Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 93,599 (2001)	1-Dec-2000

Q(β^-)=−3.86×10^3 *3*; S(n)=9449 *16*; S(p)=3391 *11*; Q(α)=1.6×10^2 *4* 2012Wa38
Note: Current evaluation has used the following Q record −3740 SY9480 22 *3423* 17 *344* 35 1995Au04.
ΔQ(β^-)=200 keV.
Mass excess measurement: −75617 *16* (1997Be63), other: −75661 *18* (1995Au04).
Theory: 1996Af02, 1987Ch07.
Isotope shift: 1992Le09, 1985Ah02.

^{144}Eu Levels

Cross Reference (XREF) Flags

A	^{144}Gd ε decay	D	^{110}Pd(^{37}Cl,3nγ)
B	^{144}Sm(d,2nγ),(p,nγ)	E	^{122}Sn(^{27}Al,5nγ):SD
C	^{144}Sm(α,p3nγ), ^{147}Sm(p,4nγ)		

E(level)[†]	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	1$^+$	10.2 s *1*	ABC	%ε+%β^+=100 μ=+1.893 *13*; Q=+0.10 *3* J,μ,Q: from 1985Ah02, hfs. π from allowed decay to 0$^+$ and 2$^+$ levels in ^{144}Sm. Δ<r^2> (^{145}Eu-^{144}Eu)=−0.050 *6* (1985Ah02). T$_{1/2}$: from 1976Ke01; others: 10.5 s *3* (1965Me12), 10.1 s (1967Ge13).
333.29 *7*	2$^+$		ABC	J$^\pi$: M1 γ to 1$^+$ g.s. and logft >6.3 in β decay from 0$^+$ parent.
347.12 *7*	3$^+$		ABC	J$^\pi$: E2 γ to 1$^+$ g.s. and not fed directly in β decay from 0$^+$ parent.
580.40 *16*	4$^+$		ABC	J$^\pi$: M1 γ to 3$^+$.
604.41 *21*	(3)$^+$		AB	J$^\pi$: M1+(E2) γ to 2$^+$ and logft=7.4 in β decay from 0$^+$ parent.
621.50 *8*	(1)$^+$		A	
629.51 *8*	(2)$^-$		A	J$^\pi$: E1 γ to 1$^+$ g.s. and logft >6.9 in β decay from 0$^+$ parent.
762.67 *19*	5$^+$		BC	J$^\pi$: E2 γ to 3$^+$.
784.00 *12*	(1,2)$^+$		AB	J$^\pi$: M1+E2 γ to 2$^+$, but also feeds a 4$^+$ state; logft=7.3 in β decay from 0$^+$ parent.
887.42 *21*	5$^-$		BC	J$^\pi$: E1 γ to 4$^+$.
894.6 *8*	(4$^+$)		B	
907.92 *11*			A	
926.0 *4*	(6$^-$)	27.8 ns *16*	BC	T$_{1/2}$: weighted average of 28 ns *2* (1976Fu07) and 27.3 ns *30* (1981Ha25).
974.80 *10*			A	
1048.5 *11*	(4)		B	
1074.20 *20*			A	
1120.1 *5*	(7$^-$)		BC	
1127.6 *6*	(8$^-$)	1.0 μs *1*	BC	T$_{1/2}$: from 1976Fu07.
1145.60 *14*			A	
1194.1 *5*	(6,7)$^-$		BC	
1201.40 *10*			A	
1293.51 *10*			A	
1304.02 *11*			A	
1338.0 *6*	(9$^-$)	5.0 ns *5*	CD	T$_{1/2}$: from 1981Ha25.
1402.22 *22*			A	
1559.91 *15*			A	
1669.3 *6*	(9$^+$)	76 ps *7*	CD	T$_{1/2}$: from 1996Pi11.
1804.70 *22*			A	
1930.2 *3*			A	
2362.12 *19*	1$^+$		A	J$^\pi$: from logft=5.9 in beta decay of 0$^+$ parent.
2432.62 *9*	1$^+$		A	J$^\pi$: from logft=4.6 in beta decay of 0$^+$ parent.

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Adopted Levels, Gammas (continued)

^{144}Eu Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
2692.72 *17*	(1+)		A	Jπ: from logft=5.4 in beta decay of 0+ parent.
2709.6 *4*	(1+)		A	Jπ: from logft=5.6 in beta decay of 0+ parent.
2804.62 *15*	1+		A	Jπ: from logft=4.0 in beta decay of 0+ parent.
2827.92 *24*	(1+)		A	Jπ: from logft=5.4 in beta decay of 0+ parent.
1669.7+u	(10+)		D	Hypothetical level corresponding to a (πh_11/2 νh_11/2)$^{10+}$ configuration (1996Pi11). The energy u is expected to be small, ≈50 keV.
2162.0+u	(11+)		CD	This level was seen by 1981Ha25 and interpreted as having J^π=10+. Based on what is known for neighboring nuclei, 1996Pi11 expect this level to have J^π=11+, and speculate about the existence of a 10+ level at 1669.7+u keV.
2801.8+u	(11+)		D	
2903.8+u	(12+)		D	
3369.4+u	(12+)		D	
3454.5+u	(13+)		D	
3454.5+v	(14)		D	No γ's were observed de-populating this level. Its existence is based on timing data from the plunger. it is assumed to feed the 3454.5 + u level. The energy difference, v-u, is expected to be ≤200 keV.
3486.0+v	(15)		D	
3650.5+v	(16)	<7 ps	D	
4366.8+v	(17)		D	
4399.5+v	(15)		D	
4508.4+v	(16)	<7 ps	D	
4597.2+v	(17)		D	
4791.0+v	(17)		D	
4851.2+v	(18)		D	
5174.6+v	(18)		D	
5225.5+v	(19)		D	
5671.4+v			D	
5844.4+v	(19)		D	
6171.6+v	(20)		D	
6374.5+v	(20)		D	
6426.5+v	(20)		D	
6454.9+v	(21)		D	
6715.4+v	(22)		D	
6747.9+v	(21)		D	Feeds 5225+V level through unknown transition(s).
6842.0+v	(21)		D	
7326.4+v	(23)		D	
7350.1+v	(21)		D	Feeds 5225+V level through unknown transition(s).
7847.2+v	(24)		D	
8136.0+v	(25)		D	
8214.2+v	(22)		D	
8220.7+v	(22)		D	
8223.8+v			D	
8436.5+v	(23)		D	
8715.5+v	(24)		D	
9079.1+v	(25)		D	
9083.1+v	(25)		D	
9533.2+v	(26)		D	
9889.9+v	(27)		D	
10060.4+v	(27)		D	
10217.8+v	(27)		D	
10641.6+v	(28)		D	
10873.7+v	(29)		D	
12035.1+v	(31)		D	
w&			D	E(level): W>5 MeV.
831.7+w&			D	E(level): from γ energy difference depopulating W+1922 level.
1921.6+w&	J		D	

