

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109,1103 (2008)	1-Mar-2008

$Q(\beta^-) = -5.57 \times 10^3$ 3; $S(n) = 9.37 \times 10^3$ 3; $S(p) = 5955$ 8; $Q(\alpha) = 2313$ 7 [2012Wa38](#)

Note: Current evaluation has used the following Q record -5570 30 9373 29 5942 8 2329 8 [2003Au03](#).

For isotope shift data see, e.g., [1989Sp04](#), [1991Ho27](#).

Other reactions:

$^{124}\text{Sn}(^{48}\text{Ca}, x\text{n}\gamma)$, E=205 MeV; ESSA30 Compton-suppressed Ge detector array; investigated rotational damping γ quasicontinuum ([1989KhZY](#)).

 ^{166}Yb LevelsCross Reference (XREF) Flags

A	^{166}Lu ε decay (2.65 min)	F	$^{124}\text{Sn}(^{48}\text{Ca}, 6\text{n}\gamma)$
B	^{166}Lu ε decay (1.41 min)	G	$^{186}\text{W}(n, 4\text{p}17\text{n}\gamma)$
C	^{166}Lu ε decay (2.12 min)	H	$^{154}\text{Sm}(^{16}\text{O}, 4\text{n}\gamma)$, $^{159}\text{Tb}(^{11}\text{B}, 4\text{n}\gamma)$
D	$^{130}\text{Te}(^{40}\text{Ar}, 4\text{n}\gamma)$	I	$\text{Er}(\alpha, x\text{n}\gamma)$, $^{166}\text{Er}(^3\text{He}, 3\text{n}\gamma)$,
E	$^{168}\text{Yb}(p, t)$		

E(level) [†]	J^π [‡]	$T_{1/2}$ [#]	XREF	Comments
0.0	0 ⁺	56.7 h 1	ABCDEFGH	% ε =100 $T_{1/2}$: from 1970Ka23 (182 γ (t)). Other measurements: 1954Mi16 , 1955Ne03 , 1957Go40 , 1959Ba12 , 1960Bu27 , 1963Pa08 . Assignment: $^{181}\text{Ta}(p, 4\text{p}12\text{n})$, E(p)=340 MeV, chem, ms, parent ^{166}Tm (1955Ne03); $^{169}\text{Tm}(p, 4\text{n})$, E(p)=230 MeV, ion chem, parent ^{166}Tm (1960Bu27). $\Delta\langle r^2 \rangle(166, 176) = +0.577$ 17 (1994Ma57 , deduced from isotope shift data of 1982Bu21). $\langle r^2 \rangle^{1/2}(\text{charge}) = 5.250$ 6 (2004An14).
102.37 ^e 3	2 ⁺ @	1.24 ns 6	ABCDEFGH	J^π : stretched E2 102 γ to 0 ⁺ g.s.
330.48 ^e 4	4 ⁺ @	52.9 ps 17	ABCDEFGH	J^π : stretched E2 228 γ to 2 ⁺ 102.
667.97 ^e 5	6 ⁺ @	7.8 ps 3	A D GHI	
932.38 ^f 5	(2) ⁺		B E HI	J^π : M1 830 γ to 2 ⁺ 102, 932 γ to 0 ⁺ g.s., fit to a band.
1039.14 ^f 5	(3) ⁺		AB HI	J^π : E2 937 γ to 2 ⁺ 102, (E2) 709 γ to 4 ⁺ 330, fit to a band.
1043 ^g 10	(0) ⁺		E	E(level): from (p,t). J^π : L(p,t)=(0).
1098.25 ^e 6	8 ⁺ @	2.14 ps 24	A D GHI	
1144.29 ^g 22	(2) ⁺		I	J^π : 1042 γ to 2 ⁺ 102, 1144 γ to 0 ⁺ g.s., fit to a band.
1162.74 ^f 6	(4) ⁺		AB I	J^π : M1+E2 832 γ to 4 ⁺ 330; 494 γ to 6 ⁺ 668; 1060 γ to 2 ⁺ 102.
1315.22 14			B	J^π : 985 γ to 4 ⁺ 330.
1327.85 ^f 5	(5) ⁺		A D HI	J^π : M1+E2 997 γ to 4 ⁺ 330; (E2) 660 γ to 6 ⁺ 668; E2 289 γ to (3) ⁺ 1039; not J=4 from 997 γ -228 γ (θ) in ^{166}Lu ε decay (2.65 min).
1342.5 ^g 3	(4) ⁺		I	J^π : γ to 4 ⁺ , possible γ to 2 ⁺ , band assignment.
1358.93 ^h 7	1 ⁻		C	J^π : log $f_t = 5.3$ from J=0 in ^{166}Lu (2.12 min) decay; π from independently-established $\pi = -$ for band.
1386.05 11	(2 ⁺ , 3, 4 ⁺)		B	J^π : γ 's to 2 ⁺ and 4 ⁺ .
1418.6 ^h 3	(3) ^{-d}		I	
1451.38 20			B	J^π : gammas to 2 ⁺ 102 and (3) ⁺ 1039.
1482.43 ^f 6	(6) ⁺		A I	J^π : M1 814 γ to 6 ⁺ 668, 319 γ to (4) ⁺ 1163, fit to a band.
1503.37 ^k 7	(2 ⁻) ^c		B I	J^π : γ 's to 3 ⁺ and 2 ⁺ , fit to a band.

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Adopted Levels, Gammas (continued) ^{166}Yb Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} [#]	XREF		Comments
1505.40 7	(5) ⁻	1.0 ps 5	A	I	J ^π : E1+M2 838γ to 6 ⁺ 668, γ to 4 ⁺ .
1529.67 9	1 ⁻		C		J ^π : ^{166}Lu (2.12 min) ε decay from 0 ⁻ is allowed.
1570.58 ^h 15	(5) ⁻		A	I	J ^π : γ's to 4 ⁺ and 6 ⁺ , fit to a π=− band.
1579.87 25	(2 ⁺)		C E		XREF: E(1581).
					J ^π : 1578γ to 0 ⁺ g.s., 1249γ to 4 ⁺ 330.
1605.94 ^e 16	10 ⁺ @		D	GHI	
1607.42 20	(2 ⁺ ,3,4 ⁺)		B		J ^π : γ's to 2 ⁺ and 4 ⁺ .
1608.01 ^g 11	6 ⁺			I	J ^π : 940γ to 6 ⁺ 668 has an E0 component.
1616.78 ^k 5	(4 ⁻) ^c		A D	HI	
1684.80 14	(2 ⁺ ,3,4 ⁺)		AB		J ^π : 1582γ to 2 ⁺ 102, 1354γ to 4 ⁺ 330.
1704.54 ^f 18	(7) ⁺	0.64 ps 33	D	HI	J ^π : M1+E2 1037γ to 6 ⁺ 668, fit to a band.
1724.85 11	(6 ⁺ ,7 ⁺)		A		J ^π : 397γ to (5) ⁺ 1328, possible 625γ to 8 ⁺ 1098.
1744.27 6	(3 ⁺ ,4 ⁺)		B		J ^π : 812γ to (2) ⁺ 932, 705γ to (3) ⁺ 1039, (E2) 212γ from (5,6) ⁺ 1957.
1790.33 ⁱ 7	(5 ⁻)&		A D	HI	J ^π : fit to a band, γ's to 4 ⁺ and 6 ⁺ .
1812.47 ^f 13	(8 ⁺) ^d		A	I	
1818.28 20	(4 ⁺ ,5,6 ⁺)		A		J ^π : 1151γ to 6 ⁺ 668, 1487γ to 4 ⁺ 330.
1833.3 ^h 5	(7) ⁻		A	I	J ^π : E1 1165γ to 6 ⁺ 668, band assignment.
1835.42 ^k 20	(6 ⁻) ^c		D	HI	
1852.91 ^g 19	8 ⁺			I	J ^π : 755γ to 8 ⁺ 1098 has an E0 component.
1865.41 ^j 5	(6 ⁻) ^a		A D	HI	J ^π : M1 360γ to (5) ⁻ 1505, (E1) 383γ to (6) ⁺ 1482, band assignment.
1923.1 4	(1,2 ⁺)		C		J ^π : 1923γ to 0 ⁺ g.s., 1820γ to 2 ⁺ 102.
1940.90 ^h 21	(9) ⁻			I	J ^π : E1 843γ to 8 ⁺ 1098, band assignment.
1957.13 6	(5,6) ⁺		A	H	J ^π : M1 629γ to (5) ⁺ 1328, ΔJ≤1 209γ from J≥6, 2166.
1958.93 ⁱ 7	7 ⁻ &		A D	HI	J ^π : E1 861γ to 8 ⁺ 1098, E1 1291γ to 6 ⁺ 668.
2016.35 22	(4 ⁺ ,5,6 ⁺)		A		J ^π : 1482γ to 4 ⁺ 330, possible 534γ to (6) ⁺ 1482.
2029.32 7	(3 ⁻ ,4 ⁻)		B		J ^π : E1 285γ to (3 ⁺ ,4 ⁺) 1744, 526γ to (2 ⁻) 1503, 1698γ to 4 ⁺ 331.
2030.14 ^l 22	8 ⁺ ^b			I	J ^π : γ to 8 ⁺ has an E0 component.
2072.33 ^j 19	(8 ⁻) ^a		D	HI	J ^π : (E2) 208γ to (6) ⁻ 1865, band assignment.
2098.61 12	1 ⁻		C		J ^π : ^{166}Lu (2.12 min) ε decay from 0 ⁻ is allowed (log ft=5.3).
2137.13 ^k 24	(8 ⁻) ^c		D	HI	
2143.11 ^f 23	(10) ⁺			I	J ^π : M1 537γ to 10 ⁺ 1606, fit to a band.
2150.32 ^f 23	(9) ⁺		D	HI	J ^π : M1+E2 1053γ to 8 ⁺ 1098, 445γ to (7) ⁺ 1705, fit to a band.
2165.77 7	(6,7) ⁺		A		J ^π : 1067γ to 8 ⁺ 1098, 1497γ to 6 ⁺ 668, M1+E2 209γ to J≤6, π=+ 1957.
2176.02 ^e 22	12 ⁺ @	<10 ns	D	GHI	
2209.90 ⁱ 24	(9) ⁻ &		D	HI	J ^π : E1 1111γ to 8 ⁺ 1098, fit to a band.
2214.89 ^l 18	10 ⁺ ^b			I	J ^π : γ to 10 ⁺ has an E0 component.
2233.36 6	6 ⁻ ,7 ⁻		A	HI	T _{1/2} : from ^{166}Lu ε decay (2.65 min).
					J ^π : ^{166}Lu (2.65 min) ε decay from J=6 is allowed (log ft=4.7); M1 274γ to 7 ⁻ 1959, M1 368γ to (6) ⁻ 1865.
					Low log ft from configuration containing the (ν 5/2[523]) orbital implies the presence of the (π 7/2[523]) orbital in the configuration of this level.
2319.56 ^g 25	(10 ⁺)			I	J ^π : 713γ to 10 ⁺ 1606, 507γ to (8 ⁺) 1812, band assignment.
2361.45 ^j 21	(10 ⁻) ^a		D	HI	
2417.51 ⁱ 24	(11) ⁻ &		D	HI	
2426.44 17	1 ⁻		C		J ^π : ^{166}Lu (2.12 min) ε decay from 0 ⁻ is allowed.
2491.1 ^k 3	(10 ⁻) ^c		D	HI	

