		0.051 (24)				0.053 (15)	0.02
1069	0.57 (9)		0.73 (14)	0.62 (7)						0.56 (4)	0.605 (33)	0.65 (6)				0.595 (23)	0.59
1103	0.35 (7)			0.21 (10)						0.21 (3)		0.24 (7)				0.233 (33)	1.7
1104			0.250 (34)	0.17 (7)						0.16 (3)						0.16 (3)	
1118										0.015 (8)		0.034 (11)				0.022 (9)	1.9
1120	33.0 (33)	31.90 (73)	29.4 (28)	34.0 (35)	32.72 (39)		33.52 (42)	32.73 (48)	32.31 (46)	33.13 (22)	33.19 (46)	32.3 (10)	32.71 (10)	32.77 (12)	32.74 (10)	32.77 (7)	0.64
1130				0.099 (25)						0.078 (9)		0.080 (11)				0.079 (7)	0.02
1133	0.55 (11)		0.478 (46)	0.62 (6)						0.56 (3)	0.545 (29)	0.57 (3)				0.558 (17)	0.12
1155	3.74 (44)		3.72 (34)	3.96 (50)			3.65 (7)			3.5 (4)	3.583 (46)	3.4 (7)	3.594 (36)	3.595 (17)	3.597 (32)	3.594 (15)	0.06
1167				0.021 (17)						0.027 (4)		0.028 (10)				0.0271 (37)	0.01
1172	0.066 (22) μ			0.113 (41)						0.098 (12)		0.132 (9)				0.120 (16)	5.1

Energy (keV)	1969Li10	1696Wa27*	1969Gr33*	1975Ha31*	1977Zn01	1982Ak03*	1982Fa10*	1983OI01	1983Sc13	1990Mouze	1991Li11	2000Sa32	2002De03	2002MoZP	2004Mo07*	Evaluated	χ^2
1207	1.03 (13)		0.89 (9)	1.10 (11)						0.98 (6)	0.991 (35)	1.04 (7)				0.998 (27)	0.18
1226				0.058 (19)						0.028 (11)		0.074 (20)				0.039 (18)	4.1
1230										0.015 (6)		0.08 (4)				0.016 (10)	2.6
1238	13.4 (13) μ	12.77 (12)	12.8 (11)	14.9 (15)	12.94 (17)		13.25 (22)	13.01 (18)	12.71 (16)	12.87 (9)	12.73 (18)	12.7 (4)	12.83 (6)	12.80 (4)	12.85 (5)	12.819 (29)	0.43
1280	3.30 (44) μ		2.92 (28)	3.59 (50)			3.22 (6)			3.17 (17)	3.144 (46)	3.15 (11)	3.147 (28)	3.159 (16)	3.151 (28)	3.155 (13)	0.05
1284										0.052 (12)		0.020 (7)				0.028 (14)	5.3
1303	0.24 (7)		0.284 (34)	0.25 (6)						0.21 (2)	0.246 (15)	0.20 (5)				0.231 (12)	0.83
1316	0.154 (44)			0.198 (50)						0.16 (2)		0.20 (3)				0.170 (16)	0.69
1330				0.024 (11)						0.026 (3)		0.039 (17)				0.0264 (30)	0.57
1341				0.050 (25)						0.046 (6)		0.059 (29)				0.047 (6)	0.19
1351			0.205 (34)							0.008 (2)		0.014 (4)				0.0092 (24)	1.8
1353				0.0099 (25)						0.008 (2)						0.008 (2)	
1377	9.5 (11) μ	8.70 (48)	9.0 (9)	9.9 (11)	8.87 (15)		8.66 (16)			8.82 (12)	8.79 (14)	8.52 (25) μ	8.689 (19)	8.79 (3)	8.720 (44)	8.722 (25)	2.5
1385	1.76 (33)	1.29 (30)	1.66 (17)	2.04 (20)						1.81 (8) μ	1.664 (40) μ	1.76 (5)	1.744 (17)	1.755 (16)	1.750 (19)	1.750 (11)	1.8
1392				0.041 (19)						0.018 (4)		0.035 (15)				0.0191 (42)	1.2
1401	3.30 (44) μ		3.03 (28)	3.47 (37)						2.91 (16)	2.792 (45)	3.0 (4)	2.924 (20)	2.934 (13)	2.927 (20)	2.923 (16)	2.3
