

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh		NDS 124, 1 (2015)	30-Nov-2014

$Q(\beta^-) = -5023.7$; $S(n) = 10925.7$; $S(p) = 3248.8$; $Q(\alpha) = -3495.8$ [2012Wa38](#)

$S(2n) = 24260.300$ (syst), $S(2p) = 9817.7$, $Q(\epsilon p) = 1420.20$ ([2012Wa38](#)).

^{86}Nb first identified and produced by [1974Vo03](#). Later work by [1977Ko05](#), [1982De43](#) and [1985Wa10](#). A 56-s isomer was identified by [1994Sh07](#).

[Additional information 1](#).

 ^{86}Nb LevelsCross Reference (XREF) Flags

- A ^{86}Mo ϵ decay (19.1 s)
 B $^{40}\text{Ca}(^{50}\text{Cr}, 3p n \gamma)$, $^{58}\text{Ni}(^{32}\text{S}, 3p n \gamma)$
 C $^{58}\text{Ni}(^{32}\text{S}, 3p n \gamma)$

E(level) [†]	J ^π [‡]	T _{1/2} [#]	XREF	Comments
0.0 ^{&}	(6 ⁺)	88 s 1	BC	$\% \epsilon + \% \beta^+ = 100$ E(level): evaluators assume 88-s, (6 ⁺) activity as the g.s., although a strict evidence for its assignment to g.s. is lacking. J ^π : from systematics and in-beam experiments (1997Ta10 , 1999Co10). J ^π =5 ⁺ proposed earlier is not supported by more recent experiments (2000DoZV). No 6 ⁺ to 5 ⁺ transition is seen by 1997Ta10 . T _{1/2} : from 1985Wa10 . Others: 87 s 3 (1982De43), 80 s 12 (1977Ko05), 84 s 12 (1974Vo03) are all in agreement but less precise.
0+x	(0 ⁻ , 1 ⁻ , 2 ⁻)		A	E(level): expected to be a low-spin isomer populated in the ϵ decay of ^{86}Mo , but no T _{1/2} data are available. Unpublished work on ^{86}Nb decay to ^{86}Zr (2000DoZV) and syst of odd-odd nuclides in this mass region suggest existence of a low-spin isomer. J ^π : (E1) γ from (1 ⁺ , 2 ⁺). T _{1/2} : unknown.
0+y?		56 s 8		T _{1/2} : from 1994Sh07 in $^{54}\text{Fe}(^{35}\text{Cl}, 2p n \gamma)$ at E=103 MeV. The half-life is from the decay curve of the Zr K x ray in coin with 752+915+1003 γ rays in ^{86}Zr . From observation of K x ray in coin with known γ rays of 360, 620, 670, 1039 and 1363 in ^{86}Zr , 1994Sh07 suggest that a high-spin level in ^{86}Zr at excitation energy above 3 MeV may have been populated by the ϵ decay of this isomer. However, the existence of this 56-s activity is considered as uncertain by the evaluators since it has not been confirmed in other independent studies. Furthermore, it is possible that the source of ^{86}Nb formed by 1994Sh07 is a mixed activity of 88-s, (6 ⁺) isomer and a low-spin isomer of unknown half-life populated in ^{86}Mo ϵ decay. No evidence of this isomer was found by 1997Ta10 (2000DoZV) or 2005Ka39 .
26.30 24	(7 ⁺)		BC	
49.96+x 15	(1 ⁺ , 2 ⁺)	68 ns 2	A	J ^π : (M1+E2) γ from (1 ⁺). T _{1/2} : from $\beta(49.8\gamma)(t)$; uncertainty is statistical (1994Sh07).
97.46+x 18	(1 ⁺)		A	J ^π : probable (allowed) $\epsilon + \beta^+$ feeding from 0 ⁺ .
236.86+x 18	(0 to 4 ⁺)		A	J ^π : γ to (1 ⁺ , 2 ⁺).