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Adopted Levels, Gammas (continued) ^{166}Yb Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} [#]	XREF	Comments
2531.3 ^l 3	12 ⁺ ^b		D HI	J ^π : γ to 12 ⁺ is M1, fit to a band.
2609.6 ^f 3	(12 ⁺) ^d		I	J ^π : (M1) 433 γ to 12 ⁺ 2176, 467 γ to (10) ⁺ 2143, band assignment.
2646.7 ^f 4	(11) ⁺		HI	J ^π : stretched E2 intraband 496 γ to (9) ⁺ 2150.
2728.9 ^j 4	(12 ⁻) ^a		D HI	
2779.5 ^e 3	14 ⁺ [@]	0.51 ps 30	D GHI	
2862.9 ⁱ 3	(13 ⁻) ^{&}		D HI	
2891.6 ^k 3	(12 ⁻) ^c		D HI	
2897.9 ^l 3	14 ⁺ ^b		D H	
3166.5 ^j 5	(14 ⁻) ^a		D H	
3196.7 ^f 7	(13 ⁺) ^d		H	J ^π : stretched Q intraband 550 γ to (11) ⁺ 2647.
3273.7 ^l 3	16 ⁺ ^b	1.14 ps 27	D HI	
3350.6 ^k 5	(14 ⁻) ^c		D HI	
3354.0 ⁱ 3	(15 ⁻) ^{&}		D H	
3490.1 ^e 3	16 ⁺ [@]		D H	
3665.9 ^j 5	(16 ⁻) ^a		D H	
3782.0 ^l 4	18 ⁺ ^b	0.82 ps 10	D HI	
3878.1 ^k 7	(16 ⁻) ^c		D H	
3892.2 ⁱ 4	(17 ⁻) ^{&}		D H	
4189.9 ^e 4	(18 ⁺) [@]		D H	
4218.7 ^j 5	(18 ⁻) ^a		D H	
4370.6 ^l 4	20 ⁺ ^b	0.41 ps 3	D HI	
4470.8 ^k 9	(18 ⁻) ^c		D H	
4478.7 ⁱ 4	(19 ⁻) ^{&}		D H	
4819.2 ^j 6	(20 ⁻) ^a		D H	
4922.8 ^e 4	20 ⁺ [@]		D	
5036.9 ^l 5	22 ⁺ ^b	0.201 ps 21	D H	
5108.7 ⁱ 5	(21 ⁻) ^{&}		D H	
5119.1 ^k 10	(20 ⁻) ^c		D H	
5468.6 ^j 6	(22 ⁻) ^a		D H	
5649.7 ^e 7	(22 ⁺) [@]		D	
5775.5 ^l 5	24 ⁺ ^b	0.125 ps 14	D H	
5782.7 ⁱ 5	(23 ⁻) ^{&}		D H	
5814.0 ^k 11	(22 ⁻) ^c		D	
6173.4 ^j 7	(24 ⁻) ^a		D	
6378.1 ^e 10	(24 ⁺) [@]		D	
6507.6 ⁱ 6	(25 ⁻) ^{&}		D	
6551.8 ^k 12	(24 ⁻) ^c		D	
6581.8 ^l 6	26 ⁺ ^b	0.083 ps 7	D	
6940.0 ^j 7	(26 ⁻) ^a		D	
7294.7 ⁱ 6	(27 ⁻) ^{&}		D	
7334.6 ^k 15	(26 ⁻) ^c		D	
7452.0 ^l 6	28 ⁺ ^b	0.069 ps 7	D	
7773.6 ^j 7	(28 ⁻) ^a		D	

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Adopted Levels, Gammas (continued) ^{166}Yb Levels (continued)

E(level) [†]	J^π [‡]	$T_{1/2}$ [#]	XREF	Comments
8148.5 ⁱ 8	(29 ⁻) ^{&}		D	
8387.0 ^l 6	30 ⁺ ^b	0.055 ps 7	D	
8677.0 ^j 9	(30 ⁻) ^a		D	
9071.3 ⁱ 9	(31 ⁻) ^{&}		D	
9385.8 ^l 8	32 ⁺ ^b	0.042 ps 7	D	
9648.6 ^j 10	(32 ⁻) ^a		D	
10057.5 ⁱ 11	(33 ⁻) ^{&}		D	
10445.8 ^l 10	34 ⁺ ^b	0.035 ps 7	D	
11102 ⁱ 2	(35 ⁻) ^{&}		D	
11557.8 ^l 11	(36 ⁺) ^b		D	J^π : from probable band assignment.
12186 ⁱ 2	(37 ⁻) ^{&}		D	
12716 ^l 2	(38 ⁺) ^b		D	J^π : from probable band assignment.
0.0+x ^m	J		F	Additional information 1.
162.6+x ⁿ 10	J+1		F	
334.9+x ^m 13	J+2		F	
524.9+x ⁿ 13	J+3		F	
735.5+x ^m 16	J+4		F	
966.4+x ⁿ 16	J+5		F	
1217.0+x ^m 18	J+6		F	
1486.2+x ⁿ 18	J+7		F	
1772.7+x ^m 18	J+8		F	
2075.2+x ⁿ 19	J+9		F	
2392.6+x ^m 19	J+10		F	
2722.6+x ⁿ 20	J+11		F	
3064.1+x ^m 20	J+12		F	
3416.6+x ⁿ 21	J+13		F	
3778.4+x ^m 21	J+14		F	
4149.6+x ⁿ 22	J+15		F	
4531.2+x ^m 23	J+16		F	
4921.6+x ⁿ 24	J+17		F	

[†] From least-squares fit to E_γ , assigning 1 keV uncertainty to data for which authors did not state an uncertainty.

[‡] Values given without comment are based on band structure deduced in the $(\alpha, xn\gamma)$, $(^{16}\text{O}, 4n\gamma)$ and $(^{40}\text{Ar}, 4n\gamma)$ reaction studies and supported in part by transition multipolarities.

[#] The half-lives of excited states are from $(^{40}\text{Ar}, 4n\gamma)$, unless otherwise noted.

[@] Based on known $J^\pi=0^+$ for the g.s. bandhead, stretched E2 character for the 102 γ connecting the J=0 and 2 members and stretched Q character for a number of other intraband transitions, firm J^π assignments are adopted for $J \leq 22$ members of the g.s. band.

[&] Based on established $J^\pi=7^-$ for the 1959 level and regular progression of E_γ and I_γ for cascade gammas in band, many of which are stretched Q.

^a The regularity and the stretched Q character of the cascade transitions populating the (6)⁻ 1865 level justify the classification of this cascade as a band.

^b Based on established $J^\pi=8^+$ and 10^+ for the 2030 and 2215 levels, respectively, and E2 character of the 375 γ connecting the J=16 and 14 members of the band, firm J^π assignments have been adopted for the J=8 through 36 members of this band.

^c Tentatively assigned on the basis of systematics (1984Fi18).

^d Fit to a band.

^e Band(A): $K^\pi=0^+$ g.s. band. A=16.99, B=-=0.027.

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Adopted Levels, Gammas (continued) ^{166}Yb Levels (continued)

- ^f Band(B): $K^\pi=2^+$ γ -vibrational band. $A=13.86$, $B=0.021$ (even J); $A=17.58$, $B=-0.036$ (odd J).
- ^g Band(C): $K^\pi=0^+$ β -vibrational band. $A=17$ if $B=0$.
- ^h Band(D): $K^\pi=(0)^-$ band. $\pi=-$ for band is established by $E1$ 1165γ and 843γ to $\pi=+$ g.s. levels.
- ⁱ Band(E): $K^\pi=5^-$, $\alpha=1$ band.
- ^j Band(F): $K^\pi=5^-$, $\alpha=0$ band.
- ^k Band(G): $K^\pi=(2^-)$ band.
- ^l Band(H): $\pi=+$ super band. Becomes yrast for $J \geq 16$.
- ^m Band(I): $((\pi 7/2[523])+(\pi 7/2[404]))(\nu i_{13/2}^2)?$ band. Configuration assignment supported by large $B(M1)/B(E2)$ ratios, bandhead energy and crossing frequency arguments ([1994OI04](#)).
- ⁿ Band(i): $((\pi 7/2[523])+(\pi 7/2[404]))(\nu i_{13/2}^2)?$ band. See comment on signature partner of this band.

Adopted Levels, Gammas (continued)