1407	5.7 (7)		5.9 (6)	6.2 (7)						5.37 (6)	4.73 (13) μ	5.5 (5)	5.233 (26)	5.250 (19)	5.245 (42)	5.252 (17)	1.3
1419				0.0111 (25)						0.011 (3)		0.013 (3)				0.0120 (21)	0.22
1470										0.020 (3)		0.035 (15)				0.0206 (29)	0.96
1479	0.110 (44)			0.124 (50)						0.11 (1)		0.14 (3)				0.113 (9)	0.45
1509	4.84 (44)		4.77 (46)	5.45 (50)	4.78 (9)		4.77 (9)		4.57 (11)	4.76 (5)	4.64 (9)	4.63 (15)	4.61 (6)	4.67 (3)	4.64 (6)	4.679 (21)	0.95
1515										0.015 (2)		0.039 (10)				0.0159 (46)	5.5
1538	1.17 (13) μ		0.72 (7)	1.14 (12)						0.95 (6)	0.827 (31)	0.98 (5)				0.882 (49)	4.1
1543	0.75 (18)			0.74 (7)						0.68 (4)	0.44 (11)	0.67 (3)				0.664 (29)	1.5
1583	1.60 (15)		1.47 (5)	1.86 (19)			1.57 (3)			1.58 (8)	1.517 (34)	1.64 (17)		1.556 (13)		1.555 (11)	0.39
1594	0.66 (20)		0.51 (6)	0.69 (6)						0.61 (4)	0.55 (8)	0.63 (10)				0.603 (33)	0.21
1599	0.75 (20)		0.66 (7)	0.85 (11)						0.72 (4)	0.51 (12)	0.73 (7)				0.707 (33)	0.98
1636				0.040 (12)						0.024 (3)		0.06 (3)				0.0244 (36)	1.4
1657				0.16 (7)						0.10 (1)		0.14 (3)				0.104 (12)	1.6
1661	2.55 (26)		2.49 (20)	2.72 (25)			2.55 (5)			2.33 (12)	2.53 (7)	2.37 (22)	2.271 (34)	2.299 (14)	2.284 (34)	2.304(20)	2.5
1665										0.018 (3)		0.046 (9)				0.032 (14)	4.8
1683	0.53 (9)		0.52 (6)	0.56 (6)						0.49 (3)	0.475 (13)	0.43 (4)		0.481 (9)		0.478 (7)	0.52
1711												0.050 (10)				0.050 (10)	
1729	7.03 (9) μ	6.94 (20)	6.6 (6)	7.5 (7)	6.29 (10)		6.56 (12)			6.60 (4) μ	6.42 (9)	6.33 (15)	6.226 (31)	6.25 (3)	6.229 (31)	6.251 (22)	1.2
1751										0.002 (1)						0.002 (1)	

Energy (keV)	1969Li10	1696Wa27*	1969Gr33*	1975Ha31*	1977Zn01	1982Ak03*	1982Fa10*	1983OI01	1983Sc13	1990Mouze	1991Li11	2000Sa32	2002De03	2002MoZP	2004Mo07*	Evaluated	χ^2
1764	36.7 (35) μ	35.34 (10)	34.4 (34)	40.0 (40)	34.23 (44)		34.91 (41)		33.2(7)	34.48 (25)	33.85 (46)	33.3 (10)	33.54 (10)	33.63 (9)	33.56 (10)	33.66 (10)	2.5
1813				0.026 (10)						0.024 (2)		0.020 (10)				0.0238 (20)	0.15
1838	0.81 (11)		0.88 (8)	0.89 (10)						0.74 (3)		0.77 (4)				0.753(23)	0.32
1847	5.1 (7) μ		4.76 (46)	5.32 (50)	4.52 (9)		4.59 (9)			4.57 (6)		4.35 (13)	4.448 (36)	4.42 (3)	4.457 (31)	4.451 (26)	1.6
1873	0.48 (11)		0.478 (46)	0.557 (50)						0.46 (2)		0.51 (5)				0.467 (18)	0.44
1890	0.22 (7)		0.205 (46)	0.21 (7)						0.17 (1)		0.17 (3)				0.171 (9)	0.25
1895	0.40 (9)		0.432 (46)	0.37 (6)						0.31 (2)		0.35 (4)				0.321 (18)	0.8
1898				0.136 (50)						0.11 (2)		0.10 (3)				0.107 (17)	0.08
1935			0.432 (46)	0.111 (50)						0.067 (7)		0.16 (4)				0.070 (16)	5.2
