Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, Huo Junde	NDS 87,15 (1999)	1-Nov-1998

Q(β^-)=274.5 *22*; S(n)=6760.9 *15*; S(p)=5308.9 *17*; Q(α)=1799.2 *19* 2012Wa38
Note: Current evaluation has used the following Q record $ 273.3 *226761*.1 *155307.9 161800* 2 1995Au04.
Other reactions: ^{174}Yb(^{3}He,t)^{174}Lu, IAS (1983Ja03).
^{175}Lu(γ,n), E=11-25 MeV (1994BaZX).

^{174}Lu Levels

Cross Reference (XREF) Flags

A	^{176}Yb(p,3nγ)	F	^{173}Yb(α,t),(^{3}He,d)
B	^{170}Er(^{7}Li,3nγ)	G	^{175}Lu(^{3}He,α)
C	^{174}Lu IT decay (142 d)	H	^{175}Lu(d,t)
D	^{174}Lu IT decay (145 ns)	I	^{176}Lu(p,t)
E	^{174}Lu IT decay (395 ns)		

E(level)	J^π[†]	$T_{1/2}$	XREF	Comments
0.0[‡]	(1)$^-$	3.31 y *5*	ABCDEFGHI	%ε+%β^+=100 μ=1.94 *28* $T_{1/2}$: weighted average (χ^2/ ν=0.5) of 3.31 y *5* (1973Ne03) and 3.6 y *4* (1962Bo12). Others: 1965Fu01, 1964Ba25, 1960Ha18. J^π: $\varepsilon+\beta^+$ decay to 0.0 (J^π=0$^+$) and 76.4 (J^π=2$^+$). Measured μ=1.94 *28* and (d,t) strength are consistent with J^π=1$^-$, configuration=(π 7/2[404])-(ν 5/2[512]). E2 from (3)$^-$. μ: static (low-temperature) nuclear orientation (1975Kr11,1989Ra17).
44.6966[‡l] *20*	(2)$^-$		ABCDEFGHI	J^π: 44.7γ M1+E2 to (1)$^-$. (d,t) strength consistent with J^π=2$^-$, configuration=(π 7/2[404])-(ν 5/2[512]).
111.753[‡l] *3*	(3)$^-$		ABCDEFGHI	J^π: 111.7γ E2 to (1)$^-$. M3 from (6)$^-$. (d,t) strength consistent with J^π=3$^-$, configuration=(π 7/2[404])-(ν 5/2[512]).
170.83[@] *5*	(6)$^-$	142 d *2*	ABC FGHI	%IT=99.38 *2*; %ε=0.62 *2* μ=1.497 *10* E(level): from ^{174}Lu (142 d) IT decay. J^π: M1+E2 from 7$^-$; 59.1γ M3 to (3$^-$). ε decay to 1518 (J^π=6$^+$) level in ^{174}Yb. (d,t) strength is consistent with J^π=6$^-$, configuration=(π 7/2[404])+(ν 5/2[512]). $T_{1/2}$: weighted average (χ^2 /ν=0.7) of 142 d *2* (1973Ne03), 141 d *5* (1975Ki06), 150 d *20* (1965Fu01), 150 d *40* (1964Ba25), 140 d *10* (1962Bo12), and 160 d *10* (1960Wi10). Other values, such μs 80 d *5* (1969Ka19) and 157 d *5* (1967Gi06) may have been affected by geometry-dependent instrumental and external calibration uncertainties, respectively (1973Mi30). From 1987Va34. μ: nuclear magnetic resonance on oriented nuclei (1991Hi19,1996Ha09). Other values: 2.34 *33*, static (low-temperature) nuclear orientation (1975Kr11,1989Ra17). 1996Ha09 has considered this value to be inaccurate. 1.9 *3*, based on δ(67γ)=0.054 *1* (model-dependent value) and on data from 1975Kr11 reanalyzed by 1990Dr05.
200.297[‡l] *5*	(4$^-$)		AB D FGHI	J^π: 88.5γ to (3$^-$). (d,t) strength is consistent with J^π=4$^-$, configuration=(π 7/2[404])-(ν 5/2[512]).
240.818[cl] *4*	(3$^+$)	395 ns *15*	AB DEF	$T_{1/2}$: γ(t) in (p,3nγ) (1980Ke08).
259.534[cl] *10*	(4$^+$)		AB D F	

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Adopted Levels, Gammas (continued)

^{174}Lu Levels (continued)

E(level)	J^{π}[†]	$T_{1/2}$	XREF	Comments
281.168[al] 18	(0^+)		AB F	
302.45[cm] 8	(5^+)		B F	
311.205[‡l] 9	(5^-)		AB H	
320.111[al] 8	(2^+)		AB FG	
320.29[@l] 6	7^-		AB fgHI	J^{π}: L=0 in (p,t).
365.183[#l] 6	(4^-)	145 ns 3	AB D GHI	$T_{1/2}$: γ(t) in (p,3nγ) (1980Ke08).
367.55[cm] 8	(6^+)		B F	
382.875[al] 23	(1^+)		AB	
414.370[dl] 12	(3^+)		AB F	
420.664[al] 9	(4^+)		AB H	
431.41[&l] 6	(7^+)	<1.5 ns	AB fg	$T_{1/2}$: γ(t) in (p,3nγ) (1980Ke08).
432.88[bl] 20	(3^-)		AB fgHI	XREF: H(433). J^{π}: (d,t) strength is consistent with $J^{\pi}=3^-$, configuration=(π 7/2[404])-(ν 1/2[521]).
442.015[‡l] 15	(6^-)		AB H	
445.431[al] 21	(3^+)		AB	
453.82[c] 9	(7^+)		B	
456.5[il] 5	(5^-)		A F H	
481.003[#l] 14	(5^-)		AB gHI	J^{π}: (d,t) strength consistent with $J^{\pi}=5^-$, configuration=(π 7/2[404])+(ν 1/2[521]).
491.35[@l] 6	(8^-)		AB g	
506[n]			F H	
507.75[l] 7			AB	
516[n]			F	
522.42[el] 5	(1^-)		AB	
523	7^-		I	J^{π}: L=0 in (p,t). $K^{\pi}=7^-$. Possible configuration=(π 7/2[404])+(ν 7/2[514]).
527			F	E(level): maybe same as 523 level.
531.12[b] 6	(4^-)		AB H	J^{π}: (d,t) strength consistent with $J^{\pi}=4^-$, configuration=(π 7/2[404])-(ν 1/2[521]).
531.3[fl] 5	(7^+)		AB	
537.41[&l] 6	(8^+)		AB G	
553			F	
561.21[cm] 9	(8^+)		B F	XREF: F(561).
568			I	
575.662[al] 13	(5^+)		AB FGH	
591.3[i] 5	(6^-)		A	
594.244[al] 17	(6^+)		AB GH	
595.567[‡l] 17	(7^-)		AB	
602			I	
619.167[#l] 19	(6^-)		AB H	J^{π}: (d,t) strength consistent with $J^{\pi}=6^-$, configuration=(π 7/2[404])+(ν 1/2[521]).
620	(3^-)		F	
621.08[el] 6	(2^-)		AB F	XREF: F(637).
630.12[l] 3	(1^+)		AB	
635.4[h] 5	(2^+)		A	
640			F	
652.32[l] 3	(2,3,4)		AB	

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Adopted Levels, Gammas (continued)

^{174}Lu Levels (continued)