$\gamma(^{166}\text{Yb})$									
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^{\dagger}$	E_f	J_f^π	Mult. [#]	δ	α^g	Comments
102.37	2 ⁺	102.38 ^b 3	100 ^b	0.0	0 ⁺	E2		2.93	B(E2)(W.u.)=191 10 Mult.: from ce data in ¹⁶⁶ Lu ε decay (2.65 min).
330.48	4 ⁺	228.12 ^b 3	100 ^b	102.37	2 ⁺	E2		0.1743	B(E2)(W.u.)=272 9 Mult.: from ce data in ¹⁶⁶ Lu ε decay (2.65 min).
667.97	6 ⁺	337.50 ^b 3	100 ^b	330.48	4 ⁺	E2		0.0521	B(E2)(W.u.)=291 12 Mult.: from $\alpha(\text{L})\text{exp}$ in ¹⁶⁶ Lu ε decay (2.65 min) and $\alpha(\text{K})\text{exp}$ and $\gamma(\theta)$ in (α, xny).
932.38	(2) ⁺	830.06 ^c 9 932.35 ^c 7	100 ^c 5 78 ^c 5	102.37 0.0	2 ⁺ 0 ⁺	M1		0.01134	
1039.14	(3) ⁺	708.82 ^b 7	20.0 ^b 21	330.48	4 ⁺	(E2)		0.00774	Other I_γ : 17 5 in ε decay (1.41 min), 25 in (¹⁶ O,4n γ), 54 6 in (α, xny).
1098.25	8 ⁺	936.79 ^b 7 430.28 ^b 3	100 ^b 4 100 ^b	102.37 667.97	2 ⁺ 6 ⁺	E2 E2 ^f		0.00424 0.0264	B(E2)(W.u.)=3.2×10 ² 4
1144.29	(2) ⁺	1042.0 [@] 3 1144.2 3	100 [@]	102.37 0.0	2 ⁺ 0 ⁺				E_γ : for doubly-placed transition in (α, xny).
1162.74	(4) ⁺	494.2 ^b 8 832.20 ^b 8	4 ^b 2 100 ^b 7	667.97 330.48	6 ⁺ 4 ⁺	M1+E2	+0.6 2	0.0097 8	δ : from 832 γ -228 $\gamma(\theta)$ in ¹⁶⁶ Lu ε decay (2.65 min); larger δ solution rejected based on measured $\alpha(\text{K})\text{exp}$.
1315.22		1060.28 ^b 11 152.49 ^b 13	21.8 ^b 14 65 ^b 5	102.37 1162.74	2 ⁺ (4) ⁺				
1327.85	(5) ⁺	984.6 ^b 6 289.3 3	100 ^b 20 7.9 8	330.48 1039.14	4 ⁺ (3) ⁺	E2		0.0829	E_γ : from (α, xny). I_γ : from (α, xny). Others: <10.9 in ε decay (2.65 min).
		659.93 ^b 5	20.5 ^b 14	667.97	6 ⁺	(E2)		0.00911	Other E_γ : 659.2 3 in (α, xny). Other I_γ : 30 3 in (α, xny).
		997.38 ^b 5	100 ^b 4	330.48	4 ⁺	M1+E2	-10 +3-13	0.00376 7	δ : -0.2 1 or -10 +3-13 from 997 γ -228 $\gamma(\theta)$ (2007Mc08) in ¹⁶⁶ Lu ε decay (2.65 min); $\alpha(\text{K})\text{exp}$ =0.0036 3 in (α, xny) rules out the first option.
1342.5	(4) ⁺	1012.0 3 1238.9 ⁱ 3		330.48 102.37	4 ⁺ 2 ⁺				E_γ : from (α, xny). E_γ : from (α, xny).
1358.93	1 ⁻	1256.64 ^b 10 1358.79 ^b 10	100 ^b 10 88 ^b 11	102.37 0.0	2 ⁺ 0 ⁺				
1386.05	(2 ⁺ ,3,4 ⁺)	345.0 ^{hci} 6 1054.7 ^c 6 1283.45 ^c 21	<14 ^{hc} 23 ^c 11 100 ^c 20	1039.14 330.48 102.37	(3) ⁺ 4 ⁺ 2 ⁺				
1418.6	(3) ⁻	1316.2 [@] 3	100 [@]	102.37	2 ⁺				

Adopted Levels, Gammas (continued)

$\gamma(^{166}\text{Yb})$ (continued)									
E _i (level)	J ^{π} _i	E _{γ} ^{$\ddagger$}	I _{γ} ^{$\dagger$}	E _f	J ^{π} _f	Mult. [#]	δ	α ^g	Comments
1451.38		412.20 ^c 20 1349.4 ^c 6	100 ^c 9 45 ^c 18	1039.14 (3) ⁺ 102.37 2 ⁺					
1482.43	(6) ⁺	318.6 ^{@i} 3 814.46 5	24.3 [@] 24 100 9	1162.74 (4) ⁺ 667.97 6 ⁺		M1		0.01189	E _{γ} : from ε decay (2.65 min). I _{γ} : from (α ,xn γ). E _{γ} : weighted average of 1151.1 4 in ε decay (2.65 min) and 1152.0 3 in (α ,xn γ). I _{γ} : from ε decay (2.65 min).
		1151.7 ^h 4	<8.5 ^h	330.48 4 ⁺					
1503.37	(2) ⁻	464.29 ^c 7 570.93 ^c 9	24 ^c 7 100 ^c 10	1039.14 (3) ⁺ 932.38 (2) ⁺					
1505.40	(5) ⁻	837.57 ^b 8 1174.80 ^b 13	62 ^b 4 100 ^b 9	667.97 6 ⁺ 330.48 4 ⁺		E1+M2	0.31 +3-4	0.0044 6	
1529.67	1 ⁻	1427.18 ^d 14 1529.73 ^d 11	100 ^d 10 48 ^d 3	102.37 2 ⁺ 0.0 0 ⁺					
1570.58	(5) ⁻	901.5 ^b 6 1240.05 ^b 25	30 ^b 12 100 ^b 12	667.97 6 ⁺ 330.48 4 ⁺					
1579.87	(2) ⁺	1249.4 ^d 8 1477.5 ^d 3 1579.4 ^d 6	56 ^d 22 100 ^d 17 39 ^d 17	330.48 4 ⁺ 102.37 2 ⁺ 0.0 0 ⁺					
1605.94	10 ⁺	507.2 2	100	1098.25 8 ⁺		E2		0.01718	B(E2)(W.u.)=3.1×10 ² 16 Mult.: Q from $\gamma(\theta)$ in (¹⁶ O,4n γ); not M2 from RUL.
1607.42	(2 ⁺ ,3,4 ⁺)	568.5 ^c 6 1276.92 ^c 22 1504.9 ^c 6	64 ^c 27 100 ^c 27 100 ^c 27	1039.14 (3) ⁺ 330.48 4 ⁺ 102.37 2 ⁺					
1608.01	6 ⁺	939.5 [@] 3	100 [@]	667.97 6 ⁺		E0+M1+E2		0.0063 21	
1616.78	(4) ⁻	288.87 ^{hb} 5 453.86 ^b 8 577.70 ^b 5	<48 ^{hb} 38.9 ^b 25 100 ^b 6	1327.85 (5) ⁺ 1162.74 (4) ⁺ 1039.14 (3) ⁺		[E1]		0.00444	Other I _{γ} : 55 5 in (α ,xn γ).
1684.80	(2 ⁺ ,3,4 ⁺)	1354.35 ^b 15 1582.2 ^b 6	100 ^b 21 14 ^b 7	330.48 4 ⁺ 102.37 2 ⁺					
1704.54	(7) ⁺	376.9 [@] 3 1036.6 [@] 3	42 [@] 4 100 [@] 11	1327.85 (5) ⁺ 667.97 6 ⁺		M1+E2		0.0050 16	
1724.85	(6 ⁺ ,7 ⁺)	397.02 ^b 10 625.29 ^{bi} 46 1056.3 ^b 6	70.6 ^b 20 20 ^b 6 100 ^b 22	1327.85 (5) ⁺ 1098.25 8 ⁺ 667.97 6 ⁺					

Adopted Levels, Gammas (continued)

$\gamma(^{166}\text{Yb})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [#]	α^g	Comments
1744.27	(3 ⁺ ,4 ⁺)	705.08 ^c 11	45 ^c 4	1039.14	(3) ⁺			
		811.92 ^c 6	100 ^c 6	932.38	(2) ⁺			
1790.33	(5 ⁻)	219.4 ^b 3	4.2 ^b 5	1570.58	(5) ⁻			
		1122.38 ^b 8	52 ^b 3	667.97	6 ⁺			
		1459.63 ^b 10	100 ^b 5	330.48	4 ⁺			
1812.47	(8 ⁺)	330.9 ^{hb} 5	<87 ^{hb}	1482.43	(6) ⁺			
		714.39 ^b 15	100 ^b 10	1098.25	8 ⁺			
		1144.5 ^b 5	80 ^b 20	667.97	6 ⁺			
1818.28	(4 ⁺ ,5,6 ⁺)	490.4 ^b 5	42 ^b 12	1327.85	(5) ⁺			
		1151.1 ^{hb} 4	42 ^{hb} 12	667.97	6 ⁺			
		1487.3 ^b 4	100 ^b 19	330.48	4 ⁺			
1833.3	(7) ⁻	735.2 ^b 6	90 ^b 30	1098.25	8 ⁺			
		1165.2 ^b 6	100 ^b 40	667.97	6 ⁺	E1	1.14×10 ⁻³	
1835.42	(6) ⁻	217.9 [@] 3	<4 [@]	1616.78	(4) ⁻			
		507.4 [@] 3	100 [@] 10	1327.85	(5) ⁺			
1852.91	8 ⁺	754.8 [@] 3	100 [@] 10	1098.25	8 ⁺	E0+M1+E2	0.011 4	α : based on $\alpha(\text{K})\text{exp}$ in (¹⁶⁶ Lu, αny).
		1184.1 [@] 3	90 [@] 10	667.97	6 ⁺			
1865.41	(6) ⁻	74.92 ^b 10	11.0 ^b 15	1790.33	(5) ⁻	M1,E2	8.9 12	Mult.: from $\alpha(\text{exp})$ in ¹⁶⁶ Lu ε decay (2.65 min).
		248.53 ^b 7	59 ^b 3	1616.78	(4) ⁻	(E2)	0.1324	Mult.: from $\alpha(\text{K})\text{exp}$ in ¹⁶⁶ Lu ε decay (2.65 min).
		294.8 ^b 3	4.5 ^b 10	1570.58	(5) ⁻			
		360.09 ^b 7	44 ^b 4	1505.40	(5) ⁻	M1	0.0966	Mult.: from $\alpha(\text{K})\text{exp}$ in ¹⁶⁶ Lu ε decay (2.65 min).
		382.97 ^b 4	37.5 ^b 25	1482.43	(6) ⁺	(E1)	0.01110	Mult.: from $\alpha(\text{K})\text{exp}$ in ¹⁶⁶ Lu ε decay (2.65 min).
		537.64 ^b 4	100 ^b 4	1327.85	(5) ⁺	(E1)	0.00518	Mult.: D from $\gamma(\theta)$ in (¹⁶ O,4n γ) from $\alpha(\text{K})\text{exp}$ in ¹⁶⁶ Lu ε decay (2.65 min).
1923.1	(1,2 ⁺)	1197.2 ^b 3	7.0 ^b 10	667.97	6 ⁺			
		1820.4 ^b 6	38 ^b 19	102.37	2 ⁺			
		1923.2 ^b 4	100 ^b 13	0.0	0 ⁺			
1940.90	(9) ⁻	843.3 [@] 3	100 [@]	1098.25	8 ⁺	E1	0.00207	
1957.13	(5,6) ⁺	139.0 ^b 3	5.9 ^b 18	1818.28	(4 ⁺ ,5,6 ⁺)			
		166.6 ^b	^b	1790.33	(5) ⁻			
		212.4 ^b 3	16.4 ^b 18	1744.27	(3 ⁺ ,4 ⁺)	(E2)	0.220	Mult.: from ¹⁶⁶ Lu ε decay (2.65 min).
		272.2 ^b 5	23 ^b 3	1684.80	(2 ⁺ ,3,4 ⁺)			
		386.7 ^b 6	4.1 ^b 18	1570.58	(5) ⁻			

Adopted Levels, Gammas (continued)