1994										0.005 (1)		0.010 (5)				0.0052 (10)	0.96
2010	0.081 (13)			0.111 (12)						0.100 (5)		0.093 (5)				0.0954 (37)	1.1
2021				0.074 (12)						0.045 (5)		0.057 (11)				0.0471 (46)	0.99
2052	0.154 (44)		0.250 (34)	0.173 (25)						0.15 (1)		0.16 (3)				0.151 (9)	0.52
2085	0.022 (7)			0.0198 (50)						0.018 (1)						0.0181 (10)	0.32
2089	0.110 (22)		0.137 (46)	0.124 (12)						0.096 (5)		0.12 (3)				0.0973 (48)	0.49
2109	0.220 (44)		0.20 (6)	0.235 (50)					0.180 (9)	0.19 (1)		0.17 (3)				0.185 (6)	0.48
2118	2.86 (33) μ	2.76 (13)	2.61 (23)	3.03 (31)	2.53 (5)		2.51 (5)		2.57 (7)	2.56 (3)		2.65 (25) μ	2.536 (20)	2.548 (21)	2.537 (20)	2.545 (12)	0.17
2147	0.026 (7)			0.036 (10)						0.029 (2)		0.050 (10)				0.0295 (28)	2.3
2160										0.004 (1)		0.026 (1)				0.015 (11)	
2176										0.007 (1)		0.015 (6)				0.0072 (13)	1.7
2192	0.154 (44)			0.161 (50)					0.070 (13)	0.073 (6)		0.093 (5)				0.084 (7)	3.4
2204	11.7 (11) μ	11.22 (47)	11.37 (24)	12.38 (27)	10.77 (20)		10.66 (20)		10.95 (70)	11.02 (9)		11.1 (3)	10.74 (5)	10.75 (9)	10.76 (5)	10.80 (5)	1.8
2251				0.015 (7)						0.012 (1)						0.012 (1)	
2260			0.057 (23)	0.0149 (50)						0.019 (1)		0.020 (3)				0.0191 (9)	0.1
2266	0.033 (7)			0.045 (12)						0.037 (2)		0.034 (4)				0.0362 (17)	0.34
2270				0.0111 (50)						0.0029 (5)		0.010 (5)				0.0030 (7)	2.0
2284										0.011 (1)		0.011 (3)				0.0110 (9)	
2287										0.010 (1)						0.010 (1)	
2293	0.73 (9)		0.67 (7)	0.83 (9)			0.67 (2)		0.662 (20)	0.67 (3)		0.72 (6)	0.665 (17)	0.677 (10)	0.665 (17)	0.673 (8)	0.57
2310										0.003 (2)						0.003 (2)	
2312	0.020 (7)			0.0235 (50)						0.019 (2)		0.018 (5)				0.0189 (18)	0.029
2319										0.0009 (3)		0.0050 (10)				0.0030 (20)	8.4
2325				0.0040 (20)						0.0037 (4)		0.009 (3)				0.0038 (7)	3.1
2331	0.046 (9)		0.034 (11)	0.0557 (50)						0.048 (3)		0.076 (7)				0.056 (9)	5.7
2348										0.0003 (2)						0.0003 (2)	

Energy (keV)	1969Li10	1696Wa27*	1969Gr33*	1975Ha31*	1977Zn01	1982Ak03*	1982Fa10*	1983OI01	1983Sc13	1990Mouze	1991Li11	2000Sa32	2002De03	2002MoZP	2004Mo07*	Evaluated	χ^2
2353										0.0008 (3)						0.0008 (3)	
2361				0.0040 (12)						0.0033 (3)		0.0060 (10)				0.0046 (14)	3.6
2369										0.006 (1)		0.008 (3)				0.0062 (9)	0.4
2376	0.0132 (44)		0.057 (23)	0.022 (7)						0.019 (1)		0.034 (7)				0.0190 (17)	3.2
2390				0.0042 (10)						0.0034 (3)		0.006 (3)				0.00343 (30)	0.74
2405										0.0009 (3)		0.0040 (10)				0.0024 (16)	4.8