274.40 ^{&} 23	(8 ⁺)	0.84 ns 14	BC	J ^π : from $\gamma(\text{lin pol})$ (1999Co10). T _{1/2} : from RDM (1998Ka19).
494.3 ^d 3	(6 ⁻)	0.25 ns 7	BC	J ^π : from $\gamma(\text{lin pol})$ (1999Co10). T _{1/2} : from RDM (1998Ka19).
724.7 ^c 4	(9 ⁺)		BC	
887.7 ^e 4	(7 ⁻)		BC	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{86}Nb Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} [#]	XREF	E(level) [†]	J ^π [‡]	T _{1/2} [#]	XREF
1134.1 ^{& 4}	(10 ⁺)		BC	6644.9 ^{b 8}	(19 ⁺)	0.55 ps +16-14	C
1283.8 ^{d 4}	(8 ⁻)		BC	6722.1 ^{c 10}	(19 ⁺)	0.19 ps +11-9	C
1498.4 ^{h 5}	(8 ⁻)		C	6807.7 ^{g 12}	(19 ⁻)	0.17 ps +4-3	C
1601.1 ^{c 4}	(11 ⁺)	0.34 ps +10-8	BC	6957.6 ^{a 13}	(19 ⁺)	0.50 ps +24-18	C
1710.7 ^{e 4}	(9 ⁻)		BC	6972.6 ^{f 16}	(19 ⁻)	0.25 ps +6-5	C
2026.3 ^{d 4}	(10 ⁻)		BC	7460.7 ^{d 14}	(20 ⁻)	0.13 ps +5-3	C
2209.6 ^{h 11}	(10 ⁻)		C	7665.2 12	(20 ⁺)		C
2211.5 ^{& 5}	(12 ⁺)	0.46 ps +8-6	BC	7819.3 ^{e 14}	(21 ⁻)	0.79 ps +19-16	C
2454.8 ^{e 5}	(11 ⁻)		BC	7906.2 ^{b 13}	(21 ⁺)	0.45 ps +15-14	C
2599.1 ^{g 6}	(11 ⁻)		C	7965.5 ^{& 19}	(20 ⁺)		C
2684.0 ^{c 5}	(13 ⁺)	0.35 ps +10-8	BC	8214.1 ^{g 15}	(21 ⁻)	0.125 ps +28-21	C
2779.5 ^{d 5}	(12 ⁻)		BC	8270.1 ^{c 18}	(21 ⁺)	0.12 ps +7-5	C
3065.4 ^{h 15}	(12 ⁻)		C	8429 ^{f 3}	(21 ⁻)	0.16 [@] ps +6-5	C
3302.2 ^{e 5}	(13 ⁻)	0.45 ps +7-6	C	8603 ^{a 4}	(21 ⁺)	0.30 ps +15-11	C
3377.5 ^{g 6}	(13 ⁻)	0.65 ps +33-29	C	9064.8 ^{d 17}	(22 ⁻)	0.055 ps 14	C
3468.2 ^{& 6}	(14 ⁺)	0.35 ps +10-8	BC	9381.7 ^{b 19}	(23 ⁺)	0.22 ps 6	C
3687.4 ^{d 6}	(14 ⁻)	0.76 ps +11-9	C	9649 ^{e 4}	(23 ⁻)	0.23 [@] ps +8-6	C
3902.4 ^{c 6}	(15 ⁺)	0.34 ps +6-4	C	9728.6 ^{g 18}	(23 ⁻)	0.055 ps +21-14	C
3987.4 ^{b 6}	(15 ⁺)	0.21 ps +8-6	BC	9774 ^{& 3}	(22 ⁺)		C
4070.0 ^{h 6}	(14 ⁻)	0.45 ps +26-21	C	10052.5 ^{c 25}	(23 ⁺)	0.11 ps +7-6	C
4317.9 ^{e 6}	(15 ⁻)	0.48 ps +11-9	C	10430 ^{a 5}	(23 ⁺)	0.08 [@] ps +5-4	C
4370.4 ^{g 6}	(15 ⁻)	0.62 ps +9-8	C	10866.5 ^{d 21}	(24 ⁻)	0.042 ps +21-14	C
4777.2 ^{d 7}	(16 ⁻)	0.34 ps +6-4	C	11283 ^{b 3}	(25 ⁺)	0.07 ps +4-3	C
4840.6 ^{& 8}	(16 ⁺)	0.52 ps +19-17	BC	11456.9 ^{g 21}	(25 ⁻)	0.083 ps +28-21	C
5027.5 9	(16 ⁺)		C	12013 ^{c 4}	(25 ⁺)	0.042 [@] ps +28-21	C
5153.2 ^{h 7}	(16 ⁻)	0.21 ps +19-14	C	12407 ^{a 3}	(25 ⁺)		C
5274.1 ^{c 7}	(17 ⁺)	0.30 ps +8-6	C	12886 ^{d 4}	(26 ⁻)	0.021 [@] ps +21-14	C
5307.8 ^{b 7}	(17 ⁺)	0.40 ps +10-9	C	13417 ^{g 3}	(27 ⁻)	0.042 [@] ps 14	C
5441.9 ^{e 7}	(17 ⁻)	0.14 ps +8-6	C	13509 ^{b 4}	(27 ⁺)	0.062 [@] ps +28-21	C
5504.3 ^{g 8}	(17 ⁻)	0.32 ps +8-6	C	13568 4	(27 ⁺)	0.06 [@] ps +4-3	C
5532.9 7	(17 ⁺)		C	15095 ^{d 5}	(28 ⁻)		C
5605.5 ^{f 12}	(17 ⁻)	0.14 ps +12-11	C	15662 ^{g 4}	(29 ⁻)		C
6035.4 ^{d 10}	(18 ⁻)	0.132 ps +28-21	C	18058 ^{g 5}	(31 ⁻)		C
6361.5 ^{& 11}	(18 ⁺)		C	20786 ^{g 3}	(33 ⁻)		C
6479.3 ^{e 11}	(19 ⁻)	1.25 ps +27-21	C				