$\gamma(^{166}\text{Yb})$ (continued)								
$E_i(\text{level})$	J_i^π	$E_\gamma^\ddagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [#]	α^g	Comments
1957.13	(5,6) ⁺	474.74 ^b 6	39.2 ^b 23	1482.43	(6) ⁺			
		629.32 ^b 7	100 ^b 6	1327.85	(5) ⁺	M1	0.0227	Mult.: from $\alpha(\text{K})\text{exp}$ in ¹⁶⁶ Lu ε decay (2.65 min).
		794.41 ^b 5	43 ^b 3	1162.74	(4) ⁺			
		1626.6 ^b 3	13.5 ^b 23	330.48	4 ⁺			
1958.93	7 ⁻	93.2 ^b 5	2.1 ^b 4	1865.41	(6) ⁻	[M1,E2]	4.17 11	
		860.56 ^b 11	33.5 ^b 21	1098.25	8 ⁺	E1+(M2)	0.014 13	Other I γ : 98 10 in (α ,xn γ).
		1290.71 ^b 20	100 ^b 7	667.97	6 ⁺	E1	1.01 $\times 10^{-3}$	Mult.: from $\alpha(\text{K})\text{exp}$ in (α ,xn γ) and $\gamma(\theta)$ in (¹⁶ O,4n γ).
2016.35	(4 ⁺ ,5,6 ⁺)	330.9 ^{hi} 5	<100 ^h	1684.80	(2 ⁺ ,3,4 ⁺)			
		445.8 ^b 4	41 ^b 16	1570.58	(5) ⁻			
		534.2 ^{bi} 6	100 ^b 31	1482.43	(6) ⁺			
		1685.85 ^b 25	92 ^b 15	330.48	4 ⁺			
2029.32	(3 ⁻ ,4 ⁻)	285.07 ^c 5	100 ^c 5	1744.27	(3 ⁺ ,4 ⁺)	E1	0.0226	Mult.: from $\alpha(\text{K})\text{exp}$ in ε decay (1.41 min).
		345.0 ^{hc} 6	<5 ^{hc}	1684.80	(2 ⁺ ,3,4 ⁺)			
		421.26 ^c 9	19 ^c 1	1607.42	(2 ⁺ ,3,4 ⁺)			
		526.01 ^c 10	27 ^c 3	1503.37	(2 ⁻)			
		643.2 ^c 1	32 ^c 3	1386.05	(2 ⁺ ,3,4 ⁺)			
		866.4 ^c 4	11 ^c 2	1162.74	(4) ⁺			
		1698.7 ^c 4	12 ^c 3	330.48	4 ⁺			
2030.14	8 ⁺	547.5 [@] 3	<14 [@]	1482.43	(6) ⁺			
		932.1 [@] 3	100 [@] 10	1098.25	8 ⁺	E0+M1	0.116 12	α : from $\alpha(\text{K})\text{exp}$ in (α ,xn γ).
2072.33	(8 ⁻)	112.9 3	10 5	1958.93	7 ⁻			I γ : from (⁴⁰ Ar,4n γ).
		207.6 3	100 50	1865.41	(6) ⁻	(E2)	0.237	Other E γ : 206.0 5 in (¹⁶ O,4n γ) and (⁴⁰ Ar,4n γ).
								I γ : from (⁴⁰ Ar,4n γ).
2098.61	1 ⁻	518.0 ^b 8	7 ^b 3	1579.87	(2 ⁺)			
		1996.25 ^b 15	21 ^b 6	102.37	2 ⁺			
		2098.6 ^b 2	100 ^b 12	0.0	0 ⁺			
2137.13	(8 ⁻)	300.8 [@] 3	100 [@] 11	1835.42	(6) ⁻	(E2)	0.0733	Mult.: Q intraband γ in (¹⁶ O,4n γ).
		433.2 [@] 3	<22 [@]	1704.54	(7) ⁺			
2143.11	(10) ⁺	331.0 ^{h@} 3	<110 ^{h@}	1812.47	(8) ⁺			
		537.2 [@] 3	100 [@] 10	1605.94	10 ⁺	M1	0.0340	
2150.32	(9) ⁺	445.4 [@] 3	<207 [@]	1704.54	(7) ⁺	[E2]	0.0241	
		1052.5 [@] 3	100 [@] 10	1098.25	8 ⁺	E2+M1	0.00334	Mult.: D+Q from $\gamma(\theta)$ in (¹⁶ O,4n γ); $\alpha(\text{K})\text{exp}$ in (α ,4n γ).

Adopted Levels, Gammas (continued)

$\gamma(^{166}\text{Yb})$ (continued)									
$E_i(\text{level})$	J_i^π	$E_\gamma^\ddagger$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. #	δ	α^g	Comments
2165.77	(6,7) ⁺	208.65 ^b 10 1067.34 ^b 20 1497.33 ^b 23	100 ^b 10 68 ^b 9 20 ^b 4	1957.13 (5,6) ⁺ 1098.25 8 ⁺ 667.97 6 ⁺		M1+E2	0.9 4	0.34 5	Mult.: from ^{166}Lu ε decay (2.65 min).
2176.02	12 ⁺	570.6 [@] 3	100 [@]	1605.94 10 ⁺		E2 ^f		0.01290	B(E2)(W.u.)=2.7×10 ² 14 Other E γ : 569.4 2 in ($^{40}\text{Ar},4n\gamma$), 569.7 2 in ($^{16}\text{O},4n\gamma$).
2209.90	(9) ⁻	1111.4 [@] 3	100 [@]	1098.25 8 ⁺		E1		1.24×10 ⁻³	
2214.89	10 ⁺	361.3 [@] 3 402.7 [@] 3 608.9 [@] 3 1117.1 [@] 3	<45 [@] <45 [@] 77 [@] 8 100 [@] 10	1852.91 8 ⁺ 1812.47 (8 ⁺) 1605.94 10 ⁺ 1098.25 8 ⁺		E0+M1+E2		0.052 26	α : based on $\alpha(\text{K})\text{exp}$ in (α,xny).
2233.36	6 ⁻ , 7 ⁻	67.57 ^b 4 274.41 ^b 4 276.28 ^b 4 367.95 ^b 3	12.7 ^b 13 31.8 ^b 20 43.6 ^b 26 100 ^b 3	2165.77 (6,7) ⁺ 1958.93 7 ⁻ 1957.13 (5,6) ⁺ 1865.41 (6) ⁻		E1 M1 (E1) M1		0.943 0.200 0.0244 0.0913	B(E1)(W.u.)>4.2×10 ⁻⁶ Mult.: from ^{166}Lu ε decay (2.65 min). B(M1)(W.u.)>1.5×10 ⁻⁵ Mult.: from ^{166}Lu ε decay (2.65 min). B(E1)(W.u.)>2.1×10 ⁻⁷ Mult.: from ^{166}Lu ε decay (2.65 min). B(M1)(W.u.)>2.0×10 ⁻⁵ Mult.: from ^{166}Lu ε decay (2.65 min).
2319.56	(10 ⁺)	442.87 ^b 20 507.4 ^h 3 713.3 3	1.7 ^b 4 ^h	1790.33 (5 ⁻) 1812.47 (8 ⁺) 1605.94 10 ⁺					E γ : from (α,xny). E γ : from (α,xny).
2361.45	(10 ⁻)	151.3 [@] 3 289.2 [@] 2	59 [@] 6 100 [@] 6	2209.90 (9) ⁻ 2072.33 (8) ⁻		(E2)		0.0831	I γ : see comment on 289.2 γ . Mult.: Q from DCO ratio in ($^{40}\text{Ar},4n\gamma$) for intraband γ . However, γ may be a doublet in this reaction based on I(289 γ)/I(151 γ)=8 4 cf. adopted value of 1.7 2.
2417.51	(11) ⁻	420.6 [@] 3 477.2 [@] 3 811.0 [@] 3	94 [@] 9 <34 [@] 100 [@] 10	1940.90 (9) ⁻ 1940.90 (9) ⁻ 1605.94 10 ⁺		(E1)		0.00223	Mult.: D from $\gamma(\theta)$ in ($^{16}\text{O},4n\gamma$), $\Delta\pi$ =(yes) from level scheme.
2426.44	1 ⁻	1067.32 ^d 20 2324.6 ^d 3 2425.9 ^d 6	60 ^d 10 100 ^d 8 6 ^d 3	1358.93 1 ⁻ 102.37 2 ⁺ 0.0 0 ⁺					
2491.1	(10 ⁻)	341.0 5		2150.32 (9) ⁺					E γ : from ($^{16}\text{O},4n\gamma$). I γ : weak γ in ($^{16}\text{O},4n\gamma$).

Adopted Levels, Gammas (continued)