E(level)	Jπ†	XREF	Comments
654.43[bl] 6	(5⁻)	AB HI	Jπ: (d,t) strength is consistent with $J^{\pi}=5^{-}$, configuration=(π 7/2[404])-(ν 1/2[521]).
659.1[fl] 3	(8⁺)	AB F	
672.04[k] 6	(4⁺)	A	
676.73[&l] 6	(9⁺)	AB GH	
683.47[@l] 6	(9⁻)	AB	
689.05[h] 5	(3⁺)	A	
689.18[c] 9	(9⁺)	B	
715[q]		F I	XREF: F(714).
723		F	
735		H	
747.6[il] 5	(7⁻)	A FG	
755.3[k] 2	(5⁺)	A I	
766.366[‡l] 20	(8⁻)	AB	
771.98[gl] 7	(8)	AB	
773.89[hlm] 5	(4⁺)	AB F	
779.11[#l] 4	(7⁻)	AB GH	Jπ: (d,t) strength is consistent with $J^{\pi}=7^{-}$, configuration=(π 7/2[404])+(ν 1/2[521]).
782.30[al] 3	(7⁺)	AB G	
800.57[bl] 7	(6⁻)	AB H	Jπ: (d,t) strength is consistent with $J^{\pi}=6^{-}$, configuration=(π 7/2[404])-(ν 1/2[521]).
805.6[fl] 5	(9⁺)	A F	
838.03[cm] 10	(10⁺)	B	
842.79?[am] 13	(8⁺)	AB gh	
843.12[&m] 19	(10⁺)	B gh	
859.9[k] 2	(6⁺)	A	
868.97[gl] 7	(9)	AB H	
877.4[j] 5	(7⁻)	A	
878.2[hl] 3	(5⁺)	AB F	
895.2[@] 4	(10⁻)	B	
906		F	
926.9[il] 5	(8⁻)	A F I	
953		F	
960.56[#] 11	(8⁻)	B	
961.16[‡l] 9	(9⁻)	AB	
970[bo] 4	(7⁻)	GH	Jπ: (d,t) strength is consistent with $J^{\pi}=7^{-}$, configuration=(π 7/2[404])-(ν 1/2[521]).
979.6[k] 2	(7⁺)	A	
997.9 3		B	
1005.4[hl] 5	(6⁺)	A F	
1007.03[c] 10	(11⁺)	B	
1012 3		H	
1012.64[l] 20	(10)	B	
1028[n]		FG	
1033.73[&] 15	(11⁺)	B	
1063.46?[l] 4	(9⁺)	AB F	
1071 1		G	
1085 5		H	
1112[q]		F I	
1126.08[@] 20	(11⁻)	B	
1140[q]		F I	

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Adopted Levels, Gammas (continued)

^{174}Lu Levels (continued)

E(level)	J^{π}[†]	XREF	Comments
1156 *1*		G	
1166		F	
1169.47[‡] *10*	(10^-)	B	
1179[o] *2*		HI	
1186.27 *20*	(11)	B	
1196.72[c] *14*	(12^+)	B	
1204[o] *3*		FGH	
1219		I	
1240		F	
1245[o] *4*		GH	
1247.17[&] *17*	(12^+)	B	
1261		F	
1275		H	
1286		F	
1293		F	
1294		H	
1301		F	
1305[o] *3*		GH	E(level): also observed in (^{3}He,α) at 1310 keV.
1328[n]		F I	
1331 *3*		H	
1353[o] *1*		HI	
1363[n]		F HI	XREF: I(1365).
1370.5[@] *5*	(12^-)	B	
1379		F	
1391		F	
1403.78?[‡] *11*	(11^-)	B	
1405.73[c] *15*	(13^+)	B	
1406		H	
1421[o]		F H	
1429 *1*		G	
1438[o] *3*	(5^-)	F HI	J^{π}: (d,t) strength is consistent with $J^{\pi}=5^-$, configuration=(π 7/2[404])+(ν 3/2[521]).
1455[o] *3*		GH	
1460[n]		F I	
1476		F	
1481.7[&] *5*	(13^+)	B	
1484[o] *4*		GH	
1498		I	
1516		H	
1535[n]		F I	
1549		I	
1557[o] *5*		FGH	
1564[o]		HI	
1576[o]		HI	
1589		FGH	E(level): average from (α,t), (^{3}He,d), (^{3}He,α), and (d,t).
1596		H	
1609		F	
1617		G	
1628 *2*		H	E(level): possible multiplet.
1635.02[c] *18*	(14^+)	B	
1640		F	
1651[p]		G I	
1662		F H	E(level): average from (d,t), (α,t), and (^{3}He,d).
1681[o]		GH	E(level): possible multiplet. Maybe same as 1689 level from (α,t), (^{3}He,d).

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Adopted Levels, Gammas (continued)

^{174}Lu Levels (continued)

E(level)	Jπ†	XREF	Comments
1689		F	
1716		F	E(level): possible multiplet.
1735		FG	E(level): average from (α,t), (^{3}He,d), and (^{3}He,α).
1753		F	
1771		F	
1801		F	
1829		F	
1843		FG	E(level): average from (α,t), (^{3}He,d), and (^{3}He,α).
1868		F	
1882.8[c] 3	(15$^+$)	B	
1903		F	
1927		F	
1940		F	
1979		F	
2012		F	
2041		G	
2082		G	
2096		F	
2120		F	
2155		F	

† J^π assignments are based on rotational structure, γ(θ) in ^{176}Yb(p,3nγ), L-transfer values in ^{176}Lu(p,t), and on the agreement between measured and calculated cross sections for particle-transfer reactions. Specific arguments are given with individual levels.

‡ Band(A): K$^\pi$=1$^-$ g.s. rotational band. Configuration=(π 7/2[404])-(ν 5/2[512]). Rotational parameters: A=11.2, B=−3.4. Spin members of the band used in the fit: 1 to 10.

Band(B): K$^\pi$=4$^-$ rotational band. Configuration=(π 7/2(404))+(ν 1/2(521)). Rotational parameters: A=11.7, B=−3.2. Spin members of the band used in the fit: 4 to 8.

@ Band(C): K$^\pi$=6$^-$ rotational band. Configuration=(π 7/2(404))+(ν 5/2(512)). Rotational parameters: A=11.1, B=−2.6. Spin members of the band used in the fit: 6 to 12.

& Band(D): K$^\pi$=7$^+$ rotational band. Configuration=(π 7/2(404))+(ν 7/2(633)). Rotational parameters: A=6.2, B=9.3. Spin members of the band used in the fit: 7 to 13.

[a] Band(E): K$^\pi$=0$^+$ rotational band. Configuration=(π 7/2(404))-(ν 7/2(633)).

[b] Band(F): K$^\pi$=3$^-$ rotational band. Configuration=(π 7/2(404))-(ν 1/2(521)). Rotational parameters: A=12.4, B=−3.2. Spin members of the band used in the fit: 3 to 6.

[c] Band(G): K$^\pi$=2$^+$ rotational band. Configuration=(π 1/2[541])-(ν 5/2[512]).

[d] Band(H): K$^\pi$=3$^+$ rotational band. Configuration=(π 1/2[541])+(ν 5/2[512]).

[e] Band(I): K$^\pi$=1$^-$ rotational band. Configuration=(π 5/2[402])-(ν 5/2[512]).

[f] Band(J): K$^\pi$=7$^+$ rotational band. Configuration=(π 9/2[514])+(ν 5/2[512]). Rotational parameters: A=8.1. Spin members of the band used in the fit: 7 to 9.

[g] Band(K): K=(8$^-$). Possible Configuration=(π 9/2(514))+(ν 7/2(633)). Rotational parameters: A=5.4. Spin members of the band used in the fit: 8, 9.

[h] Band(L): K$^\pi$=2$^+$ rotational band. Configuration=(π 9/2(514))-(ν 5/2(512)). Rotational parameters: A=9.5, B=17. Spin members of the band used in the fit: 2 to 6.

[i] Band(M): K$^\pi$=5$^-$ rotational band. Configuration=(π 5/2(402))+(ν 5/2(512)). Rotational parameters: A=11.2, B=−0.28. Spin members of the band used in the fit: 5 to 8.

[j] Band(N): K$^\pi$=7$^-$ rotational band. Configuration=(π 7/2[404])+(ν 7/2[514]).

[k] Band(O): K$^\pi$=(4$^+$). Possible Configuration=(π 3/2(532))+(ν 5/2(512)). Rotational parameters: A=8.3, B=3.3. Spin members of the band used in the fit: 4 to 7.

[l] From ^{176}Yb(p,3nγ)^{174}Lu.

[m] From ^{170}Er(^{7}Li,3nγ)^{174}Lu.

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Adopted Levels, Gammas (continued)

^{174}Lu Levels (continued)

[n] From ^{173}Yb(α,t)^{174}Lu, ^{173}Yb(^{3}He,d)^{174}Lu.
[o] From ^{175}Lu(d,t)^{174}Lu.
[p] From ^{175}Lu(^{3}He,α)^{174}Lu.
[q] From ^{176}Lu(p,t)^{174}Lu.

