Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. Katakura, Z. D. Wu	NDS 109,1655 (2008)	1-Apr-2008

Q(β^-)=−5930 *9*; S(n)=10484 *10*; S(p)=7006 *4*; Q(α)=−718 *4* 2012Wa38

Note: Current evaluation has used the following Q record −5929 9 *10483* 107006 4 −680 10 2003Au03.

Q(β^-): Other: 5902(2001Ko07), small HPGe detector,experimental response function compared with the response function calculated by egs4.

Isotope shift was measured in 1981Bo07.

^{124}Xe Levels

Cross Reference (XREF) Flags

A	^{124}Cs ε decay	D	(HI,xnγ)
B	^{122}Te(^{3}He,n)	E	^{124}Xe(γ,γ')
C	Coulomb excitation	F	^{82}Se(^{48}Ca,6nγ)

$T_{1/2}(2\beta^+(0\nu))(0^+$ to $0^+)$:
> 3.5×10^{17} y (68 % confidence level) (1990Ba22)
> 4.2×10^{17} y (68 % confidence level) (1989Ba22)

$T_{1/2}(2\beta^+(2\nu))(0^+$ to $0^+)$:
≥ 1.6×10^{14} y (68 % confidence level) (1990Ba22)
> 2.0×10^{14} y (68 % confidence level) (1989Ba22)

$T_{1/2}(K\beta^+(0\nu))(0^+$ to $0^+)$:
> 9.2×10^{17} y (68 % confidence level) (1990Ba22)
> 1.2×10^{18} y (68 % confidence level) (1989Ba22)

$T_{1/2}(K\beta^+(0\nu))(0^+$ to $2^+)$:
> 5.1×10^{17} y (68 % confidence level) (1990Ba22)
> 4.2×10^{17} y (68 % confidence level) (1989Ba22)

$T_{1/2}(K\beta^+(2\nu))(0^+$ to $0^+)$:
> 3.4×10^{16} y (68 % confidence level) (1990Ba22)
> 4.8×10^{16} y (68 % confidence level) (1989Ba22)

$T_{1/2}(2K(2\nu))(0^+$ to $0^+)$:
> 1.1×10^{17} y (90 % confidence level) (1998Ga27)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
0.0&	0^+	≥1.6×10^{14} y	ABCDEF	%2β+=? <r^2>$^{1/2}$=4.762 fm *5* (2004An14, evaluation). $T_{1/2}$: from 1990Ba22 for $2\beta^+(2\nu)$ decay which is the fastest decay mode. The measurement was performed with ionization chamber filled with a mixture Xe+0.8%H2 gas. 1989Ba22 also reported $T_{1/2}>2.0\times10^{14}$ y for the decay mode. For more details, see the table above. $\Delta<r^2>=-0.242$ *5* fm^2 (relative to ^{136}Xe; 1989Bo03).
354.03& *4*	2^+	46.8 ps *12*	A CD F	μ=+0.46 *4* Jπ: E2 γ to 0^+. $T_{1/2}$: others: 44 ps *+7−6* in Coul. ex.; 57 ps *3*(1998Go03); 33 ps *12*(1982GaZH). 2001Ra27 evaluation gives 52 ps *3*. μ: Ion implantation PAC (1975Go18,1989Ra17). Value relative to μ=+0.78 *10* for 668 level in ^{132}Xe. See also 2005St24 compilation. B(E2)↑: 0.17(1998Go03).
846.50i *4*	2^+	12.3 ps *21*	A D F	Jπ: from $\gamma\gamma(\theta)$, E2 γ to 0^+. $T_{1/2}$: other: 6.9 ps *14*(1982GaZH).
878.92& *5*	4^+	5.68 ps *16*	A CD F	Jπ: from $\gamma(\theta)$, E2 γ to 2^+; g.s. band member. $T_{1/2}$: Others:2.1 ps *2*(1998Go03); 3.5 ps *4*(1982GaZH).

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
				B(E2)↑: 0.67(1998Go03).
1247.63[h] *7*	3^+	6.2 ps *7*	A D F	Jπ: M1+E2 γ to 2^+; ΔJ=1 γ to 4^+. $T_{1/2}$: other: 6.2 ps *14*(1982GaZH).
1268.91[n] *6*	0^+		A D	Jπ: from γγ(θ), E2 γ to 2^+.
1437.96[i] *9*	4^+	2.1 ps *7*	D F	Jπ: from γ(θ), M1+E2 γ to 4^+, E2 γ to 2^+. $T_{1/2}$: from 1982GaZH.
1548.46[&] *9*	6^+	1.29 ps *11*	D F	Jπ: from γ(θ), E2 γ to 4^+; g.s. band member. $T_{1/2}$: Others:0.7 ps *1*(1998Go03); 1.0 ps *4*(1982GaZH). B(E2)↑: 0.60(1998Go03).
1628.57[n] *5*	2^+		A D	Jπ: logft=5.73 from 1^+, γ's to 0^+ and 4^+.
1689.91 *7*	0^+		AB	XREF: B(1650). Jπ: from γγ(θ); L=0 in (^{3}He,n).
1836.92[h] *9*	5^+	3.99 ps *17*	D F	Jπ: from γ(θ), M1+E2 γ's to 4^+, E2 γ to 3^+. $T_{1/2}$: other: 3.1 ps *4*(1982GaZH).
1873.40[m] *13*	(4^+)		D	Jπ: γ's to 2^+,3^+,4^+; band assignment.
1898.01 *23*	$3^{(-)}$		CD	Negative parity from Coulomb Excitation.
1978.51 *6*	2^+		A	Jπ: γ's to 0^+ and 4^+.
1994.28 *22*			D	
2014.73[n] *17*	$4^{(+)}$		D	Jπ: γ's to 2^+ and 4^+; band assignment.
2143.74[i] *13*	6^+	4.2 ps	D F	Jπ: E2 γ to 4^+; M1+E2 γ to 6^+. $T_{1/2}$: from 1982GaZH. $\Delta T_{1/2}$ not given.
2164.9 *3*			D	
2182.0 *7*	1[@]		E	
2205.35 *7*	(2^+)		A D	Jπ: log *ft*=6.01 from 1^+, γ's to 2^+ and 4^+.
2222.78 *16*	(4,5)		D	Jπ: γ's to 4^+ and 3^+.
2226.33[b] *15*	$5^{(-)}$		D F	Jπ: D(+Q) γ to 4^+; band assignment.
2279.3 *3*			D	
2281.5 *3*			D	
2290.7 *3*			D	
2331.04[&] *12*	8^+	0.79 ps *24*	D F	Jπ: from γ(θ), E2 γ to 6^+; g.s. band member. $T_{1/2}$: Others:0.5 ps *2*(1998Go03); 1.0 ps *4*(1982GaZH). B(E2)↑: 0.39(1998Go03).
2360.61[m] *15*	$5^{(+)}$		D	Jπ: γ's to 3^+, 4^+ and 5^+; ΔJ=2 γ to 3^+; band assignment.
2367.2 *3*			D	
2373.61 *7*	$(0)^+$		Ab	XREF: b(2310). Jπ: from log *ft*=5.72 from 1^+, probable (E0) to 0^+.
2380.9 *4*	5		D	
2382.09 *10*	$1^{(+)}$,$2^{(+)}$		Ab	XREF: b(2310). Jπ: from log *ft*=6.43 from 1^+, γ to 0^+.
2508.9 *3*	(5,6)		D	Jπ: γ to 4^+.
2519.47 *6*	2^+		A	Jπ: from log *ft*=5.40 from 1^+, γ's to 0^+ and 4^+.
2531.83[m] *19*	$6^{(+)}$		D	Jπ: γ's to (4^+), 5^+ and 6^+; band assignment.
2535.87 *8*	0^+,1^+,2^+		A	Jπ: from log *ft*=5.69 from 1^+.
2536.4 *3*			D	
2545.0 *7*	1[@]		E	
2574.61[h] *15*	7^+	3.5 ps	D F	Jπ: from γ(θ), E2 γ to 5^+; γ to 6^+. $T_{1/2}$: from 1982GaZH. $\Delta T_{1/2}$ not given.
2578.70[g] *13*	$6^{(-)}$		D F	Jπ: ΔJ=1 γ to 5^+; ΔJ=0 γ to 6^+; band assignment.
2600.6 *3*			D	
2625.4 *4*			D	
2625.59[b] *13*	7^-	68 ps *7*	D F	Jπ: from γ(θ), E1 γ to 6^+. $T_{1/2}$: other: 103 ps *10*(1982GaZH).

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
2644.90 *17*			D	
2647.65 *16*	6		D	
2675.83[f] *14*	$7^{(-)}$	1.0 ps *6*	D F	Jπ: from γ(θ), (E1) γ to 6^+; γ to 5^-; band assignment. $T_{1/2}$: from 1982GaZH.
2682.62 *23*			D	
2700.58 *23*			D	
2729.0 *3*			D	
2758.95 *10*	$(1^+,2^+)$		A	Jπ: γ's to 0^+ and 3^+.
2768.68 *18*	7^+		D	Jπ: γ(θ), M1+E2 γ to 6^+.
2779.0 *4*			D	
2791.48 *12*	$(1^+,2)$		A	Jπ: log *ft*=6.42 from 1^+, γ to 3^+.
2799.8 *4*	$(1,2^+)$		A	Jπ: γ's to 0^+ and 2^+.
2809.66[c] *15*	8^-	0.75 ns *4*	D F	Jπ: from γ(θ), M1+E2 γ to 7^-. $T_{1/2}$: from 1982GaZH.
2825.56 *9*	$(1,2^+)$		A	Jπ: γ's to 0^+ and 2^+.
2867.0 *10*	1@		E	
2867.4 *4*			D	
2869.2 *4*			D	
2874.0 *7*	1@		E	
2900.0 *4*	6		D	
2912.13[i] *21*	8^+		D F	Jπ: from γ(θ, E2 γ to 6^+.
2959.1 *4*			D	
2984.2 *4*			D	
2990.9 *6*	1@		E	
3013.2 *4*	(8)		D	
3026.21[m] *16*	(7^+)		D	Jπ: γ's to 5^+, 6^+ and 7^+; band assignment.
3032.2 *4*			D	
3036.1 *7*	1@		E	
3.04×10^3 *10*	+		B	Jπ: L=(0)+2 in (^{3}He,n).
3071.1 *4*			D	
3095.58[g] *15*	$8^{(-)}$		D F	Jπ: ΔJ=1 γ to $7^{(-)}$; ΔJ=2 γ to $6^{(-)}$; band assignment.
3110.1 *4*			D	
3111.85[b] *16*	9^-	21 ps *4*	D F	Jπ: from γ(θ), M1+E2 γ to 8^-, E2 γ to 7^-. $T_{1/2}$: from 1982GaZH.
3124.8 *7*	1@		E	
3131.88 *25*			D	
3147.1 *7*	1@		E	
3147.81[f] *15*	$9^{(-)}$	3.6 ps *5*	D F	Jπ: ΔJ=1 (E1) γ to 8^+; ΔJ=2 γ to $7^{(-)}$; band assignment. $T_{1/2}$: other: 3.5 ps *7*(1982GaZH).
3171.44[&] *14*	10^+	1.74 ps *22*	D F	Jπ: from γ(θ), E2 γ to 8^+. $T_{1/2}$: Others: <0.4 ps deduced from lifetime <0.6 ps(1998Go03); 1.5 ps *3*(1982GaZH). B(E2)↑: 0.32(1998Go03).
3241.40 *24*			D	
3265.1 *7*	1@		E	
3273.7[e] *3*	$9^{(-)}$		D F	Jπ: from ΔJ=1 to 8^+; band assignment.
3343.91[h] *22*	(9^+)		D F	Jπ: ΔJ=(2) γ to 7^+; band assignment.
3350.0 *10*	1@		E	
3439.1 *7*	1@		E	
3462.33[c] *18*	$10^{(-)}$		D F	Jπ: ΔJ=2 γ to 8^-; D γ to 9^-; band assignment.
3464.1 *7*	1@		E	

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
3476.6 *4*			D	
3502.48 *16*	(10^+)		D F	Jπ: ΔJ=(2) γ to 8^+; ΔJ=(0) γ to 10^+.
3511.9 *6*	1[@]		E	
3542.1 *10*	1[@]		E	
3557.1 *3*			D F	
3582.19 *12*	$(1,2^+)$		A	Jπ: γ's to 0^+ and 2^+.
3603.1 *10*	1[@]		E	
3667.1 *10*	1[@]		E	
3669.8[i] *3*	(10^+)		D F	Jπ: ΔJ=(2) γ to 8^+; band assignment.
3676.73 *21*			D	
3716.1 *10*	1[@]		E	
3717.36[g] *17*	$10^{(-)}$		D F	Jπ: ΔJ=2 γ to $8^{(-)}$; ΔJ=1 γ to $9^{(-)}$; band assignment.
3787.16[b] *19*	$11^{(-)}$		D F	Jπ: ΔJ=2 γ to 9^-; band assignment.
3822.61[f] *17*	$11^{(-)}$	2.20 ps *6*	D F	Jπ: (E2) γ to $9^{(-)}$; ΔJ=1 γ to 10^+; band assignment. $T_{1/2}$: other: 0.8 ps *6*(1982GaZH).
3872.1 *10*	1[@]		E	
3883.09[a] *17*	$12^{(+)}$	1.50 ps *25*	D F	Jπ: (E2) γ to 10^+; band assignment. $T_{1/2}$: other: 2.8 ps(1982GaZH).
3896.8 *5*	$(0^+,1,2)$		A	Jπ: log *ft*=6.9 from 1^+, γ to 2^+.
3905.1 *10*	1[@]		E	
3955.9 *4*	(11^-)		D F	Jπ: γ's to $9^{(-)}$ and 10^+; band assignment.
4002.9[h] *3*	(11^+)		D F	Jπ: ΔJ=(2) γ to (9^+); band assignment.
4019.0 *7*	(10^+)		F	Jπ: γ's from $12^{(+)}$ and to 8^+.
4216.10[c] *20*	$12^{(-)}$		D F	Jπ: ΔJ=2 γ to $10^{(-)}$; ΔJ=1 γ to $11^{(-)}$; band assignment.
4299.14[d] *18*	(12^+)		D F	Jπ: ΔJ=(2) γ to 10^+; ΔJ=0 γ to $12^{(+)}$; band assignment.
4421.39[g] *21*	$12^{(-)}$		D F	Jπ: ΔJ=2 γ to $10^{(-)}$; ΔJ=1 γ to $11^{(-)}$; band assignment.
4573.97[b] *22*	$13^{(-)}$		D F	Jπ: ΔJ=2 γ to $11^{(-)}$; ΔJ=1 γ to $12^{(-)}$; band assignment.
4598.39[f] *23*	$13^{(-)}$	1.12 ps *6*	D F	Jπ: ΔJ=2 γ to $11^{(-)}$; ΔJ=1 γ to $12^{(-)}$; band assignment. Jπ: from γ(θ), (E2) γ to $11^{(-)}$. $T_{1/2}$: other: 1.7 ps *10*(1982GaZH).
4612.81[a] *24*	$14^{(+)}$		D F	Jπ: ΔJ=2 γ to $12^{(+)}$; band assignment.
4743.1[h] *4*	(13^+)		D F	Jπ: ΔJ=(2) γ to (11^+); band assignment.
4759.6[e] *5*	(13^-)		D F	Jπ: γ to (11^-); band assignment.
4809.8 *12*			F	
4837.9 *8*			F	
4875.9 *3*			D F	
5026.5 *7*			F	
5049.79[j] *22*	(12^+)		D F	Jπ: ΔJ=(1) γ to $11^{(-)}$; ΔJ=0 γ to (12^+).
5067.85[c] *24*	$14^{(-)}$		D F	Jπ: ΔJ=2 γ to $12^{(-)}$; ΔJ=1 γ to $13^{(-)}$; band assignment.
5114.4[d] *3*	(14^+)		D F	Jπ: ΔJ=(2) γ to (12^+); ΔJ=(0) γ to (14^+); band assignment.
5182.2[g] *3*	$14^{(-)}$		D F	Jπ: ΔJ=2 γ to $12^{(-)}$; ΔJ=1 γ to $13^{(-)}$; band assignment.
5290.40[k] *24*	$13^{(+)}$		D F	Jπ: M1+E2 γ to $12^{(+)}$; ΔJ=1 γ to $12^{(-)}$; band assignment.
5432.2[l] *6*	(14^+)		F	Jπ: γ to $12^{(+)}$; band assignment.
5433.5[f] *3*	$15^{(-)}$	1.40 ps *8*	D F	Jπ: (E2) γ to $13^{(-)}$; ΔJ=1 γ to $14^{(-)}$; band assignment. $T_{1/2}$: other: 2.9 ps *8*(1982GaZH).
5462.5[b] *4*	(15^-)		D F	Jπ: ΔJ=(2) γ to $13^{(-)}$; band assignment.
5465.8[a] *3*	$16^{(+)}$		D F	Jπ: ΔJ=2 γ to $14^{(+)}$; band assignment.
5518.83 *23*	14		D F	Jπ: ΔJ=1 γ to $13^{(-)}$; γ to (12^+).
5551.83[j] *24*	$14^{(+)}$		D F	Jπ: M1+E2 γ to $13^{(+)}$; ΔJ=2 γ to $12^{(+)}$; band assignment.