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Adopted Levels, Gammas (continued)

^{144}Eu Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
2568.9+w&	J+2		D	
3131.3+w&	J+3		D	
3463.3+w&	J+4		D	
3995.6+w&	J+5		D	
4056.2+w&	J+5		D	
4556.5+w&	J+6		D	
4914.6+w&	J+7		D	
5394.7+w&	J+9	8.5 ps *3*	D	
6053.2+w&	J+11	<1.4 ps	D	
6962.7+w&	J+13	<0.35 ps	D	
8121.4+w&	J+15		D	
9491.4+w&	J+17		D	
11033.7+w&	J+19		D	
x‡	J≈(36)		E	Jπ: proposed by 1997Ha06 from spin-fit method.
878.6+x‡ *6*	J+2		E	
1781.3+x‡ *8*	J+4		E	
2734.0+x‡ *10*	J+6		E	
3745.7+x‡ *11*	J+8		E	
4815.0+x‡ *13*	J+10		E	
5943.0+x‡ *14*	J+12		E	
7129.1+x‡ *16*	J+14		E	
8374.0+x‡ *17*	J+16		E	
9676.2+x‡ *19*	J+18		E	
11039.5+x‡ *21*	J+20		E	
12460.9+x‡ *24*	J+22		E	
13940+x‡ *4*	J+24		E	
y#	J≈(22)		E	Jπ: proposed by 1997Ha06 from spin-fit method.
506.9+y# *3*	J+2		E	
1079.8+y# *4*	J+4		E	
1718.6+y# *5*	J+6		E	
2422.5+y# *5*	J+8		E	
3192.0+y# *6*	J+10		E	
4027.6+y# *7*	J+12		E	
4928.3+y# *7*	J+14		E	
5894.7+y# *8*	J+16		E	
6926.4+y# *9*	J+18		E	
8022.0+y# *10*	J+20		E	
9181.6+y# *11*	J+22		E	
10403.2+y# *13*	J+24		E	
11685.2+y# *15*	J+26		E	
13019.8+y# *16*	J+28		E	
14390.6+y# *19*	J+30		E	
15787.1+y# *22*	J+32		E	

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Adopted Levels, Gammas (continued)

^{144}Eu Levels (continued)

E(level)†	Jπ	XREF	E(level)†	Jπ	XREF	E(level)†	Jπ	XREF
17217.6+y# *23*	J+34	E	3654.6+z@ *8*	J+10	E	11379.5+z@ *21*	J+24	E
18684.6+y# *30*	J+36	E	4573.6+z@ *15*	J+12	E	12724.0+z@ *23*	J+26	E
z@	J	E	5555.1+z@ *15*	J+14	E	14127.2+z@ *25*	J+28	E
603.2+z@ *4*	J+2	E	6598.5+z@ *16*	J+16	E	15593.2+z@ *26*	J+30	E
1271.4+z@ *6*	J+4	E	7703.1+z@ *17*	J+18	E	17121.2+z@ *30*	J+32	E
2002.5+z@ *7*	J+6	E	8868.4+z@ *18*	J+20	E	18710.5+z@ *32*	J+34	E
2796.7+z@ *7*	J+8	E	10095.2+z@ *20*	J+22	E			

† From least-squares fit to Eγ up to E(level)=2828 keV.

‡ Band(A): SD-1 band (1997Ha06,1993Mu16). Percent population=0.14 *4* (1997Ha06). Configuration=$\pi 6^1 \nu 7^1$ interacting with 9/2[514] orbital (1997Ha06).

Band(B): SD-2 band (1997Ha06). Percent population=0.14 *4* (1997Ha06). Configuration=$\pi 6^1 \nu 6^1$, α=−1/2, where $\nu 6^1$=1/2[651]+5/2[642] (1997Ha06).

@ Band(C): SD-3 band (1997Ha06). Percent population=0.17 *4* (1997Ha06). Configuration=$\pi 6^1 \nu 6^1$, α=+1/2, where $\nu 6^1$=1/2[651]+5/2[642] (1997Ha06).

& Band(D): ΔJ=2 band.

$\gamma(^{144}$Eu)