$\gamma(^{166}\text{Yb})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^{\ddagger}$	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [#]	α^g	Comments
2491.1	(10 ⁻)	353.7 3	100	2137.13	(8 ⁻)	(E2)	0.0455	E_γ : from (α ,xn γ). Mult.: Q intraband γ from $\gamma(\theta)$ in (¹⁶ O,4n γ).
2531.3	12 ⁺	355.8 @ 3	65 @ 7	2176.02	12 ⁺	M1	0.0998	
		924.7 @ 3	100 @ 10	1605.94	10 ⁺			
2609.6	(12 ⁺)	433.2 @ 3	<200 @	2176.02	12 ⁺	(M1)	0.0594	
		466.9 @ 3	100 @ 10	2143.11	(10) ⁺			
2646.7	(11) ⁺	496.4 @ 3	100 @	2150.32	(9) ⁺	E2	0.0182	
2728.9	(12 ⁻)	367.5 @ 3	100 @	2361.45	(10 ⁻)	(E2)	0.0409	Mult.: Q intraband γ from DCO ratio in (⁴⁰ Ar,4n γ).
2779.5	14 ⁺	603.6 @ 2	100 @	2176.02	12 ⁺	E2 ^f	0.01122	B(E2)(W.u.)=2.5×10 ² 15
2862.9	(13 ⁻)	445.4 @ 3	72 @ 8	2417.51	(11 ⁻)	(E2)	0.0240	Mult.: Q intraband γ from DCO ratio in (⁴⁰ Ar,4n γ).
		686.3 @ 3	100 @ 10	2176.02	12 ⁺	E1	0.00310	
2891.6	(12 ⁻)	400.2 @ 3	100 @ 11	2491.1	(10 ⁻)	(E2)	0.0322	
		715.8 @ 3	<36 @	2176.02	12 ⁺			
2897.9	14 ⁺	366.0 5	9 5	2531.3	12 ⁺	(E2)	0.0413	Mult.: Q from DCO ratio in (⁴⁰ Ar,4n γ) for intraband γ .
		722.1 2	100 10	2176.02	12 ⁺	(E2)	0.00742	Mult.: Q from DCO ratio in (⁴⁰ Ar,4n γ), $\Delta\pi$ =no from level scheme.
3166.5	(14 ⁻)	437.6 2	100	2728.9	(12 ⁻)	(E2)	0.0252	Mult.: Q intraband γ from DCO in (⁴⁰ Ar,4n γ) and from $\gamma(\theta)$ in (¹⁶ O,4n γ).
3196.7	(13 ⁺)	550.0 ^a 5	100 ^a	2646.7	(11) ⁺	(E2)	0.01405	Mult.: from $\gamma(\theta)$ in (¹⁶ O,4n γ) for intraband γ .
3273.7	16 ⁺	375.8 2	22.6 23	2897.9	14 ⁺	E2 ^f	0.0383	B(E2)(W.u.)=2.2×10 ² 6
		494.3 2	100 10	2779.5	14 ⁺	E2 ^f	0.0184	B(E2)(W.u.)=2.5×10 ² 7
3350.6	(14 ⁻)	459.0 @ 3	100 @	2891.6	(12 ⁻)	(E2)	0.0222	Mult.: Q from $\gamma(\theta)$ in (¹⁶ O,4n γ) for intraband γ .
3354.0	(15 ⁻)	490.8 2	100 10	2862.9	(13 ⁻)	(E2) ^e	0.0187	
		575.1 5	32 16	2779.5	14 ⁺	D		Mult.: from $\gamma(\theta)$ in (¹⁶ O,4n γ).
3490.1	16 ⁺	592.5 2	63 6	2897.9	14 ⁺			
		710.5 2	100 10	2779.5	14 ⁺	(E2) ^e	0.00770	
3665.9	(16 ⁻)	499.4 2	100	3166.5	(14 ⁻)	(E2) ^e	0.0179	
3782.0	18 ⁺	508.3 2	100	3273.7	16 ⁺	[E2]	0.01711	B(E2)(W.u.)=3.7×10 ² 5
3878.1	(16 ⁻)	527.5 ^a 5	100 ^a	3350.6	(14 ⁻)	(E2) ^e	0.01557	
3892.2	(17 ⁻)	403.0 ^a 5	49 ^a	3490.1	16 ⁺			I_γ : for possible doublet.
		538.1 2	100	3354.0	(15 ⁻)	(E2) ^e	0.01483	I_γ : from (¹⁶ O,4n γ).
4189.9	(18 ⁺)	699.8 2	100	3490.1	16 ⁺	(E2) ^e	0.00797	
4218.7	(18 ⁻)	552.8 2	100	3665.9	(16 ⁻)	(E2) ^e	0.01388	
4370.6	20 ⁺	588.5 2	100	3782.0	18 ⁺	E2 ^f	0.01192	B(E2)(W.u.)=3.6×10 ² 3
4470.8	(18 ⁻)	592.7 5	100	3878.1	(16 ⁻)	[E2]	0.01172	
4478.7	(19 ⁻)	586.5 2	100	3892.2	(17 ⁻)	(E2) ^e	0.01202	
4819.2	(20 ⁻)	600.4 2	100	4218.7	(18 ⁻)	(E2) ^e	0.01137	
4922.8	20 ⁺	732.9 2	100	4189.9	(18 ⁺)	(E2) ^e	0.00718	

Adopted Levels, Gammas (continued)

$\gamma(^{166}\text{Yb})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ [‡]	I_γ [†]	E_f	J_f^π	Mult. #	α^g	Comments
5036.9	22 ⁺	666.3 2	100	4370.6	20 ⁺	E2 ^f	0.00891	B(E2)(W.u.)=3.9×10 ² 4
5108.7	(21 ⁻)	630.0 2	100	4478.7	(19) ⁻	(E2) ^e	0.01015	
5119.1	(20 ⁻)	648.3 5	100	4470.8	(18 ⁻)			
5468.6	(22 ⁻)	649.4 2	100	4819.2	(20 ⁻)	(E2) ^f	0.00945	
5649.7	(22 ⁺)	726.9 5	100	4922.8	20 ⁺	(E2) ^e	0.00731	
5775.5	24 ⁺	738.6 2	100	5036.9	22 ⁺	[E2]	0.00706	B(E2)(W.u.)=3.8×10 ² 5
5782.7	(23 ⁻)	674.0 2	100	5108.7	(21 ⁻)	(E2) ^e	0.00868	
5814.0	(22 ⁻)	694.9 5	100	5119.1	(20 ⁻)			
6173.4	(24 ⁻)	704.8 2	100	5468.6	(22 ⁻)	(E2) ^e	0.00784	
6378.1?	(24 ⁺)	728.5 ⁱ 5	100	5649.7	(22 ⁺)	(E2) ^e	0.00728	
6507.6	(25 ⁻)	724.9 2	100	5782.7	(23 ⁻)	[E2]	0.00736	
6551.8	(24 ⁻)	737.8 5	100	5814.0	(22 ⁻)			
6581.8	26 ⁺	806.3 2	100	5775.5	24 ⁺	E2 ^f	0.00583	B(E2)(W.u.)=3.7×10 ² 3
6940.0	(26 ⁻)	766.6 2	100	6173.4	(24 ⁻)	(E2) ^e	0.00650	
7294.7	(27 ⁻)	787.1 2	100	6507.6	(25 ⁻)	(E2) ^e	0.00614	
7334.6?	(26 ⁻)	783.0 ⁱ 5	100	6551.8	(24 ⁻)			
7452.0	28 ⁺	870.2 2	100	6581.8	26 ⁺	[E2]	0.00495	B(E2)(W.u.)=3.0×10 ² 3
7773.6	(28 ⁻)	833.6 2	100	6940.0	(26 ⁻)	(E2) ^e	0.00542	
8148.5	(29 ⁻)	853.8 5	100	7294.7	(27 ⁻)	(E2) ^e	0.00515	
8387.0	30 ⁺	935.0 2	100	7452.0	28 ⁺	E2 ^f	0.00426	B(E2)(W.u.)=2.6×10 ² 4
8677.0	(30 ⁻)	903.4 5	100	7773.6	(28 ⁻)	(E2) ^e	0.00457	
9071.3	(31 ⁻)	922.8 5	100	8148.5	(29 ⁻)	[E2]	0.00438	
9385.8	32 ⁺	998.8 5	100	8387.0	30 ⁺	(E2) ^e	0.00372	B(E2)(W.u.)=2.5×10 ² 5
9648.6	(32 ⁻)	971.6 5	100	8677.0	(30 ⁻)	(E2) ^e	0.00393	
10057.5	(33 ⁻)	986.2 5	100	9071.3	(31 ⁻)	(E2) ^e	0.00381	
10445.8	34 ⁺	1060.0 5	100	9385.8	32 ⁺	[E2]	0.00329	B(E2)(W.u.)=2.2×10 ² 5
11102?	(35 ⁻)	1045.0 ⁱ 5	100	10057.5	(33 ⁻)			
11557.8	(36 ⁺)	1112.0 5	100	10445.8	34 ⁺			
12186?	(37 ⁻)	1084.0 ⁱ 5	100	11102?	(35 ⁻)			
12716?	(38 ⁺)	1158.0 ⁱ 5	100	11557.8	(36 ⁺)			
162.6+x	J+1	162.6 ^{&}	100	0.0+x	J			
334.9+x	J+2	172.3 ^{&}	100	162.6+x	J+1			
524.9+x	J+3	190.0 ^{&}		334.9+x	J+2			
		362.3 ^{&}		162.6+x	J+1			
735.5+x	J+4	210.6 ^{&}		524.9+x	J+3			
		400.6 ^{&i}		334.9+x	J+2			
966.4+x	J+5	230.9 ^{&}		735.5+x	J+4			

Adopted Levels, Gammas (continued)

$\gamma(^{166}\text{Yb})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\ddagger$	E_f	J_f^π	$E_i(\text{level})$	J_i^π	$E_\gamma^\ddagger$	E_f	J_f^π	$E_i(\text{level})$	J_i^π	$E_\gamma^\ddagger$	E_f	J_f^π
966.4+x	J+5	441.5 ^{&}	524.9+x	J+3	2392.6+x	J+10	317.4 ^{&}	2075.2+x	J+9	3778.4+x	J+14	714.3 ^{&}	3064.1+x	J+12
1217.0+x	J+6	250.6 ^{&}	966.4+x	J+5			619.9 ^{&}	1772.7+x	J+8	4149.6+x	J+15	371.2 ^{&}	3778.4+x	J+14
		481.5 ^{&i}	735.5+x	J+4	2722.6+x	J+11	330.0 ^{&}	2392.6+x	J+10			733.0 ^{&}	3416.6+x	J+13
1486.2+x	J+7	269.2 ^{&}	1217.0+x	J+6			647.4 ^{&}	2075.2+x	J+9	4531.2+x	J+16	381.6 ^{&}	4149.6+x	J+15
		519.8 ^{&}	966.4+x	J+5	3064.1+x	J+12	341.5 ^{&}	2722.6+x	J+11			752.8 ^{&}	3778.4+x	J+14
1772.7+x	J+8	286.5 ^{&}	1486.2+x	J+7			671.5 ^{&}	2392.6+x	J+10	4921.6+x	J+17	390.4 ^{&i}	4531.2+x	J+16
		555.7 ^{&}	1217.0+x	J+6	3416.6+x	J+13	352.5 ^{&}	3064.1+x	J+12			772.0 ^{&}	4149.6+x	J+15
2075.2+x	J+9	302.5 ^{&}	1772.7+x	J+8			694.0 ^{&}	2722.6+x	J+11					
		589.0 ^{&}	1486.2+x	J+7	3778.4+x	J+14	361.8 ^{&}	3416.6+x	J+13					

[†] Relative photon intensity normalized to 100 at strongest photon deexciting each level. From (⁴⁰Ar,4n γ), except as noted.

[‡] From ¹³⁰Te(⁴⁰Ar,4n γ), unless otherwise noted.

From $\alpha(\text{K})\text{exp}$ in (α,xny), except as noted.

@ From Er(α,xny).

& From ¹²⁴Sn(⁴⁸Ca,6n γ).

^a From ¹⁵⁴Sm(¹⁶O,4n γ).

^b From ¹⁶⁶Lu ε decay (2.65 min) (1974De09).

^c From ¹⁶⁶Lu ε decay (1.41 min) (1974De09).

^d From ¹⁶⁶Lu ε decay (2.12 min) (1974De09).

^e Q from $\gamma(\theta)$ in (¹⁶O,4n γ) and/or from DCO ratio in (⁴⁰Ar,4n γ) for intraband transition.

^f Q from DCO ratio in (⁴⁰Ar,4n γ); not M2 from RUL.

^g 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.

^h Multiply placed with undivided intensity.