2423	0.0132 (44)			0.0115 (40)						0.010 (1)		0.018 (4)				0.0106 (14)	2.1
2444										0.018 (9)						0.018 (9)	
2447	3.63 (40) μ	3.32 (6)	3.79 (28)	3.96 (37)	3.32 (8)		3.28 (6)			3.42 (3)		3.30 (10)	3.402 (24)	3.41 (4)	3.408 (24)	3.403 (16)	0.50
2459										0.0031 (5)						0.0031 (5)	
2482				0.0046 (19)						0.0021 (4)						0.0021 (4)	6.1
2505	0.0154 (44)			0.0149 (37)						0.012 (1)		0.025 (7)				0.0124 (13)	1.9
2550										0.0007 (2)						0.0007 (2)	
2562										0.0004 (3)						0.0004 (3)	
2564										0.0003(2)						0.0003(2)	
2604				0.00099 (25)						0.0008 (2)						0.0008 (2)	
2630				0.0020 (10)						0.0018 (3)		0.0050 (17)				0.0019 (5)	3.4
2662										0.0006 (2)		0.0004 (1)				0.00044 (9)	0.8
2694	0.068 (9)		0.072 (34)	0.079 (7)			0.078 (2)			0.066 (3)		0.062 (4)				0.072 (6)	4.5
2699	0.0110 (44)			0.0050 (19)						0.0061 (5)						0.0062 (5)	1.2
2719	0.0033 (11)			0.0040 (12)						0.0038 (4)						0.00374 (38)	0.18
2769	0.057 (9)		0.057 (23)	0.062 (7)			0.047 (2)			0.053 (3)		0.048 (15)				0.0494 (17)	1.2
2785	0.0110 (22)			0.0149 (25)						0.012 (1)		0.030 (11)				0.0120 (11)	1.4
2826	0.0046 (11)			0.0062 (12)						0.0048 (4)		0.011 (6)				0.00480 (38)	0.55
2861				0.00074 (37)						0.0009 (2)		0.008 (5)				0.00091 (28)	2.01
2880	0.0176 (33)		0.019 (6)	0.024 (7)						0.020 (2)		0.030 (3)				0.0222 (35)	4.8
2893	0.0132 (33)		0.016 (7)	0.0149 (37)						0.012 (1)		0.017 (3)				0.0126 (10)	1.3
2921	0.035 (7)		0.032 (11)	0.037 (6)						0.029 (1)		0.035 (4)				0.0295 (11)	1.4
2928				0.0026 (10)						0.0024 (2)						0.0024 (2)	
2934				0.00124 (50)						0.0010 (2)		0.005 (3)				0.00102 (27)	1.8
2978	0.031 (7)		0.038 (23)	0.037 (6)			0.029 (2)			0.030 (1)		0.034 (7)				0.0302 (9)	0.85
2999	0.0220 (44)		0.015 (7)	0.024 (6)						0.019 (1)		0.030 (5)				0.0195 (15)	2.5
3053	0.046 (7)		0.046 (23)	0.053 (7)						0.041 (2)		0.057 (3)				0.048 (7)	1.8
3081	0.0110 (44)			0.0124 (37)						0.011 (1)		0.020 (4)				0.0115 (15)	2.4
3093				0.00111 (37)						0.0008 (1)		0.0010 (3)				0.00082 (9)	0.4

Energy (keV)	1969Li10	1696Wa27*	1969Gr33*	1975Ha31*	1977Zn01	1982Ak03*	1982Fa10*	1983OI01	1983Sc13	1990Mouze	1991Li11	2000Sa32	2002De03	2002MoZP	2004Mo07*	Evaluated	χ^2
3142	0.0022 (9)			0.0035 (12)						0.0026 (2)		0.0060 (28)				0.00260 (19)	0.84
3149										0.00019						0.00019	
3160	0.00110 (44)			0.00111 (50)						0.0010 (2)		0.0030 (17)				0.00104 (18)	0.7
3183	0.00110 (44)			0.0032 (10)						0.0028 (2)		0.0060 (10)				0.0023 (10)	1.3

*: Not used by the evaluators (see below).