E_i(level)	J^π_i	E_γ	I_γ†	E_f	J^π_f	Mult.	α‡	Comments
333.29	2^+	333.3 *1*	100	0.0	1^+	M1	0.0677	α(K)=0.0575 *18*; α(L)=0.00801 *24*; α(M)=0.00172 *6*; α(N+..)=0.00048 *2*
347.12	3^+	14.0# *1*	<0.4	333.29	2^+			Transition not directly observed. EΓ from energy difference. Iγ from 1991Tu01.
		347.12 *9*	100	0.0	1^+	E2	0.0376	α(K)=0.0296 *9*; α(L)=0.00623 *19*; α(M)=0.00138 *5*; α(N+..)=0.00038 *1*
580.40	4^+	233.3 *2*	100 *5*	347.12	3^+	M1	0.176	α(K)=0.149 *5*; α(L)=0.0209 *7*; α(M)=0.00451 *14*; α(N+..)=0.00127 *4*
		247.3 *3*	8 *4*	333.29	2^+	(E2)	0.108	α(K)=0.0803 *24*; α(L)=0.0213 *7*; α(M)=0.00481 *15*; α(N+..)=0.00131 *4* I_γ: from 1981Ha25.
604.41	$(3)^+$	257.3 *3*	37 *19*	347.12	3^+			E_γ,I_γ: from 1991Tu01.
		271.1 *5*	100 *30*	333.29	2^+	M1+(E2)	0.099 *19*	α(K)=0.080 *20*; α(L)=0.0145 *6*; α(M)=0.00319 *20*; α(N+..)=0.00088 *5* E_γ,I_γ: from 1991Tu01.
621.50	$(1)^+$	274.4 *2*	51.2 *25*	347.12	3^+			
		288.2 *2*	13.0 *25*	333.29	2^+			
		621.5 *1*	100 *3*	0.0	1^+	E2,(M1)	0.011 *3*	α(K)=0.009 *3*; α(L)=0.0013 *3*
629.51	$(2)^-$	282.4 *2*	4.3 *10*	347.12	3^+			
		629.5 *1*	100.0 *25*	0.0	1^+	E1	0.00274	α(K)=0.00233 *7*; α(L)=0.00031 *1*
762.67	5^+	182.4 *2*	100 *18*	580.40	4^+	M1,E2	0.32 *3*	α(K)=0.25 *5*; α(L)=0.056 *15*; α(M)=0.013 *4*; α(N+..)=0.0035 *10* E_γ,I_γ: from 1981Ha25.
		415.3 *3*	68 *27*	347.12	3^+	E2	0.0223	α(K)=0.0179 *6*; α(L)=0.00343 *11*; α(M)=0.00076 *2*; α(N+..)=0.00021 *1* E_γ,I_γ: from 1981Ha25.
784.00	$(1,2)^+$	203.6 *5*	<32	580.40	4^+			E_γ,I_γ: from 1991Tu01.
		450.7 *1*	100 *13*	333.29	2^+	M1,E2	0.024 *7*	α(K)=0.020 *6*; α(L)=0.0031 *5*; α(M)=0.00068 *10*; α(N+..)=0.00019 *3* E_γ,I_γ: from 1991Tu01.
887.42	5^-	124.8 *2*	2.9 *6*	762.67	5^+			E_γ,I_γ: from 1981Ha25.
		307.0 *2*	100 *5*	580.40	4^+	E1	0.0145	α(K)=0.0123 *4*; α(L)=0.00169 *5*; α(M)=0.00036 *1*; α(N+..)=9.9×10^{-5} *3* E_γ,I_γ: from 1981Ha25.
894.6	(4^+)	290.2	100	604.41	$(3)^+$	M1,E2	0.081 *17*	α(K)=0.066 *17*; α(L)=0.0117 *1*; α(M)=0.00256 *7*; α(N+..)=0.00070 *1*
		314.1	46	580.40	4^+			
907.92		560.8 *1*	48 *6*	347.12	3^+			
		907.9 *4*	100 *12*	0.0	1^+			
926.0	(6^-)	38.7 *3*	100 *63*	887.42	5^-	(M1+E2)		E_γ,I_γ: from 1981Ha25.
		163.1 *5*	38 *25*	762.67	5^+			E_γ,I_γ: from 1981Ha25.
974.80		353.3 *3*		621.50	$(1)^+$			
		641.5 *1*	100 *5*	333.29	2^+			
		974.8 *2*	42 *4*	0.0	1^+			
1048.5	(4)	122.5	100	926.0	(6^-)			
1074.20		740.9 *2*	100	333.29	2^+			
1120.1	(7^-)	194.1 *4*	100	926.0	(6^-)	M1	0.291	α(K)=0.246 *8*; α(L)=0.0348 *11*; α(M)=0.00750 *23*; α(N+..)=0.00212 *7* E_γ: from 1991Tu01.
1127.6	(8^-)	7.5		1120.1	(7^-)			
		201.6 *5*	100	926.0	(6^-)	E2	0.211	B(E2)(W.u.)=0.031 *4* α(K)=0.149 *5*; α(L)=0.0475 *15*; α(M)=0.0108 *4*; α(N+..)=0.00294 *9*

$^{144}_{63}$Eu$_{81}$-5

γ(^{144}Eu) (continued)

E_i(level)	J^π_i	E_γ	I_γ[†]	E_f	J^π_f	Mult.	α[‡]	Comments
1145.60		361.6 *5*	<34.5	784.00	$(1,2)^+$			
		541.2 *3*	55 *14*	604.41	$(3)^+$			
		812.3 *2*	100 *14*	333.29	2^+			
		1145.6 *4*	90 *21*	0.0	1^+			
1194.1	$(6,7)^-$	268.1 *3*	100	926.0	(6^-)	M1,E2	0.102 *19*	α(K)=0.083 *20*; α(L)=0.0150 *7*; α(M)=0.00331 *23*; α(N+..)=0.00091 *5* E_γ,I_γ: from 1981Ha25.
1201.40		579.9 *3*	21.2 *24*	621.50	$(1)^+$			
		868.1 *1*	100 *4*	333.29	2^+			
		1201.4 *2*	20 *4*	0.0	1^+			
1293.51		385.6 *4*		907.92				
		664.0 *1*	78 *5*	629.51	$(2)^-$			
		960.2		333.29	2^+			
		1293.5 *2*	100 *9*	0.0	1^+			
1304.02		956.9 *1*	100	347.12	3^+			
1338.0	(9^-)	210.39 *9*	100	1127.6	(8^-)	M1	0.233	B(M1)(W.u.)=0.00038 *4* α(K)=0.198 *6*; α(L)=0.0278 *9*; α(M)=0.00600 *18*; α(N+..)=0.00169 *5* E_γ: weighted average of 1981Ha25 and 1996Pi11 values.
1402.22		1055.1 *3*	100	347.12	3^+			
1559.91		1226.6 *5*	39 *23*	333.29	2^+			
		1559.9 *2*	100 *20*	0.0	1^+			
1669.3	(9^+)	331.35 *14*	82 *4*	1338.0	(9^-)	E1	0.0120	B(E1)(W.u.)=4.0×10^{-5} *5* α(K)=0.0102 *3*; α(L)=0.00139 *5*; α(M)=0.00030 *1* E_γ: weighted average of 1981Ha25 and 1996Pi11 values. $I\gamma$,δ from 1996Pi11.
		541.70 *18*	100 *5*	1127.6	(8^-)	E1	0.00380	B(E1)(W.u.)=1.11×10^{-5} *13* α(K)=0.00323 *10*; α(L)=0.00043 *1* E_γ: weighted average of 1981Ha25 and 1996Pi11 values. $I\gamma$,δ from 1996Pi11.
1804.70		603.3 *2*	100	1201.40				
1930.2		1300.7 *4*	71 *25*	629.51	$(2)^-$			
		1583.1 *4*	100 *21*	347.12	3^+			
2362.12	1^+	2015.0 *3*	19 *6*	347.12	3^+			
		2028.8 *4*	9 *4*	333.29	2^+			
		2362.1 *3*	100 *6*	0.0	1^+			
2432.62	1^+	872.7 *2*	3.3 *6*	1559.91				
		1030.4 *6*	0.8 *5*	1402.22				
		1128.6 *2*	6.6 *5*	1304.02				
		1139.1 *3*	4.3 *5*	1293.51				
		1231.2 *2*	14.8 *13*	1201.40				
		1287.0 *2*	5.4 *8*	1145.60				
		1358.4 *5*	1.7 *7*	1074.20				
		1457.8 *4*	10.5 *15*	974.80				
		1524.7 *2*	3.6 *11*	907.92				
		1803.1 *2*	12.4 *13*	629.51	$(2)^-$			

γ(^{144}Eu) (continued)