[†] From least-squares fit to E_γ values.

[‡] From (³²S,3pny) based on γγ(θ)(DCO) and band associations, unless otherwise stated.

[#] From DSA measurements of 2000Wi10, unless otherwise stated.

[@] Effective half-life (2000Wi10), not corrected for side feeding.

& Band(A): band based on (6⁺).

^a Band(B): band based on (19⁺).

^b Band(C): band based on (15⁺).

^c Band(D): band based on (9⁺).

^d Band(E): band based on (6⁻).

Adopted Levels, Gammas (continued)

 ${}^{86}\text{Nb}$ Levels (continued)

- e* Band(F): band based on (7⁻).
- f* Band(G): band based on (17⁻).
- g* Band(H): band based on (11⁻).
- h* Band(I): band based on (8⁻).

Adopted Levels, Gammas (continued) $\gamma(^{86}\text{Nb})$

B(E2)(W.u.): when $T_{1/2}$ has asymmetric uncertainties the B(E2) uncertainties were calculated by the evaluator considering the upper and the lower limits of $T_{1/2}$.

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult.	δ	$\alpha^@$	Comments
26.30	(7 ⁺)	26.3 3	100	0.0	(6 ⁺)				E_γ : from (⁵⁰ Cr,3pn γ).
49.96+x	(1 ⁺ ,2 ⁺)	49.95 15	100	0+x	(0 ⁻ ,1 ⁻ ,2 ⁻)	(E1) [#]		0.889 15	$\alpha(\text{K})=0.777$ 13; $\alpha(\text{L})=0.0931$ 16; $\alpha(\text{M})=0.0162$ 3; $\alpha(\text{N}+..)=0.00239$ 4 $\alpha(\text{N})=0.00228$ 4; $\alpha(\text{O})=0.0001067$ 18 B(E1)(W.u.)= 2.17×10^{-5} 7
97.46+x	(1 ⁺)	47.5 1	100 21	49.96+x	(1 ⁺ ,2 ⁺)	(M1) [#]		1.89	$\alpha(\text{K})=1.65$ 3; $\alpha(\text{L})=0.197$ 3; $\alpha(\text{M})=0.0347$ 6; $\alpha(\text{N}+..)=0.00534$ 9 $\alpha(\text{N})=0.00506$ 8; $\alpha(\text{O})=0.000283$ 5
		97.8	44 13	0+x	(0 ⁻ ,1 ⁻ ,2 ⁻)	(E1)		0.1278	$\alpha(\text{K})=0.1124$ 16; $\alpha(\text{L})=0.01287$ 18; $\alpha(\text{M})=0.00225$ 4; $\alpha(\text{N}+..)=0.000339$ 5 $\alpha(\text{N})=0.000322$ 5; $\alpha(\text{O})=1.666 \times 10^{-5}$ 24
236.86+x	(0 to 4 ⁺)	186.9 1	100	49.96+x	(1 ⁺ ,2 ⁺)	(E1,M1)		0.030 11	$\alpha(\text{K})=0.027$ 10; $\alpha(\text{L})=0.0031$ 12; $\alpha(\text{M})=0.00054$ 21; $\alpha(\text{N}+..)=8.E-5$ 4 $\alpha(\text{N})=8.E-5$ 3; $\alpha(\text{O})=4.4 \times 10^{-6}$ 18
274.40	(8 ⁺)	248.1 3	78.1 24	26.30	(7 ⁺)	M1+E2 [‡]	0.066	0.0199	$\alpha(\text{K})=0.0175$ 3; $\alpha(\text{L})=0.00201$ 3; $\alpha(\text{M})=0.000354$ 5; $\alpha(\text{N}+..)=5.47 \times 10^{-5}$ 8 $\alpha(\text{N})=5.18 \times 10^{-5}$ 8; $\alpha(\text{O})=2.97 \times 10^{-6}$ 5 B(M1)(W.u.)=0.00073 13; B(E2)(W.u.)=0.059 10 I_γ : other: 180 10 in (⁵⁰ Cr,3pn γ).
		274.5 3	100.0 24	0.0	(6 ⁺)	E2 [‡]		0.0310	$\alpha(\text{K})=0.0269$ 4; $\alpha(\text{L})=0.00345$ 5; $\alpha(\text{M})=0.000609$ 9; $\alpha(\text{N}+..)=9.09 \times 10^{-5}$ 14 $\alpha(\text{N})=8.67 \times 10^{-5}$ 13; $\alpha(\text{O})=4.20 \times 10^{-6}$ 6 B(E2)(W.u.)=10.5 18
494.3	(6 ⁻)	494.2 3	100	0.0	(6 ⁺)	E1 [‡]		0.001426 20	B(E1)(W.u.)= 1.2×10^{-5} 4 $\alpha=0.001426$ 20; $\alpha(\text{K})=0.001258$ 18; $\alpha(\text{L})=0.0001395$ 20; $\alpha(\text{M})=2.45 \times 10^{-5}$ 4; $\alpha(\text{N}+..)=3.78 \times 10^{-6}$ $\alpha(\text{N})=3.58 \times 10^{-6}$ 5; $\alpha(\text{O})=2.05 \times 10^{-7}$ 3
724.7	(9 ⁺)	450.3 3	100	274.40	(8 ⁺)	D			
887.7	(7 ⁻)	393.3 3	100	494.3	(6 ⁻)	D			
1134.1	(10 ⁺)	409.4 3	5.5 7	724.7	(9 ⁺)	D			
		859.8 4	100	274.40	(8 ⁺)	Q			
1283.8	(8 ⁻)	396.1 3	43 4	887.7	(7 ⁻)	D			
		789.6 4	100 5	494.3	(6 ⁻)	Q			
1498.4	(8 ⁻)	214.7 5	40 14	1283.8	(8 ⁻)	D			
		610.5 5	100 14	887.7	(7 ⁻)	D			
1601.1	(11 ⁺)	466.9 3	100 4	1134.1	(10 ⁺)	D			