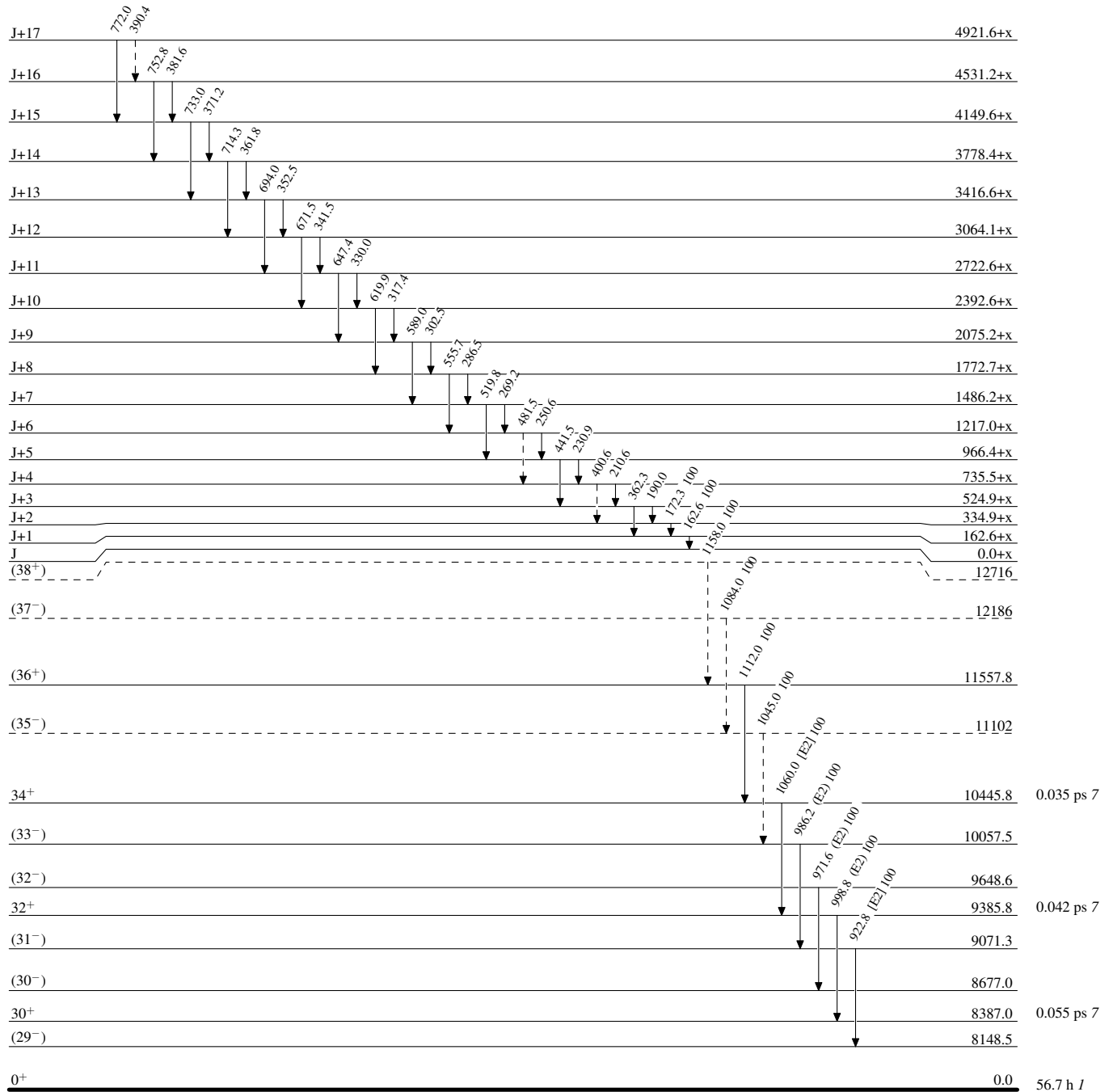
ⁱ Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

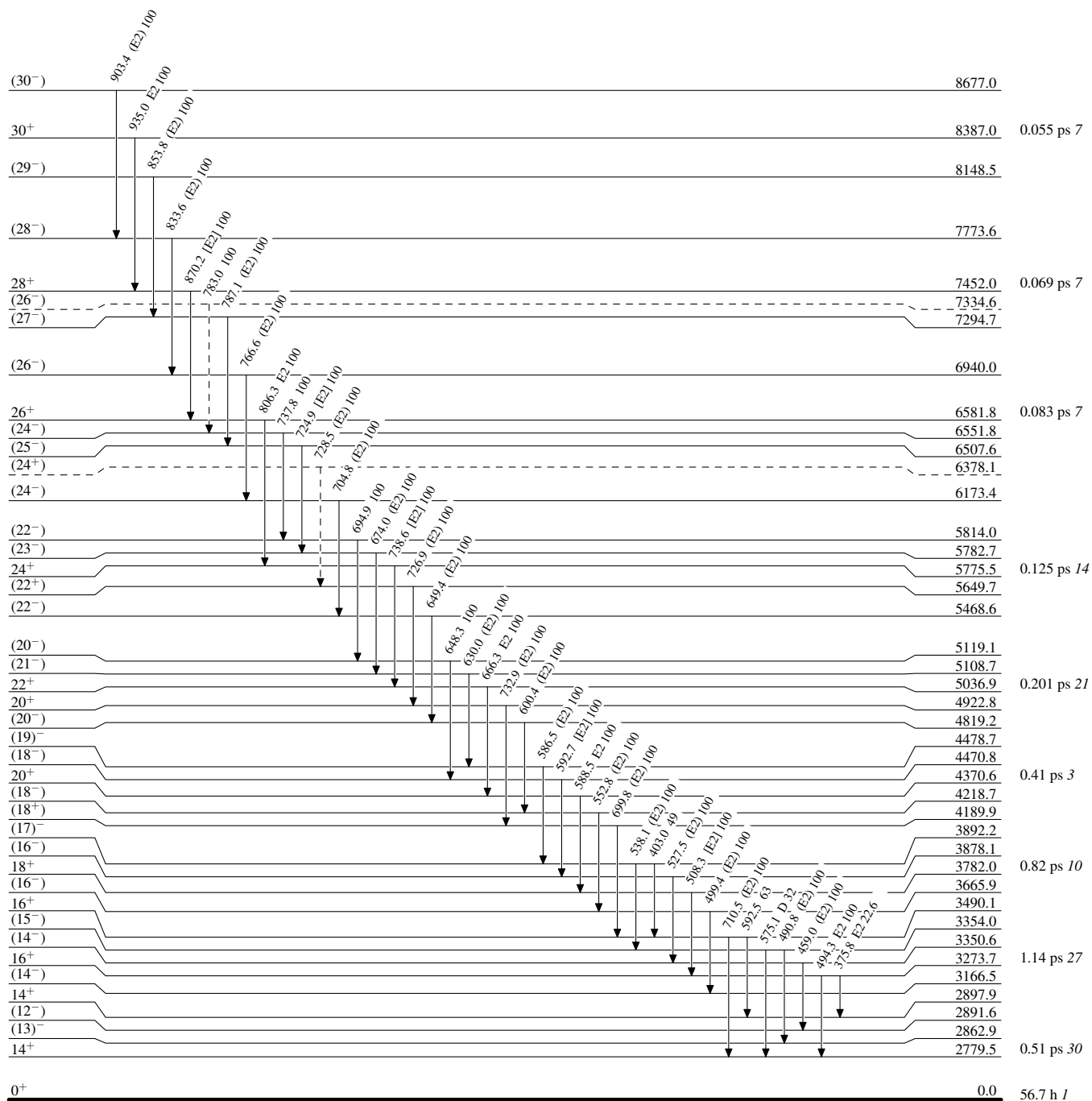
-----► γ Decay (Uncertain)

Adopted Levels, Gammas

Legend

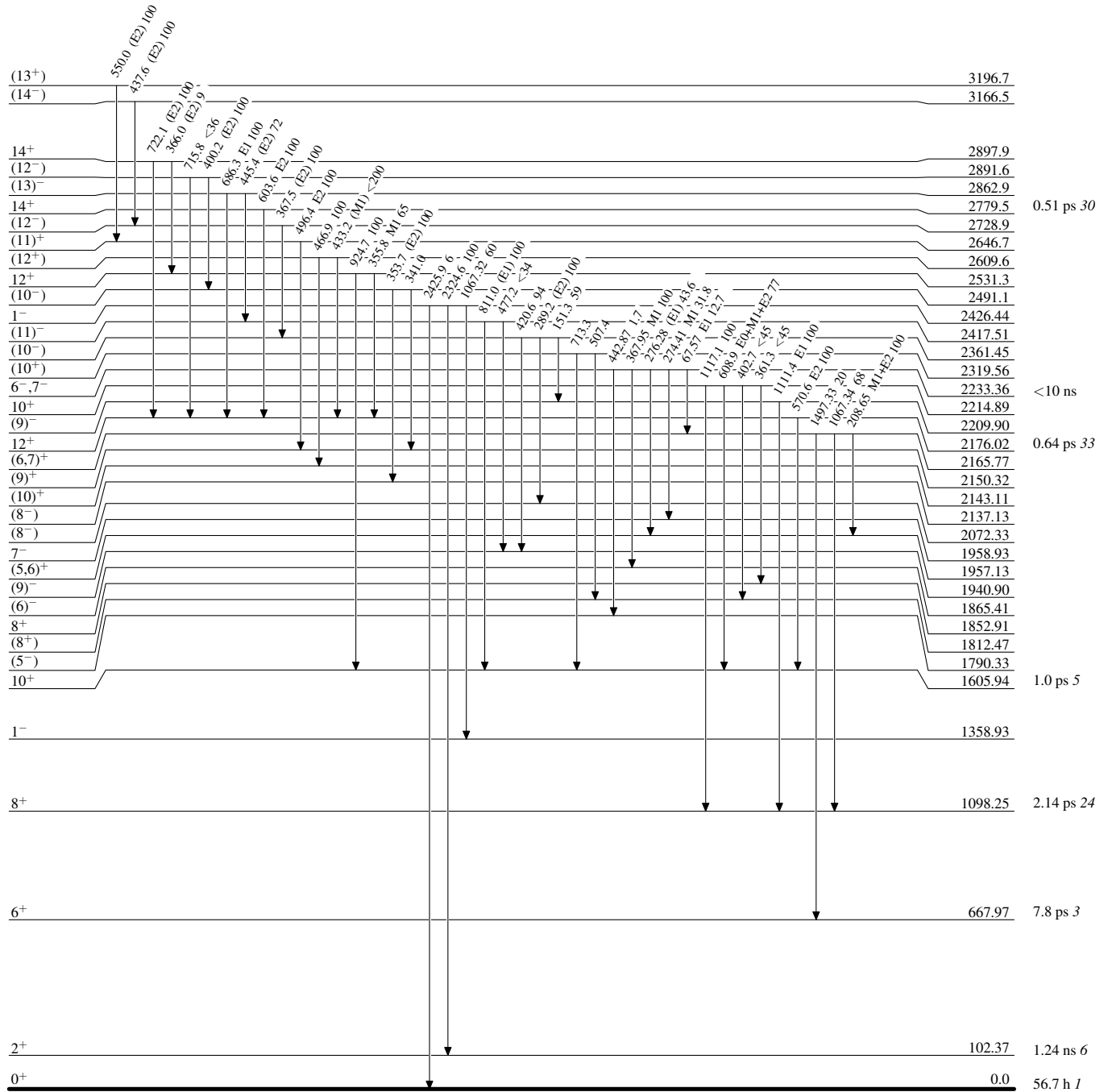
Level Scheme (continued)