E_i(level)	J^π_i	E_γ	I_γ†	E_f	J^π_f	Mult.	α‡	Comments
2432.62	1+	2432.6 *2*	100.0 *15*	0.0	1+			
2692.72	(1+)	1717.9 *6*	20 *7*	974.80				
		2071.2 *2*	35 *6*	621.50	(1)+			
		2692.7 *3*	100 *9*	0.0	1+			
2709.6	(1+)	2088.1 *5*	47 *12*	621.50	(1)+			
		2709.6 *6*	100 *15*	0.0	1+			
2804.62	1+	1402.4 *3*	15 *3*	1402.22				
		1511.1 *3*	14 *4*	1293.51				
		1829.8 *4*	28 *5*	974.80				
		2183.1 *3*	26 *3*	621.50	(1)+			
		2457.5 *5*	11 *3*	347.12	3+			
		2471.3 *3*	100 *4*	333.29	2+			
		2804.6 *9*	8 *4*	0.0	1+			
2827.92	(1+)	2198.4 *3*	100 *17*	629.51	(2)−			
		2494.6 *4*	85 *17*	333.29	2+			
		2827.9 *8*	62 *13*	0.0	1+			
2162.0+u	(11+)	492.2 *2*	100	1669.7+u	(10+)	M1	0.0247	α(K)=0.0210 *7*; α(L)=0.00289 *9*; α(M)=0.00062 *2*; α(N+..)=0.00017 *1*
2801.8+u	(11+)	1132.1 *3*	100	1669.7+u	(10+)			
2903.8+u	(12+)	102.1 *2*	6.0	2801.8+u	(11+)	M1	1.77	α(K)=1.50 *5*; α(L)=0.214 *7*; α(M)=0.0460 *14*; α(N+..)=0.0133 *4*
		741.7 *2*	100	2162.0+u	(11+)			
		1233.9 *4*	15.5	1669.7+u	(10+)			
3369.4+u	(12+)	1207.5 *3*	100	2162.0+u	(11+)			
		1699.8 *3*	88.8	1669.7+u	(10+)			
3454.5+u	(13+)	85.2 *1*	15.4	3369.4+u	(12+)	M1	2.98	α(K)=2.52 *8*; α(L)=0.361 *11*; α(M)=0.0776 *24*; α(N+..)=0.0222 *7*
		550.7 *2*	100	2903.8+u	(12+)			
		1292.3 *3*	19.1	2162.0+u	(11+)			
3486.0+v	(15)	32#		3454.5+v	(14)			E_γ: from energy difference, γ was not observed.
3650.5+v	(16)	164.5 *1*	100	3486.0+v	(15)	M1	0.460	B(M1)(W.u.)>0.48 α(K)=0.389 *12*; α(L)=0.0552 *17*; α(M)=0.0119 *4*; α(N+..)=0.00340 *11*
4366.8+v	(17)	716.3 *2*	100	3650.5+v	(16)			
4399.5+v	(15)	944.9 *5*		3454.5+v	(14)			
4508.4+v	(16)	108.9 *1*	14.5	4399.5+v	(15)			
		858 *1*	4.0	3650.5+v	(16)			
		1022.4 *3*	100	3486.0+v	(15)			
4597.2+v	(17)	88.8 *1*	100	4508.4+v	(16)	M1	2.64	α(K)=2.23 *7*; α(L)=0.320 *10*; α(M)=0.0689 *21*; α(N+..)=0.0198 *6*
		946.6 *5*	66.7	3650.5+v	(16)			
4791.0+v	(17)	1140.5 *5*	100	3650.5+v	(16)			
4851.2+v	(18)	254.0 *2*	100	4597.2+v	(17)			
		484.5 *2*	71.3	4366.8+v	(17)			
5174.6+v	(18)	577.4 *2*	100	4597.2+v	(17)			
5225.5+v	(19)	374.3 *2*	100	4851.2+v	(18)			
5671.4+v		2020.9 *8*	100	3650.5+v	(16)			

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Adopted Levels, Gammas (continued)

