Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 187,1 (2023)	12-Oct-2022

Q(β^-)=−6701 *23*; S(n)=11010 *50*; S(p)=1759 *18*; Q(α)=1722 *18* 2021Wa16
S(2n)=20670 *18*, S(2p)=7003 *19*, Q(εp)=997 *27* (2021Wa16).
1992Le09: measured isotope shift.
$<r^2>^{1/2}$=4.9697 fm *91* (2013An02).

^{141}Eu Levels

Cross Reference (XREF) Flags

A	^{141}Eu IT decay (2.7 s)	D	^{99}Ru(^{48}Ti,3p3nγ)
B	^{141}Gd ε decay (14 s)	E	^{110}Cd(^{35}Cl,2p2nγ)
C	^{141}Gd ε decay (24.5 s)	F	^{144}Sm(α,p6nγ)

E(level)†	Jπ‡#	$T_{1/2}$@	XREF	Comments
0.0	5/2+	40.7 s *7*	ABCDEF	%ε+%β+=100 μ=+3.494 *8* (1985Ah02,2014StZZ) Q=+0.85 *4* (1985Ah02,2016St14) $T_{1/2}$: weighted average: 40.0 s *7* (1977De25), 41.4 s *7* (1993Al03), see also 1989Gi06. Others: 37 s *3* (1973WeZK), 28 s *6* (1973VaYZ). Jπ: hfs (LASER) (1985Ah02), log *ft*=5.2 to 3/2+. μ: hfs (LASER). Q: hfs (LASER).
96.45& *7*	11/2−	2.7 s *3*	A CDEF	%ε+%β+=13 *+4−2*; %IT=87 *+2−4* (1989Gi06) Jπ: E3 γ to 5/2+. $T_{1/2}$: from 1989Gi06. Others: 3.3 s *3* (1977De25), 4 s *+6−2* (1973VaYZ). Note that in the older paper (1977De25) with %ε+%β+=67, log *ft*(11/2− to 11/2−)=4.1 is significantly lower than expected.
215.77 *8*	1/2+,3/2+		B	Jπ: log *ft*=5.1 from 1/2+.
320.35 *13*	9/2,11/2,13/2		C	Jπ: log *ft*=6.2 from 11/2−.
336.23 *8*	1/2+,3/2+		B	Jπ: log *ft*=5.1 from 1/2+.
447.75 *9*	9/2,11/2,13/2		C	Jπ: log *ft*=6.1 from 11/2−.
457.59 *8*	(9/2+)		C	Jπ: log *ft*=6.5 from 11/2− and γ to 5/2+.
509.28 *12*	1/2+,3/2+		B	Jπ: log *ft*=5.8 from 1/2+.
525.92 *11*	1/2+,3/2+		B	Jπ: log *ft*=5.2 from 1/2+.
622.56& *13*	15/2−		CDEF	
656.82 *11*	(9/2+)		C	Jπ: log *ft*=6.3 from 11/2− and γ to 5/2+.
671.98 *15*	13/2−		CDE	Jπ: M1+E2 γ to 11/2− in (^{35}Cl,2p2nγ).
749.35 *13*	9/2,11/2,13/2		C	Jπ: log *ft*=6.4 from 11/2−.
837.05 *11*	9/2,11/2,13/2		C	Jπ: log *ft*=6.2 from 11/2−.
869.87 *10*	9/2,11/2,13/2(+)		C	Jπ: log *ft*=6.2 from 11/2− and γ to (9/2+).
923.19 *10*	11/2(−),13/2		C	Jπ: log *ft*=6.1 from 11/2− parent and γ to 15/2−.
967.65 *16*	9/2,11/2,13/2		C	Jπ: log *ft*=6.3 from 11/2−.
1047.43 *10*	9/2,11/2,13/2(+)		C	Jπ: log *ft*=6.4 from 11/2− and γ to (9/2+).
1072.64 *11*	(9/2+)		C	Jπ: log *ft*=6.6 from 11/2− and γ to 5/2+.
1154.6 *3*	15/2(+)		DE	
1309.48 *21*	(17/2−)		DE	
1344.93& *21*	19/2−		DEF	
1408.62 *12*	1/2+,3/2+		B	Jπ: log *ft*=5.3 from 1/2+.
1605.8 *5*	(17/2)		D	
1636.3 *3*	15/2(+)		DE	
1795.68 *16*	9/2,11/2,13/2(+)		C	Jπ: log *ft*=6.2 from 11/2− and γ to (9/2+).

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Adopted Levels, Gammas (continued)

^{141}Eu Levels (continued)

E(level)[†]	Jπ[‡#]	$T_{1/2}$[@]	XREF	Comments
1820.65 *13*	9/2$^-$,11/2,13/2$^{(+)}$		C	Jπ: log *ft*=6.3 from 11/2$^-$, γ to (9/2$^+$) and γ to 13/2$^-$.
1902.68[b] *21*	17/2$^{(+)}$		DEF	
2019.56 *13*	9/2$^{(+)}$,11/2,13/2		C	Jπ: log *ft*=6.0 from 11/2$^-$ and γ to 9/2,11/2,13/2$^{(+)}$.
2030.6[b] *3*	19/2$^{(+)}$		DEF	
2116.9 *3*	(21/2$^-$)		E	
2177.1[&] *4*	23/2$^-$		DEF	
2229.2[b] *4*	21/2$^{(+)}$		DEF	
2441.0[b] *5*	23/2$^{(+)}$		DEF	
2596.9[c] *5*	25/2$^{(+)}$		DE	
2750.3[e] *6*	(25/2$^+$)		DEF	
2847.9[b] *5*	27/2$^{(+)}$		DEF	
3009.1[f] *4*	(25/2$^-$)		DE	
3024.1[&] *4*	27/2$^-$		DEF	
3076.0[f] *4*	27/2$^-$		DEF	
3162.7 *4*	27/2$^-$		DE	
3183.0[c] *5*	(29/2$^+$)		DE	
3417.7[f] *4*	29/2$^-$	0.76 ps *+28−21*	DEF	
3446.3[e] *12*			D	
3589.7[b] *6*	(31/2$^+$)		DE	
3596.6[&] *5*	31/2$^-$		DEF	
3684.1[f] *4*	31/2$^-$	1.7 ps *+7−3*	DEF	
3857.1[d] *10*			D	
3935.1 *5*	31/2$^-$		E	
4039.4[c] *6*	(33/2$^+$)		DE	
4156.1[f] *5*	33/2$^-$	0.76 ps *+28−21*	DEF	
4369.2[&] *6*	35/2$^-$		DEF	
4417.2? *12*	(35/2$^+$)		E	
4562.7[b] *12*	(33/2$^+$)		D	
4583.3[e] *16*			D	
4650.4 *11*	(35/2)		D	
4766.1[d] *13*			D	
4847.2[f] *5*	(35/2$^-$)		DE	
4934.9[c] *7*	(37/2$^+$)		DE	
5021.2[g] *6*	(37/2$^-$)		DE	
5191.6[g] *7*	(39/2$^-$)		DE	
5390.2[&] *11*	39/2$^-$		D	
5391.7 *15*			D	
5399.7 *15*			D	
5640.7[a] *16*			D	
5657.9[g] *11*	(41/2$^-$)	0.38 ps *+17−14*	D	
5676.1[d] *13*			D	
5975.9[a] *18*			D	
5994.2[g] *11*	(43/2$^-$)	0.55 ps *14*	DE	
6324.6[a] *18*			D	
6432.1[&] *13*	(43/2$^-$)		D	
6621.9[g] *15*	(45/2$^-$)	0.20 ps *+14−10*	D	
6727.3[a] *18*			D	