Adopted Levels, Gammas (continued)

γ(^{174}Lu)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ	α[b]	Comments
44.6966	(2)$^-$	44.697[†] *2*	100[†]	0.0	(1)$^-$	M1+E2[#]	≈0.05[#]	6.9	
111.753	(3)$^-$	67.058[†] *3*	100[†] *12*	44.6966	(2)$^-$	M1+E2[#]	+0.09[#] *1*	12.0	δ: sign of δ is from γ(θ,H,t) (1975Kr11).
		111.73[†] *2*	4.8[†] *4*	0.0	(1)$^-$	E2[#]	[#]	2.23	
170.83	(6)$^-$	59.08[@] *2*	100[@] *4*	111.753	(3)$^-$	M3[#]		3320	B(M3)(W.u.)=6.4×10^{-7} *6*
		126.2[@]	53[@] *38*	44.6966	(2)$^-$	[E4]		266	B(E4)(W.u.)=0.00011 *8*
200.297	(4$^-$)	88.544[†] *5*	100[†] *4*	111.753	(3)$^-$	D+Q[a]			
		155.59[†] *2*	7.8[†] *20*	44.6966	(2)$^-$				
240.818	(3$^+$)	129.065[†] *2*	100.0[†] *12*	111.753	(3)$^-$	(E1)[&]		0.180	B(E1)(W.u.)=1.67×10^{-7} *7*
		196.112[†] *10*	33.0[†] *4*	44.6966	(2)$^-$	(E1)[&]		0.0605	B(E1)(W.u.)=1.57×10^{-8} *7*
259.534	(4$^+$)	(19[†] *calc*)		240.818	(3$^+$)				
281.168	(0$^+$)	281.16[d†] *2*	100[d†]	0.0	(1)$^-$				
302.45	(5$^+$)	43.16[‡] *3*	100[‡]	259.534	(4$^+$)				
311.205	(5$^-$)	110.906[†] *9*	100[†] *4*	200.297	(4$^-$)				
		199.45[†] *2*	26.5[†] *15*	111.753	(3)$^-$				
320.111	(2$^+$)	208.365[†] *8*	100.0[†] *18*	111.753	(3)$^-$				
		320.09[†] *3*	26[†] *4*	0.0	(1)$^-$				
320.29	7$^-$	149.457 *5*	100	170.83	(6)$^-$	M1+E2	−3.0 *2*		Mult.: from γ(θ) and RUL.
365.183	(4$^-$)	105.654[†] *9*	11.0[†] *7*	259.534	(4$^+$)	(E1)[&]		0.306	B(E1)(W.u.)=8.2×10^{-8} *6*
		124.360[†] *8*	18.7[†] *13*	240.818	(3$^+$)	(E1)[&]		0.200	B(E1)(W.u.)=8.6×10^{-8} *7*
		164.885[†] *10*	32.9[†] *7*	200.297	(4$^-$)	(M1,E2)[&]			
		253.435[†] *10*	100.0[†] *19*	111.753	(3)$^-$	(M1,E2)[&]			
367.55	(6$^+$)	65.09[‡] *2*	100[‡]	302.45	(5$^+$)				
382.875	(1$^+$)	101.70[†] *2*	100[†] *8*	281.168	(0$^+$)				
		338.18[†e] *7*	46[†] *8*	44.6966	(2)$^-$				
414.370	(3$^+$)	154.83[†] *1*	100[†] *4*	259.534	(4$^+$)				
		173.580[d†] *15*	≤62[d†]	240.818	(3$^+$)				
420.664	(4$^+$)	100.557[†] *8*	24.1[†] *19*	320.111	(2$^+$)				
		109.45[†] *2*	21.3[†] *9*	311.205	(5$^-$)				
		308.900[†] *15*	100.0[†] *19*	111.753	(3)$^-$				
431.41	(7$^+$)	111.126[†] *9*	44.7[†] *17*	320.29	7$^-$				
		260.585[†] *5*	100.0[†] *17*	170.83	(6)$^-$	D[a]			
432.88	(3$^-$)	67.7[†] *2*	100[†]	365.183	(4$^-$)				
442.015	(6$^-$)	130.804[†] *15*	100[†] *4*	311.205	(5$^-$)				I_γ: contains contribution from ^{175}Lu impurity.

$^{174}_{71}Lu_{103}$-7

Adopted Levels, Gammas (continued)

γ(^{174}Lu) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ	Comments
442.015	(6$^-$)	241.73[†] *4*	28[†] *2*	200.297	(4$^-$)			
445.431	(3$^+$)	125.32[†] *2*	100[†]	320.111	(2$^+$)			
453.82	(7$^+$)	86.27[‡] *2*	100[‡] *9*	367.55	(6$^+$)			
		151.45[‡] *10*	98[‡] *12*	302.45	(5$^+$)			
456.5	(5$^-$)	285.800[†] *10*	100[†]	170.83	(6)$^-$			
481.003	(5$^-$)	115.820[†] *12*	100[†]	365.183	(4$^-$)			
491.35	(8$^-$)	171.06[†] *1*	50[†] *7*	320.29	7$^-$			
		320.51[†] *2*	100[†] *14*	170.83	(6)$^-$			
507.75		76.36[†] *3*	100[†]	431.41	(7$^+$)			
522.42	(1$^-$)	522.42[†] *5*	100[†]	0.0	(1)$^-$			
531.12	(4$^-$)	99.704[†] *10*	100[†]	432.88	(3$^-$)	D+Q[a]	+0.36[a] *10*	
531.3	(7$^+$)	211.24[†] *2*	73[†] *7*	320.29	7$^-$			
		360.67[†] *6*	100[†] *7*	170.83	(6)$^-$			
537.41	(8$^+$)	105.994[†] *5*	100[†]	431.41	(7$^+$)			
561.21	(8$^+$)	107.39[‡] *2*	100[‡] *8*	453.82	(7$^+$)			
		193.54[‡] *5*	64[‡] *6*	367.55	(6$^+$)			
575.662	(5$^+$)	154.998[†] *10*	100[†]	420.664	(4$^+$)			
591.3	(6$^-$)	134.78[†] *2*	48[†] *4*	456.5	(5$^-$)			I_γ: multiplet (contains contribution from ^{175}Lu impurity).
		420.67[†] *5*	100[†] *13*	170.83	(6)$^-$			
594.244	(6$^+$)	173.580[d†] *15*	100[d†] *3*	420.664	(4$^+$)			
		283.05[†e] *7*	35[†] *3*	311.205	(5$^-$)			
595.567	(7$^-$)	153.55[†] *1*	100[†] *3*	442.015	(6$^-$)			
		284.38[†] *3*	58[†] *7*	311.205	(5$^-$)			
619.167	(6$^-$)	138.164[†] *13*	100[†] *4*	481.003	(5$^-$)			
		253.9[†]		365.183	(4$^-$)			
621.08	(2$^-$)	98.66[†] *4*	100[†]	522.42	(1$^-$)			
630.12	(1$^+$)	247.24[†] *2*	73.2[†] *24*	382.875	(1$^+$)			
		310.04[†] *4*	100.0[†] *24*	320.111	(2$^+$)			
635.4	(2$^+$)	523.68[†] *7*	97[†] *6*	111.753	(3)$^-$			I_γ: multiplet.
		590.61[†] *8*	100[†] *14*	44.6966	(2)$^-$			
652.32	(2,3,4)	237.95[†] *3*	52.9[†] *20*	414.370	(3$^+$)			
		411.49[†] *5*	100[†] *6*	240.818	(3$^+$)			

$^{174}_{71}Lu_{103}$-8

Adopted Levels, Gammas (continued)