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
5592.6[h] 5	(15+)	D F	Jπ: ΔJ=(2) γ to (13+); band assignment.
5659.2[e] 7	(15−)	F	Jπ: γ's to (13−) and 14(+); band assignment.
5827.41[k] 24	15(+)	D F	Jπ: M1+E2 γ to 14(+); ΔJ=2 γ to 13(+); band assignment.
5938.2[d] 3	(16+)	D F	Jπ: ΔJ=(2) γ to 14(+); band assignment.
5974.3[g] 3	16(−)	D F	Jπ: ΔJ=2 γ to 14(−); ΔJ=1 γ to 15(−); band assignment.
6011.6[c] 4	(16−)	D F	Jπ: ΔJ=(2) γ to 14(−); band assignment.
6134.6[f] 4	17(−)	D F	Jπ: ΔJ=2 γ to 15(−); ΔJ=1 γ to 16(−); band assignment.
6153.9[j] 3	16(+)	D F	Jπ: M1+E2 γ to (15); ΔJ=2 γ to (14).
6255.6[l] 4	(16+)	D F	Jπ: ΔJ=2 γ to (14+); band assignment.
6305.0 9	(16+)	F	Jπ: γ's from (18+) and to 14(+).
6438.4[b] 5	(17−)	D F	Jπ: ΔJ=(2) γ to (15−); band assignment.
6438.8[a] 4	18(+)	D F	Jπ: ΔJ=2 γ to 16(+); band assignment.
6535.2[e] 8	(17−)	F	Jπ: γ to (15−); band assignment.
6543.9[h] 6	(17+)	D F	Jπ: ΔJ=(2) γ to (15+); band assignment.
6553.7[k] 3	17(+)	D F	Jπ: M1+E2 γ to 16(+); ΔJ=2 γ to 15(+); band assignment.
6741.1[g] 4	18(−)	D F	Jπ: ΔJ=2 γ to 16(−); ΔJ=1 γ to 17(−); band assignment.
6829.2[d] 4	(18+)	D F	Jπ: ΔJ=2 γ to (16+); band assignment.
6984.6[j] 4	18(+)	D F	Jπ: M1+E2 γ to 17(+); ΔJ=2 γ to 16(+); band assignment.
7019.8[c] 5	(18−)	D F	Jπ: ΔJ=(2) γ to (16−); band assignment.
7031.3[f] 4	19(−)	D F	Jπ: ΔJ=2 γ to 17(−); ΔJ=1 γ to 18(−); band assignment.
7050.7 9	(18−)	F	Jπ: γ's from (20−) and to (16−).
7053.3 5		D	
7118.2[l] 6	(18+)	F	Jπ: ΔJ=2 γ to (16+); band assignment.
7219.1 10	(18+)	F	Jπ: γ's from (20+) and to (16+).
7395.6[e] 12	(19−)	F	Jπ: γ to (17−); band assignment.
7433.0[k] 4	19(+)	D F	Jπ: M1+E2 γ to 18(+); ΔJ=2 γ to 17(+); band assignment.
7452.8? 11		D	
7481.3[b] 6	(19−)	D F	Jπ: ΔJ=(2) γ to (17−); band assignment.
7524.2[a] 4	20(+)	D F	Jπ: ΔJ=2 γ to 18(+); band assignment.
7556.0[h] 7	(19+)	D F	Jπ: ΔJ=(2) γ to (17+); band assignment.
7626.7[g] 4	20(−)	D F	Jπ: ΔJ=2 γ to 18(−); ΔJ=1 γ to 19(−); band assignment.
7637.6 5		D	
7811.4[d] 5	(20+)	D F	Jπ: ΔJ=(2) γ to (18+); band assignment.
7914.8 6		D	
7929.1[j] 4	20(+)	D F	Jπ: M1+E2 γ to 19(+); ΔJ=2 γ to 18(+); band assignment.
7939.6[f] 5	21(−)	D F	Jπ: ΔJ=2 γ to 19(−); ΔJ=1 γ to 20(−); band assignment.
8071.0[l] 7	(20+)	F	Jπ: ΔJ=2 γ to (18+); ; band assignment.
8083.3[l] 6	(20+)	F	Jπ: ΔJ=2 γ to (18+); ; band assignment.
8093.8[c] 10	(20−)	F	Jπ: γ to (18−); ; band assignment.
8100.4 8		F	
8192.7 5		D	
8356.0[e] 13	(21−)	F	Jπ: γ to (19−); ; band assignment.
8365.5[k] 4	21(+)	D F	Jπ: M1+E2 γ to 20(+); ΔJ=2 γ to 19(+); band assignment.
8484.1 5		D F	
8523.1[g] 5	22(−)	D F	Jπ: ΔJ=2 γ to 20(−); ΔJ=1 γ to 21(−); band assignment.
8567.1[h] 12	(21+)	F	Jπ: γ to (19+); ; band assignment.
8570.5[b] 12	(21−)	D F	Jπ: γ to (19−); band assignment.
8722.1[a] 5	22(+)	D F	Jπ: ΔJ=2 γ to 20(+); band assignment.
8860.1[l] 5	(22+)	F	Jπ: ΔJ=2 γ's to (20+); band assignment.

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
8901.2[d] 6	(22+)	D F	Jπ: ΔJ=(2) γ to (20+); band assignment.
8911.3[j] 4	22(+)	D F	Jπ: ΔJ=2 γ to 20(+); ΔJ=1 γ to 21(+); band assignment.
8990.5 6		D	
9048.4 5		D F	
9083.9[c] 14	(22−)	F	Jπ: γ to (20−); band assignment.
9106.1[f] 5	23(−)	D F	Jπ: ΔJ=2 γ to 21(−); ΔJ=1 γ to 22(−); band assignment.
9375.4[e] 13	(23−)	F	Jπ: γ to (21−); band assignment.
9483.4[k] 5	23(+)	D F	Jπ: ΔJ=2 γ to 21(+); ΔJ=1 γ to 22(+); band assignment.
9650.9 16		F	E(level): extension of quasi-gamma band.
9657.4 8	(24+)	F	Jπ: ΔJ=2 γ to (22+).
9671.1 16		F	E(level): extension of quasi-gamma band.
9676.2[g] 5	24(−)	D F	Jπ: ΔJ=2 γ to 22(−); ΔJ=1 γ to 23(−); band assignment.
9761.5[b] 16	(23−)	F	Jπ: γ to (21−); band assignment.
9927.0[j] 5	24(+)	D F	Jπ: ΔJ=2 γ to 22(+); ΔJ=1 γ to 23(+); band assignment.
9994.6 9		F	
9997.3[a] 6	24(+)	D F	Jπ: ΔJ=2 γ to 22(+); band assignment.
10088.1 12		F	E(level): fork structure of band based on 12(+).
10090.5[d] 12	(24+)	F	Jπ: γ to (22+); band assignment.
10123.3[c] 17	(24−)	F	Jπ: γ to (22−); band assignment.
10143.3 7		D	
10342.7[f] 5	25(−)	D F	Jπ: ΔJ=2 γ to 23(−); ΔJ=1 γ to 24(−); band assignment.
10428.3 7	(25)	F	Jπ: ΔJ=1 γ to (24+).
10538.5[e] 12	(25−)	F	Jπ: γ to (23−); band assignment.
10803.7 19		F	E(level): extension of quasi-gamma band.
10810.1 8	(26+)	F	Jπ: ΔJ=1 γ to (25); ΔJ=2 γ to (24+).
10839.6 19		F	E(level): extension of quasi-gamma band.
10897.2[g] 6	26(−)	D F	Jπ: ΔJ=2 γ to 24(−); ΔJ=1 γ to 25(−); band assignment.
10929.4 8	(26+)	F	Jπ: ΔJ=2 γ to (24+).
11055.1 8	(26)	F	Jπ: ΔJ=1 γ from (27).
11240.0[a] 12	(26+)	D F	Jπ: γ to (24+); band assignment.
11258.7 12		F	E(level): fork structure of band based on 12(+).
11265.8[c] 20	(26−)	F	Jπ: γ to (24−); band assignment.
11387.1[d] 16	(26+)	F	Jπ: γ to (24+); band assignment.
11473.3 8	(27)	F	Jπ: ΔJ=1 γ to (26+).
11555.2[f] 6	27(−)	D F	Jπ: ΔJ=2 γ to 25(−); ΔJ=1 γ to 26(−); band assignment.
11624.7 8	(27)	F	Jπ: ΔJ=1 γ from (28).
11739.1 9	(27−)	F	Jπ: ΔJ=2 γ to 25(−).
11781.6 16		F	
11821.8 10	(28+)	F	Jπ: ΔJ=2 γ's to (26+).
11869.9 8	(28)	F	Jπ: ΔJ=1 γ to (27−).
12169.3 10	(28)	F	Jπ: ΔJ=1 γ from (29).
12198.3[g] 9	(28−)	F	Jπ: γ's to 26(−) and 27(−); band assignment.
12334.1 10		F	
12360.6[f] 8	(29−)	F	Jπ: γ to 27(−); band assignment.
12464.0[a] 16	(28+)	F	Jπ: γ to (26+); band assignment.
12491.9 11	(29)	F	Jπ: ΔJ=2 γ to (27).
12517.8[c] 22	(28−)	F	Jπ: γ to (26−); band assignment.
12594.9 10	(29)	F	Jπ: ΔJ=1 γ to (28).
12721.6 12	(29)	F	Jπ: ΔJ=1 γ to (28+).
12772.9 13		D F	
12993.8 10	(30)	F	Jπ: ΔJ=1 γ to (29−).
13304.8 12	(30)	F	Jπ: ΔJ=1 γ to (29).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
13318.0 *10*	(30)	F	Jπ: ΔJ=1 γ to (29).
13578.3[f] *13*	(31⁻)	F	Jπ: γ to (29⁻); band assignment.
13639.2 *11*	(31)	F	Jπ: ΔJ=1 γ to (30).
13856.8 *12*	(31)	F	Jπ: ΔJ=2 γ to (29).
14049.8 *13*	(32)	F	Jπ: ΔJ=1 γ to (31).
14777.9 *14*	(33)	F	Jπ: ΔJ=2 γ to (31).
14814.0 *12*	(32)	F	Jπ: ΔJ=1 γ from (33).
15037.1 *13*	(33)	F	Jπ: ΔJ=2 γ to (31).
15178.1 *15*	(34)	F	Jπ: ΔJ=2 γ to (32).
16385.5 *17*		F	
16512.4 *18*		F	
16529.7 *17*		F	

† From a least-squares fit to adopted Eγ′s for γ-connecting levels, others from (^{3}He,n).
‡ From lifetime by recoil distance measurement (2004Sa47), unless otherwise noted.
# From Multipolarity of depopulation gammas and band assignment, unless otherwise indicated.
@ From γγ(θ) in (γ,γ′).
& Band(A): The g.s. band.
[a] Band(B): Band based on 12⁺. Continuation of g.s. band.
[b] Band(C): Band based on 5⁻, α=1.
[c] Band(c): Band based on 8⁻, α=0.
[d] Band(D): Band based on 12⁺.
[e] Band(E): Band based on 9⁻.
[f] Band(F): Band based on 7⁻, α=1.
[g] Band(f): Band based on 6⁻, α=0.
[h] Band(G): Quasi γ-band, α=1.
[i] Band(g): Quasi γ-band, α=0.
[j] Band(H): Band based on 12⁺, α=0.
[k] Band(h): Band based on 13⁺, α=1.
[l] Band(I): Band based on 14⁺.
[m] Band(i): Kπ=4⁺.
[n] Band(J): Kπ=0⁺ band.

Adopted Levels, Gammas (continued)

γ(^{124}Xe)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult. [a]	δ [b]	α [c]	Comments
354.03	2^+	353.98 *5*	100	0.0	0^+	E2		0.0248	B(E2)(W.u.)=57.8 *15* α(K)=0.0207 *3*; α(L)=0.00332 *5*; α(M)=0.000684 *10*; α(N+..)=0.0001555 *22* α(N)=0.0001392 *20*; α(O)=1.624×10^{-5} *23* B(E2)(W.u.): other: 49 *4* by Coul. ex. (1975Go18).
846.50	2^+	492.54 *4*	100 *4*	354.03	2^+	M1+E2	+8 *+7−3*	0.00940	α(K)=0.00795 *13*; α(L)=0.001155 *17*; α(M)=0.000236 *4*; α(N+..)=5.42×10^{-5} *8* α(N)=4.84×10^{-5} *7*; α(O)=5.80×10^{-6} *9* B(M1)(W.u.)=0.000172 *+298−18*; B(E2)(W.u.)=32 *6* δ: from γγ(θ) in ^{124}Cs ε decay (1979Si11). Others: δ=+100 *+∞−90* or −0.42 *8* (1982Ha44); 6.3 *+5.3−2.0* (1975Ku05); +8 *+8−2*(2001We13). α(K)exp=0.0068 *4*.
		846.58 *6*	33.2 *7*	0.0	0^+	E2		0.00236	α(K)=0.00202 *3*; α(L)=0.000265 *4*; α(M)=5.38×10^{-5} *8*; α(N+..)=1.245×10^{-5} *18* α(N)=1.108×10^{-5} *16*; α(O)=1.367×10^{-6} *20* B(E2)(W.u.)=0.71 *13*
878.92	4^+	524.82 *6*	100	354.03	2^+	E2		0.00785	α(K)=0.00666 *10*; α(L)=0.000955 *14*; α(M)=0.000195 *3*; α(N+..)=4.48×10^{-5} *7* α(N)=4.00×10^{-5} *6*; α(O)=4.81×10^{-6} *7* B(E2)(W.u.)=67.6 *19* α(K)exp=0.0071 *2*.
1247.63	3^+	368.09 *16*	13 *2*	878.92	4^+	D(+Q)			I_γ: From (HI,xnγ). See ^{124}Cs ε decay. δ: +0.21 *3* or +3.85 *+57−45*(2001We13).
		401.32 *23*	76 *12*	846.50	2^+	M1+E2	+0.32 *5*	0.0191	α(K)=0.01642 *24*; α(L)=0.00213 *3*; α(M)=0.000431 *6*; α(N+..)=0.0001003 *15* α(N)=8.91×10^{-5} *13*; α(O)=1.112×10^{-5} *16* B(M1)(W.u.)=0.020 *5*; B(E2)(W.u.)=9 *4* δ: other:+16 *+16−8* or +7.8 *+79−26* (2001We13). α(K)exp=0.016 *2*.
		893.69 *8*	100 *7*	354.03	2^+	M1+E2	+0.73 *6*	0.00253 *5*	α(K)=0.00219 *4*; α(L)=0.000275 *5*; α(M)=5.56×10^{-5} *10*; α(N+..)=1.294×10^{-5} *22* α(N)=1.150×10^{-5} *20*; α(O)=1.441×10^{-6} *25* B(M1)(W.u.)=0.0017 *3*; B(E2)(W.u.)=0.79 *15* δ: Other: 3.4 *+5−4*(2001We13). α(K)exp=0.0018 *3*.
1268.91	0^+	422.44 *7*	10.8 *5*	846.50	2^+	E2		0.01456	α(K)=0.01223 *18*; α(L)=0.00186 *3*; α(M)=0.000381 *6*; α(N+..)=8.70×10^{-5} *13* α(N)=7.78×10^{-5} *11*; α(O)=9.21×10^{-6} *13*
		914.86 *8*	100 *3*	354.03	2^+	E2		0.00197	α(K)=0.001699 *24*; α(L)=0.000220 *3*; α(M)=4.46×10^{-5} *7*; α(N+..)=1.034×10^{-5} *15* α(N)=9.20×10^{-6} *13*; α(O)=1.138×10^{-6} *16*

$^{124}_{54}Xe_{70}$-8

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	$I_{(\gamma+ce)}$	Comments
1268.91	0^+	1269		0.0	0^+	E0			<0.00033	q^2_K(E0/E2)≤0.18, X(E0/E2)≤0.023 (2005Ki02, evaluation).
1437.96	4^+	559.10 *17*	44 *4*	878.92	4^+	M1+E2	+2.3 *+8−4*	0.00691 *16*		α(K)=0.00589 *14*; α(L)=0.000814 *14*; α(M)=0.000166 *3*; α(N+..)=3.82×10^{-5} *7* α(N)=3.41×10^{-5} *6*; α(O)=4.15×10^{-6} *8* B(M1)(W.u.)=0.0029 *20*; B(E2)(W.u.)=34 *13* δ: from 2001We13. Others: δ=+5 *+5−1* or −0.7 *2*, from $\gamma(\theta)$ and α(K)exp. α(K)exp=0.0077 *5*;
		591.43 *15*	100 *10*	846.50	2^+	E2		0.00570		α(K)=0.00485 *7*; α(L)=0.000677 *10*; α(M)=0.0001380 *20*; α(N+..)=3.18×10^{-5} *5* α(N)=2.83×10^{-5} *4*; α(O)=3.43×10^{-6} *5* B(E2)(W.u.)=69 *25* α(K)exp=0.0055 *4*.
		1083.90 *21*	2 *1*	354.03	2^+					
1548.46	6^+	669.56 *9*	100	878.92	4^+	E2		0.00414		α(K)=0.00354 *5*; α(L)=0.000482 *7*; α(M)=9.81×10^{-5} *14*; α(N+..)=2.26×10^{-5} *4* α(N)=2.02×10^{-5} *3*; α(O)=2.46×10^{-6} *4* B(E2)(W.u.)=88 *8* α(K)exp=0.0037 *3*.
1628.57	2^+	359.99 *20*	13.5 *14*	1268.91	0^+					
		749.54 *9*	21.6 *14*	878.92	4^+					
		781.98 *8*	22.1 *14*	846.50	2^+					
		1274.38 *9*	51 *3*	354.03	2^+					
		1628.50 *9*	100 *7*	0.0	0^+					
1689.91	0^+	843.51 *10*	15.8 *16*	846.50	2^+					
		1335.75 *9*	100 *6*	354.03	2^+	Q				Mult.: from $\gamma\gamma(\theta)$ (1979Si11).
		1689.7		0.0	0^+	(E0)			0.0006 *6*	q^2_K(E0/E2)≤0.6, X(E0/E2)≤0.16 (2005Ki02, evaluation).
1836.92	5^+	288.5 *3*	2 *1*	1548.46	6^+					
		399.00 *15*	14 *2*	1437.96	4^+	M1+E2	+5.2 *+26−13*	0.0173 *3*		α(K)=0.01454 *22*; α(L)=0.00223 *4*; α(M)=0.000458 *7*; α(N+..)=0.0001045 *15* α(N)=9.34×10^{-5} *14*; α(O)=1.104×10^{-5} *16* B(M1)(W.u.)=0.0003 *3*; B(E2)(W.u.)=35 *6* δ: from 2001We13. Other: δ=+0.35 *5*(From $\gamma(\theta)$ and α(K)exp). α(K)exp=0.017 *4*.
		589.23 *15*	100 *10*	1247.63	3^+	E2		0.00575		α(K)=0.00490 *7*; α(L)=0.000684 *10*; α(M)=0.0001395 *20*; α(N+..)=3.21×10^{-5} *5*