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Adopted Levels, Gammas (continued)

^{141}Eu Levels (continued)

E(level)†	Jπ‡#	XREF	E(level)†	Jπ‡#	XREF	E(level)†	XREF
7048.1[&] *16*	(47/2$^-$)	D	7861.2[&] *19*	(51/2$^-$)	D	8543.4[a] *20*	D
7196.4[a] *19*		D	7964.2 *19*		D	9035.4[a] *21*	D
7639.4[a] *19*		D	8112.4[a] *20*		D		

† From least-squares fit to Eγ data (γ′s with no listed uncertainties were assigned ΔEγ=1 keV for the fit).

‡ J>11/2 from γ(θ), RUL and assumption of a stretched character of E2 and D γ′s, and band assignments in (^{35}Cl,2p2nγ), (α,p6nγ), and (^{48}Ti,3p3nγ) (the last also measured γ(lin pol) but with no details provided); J=9/2,11/2,13/2 from 5.9 < log *ft* < 7.4 via 11/2$^-$ parent; J^π=1/2$^+$,3/2$^+$ from log *ft*≤5.9 via 1/2$^+$ parent and syst.

π=+ bands have been assigned on the basis of 1280 transition (from 1902, 17/2$^{(+)}$ level) being a D transition, and from suggested configurations, ((π g$_{7/2}$)(π h$_{11/2}$)^2) or ((πd$_{5/2}$)(π h$_{11/2}$)^2). See 1991Xu01, 2003Ma95, and 2004Po13 for discussion of possible configurations for the π=− bands.

@ From 2004Po13 by Doppler-Shift Attenuation Method (DSAM); T$_{1/2}$<6 ns for levels with E>96 seen in (α,p6nγ).

& Band(A): 11/2$^-$ band.

a Band(B): magnetic rotational band #1.

b Band(b): Band based on 17/2$^{(+)}$.

c Band(C): Band based on 25/2$^{(+)}$.

d Seq.(F): γ sequence.

e Seq.(G): γ cascade based on (25/2$^+$).

f Band(D): Magnetic rotational band #2. (νh$^{-2}_{11/2}\pi$h$^{1}_{11/2}$ configuration from (^{48}Ti,3p3nγ), 2004Po13).

g Band(E): Magnetic rotational band #3. (πh$^{1}_{11/2}\otimes\nu$h$^{-4}_{11/2}$ configuration from (^{48}Ti,3p3nγ), 2004Po13; νh$^{-2}_{11/2}\pi$h$_{11/2}$ g$^{-2}_{9/2}$ in 2003Ma95).

Adopted Levels, Gammas (continued)

$\gamma(^{141}Eu)$

Data are from ε decay, (^{35}Cl,2p2nγ), and (^{48}Ti,3p3nγ).

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α[†]	Comments
96.45	11/2$^-$	96.4 *1*	100	0.0	5/2$^+$	E3	46.3	B(E3)(W.u.)=0.090 *11* α(K)=5.03 *8*; α(L)=31.6 *5*; α(M)=7.79 *12* α(N)=1.73 *3*; α(O)=0.230 *4*; α(P)=0.000472 *7*
215.77	1/2$^+$,3/2$^+$	215.8 *1*	100	0.0	5/2$^+$	[M1,E2]	0.190 *24*	α(K)=0.15 *3*; α(L)=0.031 *6*; α(M)=0.0069 *14* α(N)=0.0016 *3*; α(O)=0.00023 *4*; α(P)=1.52×10^{-5} *48*
320.35	9/2,11/2,13/2	223.9 *1*	100	96.45	11/2$^-$			
336.23	1/2$^+$,3/2$^+$	120.6 *1*	54 *6*	215.77	1/2$^+$,3/2$^+$	[M1,E2]	1.16 *8*	α(K)=0.81 *11*; α(L)=0.27 *15*; α(M)=0.063 *35* α(N)=0.0140 *76*; α(O)=0.00199 *97*; α(P)=7.7×10^{-5} *25*
		336.2 *1*	100 *11*	0.0	5/2$^+$	[M1,E2]	0.053 *12*	α(K)=0.044 *12*; α(L)=0.0073 *4*; α(M)=0.00160 *7* α(N)=0.000364 *17*; α(O)=5.6×10^{-5} *5*; α(P)=4.6×10^{-6} *15*
447.75	9/2,11/2,13/2	351.1 *1*	100	96.45	11/2$^-$			
457.59	(9/2$^+$)	361.2 *1*	100 *10*	96.45	11/2$^-$			
		457.6 *1*	21 *5*	0.0	5/2$^+$			
509.28	1/2$^+$,3/2$^+$	173.1 *1*	100 *33*	336.23	1/2$^+$,3/2$^+$	[M1,E2]	0.371 *22*	α(K)=0.28 *5*; α(L)=0.068 *21*; α(M)=0.0152 *51* α(N)=0.0034 *11*; α(O)=5.0×10^{-4} *14*; α(P)=2.81×10^{-5} *86*
		293.3 *2*	67 *33*	215.77	1/2$^+$,3/2$^+$	[M1,E2]	0.078 *16*	α(K)=0.064 *16*; α(L)=0.01116 *18*; α(M)=0.00246 *8* α(N)=0.000558 *13*; α(O)=8.52×10^{-5} *23*; α(P)=6.6×10^{-6} *22*
		509.0[‡] *5*		0.0	5/2$^+$			
525.92	1/2$^+$,3/2$^+$	189.7 *1*	20 *6*	336.23	1/2$^+$,3/2$^+$	[M1,E2]	0.281 *24*	α(K)=0.22 *4*; α(L)=0.048 *12*; α(M)=0.0109 *30* α(N)=0.00245 *65*; α(O)=0.00036 *8*; α(P)=2.18×10^{-5} *67*
		525.9 *2*	100 *17*	0.0	5/2$^+$			
622.56	15/2$^-$	526.0 *2*	100	96.45	11/2$^-$	E2	0.01171	α(K)=0.00961 *14*; α(L)=0.001648 *24*; α(M)=0.000362 *5* α(N)=8.22×10^{-5} *12*; α(O)=1.253×10^{-5} *18*; α(P)=9.61×10^{-7} *14*
656.82	(9/2$^+$)	560.5 *1*	100 *11*	96.45	11/2$^-$			
		657.0 *2*	15 *7*	0.0	5/2$^+$			
671.98	13/2$^-$	574.9 *3*	100	96.45	11/2$^-$	M1+E2	0.0129 *36*	α(K)=0.0108 *32*; α(L)=0.0016 *4*; α(M)=0.00035 *7* α(N)=7.9×10^{-5} *16*; α(O)=1.2×10^{-5} *3*; α(P)=1.14×10^{-6} *37*
749.35	9/2,11/2,13/2	652.9 *1*	100	96.45	11/2$^-$			
837.05	9/2,11/2,13/2	389.2 *1*	78 *11*	447.75	9/2,11/2,13/2			
		740.7 *1*	100 *11*	96.45	11/2$^-$			
869.87	9/2,11/2,13/2$^{(+)}$	412.2 *1*	87 *13*	457.59	(9/2$^+$)			
		773.5 *1*	100 *13*	96.45	11/2$^-$			
923.19	11/2$^{(-)}$,13/2	300.7 *1*	77 *15*	622.56	15/2$^-$			
		475.4 *1*	100 *15*	447.75	9/2,11/2,13/2			
		826.7 *1*	69 *15*	96.45	11/2$^-$			
967.65	9/2,11/2,13/2	647.3 *1*	100	320.35	9/2,11/2,13/2			
1047.43	9/2,11/2,13/2$^{(+)}$	590.0 *1*	100 *15*	457.59	(9/2$^+$)			

