

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin, E. A. Mccutchan		NDS 151, 334 (2018)	30-Jun-2018

Q(β^-)=-4630 40; S(n)=9650 40; S(p)=2760 40; Q(α)=3360 40 2017Wa10

S(2n)=17570 40; S(2p)=8214 28 (2017Wa10).

Identification: chemical separation of spallation products from Hg + p (1969Ar22), ¹⁸¹Ta + p (1972Ch45); observation of known transitions in ¹⁷¹Hf daughter from ¹⁶⁵Ho(¹²C,6n), ¹⁵⁹Tb(¹⁶O,xn) (1970Re11).

A 2.0 min 5 activity (E γ =365.4) attributed to ¹⁷¹Ta in 1970DeZF has been reassigned to ¹⁶⁷Hf or ¹⁶⁸Ta (1987Sz03); the 6.3 min 4 activity (E γ =59.3, 87.9, 111.9, 198.8) attributed to ¹⁷¹Ta in 1970DeZF probably arises from a mixture of two ¹⁶⁸Lu isomers produced via ¹⁷⁵Lu(³He, α 6n) (1987Sz03).

α : Additional information 1.

¹⁷¹Ta Levels

Cross Reference (XREF) Flags

- A ¹⁷¹W ϵ decay
- B ¹⁵⁹Tb(¹⁶O,4n γ)
- C ¹⁵⁷Gd(¹⁹F,5n γ)
- D ¹²⁴Sn(⁵¹V,4n γ)

E(level) [†]	J π^{\ddagger}	T _{1/2} [#]	XREF	Comments
0.0 ^d	(5/2 ⁺)	23.3 min 3	B D	% ϵ +% β^+ =100 T _{1/2} : from γ (t) (1972Ch45). Other values: 23.6 min 12 (1961Bu13), 25 min 2 (1969Ar22,1975Gr44), 25 min 1 (1974La24; supersedes 1970Re11), 27 min 6 (176 γ (t)) and 23 min 3 (506 γ (t)) (1987Sz03), 22.7 min 20 (1992HeZV).
31.2 ^{&}	(5/2 ⁻)	23.3 min 3	AB D	J π^{\ddagger} : from systematics of 5/2 ⁻ 1/2[541] orbital in odd-mass Ta nuclei. Assignment consistent with decreasing level energy for decreasing mass (E(level)=628 (¹⁷⁹ Ta), 186 (¹⁷⁷ Ta), 51 (¹⁷⁵ Ta), g.s. (¹⁷³ Ta)).
52.72 ^c 19	(7/2 ⁺)		AB D	
112.64 ^e 15	(7/2 ⁺)		B D	
118.25 ⁱ 25	(3/2 ⁺)		D	
126.39 ^{&} 16	(9/2 ⁻)		B D	
182.32 ^b 19	(9/2 ⁺)		AB D	
235.90 ^l 20	(9/2 ⁻)	46 ns 3	AB	Q=3.09 19 (1995Do32); μ =+2.318 14 (2001Th23) Q from TDPAD in (¹⁶ O,4n γ). μ : from g-factor=+0.515 3 (TDPAD in (¹⁶ O,4n γ), 2001Th23). T _{1/2} : $\gamma\gamma$ (t) in (¹⁶ O,4n γ) (1985Ba48).
246.5 ^h 3	(5/2 ⁺)		D	
251.55 ^d 14	(9/2 ⁺)		B D	
292.16 ⁱ 16	(7/2 ⁺)		D	
323.84 ^{&} 19	(13/2 ⁻)		B D	
331.5 ^a 4	(7/2 ⁻)		D	
335.76 ^c 17	(11/2 ⁺)		B D	
366.4 ^l 3	(11/2 ⁻)		B D	
414.26 ^e 16	(11/2 ⁺)		B D	
491.57 ^h 21	(9/2 ⁺)		D	
509.10 ^b 18	(13/2 ⁺)		B D	
527.2 ^l 3	(13/2 ⁻)		B D	
530.4 4	(7/2 ⁻)		A	J π^{\ddagger} : allowed unhindered decay (log ft \leq 5.1 from (ν 5/2[523]) suggests transition to (π 7/2[523])).

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Adopted Levels, Gammas (continued)

				<u>^{171}Ta Levels (continued)</u>	
E(level) [†]	J ^π [‡]	T _{1/2} [#]	XREF	Comments	
573.42 ⁱ 17	(11/2 ⁺)		D		
578.1 ^a 3	(11/2 ⁻)		D		
596.39 ^d 16	(13/2 ⁺)		B D		
622.14 ^{&} 20	(17/2 ⁻)	18.3 ps +8-17	B D		
699.68 ^c 18	(15/2 ⁺)		B D		
709.1 ^l 3	(15/2 ⁻)		B D		
798.25 ^e 17	(15/2 ⁺)		B D		
816.97 ^h 20	(13/2 ⁺)		D		
905.08 ^b 19	(17/2 ⁺)		B D		
905.95 ^a 25	(15/2 ⁻)		D		
916.8 ^l 3	(17/2 ⁻)		B		
931.06 ⁱ 19	(15/2 ⁺)		D		
1011.33 ^{&} 20	(21/2 ⁻)	4.5 ps 4	B D		
1012.12 ^d 18	(17/2 ⁺)		B D		
1123.47 ^c 19	(19/2 ⁺)		B D		
1136.4 ^l 3	(19/2 ⁻)		B D		
1201.93 ^h 20	(17/2 ⁺)		D		
1243.16 ^e 19	(19/2 ⁺)		B D		
1311.42 ^a 23	(19/2 ⁻)		D		
1341.05 ⁱ 20	(19/2 ⁺)		D		
1353.25 ^b 22	(21/2 ⁺)		B D		
1378.8 ^l 4	(21/2 ⁻)		B D		
1476.13 ^{&} 24	(25/2 ⁻)	1.86 ps +22-17	B D		
1479.77 ^d 19	(21/2 ⁺)		B D		
1594.26 ^c 21	(23/2 ⁺)		B D		
1624.7 ^l 4	(23/2 ⁻)		B D		
1630.55 ^h 21	(21/2 ⁺)		D		
1733.58 ^e 20	(23/2 ⁺)		B D		
1783.19 ^a 23	(23/2 ⁻)		D		
1794.14 ⁱ 22	(23/2 ⁺)		D		
1845.45 ^b 23	(25/2 ⁺)		B D		
1890.3 ^l 4	(25/2 ⁻)		B D		
1983.44 ^d 20	(25/2 ⁺)		B D		
2000.9 ^{&} 3	(29/2 ⁻)	<1.93 ps	B D		
2079.22 ^j 21	(25/2 ⁺)		D		
2107.87 ^c 25	(27/2 ⁺)		B D		
2120.6 ^h 3	(25/2 ⁺)		D		
2155.2 ^l 4	(27/2 ⁻)		B D		
2257.24 ^e 21	(27/2 ⁺)		B D		
2292.25 ⁱ 24	(27/2 ⁺)		D		
2305.31 ^a 25	(27/2 ⁻)		D		
2379.62 ^b 24	(29/2 ⁺)		B D		
2434.8 ^l 4	(29/2 ⁻)		B		
2492.30 ^j 22	(29/2 ⁺)		B D	E(level): band assignment from (⁵¹ V,4nγ); assigned to 5/2[402] band in (¹⁶ O,4nγ).	
2545.70 ^d 22	(29/2 ⁺)		D		
2571.0 ^{&} 3	(33/2 ⁻)	>0.69 [@] ps	B D	Q(transition) (eb)<6.2 from (¹⁹ F,5nγ).	
2646.9 ^h 3	(29/2 ⁺)		D		

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Adopted Levels, Gammas (continued) ^{171}Ta Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} [#]	XREF	Comments
2663.89 ^c 25	(31/2 ⁺)		B D	
2712.2 ^l 4	(31/2 ⁻)		B D	
2806.06 ^e 24	(31/2 ⁺)		B D	
2836.5 ⁱ 3	(31/2 ⁺)		D	
2859.8 ^a 3	(31/2 ⁻)		D	
2953.04 ^b 25	(33/2 ⁺)		B D	
2988.21 ^j 24	(33/2 ⁺)		B D	
2994.3 ^l 4	(33/2 ⁻)		B D	
3048.9 ^k 3	(31/2 ⁻)		D	
3081.67 ^d 25	(33/2 ⁺)		D	
3179.6 ^{&} 3	(37/2 ⁻)	0.59 [@] ps 17	B D	XREF: B(3147). Q(transition) (eb)=5.7 +7-11 from (¹⁹ F,5ny).
3190.8 ^h 4	(33/2 ⁺)		D	
3259.6 ^c 3	(35/2 ⁺)		B D	
3267.9 ^l 4	(35/2 ⁻)		B D	
3368.4 ^e 3	(35/2 ⁺)		B D	
3422.5 ⁱ 3	(35/2 ⁺)		D	
3431.8 ^a 3	(35/2 ⁻)		D	
3518.8 ^j 3	(37/2 ⁺)		B D	
3533.3 ^l 4	(37/2 ⁻)		B D	
3567.86 ^b 25	(37/2 ⁺)		B D	
3610.9 ^k 3	(35/2 ⁻)		D	
3641.3 ^d 3	(37/2 ⁺)		D	
3768.8 ^h 4	(37/2 ⁺)		D	
3806.4 ^m 5	(39/2 ⁻)		B D	
3829.6 ^{&} 4	(41/2 ⁻)	0.40 [@] ps 5	BCD	Q(transition) (eb)=5.9 3 from (¹⁹ F,5ny).
3887.0 ^c 3	(39/2 ⁺)		B D	
3960.4 ^e 4	(39/2 ⁺)		D	
4017.5 ^a 4	(39/2 ⁻)		D	
4055.2 ⁱ 4	(39/2 ⁺)		D	
4093.8 ^l 5	(41/2 ⁻)		D	
4105.1 ^j 4	(41/2 ⁺)		B D	
4197.5 ^b 3	(41/2 ⁺)		B D	
4208.6 ^k 4	(39/2 ⁻)		D	
4268.3 ^d 4	(41/2 ⁺)		D	
4389.3 ^h 5	(41/2 ⁺)		D	
4400.6 ^m 5	(43/2 ⁻)		D	
4528.8 ^{&} 4	(45/2 ⁻)	0.28 [@] ps 4	B D	Q(transition) (eb)=5.9 4 from (¹⁹ F,5ny).
4542.7 ^c 3	(43/2 ⁺)		B D	
4623.2 ^e 4	(43/2 ⁺)		D	
4640.9 ^a 4	(43/2 ⁻)		D	
4728.7 ⁱ 4	(43/2 ⁺)		D	
4731.5 ^l 5	(45/2 ⁻)		D	
4741.2 ^j 4	(45/2 ⁺)		B D	
4845.7 ^k 4	(43/2 ⁻)		D	
4866.7 ^b 4	(45/2 ⁺)		D	
4961.7 ^d 4	(45/2 ⁺)		D	
5063.8 ^h 5	(45/2 ⁺)		D	

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Adopted Levels, Gammas (continued) ^{171}Ta Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} [#]	XREF	Comments
5074.0 ^m 5	(47/2 ⁻)		D	
5245.3 ^c 4	(47/2 ⁺)		D	
5282.2 ^{&} 4	(49/2 ⁻)	0.23 [@] ps 5	B D	Q(transition) (eb)=5.4 6 from (¹⁹ F,5n _γ).
5323.0 ^a 4	(47/2 ⁻)		D	
5357.7 ^e 4	(47/2 ⁺)		D	
5419.4 ⁱ 5	(47/2 ⁺)		D	
5428.4 ^j 5	(49/2 ⁺)		B D	
5451.3 ^l 5	(49/2 ⁻)		D	
5536.2 ^k 4	(47/2 ⁻)		D	
5584.7 ^b 4	(49/2 ⁺)		D	
5630.9 ^f 5	(49/2 ⁺)		D	
5731.8 ^d 5	(49/2 ⁺)		D	
5738.9 ^h 7	(49/2 ⁺)		D	
5822.5 ^m 5	(51/2 ⁻)		D	
5959.7 ^c 4	(51/2 ⁺)		D	
6033.8 ^g 4	(51/2 ⁺)		D	
6072.7 ^a 4	(51/2 ⁻)		D	
6091.0 ^{&} 5	(53/2 ⁻)	0.17 [@] ps 6	B D	Q(transition) (eb)=5.1 8 from (¹⁹ F,5n _γ).
6115.2 ⁱ 5	(51/2 ⁺)		D	
6153.2 ^e 7	(51/2 ⁺)		D	
6166.9 ^j 5	(53/2 ⁺)		B D	
6246.4 ^l 5	(53/2 ⁻)		D	
6293.3 ^k 5	(51/2 ⁻)		D	
6309.9 ^b 4	(53/2 ⁺)		D	
6413.3 ^f 4	(53/2 ⁺)		D	
6432.9 ^h 9	(53/2 ⁺)		D	
6542.2 ^d 7	(53/2 ⁺)		D	
6637.8 ^m 6	(55/2 ⁻)		D	
6689.7 ^c 4	(55/2 ⁺)		D	
6848.4 ⁱ 6	(55/2 ⁺)		D	
6861.7 ^g 5	(55/2 ⁺)		D	
6889.3 ^a 5	(55/2 ⁻)		D	
6953.8 ^{&} 5	(57/2 ⁻)		B D	
6957.0 ^j 6	(57/2 ⁺)		B D	
6986.0 ^e 9	(55/2 ⁺)		D	
7071.1 ^b 5	(57/2 ⁺)		D	
7107.7 ^l 6	(57/2 ⁻)		D	
7263.7 ^f 7	(57/2 ⁺)		D	
7370.2 ^d 9	(57/2 ⁺)		D	
7483.7 ^c 5	(59/2 ⁺)		D	
7512.6 ^m 6	(59/2 ⁻)		D	
7635.7 ⁱ 8	(59/2 ⁺)		D	
7747.3 ^g 7	(59/2 ⁺)		D	
7775.3 ^a 7	(59/2 ⁻)		D	
7798.4 ^j 6	(61/2 ⁺)		D	
7860.0 ^e 10	(59/2 ⁺)		D	
7869.3 ^{&} 6	(61/2 ⁻)		B D	
7896.8 ^b 5	(61/2 ⁺)		D	

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Adopted Levels, Gammas (continued)

^{171}Ta Levels (continued)

E(level) [†]	J ^{π‡}	XREF	E(level) [†]	J ^{π‡}	XREF	E(level) [†]	J ^{π‡}	XREF
8027.2 ^l 8	(61/2 ⁻)	D	9632.9 ^g 10	(67/2 ⁺)	D	11785.7 ^b 10	(77/2 ⁺)	D
8152.7 ^f 8	(61/2 ⁺)	D	9634.2 ^j 7	(69/2 ⁺)	B D	12016.8 ^{&} 8	(77/2 ⁻)	D
8214.2 ^d 10	(61/2 ⁺)	D	9735.9 ^b 7	(69/2 ⁺)	D	12479.7 ^c 11	(79/2 ⁺)	D
8350.8 ^c 5	(63/2 ⁺)	D	9852.2 ^{&} 6	(69/2 ⁻)	B D	12770.0 ^j 8	(81/2 ⁺)	D
8439.5 ^m 6	(63/2 ⁻)	D	10008.9 ^l 11	(69/2 ⁻)	D	12880.9 ^b 12	(81/2 ⁺)	D
8473.7 ⁱ 9	(63/2 ⁺)	D	10298.0 ^c 9	(71/2 ⁺)	D	13125.7 ^{&} 10	(81/2 ⁻)	D
8681.8 ^g 9	(63/2 ⁺)	D	10421.6 ^m 10	(71/2 ⁻)	D	13915.9 ^j 9	(85/2 ⁺)	D
8690.8 ^j 6	(65/2 ⁺)	B D	10614.9 ^g 11	(71/2 ⁺)	D	14017.9 ^b 13	(85/2 ⁺)	D
8760.1 ^e 11	(63/2 ⁺)	D	10628.5 ^j 7	(73/2 ⁺)	D	14253.7 ^{?&} 11	(85/2 ⁻)	D
8787.3 ^b 5	(65/2 ⁺)	B D	10736.2 ^b 9	(73/2 ⁺)	D	15110.5 ^j 10	(89/2 ⁺)	D
8836.2 ^{&} 6	(65/2 ⁻)	B D	10914.5 ^{&} 7	(73/2 ⁻)	D	15190.9 ^{?b} 14	(89/2 ⁺)	D
8997.9 ^l 9	(65/2 ⁻)	D	11364.5 ^c 10	(75/2 ⁺)	D	16354.4 ^j 12	(93/2 ⁺)	D
9290.5 ^c 7	(67/2 ⁺)	D	11448.6 ^m 11	(75/2 ⁻)	D	17643.4 ^j 13	(97/2 ⁺)	D
9411.7 ^m 8	(67/2 ⁻)	D	11673.8 ^j 7	(77/2 ⁺)	D	18978.4 ^{?j} 14	(101/2 ⁺)	D

[†] From least-squares fit to adopted E_γ, by evaluators.

[‡] From γ-ray multiplicities, coincidence data, and rotational structure in (HI,xnγ), except where noted (tentative Nilsson assignments are given for bandheads).

From RDM in (¹⁶O,4nγ), except as noted.

@ From DSA in ¹⁵⁷Gd(¹⁹F,5nγ).

& Band(A): 1/2[541], α=+1/2 band. Band parameters: E0=54.2, A=9.2, B=11.4, a=3.81 (J=5/2, 7/2, 9/2, 11/2, 13/2 members).

^a Band(a): 1/2[541], α=-1/2 band. See comment on signature partner band.

^b Band(B): Tentative 7/2[404] band. Band parameter: A=14.6 (7/2, 9/2 levels).

^c Band(b): 7/2[404], α=-1/2 band. See comment on signature partner band.

^d Band(C): 5/2[402], α=+1/2 band. Band parameter: A=16.2 (5/2, 7/2 levels). Two crossings at higher spins: the first at ħω≈0.27 MeV due to the alignment of two lowest i_{13/2} neutrons (AB); the second crossing at ħω≈0.42 MeV due to the alignment of two h_{11/2} protons (E_pf_p).

^e Band(c): 5/2[402], α=-1/2 band. See comment on +1/2 signature partner concerning two band crossings.

^f Band(D): Band based on (49/2⁺). This band feeds into 7/2[404] band; possible continuation of 7/2[404] band after AB alignment.

^g Band(E): Band based on 51/2⁺. This band feeds into 7/2[404] band; may be continuation of 7/2[404] band after AB alignment.

^h Band(F): 1/2[411], α=+1/2 band. Two crossings at higher spins, the first at ħω≈0.27 MeV due to the alignment of two lowest i_{13/2} neutrons (AB); the second crossing at ħω≈0.34 MeV due to the alignment of two βc neutrons. Band parameters: E0=81.3, A=16.5, B=-49.6, a=-0.65 (J=3/2, 5/2, 7/2, 9/2, 11/2 members).

ⁱ Band(f): 1/2[411], α=-1/2 band. See comment for +1/2 signature partner for two band crossings.

^j Band(G): 1/2[660], α=+1/2 band.

^k Band(H): Band based on 31/2⁽⁻⁾. This band feeds into the 1/2[541] band.

^l Band(I): 9/2[514], α=+1/2 band. Band parameter: A=11.9 (9/2, 11/2 levels). Crossings at higher spins, at ħω≈0.26 MeV due to the alignment of two lowest i_{13/2} neutrons (AB).

^m Band(i): 9/2[514], α=-1/2 band. See comment on +1/2 signature partner concerning two band crossings.