$^{124}_{54}Xe_{70}$-9

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
									α(N)=2.86×10^{-5} *4*; α(O)=3.47×10^{-6} *5* B(E2)(W.u.)=37 *5* α(K)exp=0.0060 *4*.
1836.92	5$^+$	958.25 *23*	30 *3*	878.92	4$^+$	M1+E2	+1.0 *+5−3*	0.00207 *12*	α(K)=0.00179 *11*; α(L)=0.000225 *11*; α(M)=4.55×10^{-5} *23*; α(N+..)=1.06×10^{-5} *6* α(N)=9.4×10^{-6} *5*; α(O)=1.18×10^{-6} *7* B(M1)(W.u.)=0.0006 *4*; B(E2)(W.u.)=0.5 *3* δ: Other: +1.67 *+27−22* or +0.62 *+14−9*(2001We13). α(K)exp=0.0017 *3*.
1873.40	(4$^+$)	435.5 *3*	32 *9*	1437.96	4$^+$				
		625.8 *3*	86 *11*	1247.63	3$^+$	D+Q			
		994.4 *3*	52 *9*	878.92	4$^+$	D+Q	−0.18 *+19−21*		
		1026.9 *3*	100 *12*	846.50	2$^+$				
1898.01	3$^{(-)}$	1019	16 *8*	878.92	4$^+$				
		1544.0 *3*	100 *13*	354.03	2$^+$	D+Q	+0.05 *+3−3*		
1978.51	2$^+$	1099.94 *10*	50 *5*	878.92	4$^+$				
		1132.01 *10*	100 *19*	846.50	2$^+$				
		1624.00 *10*	48 *5*	354.03	2$^+$				
		1978.58 *10*	67 *7*	0.0	0$^+$				
1994.28		1147.7 *3*		846.50	2$^+$				
		1640.3 *3*		354.03	2$^+$				
2014.73	4$^{(+)}$	386.2 *3*	8 *3*	1628.57	2$^+$				
		1135.8 *3*	27 *6*	878.92	4$^+$				
		1660.6 *3*	100 *13*	354.03	2$^+$	Q			
2143.74	6$^+$	595.5 *3*	23 *3*	1548.46	6$^+$	M1+E2	−0.54 *+12−18*	0.00688 *22*	α(K)=0.00593 *20*; α(L)=0.000760 *18*; α(M)=0.000154 *4*; α(N+..)=3.58×10^{-5} *9* α(N)=3.18×10^{-5} *8*; α(O)=3.97×10^{-6} *11* α(K)exp=0.0037 *7*.
		705.73 *15*	100 *10*	1437.96	4$^+$	E2		0.00363	α(K)=0.00311 *5*; α(L)=0.000419 *6*; α(M)=8.53×10^{-5} *12*; α(N+..)=1.97×10^{-5} *3* α(N)=1.755×10^{-5} *25*; α(O)=2.15×10^{-6} *3*
		1264.8 *3*	10 *2*	878.92	4$^+$				
2164.9		1810.9 *3*	100	354.03	2$^+$				
2182.0	1	1828	24 *4*	354.03	2$^+$				
		2182	100	0.0	0$^+$	D			
2205.35	(2$^+$)	1326.44 *10*	14.3 *14*	878.92	4$^+$				Not observed in (HI,xnγ).
		1358.63 *9*	46 *4*	846.50	2$^+$				
		1851.53 *10*	100 *9*	354.03	2$^+$				Not observed in (HI,xnγ).
2222.78	(4,5)	324.8 *3*	<13	1898.01	3$^{(-)}$				
		975.1 *3*	22 *6*	1247.63	3$^+$				
		1343.9 *3*	100 *14*	878.92	4$^+$				

$^{124}_{54}Xe_{70}$-10

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	$I_{(\gamma+ce)}$	Comments
2226.33	$5^{(-)}$	1347.35 *21*	100	878.92	4^+	D(+Q)	+0.02 *+10−6*			
2279.3		1400.4 *3*	100	878.92	4^+					
2281.5		1033.9 *3*	100	1247.63	3^+					
2290.7		1444.2 *3*	100	846.50	2^+					
2331.04	8^+	782.58 *9*	100	1548.46	6^+	E2		0.00283		B(E2)(W.u.)=66 *21* α(K)=0.00243 *4*; α(L)=0.000322 *5*; α(M)=6.54×10^{-5} *10*; α(N+..)=1.512×10^{-5} *22* α(N)=1.346×10^{-5} *19*; α(O)=1.654×10^{-6} *24* α(K)exp=0.0027 *5*.
2360.61	$5^{(+)}$	487.3 *3*	27 *8*	1873.40	(4^+)					
		523.8 *3*		1836.92	5^+					
		922.5 *3*	26 *7*	1437.96	4^+					
		1112.8 *3*	100 *17*	1247.63	3^+	Q				
2367.2		1488.3 *3*	100	878.92	4^+					
2373.61	$(0)^+$	744.60 *10*	6.4 *6*	1628.57	2^+					
		1527.45 *10*	6.4 *6*	846.50	2^+					
		2019.64 *10*	100 *8*	354.03	2^+					
		2374		0.0	0^+	(E0)			<0.0015	q^2_K(E0/E2)≤3.9, X(E0/E2)≤2.3 (2005Ki02, evaluation).
2380.9	5	942.9 *3*	100	1437.96	4^+	D+Q				α(K)exp=0.0014 *3* for γ942.8+γ942.9.
2382.09	$1^{(+)},2^{(+)}$	2382.07 *10*	100	0.0	0^+					
2508.9	(5,6)	1630.0 *3*	100	878.92	4^+					
2519.47	2^+	1272.01 *10*	13.4 *14*	1247.63	3^+					
		1640.29 *10*	9.3 *9*	878.92	4^+					
		1673.32 *10*	3.7 *5*	846.50	2^+					
		2165.40 *10*	100 *9*	354.03	2^+					
		2519.19 *10*	13.4 *14*	0.0	0^+					
2531.83	$6^{(+)}$	388.2[d] *3*		2143.74	6^+					
		658.4 *3*		1873.40	(4^+)					
		695.0 *3*		1836.92	5^+					
		983.3 *3*		1548.46	6^+	M1+E2	−0.76 *+18−22*			Mult.: from $\gamma(\theta)$ and large mixing ratio.
2535.87	$0^+,1^+,2^+$	1689.43 *10*	100 *7*	846.50	2^+					
		2181.75 *10*	7.1 *7*	354.03	2^+					
2536.4		1288.8 *3*	100	1247.63	3^+					
2545.0	1	2191	137 *19*	354.03	2^+					
		2545	100	0.0	0^+	D				
2574.61	7^+	431.0 *3*	<5	2143.74	6^+					
		737.70 *15*	100 *11*	1836.92	5^+	E2		0.00326		α(K)=0.00279 *4*; α(L)=0.000374 *6*; α(M)=7.60×10^{-5} *11*; α(N+..)=1.756×10^{-5} *25* α(N)=1.564×10^{-5} *22*; α(O)=1.92×10^{-6} *3* α(K)exp=0.0033 *5*.

$^{124}_{54}Xe_{70}$-11

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
2574.61	7^+	1026.2[‡]		1548.46	6^+				
2578.70	$6^{(-)}$	741.77 *17*	100 *11*	1836.92	5^+	D(+Q)			
		1030.30 *17*	626 *5*	1548.46	6^+	D+Q			
2600.6		1721.7 *3*	100	878.92	4^+				
2625.4		788.5 *3*	100	1836.92	5^+				
2625.59	7^-	399.25 *21*	<4	2226.33	$5^{(-)}$				
		1077.15 *12*	100 *10*	1548.46	6^+	E1		5.95×10^{-4}	α(K)=0.000517 *8*; α(L)=6.24×10^{-5} *9*; α(M)=1.255×10^{-5} *18*; α(N+..)=2.92×10^{-6} *4* α(N)=2.60×10^{-6} *4*; α(O)=3.26×10^{-7} *5* B(E1)(W.u.)=3.1×10^{-6} *6* α(K)exp=0.0005 *2* (1982Ha44); 0.00068 *14* (1984Ga21).
2644.90		422.2 *3*		2222.78	(4,5)				
		1207.0 *3*		1437.96	4^+				
		1397.3 *3*		1247.63	3^+				
		1765.8 *3*		878.92	4^+				
2647.65	6	421.4 *3*	16 *6*	2226.33	$5^{(-)}$				
		424.8 *3*	36 *8*	2222.78	(4,5)				
		810.6 *3*	73 *13*	1836.92	5^+	D+Q			
		1099.1 *3*	100 *15*	1548.46	6^+	D+Q	−0.21 *+19−21*		
2675.83	$7^{(-)}$	344.6[‡]		2331.04	8^+				
		449.3 *3*	7 *3*	2226.33	$5^{(-)}$				
		1127.38 *15*	100 *11*	1548.46	6^+	(E1)		5.54×10^{-4}	α(K)=0.000476 *7*; α(L)=5.73×10^{-5} *8*; α(M)=1.152×10^{-5} *17*; α(N+..)=9.56×10^{-6} *14* α(N)=2.38×10^{-6} *4*; α(O)=2.99×10^{-7} *5*; α(IPF)=6.88×10^{-6} *10* B(E1)(W.u.)=0.00018 *11* α(K)exp=0.0005 *2*.
2682.62		809.2 *3*		1873.40	(4^+)				
		1803.7 *3*		878.92	4^+				
2700.58		685.8 *3*		2014.73	$4^{(+)}$				
		1821.7 *3*		878.92	4^+				
2729.0		1850.1 *3*	100	878.92	4^+				
2758.95	$(1^+,2^+)$	1489.0 *5*	30 *20*	1268.91	0^+				
		1509.8 *3*	100 *10*	1247.63	3^+				E_γ: The uncertainty maybe was too small, the evaluator assumed an uncertainty of 3 times of that.
		2759.13 *10*	100 *10*	0.0	0^+				
2768.68	7^+	624.90 *17*		2143.74	6^+	M1(+E2)	+0.05 *5*	0.00646 *10*	α(K)=0.00558 *8*; α(L)=0.000700 *10*; α(M)=0.0001415 *20*; α(N+..)=3.30×10^{-5} *5*

$^{124}_{54}Xe_{70}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult. [a]	δ [b]	α [c]	Comments
									α(N)=2.93×10^{-5} *5*; α(O)=3.69×10^{-6} *6* δ: other: ∞ or −0.05 *6* (2001We13). α(K)exp=0.0033 *10*.
2768.68	7$^+$	931.9 *3*		1836.92	5$^+$				
2779.0		1230.5 *3*	100	1548.46	6$^+$				
2791.48	(1$^+$,2)	1543.84 *10*	100	1247.63	3$^+$				
2799.8	(1,2$^+$)	2445.7 *5*	1.0×10^2 *5*	354.03	2$^+$				
		2799.8 *5*	7×10^1 *3*	0.0	0$^+$				
2809.66	8$^-$	184.15 *15*	100 *10*	2625.59	7$^-$	M1+E2	−2.52 *12*	0.205	α(K)=0.1616 *24*; α(L)=0.0343 *6*; α(M)=0.00718 *12*; α(N+..)=0.00160 *3* α(N)=0.001444 *23*; α(O)=0.0001588 *25* B(M1)(W.u.)=0.00052 *9*; B(E2)(W.u.)=68 *11* δ: from 2001We13; other: −0.14 *8* (from $\gamma(\theta)$ and α(K)exp), −1.8(1997ScZU). α(K)exp=0.105 *20*.
		478.55 *21*	2 *1*	2331.04	8$^+$				
2825.56	(1,2$^+$)	1135.62 *10*	63 *6*	1689.91	0$^+$				
		1979.5 *5*	<31	846.50	2$^+$				
		2471.52 *10*	100 *13*	354.03	2$^+$				
		2825.8 *10*	6 *3*	0.0	0$^+$				
2867.0	1	2867		0.0	0$^+$	D			
2867.4		1318.9 *3*	100	1548.46	6$^+$				
2869.2		1032.3 *3*	100	1836.92	5$^+$				
2874.0	1	2520	163 *24*	354.03	2$^+$				
		2874	100	0.0	0$^+$	D			
2900.0	6	1063.1 *3*	100	1836.92	5$^+$	D(+Q)	−0.02 *+6−10*		
2912.13	8$^+$	768.40 *17*	100	2143.74	6$^+$	E2		0.00296	α(K)=0.00254 *4*; α(L)=0.000337 *5*; α(M)=6.85×10^{-5} *10*; α(N+..)=1.583×10^{-5} *23* α(N)=1.410×10^{-5} *20*; α(O)=1.731×10^{-6} *25* α(K)exp=0.0036 *6*.
2959.1		1410.6 *3*	100	1548.46	6$^+$				
2984.2		1435.7 *3*	100	1548.46	6$^+$				
2990.9	1	2144	14.0 *18*	846.50	2$^+$				
		2637	23.3 *21*	354.03	2$^+$				
		2991	100	0.0	0$^+$	D			
3013.2	(8)	682.2 *3*	100	2331.04	8$^+$				
3026.21	(7$^+$)	451.7 *3*		2574.61	7$^+$				
		665.5 *3*		2360.61	5$^{(+)}$				
		882.5 *3*		2143.74	6$^+$				
		1189.4 *3*		1836.92	5$^+$				
		1477.6 *3*		1548.46	6$^+$				

$^{124}_{54}Xe_{70}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
3032.2		1483.7 *3*	100	1548.46	6^+				
3036.1	1	2682	17 *3*	354.03	2^+				
		3036	100	0.0	0^+	D			
3071.1		1522.6 *3*	100	1548.46	6^+				
3095.58	$8^{(-)}$	419.70 *17*	100 *13*	2675.83	$7^{(-)}$	M1+E2	−1.0 *+5−8*		Mult.: from $\gamma(\theta)$ and large mixing ratio.
		516.93 *18*	73 *10*	2578.70	$6^{(-)}$	Q			
		764.6[#] *3*	66 *15*	2331.04	8^+				
3110.1		462.5 *3*	100	2647.65	6				
3111.85	9^-	302.18 *15*	100 *10*	2809.66	8^-	M1+E2	−0.81 *11*	0.0403	α(K)=0.0341 *5*; α(L)=0.00495 *12*; α(M)=0.001012 *25*; α(N+..)=0.000233 *6* α(N)=0.000208 *5*; α(O)=2.50×10^{-5} *5* B(M1)(W.u.)=0.013 *4*; B(E2)(W.u.)=66 *19* δ: from 2001We13. Others: −2.1(1997ScZU), −1.1 *+7−11* (from $\gamma(\theta)$ and α(K)exp). α(K)exp=0.030 *5*.
		486.20 *17*	70 *7*	2625.59	7^-	E2		0.00971	α(K)=0.00821 *12*; α(L)=0.001199 *17*; α(M)=0.000245 *4*; α(N+..)=5.62×10^{-5} *8* α(N)=5.02×10^{-5} *7*; α(O)=6.01×10^{-6} *9* B(E2)(W.u.)=10.8 *25* Mult.: $\gamma(\theta)$ and RUL.
		780.1[‡]		2331.04	8^+				
3124.8	1	2278	21 *5*	846.50	2^+				
		3125	100	0.0	0^+	D			
3131.88		484.1 *3*		2647.65	6				
		557.4 *3*		2574.61	7^+				
3147.1	1	2793	308 *91*	354.03	2^+				
		3147	100	0.0	0^+	(D)			
3147.81	$9^{(-)}$	471.97 *17*	30 *3*	2675.83	$7^{(-)}$	E2		0.01056	α(K)=0.00892 *13*; α(L)=0.001313 *19*; α(M)=0.000269 *4*; α(N+..)=6.16×10^{-5} *9* α(N)=5.50×10^{-5} *8*; α(O)=6.57×10^{-6} *10* B(E2)(W.u.)=42 *8* Mult.: $\gamma(\theta)$ and RUL.
		816.73 *15*	100 *10*	2331.04	8^+	(E1)		1.02×10^{-3}	α(K)=0.000882 *13*; α(L)=0.0001073 *15*; α(M)=2.16×10^{-5} *3*; α(N+..)=5.02×10^{-6} *7* α(N)=4.46×10^{-6} *7*; α(O)=5.58×10^{-7} *8* B(E1)(W.u.)=0.000106 *21* Mult.: from α(K)exp in 1984Ga21, but α(K)exp in 1982Ha44 indicated M1+E2. α(K)exp=0.00074 *30* (1984Ga21). Other: 0.0019 *4*. (1982Ha44).
3171.44	10^+	840.35 *11*	100	2331.04	8^+	E2		0.00240	B(E2)(W.u.)=21 *3*

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	Comments
							α(K)=0.00206 *3*; α(L)=0.000270 *4*; α(M)=5.48×10^{-5} *8*; α(N+..)=1.268×10^{-5} *18* α(N)=1.129×10^{-5} *16*; α(O)=1.391×10^{-6} *20* α(K)exp=0.0022 *4*.
3241.40		593.7 *3*		2647.65	6		
		666.8[d] *3*		2574.61	7^+		
		910.4 *3*		2331.04	8^+		
3265.1	1	2911	411 *85*	354.03	2^+		
		3265	100	0.0	0^+	D	
3273.7	$9^{(-)}$	942.8 *3*	100	2331.04	8^+	D	Mult.: From DCO in ^{82}Se(^{48}Ca,6nγ). α(K)exp=0.0014 *3* for γ942.8+γ942.9.
3343.91	(9^+)	769.27 *17*	100	2574.61	7^+	(Q)	
3350.0	1	3350		0.0	0^+	D	
3439.1	1	3085	104 *17*	354.03	2^+		
		3439	100	0.0	0^+	D	
3462.33	$10^{(-)}$	350.47 *17*	30 *3*	3111.85	9^-	D	Mult.: from $\gamma(\theta)$.
		652.63 *17*	100 *10*	2809.66	8^-	Q	
3464.1	1	3110	97 *18*	354.03	2^+		
		3464	100	0.0	0^+	D	
3476.6		1145.6 *3*	100	2331.04	8^+		
3502.48	(10^+)	331.20 *17*	29 *4*	3171.44	10^+	(D+Q)	
		1171.53 *17*	100 *11*	2331.04	8^+	(Q)	
3511.9	1	2665	24 *6*	846.50	2^+		
		3158	23 *5*	354.03	2^+		
		3512	100	0.0	0^+	D	
3542.1	1	3542		0.0	0^+	D	
3557.1		982.45 *21*	100	2574.61	7^+		
3582.19	$(1,2^+)$	1953.4 *5*	7 *3*	1628.57	2^+		
		2313.26 *10*	100 *10*	1268.91	0^+		
3603.1	1	3603		0.0	0^+	D	
3667.1	1	3667		0.0	0^+	D	
3669.8	(10^+)	757.67 *17*	100	2912.13	8^+	(Q)	
3676.73		564.70 *21*		3111.85	9^-		
		867.25 *21*		2809.66	8^-		
3716.1	1	3716		0.0	0^+	D	
3717.36	$10^{(-)}$	569.53 *17*	100 *10*	3147.81	$9^{(-)}$	D(+Q)	
		621.80 *17*	53 *6*	3095.58	$8^{(-)}$	Q	
3787.16	$11^{(-)}$	324.8[‡]		3462.33	$10^{(-)}$		
		615[‡]		3171.44	10^+		
		675.33 *17*	100	3111.85	9^-	Q	
3822.61	$11^{(-)}$	651.20 *17*	9 *1*	3171.44	10^+	D	