γ(^{174}Lu) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ	Comments
654.43	(5$^-$)	123.296† *11*	100† *5*	531.12	(4$^-$)	D+Q[a]	+0.33[a] *5*	
		223.03† *2*	70† *5*	431.41	(7$^+$)			
659.1	(8$^+$)	121.56† *3*	44† *7*	537.41	(8$^+$)			
		128.014† *9*	37† *7*	531.3	(7$^+$)			
		151.28† *4*	100† *4*	507.75				
		167.93† *3*	37† *4*	491.35	(8$^-$)			
672.04	(4$^+$)	431.22† *6*	100†	240.818	(3$^+$)			
676.73	(9$^+$)	139.322† *11*	100† *13*	537.41	(8$^+$)			
		245.30† *3*	94† *6*	431.41	(7$^+$)			
683.47	(9$^-$)	192.123† *10*	46† *4*	491.35	(8$^-$)	D+Q[a]	−3.2[a] *6*	
		363.04† *4*	100† *8*	320.29	7$^-$			
689.05	(3$^+$)	53.665† *2*	100†	635.4	(2$^+$)			
689.18	(9$^+$)	127.90‡ *5*	100‡ *14*	561.21	(8$^+$)			
		235.38‡ *3*	100‡ *13*	453.82	(7$^+$)			
747.6	(7$^-$)	156.34† *2*	85† *10*	591.3	(6$^-$)			
		291.14† *4*	100† *10*	456.5	(5$^-$)			
		427.2† *1*	35† *5*	320.29	7$^-$			I_γ: multiplet.
755.3	(5$^+$)	83.3† *2*	100†	672.04	(4$^+$)			
766.366	(8$^-$)	170.798† *10*	80† *30*	595.567	(7$^-$)			I_γ: Iγ=180 *30* in ^{170}Er(^{7}Li,3nγ).
		324.36† *7*	100† *10*	442.015	(6$^-$)			
771.98	(8)	112.96† *3*	64† *4*	659.1	(8$^+$)			I_γ: Iγ=31 *4* in ^{170}Er(^{7}Li,3nγ).
		264.24† *3*	68† *4*	507.75				I_γ: Iγ=60 *6* in ^{170}Er(^{7}Li,3nγ).
		340.69† *5*	100† *4*	431.41	(7$^+$)			
773.89	(4$^+$)	84.92† *2*	100† *4*	689.05	(3$^+$)			
		138.502† *17*	55† *5*	635.4	(2$^+$)			
		462.7† *1*	32† *9*	311.205	(5$^-$)			
779.11	(7$^-$)	159.94† *3*	100† *9*	619.167	(6$^-$)			
		298.2†		481.003	(5$^-$)			
782.30	(7$^+$)	188.06† *3*	100†	594.244	(6$^+$)			
800.57	(6$^-$)	269.45† *3*	100†	531.12	(4$^-$)			
805.6	(9$^+$)	146.218† *11*	100†	659.1	(8$^+$)			
838.03	(10$^+$)	148.87‡ *4*	58‡ *9*	689.18	(9$^+$)			
		277.12‡ *10*	100‡ *11*	561.21	(8$^+$)			

$^{174}_{71}Lu_{103}$-9

Adopted Levels, Gammas (continued)

γ(^{174}Lu) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Comments
842.79?	(8$^+$)	(60.8[‡] *calc*)		782.30	(7$^+$)	
843.12	(10$^+$)	166.48[‡] *4*	100[‡] *16*	676.73	(9$^+$)	
		305.9[‡] *2*		537.41	(8$^+$)	
859.9	(6$^+$)	104.528[c†] *7*	100[†]	755.3	(5$^+$)	I_γ: multiplet.
868.97	(9)	96.99[†] *1*	100[†]	771.98	(8)	
877.4	(7$^-$)	386.2[†] *3*	100[†] *23*	491.35	(8$^-$)	
		446.16[†] *10*	100[†] *15*	431.41	(7$^+$)	
		557.3[†] *5*	54[†] *15*	320.29	7$^-$	
		706.9[†] *5*	62[†] *15*	170.83	(6)$^-$	
878.2	(5$^+$)	104.528[c†] *7*	100[†]	773.89	(4$^+$)	
895.2	(10$^-$)	211.7[‡] *4*		683.47	(9$^-$)	
		403.9[d‡] *5*	100[d‡]	491.35	(8$^-$)	
926.9	(8$^-$)	179.34[†] *4*	100[†] *14*	747.6	(7$^-$)	
		335.8[†] *2*	100[†] *14*	591.3	(6$^-$)	
		436.21[†] *11*	86[†] *14*	491.35	(8$^-$)	
960.56	(8$^-$)	181.56[‡] *3*	100[‡]	779.11	(7$^-$)	
961.16	(9$^-$)	194.67[†] *6*	46[†] *8*	766.366	(8$^-$)	
		365.72[†] *6*	100[†] *8*	595.567	(7$^-$)	I_γ: probably complex.
979.6	(7$^+$)	119.74[†] *2*	100[†]	859.9	(6$^+$)	
997.9		119.73[‡] *3*	100[‡] *14*	878.2	(5$^+$)	
		224.20[‡e] *10*	42[‡] *10*	773.89	(4$^+$)	
1005.4	(6$^+$)	126.95[†] *2*	52[†] *5*	878.2	(5$^+$)	
		231.44[†] *3*	100[†] *5*	773.89	(4$^+$)	
1007.03	(11$^+$)	169.01[‡] *3*	46[‡] *8*	838.03	(10$^+$)	
		317.80[‡] *5*	100[‡] *14*	689.18	(9$^+$)	
1012.64	(10)	143.54[‡] *2*	100[‡]	868.97	(9)	
1033.73	(11$^+$)	190.94[‡] *7*	13.6[‡] *5*	843.12	(10$^+$)	
		357.1[‡] *1*	100[‡] *5*	676.73	(9$^+$)	
1063.46?	(9$^+$)	220.34[†e] *4*	100[†] *10*	843.12	(10$^+$)	
		281.16[d†e] *2*	≤1370[d†]	782.30	(7$^+$)	
1126.08	(11$^-$)	442.70[d‡] *4*	100[d‡]	683.47	(9$^-$)	
1169.47	(10$^-$)	208.39[‡] *2*	100[‡] *5*	961.16	(9$^-$)	

$^{174}_{71}Lu_{103}$-10

Adopted Levels, Gammas (continued)

γ(^{174}Lu) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π
1169.47	(10$^-$)	403.2‡ *3*		766.366	(8$^-$)	1403.78?	(11$^-$)	234.4‡*e* *3*		1169.47	(10$^-$)
1186.27	(11)	173.63*d*‡ *4*	100*d*‡	1012.64	(10)			442.70*d*‡ *4*	100*d*‡	961.16	(9$^-$)
1196.72	(12$^+$)	189.6‡ *3*		1007.03	(11$^+$)	1405.73	(13$^+$)	209.0‡ *4*		1196.72	(12$^+$)
		358.7‡ *1*	100‡	838.03	(10$^+$)			398.70‡ *10*	100‡	1007.03	(11$^+$)
1247.17	(12$^+$)	213.45‡*e* *8*	100‡ *17*	1033.73	(11$^+$)	1481.7	(13$^+$)	448.0‡ *4*	100‡	1033.73	(11$^+$)
		403.9*d*‡ *5*	≤526*d*‡	843.12	(10$^+$)	1635.02	(14$^+$)	438.3‡ *1*	100‡	1196.72	(12$^+$)
1370.5	(12$^-$)	475.3‡ *2*	100‡	895.2	(10$^-$)	1882.8	(15$^+$)	477.1‡ *2*	100‡	1405.73	(13$^+$)

† From ^{176}Yb(p,3nγ)^{174}Lu.
‡ From ^{170}Er(^{7}Li,3nγ)^{174}Lu.
# From ce data in ^{174}Lu IT decay (142 d).
@ From ^{174}Lu IT decay (142 d).
& Inferred from transition-intensity balance in ^{176}Yb(p,3nγ)^{174}Lu (1980Ke08).
[a] From γ(θ) in ^{176}Yb(p,3nγ)^{174}Lu (1987Br12).
[b] 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.
[c] Multiply placed.
[d] Multiply placed with undivided intensity.
[e] Placement of transition in the level scheme is uncertain.