Adopted Levels, Gammas (continued)

E _i (level)	J _i ^π	E _γ [†]	I _γ [‡]	E _f	J _f ^π	Mult. [†]	γ(¹⁷¹ Ta)		Comments
							δ [†]	α	
52.72	(7/2 ⁺)	52.1 [#] 4	100	0.0	(5/2 ⁺)	[M1]		4.94 14	α(L)=3.83 11; α(M)=0.868 24; α(N)=0.208 6; α(O)=0.0328 9; α(P)=0.00227 6
112.64	(7/2 ⁺)	112.6 ^b 2	100 ^b	0.0	(5/2 ⁺)				E _γ : other: 113.6 4 from (¹⁶ O,4nγ).
126.39	(9/2 ⁻)	95.1 ^b 2	100 ^b	31.2	(5/2 ⁻)	E2		4.53 8	α(K)=1.001 15; α(L)=2.68 5; α(M)=0.673 12; α(N)=0.157 3; α(O)=0.0207 4; α(P)=7.33×10 ⁻⁵ 11
182.32	(9/2 ⁺)	69		112.64	(7/2 ⁺)				E _γ : other: 94.6 3 from (¹⁶ O,4nγ).
		130.7 ^b 2	100 ^b	52.72	(7/2 ⁺)	(M1)		2.03	E _γ : from (⁵¹ V,4nγ) only. α(K)=1.687 25; α(L)=0.265 4; α(M)=0.0601 9; α(N)=0.01438 21; α(O)=0.00228 4 α(P)=0.0001576 24
235.90	(9/2 ⁻)	53.1 [@] 3	18 [@] 2	182.32	(9/2 ⁺)	E1		0.382 8	Mult.: intraband D γ from (⁵¹ V,4nγ). α(L)=0.297 7; α(M)=0.0679 15; α(N)=0.0157 4; α(O)=0.00219 5; α(P)=8.92×10 ⁻⁵ 18 B(E1)(W.u.)=4.1×10 ⁻⁶ 6
		184.2 [@] 2	100 [@]	52.72	(7/2 ⁺)	E1		0.0750	α(K)=0.0623 9; α(L)=0.00988 15; α(M)=0.00224 4; α(N)=0.000528 8; α(O)=7.98×10 ⁻⁵ 12 α(P)=4.50×10 ⁻⁶ 7 B(E1)(W.u.)=5.5×10 ⁻⁷ 4
		236.3 [#] 3	5 [@] 2	0.0	(5/2 ⁺)	[M2]		1.80	E _γ : other: 183.6 2 from (⁵¹ V,4nγ). α(K)=1.396 21; α(L)=0.312 5; α(M)=0.0740 11; α(N)=0.0178 3; α(O)=0.00277 4 α(P)=0.000175 3
246.5	(5/2 ⁺)	128.3 ^b 5	100 ^b	118.25	(3/2 ⁺)				
251.55	(9/2 ⁺)	138.9 ^b 2	100 ^b 3	112.64	(7/2 ⁺)	(M1+E2)	0.30 10	1.65 5	α(K)=1.34 6; α(L)=0.244 15; α(M)=0.056 4; α(N)=0.0134 9; α(O)=0.00206 11 α(P)=0.000124 6
		251.6 ^b 2	44.5 ^b 26	0.0	(5/2 ⁺)	(E2)		0.1409	E _γ : other: 139.5 3 in (¹⁶ O,4nγ). Mult.,δ: intraband D+Q γ from (¹⁶ O,4nγ). α(K)=0.0898 13; α(L)=0.0390 6; α(M)=0.00954 14; α(N)=0.00224 4; α(O)=0.000311 5 α(P)=6.85×10 ⁻⁶ 10
									E _γ : other: 253.1 3 from (¹⁶ O,4nγ). I _γ : other: 27 from (¹⁶ O,4nγ). Mult.: intraband Q γ from (¹⁶ O,4nγ).
292.16	(7/2 ⁺)	173.9 ^b 2	100 ^b	118.25	(3/2 ⁺)				
		260.8 ^b 2	11.5 ^b	31.2	(5/2 ⁻)				
323.84	(13/2 ⁻)	197.3 ^b 2	100 ^b	126.39	(9/2 ⁻)	(E2)		0.311	α(K)=0.1744 25; α(L)=0.1043 16; α(M)=0.0258 4; α(N)=0.00605 9; α(O)=0.000823 12

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\dagger	α	Comments
									$\alpha(\text{P})=1.263\times 10^{-5}$ 18 Mult.: intraband Q γ from ($^{16}\text{O},4n\gamma$).
331.5	(7/2 ⁻)	300.1 ^b 5	100 ^b	31.2 (5/2 ⁻)					
335.76	(11/2 ⁺)	84 ^b	^b	251.55 (9/2 ⁺)					
		153.5 ^b 2	100 ^b 3	182.32 (9/2 ⁺)		(M1+E2)	0.80 10	1.07 4	$\alpha(\text{K})=0.79$ 5; $\alpha(\text{L})=0.221$ 9; $\alpha(\text{M})=0.0529$ 25; $\alpha(\text{N})=0.0125$ 6; $\alpha(\text{O})=0.00181$ 7; $\alpha(\text{P})=7.0\times 10^{-5}$ 5 Mult., δ : intraband D+Q γ from ($^{16}\text{O},4n\gamma$).
		284.0 ^b 2	82 ^b 3	52.72 (7/2 ⁺)		(E2)		0.0968	$\alpha(\text{K})=0.0648$ 10; $\alpha(\text{L})=0.0245$ 4; $\alpha(\text{M})=0.00595$ 9; $\alpha(\text{N})=0.001402$ 20; $\alpha(\text{O})=0.000196$ 3 $\alpha(\text{P})=5.06\times 10^{-6}$ 8 I_γ : other: 95 from ($^{16}\text{O},4n\gamma$).. Mult.: intraband Q γ from ($^{16}\text{O},4n\gamma$).
366.4	(11/2 ⁻)	130.5 ^b 2	100 ^b	235.90 (9/2 ⁻)		(M1)		2.04	$\alpha(\text{K})=1.694$ 25; $\alpha(\text{L})=0.266$ 4; $\alpha(\text{M})=0.0604$ 9; $\alpha(\text{N})=0.01444$ 22; $\alpha(\text{O})=0.00229$ 4 $\alpha(\text{P})=0.0001583$ 24 Mult.: intraband D γ from ($^{51}\text{V},4n\gamma$).
414.26	(11/2 ⁺)	162.7 2	100 5	251.55 (9/2 ⁺)		(M1+E2)	0.25 5	1.063 20	$\alpha(\text{K})=0.872$ 20; $\alpha(\text{L})=0.148$ 4; $\alpha(\text{M})=0.0338$ 8; $\alpha(\text{N})=0.00807$ 19; $\alpha(\text{O})=0.001259$ 24 $\alpha(\text{P})=8.09\times 10^{-5}$ 20 E_γ : other: 161.5 3 from ($^{16}\text{O},4n\gamma$).
		301.6 ^b 2	47 ^b 3	112.64 (7/2 ⁺)		(E2)		0.0807	Mult., δ : intraband D+Q γ from ($^{16}\text{O},4n\gamma$); $\alpha(\text{K})=0.0552$ 8; $\alpha(\text{L})=0.0196$ 3; $\alpha(\text{M})=0.00474$ 7; $\alpha(\text{N})=0.001117$ 16; $\alpha(\text{O})=0.0001573$ 23 $\alpha(\text{P})=4.36\times 10^{-6}$ 7 E_γ : other: 301.0 3 from ($^{16}\text{O},4n\gamma$).
									I_γ : other: 35 from ($^{16}\text{O},4n\gamma$).
491.57	(9/2 ⁺)	199.4 ^b 2	100 ^b 6	292.16 (7/2 ⁺)		(M1)		0.618	Mult.: intraband Q γ from ($^{16}\text{O},4n\gamma$); $\alpha(\text{K})=0.514$ 8; $\alpha(\text{L})=0.0803$ 12; $\alpha(\text{M})=0.0182$ 3; $\alpha(\text{N})=0.00436$ 7; $\alpha(\text{O})=0.000690$ 10 $\alpha(\text{P})=4.79\times 10^{-5}$ 7 Mult.: intraband D γ from ($^{51}\text{V},4n\gamma$).
509.10	(13/2 ⁺)	245.1 ^b 2	100 ^b 9	246.5 (5/2 ⁺)					
		95 ^b	^b	414.26 (11/2 ⁺)					
		173.4 ^b 2	60.0 ^b 25	335.76 (11/2 ⁺)		(M1+E2)		0.70& 22	$\alpha(\text{K})=0.50$ 26; $\alpha(\text{L})=0.15$ 3; $\alpha(\text{M})=0.036$ 9; $\alpha(\text{N})=0.0085$ 21; $\alpha(\text{O})=0.00122$ 20 $\alpha(\text{P})=4.4\times 10^{-5}$ 27 E_γ : other: 173.8 3 from ($^{16}\text{O},4n\gamma$).
									I_γ : other: 49 from ($^{16}\text{O},4n\gamma$).
									Mult.: intraband D+Q γ from ($^{16}\text{O},4n\gamma$).
		327.0 ^b 2	100 ^b 5	182.32 (9/2 ⁺)		(E2)		0.0636	$\alpha(\text{K})=0.0446$ 7; $\alpha(\text{L})=0.01456$ 21; $\alpha(\text{M})=0.00351$ 5; $\alpha(\text{N})=0.000828$ 12; $\alpha(\text{O})=0.0001176$ 17

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\dagger	α	Comments
527.2	(13/2 ⁻)	160.7 ^b 2	100 ^b 4	366.4	(11/2 ⁻)	(M1+E2)	0.30 10	1.09 4	$\alpha(\text{P})=3.57\times 10^{-6}$ 5 Mult.: intraband Q γ from (¹⁶ O,4n γ). $\alpha(\text{K})=0.89$ 4; $\alpha(\text{L})=0.156$ 7; $\alpha(\text{M})=0.0358$ 17; $\alpha(\text{N})=0.0085$ 4; $\alpha(\text{O})=0.00132$ 5; $\alpha(\text{P})=8.2\times 10^{-5}$ 4
		291.3 ^b 2	8.2 ^b 9	235.90	(9/2 ⁻)	(E2)		0.0896	Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ). $\alpha(\text{K})=0.0605$ 9; $\alpha(\text{L})=0.0223$ 4; $\alpha(\text{M})=0.00541$ 8; $\alpha(\text{N})=0.001273$ 19; $\alpha(\text{O})=0.000179$ 3 $\alpha(\text{P})=4.75\times 10^{-6}$ 7 E_γ : other: 291.7 3 from (¹⁶ O,4n γ). I_γ : other: 36 from (¹⁶ O,4n γ). Mult.: intraband Q γ from (¹⁶ O,4n γ).
530.4	(7/2 ⁻)	294.5 [#] 4	100 [#] 3	235.90	(9/2 ⁻)	[M1,E2]		0.149 63	$\alpha(\text{K})=0.118$ 59; $\alpha(\text{L})=0.024$ 3; $\alpha(\text{M})=0.0057$ 6; $\alpha(\text{N})=0.00135$ 14; $\alpha(\text{O})=0.00020$ 4 $\alpha(\text{P})=1.05\times 10^{-5}$ 59
		478.7 [#] 4	93 [#] 3	52.72	(7/2 ⁺)	[E1]		0.00751	$\alpha(\text{K})=0.00631$ 9; $\alpha(\text{L})=0.000929$ 14; $\alpha(\text{M})=0.000209$ 3; $\alpha(\text{N})=4.97\times 10^{-5}$ 7; $\alpha(\text{O})=7.73\times 10^{-6}$ 11 $\alpha(\text{P})=5.00\times 10^{-7}$ 7
573.42	(11/2 ⁺)	281.1 ^b 2	100 ^b 7	292.16	(7/2 ⁺)				
		447.1 ^b 2	14.3 ^b 10	126.39	(9/2 ⁻)	(E1)		0.00873	$\alpha(\text{K})=0.00734$ 11; $\alpha(\text{L})=0.001085$ 16; $\alpha(\text{M})=0.000244$ 4; $\alpha(\text{N})=5.80\times 10^{-5}$ 9; $\alpha(\text{O})=9.02\times 10^{-6}$ 13 $\alpha(\text{P})=5.79\times 10^{-7}$ 9 Mult.: intraband D γ from (⁵¹ V,4n γ); $\Delta\pi$ =yes from level scheme.
578.1	(11/2 ⁻)	246.4 ^b 5	<63 ^b	331.5	(7/2 ⁻)				
		254.2 ^b 5	<63 ^b	323.84	(13/2 ⁻)				
596.39	(13/2 ⁺)	451.7 ^b 5	100 ^b 13	126.39	(9/2 ⁻)				
		182.1 ^b 2	100 ^b 4	414.26	(11/2 ⁺)	(M1+E2)	0.25 5	0.773 15	$\alpha(\text{K})=0.636$ 14; $\alpha(\text{L})=0.1061$ 19; $\alpha(\text{M})=0.0242$ 5; $\alpha(\text{N})=0.00579$ 11; $\alpha(\text{O})=0.000905$ 15 $\alpha(\text{P})=5.90\times 10^{-5}$ 14 E_γ : other: 183.6 3 from (¹⁶ O,4n γ). Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
		260.4 ^b 2	12.7 ^b 10	335.76	(11/2 ⁺)				
		344.9 ^b 2	93 ^b 4	251.55	(9/2 ⁺)	E2		0.0545	$\alpha(\text{K})=0.0388$ 6; $\alpha(\text{L})=0.01204$ 17; $\alpha(\text{M})=0.00290$ 5; $\alpha(\text{N})=0.000684$ 10; $\alpha(\text{O})=9.75\times 10^{-5}$ 14 $\alpha(\text{P})=3.13\times 10^{-6}$ 5 Other I_γ : 59 from (¹⁶ O,4n γ). Mult.: intraband Q γ from (¹⁶ O,4n γ).

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\dagger	α	Comments
622.14	(17/2 ⁻)	298.2 ^b 2	100 ^b	323.84	(13/2 ⁻)	E2		0.0835	$\alpha(\text{K})=0.0568$ 8; $\alpha(\text{L})=0.0204$ 3; $\alpha(\text{M})=0.00495$ 7; $\alpha(\text{N})=0.001165$ 17; $\alpha(\text{O})=0.0001640$ 24 $\alpha(\text{P})=4.48\times 10^{-6}$ 7 B(E2)(W.u.)=215 +20-10 Mult.: intraband Q γ from (¹⁶ O,4n γ); not M2 from RUL.
699.68	(15/2 ⁺)	103 ^b	^b	596.39	(13/2 ⁺)	(M1+E2)	0.40 10	0.653 24	$\alpha(\text{K})=0.53$ 3; $\alpha(\text{L})=0.0953$ 23; $\alpha(\text{M})=0.0220$ 7; $\alpha(\text{N})=0.00523$ 15; $\alpha(\text{O})=0.000807$ 16 $\alpha(\text{P})=4.9\times 10^{-5}$ 3 Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
		190.5 ^b 2	42.9 ^b 22	509.10	(13/2 ⁺)				
709.1	(15/2 ⁻)	364.1 ^b 2	100 ^b 5	335.76	(11/2 ⁺)	(E2)		0.0468	$\alpha(\text{K})=0.0338$ 5; $\alpha(\text{L})=0.00997$ 14; $\alpha(\text{M})=0.00239$ 4; $\alpha(\text{N})=0.000564$ 8; $\alpha(\text{O})=8.09\times 10^{-5}$ 12 $\alpha(\text{P})=2.75\times 10^{-6}$ 4 Mult.: intraband Q γ from (¹⁶ O,4n γ).
		181.9 ^b 2	100 ^b 5	527.2	(13/2 ⁻)	(M1+E2)	0.25 5	0.776 15	$\alpha(\text{K})=0.638$ 14; $\alpha(\text{L})=0.1064$ 19; $\alpha(\text{M})=0.0243$ 5; $\alpha(\text{N})=0.00580$ 11; $\alpha(\text{O})=0.000908$ 15 $\alpha(\text{P})=5.92\times 10^{-5}$ 14 Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
798.25	(15/2 ⁺)	342.6 ^b 2	46.2 ^b 26	366.4	(11/2 ⁻)	(E2)		0.0556	$\alpha(\text{K})=0.0395$ 6; $\alpha(\text{L})=0.01233$ 18; $\alpha(\text{M})=0.00297$ 5; $\alpha(\text{N})=0.000700$ 10; $\alpha(\text{O})=9.98\times 10^{-5}$ 15 $\alpha(\text{P})=3.19\times 10^{-6}$ 5 Mult.: intraband Q γ from (¹⁶ O,4n γ).
		201.6 ^b 2	100 ^b 5	596.39	(13/2 ⁺)	M1+E2	0.15 10	0.593 15	$\alpha(\text{K})=0.492$ 15; $\alpha(\text{L})=0.0783$ 13; $\alpha(\text{M})=0.0178$ 4; $\alpha(\text{N})=0.00425$ 8; $\alpha(\text{O})=0.000671$ 10 $\alpha(\text{P})=4.57\times 10^{-5}$ 15 E_γ : other: 200.6 3 from (¹⁶ O,4n γ). I_γ : other: 62 from (¹⁶ O,4n γ). Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
816.97	(13/2 ⁺)	289.4 ^b 2	18.8 ^b 12	509.10	(13/2 ⁺)	(M1)		0.222	$\alpha(\text{K})=0.185$ 3; $\alpha(\text{L})=0.0287$ 4; $\alpha(\text{M})=0.00650$ 10; $\alpha(\text{N})=0.001555$ 22; $\alpha(\text{O})=0.000246$ 4 $\alpha(\text{P})=1.716\times 10^{-5}$ 25 Mult.: intraband D γ from (⁵¹ V,4n γ).
		384.0 ^b 2	98 ^b 5	414.26	(11/2 ⁺)	(E2) ^a		0.0403	$\alpha(\text{K})=0.0295$ 5; $\alpha(\text{L})=0.00831$ 12; $\alpha(\text{M})=0.00199$ 3; $\alpha(\text{N})=0.000469$ 7; $\alpha(\text{O})=6.76\times 10^{-5}$ 10 $\alpha(\text{P})=2.42\times 10^{-6}$ 4
816.97	(13/2 ⁺)	243.5 ^b 2	34 ^b 4	573.42	(11/2 ⁺)	(M1)		0.356	$\alpha(\text{K})=0.297$ 5; $\alpha(\text{L})=0.0461$ 7; $\alpha(\text{M})=0.01044$ 15; $\alpha(\text{N})=0.00250$ 4; $\alpha(\text{O})=0.000396$ 6 $\alpha(\text{P})=2.75\times 10^{-5}$ 4 Mult.: intraband D γ from (⁵¹ V,4n γ).
		325.4 ^b 2	100 ^b 4	491.57	(9/2 ⁺)				

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\dagger	α	Comments
905.08	(17/2 ⁺)	205.4 ^b 2	33.1 ^b 14	699.68	(15/2 ⁺)	(M1+E2)	0.40 10	0.528 20	$\alpha(\text{K})=0.430$ 21; $\alpha(\text{L})=0.0759$ 14; $\alpha(\text{M})=0.0174$ 4; $\alpha(\text{N})=0.00416$ 9; $\alpha(\text{O})=0.000644$ 10 $\alpha(\text{P})=3.96\times 10^{-5}$ 21 I_γ : other: 23 from (¹⁶ O,4n γ). Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
		396.1 ^b 2	100 ^b 4	509.10	(13/2 ⁺)	(E2)		0.0370	$\alpha(\text{K})=0.0273$ 4; $\alpha(\text{L})=0.00748$ 11; $\alpha(\text{M})=0.00179$ 3; $\alpha(\text{N})=0.000422$ 6; $\alpha(\text{O})=6.10\times 10^{-5}$ 9 $\alpha(\text{P})=2.25\times 10^{-6}$ 4 Mult.: intraband Q γ from (¹⁶ O,4n γ).
905.95	(15/2 ⁻)	327.8 ^b 2	100 ^b 9	578.1	(11/2 ⁻)				
		581.9 ^b 5	73 ^b 9	323.84	(13/2 ⁻)	D+Q			Mult.: intraband D+Q γ from (⁵¹ V,4n γ).
916.8	(17/2 ⁻)	207.7 ^b 2	100 ^b 5	709.1	(15/2 ⁻)	M1+E2	0.20 10	0.541 15	$\alpha(\text{K})=0.448$ 15; $\alpha(\text{L})=0.0722$ 12; $\alpha(\text{M})=0.0164$ 3; $\alpha(\text{N})=0.00392$ 8; $\alpha(\text{O})=0.000618$ 9 $\alpha(\text{P})=4.15\times 10^{-5}$ 16 Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
		389.7 ^b 2	51.2 ^b 24	527.2	(13/2 ⁻)	(E2)		0.0387	$\alpha(\text{K})=0.0284$ 4; $\alpha(\text{L})=0.00790$ 12; $\alpha(\text{M})=0.00189$ 3; $\alpha(\text{N})=0.000446$ 7; $\alpha(\text{O})=6.44\times 10^{-5}$ 9 $\alpha(\text{P})=2.34\times 10^{-6}$ 4 Other I_γ : 38 from (¹⁶ O,4n γ).
931.06	(15/2 ⁺)	357.6 ^b 2	100 ^b 5	573.42	(11/2 ⁺)				
		607.2 ^b 2	22.3 ^b 21	323.84	(13/2 ⁻)	D			Mult.: from (⁵¹ V,4n γ).
1011.33	(21/2 ⁻)	388.9 ^b 2	100 ^b	622.14	(17/2 ⁻)	E2 ^a		0.0389	$\alpha(\text{K})=0.0286$ 4; $\alpha(\text{L})=0.00796$ 12; $\alpha(\text{M})=0.00190$ 3; $\alpha(\text{N})=0.000449$ 7; $\alpha(\text{O})=6.48\times 10^{-5}$ 10 $\alpha(\text{P})=2.35\times 10^{-6}$ 4 B(E2)(W.u.)=241 22
1012.12	(17/2 ⁺)	213.8 ^b 2	73 ^b 4	798.25	(15/2 ⁺)	M1+E2	0.30 10	0.487 17	$\alpha(\text{K})=0.401$ 17; $\alpha(\text{L})=0.0668$ 11; $\alpha(\text{M})=0.0153$ 3; $\alpha(\text{N})=0.00365$ 7; $\alpha(\text{O})=0.000570$ 9 $\alpha(\text{P})=3.70\times 10^{-5}$ 17 E_γ : other: 216.1 3 from (¹⁶ O,4n γ). Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
		312.4 ^b 2	22.0 ^b 15	699.68	(15/2 ⁺)	(M1+E2)		0.127 55	$\alpha(\text{K})=0.101$ 51; $\alpha(\text{L})=0.020$ 3; $\alpha(\text{M})=0.0047$ 6; $\alpha(\text{N})=0.00112$ 15; $\alpha(\text{O})=0.00017$ 3 $\alpha(\text{P})=9.0\times 10^{-6}$ 50 Mult.: intraband D+Q γ from (⁵¹ V,4n γ).
		415.8 ^b 2	100 ^b 5	596.39	(13/2 ⁺)	(E2) ^a		0.0325	$\alpha(\text{K})=0.0242$ 4; $\alpha(\text{L})=0.00637$ 9; $\alpha(\text{M})=0.001517$ 22; $\alpha(\text{N})=0.000359$ 5; $\alpha(\text{O})=5.21\times 10^{-5}$ 8 $\alpha(\text{P})=2.00\times 10^{-6}$ 3 E_γ : other: 416.7 3 from (¹⁶ O,4n γ). I_γ : other: 143 from (¹⁶ O,4n γ).