$^{124}_{54}Xe_{70}$-15

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	α[c]	Comments
3822.61	$11^{(-)}$	674.77 *17*	100 *10*	3147.81	$9^{(-)}$	(E2)	0.00406	α(K)=0.00347 *5*; α(L)=0.000472 *7*; α(M)=9.61×10^{-5} *14*; α(N+..)=2.22×10^{-5} *4* α(N)=1.98×10^{-5} *3*; α(O)=2.41×10^{-6} *4* B(E2)(W.u.)=46 *7* Mult.: from γ(θ) and RUL.
3872.1	1	3872		0.0	0^+	D		
3883.09	$12^{(+)}$	380.8 *3*	2 *1*	3502.48	(10^+)	(E2)	0.0198	α(K)=0.01659 *24*; α(L)=0.00260 *4*; α(M)=0.000535 *8*; α(N+..)=0.0001218 *18* α(N)=0.0001090 *16*; α(O)=1.280×10^{-5} *19* B(E2)(W.u.)=25 *14* Mult.: γ(θ) and RUL.
		711.53 *12*	100 *10*	3171.44	10^+	(E2)	0.00356	α(K)=0.00305 *5*; α(L)=0.000411 *6*; α(M)=8.35×10^{-5} *12*; α(N+..)=1.93×10^{-5} *3* α(N)=1.718×10^{-5} *24*; α(O)=2.10×10^{-6} *3* B(E2)(W.u.)=55 *12* Mult.: from γ(θ) and RUL.
3896.8	$(0^+,1,2)$	3050.3 *5*	100	846.50	2^+			
3905.1	1	3905		0.0	0^+	D		
3955.9	(11^-)	682.20 *21*	100	3273.7	$9^{(-)}$			
		784.1[‡]		3171.44	10^+			
4002.9	(11^+)	659.00 *17*	100	3343.91	(9^+)	(Q)		
4019.0	(10^+)	1107		2912.13	8^+			
4216.10	$12^{(-)}$	428.6 *3*	22 *3*	3787.16	$11^{(-)}$	D(+Q)		
		753.73 *17*	100 *11*	3462.33	$10^{(-)}$	Q		
4299.14	(12^+)	416.00 *21*	23	3883.09	$12^{(+)}$	(D+Q)		
		797.4[#] *3*	57	3502.48	(10^+)	(Q)		
		1127.70 *21*	100	3171.44	10^+	(Q)		
4421.39	$12^{(-)}$	598.80 *21*	63	3822.61	$11^{(-)}$	D(+Q)		
		704.05 *25*	100	3717.36	$10^{(-)}$	Q		
4573.97	$13^{(-)}$	357.6 *3*	10	4216.10	$12^{(-)}$	D(+Q)		
		786.95 *21*	100	3787.16	$11^{(-)}$	Q		
4598.39	$13^{(-)}$	177.2 *3*	1	4421.39	$12^{(-)}$	D(+Q)		
		775.75 *21*	100	3822.61	$11^{(-)}$	(E2)	0.00289	B(E2)(W.u.)=48 *3* α(K)=0.00248 *4*; α(L)=0.000329 *5*; α(M)=6.68×10^{-5} *10*; α(N+..)=1.545×10^{-5} *22* α(N)=1.376×10^{-5} *20*; α(O)=1.691×10^{-6} *24* Mult.: from γ(θ) and RUL.
4612.81	$14^{(+)}$	729.55 *21*	100	3883.09	$12^{(+)}$	Q		
4743.1	(13^+)	740.2 *3*	100	4002.9	(11^+)	(Q)		
4759.6	(13^-)	803.8 *3*	100	3955.9	(11^-)			
		875.9[‡]		3883.09	$12^{(+)}$			
4837.9		1168.4		3669.8	(10^+)			

$^{124}_{54}Xe_{70}$-16

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [&]	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
4875.9		1088.9 *3*	100	3787.16	$11^{(-)}$				
		1703.7‡[d]		3171.44	10^+				
5026.5		216.7		4809.8					
		727.4		4299.14	(12^+)				
		1007.8		4019.0	(10^+)				
5049.79	(12^+)	240‡[d]		4809.8					
		751.0 *3*	100	4299.14	(12^+)	(D+Q)			
		1030.7‡		4019.0	(10^+)				
		1046.1‡		4002.9	(11^+)				
		1262.5 *3*	20	3787.16	$11^{(-)}$	(D(+Q))			
		1546.2‡		3502.48	(10^+)				
5067.85	$14^{(-)}$	494.0 *3*	7	4573.97	$13^{(-)}$	D(+Q)			
		851.65 *21*	100	4216.10	$12^{(-)}$	Q			
5114.4	(14^+)	501.4 *3*	28	4612.81	$14^{(+)}$	(D+Q)			
		815.5 *3*	100	4299.14	(12^+)	(Q)			
		1230.4‡		3883.09	$12^{(+)}$				
5182.2	$14^{(-)}$	584.0 *4*	16	4598.39	$13^{(-)}$	D(+Q)			
		760.70 *21*	100	4421.39	$12^{(-)}$	Q			
5290.40	$13^{(+)}$	240.7 *3*	100	5049.79	(12^+)	M1+E2	−0.14 *3*	0.0730	α(K)=0.0627 *9*; α(L)=0.00820 *13*; α(M)=0.00166 *3*; α(N+..)=0.000387 *6* α(N)=0.000344 *6*; α(O)=4.30×10^{-5} *7*
		264.3‡		5026.5					
		452.8‡		4837.9					
		1074.3 *3*	91	4216.10	$12^{(-)}$	(D(+Q))			
5432.2	(14^+)	1133.3		4299.14	(12^+)				
		1548.9		3883.09	$12^{(+)}$				
5433.5	$15^{(-)}$	251.4 *3*	3	5182.2	$14^{(-)}$	D(+Q)			
		835.15 *21*	100	4598.39	$13^{(-)}$	(E2)		0.00243	α(K)=0.00209 *3*; α(L)=0.000274 *4*; α(M)=5.56×10^{-5} *8*; α(N+..)=1.287×10^{-5} *18* α(N)=1.146×10^{-5} *16*; α(O)=1.412×10^{-6} *20* B(E2)(W.u.)=26.2 *15* Mult.: from $\gamma(\theta)$ and RUL.
5462.5	(15^-)	888.5 *3*	100	4573.97	$13^{(-)}$	(Q)			B(E2)(W.u.)=13 *4* E_γ: from 1997ScZU and assumed an uncertainty of 0.3 keV.
5465.8	$16^{(+)}$	852.95 *21*	100	4612.81	$14^{(+)}$	Q			
5518.83	14	228.3‡		5290.40	$13^{(+)}$				
		643.1 *3*	33	4875.9					
		944.6 *3*	100	4573.97	$13^{(-)}$	D(+Q)			
		1219.7 *3*	1.5	4299.14	(12^+)				

$^{124}_{54}Xe_{70}$-17

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult. [a]	δ [b]	α [c]	Comments
5551.83	$14^{(+)}$	261.6 *3*	100	5290.40	$13^{(+)}$	M1+E2	−0.14 *3*	0.0585	α(K)=0.0503 *8*; α(L)=0.00654 *10*; α(M)=0.001328 *20*; α(N+..)=0.000309 *5* α(N)=0.000275 *5*; α(O)=3.43×10^{-5} *5*
		502.0 *3*	39	5049.79	(12^+)	Q			
		978.0 *3*	39	4573.97	$13^{(-)}$	(D(+Q))			
5592.6	(15^+)	849.50 *21*	100	4743.1	(13^+)	(Q)			
5659.2	(15^-)	900.0		4759.6	(13^-)				
		1046.2		4612.81	$14^{(+)}$				
5827.41	$15^{(+)}$	275.9 *3*	100	5551.83	$14^{(+)}$	M1+E2	−0.14 *3*	0.0508	α(K)=0.0437 *7*; α(L)=0.00567 *9*; α(M)=0.001151 *17*; α(N+..)=0.000268 *4* α(N)=0.000238 *4*; α(O)=2.98×10^{-5} *5*
		308.5 *3*	37	5518.83	14	M1+E2	−0.17 *3*	0.0379	α(K)=0.0326 *5*; α(L)=0.00422 *7*; α(M)=0.000856 *13*; α(N+..)=0.000199 *3* α(N)=0.000177 *3*; α(O)=2.21×10^{-5} *4*
		537.0 *3*	8	5290.40	$13^{(+)}$	Q			
		759.5# *3*	22	5067.85	$14^{(-)}$	(D(+Q))			
5938.2	(16^+)	472.2# *3*	41	5465.8	$16^{(+)}$	(D+Q)			
		823.8 *3*	100	5114.4	(14^+)	(Q)			
5974.3	$16^{(-)}$	540.75 *21*	38	5433.5	$15^{(-)}$	D(+Q)			
		792.10 *21*	100	5182.2	$14^{(-)}$	Q			
6011.6	(16^-)	943.8 *3*	100	5067.85	$14^{(-)}$	(Q)			
6134.6	$17^{(-)}$	160.3 *3*	5	5974.3	$16^{(-)}$	D(+Q)			
		700.6 *21*	100	5433.5	$15^{(-)}$	Q			
6153.9	$16^{(+)}$	326.5 *3*	100	5827.41	$15^{(+)}$	M1+E2	−0.14 *3*	0.0327	α(K)=0.0282 *4*; α(L)=0.00363 *6*; α(M)=0.000735 *11*; α(N+..)=0.0001713 *25* α(N)=0.0001522 *22*; α(O)=1.90×10^{-5} *3*
		602.0 *3*	5	5551.83	$14^{(+)}$	Q			
		691.0‡		5462.5	(15^-)				
6255.6	(16^+)	736.8‡		5518.83	14	Q			
		789.7 *3*	100	5465.8	$16^{(+)}$	Q			
		793.2‡		5462.5	(15^-)				
		823.5‡		5432.2	(14^+)	Q			
6305.0	(16^+)	1692		4612.81	$14^{(+)}$				
6438.4	(17^-)	975.9 *3*	100	5462.5	(15^-)	(Q)			
6438.8	$18^{(+)}$	973.00 *21*	100	5465.8	$16^{(+)}$	Q			
6535.2	(17^-)	876.1		5659.2	(15^-)				
		1069.2		5465.8	$16^{(+)}$				
6543.9	(17^+)	951.3 *3*	100	5592.6	(15^+)	(Q)			
6553.7	$17^{(+)}$	399.8 *3*	100	6153.9	$16^{(+)}$	M1+E2	−0.14 *3*	0.0194	α(K)=0.01676 *24*; α(L)=0.00214 *3*; α(M)=0.000434 *7*; α(N+..)=0.0001011 *15* α(N)=8.98×10^{-5} *13*; α(O)=1.125×10^{-5} *16*
		726.4 *3*	13	5827.41	$15^{(+)}$	Q			

$^{124}_{54}Xe_{70}$-18

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
6741.1	$18^{(-)}$	606.40 *21*	100	6134.6	$17^{(-)}$	D(+Q)	−0.14		
		766.9 *3*	20	5974.3	$16^{(-)}$	Q			
6829.2	(18^+)	390.6# *3*	7	6438.8	$18^{(+)}$	(D+Q)			
		890.9 *3*	100	5938.2	(16^+)	(Q)			
6984.6	$18^{(+)}$	430.8 *3*	100	6553.7	$17^{(+)}$	M1+E2	−0.17 *4*	0.01607	α(K)=0.01386 *20*; α(L)=0.001768 *25*; α(M)=0.000358 *5*; α(N+..)=8.34×10^{-5} *12* α(N)=7.41×10^{-5} *11*; α(O)=9.29×10^{-6} *14*
		830.7 *3*	31	6153.9	$16^{(+)}$	Q			
7019.8	(18^-)	1008.2 *3*	100	6011.6	(16^-)	(Q)			
7031.3	$19^{(-)}$	290.1 *3*	22	6741.1	$18^{(-)}$	D(+Q)	−0.14		
		896.70 *21*	100	6134.6	$17^{(-)}$	Q			
7050.7	(18^-)	1039.0		6011.6	(16^-)				
7053.3		797.7 *3*	100	6255.6	(16^+)				
7118.2	(18^+)	679.1		6438.8	$18^{(+)}$				
		862.5		6255.6	(16^+)	Q			
7219.1	(18^+)	914		6305.0	(16^+)				
7395.6	(19^-)	860.4		6535.2	(17^-)				
7433.0	$19^{(+)}$	448.5 *3*	100	6984.6	$18^{(+)}$	M1+E2	−0.21 *3*	0.01449	α(K)=0.01250 *18*; α(L)=0.001594 *23*; α(M)=0.000323 *5*; α(N+..)=7.52×10^{-5} *11* α(N)=6.69×10^{-5} *10*; α(O)=8.37×10^{-6} *12*
		879.5 *3*	43	6553.7	$17^{(+)}$	Q			
7452.8?		1014 *1*	100	6438.8	$18^{(+)}$				
7481.3	(19^-)	1042.9 *3*	100	6438.4	(17^-)	(Q)			
7524.2	$20^{(+)}$	1085.3 *3*	100	6438.8	$18^{(+)}$	Q			
7556.0	(19^+)	1012.1 *3*	100	6543.9	(17^+)	(Q)			
7626.7	$20^{(-)}$	595.4 *3*	100	7031.3	$19^{(-)}$	D(+Q)	−0.17		
		885.5 *3*	86	6741.1	$18^{(-)}$	Q			
7637.6		606.3 *3*	100	7031.3	$19^{(-)}$				1984Ga21 assigned 606.2γ to the transition from 6739 level to 6133 level, but evaluators assume the two γ′s are the same.
7811.4	(20^+)	982.2 *3*	100	6829.2	(18^+)	(Q)			
7914.8		861.5 *3*	100	7053.3					
7929.1	$20^{(+)}$	496.3 *3*	100	7433.0	$19^{(+)}$	M1+E2	−0.17 *3*	0.01128	α(K)=0.00974 *14*; α(L)=0.001234 *18*; α(M)=0.000250 *4*; α(N+..)=5.82×10^{-5} *9* α(N)=5.18×10^{-5} *8*; α(O)=6.49×10^{-6} *10*
		944.4 *3*	71	6984.6	$18^{(+)}$	Q			
7939.6	$21^{(-)}$	313.1 *3*	18	7626.7	$20^{(-)}$	D(+Q)			
		908.3 *3*	100	7031.3	$19^{(-)}$	Q			E_γ: other:910 (1987Ha03).
8071.0	(20^+)	638.2		7433.0	$19^{(+)}$				
		952.5		7118.2	(18^+)	Q			

$^{124}_{54}Xe_{70}$-19

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
8083.3	(20$^+$)	558.8		7524.2	20$^{(+)}$				
		650.6		7433.0	19$^{(+)}$				
		864		7219.1	(18$^+$)				
		964.9		7118.2	(18$^+$)	Q			
8093.8	(20$^-$)	1043.0		7050.7	(18$^-$)				
		1074.0		7019.8	(18$^-$)				
8100.4		667.4		7433.0	19$^{(+)}$				
8192.7		759.7 *3*	100	7433.0	19$^{(+)}$				
8356.0	(21$^-$)	960.3		7395.6	(19$^-$)				
8365.5	21$^{(+)}$	436.1 *3*	89	7929.1	20$^{(+)}$	M1+E2	−0.28 *7*	0.01548 *24*	α(K)=0.01334 *21*; α(L)=0.001712 *25*; α(M)=0.000347 *5*; α(N+..)=8.08×10^{-5} *12* α(N)=7.18×10^{-5} *11*; α(O)=8.98×10^{-6} *13* δ: other: 0.31(1997ScZU). 1997ScZU and 1999Sc20 were from the same experiment, but the values are different.
		932.5 *3*	100	7433.0	19$^{(+)}$	Q			
8484.1		554.9 *3*	100	7929.1	20$^{(+)}$				
8523.1	22$^{(-)}$	583.7 *3*	96	7939.6	21$^{(-)}$	D(+Q)			
		896.3 *3*	100	7626.7	20$^{(-)}$	Q			
8567.1	(21$^+$)	1011		7556.0	(19$^+$)				
8570.5	(21$^-$)	1089.2‡	100	7481.3	(19$^-$)				
8722.1	22$^{(+)}$	1197.9 *3*	100	7524.2	20$^{(+)}$	Q			
8860.1	(22$^+$)	495.2		8365.5	21$^{(+)}$				
		759.8		8100.4		Q			
		776.6		8083.3	(20$^+$)	Q			
		789.0	3.66	8071.0	(20$^+$)	Q			
		931.0		7929.1	20$^{(+)}$				
		1049.0		7811.4	(20$^+$)				
		1335.4		7524.2	20$^{(+)}$				
8901.2	(22$^+$)	1089.8 *3*	100	7811.4	(20$^+$)	(Q)			
8911.3	22$^{(+)}$	546.0 *3*	100	8365.5	21$^{(+)}$	D(+Q)			
		982.4 *3*	20	7929.1	20$^{(+)}$	Q			
8990.5		797.8 *3*	100	8192.7					
9048.4		564.2 *3*	62	8484.1					
		1119.4 *3*	100	7929.1	20$^{(+)}$				
9083.9	(22$^-$)	990.1		8093.8	(20$^-$)				
9106.1	23$^{(-)}$	582.9 *3*	100	8523.1	22$^{(-)}$	D(+Q)			
		1166.6 *3*	76	7939.6	21$^{(-)}$	Q			
9375.4	(23$^-$)	1019.4		8356.0	(21$^-$)				
9483.4	23$^{(+)}$	572.4 *3*	100	8911.3	22$^{(+)}$	D(+Q)			
		1117.5 *3*	83	8365.5	21$^{(+)}$	Q			