$\gamma(^{144}Eu)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ †	E_f	J_f^π
5844.4+v	(19)	669.8 *5*	100	5174.6+v	(18)
6171.6+v	(20)	327.1 *4*	10.3	5844.4+v	(19)
		946.0 *3*	100	5225.5+v	(19)
6374.5+v	(20)	1149.0 *4*	100	5225.5+v	(19)
6426.5+v	(20)	1201.0 *4*	100	5225.5+v	(19)
6454.9+v	(21)	283.3 *2*	100	6171.6+v	(20)
6715.4+v	(22)	260.6 *3*	100	6454.9+v	(21)
6842.0+v	(21)	415.6 *5*	100	6426.5+v	(20)
7326.4+v	(23)	611.0 *3*	100	6715.4+v	(22)
7847.2+v	(24)	520.8 *5*	100	7326.4+v	(23)
8136.0+v	(25)	809.6 *5*	100	7326.4+v	(23)
8214.2+v	(22)	1372.1 *5*	100	6842.0+v	(21)
		1499.2 *8*	25.0	6715.4+v	(22)
		1759.3 *5*	93.8	6454.9+v	(21)
8220.7+v	(22)	1472.8 *5*	100	6747.9+v	(21)
8223.8+v		1381.9 *5*	100	6842.0+v	(21)
		1508.3 *8*	27.3	6715.4+v	(22)
		1768.7 *6*	72.7	6454.9+v	(21)
8436.5+v	(23)	212.6 *2*	90.9	8223.8+v	
		215.8 *2*	100	8220.7+v	(22)
		222.3 *2*	93.9	8214.2+v	(22)
		1086.4 *4*	72.7	7350.1+v	(21)
8715.5+v	(24)	279.0 *1*	100	8436.5+v	(23)
9079.1+v	(25)	363.6 *2*	100	8715.5+v	(24)
9083.1+v	(25)	367.7 *2*	100	8715.5+v	(24)
9533.2+v	(26)	454.2 *3*	100	9079.1+v	(25)
		817.7 *4*	36.7	8715.5+v	(24)
9889.9+v	(27)	806.8 *3*	100	9083.1+v	(25)
		810.8 *4*	34.1	9079.1+v	(25)
10060.4+v	(27)	527.1 *4*	100	9533.2+v	(26)
		981.3 *5*	13.9	9079.1+v	(25)
10217.8+v	(27)	684.6 *4*	100	9533.2+v	(26)
10641.6+v	(28)	581.2 *4*	93.8	10060.4+v	(27)
		1108.5 *5*	100	9533.2+v	(26)
10873.7+v	(29)	983.8 *3*	100	9889.9+v	(27)
12035.1+v	(31)	1161.4 *5*	100	10873.7+v	(29)
1921.6+w	J	1089.9 *4*	100	831.7+w	
		1921.6 *7*	27.3	w	
2568.9+w	J+2	647.3 *3*	100	1921.6+w	J
3131.3+w	J+3	562.4 *4*	100	2568.9+w	J+2
3463.3+w	J+4	894.4 *2*	100	2568.9+w	J+2
3995.6+w	J+5	532.2 *3*	100	3463.3+w	J+4
		864.2 *3*	73.9	3131.3+w	J+3
4056.2+w	J+5	592.7 *4*	100	3463.3+w	J+4
4556.5+w	J+6	1093.6 *4*	100	3463.3+w	J+4
4914.6+w	J+7	358.3 *3*	17.6	4556.5+w	J+6
		858.3 *3*	35.8	4056.2+w	J+5
		919.0 *3*	100	3995.6+w	J+5
5394.7+w	J+9	480.1 *2*	100	4914.6+w	J+7
6053.2+w	J+11	658.5 *3*	100	5394.7+w	J+9
6962.7+w	J+13	909.5 *2*	100	6053.2+w	J+11
8121.4+w	J+15	1158.7 *5*	100	6962.7+w	J+13
9491.4+w	J+17	1369.9 *6*	100	8121.4+w	J+15
11033.7+w	J+19	1542.3 *6*	100	9491.4+w	J+17
878.6+x	J+2	878.6 *6*	0.39 *8*	x	J≈(36)
1781.3+x	J+4	902.7 *4*	0.63 *8*	878.6+x	J+2
2734.0+x	J+6	952.7 *6*	0.57 *12*	1781.3+x	J+4
3745.7+x	J+8	1011.7 *5*	0.96 *13*	2734.0+x	J+6
4815.0+x	J+10	1069.3 *6*	0.88 *14*	3745.7+x	J+8
5943.0+x	J+12	1128.0 *6*	0.85 *13*	4815.0+x	J+10
7129.1+x	J+14	1186.1 *7*	0.64 *14*	5943.0+x	J+12
8374.0+x	J+16	1244.9 *6*	0.71 *11*	7129.1+x	J+14
9676.2+x	J+18	1302.2 *8*	0.59 *11*	8374.0+x	J+16
11039.5+x	J+20	1363.3 *9*	0.57 *11*	9676.2+x	J+18
12460.9+x	J+22	1421.4 *12*	0.46 *13*	11039.5+x	J+20
13940+x	J+24	1478.6 *21*	0.40 *18*	12460.9+x	J+22
506.9+y	J+2	506.9 *3*	0.36 *8*	y	J≈(22)
1079.8+y	J+4	572.9 *2*	0.65 *12*	506.9+y	J+2
1718.6+y	J+6	638.8 *2*	0.76 *13*	1079.8+y	J+4
2422.5+y	J+8	703.9 *3*	0.61 *9*	1718.6+y	J+6
3192.0+y	J+10	769.5 *2*	0.81 *9*	2422.5+y	J+8
4027.6+y	J+12	835.6 *3*	0.93 *10*	3192.0+y	J+10
4928.3+y	J+14	900.7 *3*	0.86 *11*	4027.6+y	J+12
5894.7+y	J+16	966.4 *3*	0.82 *10*	4928.3+y	J+14
6926.4+y	J+18	1031.7 *4*	0.85 *11*	5894.7+y	J+16
8022.0+y	J+20	1095.6 *5*	0.63 *8*	6926.4+y	J+18
9181.6+y	J+22	1159.6 *5*	0.63 *9*	8022.0+y	J+20
10403.2+y	J+24	1221.6 *5*	0.52 *8*	9181.6+y	J+22
11685.2+y	J+26	1282.0 *8*	0.50 *7*	10403.2+y	J+24
13019.8+y	J+28	1334.6 *6*	0.45 *6*	11685.2+y	J+26
14390.6+y	J+30	1370.8 *9*	0.28 *6*	13019.8+y	J+28
15787.1+y	J+32	1396.5 *11*	0.23 *5*	14390.6+y	J+30
17217.6+y	J+34	1430.5 *9*	0.19 *5*	15787.1+y	J+32
18684.6+y	J+36	1467 *1*	0.10 *5*	17217.6+y	J+34
603.2+z	J+2	603.2 *4*	0.61 *14*	z	J
1271.4+z	J+4	668.2 *4*	0.61 *9*	603.2+z	J+2

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Adopted Levels, Gammas (continued)

γ(^{144}Eu) (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
2002.5+z	J+6	731.1 *3*	0.63 *9*	1271.4+z	J+4	10095.2+z	J+22	1226.8 *7*	0.47 *8*	8868.4+z	J+20
2796.7+z	J+8	794.2 *3*	0.57 *9*	2002.5+z	J+6	11379.5+z	J+24	1284.3 *6*	0.56 *9*	10095.2+z	J+22
3654.6+z	J+10	857.9 *3*	1.06 *10*	2796.7+z	J+8	12724.0+z	J+26	1344.5 *10*	0.43 *8*	11379.5+z	J+24
4573.6+z	J+12	919.1 *12*	0.96 *10*	3654.6+z	J+10	14127.2+z	J+28	1403.2 *10*	0.41 *7*	12724.0+z	J+26
5555.1+z	J+14	981.5 *4*	0.99 *10*	4573.6+z	J+12	15593.2+z	J+30	1466.0 *7*	0.34 *6*	14127.2+z	J+28
6598.5+z	J+16	1043.4 *6*	1.16 *13*	5555.1+z	J+14	17121.2+z	J+32	1528.0 *13*	0.20 *4*	15593.2+z	J+30
7703.1+z	J+18	1104.5 *6*	0.68 *10*	6598.5+z	J+16	18710.5+z	J+34	1589.3 *10*	0.16 *5*	17121.2+z	J+32
8868.4+z	J+20	1165.3 *6*	0.65 *9*	7703.1+z	J+18						

† Photon branching ratios. For SD bands, values are relative intensities within each band, normalized to 1.0 for maximum intensity of SD-3 band.