μ : the experimental value has been shown to be outlier value by the Lweight program.

There were omitted from analysis:

- four sets of values, A. Hachem (1975Ha31), G. Mouze (1981Mo28), H. Akcay (1982Ak03), G. Mouze (1990Mo08) and O. Diallo (1993Di09), because these values come from the same laboratory of G. Mouze (1990Mo**).
- the sets of values from K. Ya. Gromov (1969Gr33), G. Wallace (1969Wa27) and M. A. Farouk (1982Fa10), because of a lack of information in the articles about the experimental measurements carried out and, therefore on the results.
- the relative γ -ray intensity values given in 2004Mo07, because they are those measured by J. U. Delgado (2002De03). In 2004Mo07, the author measured the absolute 609.3-keV γ -ray emission probability (Table 5) and normalized the 2002De03 data set with their value of 45.57 (18).

Table 6: Evaluated relative and absolute γ -ray intensities.

Energy (keV)	Relative γ -ray intensity (%)	Absolute γ -ray intensity (%)	Energy (keV)	Relative γ -ray intensity (%)	Absolute γ -ray intensity (%)	Energy (keV)	Relative γ -ray intensity (%)	Absolute γ -ray intensity (%)	Energy (keV)	Relative emission intensity (%)	Absolute γ -ray intensity (%)
221	0.130 (13)	0.059 (6)	703	1.053(24)	0.479 (11)	1238	12.819 (29)	5.831 (14)	2204	10.80 (5)	4.913 (23)
230	0.0063 (21)	0.0029 (10)	704	0.112 (21)	0.051 (10)	1280	3.155 (13)	1.435 (6)	2251	0.012 (1)	0.0055 (5)
252	0.0258 (39)	0.0117 (18)	708	0.0262 (43)	0.0119 (20)	1284	0.028 (14)	0.013 (6)	2260	0.0191 (9)	0.0087 (4)
268	0.0355 (40)	0.0161 (18)	710	0.168 (8)	0.076 (4)	1303	0.231 (12)	0.105 (5)	2266	0.0362 (17)	0.0165 (8)
273	0.264 (18)	0.120 (8)	719	0.865 (22)	0.393 (10)	1316	0.170 (16)	0.077 (7)	2270	0.0030 (7)	0.0014 (3)
280	0.136 (14)	0.062 (6)	722	0.082 (15)	0.037 (7)	1330	0.0264 (30)	0.0120 (14)	2284	0.0110 (9)	0.0050(4)
304	0.056 (5)	0.0255 (23)	733	0.084 (7)	0.038 (3)	1341	0.047 (6)	0.0214 (27)	2287	0.010 (1)	0.0046 (5)
333	0.139 (9)	0.063 (4)	740	0.0941 (47)	0.0428 (21)	1351	0.0092 (24)	0.0042 (11)	2293	0.673 (8)	0.306 (4)
334	0.072 (10)	0.033 (5)	752	0.278 (17)	0.126 (8)	1353	0.008 (2)	0.0036 (9)	2310	0.003 (2)	0.0014 (9)
348	0.27 (7)	0.123 (32)	768	10.755 (36)	4.892 (16)	1377	8.722 (25)	3.968 (11)	2312	0.0189 (18)	0.0086 (8)
386	0.650 (12)	0.296 (5)	786	0.69 (10)	0.31 (5)	1385	1.750 (11)	0.796 (5)	2319	0.0030 (20)	0.0014 (9)