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\dagger	α	Comments
1123.47	(19/2 ⁺)	218.4 ^b 2	24.4 ^b 16	905.08	(17/2 ⁺)	(M1+E2)	0.40 10	0.445 18	$\alpha(\text{K})=0.363$ 18; $\alpha(\text{L})=0.0632$ 10; $\alpha(\text{M})=0.0145$ 3; $\alpha(\text{N})=0.00346$ 7; $\alpha(\text{O})=0.000537$ 8 $\alpha(\text{P})=3.34\times 10^{-5}$ 18 I_γ : other: 33 from (¹⁶ O,4n γ). Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
		423.9 ^b 2	100 ^b 5	699.68	(15/2 ⁺)	(E2) ^a		0.0309	$\alpha(\text{K})=0.0231$ 4; $\alpha(\text{L})=0.00598$ 9; $\alpha(\text{M})=0.001423$ 20; $\alpha(\text{N})=0.000337$ 5; $\alpha(\text{O})=4.89\times 10^{-5}$ 7 $\alpha(\text{P})=1.91\times 10^{-6}$ 3
1136.4	(19/2 ⁻)	219.5 ^b 2	100 ^b 3	916.8	(17/2 ⁻)	(M1+E2)	0.30 10	0.453 16	$\alpha(\text{K})=0.373$ 16; $\alpha(\text{L})=0.0619$ 10; $\alpha(\text{M})=0.01414$ 25; $\alpha(\text{N})=0.00338$ 6; $\alpha(\text{O})=0.000528$ 8 $\alpha(\text{P})=3.44\times 10^{-5}$ 16 Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
		427.4 ^b 2	66 ^b 3	709.1	(15/2 ⁻)	(E2) ^a		0.0302	$\alpha(\text{K})=0.0226$ 4; $\alpha(\text{L})=0.00583$ 9; $\alpha(\text{M})=0.001385$ 20; $\alpha(\text{N})=0.000328$ 5; $\alpha(\text{O})=4.77\times 10^{-5}$ 7 $\alpha(\text{P})=1.88\times 10^{-6}$ 3 I_γ : other: 105 from (¹⁶ O,4n γ).
1201.93	(17/2 ⁺)	270.9 ^b 2	21.3 ^b 11	931.06	(15/2 ⁺)				
		384.9 ^b 2	100 ^b 5	816.97	(13/2 ⁺)				
1243.16	(19/2 ⁺)	231.3 ^b 2	73 ^b 3	1012.12	(17/2 ⁺)	M1+E2	0.25 10	0.397 13	$\alpha(\text{K})=0.328$ 13; $\alpha(\text{L})=0.0532$ 8; $\alpha(\text{M})=0.01212$ 19; $\alpha(\text{N})=0.00290$ 5; $\alpha(\text{O})=0.000455$ 7 $\alpha(\text{P})=3.03\times 10^{-5}$ 13 E_γ : other: 229.0 3 from (¹⁶ O,4n γ). I_γ : other: 85 from (¹⁶ O,4n γ). Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
		338.2 ^b 2	13.4 ^b 12	905.08	(17/2 ⁺)	(M1)		0.1462	$\alpha(\text{K})=0.1219$ 18; $\alpha(\text{L})=0.0188$ 3; $\alpha(\text{M})=0.00425$ 6; $\alpha(\text{N})=0.001018$ 15; $\alpha(\text{O})=0.0001614$ 23 $\alpha(\text{P})=1.125\times 10^{-5}$ 16 Mult.: intraband D γ from (⁵¹ V,4n γ).
		445.1 ^b 3	100 ^b 5	798.25	(15/2 ⁺)	(E2) ^a		0.0271	$\alpha(\text{K})=0.0205$ 3; $\alpha(\text{L})=0.00511$ 8; $\alpha(\text{M})=0.001213$ 18; $\alpha(\text{N})=0.000287$ 4; $\alpha(\text{O})=4.19\times 10^{-5}$ 6 $\alpha(\text{P})=1.709\times 10^{-6}$ 24
1311.42	(19/2 ⁻)	405.4 ^b 2	100 ^b 12	905.95	(15/2 ⁻)				
		689.4 ^b 2	65 ^b 6	622.14	(17/2 ⁻)	(M1)		0.0228	$\alpha(\text{K})=0.0191$ 3; $\alpha(\text{L})=0.00288$ 4; $\alpha(\text{M})=0.000650$ 10; $\alpha(\text{N})=0.0001555$ 22; $\alpha(\text{O})=2.47\times 10^{-5}$ 4 $\alpha(\text{P})=1.739\times 10^{-6}$ 25 Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
1341.05	(19/2 ⁺)	409.9 ^b 2	100 ^b 5	931.06	(15/2 ⁺)	(E2)		0.0338	$\alpha(\text{K})=0.0251$ 4; $\alpha(\text{L})=0.00668$ 10; $\alpha(\text{M})=0.001592$ 23; $\alpha(\text{N})=0.000376$ 6; $\alpha(\text{O})=5.45\times 10^{-5}$ 8

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\ddagger	α	Comments
1341.05	(19/2 ⁺)	719.0 ^b 2	24.5 ^b 21	622.14	(17/2 ⁻)	D			$\alpha(\text{P})=2.07\times 10^{-6}$ 3 Mult.: intraband (Q) γ from (⁵¹ V,4n γ). Mult.: from (⁵¹ V,4n γ).
1353.25	(21/2 ⁺)	229.7 ^b 2	18.3 ^b 12	1123.47	(19/2 ⁺)	(M1+E2)		0.30 12	$\alpha(\text{K})=0.23$ 12; $\alpha(\text{L})=0.0551$ 12; $\alpha(\text{M})=0.0130$ 8; $\alpha(\text{N})=0.00308$ 16; $\alpha(\text{O})=0.000455$ 13 $\alpha(\text{P})=2.0\times 10^{-5}$ 12 I_γ : other: 33 from (¹⁶ O,4n γ). Mult.: intraband D+Q γ from (⁵¹ V,4n γ).
		448.3 ^b 23	100 ^b 5	905.08	(17/2 ⁺)	(E2) ^a		0.0266 6	$\alpha(\text{K})=0.0201$ 4; $\alpha(\text{L})=0.00500$ 11; $\alpha(\text{M})=0.00119$ 3; $\alpha(\text{N})=0.000280$ 7; $\alpha(\text{O})=4.10\times 10^{-5}$ 9 $\alpha(\text{P})=1.68\times 10^{-6}$ 3
1378.8	(21/2 ⁻)	242.3 ^b 2	100 ^b 3	1136.4	(19/2 ⁻)	(M1+E2)		0.26 & 11	$\alpha(\text{K})=0.20$ 10; $\alpha(\text{L})=0.0460$ 10; $\alpha(\text{M})=0.0108$ 3; $\alpha(\text{N})=0.00257$ 6; $\alpha(\text{O})=0.000381$ 22 $\alpha(\text{P})=1.8\times 10^{-5}$ 11 Mult.: intraband D+Q γ from (⁵¹ V,4n γ).
		462.1 ^b 3	90 ^b 3	916.8	(17/2 ⁻)	(E2) ^a		0.0246	$\alpha(\text{K})=0.0187$ 3; $\alpha(\text{L})=0.00454$ 7; $\alpha(\text{M})=0.001075$ 16; $\alpha(\text{N})=0.000254$ 4; $\alpha(\text{O})=3.73\times 10^{-5}$ 6 $\alpha(\text{P})=1.567\times 10^{-6}$ 22 I_γ : other: 97 from (¹⁶ O,4n γ).
1476.13	(25/2 ⁻)	464.9 ^b 2	100 ^b	1011.33	(21/2 ⁻)	(E2) ^a		0.0242	$\alpha(\text{K})=0.0184$ 3; $\alpha(\text{L})=0.00446$ 7; $\alpha(\text{M})=0.001055$ 15; $\alpha(\text{N})=0.000250$ 4; $\alpha(\text{O})=3.66\times 10^{-5}$ 6 $\alpha(\text{P})=1.545\times 10^{-6}$ 22 B(E2)(W.u.)=243 +23-29
1479.77	(21/2 ⁺)	236.4 ^b 2	51 ^b 3	1243.16	(19/2 ⁺)	(M1+E2)	0.25 10	0.374 12	$\alpha(\text{K})=0.309$ 12; $\alpha(\text{L})=0.0500$ 8; $\alpha(\text{M})=0.01139$ 17; $\alpha(\text{N})=0.00272$ 4; $\alpha(\text{O})=0.000428$ 7 $\alpha(\text{P})=2.86\times 10^{-5}$ 12 E_γ : other: 238.5 3 from (¹⁶ O,4n γ). I_γ : other: 70 from (¹⁶ O,4n γ). Mult., δ : intraband D+Q γ from (¹⁶ O,4n γ).
		356.5 ^b 2	12.9 ^b 10	1123.47	(19/2 ⁺)	(M1)		0.1270	$\alpha(\text{K})=0.1060$ 15; $\alpha(\text{L})=0.01630$ 23; $\alpha(\text{M})=0.00369$ 6; $\alpha(\text{N})=0.000883$ 13 $\alpha(\text{O})=0.0001400$ 20; $\alpha(\text{P})=9.77\times 10^{-6}$ 14 Mult.: intraband D γ from (⁵¹ V,4n γ).
		467.6 ^b 2	100 ^b 5	1012.12	(17/2 ⁺)	(E2) ^a		0.0239	$\alpha(\text{K})=0.0182$ 3; $\alpha(\text{L})=0.00438$ 7; $\alpha(\text{M})=0.001036$ 15; $\alpha(\text{N})=0.000245$ 4; $\alpha(\text{O})=3.60\times 10^{-5}$ 5 $\alpha(\text{P})=1.524\times 10^{-6}$ 22
1594.26	(23/2 ⁺)	240.9 ^b 2	16.1 ^b 16	1353.25	(21/2 ⁺)	(M1+E2)		0.26 & 11	$\alpha(\text{K})=0.20$ 11; $\alpha(\text{L})=0.0469$ 9; $\alpha(\text{M})=0.0111$ 4; $\alpha(\text{N})=0.00262$ 6; $\alpha(\text{O})=0.000388$ 21 $\alpha(\text{P})=1.8\times 10^{-5}$ 11

Adopted Levels, Gammas (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	$\gamma(^{171}\text{Ta})$ (continued)		Comments
							δ^\dagger	α	
									E_γ : other: 240.9 3 from ($^{16}\text{O},4n\gamma$). I_γ : other: 35 from ($^{16}\text{O},4n\gamma$). Mult.: intraband D+Q γ from ($^{16}\text{O},4n\gamma$).
1594.26	(23/2 ⁺)	470.8 ^b 2	100 ^b 5	1123.47	(19/2 ⁺)	E2 ^a		0.0235	$\alpha(\text{K})=0.0179$ 3; $\alpha(\text{L})=0.00429$ 6; $\alpha(\text{M})=0.001013$ 15; $\alpha(\text{N})=0.000240$ 4; $\alpha(\text{O})=3.52\times 10^{-5}$ 5 $\alpha(\text{P})=1.501\times 10^{-6}$ 21
1624.7	(23/2 ⁻)	245.8 ^b 2	93 ^b 4	1378.8	(21/2 ⁻)	M1+E2	0.30 10	0.331 12	$\alpha(\text{K})=0.273$ 12; $\alpha(\text{L})=0.0447$ 7; $\alpha(\text{M})=0.01020$ 15; $\alpha(\text{N})=0.00244$ 4; $\alpha(\text{O})=0.000382$ 6 $\alpha(\text{P})=2.52\times 10^{-5}$ 12
		488.4 ^b 2	100 ^b 4	1136.4	(19/2 ⁻)	(E2) ^a		0.0214	E_γ : other: 246.1 3 from ($^{16}\text{O},4n\gamma$). I_γ : other: 156 from ($^{16}\text{O},4n\gamma$). Mult., δ : intraband D+Q γ from ($^{16}\text{O},4n\gamma$). $\alpha(\text{K})=0.01640$ 23; $\alpha(\text{L})=0.00383$ 6; $\alpha(\text{M})=0.000903$ 13; $\alpha(\text{N})=0.000214$ 3; $\alpha(\text{O})=3.15\times 10^{-5}$ 5 $\alpha(\text{P})=1.380\times 10^{-6}$ 20
1630.55	(21/2 ⁺)	289.7 ^b 2	15.5 ^b 4	1341.05	(19/2 ⁺)				Other E_γ (I_γ): 488.7 3 (64) from ($^{16}\text{O},4n\gamma$).
		428.6 ^b 2	100 ^b 7	1201.93	(17/2 ⁺)	(E2) ^a		0.0300	$\alpha(\text{K})=0.0224$ 4; $\alpha(\text{L})=0.00577$ 9; $\alpha(\text{M})=0.001372$ 20; $\alpha(\text{N})=0.000325$ 5; $\alpha(\text{O})=4.72\times 10^{-5}$ 7 $\alpha(\text{P})=1.87\times 10^{-6}$ 3
1733.58	(23/2 ⁺)	253.7 ^b 2	41 ^b 3	1479.77	(21/2 ⁺)	M1+E2		0.228 ^{&} 91	$\alpha(\text{K})=0.176$ 89; $\alpha(\text{L})=0.0395$ 18; $\alpha(\text{M})=0.00928$ 14; $\alpha(\text{N})=0.00220$ 5; $\alpha(\text{O})=0.00033$ 3 $\alpha(\text{P})=1.56\times 10^{-5}$ 90
		380.4 ^b 2	13.8 ^b 13	1353.25	(21/2 ⁺)	(M1)		0.1068	E_γ : other: 251.7 3 from ($^{16}\text{O},4n\gamma$). I_γ : other: 64 from ($^{16}\text{O},4n\gamma$). $\alpha(\text{K})=0.0892$ 13; $\alpha(\text{L})=0.01370$ 20; $\alpha(\text{M})=0.00310$ 5; $\alpha(\text{N})=0.000742$ 11 $\alpha(\text{O})=0.0001176$ 17; $\alpha(\text{P})=8.21\times 10^{-6}$ 12
		490.2 3	100 6	1243.16	(19/2 ⁺)	(E2) ^a		0.0212	Mult.: intraband D γ from ($^{51}\text{V},4n\gamma$). $\alpha(\text{K})=0.01626$ 23; $\alpha(\text{L})=0.00378$ 6; $\alpha(\text{M})=0.000893$ 13; $\alpha(\text{N})=0.000211$ 3; $\alpha(\text{O})=3.12\times 10^{-5}$ 5 $\alpha(\text{P})=1.368\times 10^{-6}$ 20
1783.19	(23/2 ⁻)	471.8 ^b 2	100 ^b	1311.42	(19/2 ⁻)	(E2) ^a		0.0233	$\alpha(\text{K})=0.01780$ 25; $\alpha(\text{L})=0.00426$ 6; $\alpha(\text{M})=0.001007$ 15; $\alpha(\text{N})=0.000238$ 4; $\alpha(\text{O})=3.50\times 10^{-5}$ 5 $\alpha(\text{P})=1.493\times 10^{-6}$ 21
		771.8 ^b 2	92 ^b 12	1011.33	(21/2 ⁻)				
1794.14	(23/2 ⁺)	452.9 ^b 2	100 ^b 5	1341.05	(19/2 ⁺)				
		783.0 ^b 2	35.9 ^b 22	1011.33	(21/2 ⁻)	D			Mult.: from ($^{51}\text{V},4n\gamma$).
1845.45	(25/2 ⁺)	251.1 ^b 2	14.5 ^b 10	1594.26	(23/2 ⁺)	M1+E2	0.60 20	0.278 24	$\alpha(\text{K})=0.224$ 24; $\alpha(\text{L})=0.0416$ 7; $\alpha(\text{M})=0.00960$ 14;

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	α	Comments
								$\alpha(\text{N})=0.00229$ 4; $\alpha(\text{O})=0.000351$ 8 $\alpha(\text{P})=2.04\times 10^{-5}$ 24 Mult.: D+Q intraband γ from ($^{16}\text{O},4\text{n}\gamma$). I_γ : other: 25 from ($^{16}\text{O},4\text{n}\gamma$).
1845.45	(25/2 ⁺)	492.1 ^b 3	100 ^b 5	1353.25	(21/2 ⁺)	E2	0.0210	$\alpha(\text{K})=0.01611$ 23; $\alpha(\text{L})=0.00374$ 6; $\alpha(\text{M})=0.000882$ 13; $\alpha(\text{N})=0.000209$ 3; $\alpha(\text{O})=3.08\times 10^{-5}$ 5 $\alpha(\text{P})=1.356\times 10^{-6}$ 19 Mult.: Q intraband γ from ($^{16}\text{O},4\text{n}\gamma$).
1890.3	(25/2 ⁻)	265.5 ^b 2	77 ^b 3	1624.7	(23/2 ⁻)	(M1+E2)	0.200 ^{&} 81	$\alpha(\text{K})=0.156$ 79; $\alpha(\text{L})=0.0340$ 24; $\alpha(\text{M})=0.0080$ 3; $\alpha(\text{N})=0.00189$ 8; $\alpha(\text{O})=0.00028$ 3 $\alpha(\text{P})=1.38\times 10^{-5}$ 79 I_γ : other: 85 from ($^{16}\text{O},4\text{n}\gamma$). Mult., δ : from ($^{16}\text{O},4\text{n}\gamma$); D+Q intraband transition.
		511.5 ^b 2	100 ^b 3	1378.8	(21/2 ⁻)	(E2)	0.0190	$\alpha(\text{K})=0.01472$ 21; $\alpha(\text{L})=0.00333$ 5; $\alpha(\text{M})=0.000783$ 11; $\alpha(\text{N})=0.000186$ 3; $\alpha(\text{O})=2.74\times 10^{-5}$ 4 $\alpha(\text{P})=1.243\times 10^{-6}$ 18 Mult.: Q intraband γ from ($^{16}\text{O},4\text{n}\gamma$).
1983.44	(25/2 ⁺)	249.8 ^b 2	26.5 ^b 15	1733.58	(23/2 ⁺)	(M1)	0.332	$\alpha(\text{K})=0.277$ 4; $\alpha(\text{L})=0.0430$ 6; $\alpha(\text{M})=0.00973$ 14; $\alpha(\text{N})=0.00233$ 4; $\alpha(\text{O})=0.000369$ 6 $\alpha(\text{P})=2.57\times 10^{-5}$ 4 E_γ : other: 252.0 3 from ($^{16}\text{O},4\text{n}\gamma$). I_γ : other: 71 from ($^{16}\text{O},4\text{n}\gamma$). Mult.: intraband D γ from ($^{51}\text{V},4\text{n}\gamma$).
		389.2 ^b 2	8.1 ^b 8	1594.26	(23/2 ⁺)	(M1)	0.1006	$\alpha(\text{K})=0.0839$ 12; $\alpha(\text{L})=0.01288$ 19; $\alpha(\text{M})=0.00292$ 5; $\alpha(\text{N})=0.000697$ 10 $\alpha(\text{O})=0.0001106$ 16; $\alpha(\text{P})=7.73\times 10^{-6}$ 11 Mult.: intraband D γ from ($^{51}\text{V},4\text{n}\gamma$).
		503.7 ^b 2	100 ^b 4	1479.77	(21/2 ⁺)	(E2) ^a	0.0198	$\alpha(\text{K})=0.01525$ 22; $\alpha(\text{L})=0.00349$ 5; $\alpha(\text{M})=0.000821$ 12; $\alpha(\text{N})=0.000194$ 3; $\alpha(\text{O})=2.87\times 10^{-5}$ 4 $\alpha(\text{P})=1.287\times 10^{-6}$ 18
2000.9	(29/2 ⁻)	524.7 ^b 2	100 ^b	1476.13	(25/2 ⁻)	E2 ^a	0.0179	$\alpha(\text{K})=0.01387$ 20; $\alpha(\text{L})=0.00308$ 5; $\alpha(\text{M})=0.000725$ 11; $\alpha(\text{N})=0.0001718$ 25 $\alpha(\text{O})=2.55\times 10^{-5}$ 4; $\alpha(\text{P})=1.173\times 10^{-6}$ 17 B(E2)(W.u.) > 130
2079.22	(25/2 ⁺)	345.5 ^b 5	<6 ^b	1733.58	(23/2 ⁺)			
		448.8 ^b 2	100 ^b 6	1630.55	(21/2 ⁺)	(E2) ^a	0.0266	$\alpha(\text{K})=0.0201$ 3; $\alpha(\text{L})=0.00498$ 7; $\alpha(\text{M})=0.001181$ 17; $\alpha(\text{N})=0.000279$ 4; $\alpha(\text{O})=4.08\times 10^{-5}$ 6 $\alpha(\text{P})=1.676\times 10^{-6}$ 24
2107.87	(27/2 ⁺)	262.2 ^b 3	9.5 ^b 9	1845.45	(25/2 ⁺)	(M1+E2)	0.207 ^{&} 84	$\alpha(\text{K})=0.161$ 81; $\alpha(\text{L})=0.0354$ 23; $\alpha(\text{M})=0.00831$ 24; $\alpha(\text{N})=0.00197$ 8; $\alpha(\text{O})=0.00029$ 3