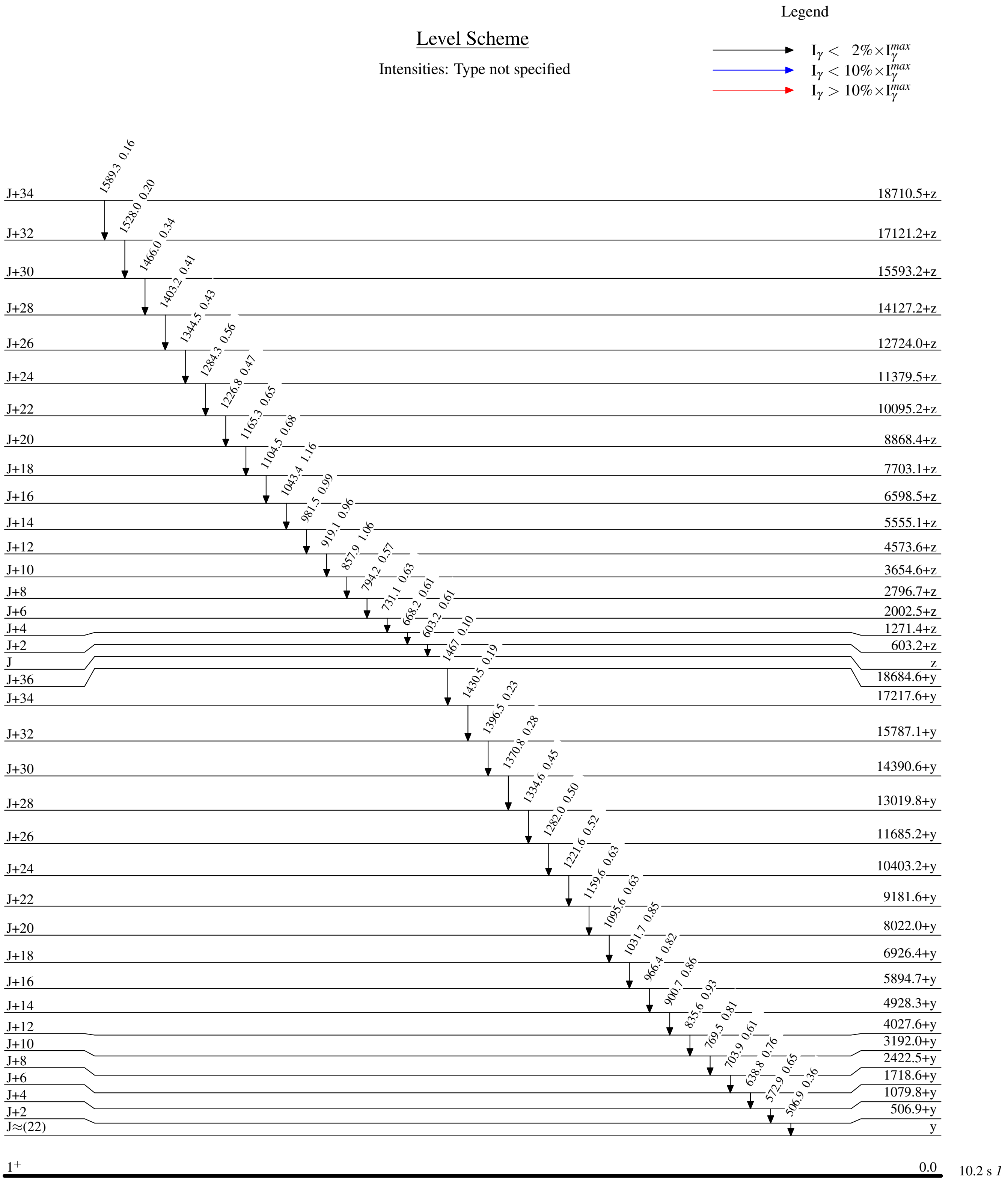
‡ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

