Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. W. Burrows[a]	NDS 109, 1879 (2008)	14-Jul-2008

Q(β^-)=−2628 *3*; S(n)=11555.5 *13*; S(p)=6758.2 *9*; Q(α)=−9314.7 *11* 2012Wa38
Note: Current evaluation has used the following Q record.
Q(β^-)=−2626.5 *26*; S(n)=11552.9 *26*; S(p)=6758.2 *8*; Q(α)=−9084 *3* 2003Au03

^{49}V Levels

Resonances: see 1978Ha15 and the references cited below for additional resonance states and more information on the resonance parameters. Others: see 1995Bu23.
Bound-state T′s: from ^{50}Cr(^{3}He,α) In ^{49}Cr.
Γ_p, Γ_γ: from (p,γ).
%p,%γ: from Γ_p and Γ_γ.
Multidimensional nonmetric scaling analysis: see ^{47}V Adopted Levels, Gammas and ^{46}Ti(p,γ) E=0.4-1.8 MeV res (1991Bu05) for a comparison of results from multidimensional nonmetric scaling analysis of the data from 1986De13 by 1993Ca12 to an average-spin method analysis by 1988Va08 and 1991Ki11 of the data and results using the Nuclear Data Sheets "Strong" arguments for spin and parity assignments.

Cross Reference (XREF) Flags

A	^{49}Cr β^+ decay	E	^{48}Ti(^{3}He,d),(^{3}He,pd),(d,n)	I	^{51}V(p,t) E=40.2 MeV
B	^{12}C(^{40}Ca,3pγ),^{24}Mg(^{32}S,3p$\alpha\gamma$),	F	^{48}Ti(^{16}O,^{15}N)	J	^{52}Cr(p,α) E=35 MeV
C	^{46}Ti(α,pγ)	G	^{49}Ti(p,n),(p,nγ)	K	^{48}Ti(p,γ),(^{3}He,pd), ^{52}Cr(p,α)
D	^{48}Ti(p,γ) E=960-2488 keV res	H	^{50}Cr(t,α) E=13 MeV	L	^{48}Ti(p,p),(p,p′),(p,p′γ) res

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$[#]	XREF	Comments
0.0[@]	7/2$^-$	330 d *15*	ABCDEFGHIJ	%ε=100 μ=4.47 *5* (2005St24,1957We17); T=3/2 J$^\pi$: J from electron paramagnetic resonance (1976Fu06, 1957We17); π from L=3 In stripping and pickup. $T_{1/2}$: from 1983Hu03 (NaI. ^{55}Fe ($T_{1/2}$=1007 d) standard). Others: see 1978LeZA. μ: electron paramagnetic resonance (^{51}V standard).
90.6392[@] *17*	5/2$^-$	228 ps *13*	ABCDE GHIJ	J$^\pi$: 5/2$^-$,9/2$^-$ from ΔJ=1 M1 γ to 7/2$^-$. ≠ 9/2 from D γ from 3/2$^-$. $T_{1/2}$: from γ(t) In (p,nγ). See comment on conflict with other values In this dataset.
152.9282 *17*	3/2$^-$	19.90 ns *24*	A CDEFGHIJ	μ=+2.37 *12* (2005St24,1972Vi06) J$^\pi$: L(P)=1 In stripping and pickup. E2 γ to 7/2$^-$. $T_{1/2}$: from γ(t) In (p,nγ). Others: see β^+ decay, (p,γ), and (p,nγ). μ: TDPAD; see (p,γ).
748.27[&] *9*	3/2$^+$	5.3 ps *6*	ABCDE GH J	T=3/2 J$^\pi$: L(^{3}He,d)=2. δ(5/2) from p$\gamma(\theta)$ In (α,pγ) and comparison to RUL excludes 5/2$^+$.
1021.62[@] *11*	11/2$^-$	3.4 ps *6*	ABCDEFGHIJ	J$^\pi$: J from p$\gamma(\theta)$ In (α,pγ). π from E2 γ to 7/2$^-$.
1140.53[&] *11*	5/2$^+$	1.3 ps *6*	BCDe G J	J$^\pi$: J from p$\gamma(\theta)$ In (α,pγ). π from M1+E2 γ to 3/2$^+$ (1975Ha12). $T_{1/2}$: other: 0.17 ps *+35−7* from (p,γ).
1155.32[@] *10*	9/2$^-$	1.1 ps *3*	ABCDeFGHIJ	J$^\pi$: J from p$\gamma(\theta)$ In (α,pγ). π from M1+E2 γ to 7/2$^-$.
1183?			H	
1514.54 *7*	5/2$^-$	31 fs *12*	A CD GHIJ	J$^\pi$: D+Q γ to 7/2$^-$ and M1+E2 γ to 3/2$^-$. $T_{1/2}$: weighted av from (α,pγ) and (p,γ).