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\dagger	α	Comments
2107.87	(27/2 ⁺)	513.6 ^b 3	100 ^b 5	1594.26	(23/2 ⁺)	(E2) ^a		0.0188	$\alpha(\text{P})=1.43\times 10^{-5}$ 82 I_γ : other: 22 from (¹⁶ O,4n γ). Mult.: intraband D+Q γ from (⁵¹ V,4n γ). $\alpha(\text{K})=0.01458$ 21; $\alpha(\text{L})=0.00329$ 5; $\alpha(\text{M})=0.000774$ 11; $\alpha(\text{N})=0.000183$ 3; $\alpha(\text{O})=2.71\times 10^{-5}$ 4 $\alpha(\text{P})=1.231\times 10^{-6}$ 18
2120.6	(25/2 ⁺)	490.1 ^b 2	100 ^b	1630.55	(21/2 ⁺)				
2155.2	(27/2 ⁻)	264.8 ^b 2	82 ^b 4	1890.3	(25/2 ⁻)	(M1)		0.283	$\alpha(\text{K})=0.236$ 4; $\alpha(\text{L})=0.0366$ 6; $\alpha(\text{M})=0.00829$ 12; $\alpha(\text{N})=0.00198$ 3; $\alpha(\text{O})=0.000314$ 5 $\alpha(\text{P})=2.19\times 10^{-5}$ 3 Mult.: intraband D γ from (⁵¹ V,4n γ).
		530.5 ^b 2	100 ^b 4	1624.7	(23/2 ⁻)	(E2)		0.01740	$\alpha(\text{K})=0.01352$ 19; $\alpha(\text{L})=0.00299$ 5; $\alpha(\text{M})=0.000701$ 10; $\alpha(\text{N})=0.0001662$ 24 $\alpha(\text{O})=2.47\times 10^{-5}$ 4; $\alpha(\text{P})=1.145\times 10^{-6}$ 16 Mult.: intraband Q γ from (¹⁶ O,4n γ).
2257.24	(27/2 ⁺)	273.9 ^b 2	39 ^b 3	1983.44	(25/2 ⁺)	(M1)		0.258	$\alpha(\text{K})=0.215$ 3; $\alpha(\text{L})=0.0334$ 5; $\alpha(\text{M})=0.00755$ 11; $\alpha(\text{N})=0.00181$ 3; $\alpha(\text{O})=0.000286$ 4 $\alpha(\text{P})=1.99\times 10^{-5}$ 3 E_γ : other: 271.6 3 from (¹⁶ O,4n γ). I_γ : other: 32 from (¹⁶ O,4n γ). Mult.: intraband D γ from (⁵¹ V,4n γ).
		411.7 ^b 2	10.7 ^b 8	1845.45	(25/2 ⁺)				
		523.6 ^b 2	100 ^b 6	1733.58	(23/2 ⁺)	(E2) ^a		0.0180	$\alpha(\text{K})=0.01394$ 20; $\alpha(\text{L})=0.00310$ 5; $\alpha(\text{M})=0.000730$ 11; $\alpha(\text{N})=0.0001729$ 25 $\alpha(\text{O})=2.56\times 10^{-5}$ 4; $\alpha(\text{P})=1.179\times 10^{-6}$ 17
2292.25	(27/2 ⁺)	498.1 ^b 2	100 ^b 6	1794.14	(23/2 ⁺)	(E2) ^a		0.0203	$\alpha(\text{K})=0.01566$ 22; $\alpha(\text{L})=0.00360$ 5; $\alpha(\text{M})=0.000850$ 12; $\alpha(\text{N})=0.000201$ 3; $\alpha(\text{O})=2.97\times 10^{-5}$ 5 $\alpha(\text{P})=1.320\times 10^{-6}$ 19
2305.31	(27/2 ⁻)	816.2 ^b 2	27.8 ^b 21	1476.13	(25/2 ⁻)	D			
		522.1 ^b 2	100 ^b 12	1783.19	(23/2 ⁻)	(E2)		0.0181	$\alpha(\text{K})=0.01403$ 20; $\alpha(\text{L})=0.00313$ 5; $\alpha(\text{M})=0.000736$ 11; $\alpha(\text{N})=0.0001744$ 25 $\alpha(\text{O})=2.58\times 10^{-5}$ 4; $\alpha(\text{P})=1.187\times 10^{-6}$ 17 Mult.: intraband (Q) γ from (⁵¹ V,4n γ).
		829.3 ^b 2	68 ^b 9	1476.13	(25/2 ⁻)	(M1+E2)		0.0103 40	$\alpha(\text{K})=0.0086$ 35; $\alpha(\text{L})=0.00135$ 45; $\alpha(\text{M})=3.07\times 10^{-4}$ 99; $\alpha(\text{N})=7.3\times 10^{-5}$ 24; $\alpha(\text{O})=1.15\times 10^{-5}$ 39 $\alpha(\text{P})=7.6\times 10^{-7}$ 33 Mult.: intraband D+Q γ from (⁵¹ V,4n γ).
2379.62	(29/2 ⁺)	271.7 ^b 2	9.3 ^b 7	2107.87	(27/2 ⁺)	M1+E2	0.30 20	0.251 19	$\alpha(\text{K})=0.208$ 18; $\alpha(\text{L})=0.0337$ 8; $\alpha(\text{M})=0.00767$ 14; $\alpha(\text{N})=0.00183$ 4; $\alpha(\text{O})=0.000288$ 9

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\ddagger	α	Comments
									$\alpha(\text{P})=1.92\times 10^{-5}$ 18 I_γ : other: 15 from ($^{16}\text{O},4n\gamma$). Mult.: intraband D γ from ($^{51}\text{V},4n\gamma$). δ : from ($^{16}\text{O},4n\gamma$).
2379.62	(29/2 ⁺)	534.2 ^b 2	100 ^b 5	1845.45	(25/2 ⁺)	(E2) ^a		0.01711	$\alpha(\text{K})=0.01331$ 19; $\alpha(\text{L})=0.00293$ 5; $\alpha(\text{M})=0.000687$ 10; $\alpha(\text{N})=0.0001628$ 23
2434.8	(29/2 ⁻)	279.6 ^b 2	81 ^b 4	2155.2	(27/2 ⁻)	(M1+E2)	0.07 20	0.243 10	$\alpha(\text{O})=2.42\times 10^{-5}$ 4; $\alpha(\text{P})=1.127\times 10^{-6}$ 16 $\alpha(\text{K})=0.203$ 9; $\alpha(\text{L})=0.0315$ 6; $\alpha(\text{M})=0.00714$ 12; $\alpha(\text{N})=0.00171$ 3; $\alpha(\text{O})=0.000270$ 6 $\alpha(\text{P})=1.88\times 10^{-5}$ 9 I_γ : other: 71 from ($^{16}\text{O},4n\gamma$). Mult.: intraband D γ from ($^{51}\text{V},4n\gamma$). δ : from ($^{16}\text{O},4n\gamma$).
		544.5 ^b 2	100 ^b 4	1890.3	(25/2 ⁻)	(E2) ^a		0.01633	$\alpha(\text{K})=0.01274$ 18; $\alpha(\text{L})=0.00277$ 4; $\alpha(\text{M})=0.000649$ 10; $\alpha(\text{N})=0.0001539$ 22 $\alpha(\text{O})=2.29\times 10^{-5}$ 4; $\alpha(\text{P})=1.080\times 10^{-6}$ 16
2492.30	(29/2 ⁺)	200.5 ^b 5 235.0 ^b 2	3.2 ^b 4 11.2 ^b 8	2292.25 2257.24	(27/2 ⁺) (27/2 ⁺)	(M1+E2)		0.28 & 11	$\alpha(\text{K})=0.22$ 11; $\alpha(\text{L})=0.0510$ 8; $\alpha(\text{M})=0.0120$ 6; $\alpha(\text{N})=0.00285$ 11; $\alpha(\text{O})=0.000422$ 17 $\alpha(\text{P})=1.9\times 10^{-5}$ 12 E_γ : other: 237.2 3 from ($^{16}\text{O},4n\gamma$). I_γ : other: 24 from ($^{16}\text{O},4n\gamma$). Mult.: intraband D+Q γ from ($^{51}\text{V},4n\gamma$).
		413.1 ^b 2	16.4 ^b 8	2079.22	(25/2 ⁺)	(E2) ^a		0.0331	$\alpha(\text{K})=0.0246$ 4; $\alpha(\text{L})=0.00651$ 10; $\alpha(\text{M})=0.001551$ 22; $\alpha(\text{N})=0.000367$ 6; $\alpha(\text{O})=5.32\times 10^{-5}$ 8 $\alpha(\text{P})=2.03\times 10^{-6}$ 3
		508.9 ^b 2	100 ^b 4	1983.44	(25/2 ⁺)	(E2)		0.0193	$\alpha(\text{K})=0.01489$ 21; $\alpha(\text{L})=0.00338$ 5; $\alpha(\text{M})=0.000796$ 12; $\alpha(\text{N})=0.000188$ 3; $\alpha(\text{O})=2.79\times 10^{-5}$ 4 $\alpha(\text{P})=1.257\times 10^{-6}$ 18 Mult.: intraband Q γ from ($^{16}\text{O},4n\gamma$).
2545.70	(29/2 ⁺)	288.3 ^b 2	40.9 ^b 23	2257.24	(27/2 ⁺)	(M1)		0.225	$\alpha(\text{K})=0.187$ 3; $\alpha(\text{L})=0.0290$ 4; $\alpha(\text{M})=0.00657$ 10; $\alpha(\text{N})=0.001571$ 23; $\alpha(\text{O})=0.000249$ 4 $\alpha(\text{P})=1.733\times 10^{-5}$ 25 Mult.: intraband D γ from ($^{51}\text{V},4n\gamma$).
		437.7 ^b 5 466.6 ^b 2	10.2 ^b 11 21.6 ^b 23	2107.87 2079.22	(27/2 ⁺) (25/2 ⁺)	(E2) ^a		0.0240	$\alpha(\text{K})=0.0183$ 3; $\alpha(\text{L})=0.00441$ 7; $\alpha(\text{M})=0.001043$ 15; $\alpha(\text{N})=0.000247$ 4; $\alpha(\text{O})=3.62\times 10^{-5}$ 5 $\alpha(\text{P})=1.532\times 10^{-6}$ 22
		562.1 ^b 2	100 ^b 8	1983.44	(25/2 ⁺)	(E2) ^a		0.01513	$\alpha(\text{K})=0.01185$ 17; $\alpha(\text{L})=0.00252$ 4; $\alpha(\text{M})=0.000591$ 9;

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\dagger	α	Comments
2571.0	(33/2 ⁻)	570.1 ^b 2	100 ^b	2000.9	(29/2 ⁻)	(E2) ^a		0.01462	$\alpha(\text{N})=0.0001401$ 20; $\alpha(\text{O})=2.09\times 10^{-5}$ 3 $\alpha(\text{P})=1.007\times 10^{-6}$ 15 $\alpha(\text{K})=0.01148$ 16; $\alpha(\text{L})=0.00242$ 4; $\alpha(\text{M})=0.000567$ 8; $\alpha(\text{N})=0.0001345$ 19; $\alpha(\text{O})=2.01\times 10^{-5}$ 3 $\alpha(\text{P})=9.76\times 10^{-7}$ 14 B(E2)(W.u.) < 2.4×10 ²
2646.9	(29/2 ⁺)	526.3 ^b 2	100 ^b 7	2120.6	(25/2 ⁺)				
		567.6 ^b 2	60 ^b 7	2079.22	(25/2 ⁺)				
2663.89	(31/2 ⁺)	284.3 ^b 2	9.0 ^b 10	2379.62	(29/2 ⁺)				
		556.0 ^b 2	100 ^b 5	2107.87	(27/2 ⁺)	(E2) ^a		0.01553	$\alpha(\text{K})=0.01215$ 17; $\alpha(\text{L})=0.00260$ 4; $\alpha(\text{M})=0.000610$ 9; $\alpha(\text{N})=0.0001447$ 21; $\alpha(\text{O})=2.16\times 10^{-5}$ 3 $\alpha(\text{P})=1.031\times 10^{-6}$ 15
2712.2	(31/2 ⁻)	277.2 ^b 2	67 ^b 3	2434.8	(29/2 ⁻)	(M1(+E2))	0.09 10	0.249 6	$\alpha(\text{K})=0.207$ 5; $\alpha(\text{L})=0.0322$ 5; $\alpha(\text{M})=0.00730$ 11; $\alpha(\text{N})=0.00175$ 3; $\alpha(\text{O})=0.000277$ 5 $\alpha(\text{P})=1.92\times 10^{-5}$ 5 Mult., δ : intraband D(+Q) γ from (¹⁶ O,4n γ).
		557.1 ^b 2	100 ^b 4	2155.2	(27/2 ⁻)	(E2) ^a		0.01545	$\alpha(\text{K})=0.01209$ 17; $\alpha(\text{L})=0.00259$ 4; $\alpha(\text{M})=0.000607$ 9; $\alpha(\text{N})=0.0001438$ 21; $\alpha(\text{O})=2.14\times 10^{-5}$ 3 $\alpha(\text{P})=1.027\times 10^{-6}$ 15
2806.06	(31/2 ⁺)	260.4 ^b 2	14.4 ^b 10	2545.70	(29/2 ⁺)				
		425.6 ^b 5	<5.2 ^b	2379.62	(29/2 ⁺)				
		549.0 ^b 2	100 ^b 7	2257.24	(27/2 ⁺)	(E2) ^a		0.01601	$\alpha(\text{K})=0.01250$ 18; $\alpha(\text{L})=0.00270$ 4; $\alpha(\text{M})=0.000633$ 9; $\alpha(\text{N})=0.0001502$ 21; $\alpha(\text{O})=2.23\times 10^{-5}$ 4 $\alpha(\text{P})=1.061\times 10^{-6}$ 15 E γ : other: 550.0 3 from (¹⁶ O,4n γ).
2836.5	(31/2 ⁺)	544.2 ^b 2	100 ^b 7	2292.25	(27/2 ⁺)	Q ^a			
		835.5 ^b 2	17.4 ^b 11	2000.9	(29/2 ⁻)				
2859.8	(31/2 ⁻)	554.6 ^b 2	100 ^b 9	2305.31	(27/2 ⁻)				
		858.8 ^b 2	47 ^b 6	2000.9	(29/2 ⁻)				
2953.04	(33/2 ⁺)	289.1 ^b 2	10.6 ^b 6	2663.89	(31/2 ⁺)				
		573.5 ^b 2	100 ^b 6	2379.62	(29/2 ⁺)	(E2) ^a		0.01442	$\alpha(\text{K})=0.01133$ 16; $\alpha(\text{L})=0.00238$ 4; $\alpha(\text{M})=0.000557$ 8; $\alpha(\text{N})=0.0001322$ 19; $\alpha(\text{O})=1.97\times 10^{-5}$ 3 $\alpha(\text{P})=9.63\times 10^{-7}$ 14
2988.21	(33/2 ⁺)	442.4 ^b 2	9.7 ^b 6	2545.70	(29/2 ⁺)				
		496.0 ^b 2	100 ^b 15	2492.30	(29/2 ⁺)	(E2) ^a		0.0206	$\alpha(\text{K})=0.01581$ 23; $\alpha(\text{L})=0.00365$ 6; $\alpha(\text{M})=0.000861$ 13; $\alpha(\text{N})=0.000204$ 3; $\alpha(\text{O})=3.01\times 10^{-5}$ 5 $\alpha(\text{P})=1.332\times 10^{-6}$ 19

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	δ^\ddagger	α	Comments
2994.3	(33/2 ⁻)	282.2 ^b 2	65 ^b 3	2712.2	(31/2 ⁻)	(M1+E2)		0.168 ^{&} 70	$\alpha(\text{K})=0.132$ 67; $\alpha(\text{L})=0.028$ 3; $\alpha(\text{M})=0.0065$ 5; $\alpha(\text{N})=0.00155$ 12; $\alpha(\text{O})=0.00023$ 4 $\alpha(\text{P})=1.18\times 10^{-5}$ 67 E_γ : other: 283.0 3 from (¹⁶ O,4n γ). Mult.: intraband D+Q γ from (⁵¹ V,4n γ).
		559.5 ^b 2	100 ^b 4	2434.8	(29/2 ⁻)	E2 ^a		0.01530	$\alpha(\text{K})=0.01198$ 17; $\alpha(\text{L})=0.00256$ 4; $\alpha(\text{M})=0.000599$ 9; $\alpha(\text{N})=0.0001421$ 20; $\alpha(\text{O})=2.12\times 10^{-5}$ 3 $\alpha(\text{P})=1.017\times 10^{-6}$ 15 E_γ : other: 560.3 3 from (¹⁶ O,4n γ).
3048.9	(31/2 ⁻)	1048.0 ^b 2	100 ^b	2000.9	(29/2 ⁻)	(M1+E2)		0.0059 21	$\alpha(\text{K})=0.0050$ 18; $\alpha(\text{L})=7.6\times 10^{-4}$ 24; $\alpha(\text{M})=1.72\times 10^{-4}$ 53; $\alpha(\text{N})=4.1\times 10^{-5}$ 13; $\alpha(\text{O})=6.5\times 10^{-6}$ 21 $\alpha(\text{P})=4.4\times 10^{-7}$ 17 Mult.: intraband D+Q γ from (⁵¹ V,4n γ).
3081.67	(33/2 ⁺)	275.8 ^b 2	34 ^b 3	2806.06	(31/2 ⁺)				
		535.8 ^b 2	100 ^b 7	2545.70	(29/2 ⁺)				
3179.6	(37/2 ⁻)	608.5 ^b 2	100 ^b	2571.0	(33/2 ⁻)	(E2)		0.01254	$\alpha(\text{K})=0.00992$ 14; $\alpha(\text{L})=0.00202$ 3; $\alpha(\text{M})=0.000471$ 7; $\alpha(\text{N})=0.0001117$ 16 $\alpha(\text{O})=1.676\times 10^{-5}$ 24; $\alpha(\text{P})=8.46\times 10^{-7}$ 12 B(E2)(W.u.)=200 60 Mult.: intraband Q γ from (⁵¹ V,4n γ).
3190.8	(33/2 ⁺)	543.9 ^b 2	100 ^b	2646.9	(29/2 ⁺)				
3259.6	(35/2 ⁺)	306.6 ^b 2	7.7 ^b 6	2953.04	(33/2 ⁺)				
		595.8 ^b 2	100 ^b 6	2663.89	(31/2 ⁺)	(E2) ^a		0.01317	$\alpha(\text{K})=0.01040$ 15; $\alpha(\text{L})=0.00214$ 3; $\alpha(\text{M})=0.000500$ 7; $\alpha(\text{N})=0.0001185$ 17 $\alpha(\text{O})=1.776\times 10^{-5}$ 25; $\alpha(\text{P})=8.86\times 10^{-7}$ 13
3267.9	(35/2 ⁻)	273.6 ^b 2	79 ^b 4	2994.3	(33/2 ⁻)	(M1(+E2))	0.10 20	0.257 12	$\alpha(\text{K})=0.214$ 11; $\alpha(\text{L})=0.0334$ 6; $\alpha(\text{M})=0.00757$ 12; $\alpha(\text{N})=0.00181$ 3; $\alpha(\text{O})=0.000287$ 6 $\alpha(\text{P})=1.99\times 10^{-5}$ 11 Mult.: D(+Q) intraband γ from (¹⁶ O,4n γ).
		555.7 ^b 2	100 ^b 6	2712.2	(31/2 ⁻)	[E2]		0.01555	$\alpha(\text{K})=0.01216$ 17; $\alpha(\text{L})=0.00261$ 4; $\alpha(\text{M})=0.000611$ 9; $\alpha(\text{N})=0.0001449$ 21; $\alpha(\text{O})=2.16\times 10^{-5}$ 3 $\alpha(\text{P})=1.033\times 10^{-6}$ 15 E_γ : other: 556.8 3 for doublet in (¹⁶ O,5n γ). Mult.: intraband Q γ from (⁵¹ V,4n γ) for doublet.
3368.4	(35/2 ⁺)	287.0 5	100.0 17	3081.67	(33/2 ⁺)				
		562.2 2	43 7	2806.06	(31/2 ⁺)	(E2) ^a		0.01512	$\alpha(\text{K})=0.01185$ 17; $\alpha(\text{L})=0.00252$ 4; $\alpha(\text{M})=0.000591$ 9; $\alpha(\text{N})=0.0001401$ 20; $\alpha(\text{O})=2.09\times 10^{-5}$ 3 $\alpha(\text{P})=1.006\times 10^{-6}$ 15
3422.5	(35/2 ⁺)	586.0 ^b 2	100 ^b 6	2836.5	(31/2 ⁺)	Q ^a			