From ENSDF

$^{141}_{63}Eu_{78}$-4

Adopted Levels, Gammas (continued)

γ(^{141}Eu) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α†	Comments
1047.43	9/2,11/2,13/2$^{(+)}$	599.6 *1*	92 *15*	447.75	9/2,11/2,13/2			
1072.64	(9/2$^+$)	976.2 *1*	100 *22*	96.45	11/2$^-$			
		1072.6 *2*	22 *11*	0.0	5/2$^+$			
1154.6	15/2$^{(+)}$	482.8 *3*	100	671.98	13/2$^-$	[E1]	0.00488	α(K)=0.00417 *6*; α(L)=0.000559 *8*; α(M)=0.0001197 *17* α(N)=2.73×10^{-5} *4*; α(O)=4.28×10^{-6} *6*; α(P)=4.08×10^{-7} *6*
		532		622.56	15/2$^-$			
1309.48	(17/2$^-$)	638.2 *3*	100 *4*	671.98	13/2$^-$			
		686.5 *3*	77.8 *23*	622.56	15/2$^-$			
1344.93	19/2$^-$	722.4 *2*	100	622.56	15/2$^-$	E2	0.00537	α(K)=0.00448 *7*; α(L)=0.000691 *10*; α(M)=0.0001504 *21* α(N)=3.42×10^{-5} *5*; α(O)=5.31×10^{-6} *8*; α(P)=4.57×10^{-7} *7*
1408.62	1/2$^+$,3/2$^+$	1072.6 *2*	14 *7*	336.23	1/2$^+$,3/2$^+$			
		1192.8 *1*	100 *14*	215.77	1/2$^+$,3/2$^+$			
1605.8	(17/2)	261		1344.93	19/2$^-$			
		934		671.98	13/2$^-$			
		983		622.56	15/2$^-$			
1636.3	15/2$^{(+)}$	964		671.98	13/2$^-$			
		1013.4 *3*	100	622.56	15/2$^-$	[E1]	1.06×10^{-3}	α(K)=0.000907 *13*; α(L)=0.0001174 *17*; α(M)=2.51×10^{-5} *4* α(N)=5.73×10^{-6} *8*; α(O)=9.08×10^{-7} *13*; α(P)=9.08×10^{-8} *13*
1795.68	9/2,11/2,13/2$^{(+)}$	1338.0 *2*	100 *50*	457.59	(9/2$^+$)			
		1348.0 *2*	100 *33*	447.75	9/2,11/2,13/2			
1820.65	9/2$^-$,11/2,13/2$^{(+)}$	1148.5 *1*	100 *40*	671.98	13/2$^-$			
		1164.0 *1*	100 *40*	656.82	(9/2$^+$)			
1902.68	17/2$^{(+)}$	266.0 *3*	≤22	1636.3	15/2$^{(+)}$			
		297		1605.8	(17/2)			
		558		1344.93	19/2$^-$			
		593		1309.48	(17/2$^-$)			
		748.3 *3*	≤22	1154.6	15/2$^{(+)}$			
		1231		671.98	13/2$^-$			
		1279.9 *3*	100.00 *9*	622.56	15/2$^-$	[E1]	7.55×10^{-4}	α(K)=0.000595 *9*; α(L)=7.63×10^{-5} *11*; α(M)=1.629×10^{-5} *23* α(N)=3.72×10^{-6} *6*; α(O)=5.91×10^{-7} *9*; α(P)=5.97×10^{-8} *9*; α(IPF)=6.30×10^{-5} *9*
2019.56	9/2$^{(+)}$,11/2,13/2	972.2 *1*	100 *20*	1047.43	9/2,11/2,13/2$^{(+)}$			
		1922.8 *2*	60 *20*	96.45	11/2$^-$			

From ENSDF

$^{141}_{63}Eu_{78}$-5

Adopted Levels, Gammas (continued)