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Adopted Levels, Gammas (continued)

^{49}V Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$#	XREF	Comments
1602.68& *12*	7/2+	0.47 ps *22*	BCD G J	Jπ: M1+E2 γ to 5/2+ and D,E2 γ to 9/2−.
1610?	(9/2−,11/2−)[a]		H	
1643.19 *18*	(3/2−,5/2)	36 fs *11*	CD G	Jπ: ≠ 5/2 from D+Q γ to 3/2−. Jπ=(3/2−) if the ^{49}Cr 6423 state is the IAS (1985Fu03); ≠ 1/2 from possible D γ from 5/2−.
1646.43[b] *21*	(1/2+)	6.6 ps *10*	CD Gh J	Jπ: parentheses added due to tentative Jπ arguments for 1643 state.
1661.40 *13*	3/2−	16 fs *7*	A CDEFG IJ	Jπ: L(^{3}He,d)=1; 3/2,5/2 from pγ(θ) In (α,pγ). $T_{1/2}$: from (α,pγ). Other: see (p,γ).
1994.7[b] *4*	3/2(+)	0.49 ps *21*	CD Gh J	Jπ: 3/2 from pγ(θ)′s to 5/2+ and 5/2− and pγ(θ) from 5/2+ In (α,pγ). π=+ if suggestion by 1974Ta05 that L(t,α)=2 is correct.
2178.3& *4*	9/2+	0.56 ps *+49−28*	BCD Gh j	Jπ: J from pγ(θ)′s In (α,pγ) to 7/2− and 7/2+. π from E2 γ to 5/2+.
2182.0 *4*	7/2−[c]	33 fs *12*	A CDEfGHIj	
2204?	(5/2−,7/2−)		Ef	
2234.0 *7*	5/2	12 fs *8*	A CD GHIJ	Jπ: from γ(θ) In (p,γ).
2263.30@ *21*	15/2−	0.65 ps *+38−19*	BC G Ij	Jπ: 11/2,15/2 from pγ(θ) In (α,pγ). δ(1241γ) for J=11/2 from pγ(θ) In (α,pγ) not consistent with α(exp)(1242γ). π=− from E2 γ to 11/2−.
2265.3 *3*	5/2−	35 fs *9*	CD GH j	Jπ: L(t,α)=3; 3/2,5/2 from γ(θ) to 3/2− In (p,γ).
2279?	1/2−,3/2−		E	
2309.4 *6*	3/2−	14 fs *7*	A CDE GHIJ	Jπ: L(^{3}He,d)=1. D+Q γ to 5/2− In (p,γ). $T_{1/2}$: from (p,γ).
2353.4 *4*	9/2−	33 fs *12*	C GHIJ	Jπ: D+Q γ to 11/2− and M1+E2 γ to 7/2−.
2388.0[b] *5*	5/2+	57 fs *20*	CDE GH J	Jπ: L(t,α)=2; ≠ 3/2+ from D,E2 γ to 7/2−.
2408.3 *4*	(7/2−)	<8 fs	CD GHIJ	Jπ: 5/2−,7/2,9/2− from D,E2 γ′s to 5/2− and 9/2−. 7/2− from possible D γ to 5/2+ and possible D,E2 γ to 11/2−.
2671.0[d] *3*	(11/2)−	<11 fs	BCd Ij	Jπ: 9/2−,11/2−,13/2− from M1+E2 γ to 11/2−. 11/2− from comparison of theoretical and experimental σ(θ) In (p,t).
2671.3? *9*	7/2−,9/2,11/2+	<33.3[e] ps	d G j	Jπ: D,E2 γ to 11/2− and D,Q,E3 γ to 5/2−.
2680.0 *15*	(7/2,9/2)		D GH j	Jπ: possible γ to 11/2−; γ′s from (5/2−) and (5/2+) resonances.
2727.5[d] *3*	15/2−	0.10 ps *4*	BC GHIJ	Jπ: ΔJ=0 M1+E2 γ to 15/2−.
2741.0& *5*	11/2+	0.39 ps *+36−17*	BC	Jπ: 11/2 from recoil-γ(θ) In (^{40}Ca,3pγ); D,E2 γ to 7/2+.
2786.4 *3*	(9/2)−	<11 fs	C E G Ij	Jπ: 7/2−,9/2,11/2− from D,E2 γ′s to 7/2− and 11/2−. 9/2,11/2 from pγ(θ) In (α,pγ); ≠ 9/2+ from δ(9/2 to 7/2 or 9/2) and comparison to RUL. ≠ 11/2− from possible D,E2 γ′s to 5/2− and 7/2+.
2796.6? *15*			G j	
2808.3 *7*	5/2+	0.32 ps *6*	C GH	Jπ: L(t,α)=2; ≠ 3/2+ from D,E2 γ to 7/2−. Proposed As the 7/2+ member of the Kπ=1/2+ rotational band by 1975Ha12 but this is not consistent with L(t,α).
2810.9[d] *5*	5/2−,7/2−	<12 fs	CDE G IJ	
2861.5@ *5*	13/2−	0.10 ps *6*	BC I	Jπ: from pγ(θ) In (α,pγ) and E2 γ to 9/2−.
3017.3 *7*		<33.3[e] ps	C G I	
3133.9 *5*	(9/2,11/2,13/2)	0.22 ps *+8−4*	C e hij	Jπ: D γ to (11/2)−.
3134.0 *6*	7/2,9/2(+)	<33.3[e] ps	CDe Ghij	Jπ: 7/2,9/2 from D+Q γ to 7/2− and D,Q γ to 11/2−. ≠9/2− from possible D,Q,E3 γ to 3/2+. 1992Di02 assumed 7/2− In their multidimensional nonmetric scaling analysis.
3152.1? *10*			E G	
3224[f] *1*	(1/2,3/2,5/2−)		D	Jπ: D,E2 γ from (1/2−) res.