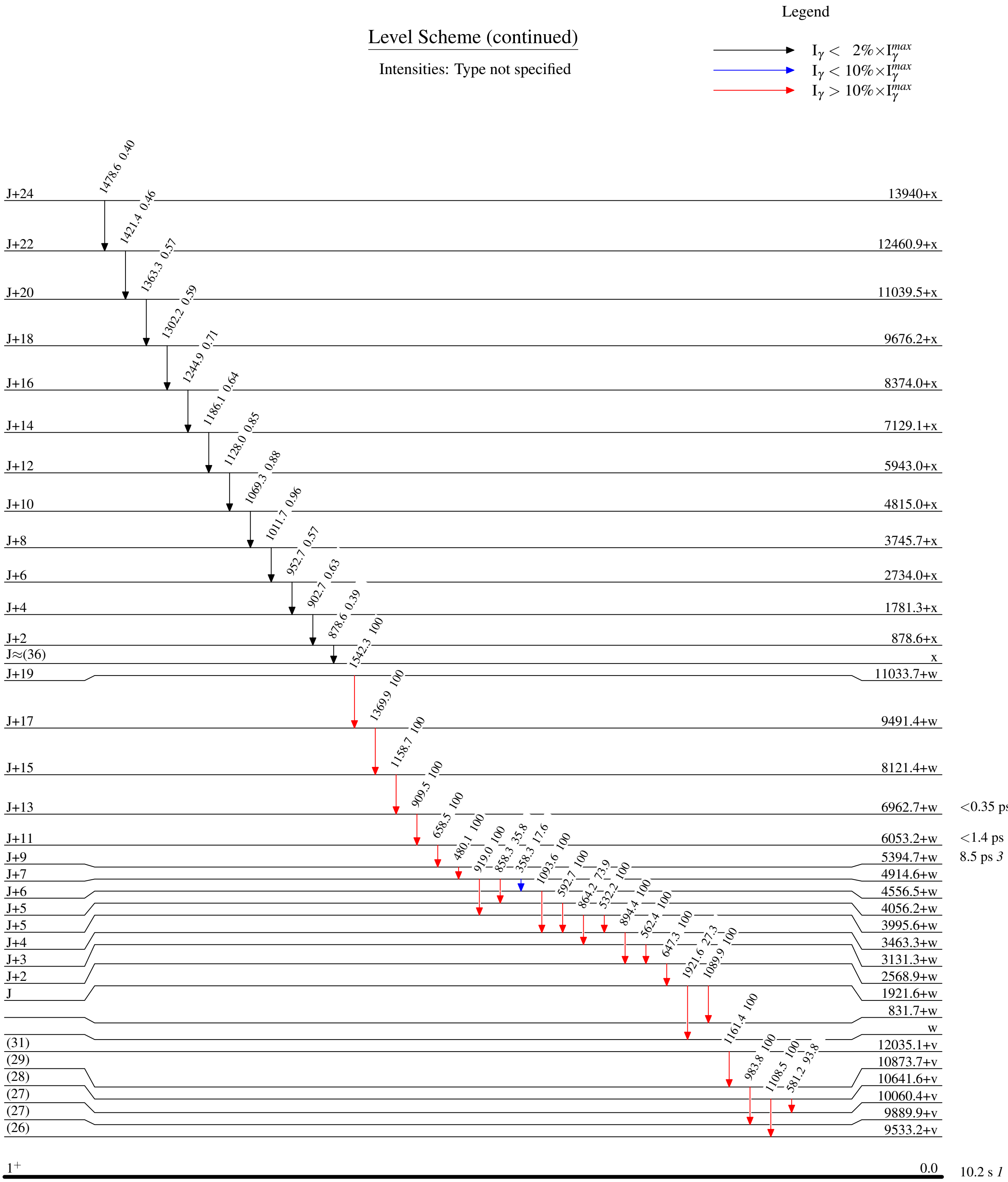


$^{144}_{63}Eu_{81}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



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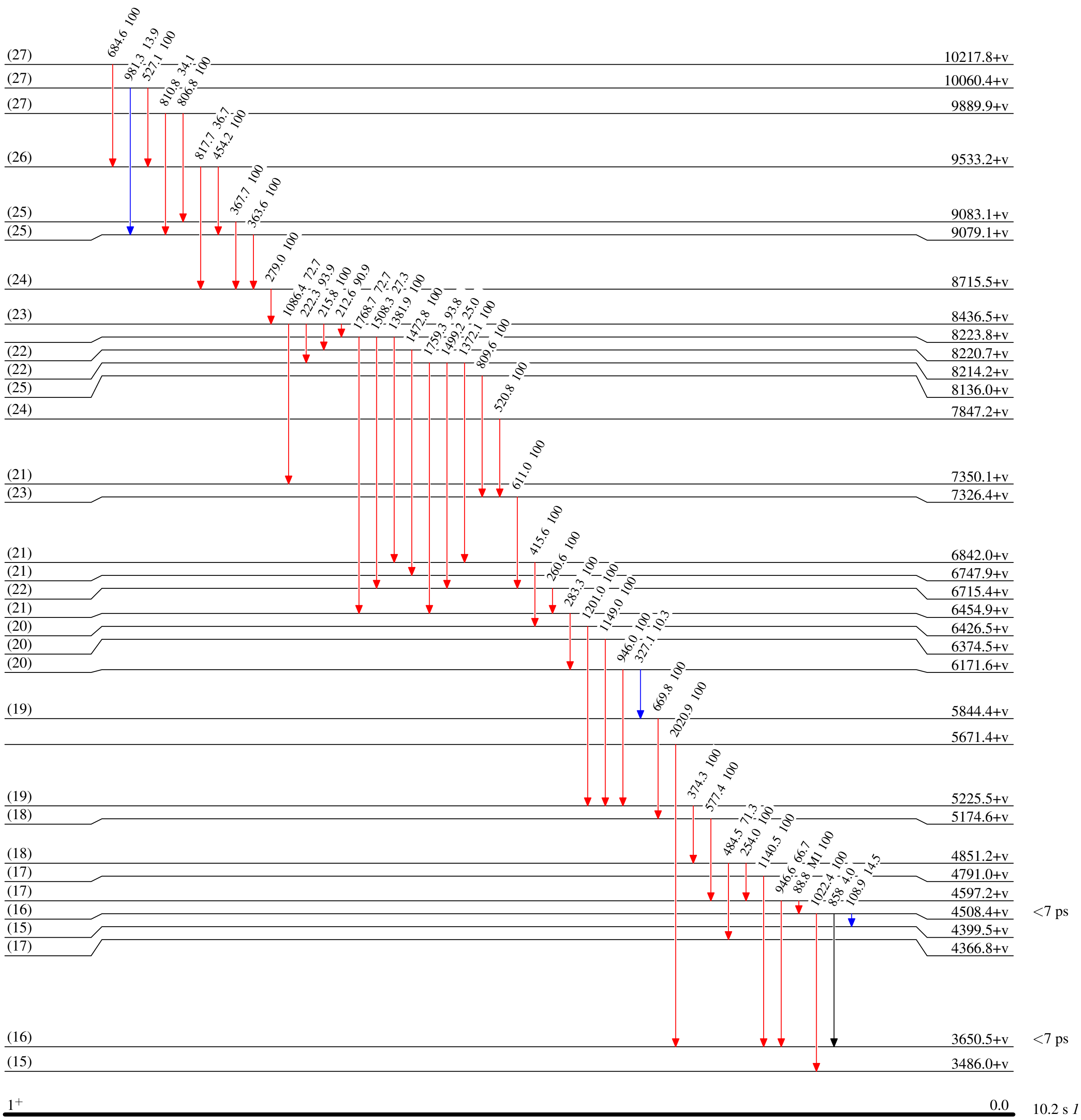
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$

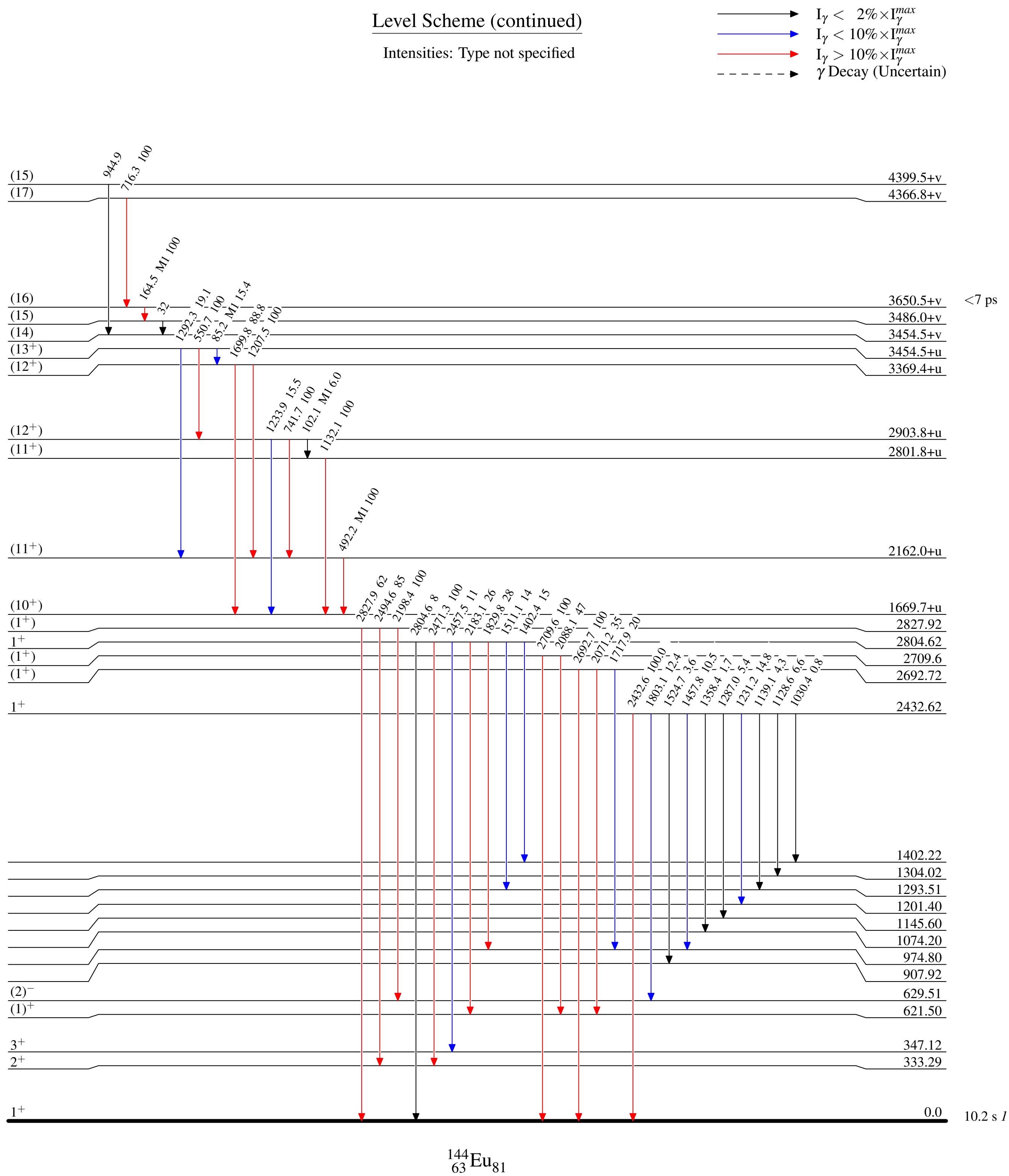


$^{144}_{63}Eu_{81}$

Adopted Levels, Gammas

Level Scheme (continued)