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

Adopted Levels, Gammas**Level Scheme (continued)**

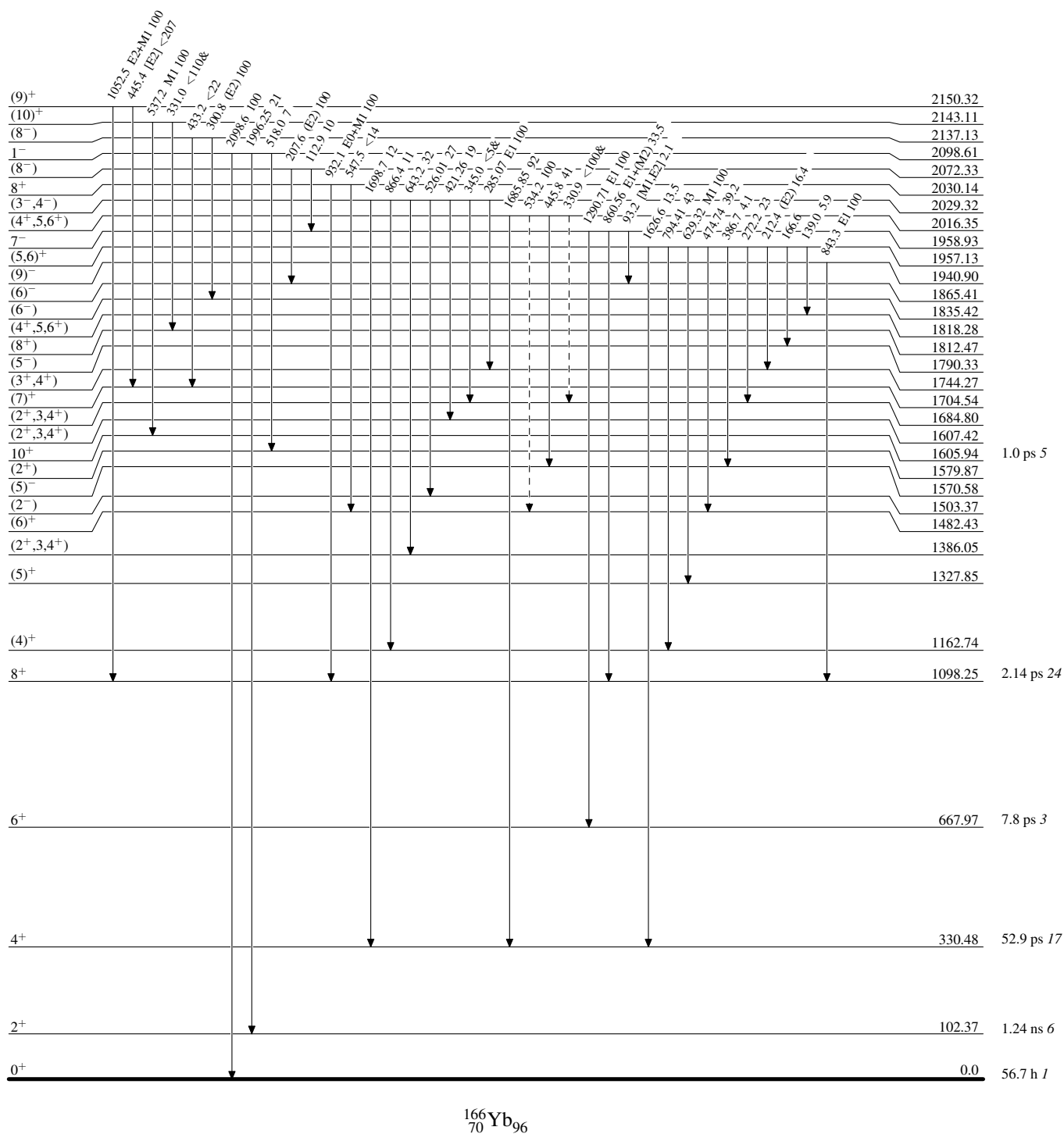
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

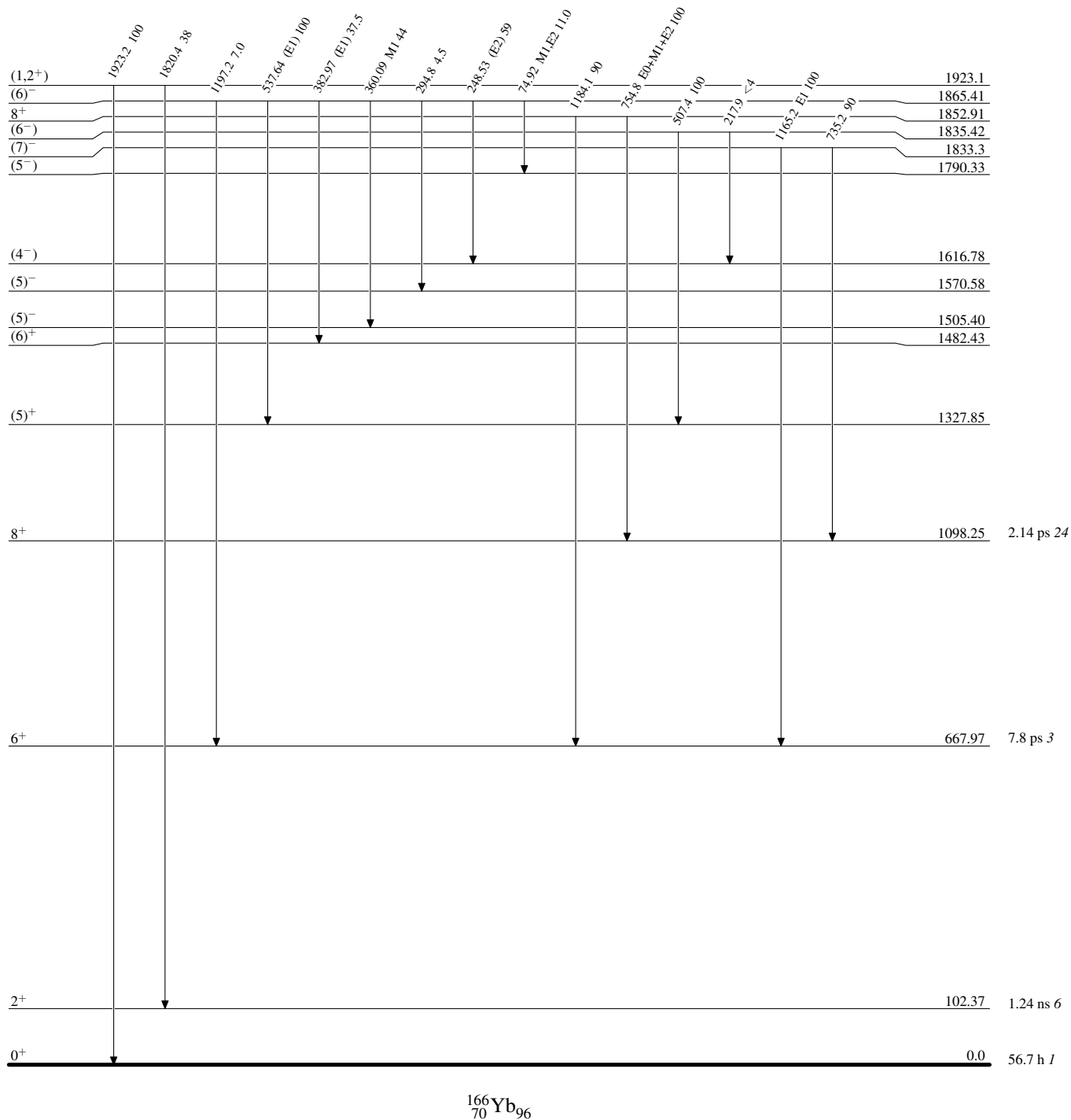
Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given-----► γ Decay (Uncertain)

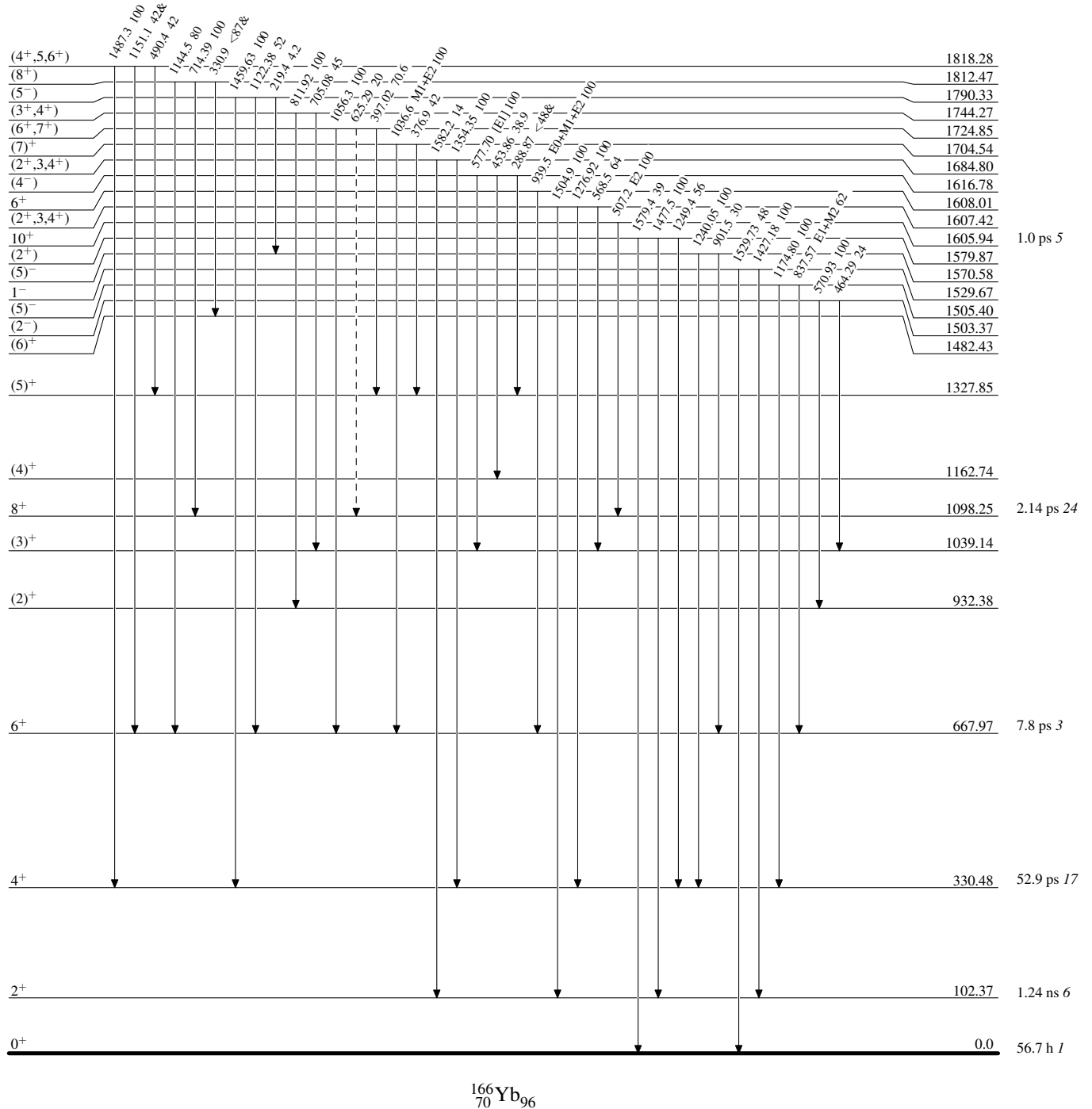
Adopted Levels, Gammas**Level Scheme (continued)**