$^{124}_{54}Xe_{70}$-20

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult. a
9650.9		1083.8		8567.1	(21^+)	
9657.4	(24^+)	797.1	100	8860.1	(22^+)	Q
9671.1		1104.0		8567.1	(21^+)	
9676.2	$24^{(-)}$	570.2 *3*	52	9106.1	$23^{(-)}$	D(+Q)
		1153.0 *3*	100	8523.1	$22^{(-)}$	Q
9761.5	(23^-)	1191		8570.5	(21^-)	
9927.0	$24^{(+)}$	443.3 *3*	56	9483.4	$23^{(+)}$	D(+Q)
		1016.0 *3*	100	8911.3	$22^{(+)}$	Q
9994.6		888		9106.1	$23^{(-)}$	
9997.3	$24^{(+)}$	1275.2 *3*	100	8722.1	$22^{(+)}$	Q
10088.1		1366.0		8722.1	$22^{(+)}$	
10090.5	(24^+)	1189.3		8901.2	(22^+)	
10123.3	(24^-)	1039.4		9083.9	(22^-)	
10143.3		1152.8 *3*	100	8990.5		
10342.7	$25^{(-)}$	666.6 *3*	100	9676.2	$24^{(-)}$	D(+Q)
		1236.5 *3*	97	9106.1	$23^{(-)}$	Q
10428.3	(25)	501.5		9927.0	$24^{(+)}$	
		770.9	100	9657.4	(24^+)	D
		944.7		9483.4	$23^{(+)}$	
10538.5	(25^-)	1163.0		9375.4	(23^-)	
10803.7		1152.8		9650.9		
10810.1	(26^+)	381.8		10428.3	(25)	D
		883		9927.0	$24^{(+)}$	
		1152.7	100	9657.4	(24^+)	Q
10839.6		1168.5		9671.1		
10897.2	$26^{(-)}$	554.5 *3*	21	10342.7	$25^{(-)}$	D(+Q)
		1221.1 *3*	100	9676.2	$24^{(-)}$	Q
10929.4	(26^+)	1002.6		9927.0	$24^{(+)}$	
		1272.0	100	9657.4	(24^+)	Q
11055.1	(26)	1060		9994.6		
		1379		9676.2	$24^{(-)}$	
11240.0	(26^+)	1242.7‡	100	9997.3	$24^{(+)}$	
11258.7		1261.4		9997.3	$24^{(+)}$	
11265.8	(26^-)	1142.5		10123.3	(24^-)	
11387.1	(26^+)	1296.6		10090.5	(24^+)	
11473.3	(27)	543.9		10929.4	(26^+)	
		663.2	100	10810.1	(26^+)	D
		1045.0		10428.3	(25)	
11555.2	$27^{(-)}$	499.6‡		11055.1	(26)	
		658.0 *3*	95	10897.2	$26^{(-)}$	D(+Q)
11555.2	$27^{(-)}$	1212.5 *3*	100	10342.7	$25^{(-)}$	Q
11624.7	(27)	727.8		10897.2	$26^{(-)}$	D
		1281.5	1.10	10342.7	$25^{(-)}$	
11739.1	(27^-)	1200.6		10538.5	(25^-)	
		1396	100	10342.7	$25^{(-)}$	Q
11781.6		1243.1		10538.5	(25^-)	
11821.8	(28^+)	892.4		10929.4	(26^+)	Q
		1011.7	8.11	10810.1	(26^+)	Q
11869.9	(28)	130.4	100	11739.1	(27^-)	D
		244.8	80	11624.7	(27)	D
		315.0		11555.2	$27^{(-)}$	D
		973		10897.2	$26^{(-)}$	
12169.3	(28)	696.0		11473.3	(27)	
		1359.2		10810.1	(26^+)	
12198.3	(28^-)	643.2		11555.2	$27^{(-)}$	
		1301		10897.2	$26^{(-)}$	
12334.1		779		11555.2	$27^{(-)}$	
		1279		11055.1	(26)	
12360.6	(29^-)	490.2		11869.9	(28)	
		736		11624.7	(27)	
		805.6		11555.2	$27^{(-)}$	
12464.0	(28^+)	1224		11240.0	(26^+)	
12491.9	(29)	322.6	20	12169.3	(28)	D
		1018.6	100	11473.3	(27)	Q
12517.8	(28^-)	1252.0		11265.8	(26^-)	
12594.9	(29)	725	100	11869.9	(28)	D
12721.6	(29)	899.8	100	11821.8	(28^+)	D
12772.9		281‡		12491.9	(29)	
		1217.6#@d *3*	100	11555.2	$27^{(-)}$	(Q)
12993.8	(30)	399		12594.9	(29)	
		633.2	100	12360.6	(29^-)	D
13304.8	(30)	583.2		12721.6	(29)	D
		1483.0		11821.8	(28^+)	
13318.0	(30)	723	100	12594.9	(29)	D
		1448		11869.9	(28)	
13578.3	(31^-)	1217.7		12360.6	(29^-)	
13639.2	(31)	321.1	95	13318.0	(30)	D
		645.5	29	12993.8	(30)	
		1044.2	100	12594.9	(29)	
13856.8	(31)	1084		12772.9		

$^{124}_{54}Xe_{70}$-21

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult. [a]
13856.8	(31)	1364.9	100	12491.9	(29)	Q
14049.8	(32)	193.0	100	13856.8	(31)	D
		745.0		13304.8	(30)	
14777.9	(33)	921.1	100	13856.8	(31)	Q
14814.0	(32)	1174.8		13639.2	(31)	
		1496		13318.0	(30)	
15037.1	(33)	223.1	9.5	14814.0	(32)	D
15037.1	(33)	1398	100	13639.2	(31)	Q
15178.1	(34)	400.2		14777.9	(33)	
		1128.3		14049.8	(32)	Q
16385.5		1348.4		15037.1	(33)	
16512.4		1334.2	100	15178.1	(34)	
16529.7		1492.6		15037.1	(33)	

† Average of ^{124}Cs ε decay and (HI,xnγ) or from ^{82}Se(^{48}Ca,6nγ).
‡ From ^{82}Se(^{48}Ca,6nγ); Not reported in (HI,xnγ).
# Not reported in ^{82}Se(^{48}Ca,6nγ).
@ Placement is uncertain. ^{82}Se(^{48}Ca,6nγ) put the 1217.7-keV γ to another level.
& From ^{124}Cs ε decay when available. Others from (HI,xnγ).
[a] From $\gamma\gamma(\theta)$, α(K)exp in ^{124}Cs ε decay and $\gamma(\theta)$, α(K)exp, ΔJ and σ, and RUL in (HI,xnγ).
[b] From $\gamma\gamma(\theta)$ in ^{124}Cs ε decay and $\gamma(\theta)$ in (HI,xnγ).
[c] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[d] Placement of transition in the level scheme is uncertain.

$^{124}_{54}Xe_{70}$-22

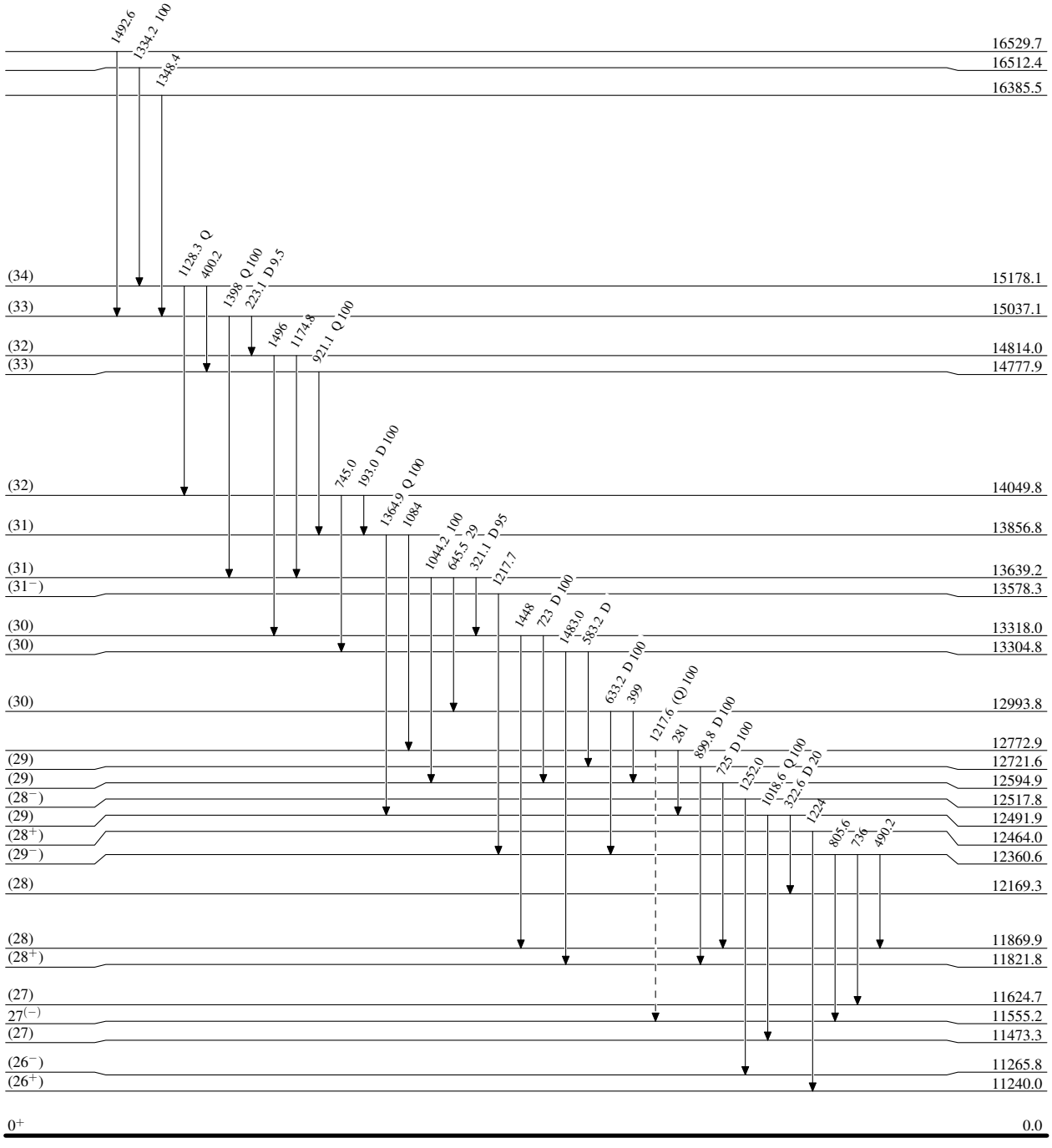
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