$^{174}_{71}Lu_{103}$-11

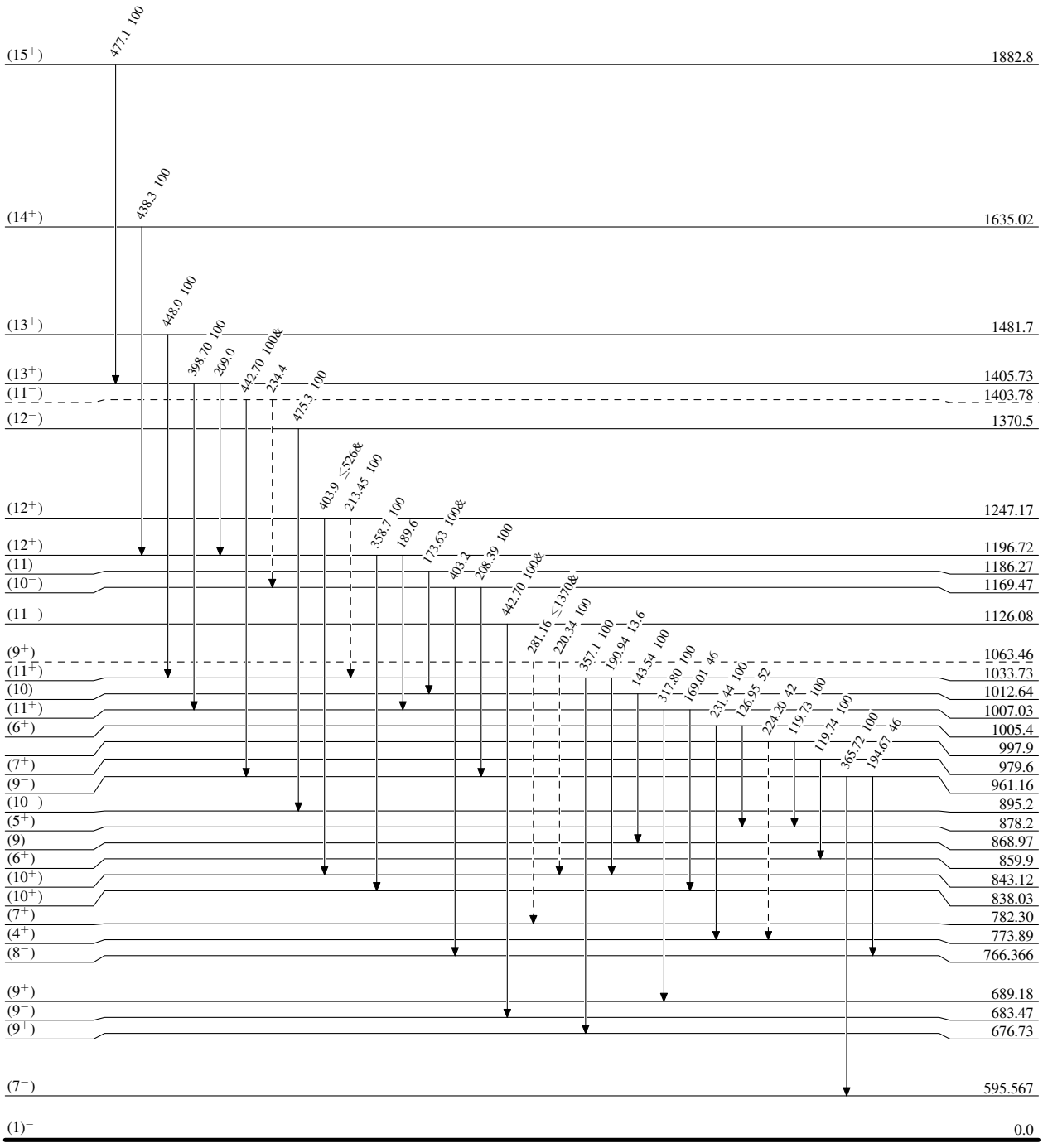
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



$^{174}_{71}Lu_{103}$

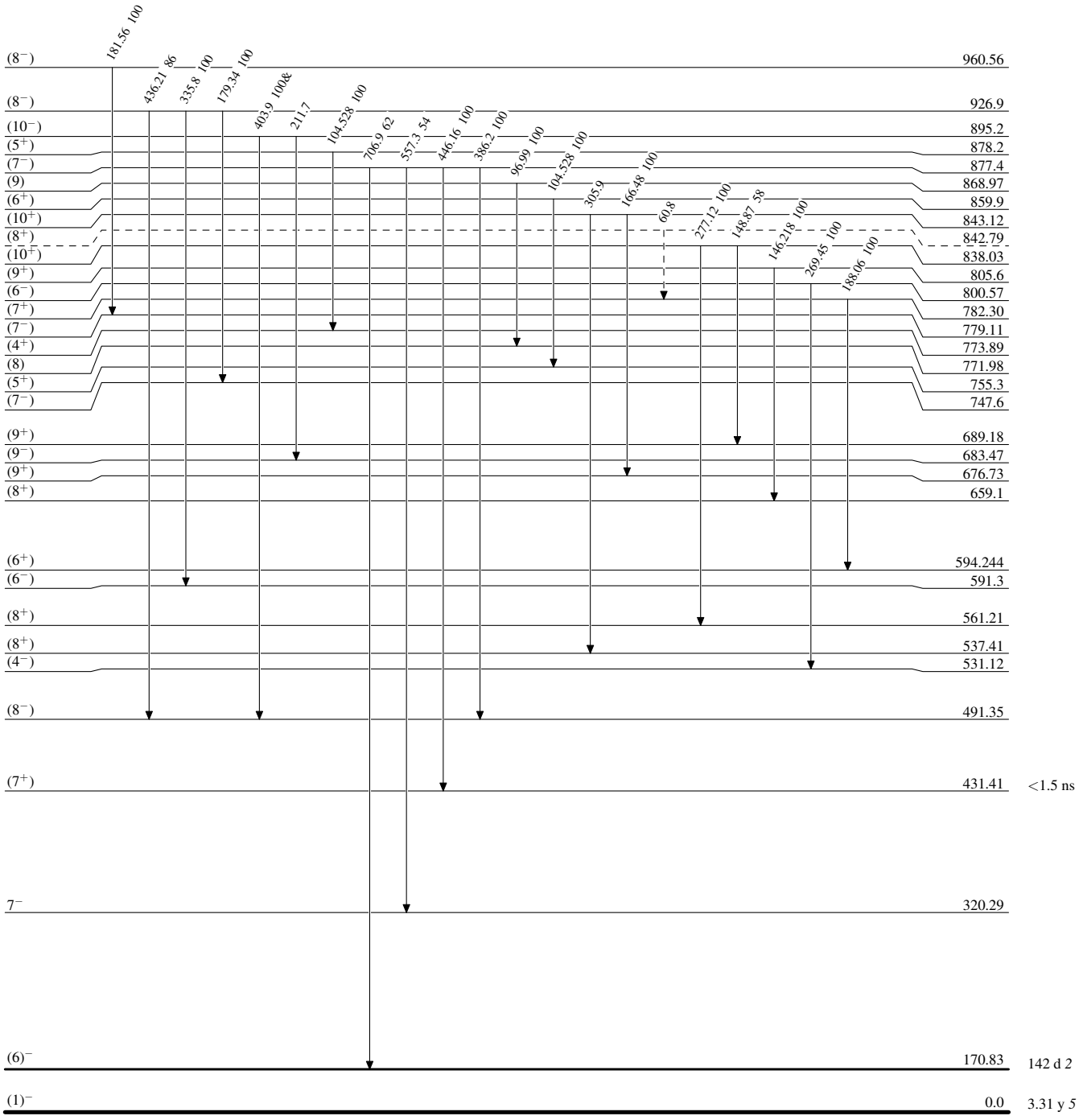
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

- - - - - - ► γ Decay (Uncertain)