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



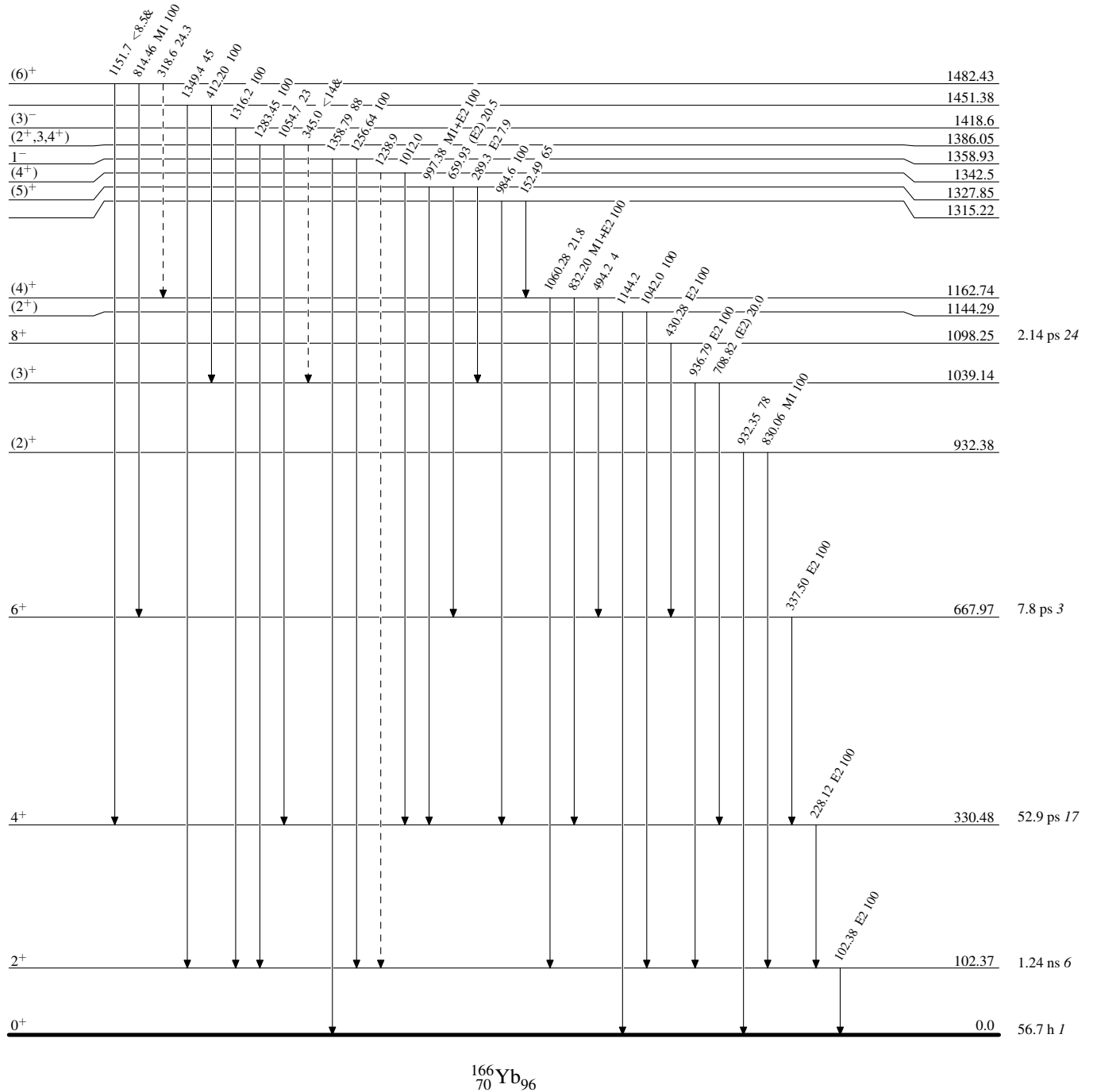
Adopted Levels, Gammas

Legend

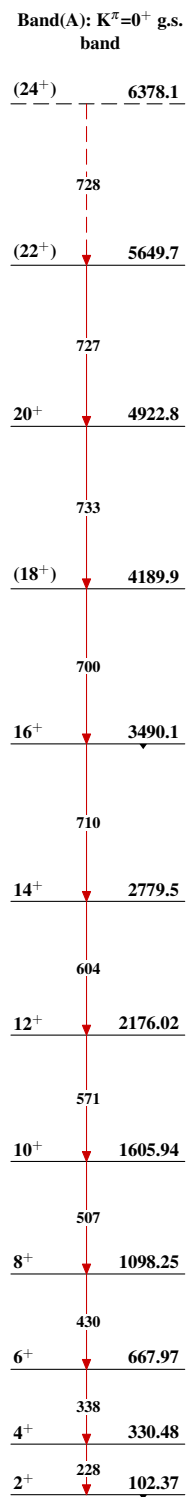
Level Scheme (continued)Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given-----► γ Decay (Uncertain) $^{166}_{70}\text{Yb}_{96}$

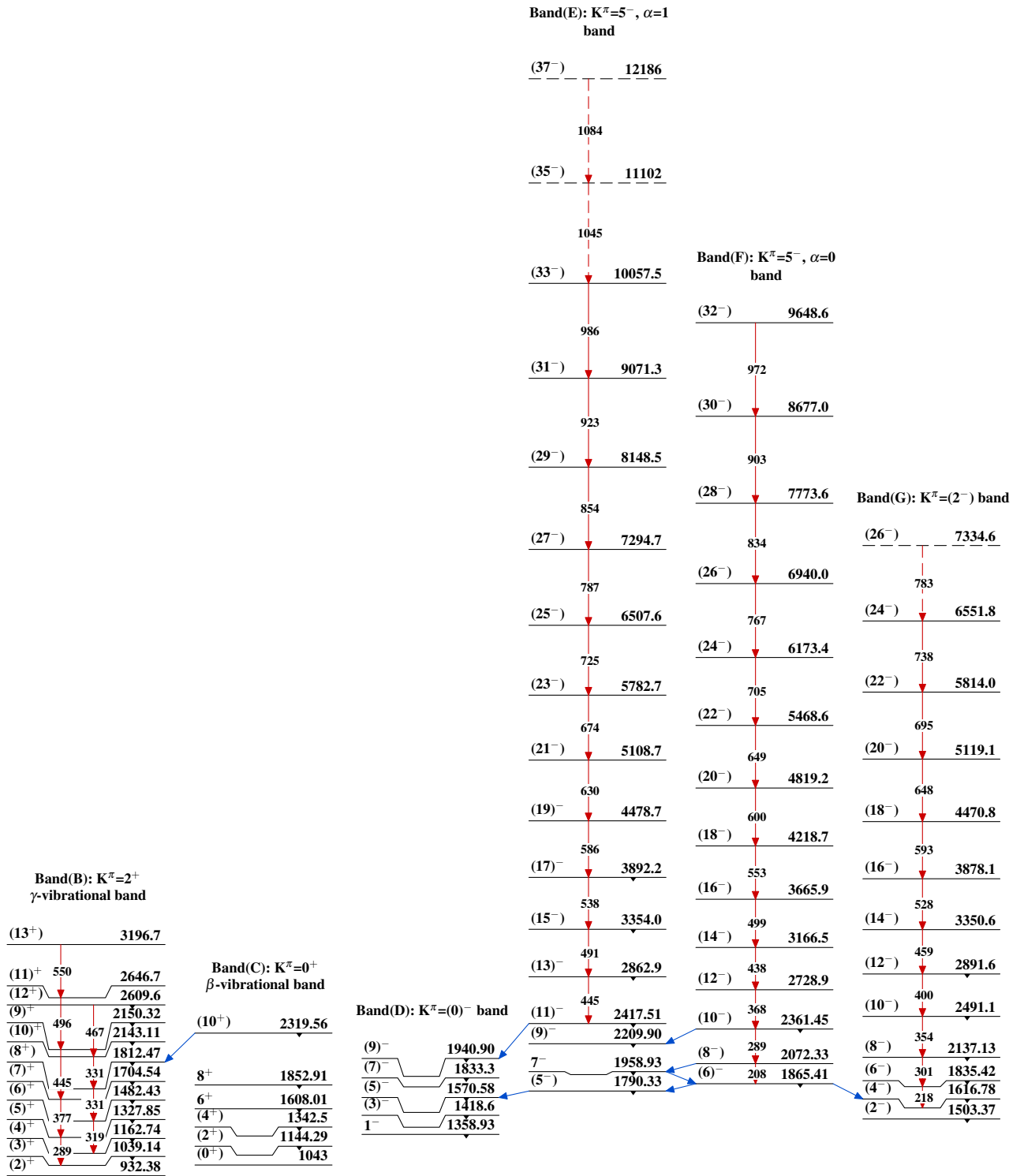
Adopted Levels, Gammas

Legend

Level Scheme (continued)Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given-----► γ Decay (Uncertain)

Adopted Levels, Gammas


 $^{166}_{70}\text{Yb}_{96}$

Adopted Levels, Gammas (continued)

Adopted Levels, Gammas (continued)