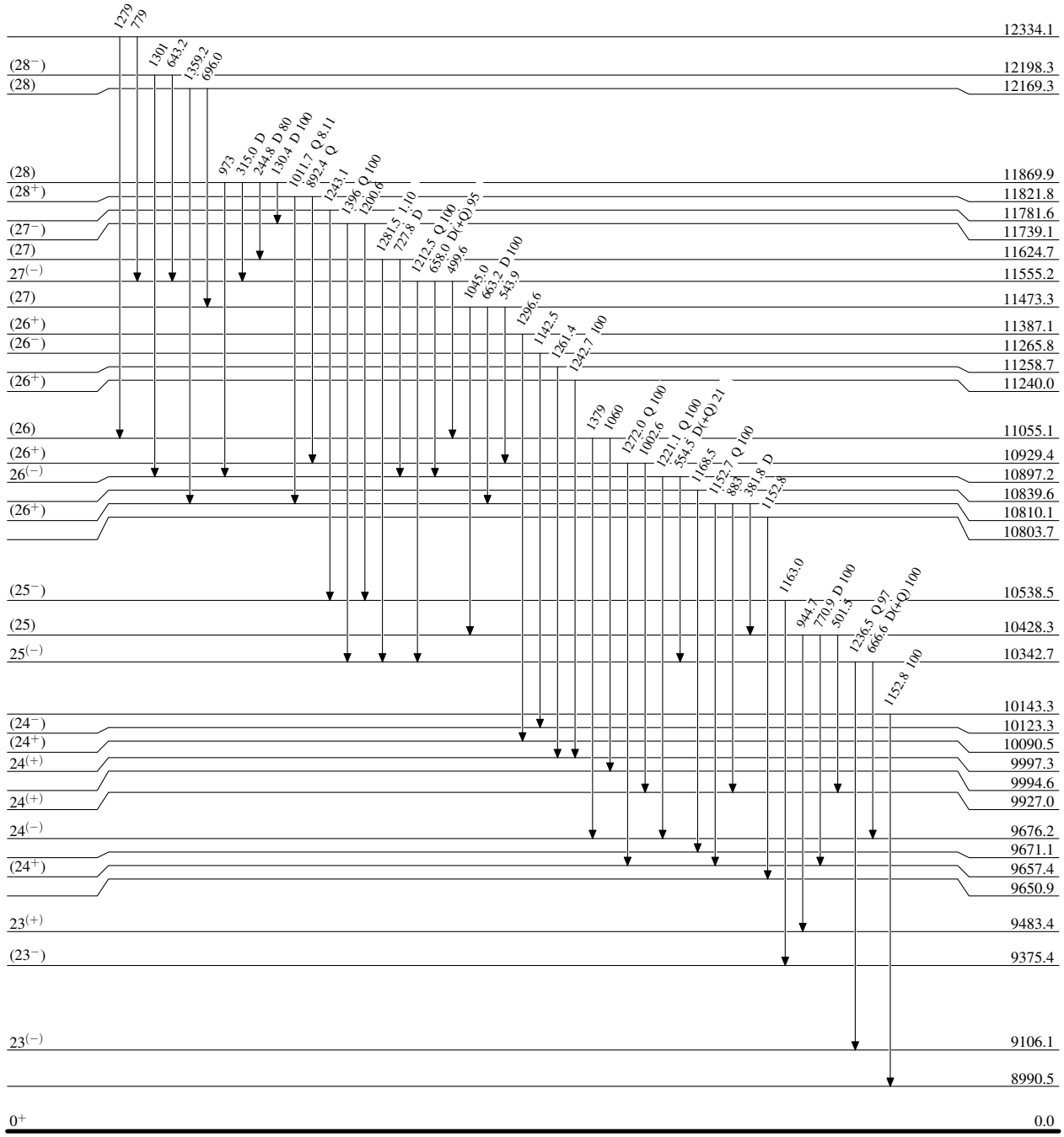


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

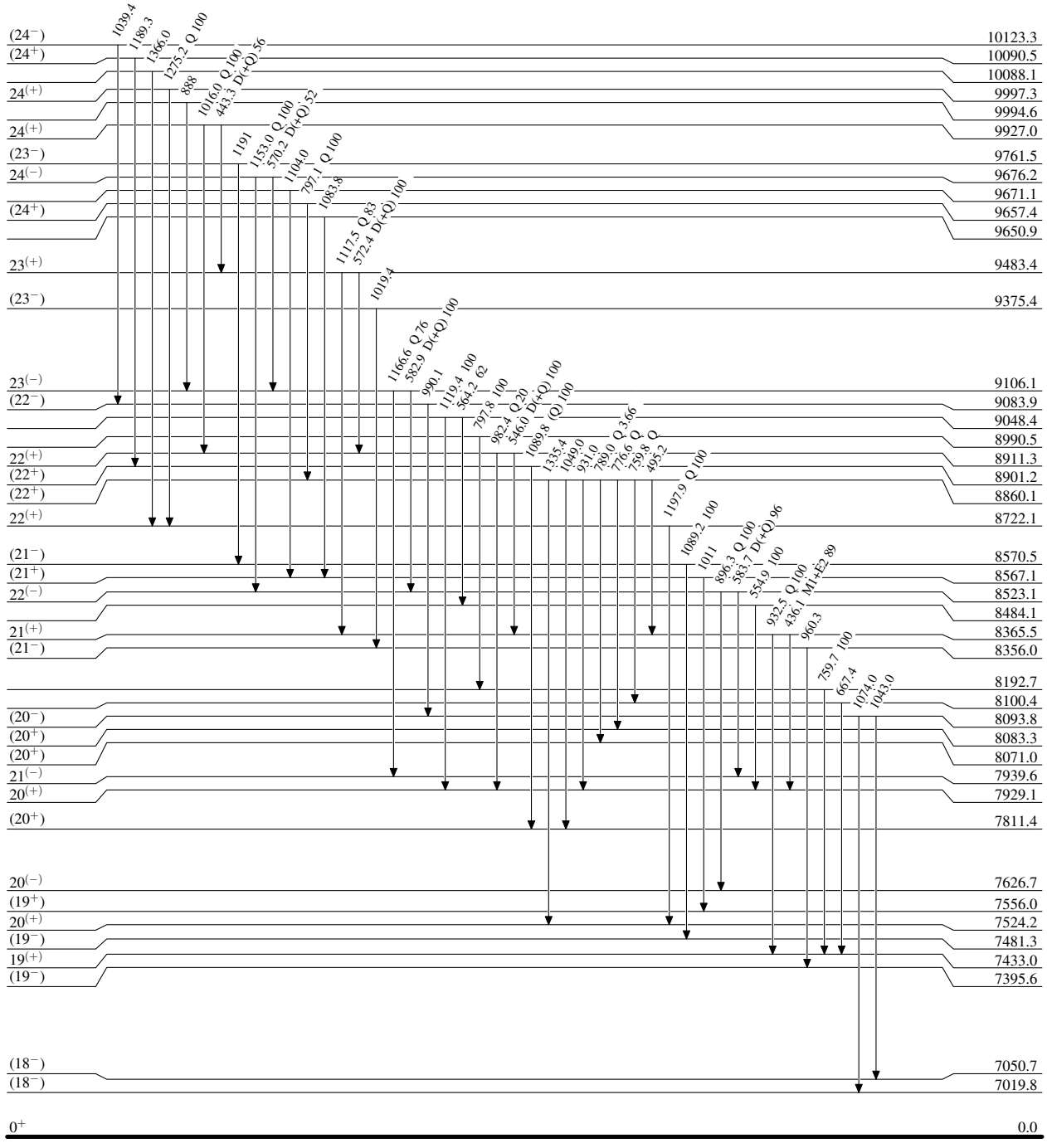


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

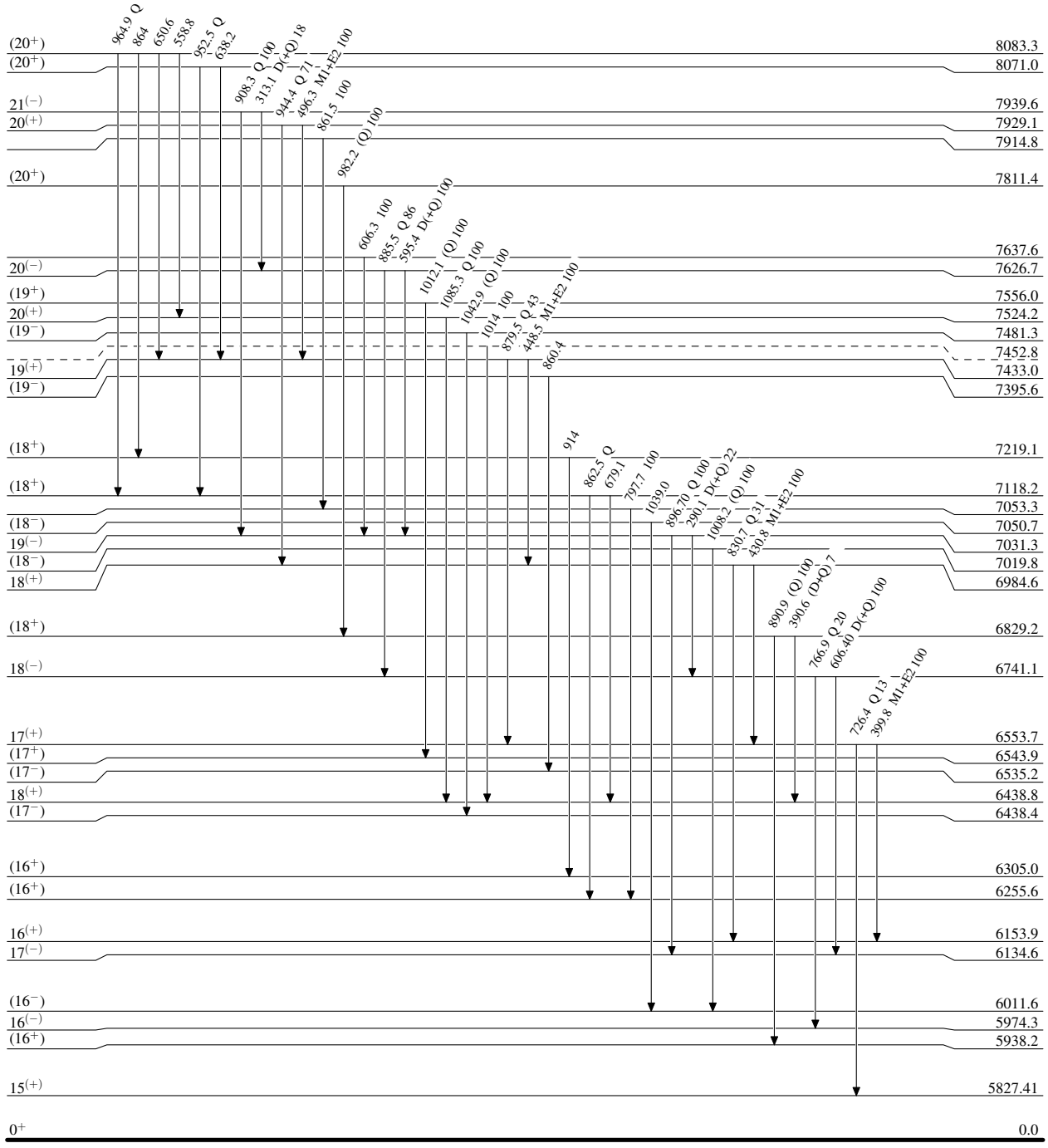


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



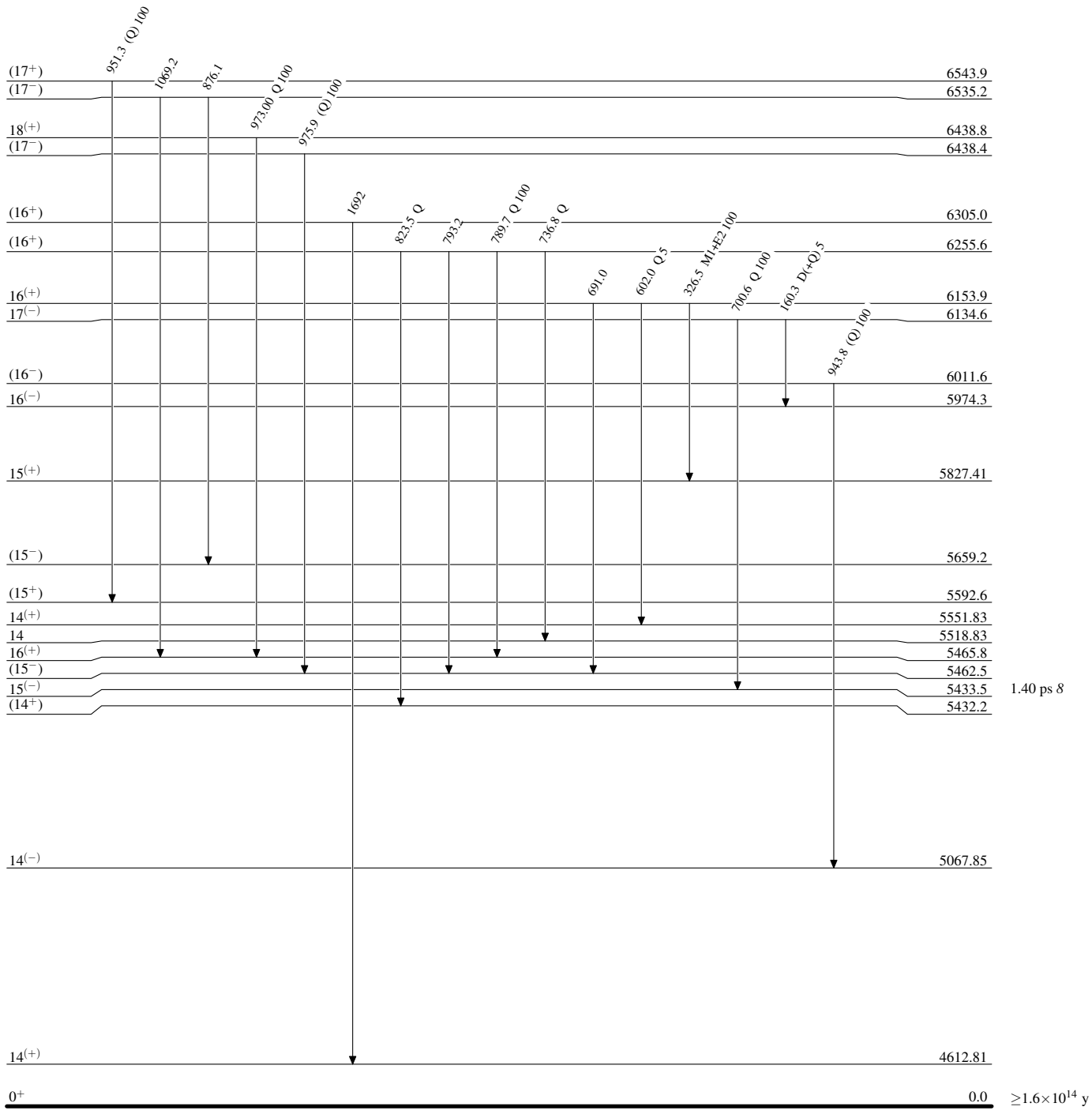
$\geq 1.6\times10^{14}$ y

$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

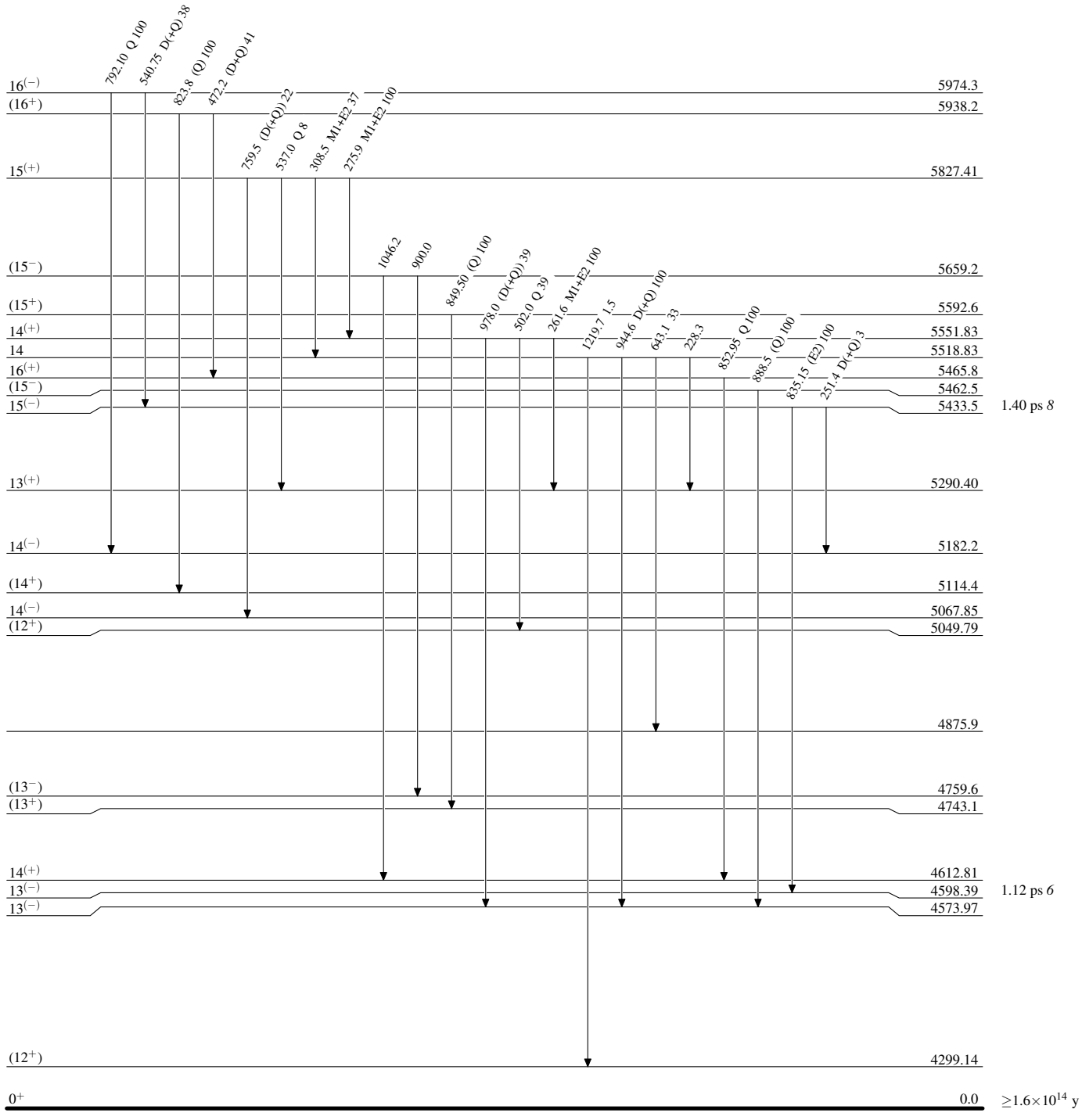


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{124}_{54}Xe_{70}$

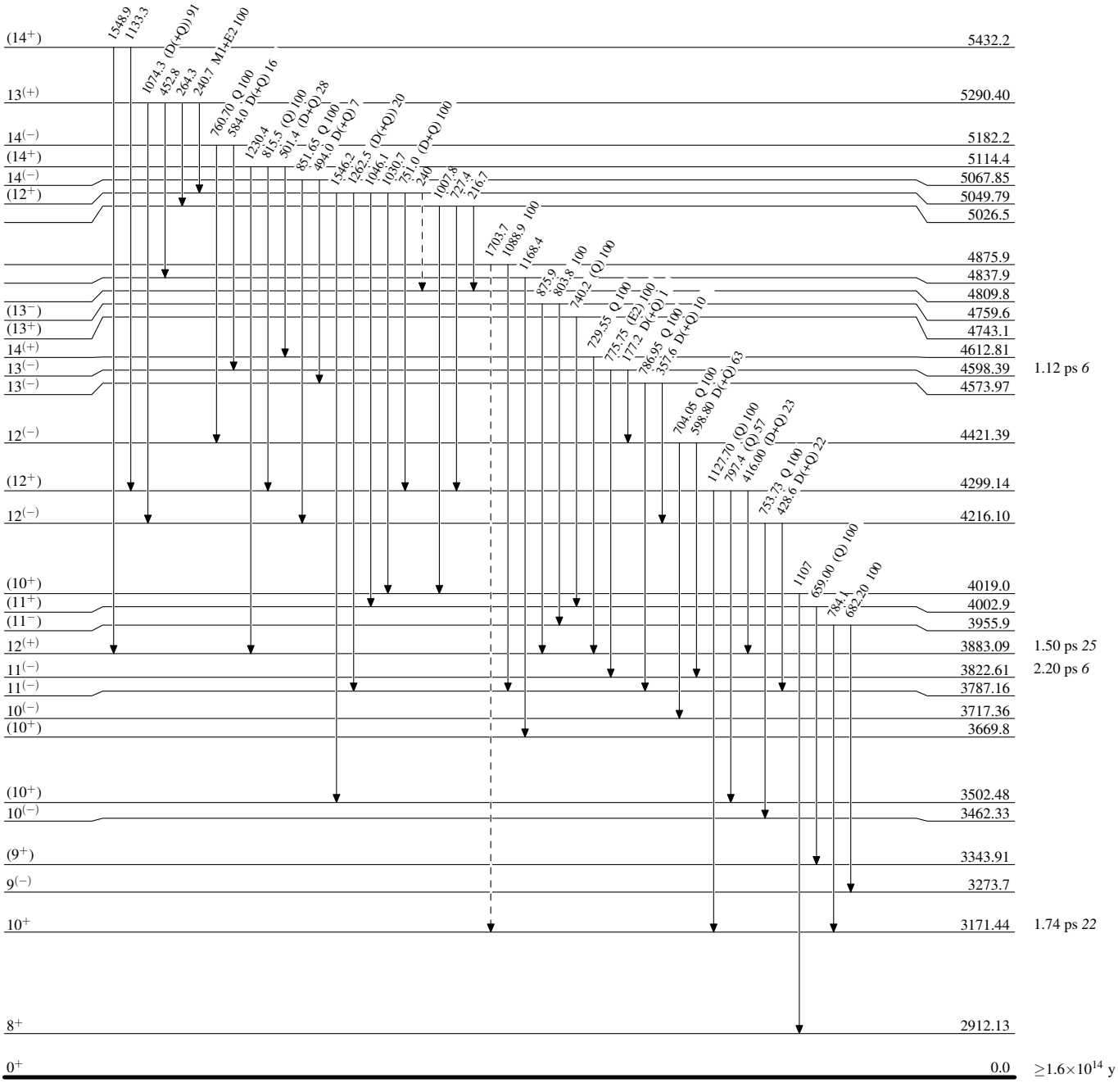
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