γ(^{141}Eu) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α†	Comments
2030.6	19/2(+)	127.6 *3*	100.0 *15*	1902.68	17/2(+)	M1+E2	0.97 *5*	α(K)=0.69 *10*; α(L)=0.22 *11*; α(M)=0.050 *26* α(N)=0.0111 *57*; α(O)=0.00159 *72*; α(P)=6.6×10^{-5} *21*
		425		1605.8	(17/2)			
		721.4 *3*	≤37	1309.48	(17/2$^-$)			
2116.9	(21/2$^-$)	772.1 *3*	≤63	1344.93	19/2$^-$			
		807.5 *3*	100.0 *25*	1309.48	(17/2$^-$)	E2	0.00416	α(K)=0.00349 *5*; α(L)=0.000523 *8*; α(M)=0.0001135 *16* α(N)=2.58×10^{-5} *4*; α(O)=4.03×10^{-6} *6*; α(P)=3.58×10^{-7} *5*
2177.1	23/2$^-$	832.1 *3*	100	1344.93	19/2$^-$	E2	0.00389	α(K)=0.00327 *5*; α(L)=0.000486 *7*; α(M)=0.0001054 *15* α(N)=2.40×10^{-5} *4*; α(O)=3.75×10^{-6} *6*; α(P)=3.35×10^{-7} *5*
2229.2	21/2(+)	53		2177.1	23/2$^-$			
		198.5 *3*	100	2030.6	19/2(+)	M1+E2	0.245 *25*	α(K)=0.19 *4*; α(L)=0.041 *9*; α(M)=0.0092 *23* α(N)=0.0021 *5*; α(O)=0.00031 *6*; α(P)=1.92×10^{-5} *59*
2441.0	23/2(+)	211.7 *3*	100	2229.2	21/2(+)	M1+E2	0.202 *24*	α(K)=0.16 *4*; α(L)=0.033 *6*; α(M)=0.0073 *16* α(N)=0.0017 *4*; α(O)=0.00025 *4*; α(P)=1.61×10^{-5} *50*
2596.9	25/2(+)	155.5 *3*	59 *3*	2441.0	23/2(+)	M1+E2	0.517 *14*	α(K)=0.39 *6*; α(L)=0.101 *38*; α(M)=0.0228 *91* α(N)=0.0051 *20*; α(O)=7.5×10^{-4} *25*; α(P)=3.8×10^{-5} *12*
		367.8 *3*	100.0 *20*	2229.2	21/2(+)	E2	0.0315	α(K)=0.0250 *4*; α(L)=0.00508 *8*; α(M)=0.001133 *17* α(N)=0.000256 *4*; α(O)=3.81×10^{-5} *6*; α(P)=2.40×10^{-6} *4*
2750.3	(25/2$^+$)	309.3 *3*	100	2441.0	23/2(+)	D		
2847.9	27/2(+)	250.5 *3*	≤56	2596.9	25/2(+)			
		407.3 *3*	100 *6*	2441.0	23/2(+)	E2	0.0235	α(K)=0.0188 *3*; α(L)=0.00363 *6*; α(M)=0.000805 *12* α(N)=0.000182 *3*; α(O)=2.73×10^{-5} *4*; α(P)=1.84×10^{-6} *3*
3009.1	(25/2$^-$)	892.3 *3*	100	2116.9	(21/2$^-$)			
3024.1	27/2$^-$	846.9 *3*	100	2177.1	23/2$^-$	E2	0.00374	α(K)=0.00315 *5*; α(L)=0.000466 *7*; α(M)=0.0001010 *15* α(N)=2.30×10^{-5} *4*; α(O)=3.59×10^{-6} *5*; α(P)=3.23×10^{-7} *5*
3076.0	27/2$^-$	(53)		3024.1	27/2$^-$			
		67.0 *3*	70.7	3009.1	(25/2$^-$)			
		898.8 *3*	100.0 *11*	2177.1	23/2$^-$	E2	0.00329	α(K)=0.00277 *4*; α(L)=0.000404 *6*; α(M)=8.75×10^{-5} *13* α(N)=2.00×10^{-5} *3*; α(O)=3.12×10^{-6} *5*; α(P)=2.85×10^{-7} *4*
3162.7	27/2$^-$	985.7 *3*	100	2177.1	23/2$^-$	E2	0.00270	α(K)=0.00228 *4*; α(L)=0.000327 *5*; α(M)=7.06×10^{-5} *10* α(N)=1.611×10^{-5} *23*; α(O)=2.53×10^{-6} *4*; α(P)=2.35×10^{-7} *4*
3183.0	(29/2$^+$)	335.0 *3*		2847.9	27/2(+)			
		586.2 *3*	100.0 *22*	2596.9	25/2(+)	E2	0.00888	α(K)=0.00734 *11*; α(L)=0.001208 *17*; α(M)=0.000265 *4* α(N)=6.01×10^{-5} *9*; α(O)=9.23×10^{-6} *13*; α(P)=7.40×10^{-7} *11*
3417.7	29/2$^-$	341.8 *3*	100.0 *20*	3076.0	27/2$^-$	M1+E2	0.051 *12*	α(K)=0.042 *11*; α(L)=0.0070 *5*; α(M)=0.00152 *7* α(N)=0.000346 *19*; α(O)=5.3×10^{-5} *5*; α(P)=4.4×10^{-6} *15*
		393.5 *3*	19.5 *8*	3024.1	27/2$^-$			
3446.3		696	100	2750.3	(25/2$^+$)			
3589.7	(31/2$^+$)	741.8 *3*	100	2847.9	27/2(+)			

From ENSDF

$^{141}_{63}Eu_{78}$-6

Adopted Levels, Gammas (continued)