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	α	Comments	
3422.5	(35/2 ⁺)	851.5 ^b 2	17.7 ^b 13	2571.0	(33/2 ⁻)				
3431.8	(35/2 ⁻)	572.0 ^b 2	100 ^b 10	2859.8	(31/2 ⁻)				
		860.9 ^b 2	59 ^b 7	2571.0	(33/2 ⁻)				
3518.8	(37/2 ⁺)	530.5 ^b 2	100 ^b 3	2988.21	(33/2 ⁺)	(E2) ^a	0.01740	$\alpha(\text{K})=0.01352$ 19; $\alpha(\text{L})=0.00299$ 5; $\alpha(\text{M})=0.000701$ 10; $\alpha(\text{N})=0.0001662$ 24 $\alpha(\text{O})=2.47\times 10^{-5}$ 4; $\alpha(\text{P})=1.145\times 10^{-6}$ 16	
		565.8 ^b 2	30.9 ^b 21	2953.04	(33/2 ⁺)	(E2) ^a	0.01489	$\alpha(\text{K})=0.01168$ 17; $\alpha(\text{L})=0.00248$ 4; $\alpha(\text{M})=0.000580$ 9; $\alpha(\text{N})=0.0001375$ 20; $\alpha(\text{O})=2.05\times 10^{-5}$ 3 $\alpha(\text{P})=9.92\times 10^{-7}$ 14	
3533.3	(37/2 ⁻)	265.4 ^b 2	54 ^b 4	3267.9	(35/2 ⁻)				
		538.9 ^b 2	100 ^b 7	2994.3	(33/2 ⁻)				
3567.86	(37/2 ⁺)	308.2 2	5.0 5	3259.6	(35/2 ⁺)				
		579.7 2	18.6 18	2988.21	(33/2 ⁺)				
		614.8 2	100 5	2953.04	(33/2 ⁺)	(E2) ^a	0.01224	$\alpha(\text{K})=0.00970$ 14; $\alpha(\text{L})=0.00196$ 3; $\alpha(\text{M})=0.000457$ 7; $\alpha(\text{N})=0.0001085$ 16 $\alpha(\text{O})=1.630\times 10^{-5}$ 23; $\alpha(\text{P})=8.28\times 10^{-7}$ 12	
3610.9	(35/2 ⁻)	562.0 2	58 4	3048.9	(31/2 ⁻)				
		1039.9 2	100 8	2571.0	(33/2 ⁻)				
3641.3	(37/2 ⁺)	559.6 2	100 10	3081.67	(33/2 ⁺)				
		688.3 5	16.3 20	2953.04	(33/2 ⁺)				
3768.8	(37/2 ⁺)	578.0 ^b 2	100 ^b	3190.8	(33/2 ⁺)				
3806.4	(39/2 ⁻)	273.1 ^b 2	83 ^b 5	3533.3	(37/2 ⁻)				
		538.5 ^b 2	100 ^b 6	3267.9	(35/2 ⁻)	E2	0.01678	$\alpha(\text{K})=0.01307$ 19; $\alpha(\text{L})=0.00286$ 4; $\alpha(\text{M})=0.000671$ 10; $\alpha(\text{N})=0.0001590$ 23 $\alpha(\text{O})=2.36\times 10^{-5}$ 4; $\alpha(\text{P})=1.107\times 10^{-6}$ 16	
3829.6	(41/2 ⁻)	650.1 ^b 2	100 ^b	3179.6	(37/2 ⁻)	E2	0.01077	$\alpha(\text{K})=0.00858$ 12; $\alpha(\text{L})=0.001685$ 24; $\alpha(\text{M})=0.000392$ 6; $\alpha(\text{N})=9.30\times 10^{-5}$ 13 $\alpha(\text{O})=1.403\times 10^{-5}$ 20; $\alpha(\text{P})=7.34\times 10^{-7}$ 11 B(E2)(W.u.)=210 30	
3887.0	(39/2 ⁺)	319.2 ^b 2	5.5 ^b 5	3567.86	(37/2 ⁺)				
		627.4 ^b 2	100 ^b 5	3259.6	(35/2 ⁺)	(E2)	0.01168	$\alpha(\text{K})=0.00928$ 13; $\alpha(\text{L})=0.00186$ 3; $\alpha(\text{M})=0.000432$ 6; $\alpha(\text{N})=0.0001025$ 15 $\alpha(\text{O})=1.542\times 10^{-5}$ 22; $\alpha(\text{P})=7.92\times 10^{-7}$ 12	
3960.4	(39/2 ⁺)	592.0 ^b 2	100 ^b 8	3368.4	(35/2 ⁺)				
		700.9 ^b 5	20.5 ^b 26	3259.6	(35/2 ⁺)				
4017.5	(39/2 ⁻)	585.7 ^b 2	94 ^b 10	3431.8	(35/2 ⁻)	(E2) ^a	0.01372	$\alpha(\text{K})=0.01080$ 16; $\alpha(\text{L})=0.00225$ 4; $\alpha(\text{M})=0.000525$ 8; $\alpha(\text{N})=0.0001245$ 18; $\alpha(\text{O})=1.86\times 10^{-5}$ 3 $\alpha(\text{P})=9.20\times 10^{-7}$ 13	
		837.8 ^b 2	100 ^b 10	3179.6	(37/2 ⁻)	(M1)	0.01395	$\alpha(\text{K})=0.01169$ 17; $\alpha(\text{L})=0.001750$ 25; $\alpha(\text{M})=0.000395$ 6; $\alpha(\text{N})=9.44\times 10^{-5}$ 14 $\alpha(\text{O})=1.501\times 10^{-5}$ 21; $\alpha(\text{P})=1.060\times 10^{-6}$ 15 Mult.: intraband D γ from (⁵¹ V,4n γ).	

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. ‡	α	Comments	
4055.2	(39/2 ⁺)	632.7 ^b 2	100 ^b	3422.5	(35/2 ⁺)	(E2) ^a	0.01146	$\alpha(\text{K})=0.00911$ 13; $\alpha(\text{L})=0.00181$ 3; $\alpha(\text{M})=0.000422$ 6; $\alpha(\text{N})=0.0001002$ 14 $\alpha(\text{O})=1.508\times 10^{-5}$ 22; $\alpha(\text{P})=7.78\times 10^{-7}$ 11	
4093.8	(41/2 ⁻)	287.3 ^b 2	56 ^b 5	3806.4	(39/2 ⁻)	(M1)	0.227	$\alpha(\text{K})=0.189$ 3; $\alpha(\text{L})=0.0293$ 5; $\alpha(\text{M})=0.00663$ 10; $\alpha(\text{N})=0.001586$ 23; $\alpha(\text{O})=0.000251$ 4 $\alpha(\text{P})=1.750\times 10^{-5}$ 25 Mult.: intraband D γ from (⁵¹ V,4n γ).	
4105.1	(41/2 ⁺)	560.5 ^b 2 586.3 ^b 2	100 ^b 10 100 ^b	3533.3 3518.8	(37/2 ⁻) (37/2 ⁺)	(E2) ^a	0.01368	$\alpha(\text{K})=0.01078$ 16; $\alpha(\text{L})=0.00224$ 4; $\alpha(\text{M})=0.000523$ 8; $\alpha(\text{N})=0.0001241$ 18; $\alpha(\text{O})=1.86\times 10^{-5}$ 3 $\alpha(\text{P})=9.18\times 10^{-7}$ 13	
4197.5	(41/2 ⁺)	310.5 ^b 2 629.6 ^b 2	15.7 ^b 14 100 ^b 7	3887.0 3567.86	(39/2 ⁺) (37/2 ⁺)		0.01152	E_γ : other: 628.8 3 from (¹⁶ O,4n γ).	
4208.6	(39/2 ⁻)	597.7 ^b 2	100 ^b 11	3610.9	(35/2 ⁻)	(E2) ^a	0.01308	$\alpha(\text{K})=0.01032$ 15; $\alpha(\text{L})=0.00212$ 3; $\alpha(\text{M})=0.000495$ 7; $\alpha(\text{N})=0.0001175$ 17 $\alpha(\text{O})=1.760\times 10^{-5}$ 25; $\alpha(\text{P})=8.80\times 10^{-7}$ 13	
4268.3	(41/2 ⁺)	1029.0 ^b 2 627.0 ^b 2 700.6 ^b 5	68 ^b 7 100 ^b 6 24 ^b 3	3179.6 3641.3 3567.86	(37/2 ⁻) (37/2 ⁺) (37/2 ⁺)				
4389.3	(41/2 ⁺)	620.5 ^b 2	100 ^b	3768.8	(37/2 ⁺)				
4400.6	(43/2 ⁻)	306.6 ^b 2	43 ^b 3	4093.8	(41/2 ⁻)	(M1)	0.190	$\alpha(\text{K})=0.1586$ 23; $\alpha(\text{L})=0.0245$ 4; $\alpha(\text{M})=0.00555$ 8; $\alpha(\text{N})=0.001328$ 19; $\alpha(\text{O})=0.000211$ 3 $\alpha(\text{P})=1.467\times 10^{-5}$ 21 Mult.: intraband D γ from (⁵¹ V,4n γ).	
4528.8	(45/2 ⁻)	594.3 ^b 2 699.2 ^b 2	100 ^b 7 100 ^b	3806.4 3829.6	(39/2 ⁻) (41/2 ⁻)	(E2) ^a	0.00914	$\alpha(\text{K})=0.00734$ 11; $\alpha(\text{L})=0.001390$ 20; $\alpha(\text{M})=0.000322$ 5; $\alpha(\text{N})=7.65\times 10^{-5}$ 11 $\alpha(\text{O})=1.160\times 10^{-5}$ 17; $\alpha(\text{P})=6.29\times 10^{-7}$ 9 B(E2)(W.u.)= 2.1×10^2 3	
4542.7	(43/2 ⁺)	345.0 ^b 2 655.7 ^b 2	13 ^b 8 100 ^b 8	4197.5 3887.0	(41/2 ⁺) (39/2 ⁺)	(E2) ^a	0.01056	$\alpha(\text{K})=0.00843$ 12; $\alpha(\text{L})=0.001646$ 23; $\alpha(\text{M})=0.000383$ 6; $\alpha(\text{N})=9.08\times 10^{-5}$ 13 $\alpha(\text{O})=1.371\times 10^{-5}$ 20; $\alpha(\text{P})=7.21\times 10^{-7}$ 10	
4623.2	(43/2 ⁺)	662.8 ^b 2 736.4 ^b 5	100 ^b 10 33 ^b 5	3960.4 3887.0	(39/2 ⁺) (39/2 ⁺)				
4640.9	(43/2 ⁻)	623.4 ^b 2	100 ^b 10	4017.5	(39/2 ⁻)	(E2) ^a	0.01186	$\alpha(\text{K})=0.00941$ 14; $\alpha(\text{L})=0.00189$ 3; $\alpha(\text{M})=0.000440$ 7; $\alpha(\text{N})=0.0001044$ 15 $\alpha(\text{O})=1.569\times 10^{-5}$ 22; $\alpha(\text{P})=8.03\times 10^{-7}$ 12	
4728.7	(43/2 ⁺)	811.2 2 673.5 ^b 2	52 7 100 ^b	3829.6 4055.2	(41/2 ⁻) (39/2 ⁺)	(E2) ^a	0.00994	$\alpha(\text{K})=0.00795$ 12; $\alpha(\text{L})=0.001533$ 22; $\alpha(\text{M})=0.000356$ 5; $\alpha(\text{N})=8.45\times 10^{-5}$	

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	α	Comments
								12
4731.5	(45/2 ⁻)	330.9 ^b 2	50 ^b 4	4400.6	(43/2 ⁻)	(M1)	0.1550	$\alpha(\text{O})=1.278\times 10^{-5}$ 18; $\alpha(\text{P})=6.81\times 10^{-7}$ 10 $\alpha(\text{K})=0.1293$ 19; $\alpha(\text{L})=0.0199$ 3; $\alpha(\text{M})=0.00451$ 7; $\alpha(\text{N})=0.001080$ 16; $\alpha(\text{O})=0.0001712$ 25 $\alpha(\text{P})=1.194\times 10^{-5}$ 17 Mult.: intraband D γ from (⁵¹ V,4n γ).
		637.8 ^b 2	100 ^b 7	4093.8	(41/2 ⁻)	(E2) ^a	0.01125	$\alpha(\text{K})=0.00895$ 13; $\alpha(\text{L})=0.001774$ 25; $\alpha(\text{M})=0.000413$ 6; $\alpha(\text{N})=9.80\times 10^{-5}$ 14 $\alpha(\text{O})=1.476\times 10^{-5}$ 21; $\alpha(\text{P})=7.65\times 10^{-7}$ 11
4741.2	(45/2 ⁺)	636.1 ^b 2	100 ^b	4105.1	(41/2 ⁺)	(E2) ^a	0.01132	$\alpha(\text{K})=0.00900$ 13; $\alpha(\text{L})=0.00179$ 3; $\alpha(\text{M})=0.000416$ 6; $\alpha(\text{N})=9.87\times 10^{-5}$ 14; $\alpha(\text{O})=1.486\times 10^{-5}$ 21 $\alpha(\text{P})=7.69\times 10^{-7}$ 11
4845.7	(43/2 ⁻)	637.1 ^b 2	100 ^b 10	4208.6	(39/2 ⁻)			
		1016.1 ^b 2	50 ^b 7	3829.6	(41/2 ⁻)			
4866.7	(45/2 ⁺)	323.9 ^b 2	18 ^b 1	4542.7	(43/2 ⁺)			
		669.3 ^b 2	100 ^b 7	4197.5	(41/2 ⁺)	(E2) ^a	0.01008	$\alpha(\text{K})=0.00806$ 12; $\alpha(\text{L})=0.001559$ 22; $\alpha(\text{M})=0.000362$ 5; $\alpha(\text{N})=8.59\times 10^{-5}$ 12 $\alpha(\text{O})=1.299\times 10^{-5}$ 19; $\alpha(\text{P})=6.90\times 10^{-7}$ 10
4961.7	(45/2 ⁺)	693.4 2	100	4268.3	(41/2 ⁺)			
5063.8	(45/2 ⁺)	674.5 ^b 2	100 ^b	4389.3	(41/2 ⁺)			
5074.0	(47/2 ⁻)	342.6 ^b 2	31.7 ^b 24	4731.5	(45/2 ⁻)			
		673.4 ^b 2	100 ^b 7	4400.6	(43/2 ⁻)	(E2) ^a	0.00994	$\alpha(\text{K})=0.00795$ 12; $\alpha(\text{L})=0.001534$ 22; $\alpha(\text{M})=0.000356$ 5; $\alpha(\text{N})=8.45\times 10^{-5}$ 12 $\alpha(\text{O})=1.278\times 10^{-5}$ 18; $\alpha(\text{P})=6.81\times 10^{-7}$ 10
5245.3	(47/2 ⁺)	378.6 ^b 2	22.6 ^b 16	4866.7	(45/2 ⁺)			
		702.6 ^b 2	100 ^b 8	4542.7	(43/2 ⁺)	(E2) ^a	0.00904	$\alpha(\text{K})=0.00726$ 11; $\alpha(\text{L})=0.001372$ 20; $\alpha(\text{M})=0.000318$ 5; $\alpha(\text{N})=7.55\times 10^{-5}$ 11 $\alpha(\text{O})=1.145\times 10^{-5}$ 16; $\alpha(\text{P})=6.23\times 10^{-7}$ 9
5282.2	(49/2 ⁻)	753.5 ^b 2	100 ^b	4528.8	(45/2 ⁻)	(E2) ^a	0.00775	$\alpha(\text{K})=0.00627$ 9; $\alpha(\text{L})=0.001147$ 16; $\alpha(\text{M})=0.000265$ 4; $\alpha(\text{N})=6.30\times 10^{-5}$ 9; $\alpha(\text{O})=9.60\times 10^{-6}$ 14 $\alpha(\text{P})=5.38\times 10^{-7}$ 8 B(E2)(W.u.)= 1.8×10^2 4
5323.0	(47/2 ⁻)	682.1 ^b 2	100 ^b 12	4640.9	(43/2 ⁻)			
		794.1 ^b 2	37 ^b 5	4528.8	(45/2 ⁻)			
5357.7	(47/2 ⁺)	734.5 ^b 2	100 ^b	4623.2	(43/2 ⁺)			
5419.4	(47/2 ⁺)	690.7 ^b 2	100 ^b	4728.7	(43/2 ⁺)	(E2) ^a	0.00939	$\alpha(\text{K})=0.00753$ 11; $\alpha(\text{L})=0.001435$ 21; $\alpha(\text{M})=0.000332$ 5; $\alpha(\text{N})=7.90\times 10^{-5}$ 11 $\alpha(\text{O})=1.197\times 10^{-5}$ 17; $\alpha(\text{P})=6.45\times 10^{-7}$ 9
5428.4	(49/2 ⁺)	687.2 ^b 2	100 ^b	4741.2	(45/2 ⁺)	(E2) ^a	0.00950	$\alpha(\text{K})=0.00762$ 11; $\alpha(\text{L})=0.001454$ 21; $\alpha(\text{M})=0.000337$ 5; $\alpha(\text{N})=8.01\times 10^{-5}$ 12 $\alpha(\text{O})=1.213\times 10^{-5}$ 17; $\alpha(\text{P})=6.52\times 10^{-7}$ 10
5451.3	(49/2 ⁻)	377.3 5	25.0 28	5074.0	(47/2 ⁻)			
		719.8 2	100 6	4731.5	(45/2 ⁻)	(E2) ^a	0.00857	$\alpha(\text{K})=0.00690$ 10; $\alpha(\text{L})=0.001289$ 18; $\alpha(\text{M})=0.000298$ 5; $\alpha(\text{N})=7.09\times 10^{-5}$ 10 $\alpha(\text{O})=1.077\times 10^{-5}$ 15; $\alpha(\text{P})=5.92\times 10^{-7}$ 9