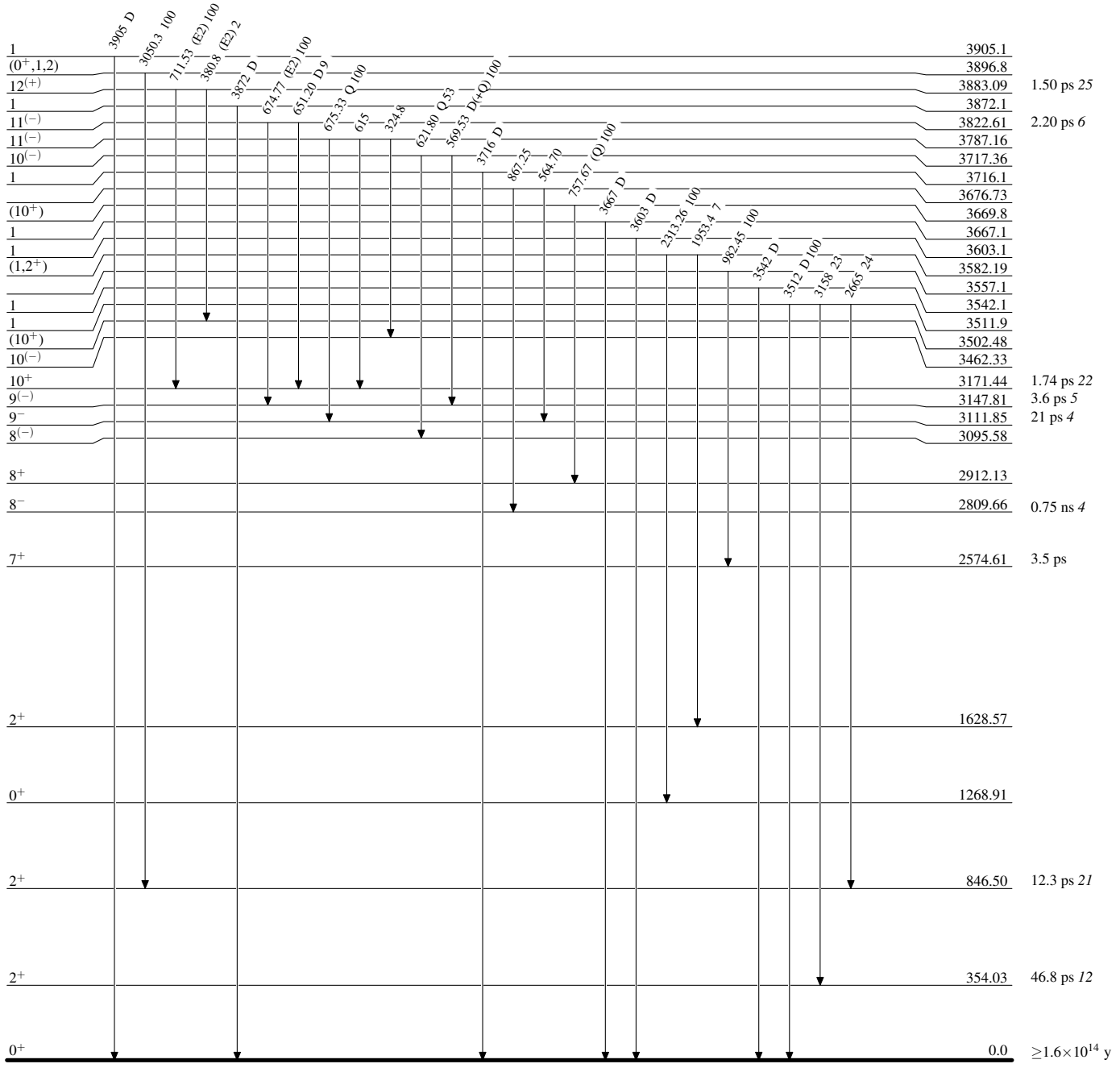


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{124}_{54}Xe_{70}$

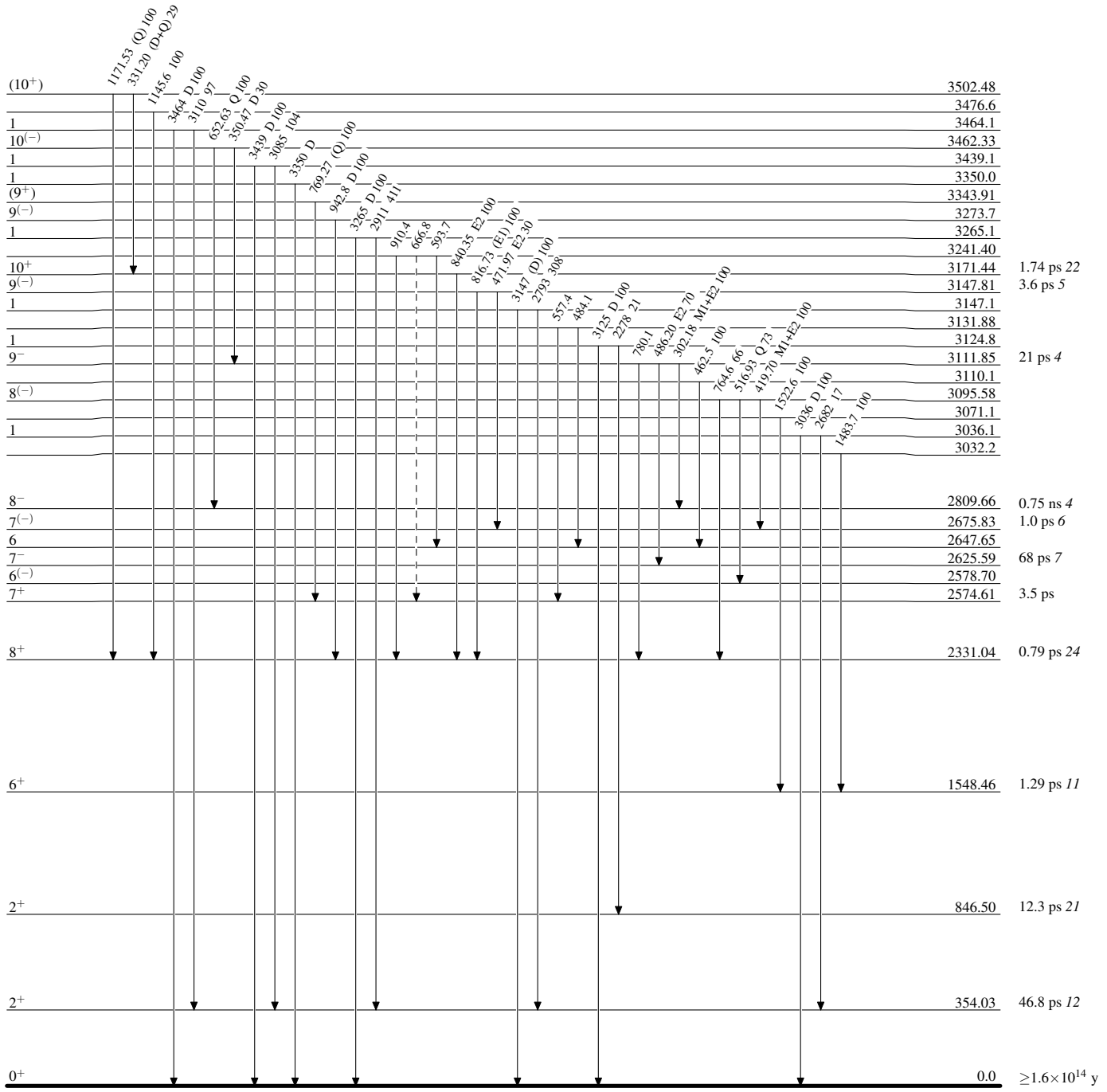
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