Adopted Levels, Gammas (continued) $\gamma(^{86}\text{Nb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult.	Comments
1601.1	(11 ⁺)	876.5 4	56 4	724.7	(9 ⁺)	E2	B(E2)(W.u.)=51 +16-12
1710.7	(9 ⁻)	427.1 5	43 13	1283.8	(8 ⁻)	(D)	I_γ : other 120 12 in (⁵⁰ Cr,3pn γ).
		822.9 3	100 6	887.7	(7 ⁻)	Q	
		1436.3 8	28 3	274.40	(8 ⁺)		
2026.3	(10 ⁻)	315.7 3	42.9 14	1710.7	(9 ⁻)	D	
		742.2 4	100 23	1283.8	(8 ⁻)	Q	
		892.4 6	9.4 11	1134.1	(10 ⁺)	Q	
2209.6	(10 ⁻)	711.2 9	100	1498.4	(8 ⁻)		
2211.5	(12 ⁺)	610.2 4	13.5 16	1601.1	(11 ⁺)		I_γ : other 58 12 in (⁵⁰ Cr,3pn γ).
		1077.6 6	100 3	1134.1	(10 ⁺)	E2	B(E2)(W.u.)=33 5
2454.8	(11 ⁻)	428.2 6	67 20	2026.3	(10 ⁻)	(D)	
		744.1 7	100 27	1710.7	(9 ⁻)	Q	
		1320.8 7	60 20	1134.1	(10 ⁺)		
2599.1	(11 ⁻)	573.0 5	100	2026.3	(10 ⁻)	D	
2684.0	(13 ⁺)	472.4 3	51 7	2211.5	(12 ⁺)	D	
		1083.1 5	100 8	1601.1	(11 ⁺)	E2	B(E2)(W.u.)=32 +10-7
2779.5	(12 ⁻)	324.6 3	66 4	2454.8	(11 ⁻)	D	I_γ : other 122 15 in (⁵⁰ Cr,3pn γ).
		753.2 5	100 7	2026.3	(10 ⁻)	Q	
		1178.5 6	25 3	1601.1	(11 ⁺)		
3065.4	(12 ⁻)	855.8 10	100	2209.6	(10 ⁻)		
3302.2	(13 ⁻)	522.8 4	100 8	2779.5	(12 ⁻)	D	
		847.3 5	34 5	2454.8	(11 ⁻)	[E2]	B(E2)(W.u.)=32 +5-4
3377.5	(13 ⁻)	597.9 7	66 8	2779.5	(12 ⁻)	D	
		778.7 7	88 9	2599.1	(11 ⁻)	E2	B(E2)(W.u.)=47 +38-16
		922.8 8	100 10	2454.8	(11 ⁻)	E2	B(E2)(W.u.)=23 +18-8
3468.2	(14 ⁺)	784.5 5	16 4	2684.0	(13 ⁺)		
		1256.4 6	100 6	2211.5	(12 ⁺)	E2	B(E2)(W.u.)=20 +6-4
3687.4	(14 ⁻)	385.3 4	36 3	3302.2	(13 ⁻)	D	
		907.7 5	100 4	2779.5	(12 ⁻)	E2	B(E2)(W.u.)=39 5
3902.4	(15 ⁺)	434.0 5	21 5	3468.2	(14 ⁺)	D	
		1218.4 5	100 6	2684.0	(13 ⁺)	E2	B(E2)(W.u.)=23 3
3987.4	(15 ⁺)	519.4 4	34 4	3468.2	(14 ⁺)	D	
		1303.4 4	100 6	2684.0	(13 ⁺)	E2	B(E2)(W.u.)=24 +9-7
4070.0	(14 ⁻)	767.6 4	100	3302.2	(13 ⁻)		
4317.9	(15 ⁻)	630.5 5	54 10	3687.4	(14 ⁻)	D	
		1015.6 9	100 20	3302.2	(13 ⁻)	E2	B(E2)(W.u.)=31 +8-6
4370.4	(15 ⁻)	300.3 4	22 4	4070.0	(14 ⁻)	D	
		993.1 7	100 11	3377.5	(13 ⁻)	E2	B(E2)(W.u.)=34 +5-4
4777.2	(16 ⁻)	459.1 5	17.7 20	4317.9	(15 ⁻)	D	
		1089.9 6	100 9	3687.4	(14 ⁻)	E2	B(E2)(W.u.)=41 +5-6
4840.6	(16 ⁺)	1373.0 10	100	3468.2	(14 ⁺)	(E2)	B(E2)(W.u.)=10 +5-3
5027.5	(16 ⁺)	1124.8 8	100	3902.4	(15 ⁺)		
5153.2	(16 ⁻)	783.1 8	63 11	4370.4	(15 ⁻)		

Adopted Levels, Gammas (continued)

 $\gamma(^{86}\text{Nb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult.	Comments
5153.2	(16 ⁻)	835.2 8	71 13	4317.9	(15 ⁻)		
		1083.1 9	100 18	4070.0	(14 ⁻)	[E2]	B(E2)(W.u.)=34 +69-17
5274.1	(17 ⁺)	434 1	17 6	4840.6	(16 ⁺)		
		1286.8 6	48 7	3987.4	(15 ⁺)	E2	B(E2)(W.u.)=6.9 +19-16
		1371.4 10	100 33	3902.4	(15 ⁺)	(E2)	B(E2)(W.u.)=10 5
5307.8	(17 ⁺)	467.2 7	36 6	4840.6	(16 ⁺)		
		1320.3 7	100 8	3987.4	(15 ⁺)	E2	B(E2)(W.u.)=11 +3-2
5441.9	(17 ⁻)	288.7 4	32 8	5153.2	(16 ⁻)	D	
		664.6 7	28 5	4777.2	(16 ⁻)	D	
		1071.2 8	100 15	4370.4	(15 ⁻)	E2	B(E2)(W.u.)=55 +41-20
		1124.5 8	73 9	4317.9	(15 ⁻)	E2	B(E2)(W.u.)=31 +24-12
5504.3	(17 ⁻)	727 2	13 3	4777.2	(16 ⁻)		
		1133.9 8	100 11	4370.4	(15 ⁻)	E2	B(E2)(W.u.)=21 +5-4
		1186.5 8	85 10	4317.9	(15 ⁻)	E2	B(E2)(W.u.)=14 3
5532.9	(17 ⁺)	225.1 4	42 15	5307.8	(17 ⁺)		
		258.8 4	54 17	5274.1	(17 ⁺)		
		505.1 8	100 21	5027.5	(16 ⁺)		
5605.5	(17 ⁻)	1287.6 10	100	4317.9	(15 ⁻)	E2	B(E2)(W.u.)=51 +186-23
6035.4	(18 ⁻)	594 2	8.9 17	5441.9	(17 ⁻)		
		1258.2 8	100 9	4777.2	(16 ⁻)	E2	B(E2)(W.u.)=55 10
6361.5	(18 ⁺)	1520.8 15	100	4840.6	(16 ⁺)		
6479.3	(19 ⁻)	444 &		6035.4	(18 ⁻)		
		1037.4 8	100	5441.9	(17 ⁻)	E2	B(E2)(W.u.)=17 3
6644.9	(19 ⁺)	1113 2	15 4	5532.9	(17 ⁺)	[E2]	B(E2)(W.u.)=2.6 +11-9
		1337.1 5	100 10	5307.8	(17 ⁺)	E2	B(E2)(W.u.)=6.9 +24-16
		1370.9 10	39 15	5274.1	(17 ⁺)	(E2)	B(E2)(W.u.)=2.4 +11-9
6722.1	(19 ⁺)	360.6 4	12 3	6361.5	(18 ⁺)		
		1414 2	43 11	5307.8	(17 ⁺)	[E2]	B(E2)(W.u.)=6 +6-3
		1448.1 10	100 14	5274.1	(17 ⁺)	[E2]	B(E2)(W.u.)=13 +12-5
6807.7	(19 ⁻)	1303.4 9	100	5504.3	(17 ⁻)	E2	B(E2)(W.u.)=39 +8-7
6957.6	(19 ⁺)	1424 2	67 25	5532.9	(17 ⁺)	[E2]	B(E2)(W.u.)=3.4 +21-14
		1649 3	100 25	5307.8	(17 ⁺)	[E2]	B(E2)(W.u.)=2.5 +14-8
6972.6	(19 ⁻)	1367.1 10	100	5605.5	(17 ⁻)	[E2]	B(E2)(W.u.)=21 +5-4
7460.7	(20 ⁻)	1425.2 9	100	6035.4	(18 ⁻)	E2	B(E2)(W.u.)=33 +10-9
7665.2	(20 ⁺)	707.4 9	20 7	6957.6	(19 ⁺)		
		1020.6 12	100 30	6644.9	(19 ⁺)	D	
7819.3	(21 ⁻)	1340.0 9	100	6479.3	(19 ⁻)	E2	B(E2)(W.u.)=7.4 +19-14
7906.2	(21 ⁺)	240.9 8	23 6	7665.2	(20 ⁺)	D	
		1261.4 14	100	6644.9	(19 ⁺)	E2	B(E2)(W.u.)=14 +6-4
7965.5	(20 ⁺)	1604.0 15	100	6361.5	(18 ⁺)		
8214.1	(21 ⁻)	1406.4 9	100	6807.7	(19 ⁻)	E2	B(E2)(W.u.)=36 7
8270.1	(21 ⁺)	1548.0 15	100	6722.1	(19 ⁺)	[E2]	B(E2)(W.u.)=24 +17-19
8429	(21 ⁻)	1456 2	100	6972.6	(19 ⁻)	[E2]	B(E2)(W.u.)=24 +11-7