388	0.864 (10)	0.394 (5)	788	0.033 (10)	0.015 (5)	1392	0.0191 (42)	0.0087 (19)	2325	0.0038 (7)	0.0017 (3)
394	0.0280 (40)	0.0127 (18)	806	2.774 (13)	1.262 (6)	1401	2.923 (16)	1.330 (7)	2331	0.056 (9)	0.026 (4)
396	0.057 (4)	0.0259 (18)	815	0.085 (7)	0.039 (3)	1407	5.252 (17)	2.389 (8)	2348	0.003 (2)	0.0014 (9)
405	0.375 (16)	0.171 (7)	821	0.364 (21)	0.166 (10)	1419	0.0120 (21)	0.0055 (10)	2353	0.0008 (3)	0.00036 (14)
452	0.067 (8)	0.031 (4)	826	0.284 (24)	0.129 (11)	1470	0.0206 (29)	0.0094 (13)	2361	0.0046 (14)	0.0021 (6)
454	0.634 (10)	0.288 (5)	832	0.076 (5)	0.035 (2)	1479	0.113 (9)	0.051 (4)	2369	0.0062 (9)	0.0028 (4)
461	0.128 (18)	0.058 (8)	847	0.035 (13)	0.016 (6)	1509	4.679 (21)	2.128 (10)	2376	0.0190 (17)	0.0086 (8)
469	0.292 (32)	0.133 (15)	873	0.041 (7)	0.019 (3)	1515	0.0159 (46)	0.0072 (21)	2390	0.00343 (30)	0.00156 (14)
474	0.203 (14)	0.092 (6)	878	0.026 (6)	0.0118 (27)	1538	0.882 (49)	0.401 (22)	2405	0.0024 (16)	0.0011 (7)
485	0.046 (8)	0.021 (4)	904	0.144 (17)	0.066 (8)	1543	0.664 (29)	0.302 (13)	2423	0.0106 (14)	0.0048 (6)
487	0.061 (20)	0.028 (9)	915	0.051 (11)	0.023 (5)	1583	1.555 (11)	0.707 (5)	2444	0.018 (9)	0.008 (4)
494	0.023 (6)	0.011 (3)	917	0.010 (7)	0.005 (3)	1594	0.603 (33)	0.274 (15)	2447	3.403 (16)	1.548 (7)
496	0.015 (4)	0.0068 (18)	930	0.094 (17)	0.043 (8)	1599	0.707 (33)	0.322 (15)	2459	0.0031 (5)	0.00141 (23)
501	0.0397 (48)	0.0181 (22)	934	6.814 (22)	3.100 (10)	1636	0.0244 (36)	0.0111 (16)	2482	0.0021 (4)	0.00096 (18)
519	0.0364 (38)	0.0166 (17)	939	0.036 (8)	0.016 (4)	1657	0.104 (12)	0.047 (5)	2505	0.0124 (13)	0.0056 (6)

Energy (keV)	Relative γ -ray intensity (%)	Absolute γ -ray intensity (%)	Energy (keV)	Relative γ -ray intensity (%)	Absolute γ -ray intensity (%)	Energy (keV)	Relative γ -ray intensity (%)	Absolute γ -ray intensity (%)	Energy (keV)	Relative emission intensity (%)	Absolute γ -ray intensity (%)
524	0.0372 (38)	0.0169 (17)	943	0.038 (6)	0.017 (3)	1661	2.304(20)	1.048 (9)	2550	0.0007 (2)	0.00032 (9)
528	0.0239 (29)	0.0109 (13)	949	0.012 (5)	0.0055 (23)	1665	0.032 (14)	0.015 (6)	2562	0.0004 (2)	0.00018 (9)
536	0.134 (17)	0.061 (8)	952	0.013 (5)	0.0059 (23)	1683	0.478 (7)	0.217 (3)	2564	0.0003(2)	0.00014 (9)
543	0.194 (46)	0.088 (21)	961	0.0222 (30)	0.0101 (14)	1711	0.050 (10)	0.023 (5)	2604	0.0008 (2)	0.00036 (9)
547	0.075 (6)	0.034 (3)	964	0.799 (27)	0.363 (12)	1729	6.251 (22)	2.844 (10)	2630	0.0019 (5)	0.00086 (23)