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
$E_i(\text{level})$	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Mult. †	α	Comments	
5536.2	(47/2 ⁻)	690.5 ^b 2	100 ^b	4845.7	(43/2 ⁻)	(E2) ^a	0.00940	$\alpha(\text{K})=0.00754$ 11; $\alpha(\text{L})=0.001436$ 21; $\alpha(\text{M})=0.000333$ 5; $\alpha(\text{N})=7.91\times 10^{-5}$ 11 $\alpha(\text{O})=1.198\times 10^{-5}$ 17; $\alpha(\text{P})=6.46\times 10^{-7}$ 9	
5584.7	(49/2 ⁺)	339.3 ^b 2 718.1 ^b 2	17.2 ^b 16 100 ^b 8	5245.3	(47/2 ⁺) (45/2 ⁺)	(E2) ^a	0.00862	$\alpha(\text{K})=0.00694$ 10; $\alpha(\text{L})=0.001297$ 19; $\alpha(\text{M})=0.000300$ 5; $\alpha(\text{N})=7.13\times 10^{-5}$ 10 $\alpha(\text{O})=1.083\times 10^{-5}$ 16; $\alpha(\text{P})=5.95\times 10^{-7}$ 9	
5630.9	(49/2 ⁺)	764.2 ^b 5	100 ^b	4866.7	(45/2 ⁺)				
5731.8	(49/2 ⁺)	770.1 ^b 2	100 ^b	4961.7	(45/2 ⁺)				
5738.9	(49/2 ⁺)	675.1 ^b 5	100 ^b	5063.8	(45/2 ⁺)				
5822.5	(51/2 ⁻)	371.1 ^b 5 748.5 ^b 2	28 ^b 3 100 ^b 14	5451.3	(49/2 ⁻) (47/2 ⁻)				
5959.7	(51/2 ⁺)	374.8 ^b 2 714.4 ^b 2	24.4 ^b 24 100 ^b 7	5584.7	(49/2 ⁺) (47/2 ⁺)	(E2) ^a	0.00871	$\alpha(\text{K})=0.00701$ 10; $\alpha(\text{L})=0.001314$ 19; $\alpha(\text{M})=0.000304$ 5; $\alpha(\text{N})=7.23\times 10^{-5}$ 11 $\alpha(\text{O})=1.098\times 10^{-5}$ 16; $\alpha(\text{P})=6.01\times 10^{-7}$ 9	
6033.8	(51/2 ⁺)	788.5 ^b 2	100 ^b	5245.3	(47/2 ⁺)	(E2) ^a	0.00703	$\alpha(\text{K})=0.00570$ 8; $\alpha(\text{L})=0.001024$ 15; $\alpha(\text{M})=0.000236$ 4; $\alpha(\text{N})=5.61\times 10^{-5}$ 8; $\alpha(\text{O})=8.58\times 10^{-6}$ 12 $\alpha(\text{P})=4.90\times 10^{-7}$ 7	
6072.7	(51/2 ⁻)	749.6 ^b 2 790.7 ^b 2	100 ^b 11 34 ^b 5	5323.0	(47/2 ⁻) (49/2 ⁻)				
6091.0	(53/2 ⁻)	808.8 ^b 2	100 ^b	5282.2	(49/2 ⁻)	(E2) ^a	0.00666	$\alpha(\text{K})=0.00541$ 8; $\alpha(\text{L})=0.000962$ 14; $\alpha(\text{M})=0.000221$ 4; $\alpha(\text{N})=5.27\times 10^{-5}$ 8; $\alpha(\text{O})=8.07\times 10^{-6}$ 12 $\alpha(\text{P})=4.65\times 10^{-7}$ 7 B(E2)(W.u.)=1.7×10 ² 6	
6115.2	(51/2 ⁺)	695.8 ^b 2	100 ^b	5419.4	(47/2 ⁺)				
6153.2	(51/2 ⁺)	795.5 ^b 5	100 ^b	5357.7	(47/2 ⁺)				
6166.9	(53/2 ⁺)	738.5 ^b 2	100 ^b	5428.4	(49/2 ⁺)	(E2) ^a	0.00810	$\alpha(\text{K})=0.00654$ 10; $\alpha(\text{L})=0.001207$ 17; $\alpha(\text{M})=0.000279$ 4; $\alpha(\text{N})=6.63\times 10^{-5}$ 10 $\alpha(\text{O})=1.009\times 10^{-5}$ 15; $\alpha(\text{P})=5.61\times 10^{-7}$ 8	
6246.4	(53/2 ⁻)	424.0 ^b 5 795.0 ^b 2	<19 ^b 100 ^b 7	5822.5	(51/2 ⁻) (49/2 ⁻)				
6293.3	(51/2 ⁻)	757.1 ^b 2	100 ^b	5536.2	(47/2 ⁻)				
6309.9	(53/2 ⁺)	349.9 ^b 5 725.3 ^b 2	13.7 ^b 20 100 ^b 7	5959.7	(51/2 ⁺) (49/2 ⁺)	(E2) ^a	0.00843	$\alpha(\text{K})=0.00679$ 10; $\alpha(\text{L})=0.001264$ 18; $\alpha(\text{M})=0.000292$ 4; $\alpha(\text{N})=6.95\times 10^{-5}$ 10 $\alpha(\text{O})=1.056\times 10^{-5}$ 15; $\alpha(\text{P})=5.82\times 10^{-7}$ 9	
6413.3	(53/2 ⁺)	782.5 5 828.6 ^b 2	<38 100 ^b 8	5630.9	(49/2 ⁺) (49/2 ⁺)				
6432.9	(53/2 ⁺)	694.0 ^b 5	100 ^b	5738.9	(49/2 ⁺)				
6542.2	(53/2 ⁺)	810.4 ^b 5	100 ^b	5731.8	(49/2 ⁺)				

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	α	Comments
6637.8	(55/2 ⁻)	815.3 ^b 2	100 ^b	5822.5	(51/2 ⁻)			
6689.7	(55/2 ⁺)	379.8 ^b 5	<20 ^b	6309.9	(53/2 ⁺)			
		730.0 ^b 2	100 ^b 8	5959.7	(51/2 ⁺)	(E2) ^a	0.00831	$\alpha(\text{K})=0.00670$ 10; $\alpha(\text{L})=0.001243$ 18; $\alpha(\text{M})=0.000287$ 4; $\alpha(\text{N})=6.83\times 10^{-5}$ 10 $\alpha(\text{O})=1.039\times 10^{-5}$ 15; $\alpha(\text{P})=5.75\times 10^{-7}$ 8
6848.4	(55/2 ⁺)	733.2 ^b 2	100 ^b	6115.2	(51/2 ⁺)			
6861.7	(55/2 ⁺)	827.9 ^b 2	100 ^b	6033.8	(51/2 ⁺)			
6889.3	(55/2 ⁻)	798.2 ^b 5	35 ^b 6	6091.0	(53/2 ⁻)			
		816.6 ^b 2	100 ^b 12	6072.7	(51/2 ⁻)			
6953.8	(57/2 ⁻)	862.8 ^b 2	100 ^b	6091.0	(53/2 ⁻)	Q ^a		
6957.0	(57/2 ⁺)	790.1 ^b 2	100 ^b	6166.9	(53/2 ⁺)	(E2) ^a	0.00700	$\alpha(\text{K})=0.00568$ 8; $\alpha(\text{L})=0.001019$ 15; $\alpha(\text{M})=0.000235$ 4; $\alpha(\text{N})=5.58\times 10^{-5}$ 8; $\alpha(\text{O})=8.54\times 10^{-6}$ 12 $\alpha(\text{P})=4.88\times 10^{-7}$ 7
6986.0	(55/2 ⁺)	832.8 ^b 5	100 ^b	6153.2	(51/2 ⁺)			
7071.1	(57/2 ⁺)	761.3 ^b 2	100 ^b	6309.9	(53/2 ⁺)	(E2) ^a	0.00758	$\alpha(\text{K})=0.00614$ 9; $\alpha(\text{L})=0.001118$ 16; $\alpha(\text{M})=0.000258$ 4; $\alpha(\text{N})=6.13\times 10^{-5}$ 9; $\alpha(\text{O})=9.36\times 10^{-6}$ 14 $\alpha(\text{P})=5.27\times 10^{-7}$ 8
7107.7	(57/2 ⁻)	861.3 ^b 2	100 ^b	6246.4	(53/2 ⁻)			
7263.7	(57/2 ⁺)	850.4 ^b 5	100 ^b	6413.3	(53/2 ⁺)			
7370.2	(57/2 ⁺)	828.0 ^b 5	100 ^b	6542.2	(53/2 ⁺)			
7483.7	(59/2 ⁺)	413.0 ^b 5	<21 ^b	7071.1	(57/2 ⁺)			
		793.9 ^b 2	100 ^b 8	6689.7	(55/2 ⁺)	(E2) ^a	0.00693	$\alpha(\text{K})=0.00562$ 8; $\alpha(\text{L})=0.001007$ 15; $\alpha(\text{M})=0.000232$ 4; $\alpha(\text{N})=5.52\times 10^{-5}$ 8; $\alpha(\text{O})=8.44\times 10^{-6}$ 12 $\alpha(\text{P})=4.83\times 10^{-7}$ 7
7512.6	(59/2 ⁻)	874.8 ^b 2	100 ^b	6637.8	(55/2 ⁻)			
7635.7	(59/2 ⁺)	787.3 ^b 5	100 ^b	6848.4	(55/2 ⁺)			
7747.3	(59/2 ⁺)	885.6 ^b 5	100 ^b	6861.7	(55/2 ⁺)			
7775.3	(59/2 ⁻)	886.0 ^b 5	100 ^b	6889.3	(55/2 ⁻)			
7798.4	(61/2 ⁺)	841.4 2	100	6957.0	(57/2 ⁺)	(E2) ^a	0.00612	$\alpha(\text{K})=0.00499$ 7; $\alpha(\text{L})=0.000874$ 13; $\alpha(\text{M})=0.000201$ 3; $\alpha(\text{N})=4.78\times 10^{-5}$ 7; $\alpha(\text{O})=7.34\times 10^{-6}$ 11 $\alpha(\text{P})=4.29\times 10^{-7}$ 6
7860.0	(59/2 ⁺)	874.0 ^b 5	100 ^b	6986.0	(55/2 ⁺)			
7869.3	(61/2 ⁻)	915.5 ^b 2	100 ^b	6953.8	(57/2 ⁻)	(E2) ^a	0.00514	$\alpha(\text{K})=0.00421$ 6; $\alpha(\text{L})=0.000716$ 10; $\alpha(\text{M})=0.0001639$ 23; $\alpha(\text{N})=3.90\times 10^{-5}$ 6; $\alpha(\text{O})=6.02\times 10^{-6}$ 9 $\alpha(\text{P})=3.62\times 10^{-7}$ 5
7896.8	(61/2 ⁺)	825.7 ^b 2	100 ^b	7071.1	(57/2 ⁺)	(E2) ^a	0.00637	$\alpha(\text{K})=0.00519$ 8; $\alpha(\text{L})=0.000915$ 13; $\alpha(\text{M})=0.000210$ 3; $\alpha(\text{N})=5.01\times 10^{-5}$ 7; $\alpha(\text{O})=7.67\times 10^{-6}$ 11 $\alpha(\text{P})=4.46\times 10^{-7}$ 7

Adopted Levels, Gammas (continued)

$\gamma(^{171}\text{Ta})$ (continued)									
E_i (level)	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. [†]	α	Comments	
8027.2	(61/2 ⁻)	919.5 ^b 5	100 ^b	7107.7	(57/2 ⁻)				
8152.7	(61/2 ⁺)	889.0 ^b 5	100 ^b	7263.7	(57/2 ⁺)				
8214.2?	(61/2 ⁺)	844.0 ^{bc} 5	100 ^b	7370.2	(57/2 ⁺)				
8350.8	(63/2 ⁺)	867.1 ^b 2	100 ^b	7483.7	(59/2 ⁺)				
8439.5	(63/2 ⁻)	926.9 ^b 2	100 ^b	7512.6	(59/2 ⁻)				
8473.7	(63/2 ⁺)	838.0 ^b 5	100 ^b	7635.7	(59/2 ⁺)				
8681.8	(63/2 ⁺)	934.5 ^b 5	100 ^b	7747.3	(59/2 ⁺)				
8690.8	(65/2 ⁺)	892.4 ^b 2	100 ^b	7798.4	(61/2 ⁺)	(E2) ^a	0.00542	α (K)=0.00443 7; α (L)=0.000760 11; α (M)=0.0001742 25; α (N)=4.15×10 ⁻⁵ 6; α (O)=6.39×10 ⁻⁶ 9 α (P)=3.81×10 ⁻⁷ 6 E_γ : other: 891.3 3 from (¹⁶ O,4n γ).	
8760.1	(63/2 ⁺)	900.0 ^b 5	100 ^b	7860.0	(59/2 ⁺)				
8787.3	(65/2 ⁺)	890.5 ^b 2	100 ^b	7896.8	(61/2 ⁺)	(E2) ^a	0.00544	α (K)=0.00445 7; α (L)=0.000764 11; α (M)=0.0001751 25; α (N)=4.17×10 ⁻⁵ 6; α (O)=6.42×10 ⁻⁶ 9 α (P)=3.83×10 ⁻⁷ 6	
8836.2	(65/2 ⁻)	966.9 ^b 2	100 ^b	7869.3	(61/2 ⁻)	(E2) ^a	0.00460	α (K)=0.00378 6; α (L)=0.000631 9; α (M)=0.0001442 21; α (N)=3.44×10 ⁻⁵ 5; α (O)=5.31×10 ⁻⁶ 8 α (P)=3.25×10 ⁻⁷ 5 E_γ : other: 965.9 3 from (¹⁶ O,4n γ).	
8997.9	(65/2 ⁻)	970.7 ^b 5	100 ^b	8027.2	(61/2 ⁻)				
9290.5	(67/2 ⁺)	939.7 ^b 5	100 ^b	8350.8	(63/2 ⁺)				
9411.7	(67/2 ⁻)	972.2 ^b 5	100 ^b	8439.5	(63/2 ⁻)				
9632.9	(67/2 ⁺)	951.1 ^b 5	100 ^b	8681.8	(63/2 ⁺)				
9634.2	(69/2 ⁺)	943.4 ^b 2	100 ^b	8690.8	(65/2 ⁺)	(E2) ^a	0.00483	α (K)=0.00397 6; α (L)=0.000668 10; α (M)=0.0001528 22; α (N)=3.64×10 ⁻⁵ 5; α (O)=5.62×10 ⁻⁶ 8 α (P)=3.41×10 ⁻⁷ 5	
9735.9	(69/2 ⁺)	948.6 ^b 5	100 ^b	8787.3	(65/2 ⁺)				
9852.2	(69/2 ⁻)	1016.0 ^b 2	100 ^b	8836.2	(65/2 ⁻)				
10008.9	(69/2 ⁻)	1011.0 ^b 5	100 ^b	8997.9	(65/2 ⁻)				
10298.0	(71/2 ⁺)	1007.5 ^b 5	100 ^b	9290.5	(67/2 ⁺)				
10421.6	(71/2 ⁻)	1009.9 ^b 5	100 ^b	9411.7	(67/2 ⁻)				
10614.9?	(71/2 ⁺)	982.0 ^{bc} 5	100 ^b	9632.9	(67/2 ⁺)				
10628.5	(73/2 ⁺)	994.3 ^b 2	100 ^b	9634.2	(69/2 ⁺)	(E2) ^a	0.00434	α (K)=0.00358 5; α (L)=0.000592 9; α (M)=0.0001352 19; α (N)=3.22×10 ⁻⁵ 5; α (O)=4.99×10 ⁻⁶ 7 α (P)=3.08×10 ⁻⁷ 5	
10736.2	(73/2 ⁺)	1000.3 ^b 5	100 ^b	9735.9	(69/2 ⁺)				

Adopted Levels, Gammas (continued)

<u>$\gamma(^{171}\text{Ta})$ (continued)</u>								
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	Mult. ‡	α	Comments
10914.5	(73/2 ⁻)	1062.7 ^b 2	100 ^b	9852.2	(69/2 ⁻)			
11364.5	(75/2 ⁺)	1066.5 ^b 5	100 ^b	10298.0	(71/2 ⁺)			
11448.6?	(75/2 ⁻)	1027.0 ^{bc} 5	100 ^b	10421.6	(71/2 ⁻)			
11673.8	(77/2 ⁺)	1045.3 ^b 2	100 ^b	10628.5	(73/2 ⁺)	(E2) ^a	0.00393	$\alpha(\text{K})=0.00324$ 5; $\alpha(\text{L})=0.000529$ 8; $\alpha(\text{M})=0.0001207$ 17; $\alpha(\text{N})=2.88\times 10^{-5}$ 4; $\alpha(\text{O})=4.46\times 10^{-6}$ 7 $\alpha(\text{P})=2.79\times 10^{-7}$ 4
11785.7	(77/2 ⁺)	1049.4 ^b 5	100 ^b	10736.2	(73/2 ⁺)			
12016.8	(77/2 ⁻)	1101.9 ^b 5	100 ^b	10914.5	(73/2 ⁻)			
12479.7	(79/2 ⁺)	1115.2 ^b 5	100 ^b	11364.5	(75/2 ⁺)			
12770.0	(81/2 ⁺)	1096.2 ^b 2	100 ^b	11673.8	(77/2 ⁺)	(E2) ^a	0.00357	$\alpha(\text{K})=0.00296$ 5; $\alpha(\text{L})=0.000477$ 7; $\alpha(\text{M})=0.0001085$ 16; $\alpha(\text{N})=2.59\times 10^{-5}$ 4; $\alpha(\text{O})=4.02\times 10^{-6}$ 6 $\alpha(\text{P})=2.54\times 10^{-7}$ 4
12880.9	(81/2 ⁺)	1095.2 ^b 5	100 ^b	11785.7	(77/2 ⁺)			
13125.7	(81/2 ⁻)	1108.9 ^b 5	100 ^b	12016.8	(77/2 ⁻)			
13915.9	(85/2 ⁺)	1145.9 ^b 5	100 ^b	12770.0	(81/2 ⁺)			
14017.9	(85/2 ⁺)	1137.0 ^b 5	100 ^b	12880.9	(81/2 ⁺)			
14253.7?	(85/2 ⁻)	1128.0 ^{bc} 5	100 ^b	13125.7	(81/2 ⁻)			
15110.5	(89/2 ⁺)	1194.6 ^b 5	100 ^b	13915.9	(85/2 ⁺)			
15190.9?	(89/2 ⁺)	1173.0 ^{bc} 5	100 ^b	14017.9	(85/2 ⁺)			
16354.4	(93/2 ⁺)	1243.9 ^b 5	100 ^b	15110.5	(89/2 ⁺)			
17643.4	(97/2 ⁺)	1289.0 ^b 5	100 ^b	16354.4	(93/2 ⁺)			
18978.4?	(101/2 ⁺)	1335.0 ^{bc} 5	100 ^b	17643.4	(97/2 ⁺)			

[†] From (¹⁶O,4n γ), except where noted.

[‡] From (¹⁶O,4n γ), except where noted. Upper limits are given for photon branchings affected by multiple placement.

From ¹⁷¹W ϵ decay.

@ Weighted average from ¹⁷¹W ϵ decay and (¹⁶O,4n γ).

& Value and uncertainty cover combined range for M1 and E2.

^a Intraband Q γ from (⁵¹V,4n γ).

^b From ¹²⁴Sn(⁵¹V,4n γ).

^c Placement of transition in the level scheme is uncertain.