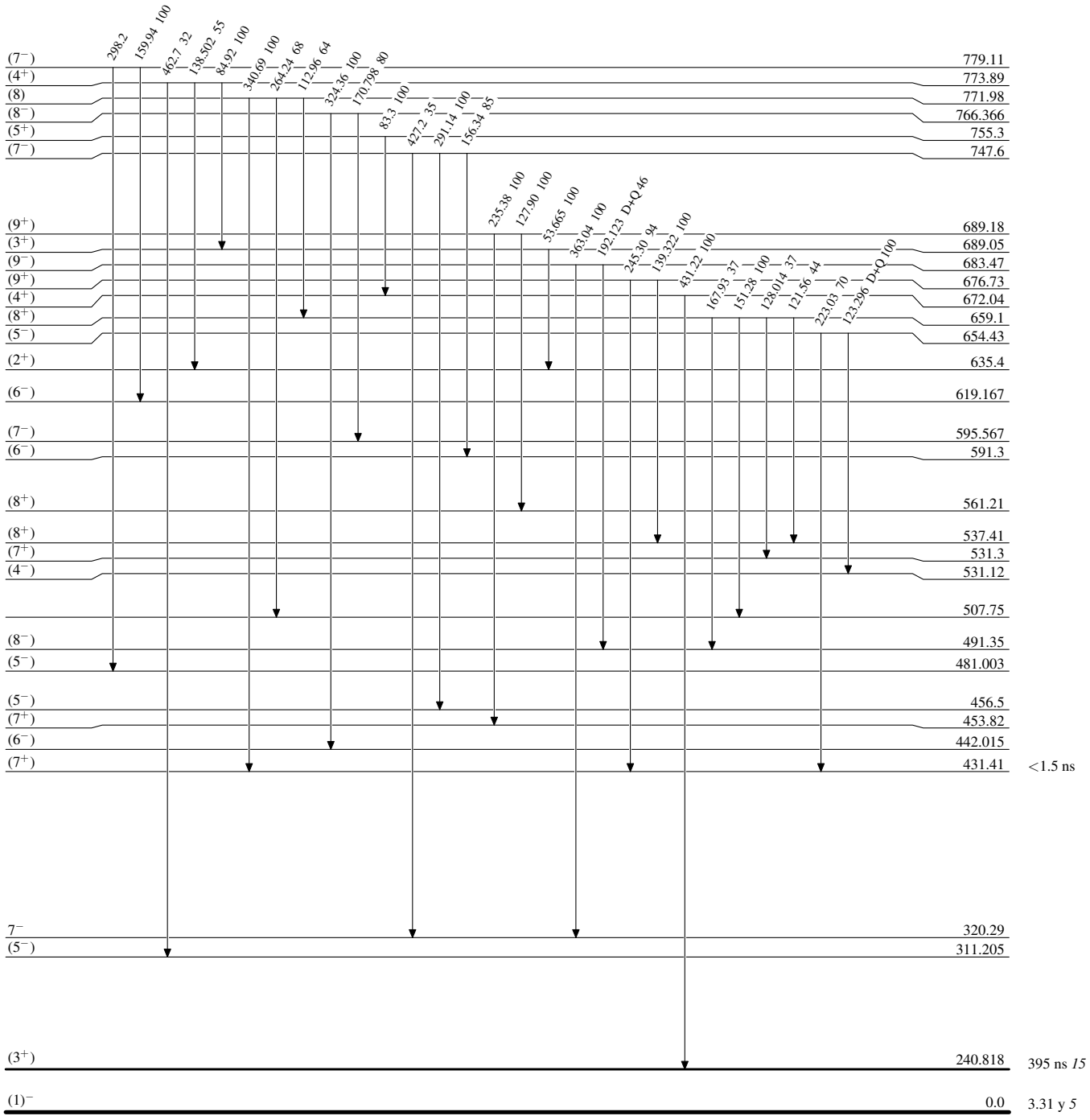


$^{174}_{71}Lu_{103}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



$^{174}_{71}Lu_{103}$

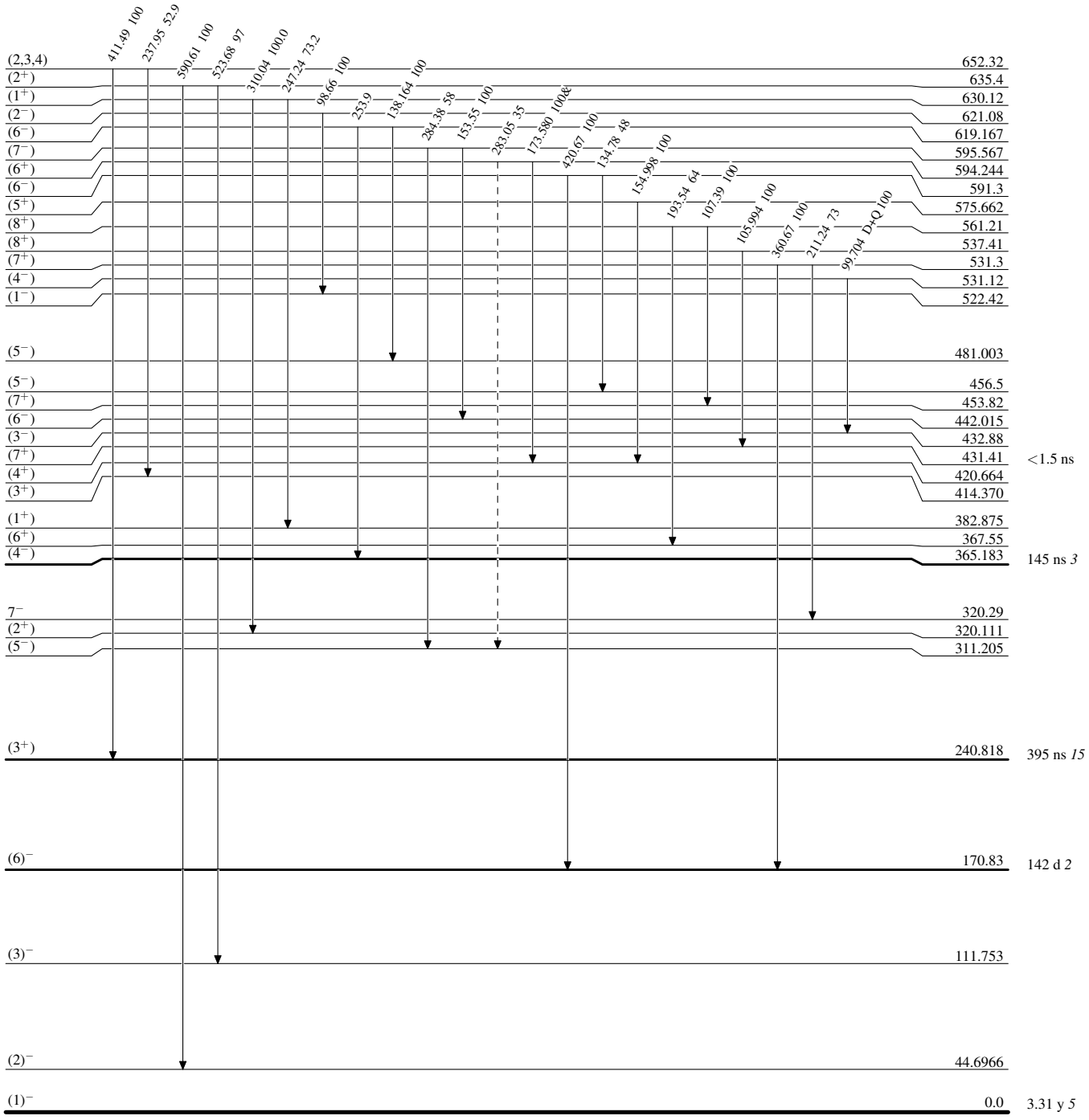
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

- - - - - - ► γ Decay (Uncertain)