γ(^{141}Eu) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α†	Comments
3596.6	31/2⁻	433.9 *3*	63.1 *9*	3162.7	27/2⁻	E2	0.0197	α(K)=0.01587 *23*; α(L)=0.00296 *5*; α(M)=0.000656 *10* α(N)=0.0001484 *21*; α(O)=2.24×10^{-5} *4*; α(P)=1.558×10^{-6} *22*
		572.4 *3*	100.0 *18*	3024.1	27/2⁻	E2	0.00943	α(K)=0.00778 *11*; α(L)=0.001292 *19*; α(M)=0.000283 *4* α(N)=6.43×10^{-5} *9*; α(O)=9.86×10^{-6} *14*; α(P)=7.84×10^{-7} *11*
3684.1	31/2⁻	266.5 *3*	100.0 *19*	3417.7	29/2⁻	M1+E2	0.103 *19*	α(K)=0.083 *20*; α(L)=0.0152 *9*; α(M)=0.0034 *3* α(N)=0.00076 *6*; α(O)=0.000115 *3*; α(P)=8.5×10^{-6} *28*
		608.1 *3*	≤23	3076.0	27/2⁻			
		659		3024.1	27/2⁻			
3857.1		833	100	3024.1	27/2⁻			
3935.1	31/2⁻	911.0 *3*	100	3024.1	27/2⁻	E2	0.00319	α(K)=0.00269 *4*; α(L)=0.000392 *6*; α(M)=8.48×10^{-5} *12* α(N)=1.93×10^{-5} *3*; α(O)=3.03×10^{-6} *5*; α(P)=2.77×10^{-7} *4*
4039.4	(33/2⁺)	856.4 *3*	100	3183.0	(29/2⁺)	E2	0.00365	α(K)=0.00307 *5*; α(L)=0.000453 *7*; α(M)=9.83×10^{-5} *14* α(N)=2.24×10^{-5} *4*; α(O)=3.50×10^{-6} *5*; α(P)=3.15×10^{-7} *5*
4156.1	33/2⁻	471.9 *3*	100	3684.1	31/2⁻	M1+E2	0.0213 *58*	α(K)=0.0179 *52*; α(L)=0.0027 *5*; α(M)=0.00059 *9* α(N)=0.000135 *22*; α(O)=2.1×10^{-5} *4*; α(P)=1.88×10^{-6} *63*
		738.0		3417.7	29/2⁻			
4369.2	35/2⁻	772.6 *3*	100	3596.6	31/2⁻	E2	0.00460	α(K)=0.00385 *6*; α(L)=0.000583 *9*; α(M)=0.0001267 *18* α(N)=2.88×10^{-5} *4*; α(O)=4.49×10^{-6} *7*; α(P)=3.94×10^{-7} *6*
4417.2?	(35/2⁺)	828.3‡ *3*	100.0	3589.7	(31/2⁺)			
4562.7	(33/2⁺)	973	100	3589.7	(31/2⁺)			
4583.3		1137	100	3446.3				
4650.4	(35/2)	494.3	100	4156.1	33/2⁻			
4766.1		909	100	3857.1				
4847.2	(35/2⁻)	690.9 *3*	≤51	4156.1	33/2⁻			
		1163.3 *3*	100 *3*	3684.1	31/2⁻			
4934.9	(37/2⁺)	895.5 *3*	100	4039.4	(33/2⁺)	(E2)	0.00331	α(K)=0.00279 *4*; α(L)=0.000408 *6*; α(M)=8.83×10^{-5} *13* α(N)=2.01×10^{-5} *3*; α(O)=3.15×10^{-6} *5*; α(P)=2.87×10^{-7} *4*
5021.2	(37/2⁻)	174.1 *3*	100	4847.2	(35/2⁻)	M1+E2	0.365 *22*	α(K)=0.28 *5*; α(L)=0.066 *20*; α(M)=0.0149 *49* α(N)=0.0034 *11*; α(O)=4.9×10^{-4} *13*; α(P)=2.77×10^{-5} *84*
		864.5		4156.1	33/2⁻			
5191.6	(39/2⁻)	170.4 *3*	100	5021.2	(37/2⁻)	M1+E2	0.390 *21*	α(K)=0.30 *5*; α(L)=0.072 *23*; α(M)=0.0161 *56* α(N)=0.0036 *12*; α(O)=5.3×10^{-4} *15*; α(P)=2.94×10^{-5} *89*
5390.2	39/2⁻	1021	100	4369.2	35/2⁻	E2	0.00251	α(K)=0.00212 *3*; α(L)=0.000302 *5*; α(M)=6.52×10^{-5} *10* α(N)=1.487×10^{-5} *21*; α(O)=2.33×10^{-6} *4*; α(P)=2.18×10^{-7} *3*
5391.7		829		4562.7	(33/2⁺)			
5399.7		837		4562.7	(33/2⁺)			
5640.7		241		5399.7				
		249		5391.7				
5657.9	(41/2⁻)	466.3	100	5191.6	(39/2⁻)	M1+E2	0.0220 *59*	α(K)=0.0184 *54*; α(L)=0.0028 *5*; α(M)=0.00061 *10* α(N)=0.000140 *22*; α(O)=2.2×10^{-5} *4*; α(P)=1.94×10^{-6} *65*

From ENSDF

$^{141}_{63}Eu_{78}$-7

Adopted Levels, Gammas (continued)

$\gamma(^{141}Eu)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α[†]	Comments
5676.1		910	100	4766.1				
5975.9		335	100	5640.7				
5994.2	(43/2$^-$)	336.3		5657.9	(41/2$^-$)	M1+E2	0.053 *12*	α(K)=0.044 *12*; α(L)=0.0073 *4*; α(M)=0.00160 *7* α(N)=0.000364 *17*; α(O)=5.6×10^{-5} *5*; α(P)=4.5×10^{-6} *15*
		802.6		5191.6	(39/2$^-$)			
6324.6		349	100	5975.9				
		684		5640.7				
6432.1	(43/2$^-$)	756		5676.1				
		1042		5390.2	39/2$^-$			
6621.9	(45/2$^-$)	627.7	100	5994.2	(43/2$^-$)			
6727.3		403		6324.6				
		751		5975.9				
7048.1	(47/2$^-$)	616	100	6432.1	(43/2$^-$)			
7196.4		469		6727.3				
		872		6324.6				
7639.4		443		7196.4				
		912		6727.3				
7861.2	(51/2$^-$)	813	100	7048.1	(47/2$^-$)			
7964.2		916	100	7048.1	(47/2$^-$)			
8112.4		473		7639.4				
		916		7196.4				
8543.4		431		8112.4				
		904		7639.4				
9035.4		492		8543.4				
		923		8112.4				

[†] Additional information 1.
[‡] Placement of transition in the level scheme is uncertain.