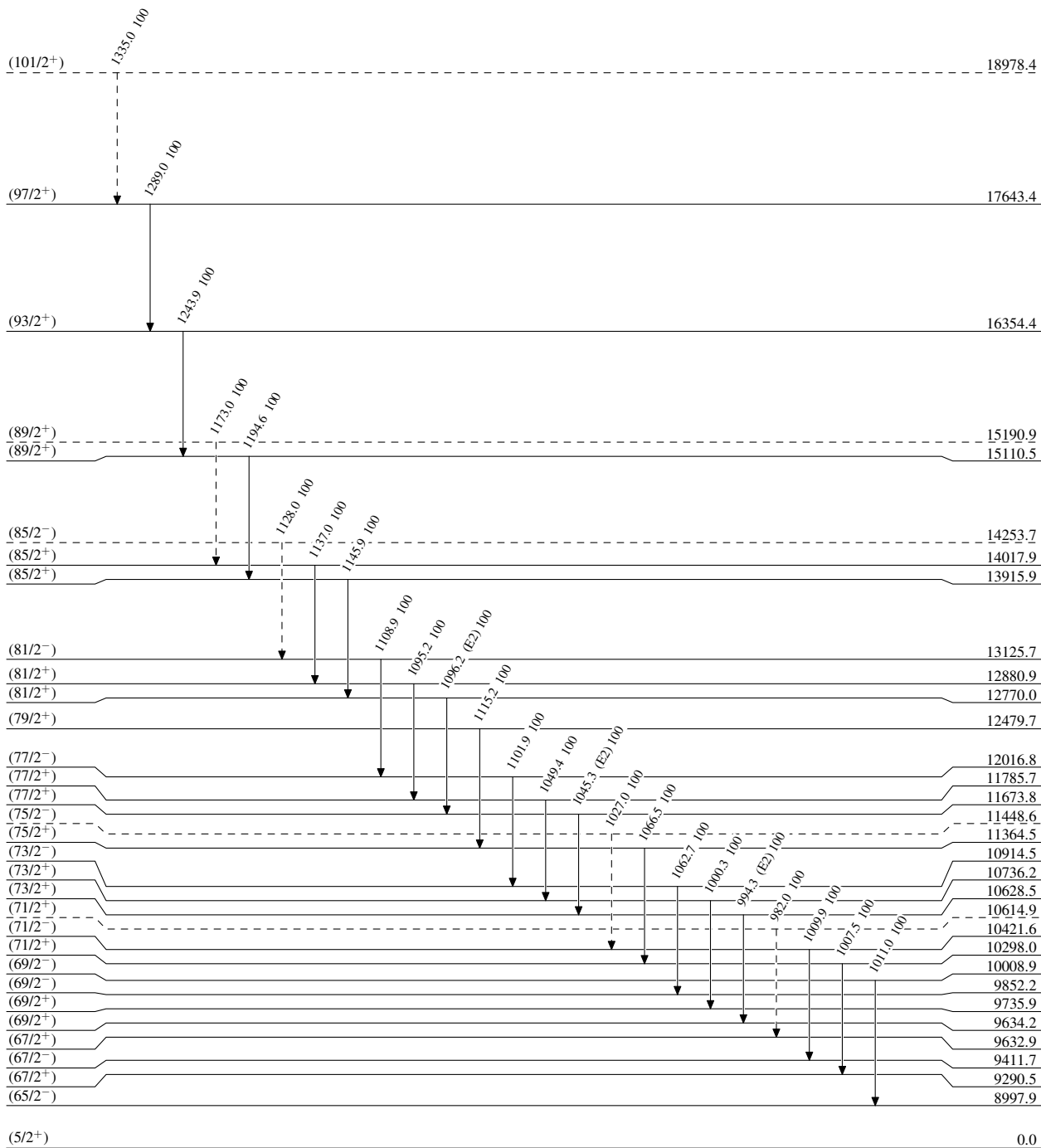
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

-----▶ γ Decay (Uncertain)



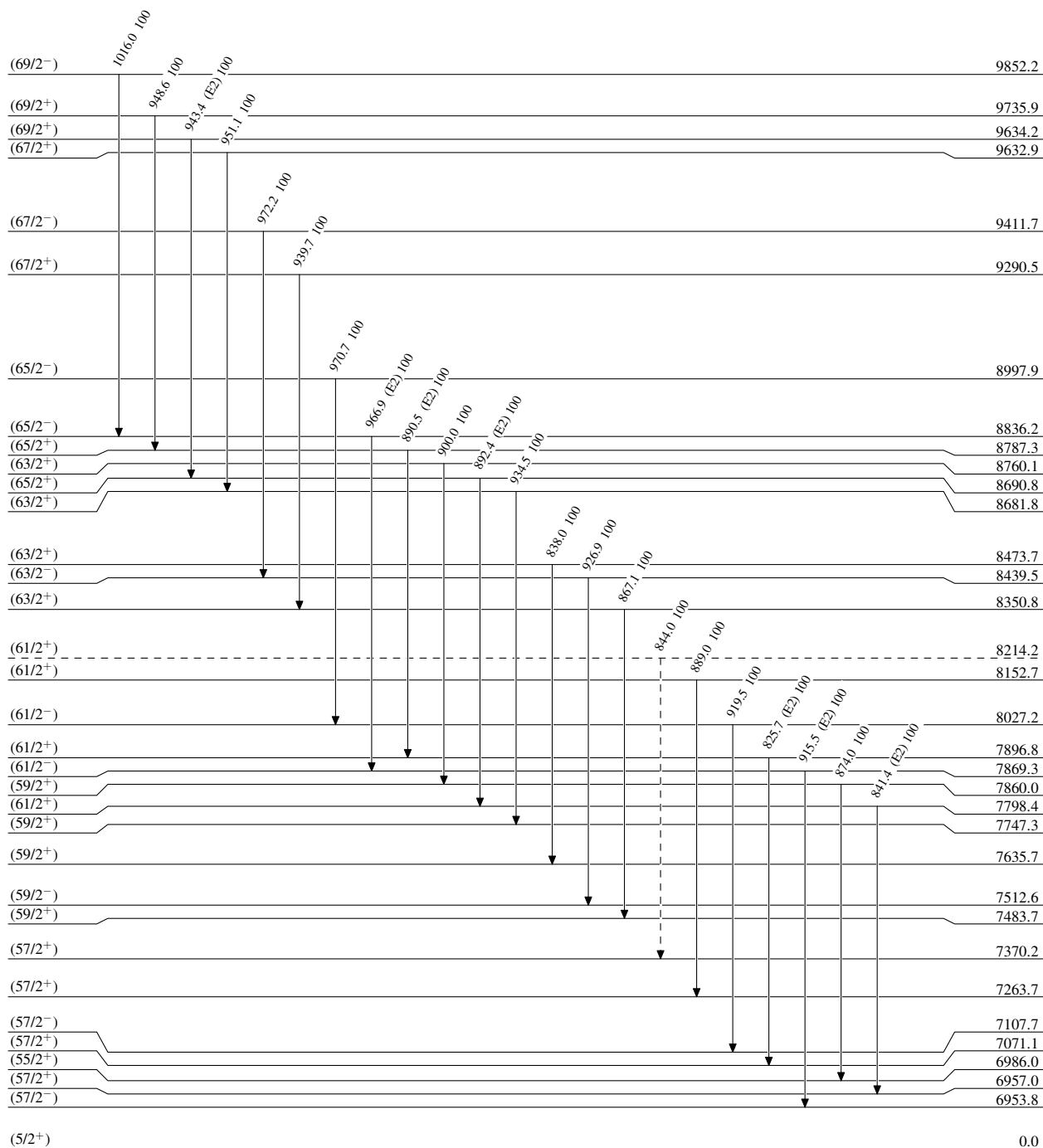
23.3 min 3

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

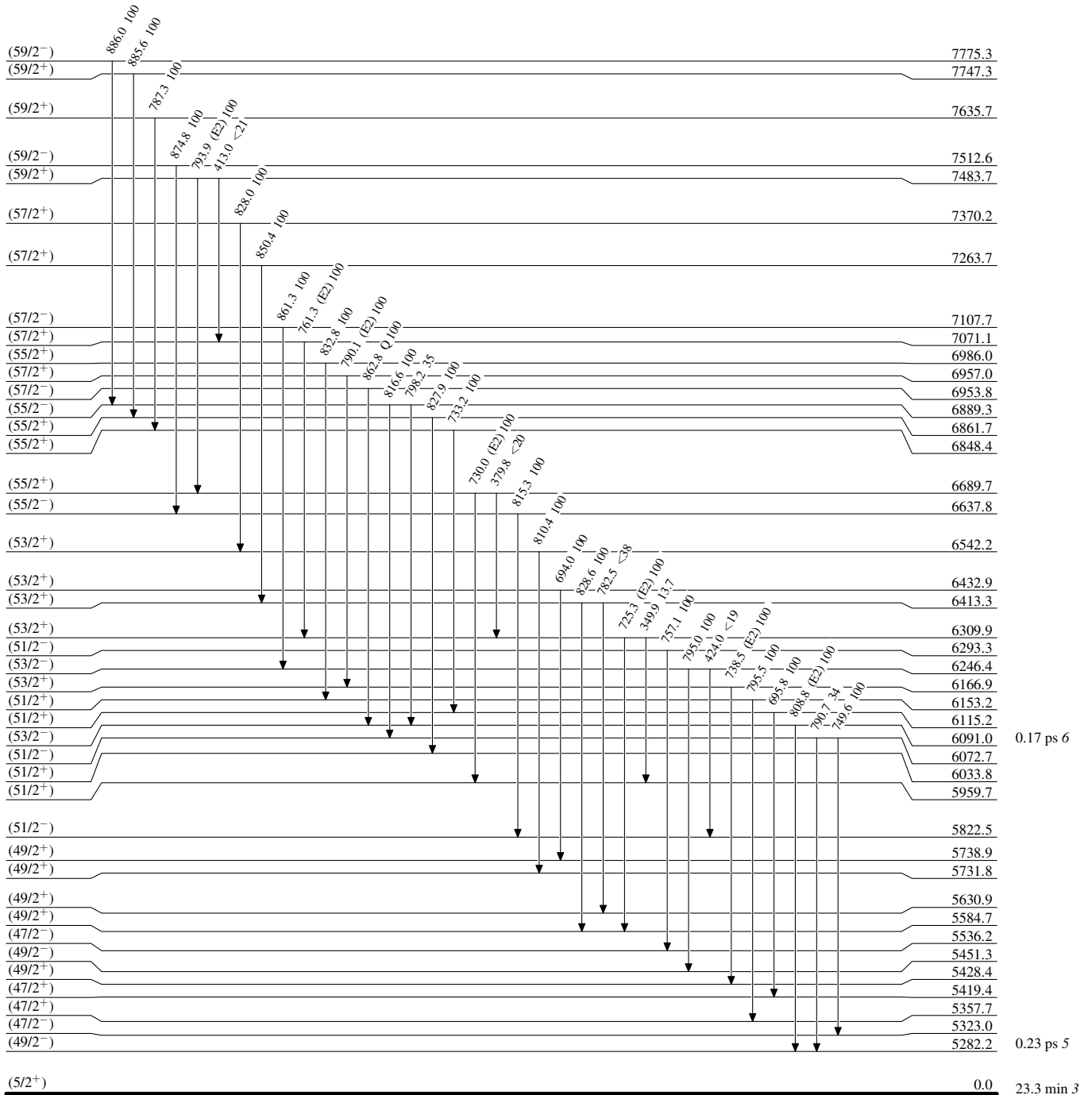
-----► γ Decay (Uncertain)

23.3 min 3

Adopted Levels, Gammas

Level Scheme (continued)

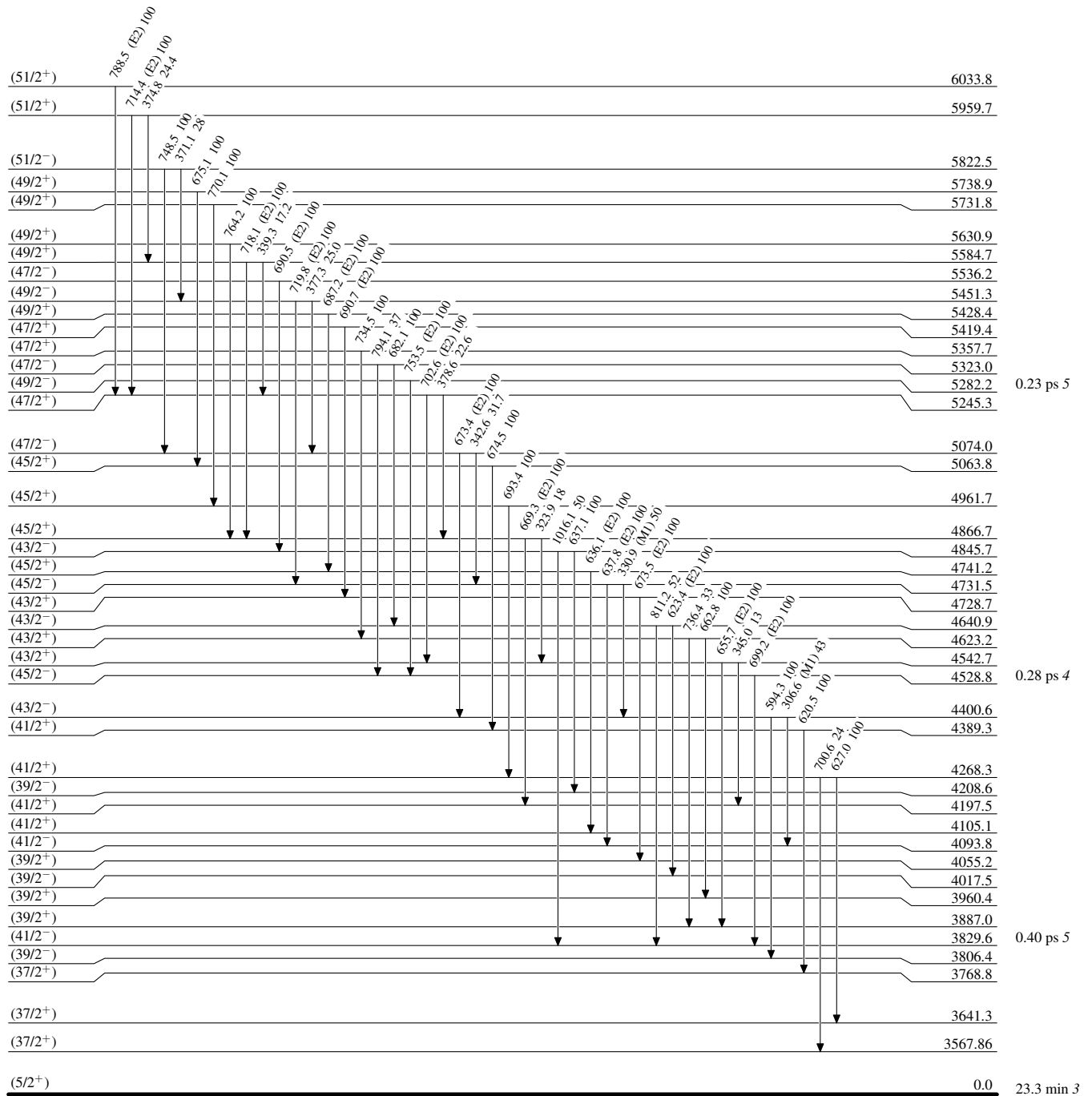
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

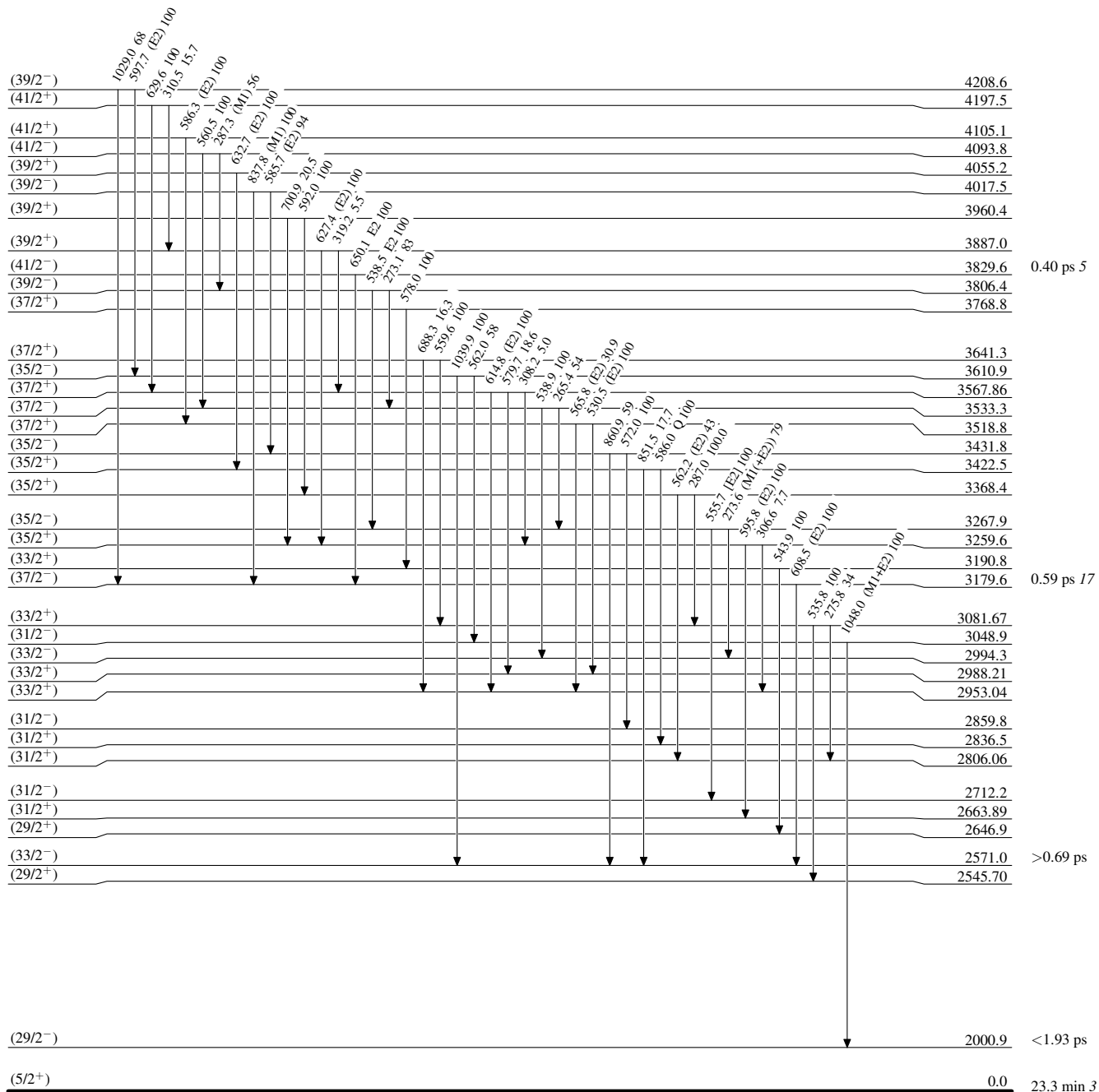
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

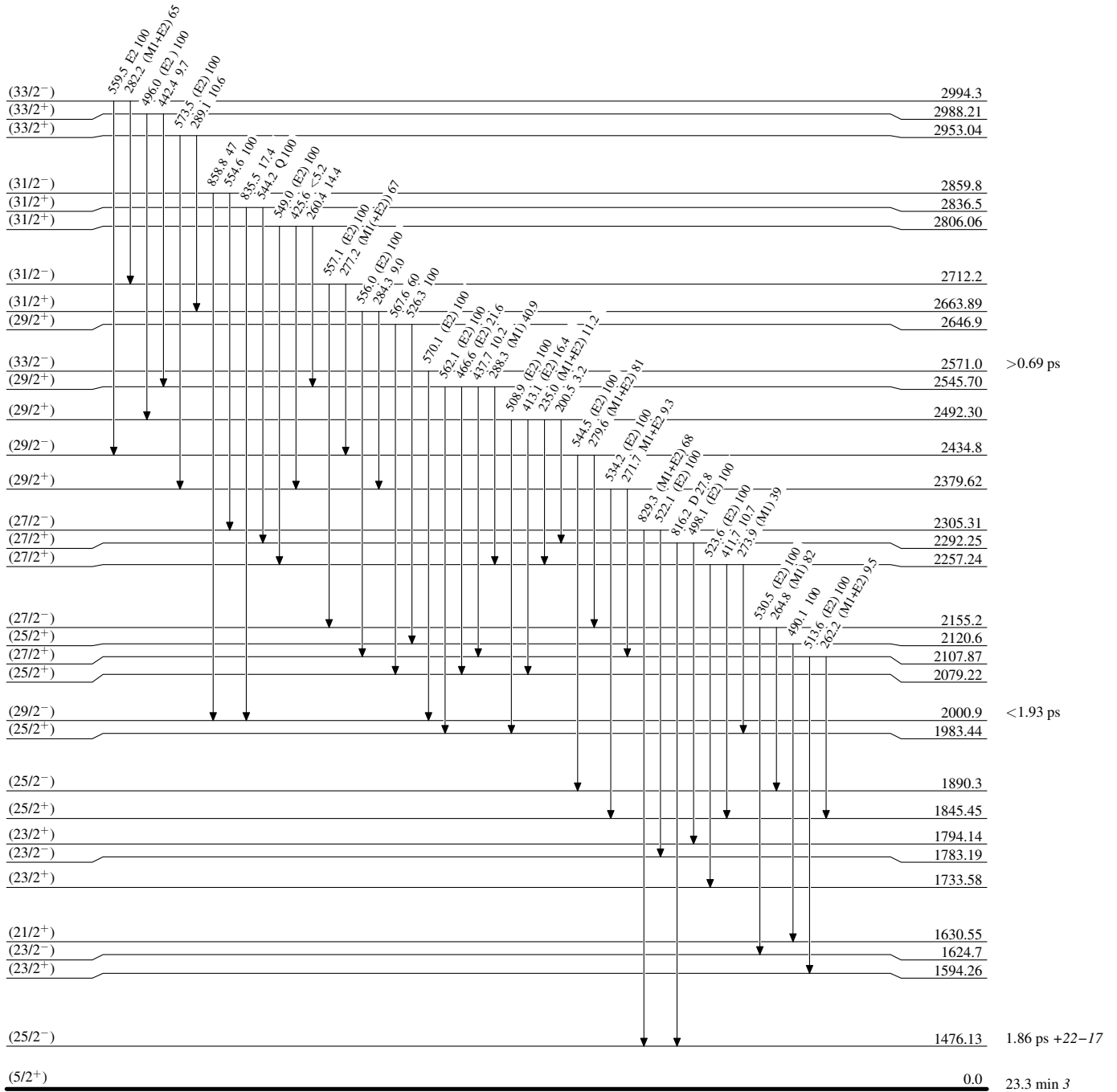
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