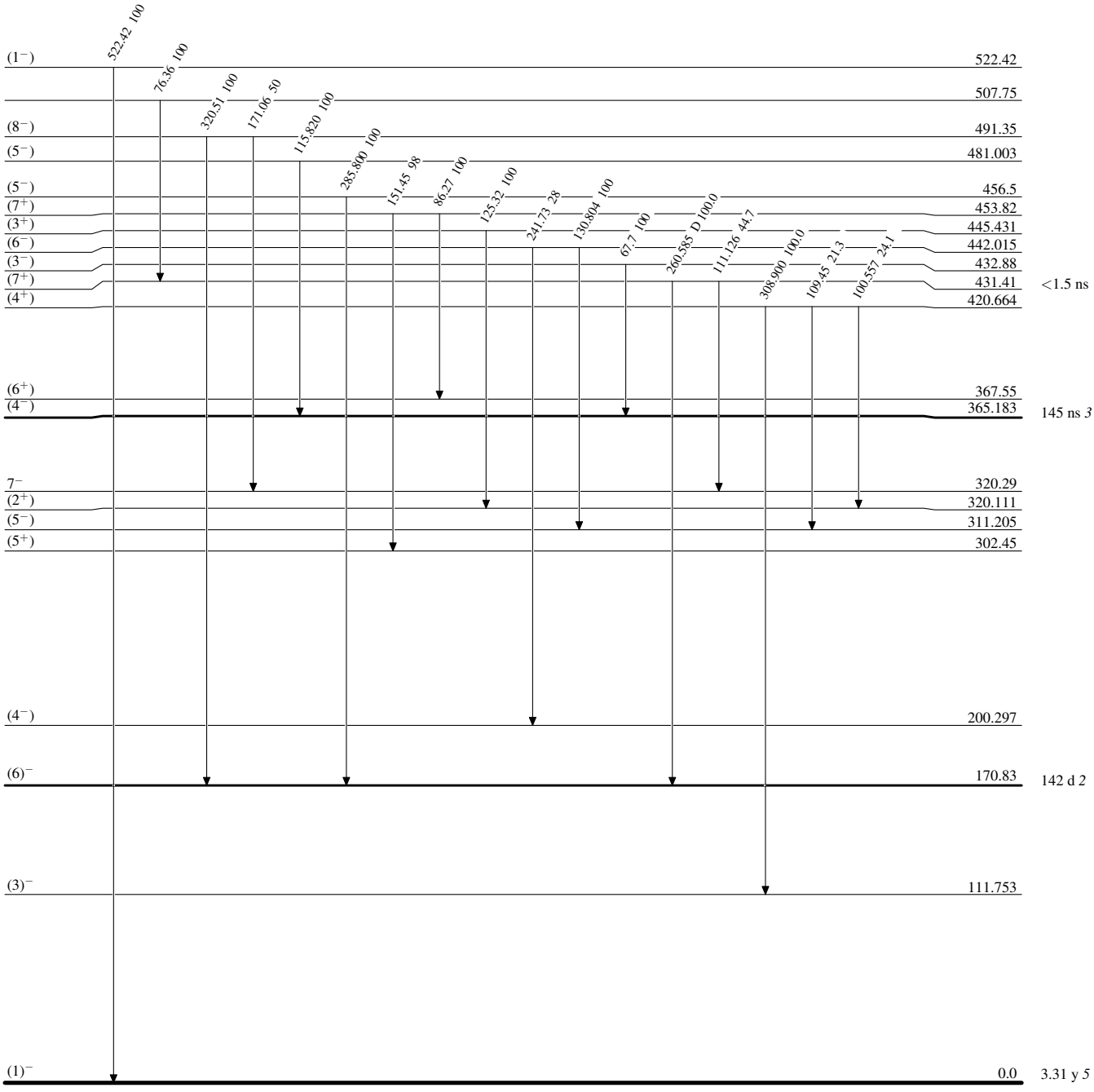


$^{174}_{71}Lu_{103}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



$^{174}_{71}Lu_{103}$

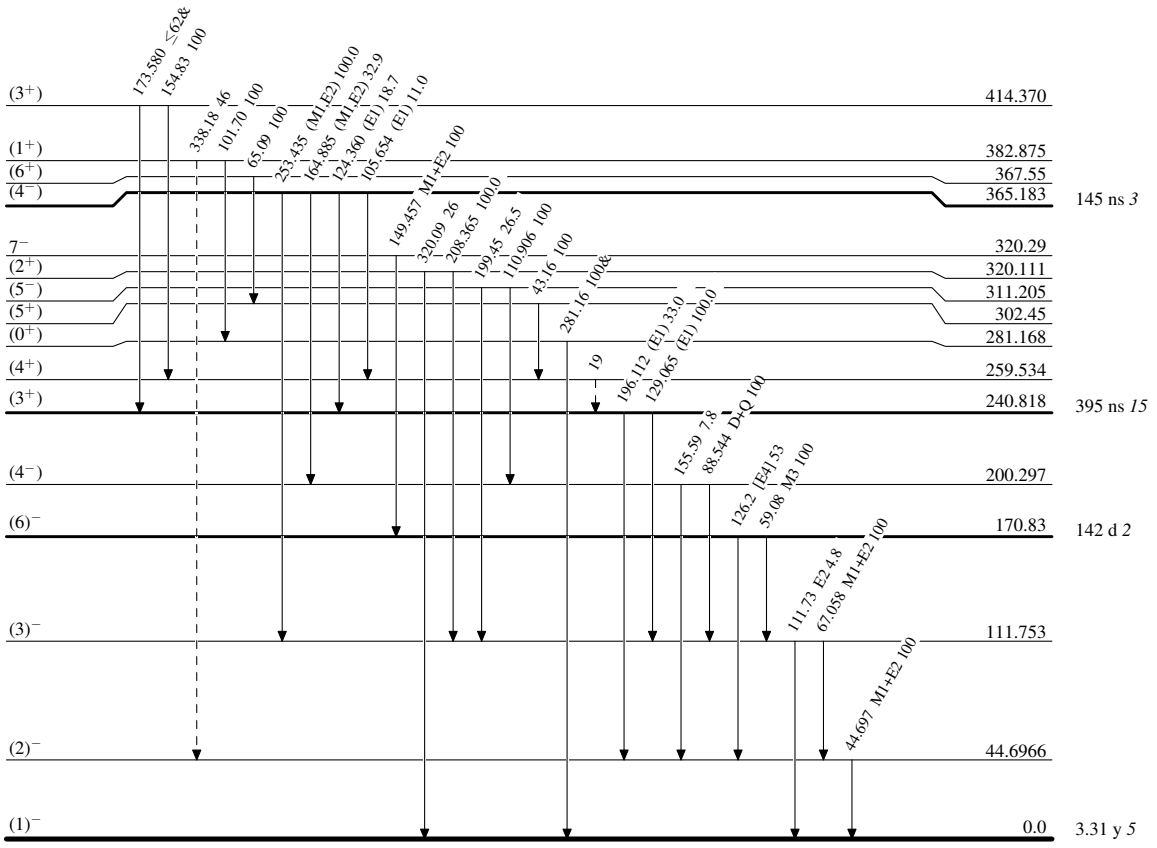
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

– – – – – – ► γ Decay (Uncertain)



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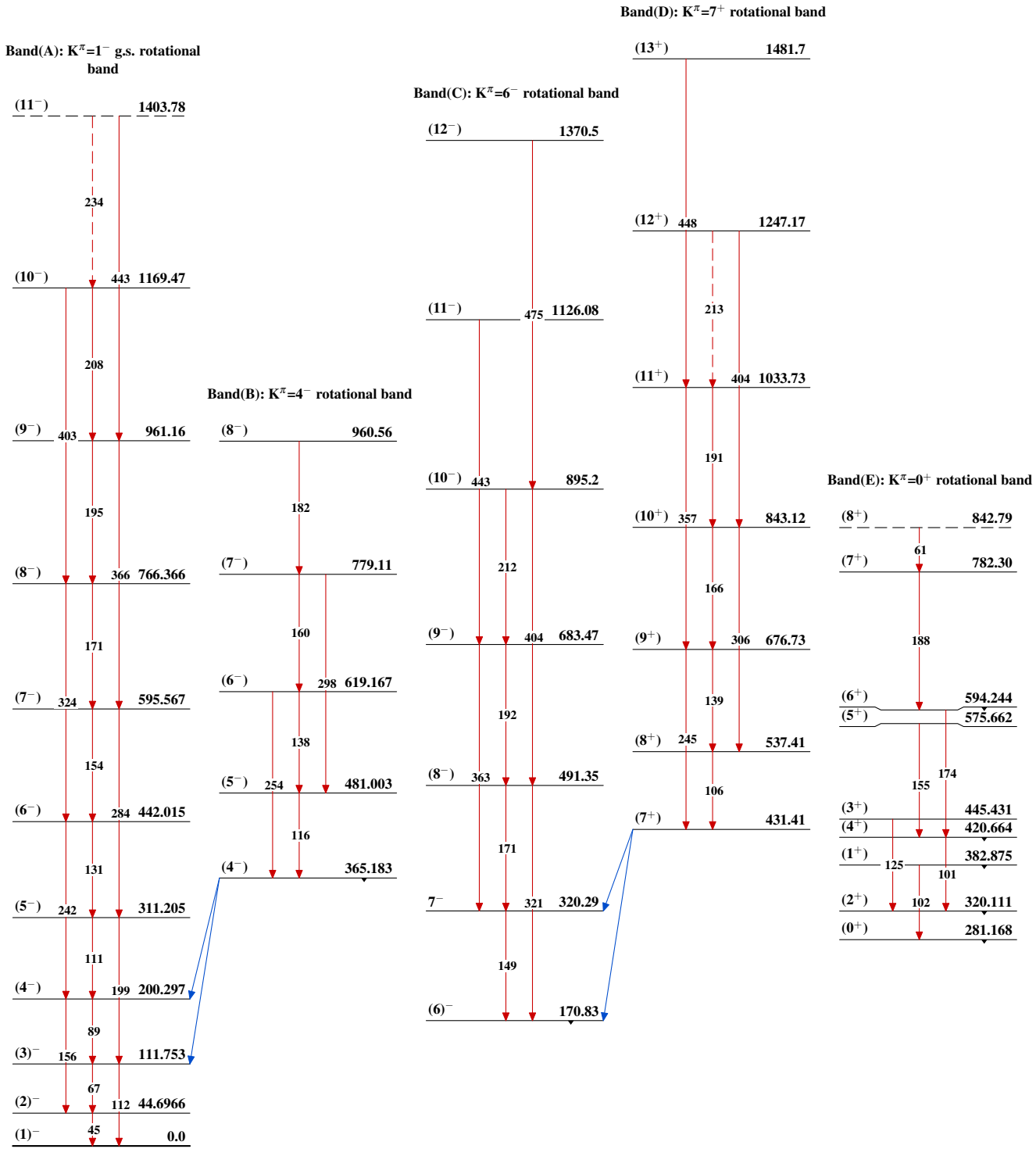
Adopted Levels, Gammas