Adopted Levels, Gammas (continued) $\gamma(^{86}\text{Nb})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult.	Comments
8603	(21 ⁺)	1645 3	100	6957.6	(19 ⁺)	[E2]	B(E2)(W.u.)=7 +4-2
9064.8	(22 ⁻)	1604.1 10	100	7460.7	(20 ⁻)	E2	B(E2)(W.u.)=43 +15-9
9381.7	(23 ⁺)	1475.5 14	100	7906.2	(21 ⁺)	E2	B(E2)(W.u.)=16 +6-3
9649	(23 ⁻)	1830 3	100	7819.3	(21 ⁻)	[E2]	B(E2)(W.u.)=5.3 +19-14
9728.6	(23 ⁻)	1514.4 10	100	8214.1	(21 ⁻)	E2	B(E2)(W.u.)=57 +20-16
9774	(22 ⁺)	1808 2	100	7965.5	(20 ⁺)		
10052.5	(23 ⁺)	1782.3 17	100	8270.1	(21 ⁺)	[E2]	B(E2)(W.u.)=13 +15-5
10430	(23 ⁺)	1827 3	100	8603	(21 ⁺)	[E2]	B(E2)(W.u.)=15 +15-6
10866.5	(24 ⁻)	1801.7 12	100	9064.8	(22 ⁻)	E2	B(E2)(W.u.)=31 +16-10
11283	(25 ⁺)	1901 2	100	9381.7	(23 ⁺)	[E2]	B(E2)(W.u.)=14 +11-5
11456.9	(25 ⁻)	1728.3 11	100	9728.6	(23 ⁻)	E2	B(E2)(W.u.)=20 +6-5
12013	(25 ⁺)	1961 3	100	10052.5	(23 ⁺)	[E2]	B(E2)(W.u.)=21 +21-8
12407?	(25 ⁺)	1978 ^{&}		10430	(23 ⁺)		
12886	(26 ⁻)	2019 3	100	10866.5	(24 ⁻)	[E2]	B(E2)(W.u.)=36 +71-18
13417	(27 ⁻)	1959.6 14	100	11456.9	(25 ⁻)	[E2]	B(E2)(W.u.)=21 +10-5
13509	(27 ⁺)	2226 3	100	11283	(25 ⁺)	[E2]	B(E2)(W.u.)=7 +4-2
13568	(27 ⁺)	2285 3	100	11283	(25 ⁺)	[E2]	B(E2)(W.u.)=7 +7-3
15095	(28 ⁻)	2209 3	100	12886	(26 ⁻)		
15662	(29 ⁻)	2245 3	100	13417	(27 ⁻)		
18058	(31 ⁻)	2396 3	100	15662	(29 ⁻)		
20786?	(33 ⁻)	2729 ^{&}		18058	(31 ⁻)		

[†] From (³²S,3pn γ) for levels populated in in-beam γ -ray studies, unless otherwise stated.

[‡] From $\gamma(\theta)$ and $\gamma(\text{lin pol})$ in (³²S,3pn γ).

[#] From $\alpha(\text{K})\text{exp}$ deduced from $I(\text{K x-ray})/I_\gamma$.

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

[&] Placement of transition in the level scheme is uncertain.