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Adopted Levels, Gammas (continued)

^{49}V Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
3239.5 *9*	7/2−[c]	<33.3[e] ps	D G IJ	
3242[f] *2*	(3/2,5/2,7/2−)[g]		D	
3248	1/2+[a]		E H	E(level): from (t,α).
3259.5 *4*	(≥9/2)		CD	$T_{1/2}$>2 ps<0.7 ns Jπ: seen only At 7/2− resonances.
3303.2 *9*	3/2−,5/2,7/2,9/2	<33.3[e] ps	G	Jπ: D,E2 γ to 7/2− and D,Q,E3 γ to 5/2−.
3305 *3*	(13/2−)		I	Jπ: from comparison of theoretical and experimental σ(θ)′s In (p,t).
3325[f] *2*	(1/2+ to 7/2+)[g]		D	
3325.2[@] *4*	(17/2−)		B Ij	Jπ: 13/2,17/2 from ΔJ=1 D γ to 15/2−. J>15/2 from excit In (^{12}C,3pγ). Member of 7/2− g.s. yrast band.
3340.5 *11*		<33.3[e] ps	Ghij	
3341.8[&] *7*	(13/2+)		C hiJ	$T_{1/2}$>3.5 ps<0.7 ns Jπ: 11/2−,13/2 from D,E2 γ to 15/2− and D,Q γ to 9/2+. Member of Kπ=3/2+ rotational band.
3342[f] *2*	(1/2+ to 9/2+)		D	Jπ: seen only At 5/2+ resonance.
3388[f] *1*	(3/2,5/2−)		D h j	Jπ: ≤7/2− from D,E2 γ from 3/2− resonance. Strong γ′s from (1/2−) resonances; weak γ from (7/2−) resonance.
3388.5 *9*	5/2,7/2	<33.3[e] ps	Gh j	Jπ: D,Q γ′s to 9/2− and 3/2+.
3405[f]	(3/2)−		DE Ij	Jπ: L(^{3}He,d)=1 and L(p,t)=2.
3462.9 *17*	(3/2+ to 9/2+)	<33.3[e] ps	DE GH	Jπ: seen only At 5/2+ resonances; γ to 7/2− and possible γ to 7/2+ exclude 1/2+.
3479? *3*	(7/2−)[c]		I	
3500.6 *10*		<33.3[e] ps	G J	
3516[f] *2*	(3/2− to 9/2)[g]		D	
3521[f] *2*	(≤9/2)[g]		D	
3531?[f] *2*	(≤7/2−)[g]		D ij	
3531.1 *6*	5/2−,7/2,9/2+	<33.3[e] ps	G ij	Jπ: D,E2 γ to 9/2− and D,Q,E3 γ to 3/2+ to 9/2− and 3/2−.
3603[f] *2*			D	
3609 *3*	(7/2−)[c]		I	
3612? *6*	(≥11/2−)		iJ	Jπ: from large back-angle yields In (p,α).
3623.9 *20*	≤9/2	<33.3[e] ps	G i	Jπ: D,Q γ to 5/2+.
3639.8 *8*	(7/2−)	<33.3[e] ps	D G IJ	Jπ: 7/2,9/2 from D,Q γ′s to 5/2− and 11/2−. (3/2,5/2,7/2−) from deexcitation of resonances assuming D,E2 for strong transitions and multidimensional nonmetric scaling analysis.
3665.9 *7*	11/2	<33.3[e] ps	G	Jπ: D,Q,E3 γ to 7/2−, D,Q γ to 15/2−, and D,E2 γ to 9/2−.
3671[f] *2*	(1/2+ to 9/2+)		D j	Jπ: seen only At 5/2+ resonances.
3678[f] *2*	(7/2)−		De Ij	Jπ: 1/2+ to 7/2− from deexcitation of resonances assuming D,E2 for strong transitions and multidimensional nonmetric scaling analysis. 7/2− from L(p,t).
3694[h] *6*	3/2+,5/2+[a]		e H J	
3721[f] *2*	(≤7/2)−		D I	Jπ: π=− from L(p,t). ≤7/2− from deexcitation of resonances assuming D,E2 for strong transitions and multidimensional nonmetric scaling analysis.
3741[f] *2*	1/2−,3/2−		DE	
3742.4[@] *6*	(19/2−)		B IJ	Jπ: 15/2,19/2 from ΔJ=2 Q or ΔJ=0 D γ to 15/2− and ΔJ=1 D to 13/2,17/2. Member of 7/2− g.s. yrast band.
3757[f] *2*	5/2−,7/2−		DE H	
3771[f] *2*	(1/2+ to 9/2+)[g]		D	
3782[f] *2*	(≥9/2)		D	Jπ: seen only At 7/2− resonance.