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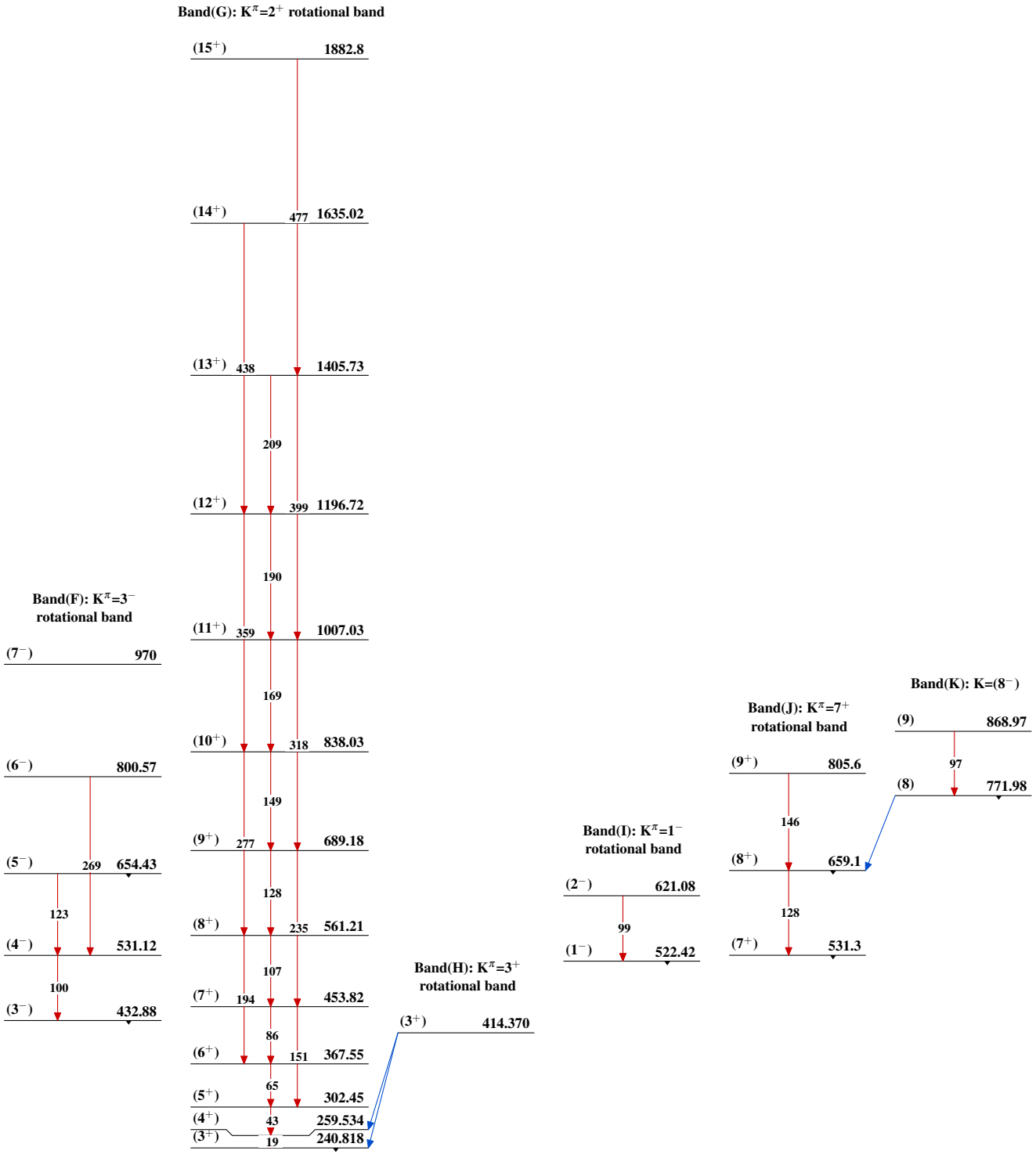
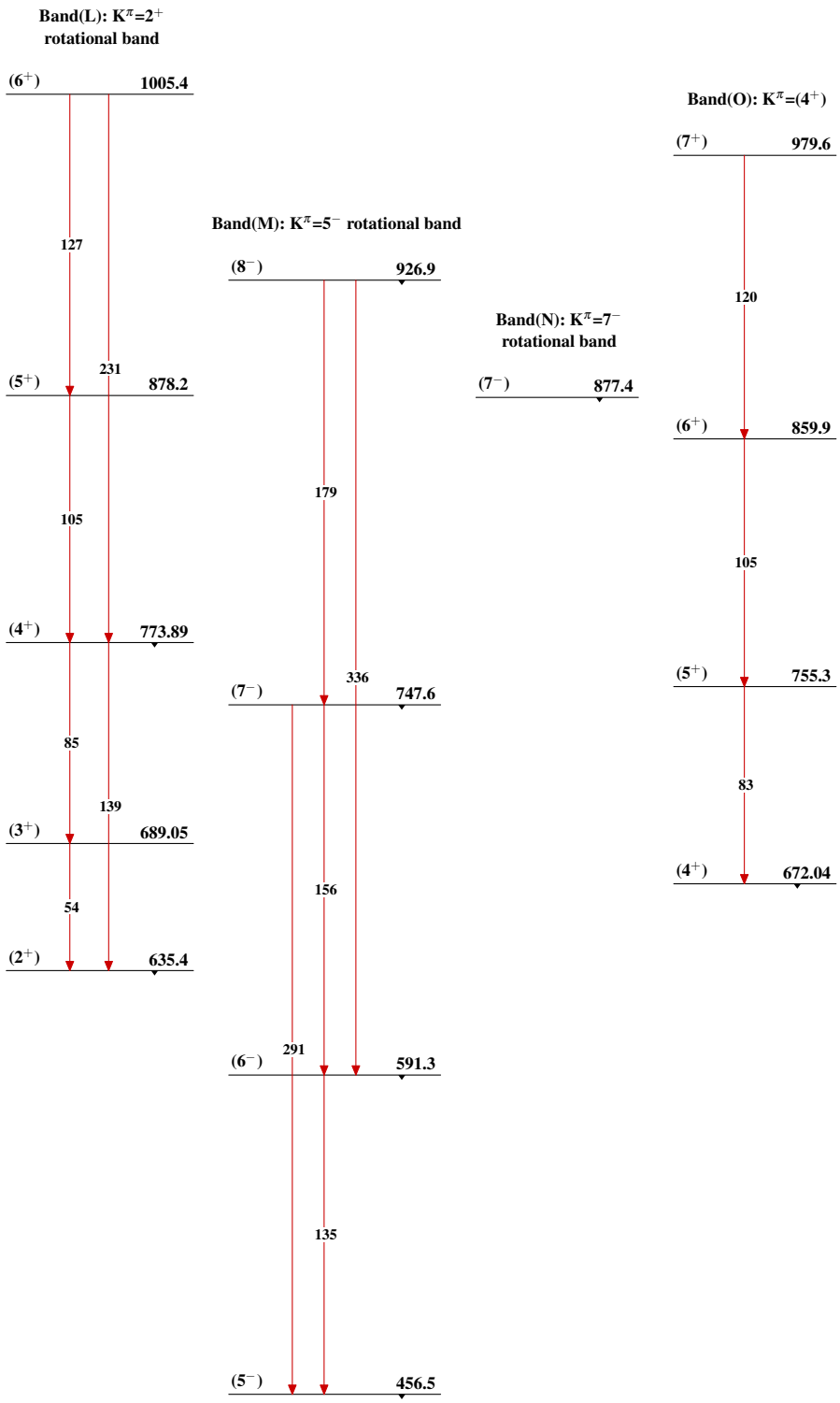
Adopted Levels, Gammas (continued)



$^{174}_{71}Lu_{103}$

Adopted Levels, Gammas (continued)



$^{174}_{71}Lu_{103}$