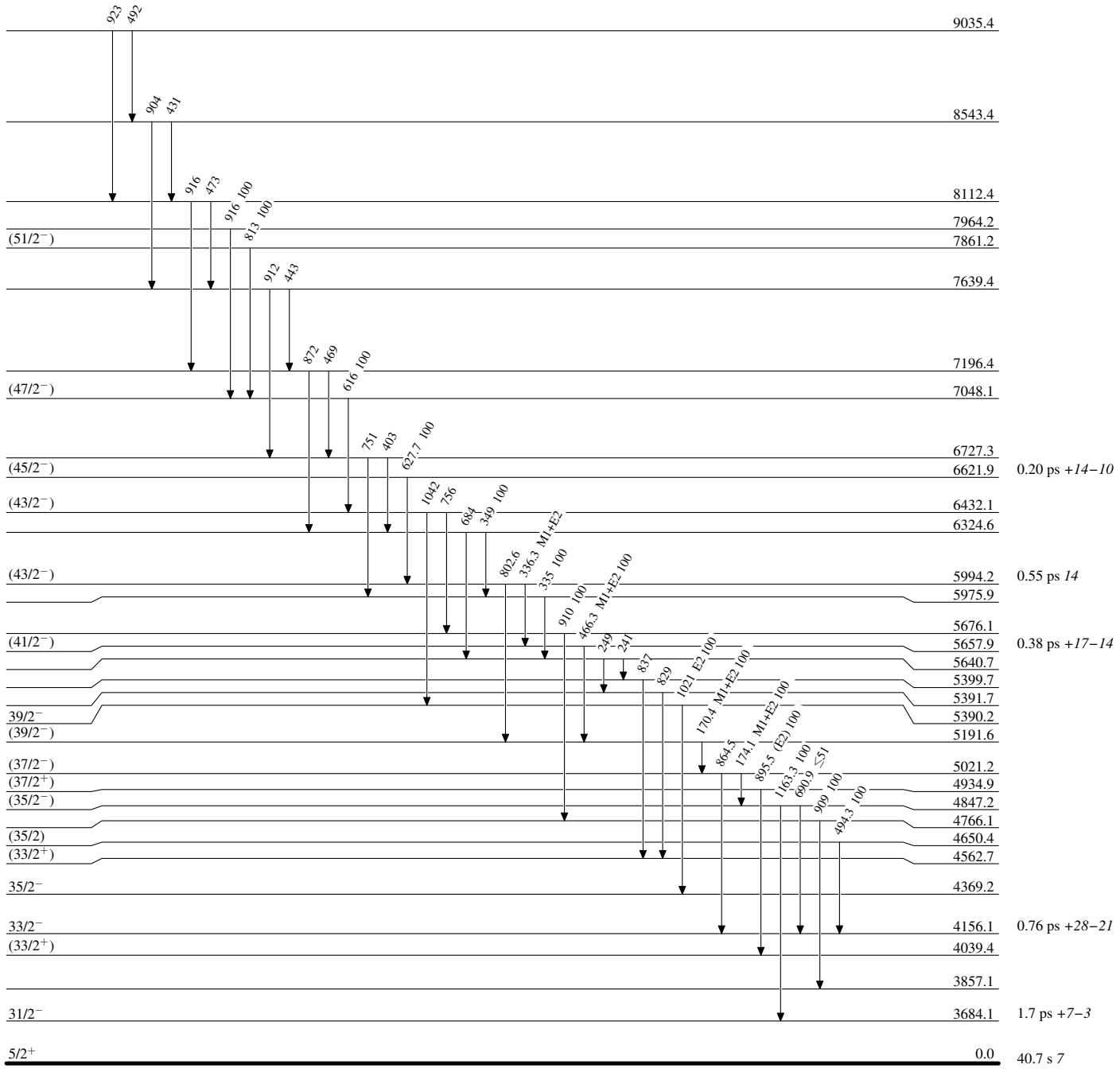
From ENSDF

$^{141}_{63}Eu_{78}$-8

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{141}_{63}Eu_{78}$

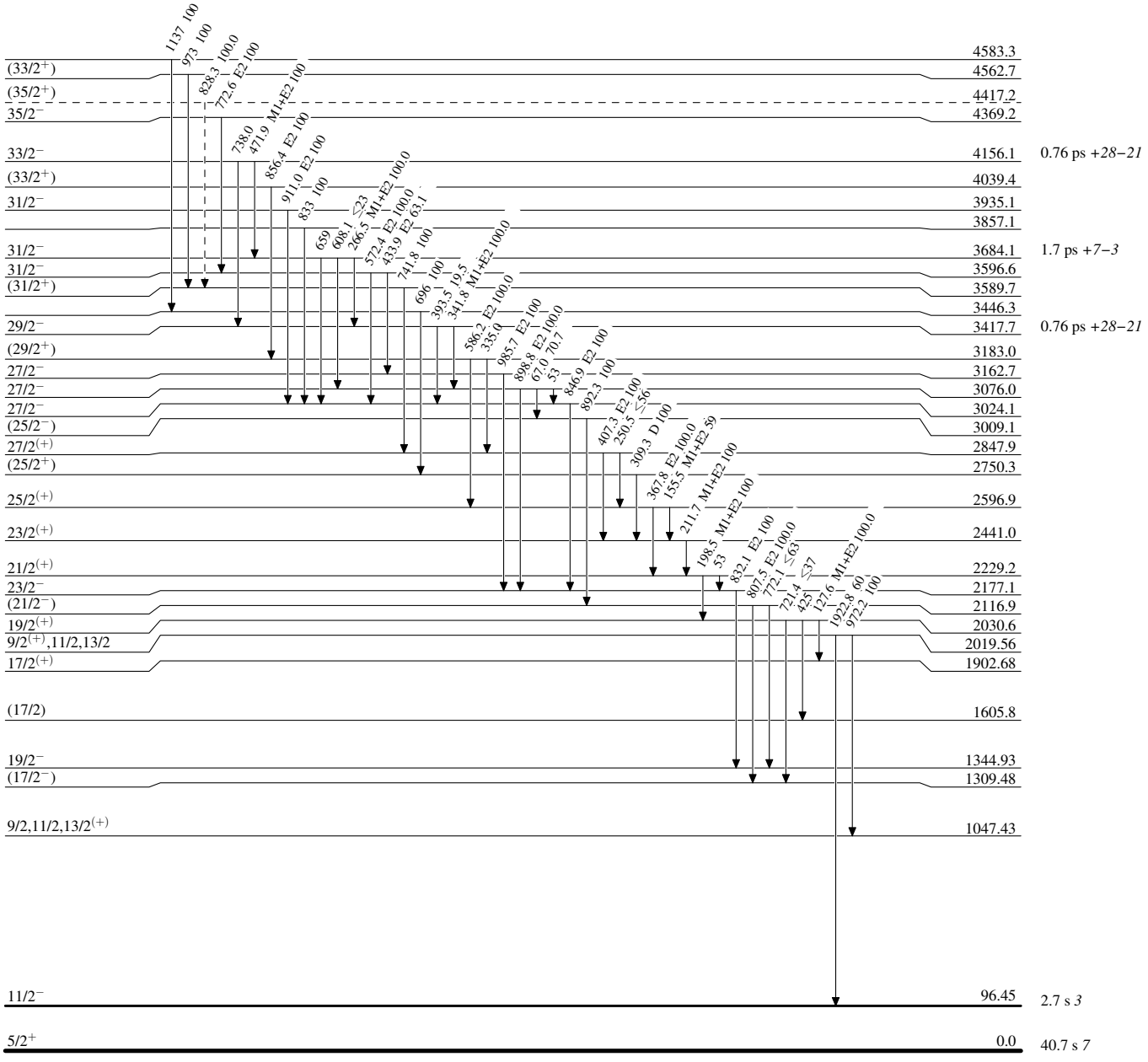
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