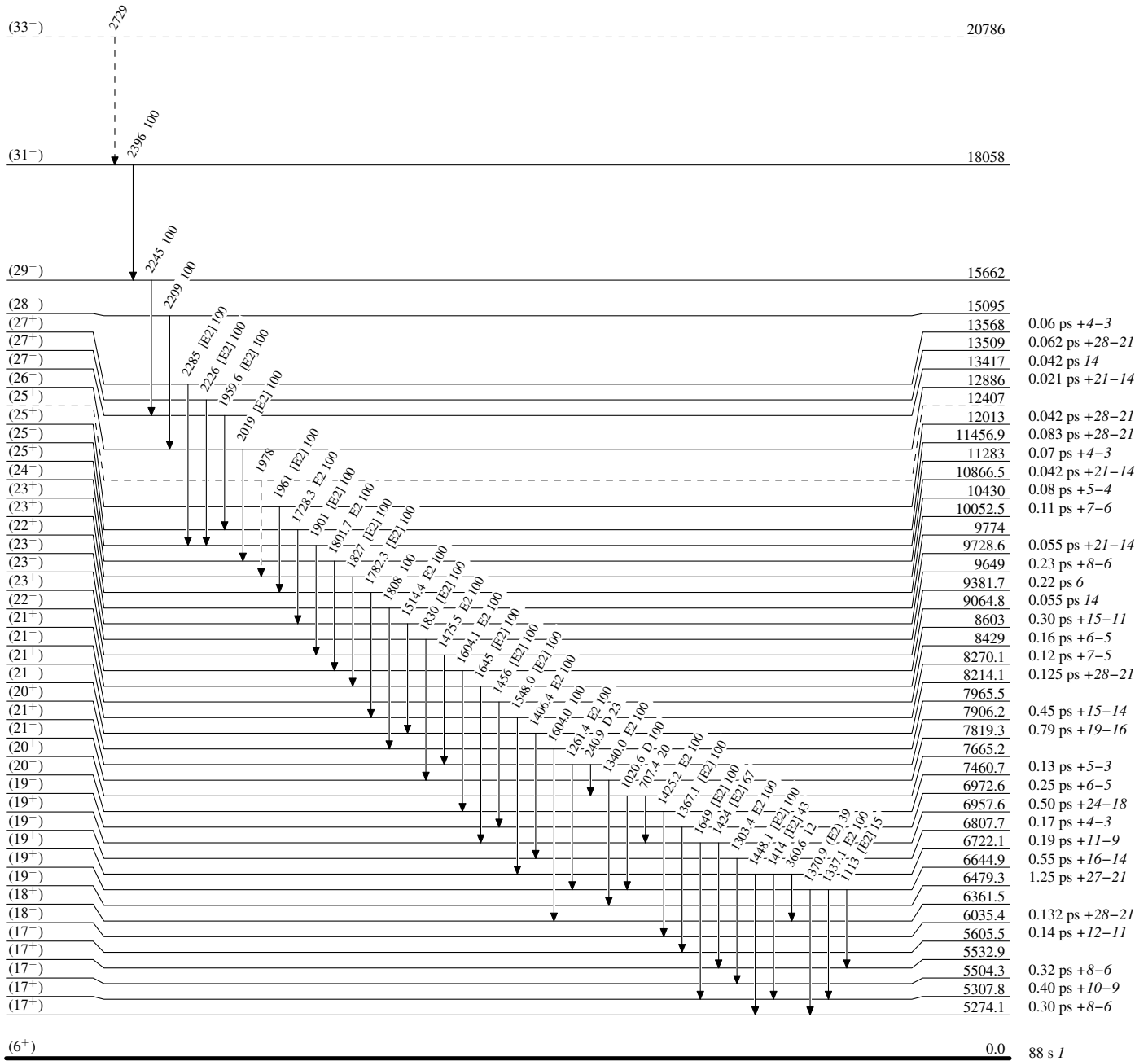
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

-----▶ γ Decay (Uncertain)



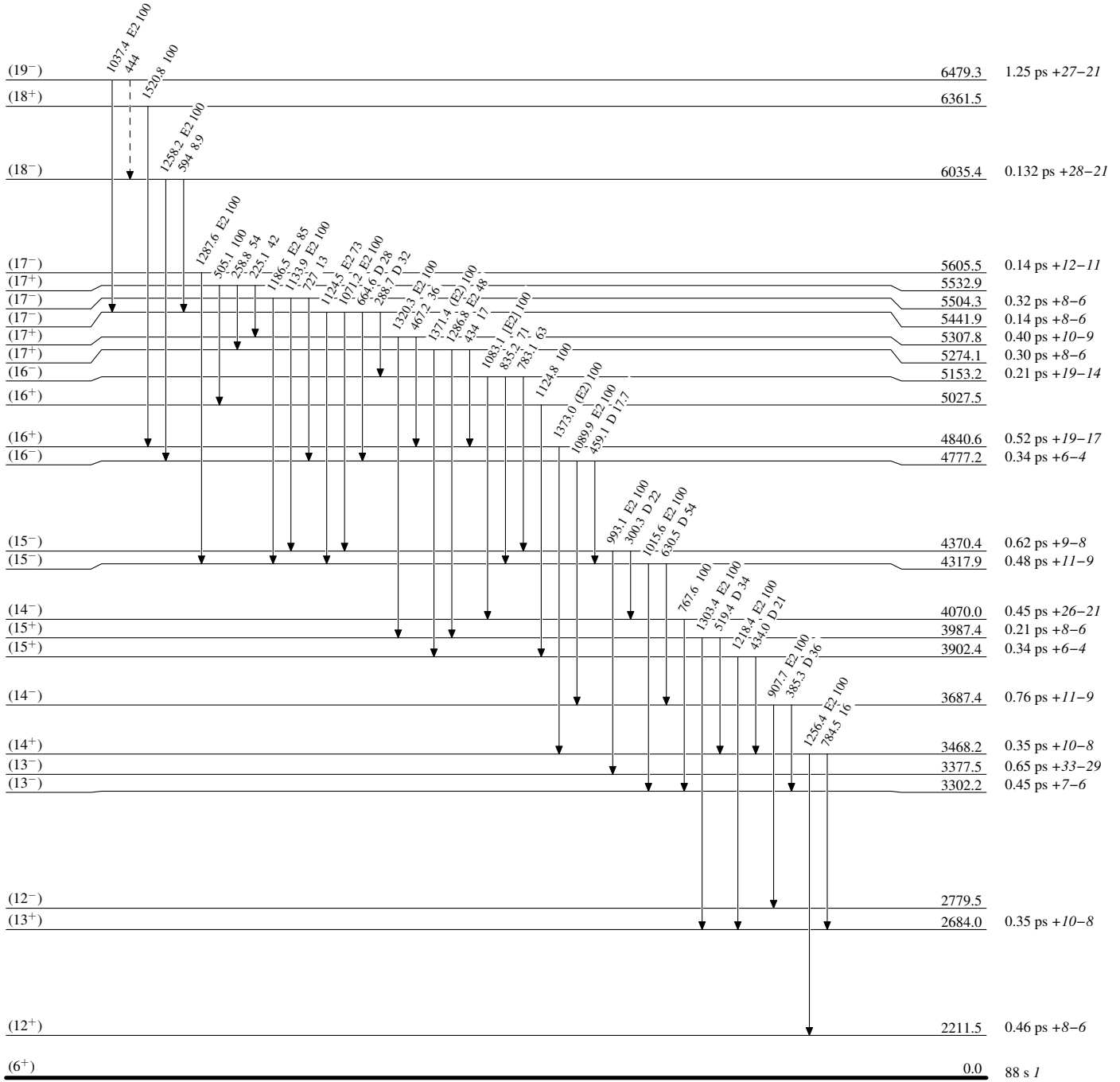
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