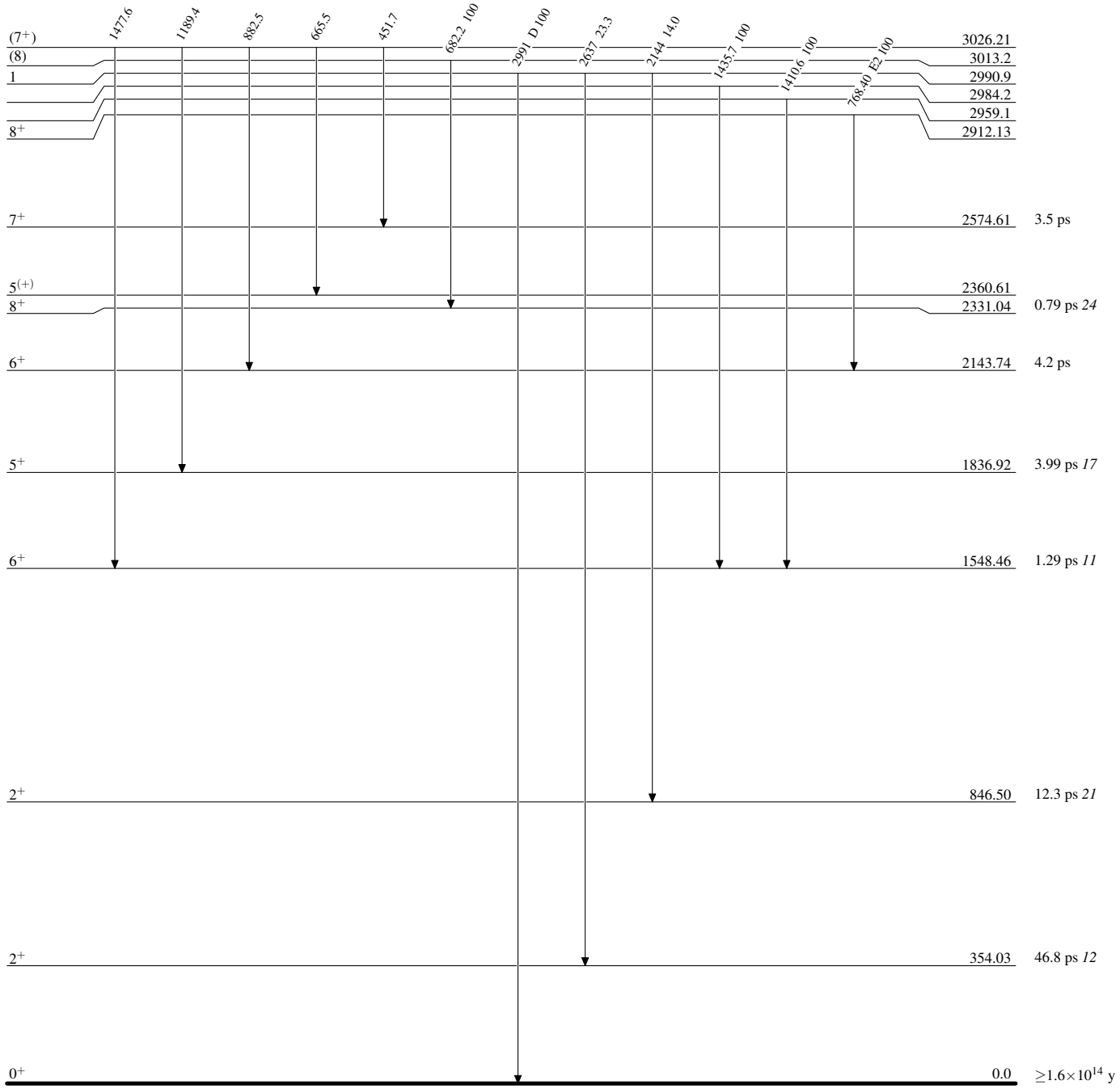


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

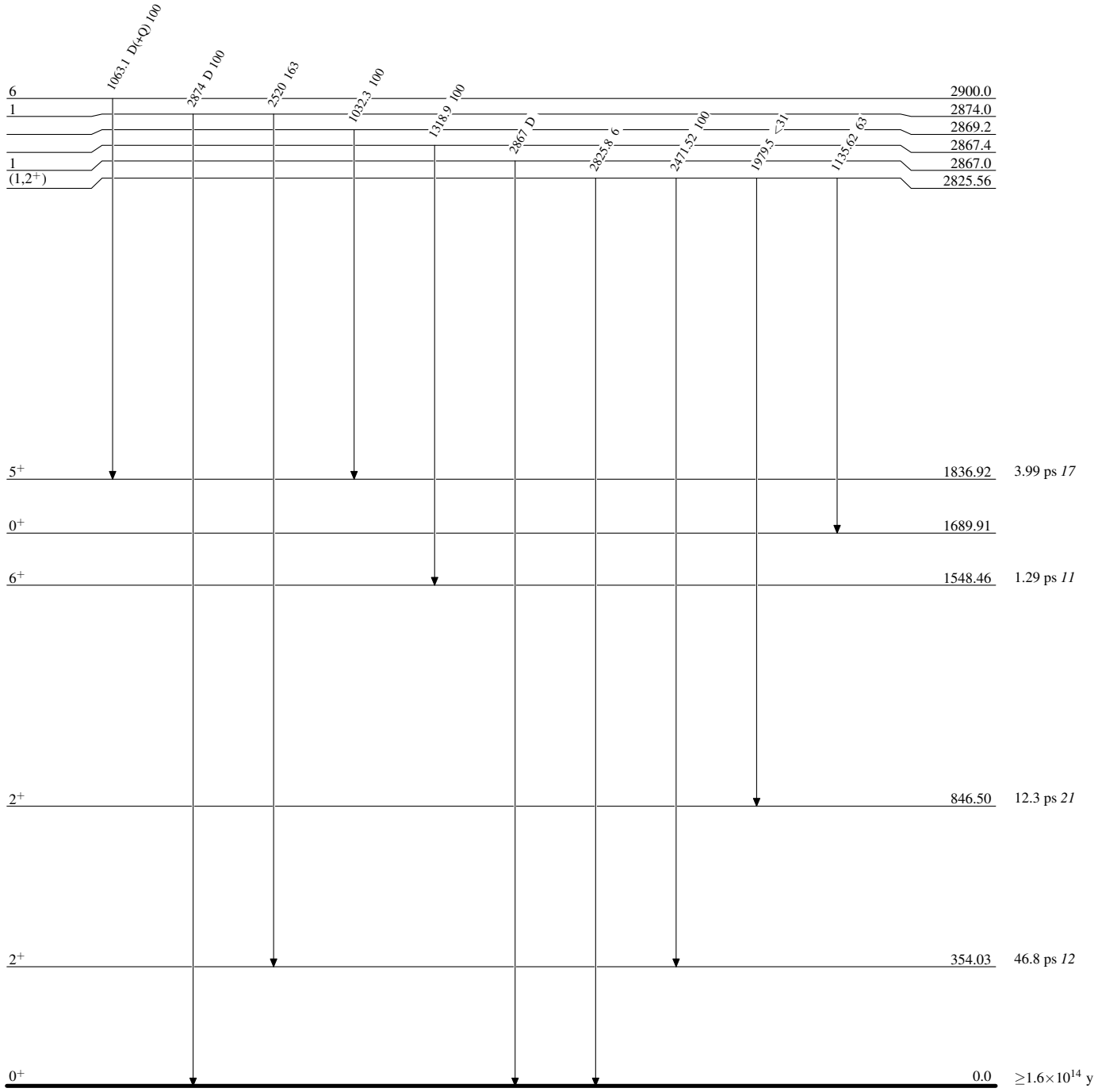


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

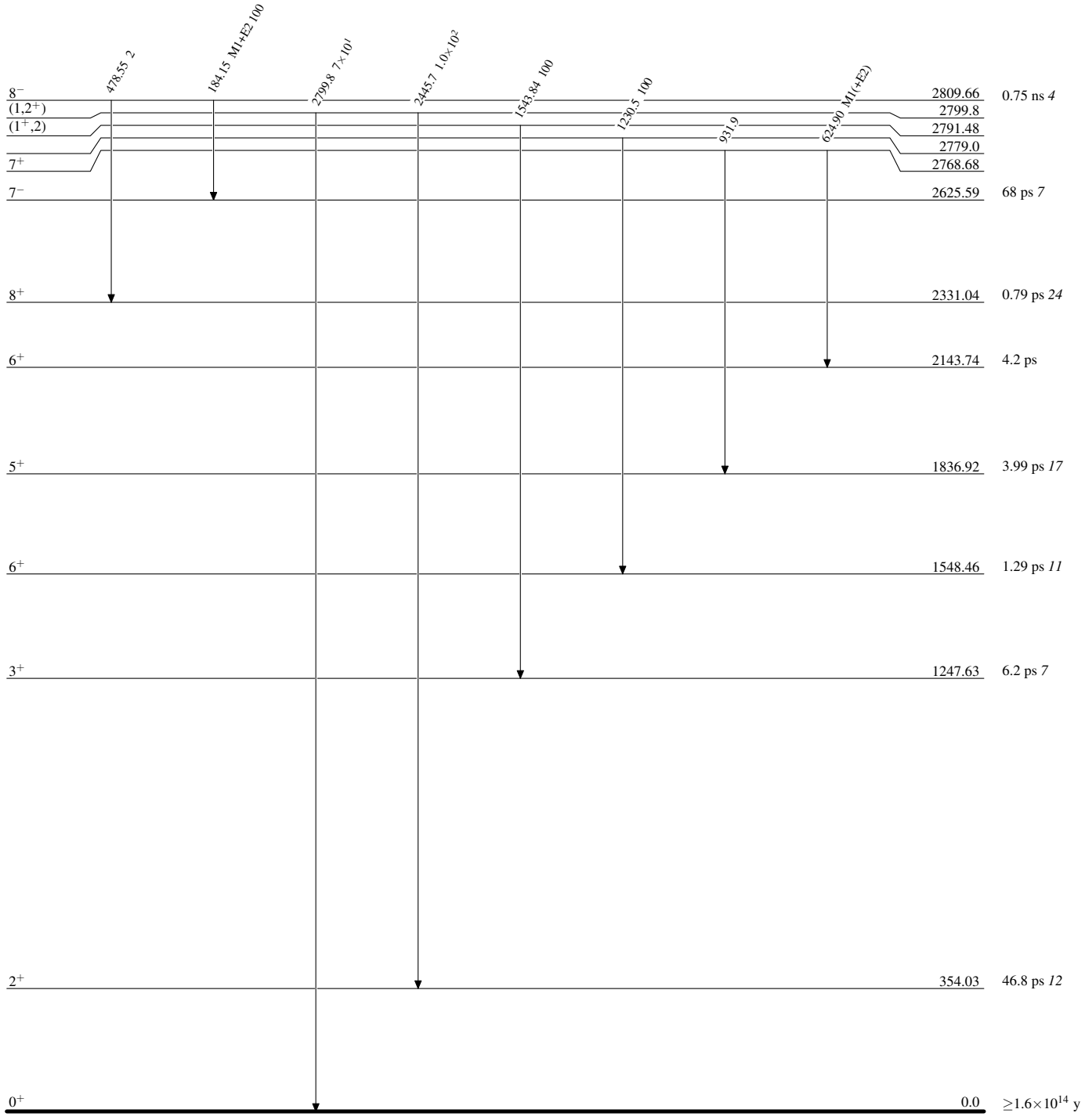


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

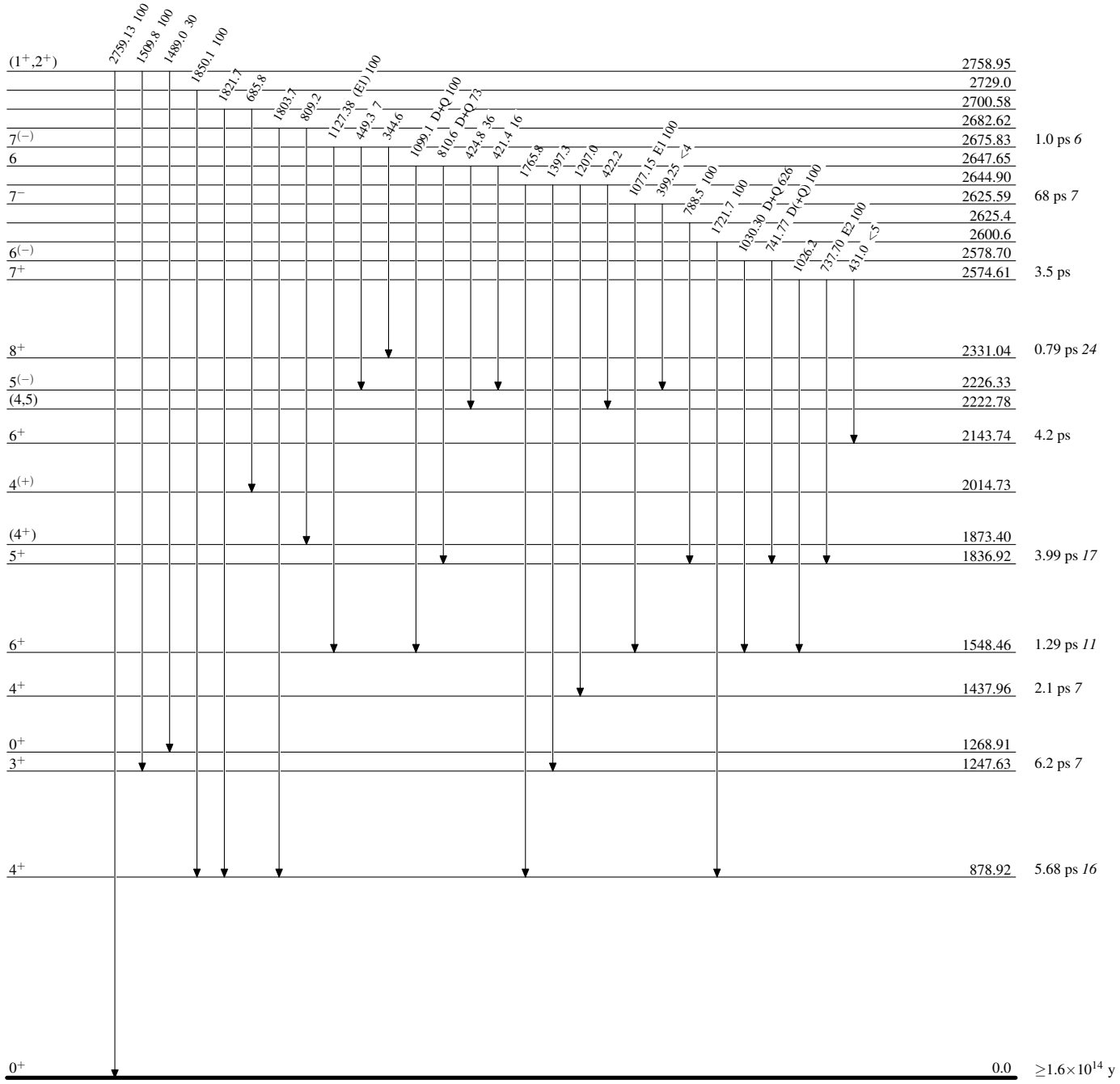


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

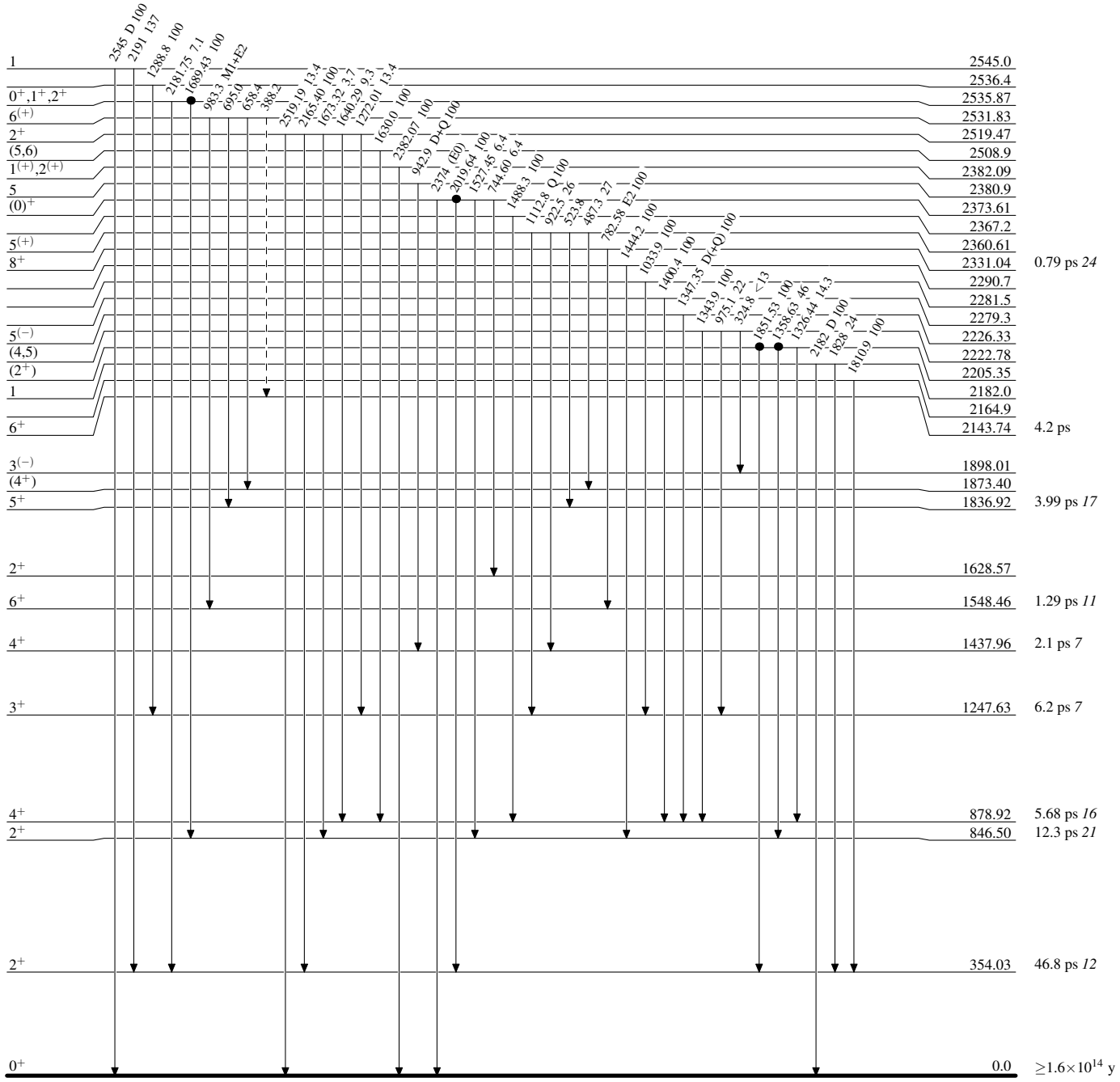
Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

● Coincidence



$^{124}_{54}Xe_{70}$

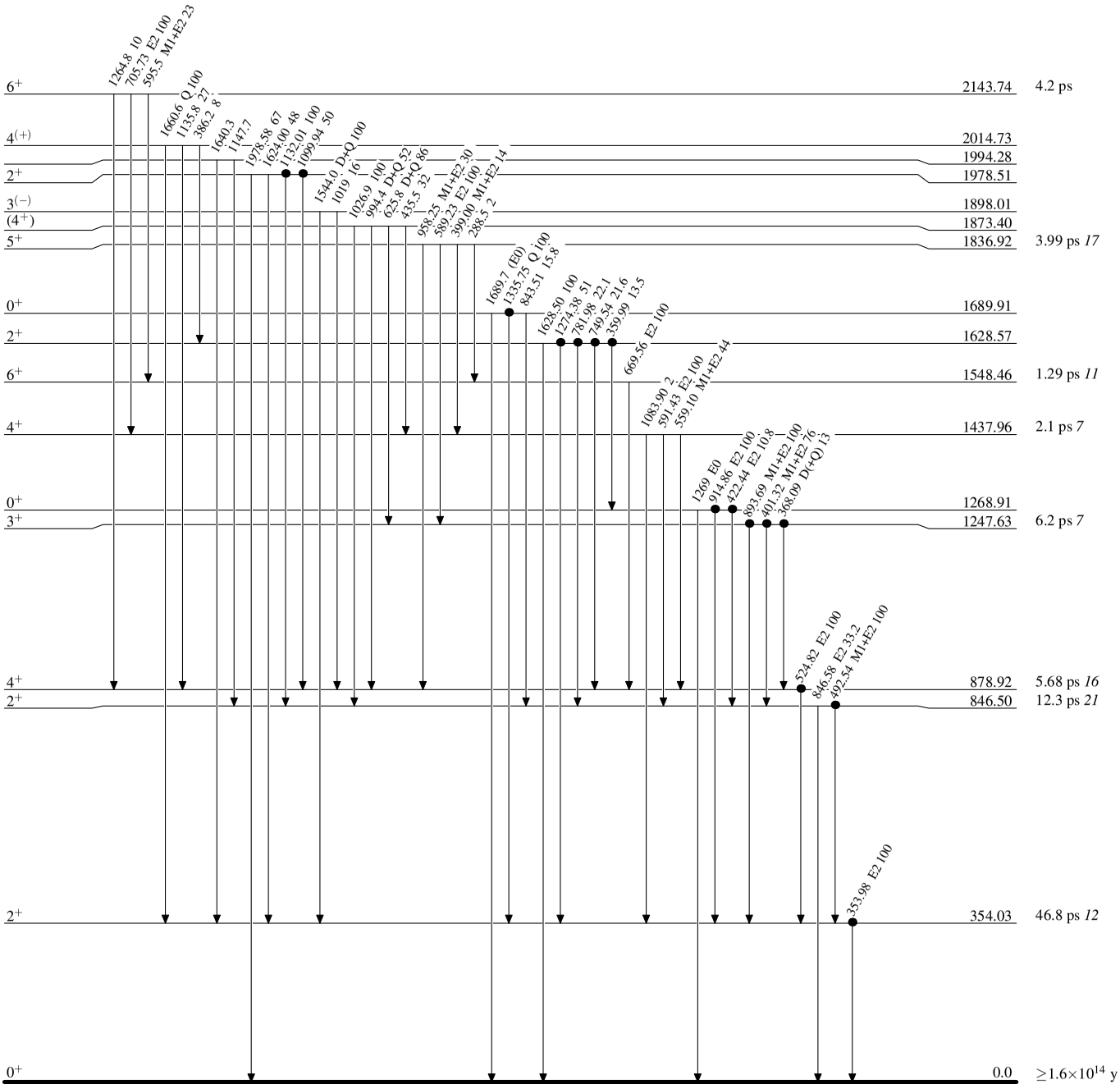
Adopted Levels, Gammas

Legend

Level Scheme (continued)

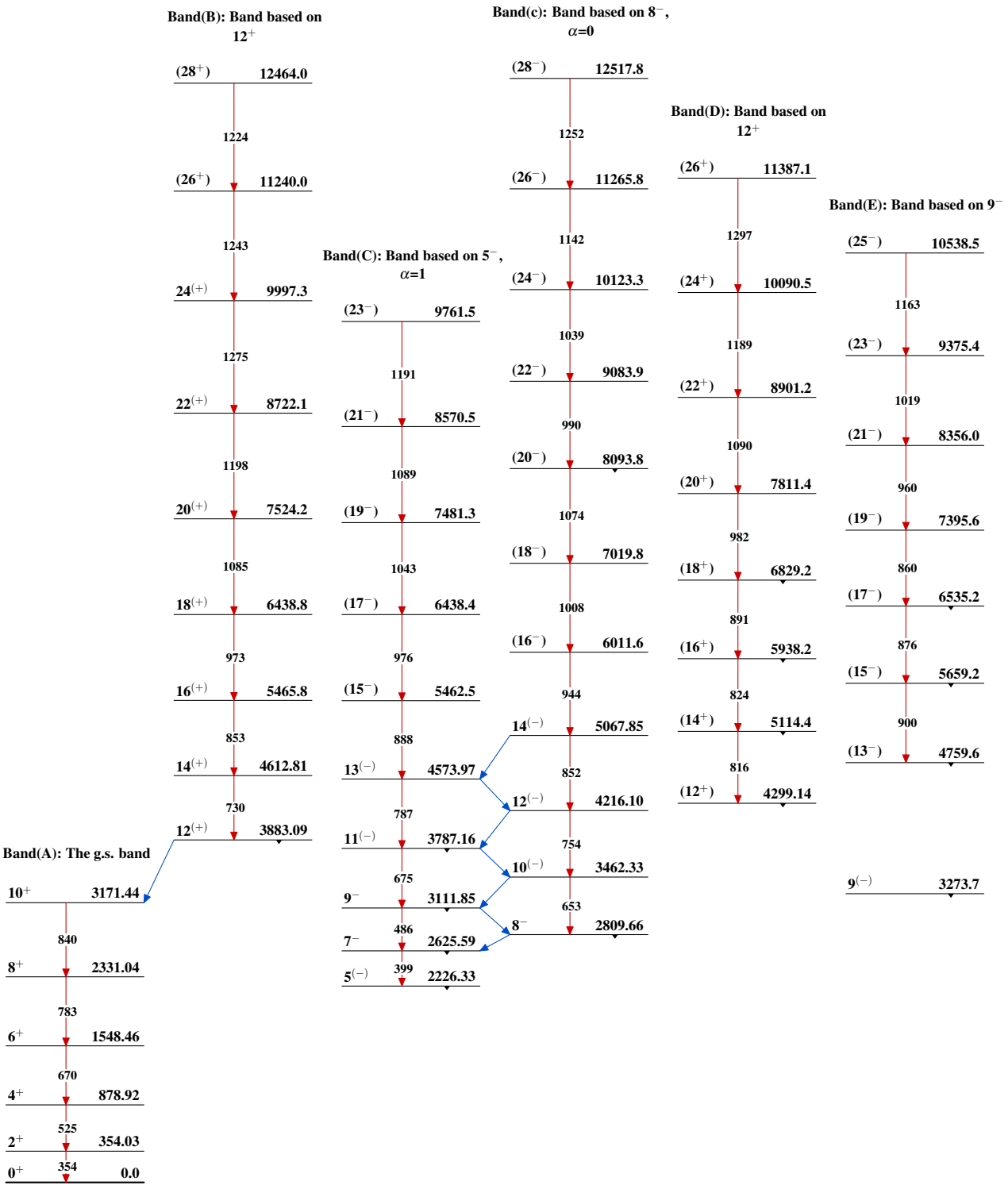
Intensities: Relative photon branching from each level

● Coincidence

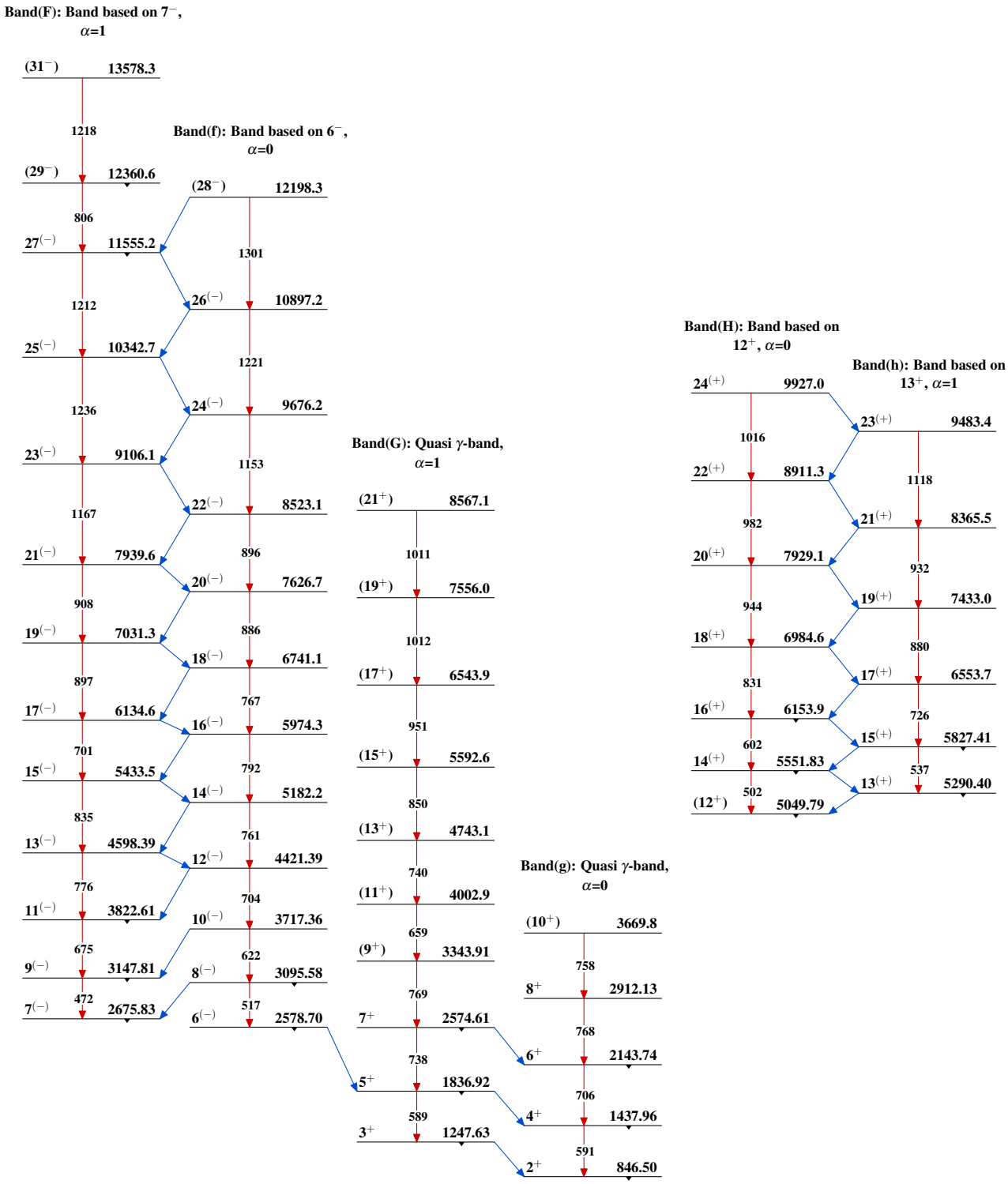


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

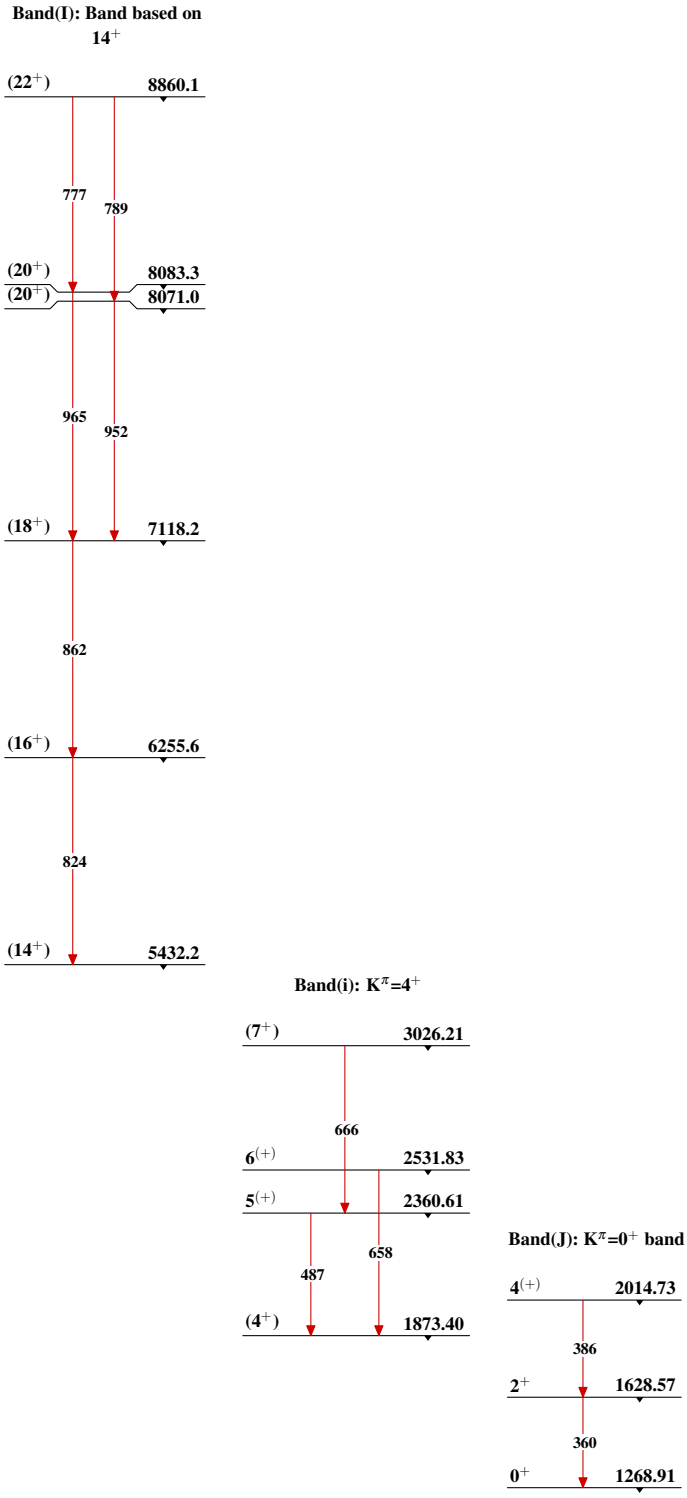


Adopted Levels, Gammas (continued)



$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas (continued)



$^{124}_{54}Xe_{70}$