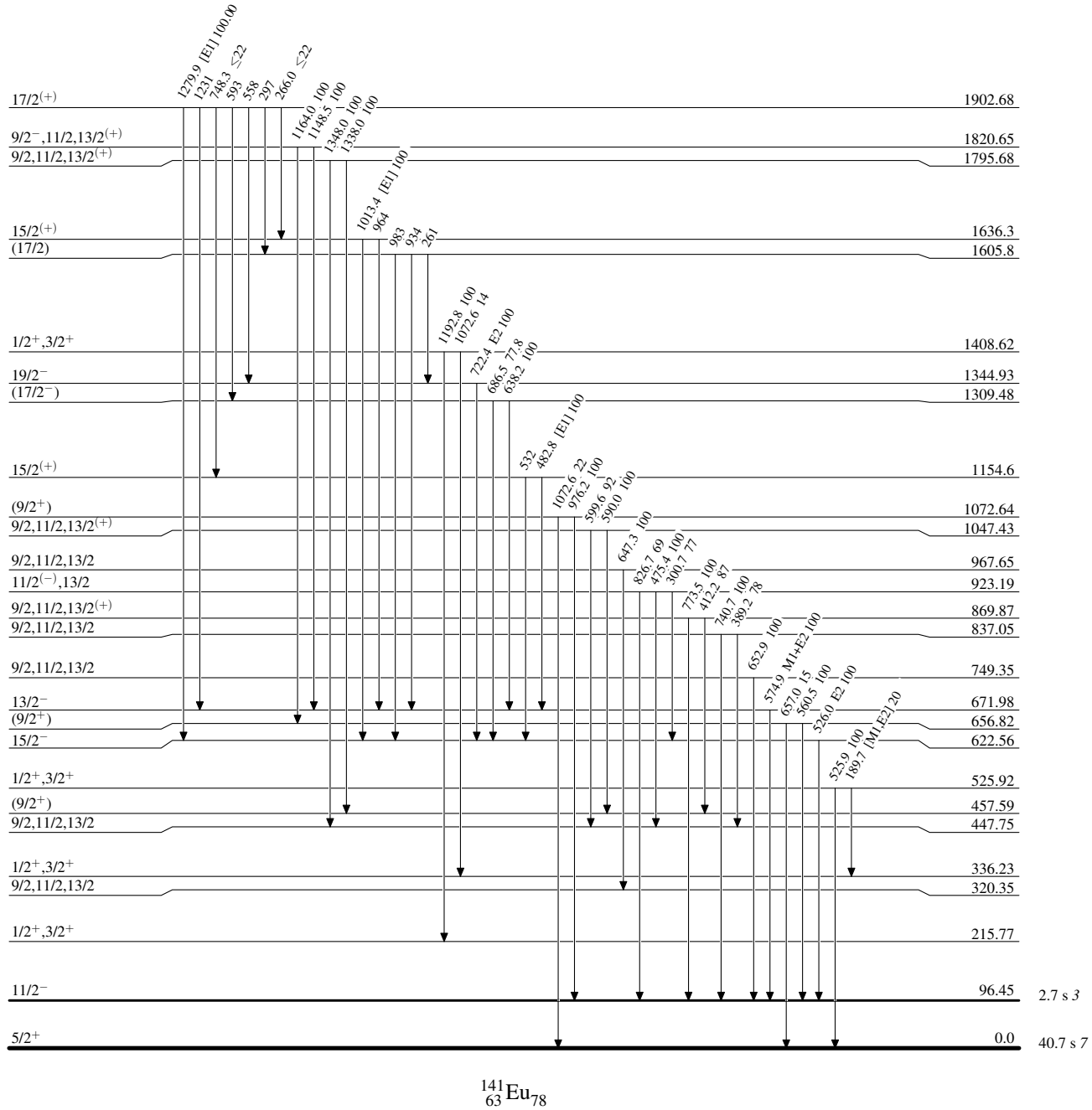


$^{141}_{63}Eu_{78}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

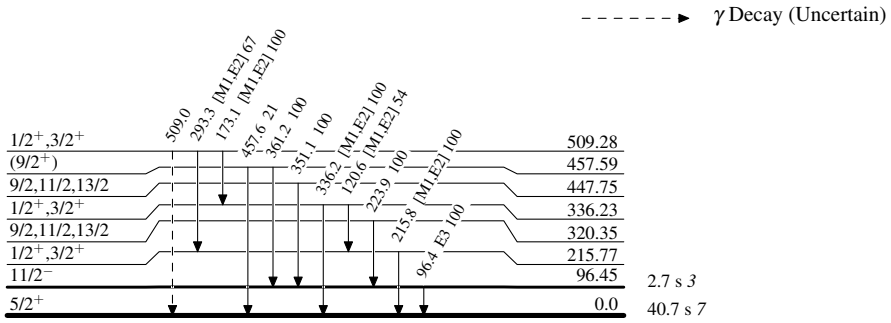


Adopted Levels, Gammas

Legend

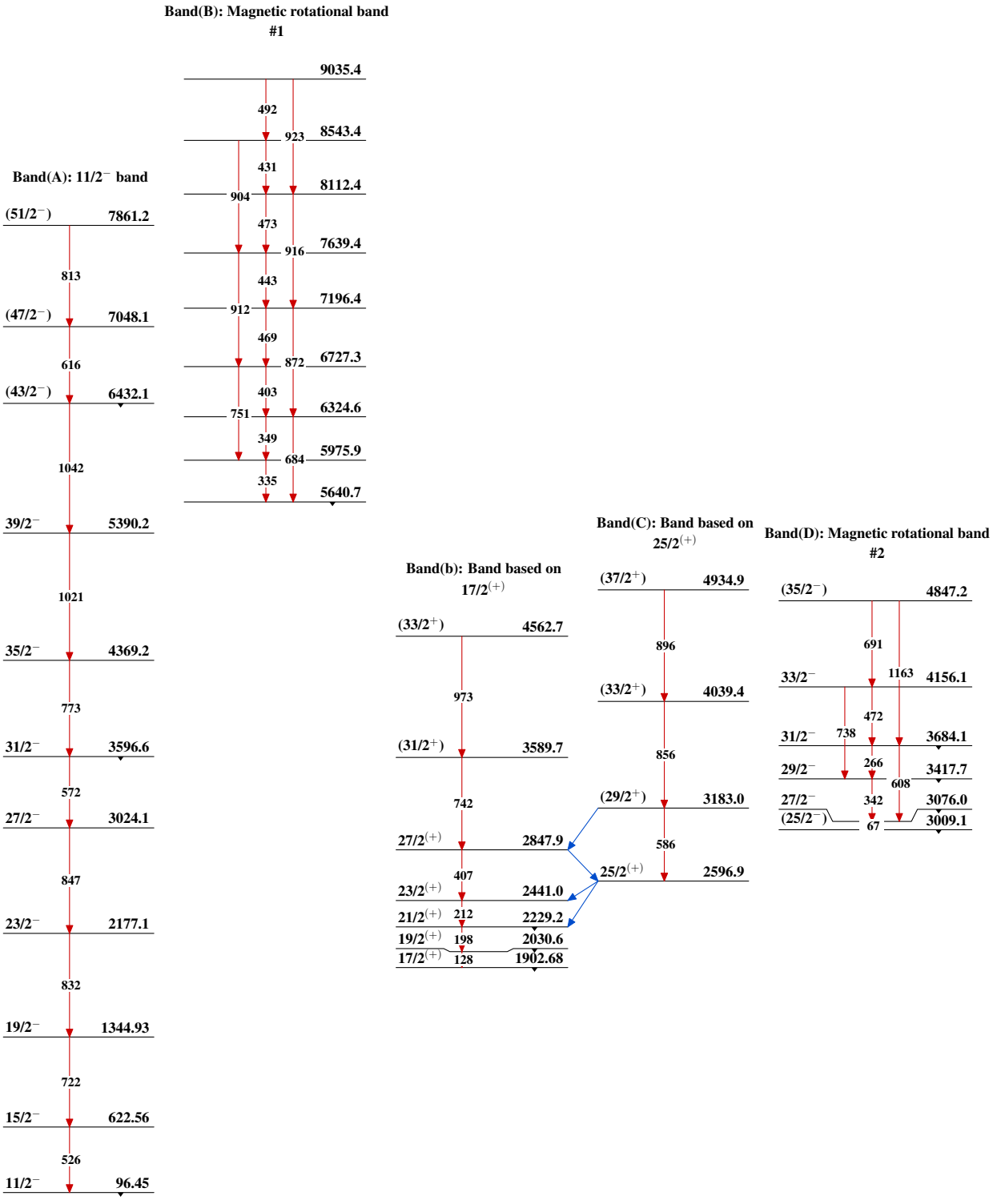