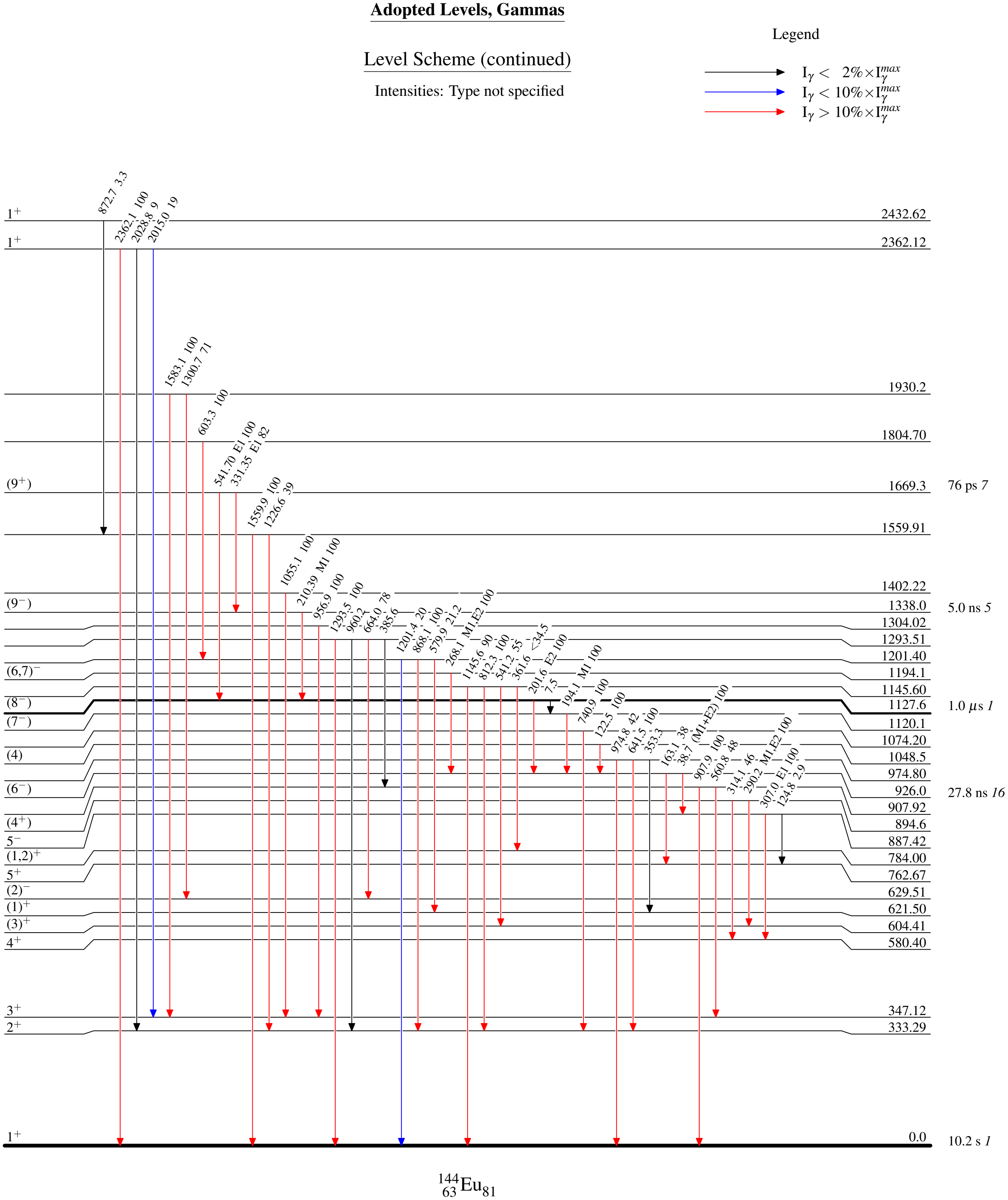
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

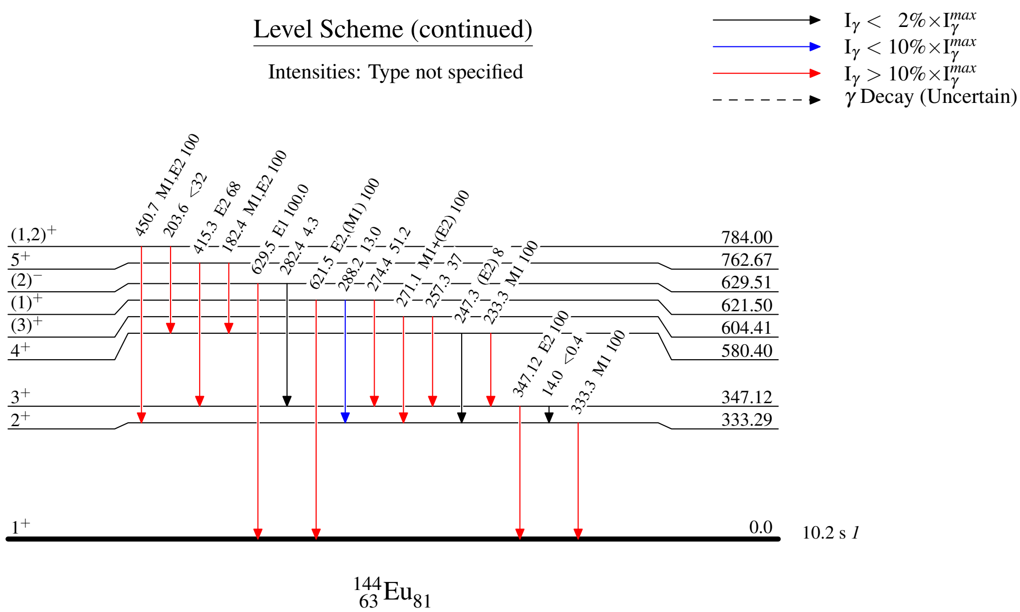
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



Adopted Levels, Gammas