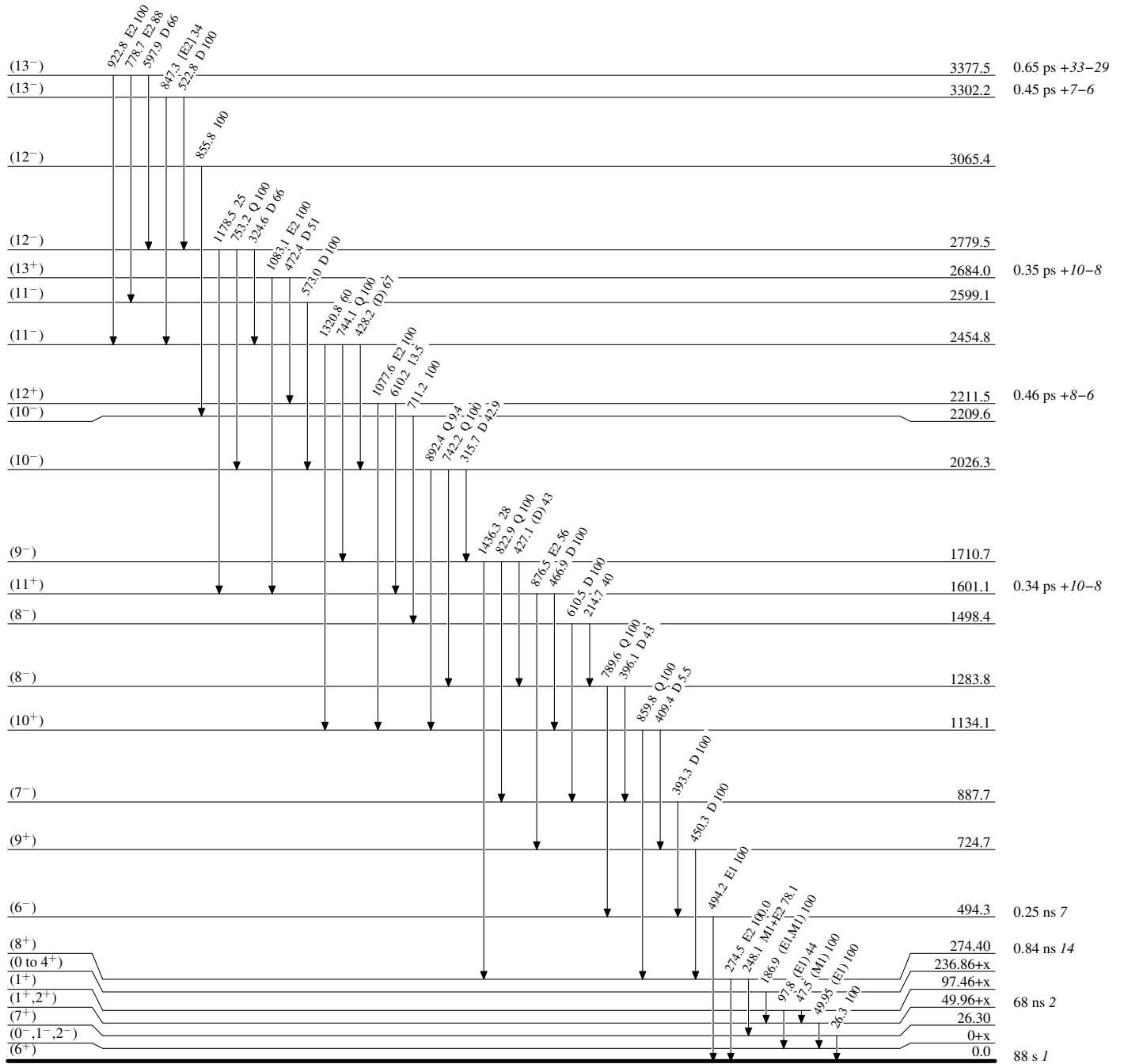
-----▶ γ Decay (Uncertain)