Level Scheme (continued)

Intensities: Relative photon branching from each level



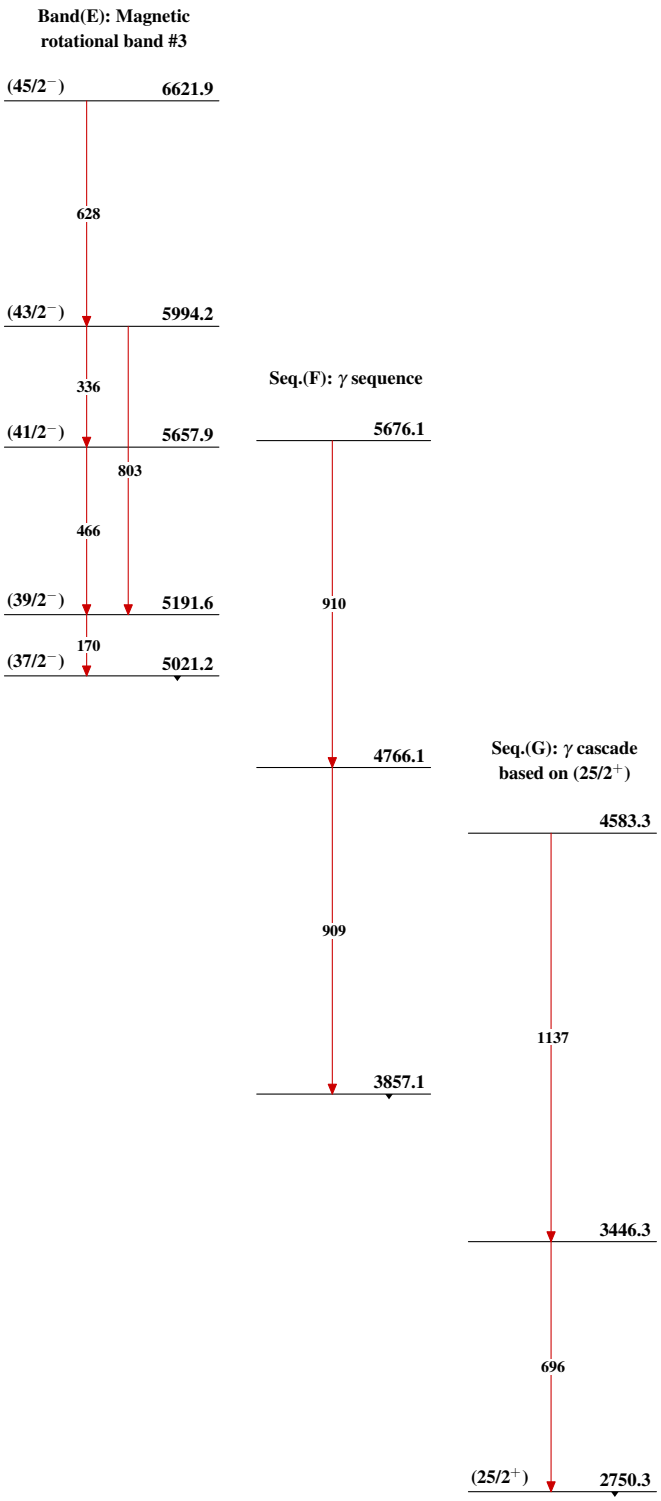
$^{141}_{63}Eu_{78}$

Adopted Levels, Gammas



$^{141}_{63}Eu_{78}$

Adopted Levels, Gammas (continued)



$^{141}_{63}Eu_{78}$