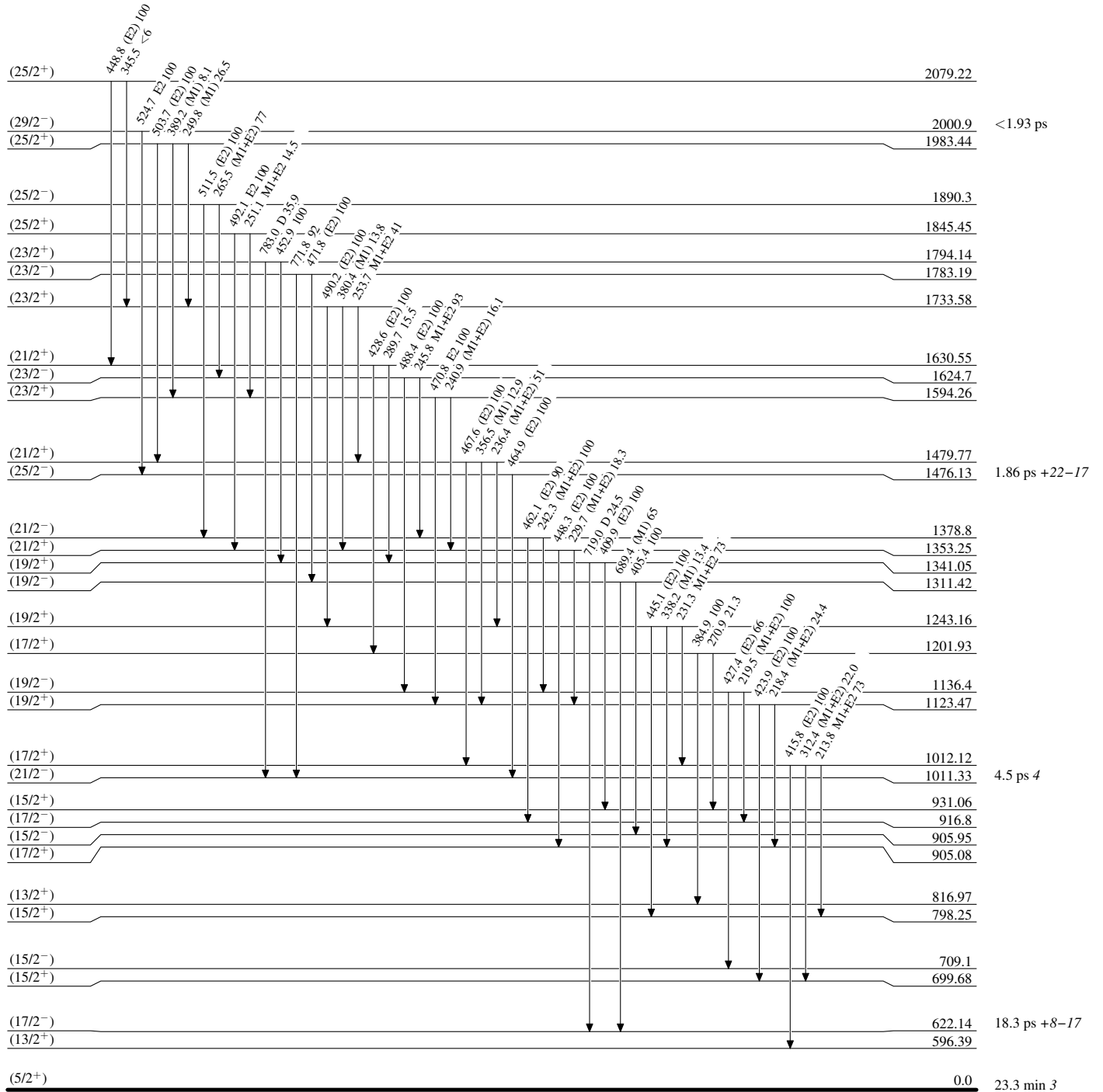
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

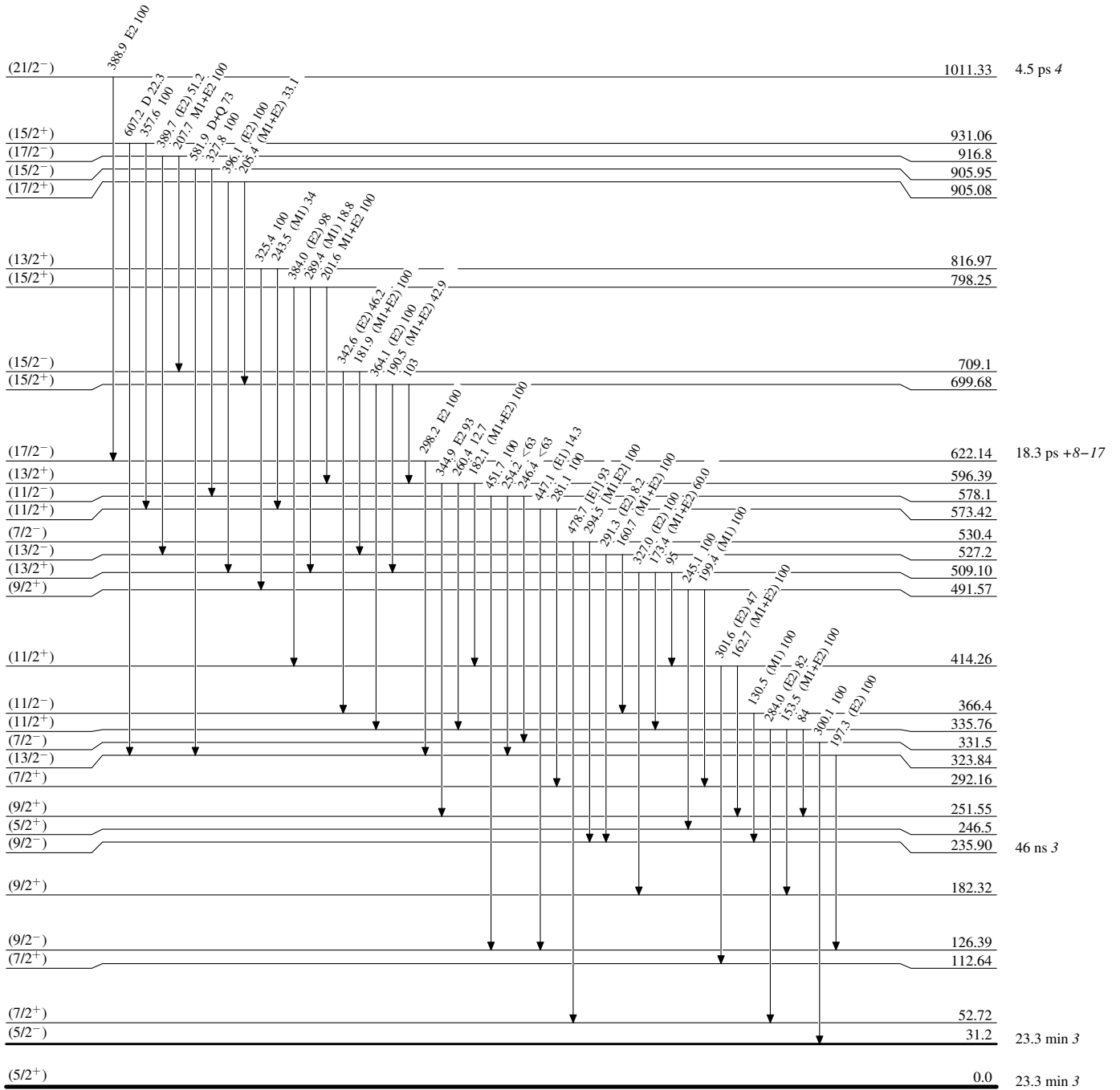


¹⁷¹Ta₉₈

Adopted Levels, Gammas

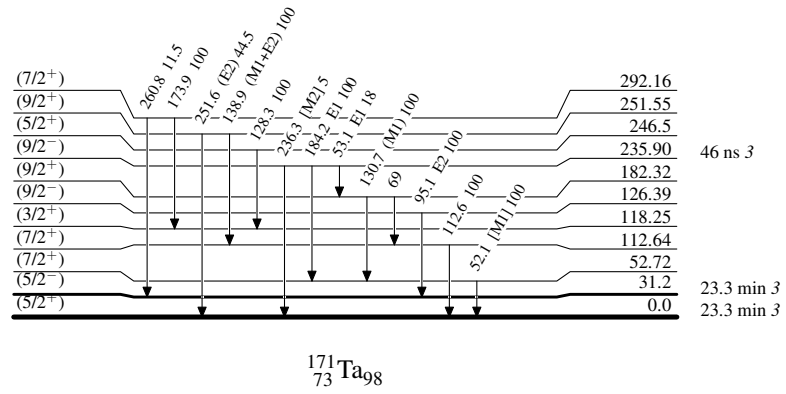
Level Scheme (continued)

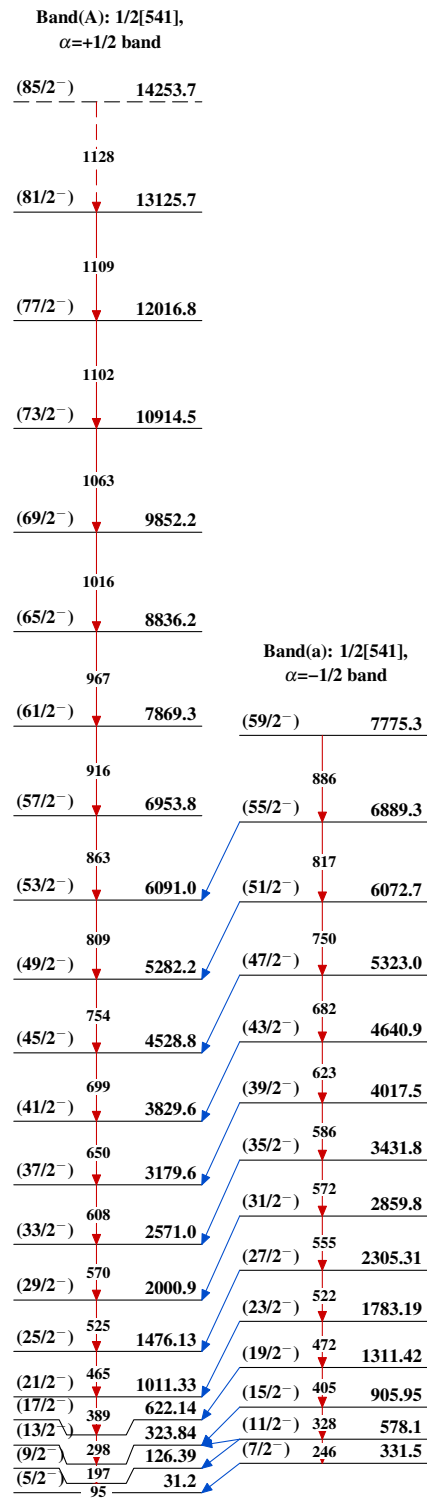
Intensities: Relative photon branching from each level

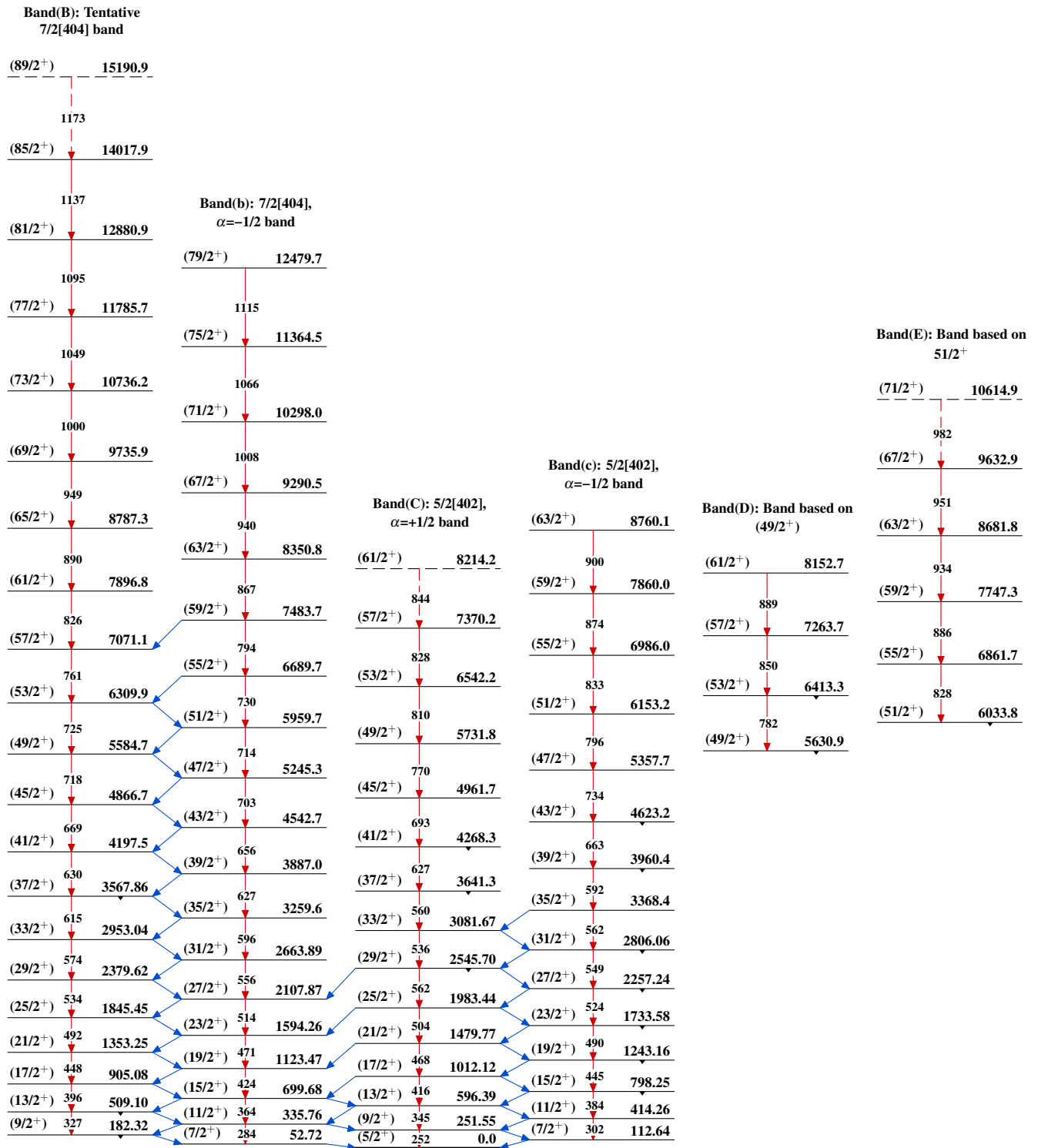


Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level

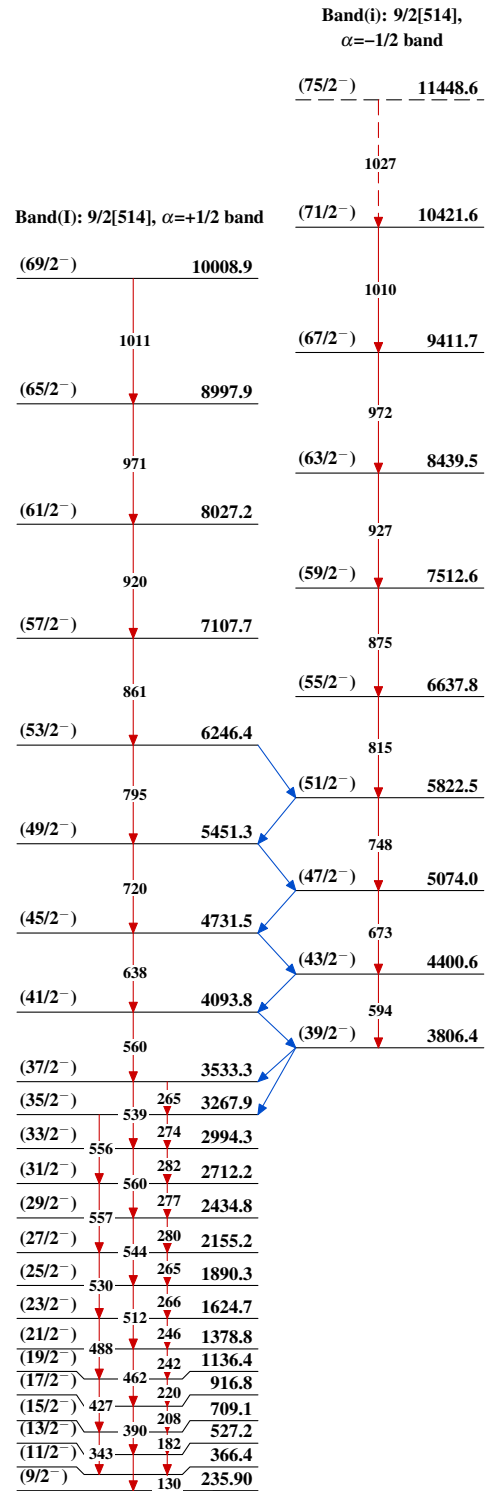


Adopted Levels, Gammas $^{171}_{73}\text{Ta}_{98}$

Adopted Levels, Gammas (continued) $^{171}_{73}\text{Ta}_{98}$

Adopted Levels, Gammas (continued)

				Band(G): 1/2[660], $\alpha=+1/2$ band	
				(101/2 ⁺) 18978.4	
				↓ 1335	
				(97/2 ⁺) 17643.4	
				↓ 1289	
				(93/2 ⁺) 16354.4	
				↓ 1244	
				(89/2 ⁺) 15110.5	
				↓ 1195	
				(85/2 ⁺) 13915.9	
				↓ 1146	
				(81/2 ⁺) 12770.0	
				↓ 1096	
				(77/2 ⁺) 11673.8	
				↓ 1045	
				(73/2 ⁺) 10628.5	
				↓ 994	
				(69/2 ⁺) 9634.2	
				↓ 943	
				(65/2 ⁺) 8690.8	
				↓ 892	
				(61/2 ⁺) 7798.4	
				↓ 841	
				(57/2 ⁺) 6957.0	
				↓ 790	
				(53/2 ⁺) 6166.9	
				↓ 738	
				(49/2 ⁺) 5428.4	
				↓ 687	
				(45/2 ⁺) 4741.2	
				↓ 636	
				(41/2 ⁺) 4105.1	
				↓ 586	
				(37/2 ⁺) 3518.8	
				↓ 530	
				(33/2 ⁺) 2988.21	
				↓ 496	
				(29/2 ⁺) 2492.30	
				↓ 413	
				(25/2 ⁺) 2079.22	
				↓	
				(23/2 ⁺) 1794.14	
				↓ 498	
				(19/2 ⁺) 1341.05	
				↓ 453	
				(15/2 ⁺) 931.06	
				↓ 410	
				(11/2 ⁺) 573.42	
				↓ 358	
				(7/2 ⁺) 292.16	
				↓ 281	
				(3/2 ⁺) 118.25	
				↓ 174	
				(3/2 ⁻) 118.25	
				↓	
				(21/2 ⁺) 1630.55	
				↓ 490	
				(17/2 ⁺) 1201.93	
				↓ 429	
				(13/2 ⁺) 816.97	
				↓ 385	
				(9/2 ⁺) 491.57	
				↓ 325	
				(5/2 ⁺) 246.5	
				↓ 245	
				(53/2 ⁺) 6432.9	
				↓ 694	
				(49/2 ⁺) 5738.9	
				↓ 675	
				(45/2 ⁺) 5063.8	
				↓ 674	
				(41/2 ⁺) 4389.3	
				↓ 620	
				(37/2 ⁺) 3768.8	
				↓ 578	
				(33/2 ⁺) 3190.8	
				↓ 544	
				(29/2 ⁺) 2646.9	
				↓ 526	
				(25/2 ⁺) 2120.6	
				↓ 490	
				(21/2 ⁺) 1630.55	
				↓ 490	
				(17/2 ⁺) 1201.93	
				↓ 429	
				(13/2 ⁺) 816.97	
				↓ 385	
				(9/2 ⁺) 491.57	
				↓ 325	
				(5/2 ⁺) 246.5	
				↓ 245	
				(51/2 ⁻) 6293.3	
				↓ 757	
				(47/2 ⁻) 5536.2	
				↓ 690	
				(43/2 ⁻) 4845.7	
				↓ 637	
				(39/2 ⁻) 4208.6	
				↓ 598	
				(35/2 ⁻) 3610.9	
				↓ 562	
				(31/2 ⁻) 3048.9	

Adopted Levels, Gammas (continued) $^{171}_{73}\text{Ta}_{98}$