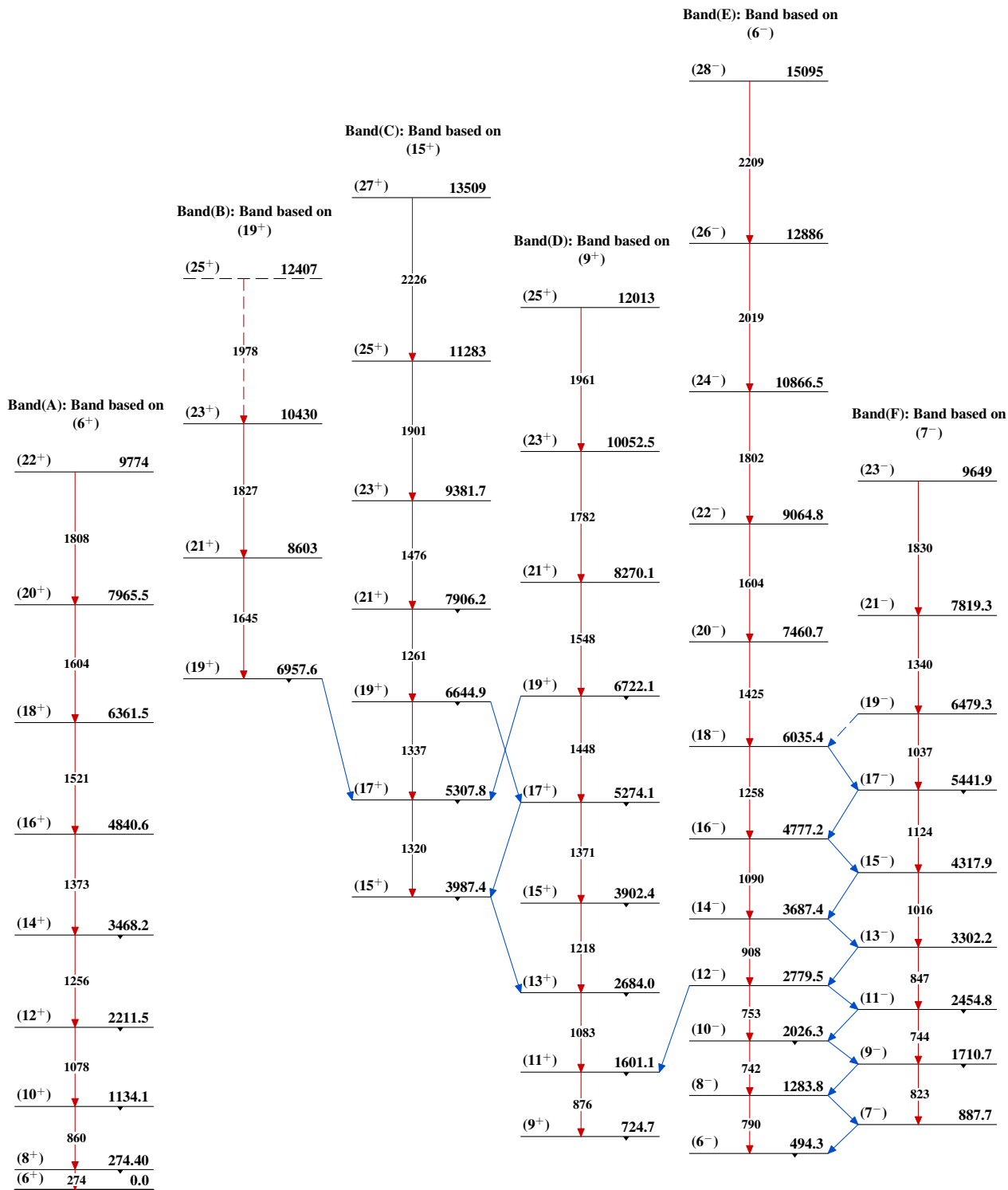


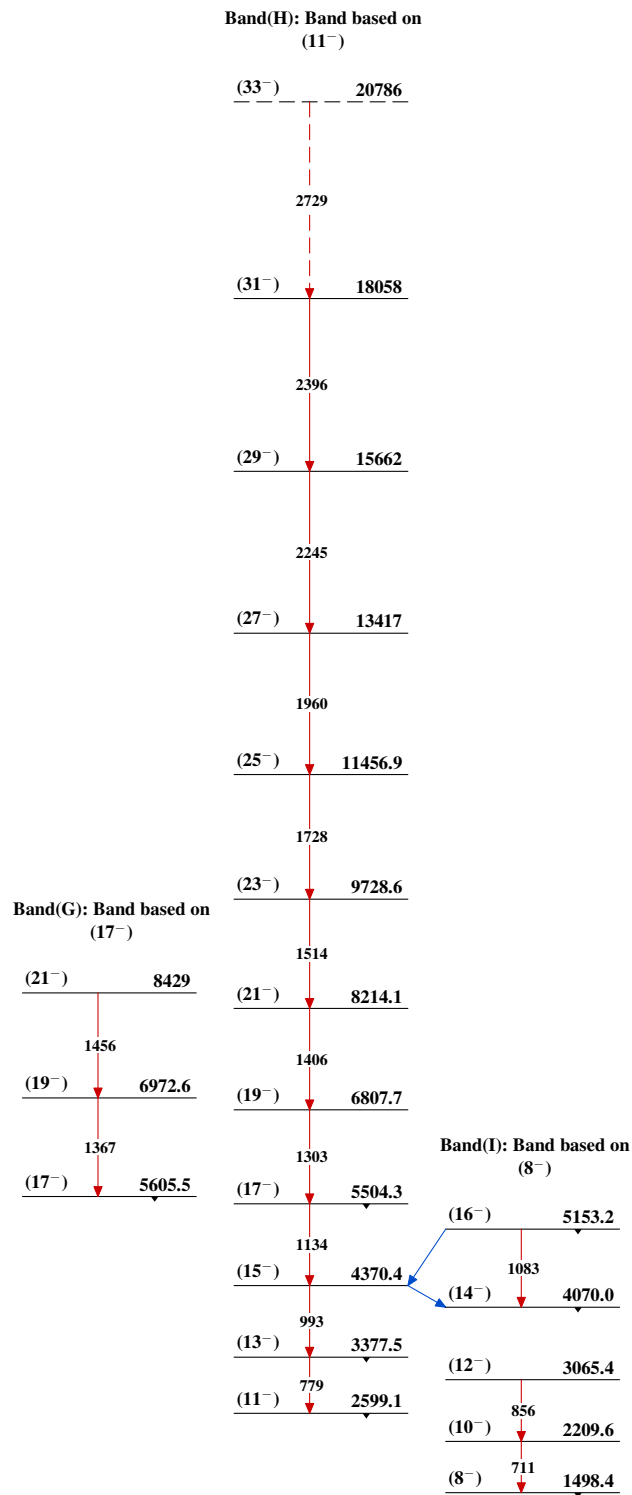
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas $^{86}_{41}\text{Nb}_{45}$

Adopted Levels, Gammas (continued) $^{86}_{41}\text{Nb}_{45}$