551	0.012 (3)	0.0055 (14)	976	0.0333 (47)	0.0151 (21)	1751	0.002 (1)	0.0009 (5)	2662	0.00044 (9)	0.00020 (4)
572	0.156 (17)	0.071 (8)	991	0.023 (6)	0.011 (3)	1764	33.66 (10)	15.31 (5)	2694	0.072 (6)	0.033 (3)
595	0.0383 (33)	0.0174 (15)	1013	0.0191 (41)	0.0087 (19)	1813	0.0238 (20)	0.0108 (9)	2699	0.0062 (5)	0.00282 (23)
600	0.018 (8)	0.008 (4)	1021	0.034 (6)	0.016 (3)	1838	0.753(23)	0.343 (10)	2719	0.00374 (38)	0.00170 (17)
609	100	45.49 (19)	1032	0.135 (9)	0.061 (4)	1847	4.451 (26)	2.025 (12)	2769	0.0494 (17)	0.0225 (8)
615	0.121 (16)	0.055 (7)	1038	0.0190 (33)	0.0086 (15)	1873	0.467 (18)	0.212 (8)	2785	0.0120 (11)	0.0055 (5)
617	0.059 (10)	0.027 (5)	1045	0.050 (6)	0.023(3)	1890	0.171 (9)	0.078 (4)	2826	0.00480 (38)	0.00218 (17)
626	0.009 (3)	0.0041 (14)	1051	0.713 (17)	0.324 (8)	1895	0.321 (18)	0.146 (8)	2861	0.00091 (28)	0.00041 (13)
630	0.0366 (31)	0.0166 (14)	1067	0.053 (15)	0.024 (7)	1898	0.107 (17)	0.049 (8)	2880	0.0222 (35)	0.0101 (16)
633	0.120 (7)	0.055 (3)	1069	0.595 (23)	0.271 (10)	1935	0.070 (16)	0.032 (7)	2893	0.0126 (10)	0.0057 (5)
634	0.014 (5)	0.0064 (23)	1103	0.233 (33)	0.106 (15)	1994	0.0052 (10)	0.0024 (5)	2921	0.0295 (11)	0.0134 (5)
639	0.075 (10)	0.034 (5)	1104	0.16 (3)	0.073 (14)	2010	0.0954 (37)	0.0434 (17)	2928	0.0024 (2)	0.00109 (9)
649	0.119 (16)	0.054 (7)	1118	0.022 (9)	0.010 (4)	2021	0.0471 (46)	0.0214 (21)	2934	0.00102 (27)	0.00046 (12)
658	0.038 (8)	0.017 (4)	1120	32.77 (7)	14.91 (3)	2052	0.151 (9)	0.069 (4)	2978	0.0302 (9)	0.0137 (4)
661	0.118 (9)	0.054 (4)	1130	0.079 (7)	0.036 (3)	2085	0.0181 (10)	0.0082 (5)	2999	0.0195 (15)	0.0089 (7)
665	3.364 (15)	1.530 (7)	1133	0.558 (17)	0.254 (8)	2089	0.0973 (48)	0.0443 (22)	3053	0.048 (7)	0.022 (3)
677	0.012 (5)	0.0055 (23)	1155	3.594 (15)	1.635 (7)	2109	0.185 (6)	0.084 (3)	3081	0.0115 (15)	0.0052 (7)
683	0.184 (13)	0.084 (6)	1167	0.0271 (37)	0.0123 (17)	2118	2.545 (12)	1.158 (5)	3093	0.00082 (9)	0.00037 (4)
687	0.0146 (31)	0.0066 (14)	1172	0.120 (16)	0.055 (7)	2147	0.0295 (28)	0.0134 (13)	3142	0.00260 (19)	0.00118 (9)
693	0.0129 (33)	0.0059 (15)	1207	0.998 (27)	0.454 (12)	2160	0.015 (11)	0.007 (5)	3149	0.00019	0.00019
697	0.148 (9)	0.067 (4)	1226	0.039 (18)	0.018 (8)	2176	0.0072 (13)	0.0033 (6)	3160	0.00104 (18)	0.00047 (8)
699	0.035 (10)	0.016(5)	1230	0.016 (10)	0.007 (5)	2192	0.084 (7)	0.038 (3)	3183	0.0023 (10)	0.0011 (5)

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