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Adopted Levels, Gammas (continued)

^{49}V Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
3795 *3*	(−)[c]	I	
3816[f] *2*	(≤7/2−)	D	Jπ: possible D,E2 γ from 3/2− res.
3825 *3*	(−)[c]	I	
3841[f] *2*	1/2(+),3/2,5/2−	D J	Jπ: ≤5/2− from D,E2 γ from (1/2−) res. 1/2+,3/2,5/2 from deexcitation of resonances assuming D,E2 for strong transitions and multidimensional nonmetric scaling analysis.
3885.2 *27*		IJ	E(level): weighted av of 3886 *3* from (p,t) and 3882 *6* from (p,α).
3912[f] *2*	(3/2)−[i]	DE hI	
3927[f] *2*	(1/2+ to 9/2+)[g]	D h J	
3960[f] *2*	(3/2−,5/2,7/2−)[g]	D j	
3975 *3*	(−)[c]	HIj	E(level): from (p,t).
4002[f] *2*	(3/2)−[i]	DE H J	
4035[f] *2*	(3/2− to 9/2+)[g]	D	
4048 *3*		HI	E(level): from (p,t).
4064 *6*		J	
4088[f] *2*	3/2(−),5/2,7/2−	D H	Jπ: ≠ 7/2− from primary γ's from 3/2− resonances. ≠ 1/2,(3/2+) from decay to 7/2−.
4098[f] *2*	(≤7/2−)[g]	D I	
4129[f] *2*	(5/2)−	DE	Jπ: L(^{3}He,d)=3. ≠ 7/2− from decay to 3/2+.
4152[f] *2*		D H J	
4165? *3*		I	
4218[f] *2*	(3/2)−[i]	DE I	
4253[f] *2*	1/2−,3/2−	DE iJ	
4259[f] *2*	(3/2,5/2,7/2)[g]	D i	
4270[f] *2*		D i	
4289[f] *2*	3/2+,5/2+[a]	D Hi	
4316 *11*		IJ	E(level): unweighted av of 4305 *3* from (p,t) and 4326 *6* from (p,α).
4359[f] *2*		D	
4373[f] *2*	1/2−,3/2−	DE J	
4397[f] *2*	5/2−,7/2−[a]	D H J	
4422[f] *2*		D	
4436[h] *6*		E J	
4470 *6*		J	
4498[f] *2*	5/2(−),7/2(−)	D j	Jπ: γ's to 3/2− and 9/2−.
4502[j]	1/2−,3/2−	E H j	
4540[f] *2*		D H J	
4590[f] *2*		DE J	
4599		E	
4635[f] *2*	(5/2)−	DE H J	Jπ: L(^{3}He,d)=3. ≠7/2− from D,E2 γ from (1/2−) res.
4662[h] *6*	3/2+,5/2+[a]	H J	
4740[f] *2*	3/2+,5/2+[a]	D H J	
4796 *6*	(≥11/2)	J	Jπ: from large back-angle yields In (p,α).
4840[f] *2*	1/2−,3/2−	DE H J	
4863[h] *6*		H J	
4885[h] *6*		E J	
4947[f] *2*	1/2−,3/2−	DE j	
4959	1/2+[a]	H j	
4988 *6*		J	

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Adopted Levels, Gammas (continued)

^{49}V Levels (continued)

E(level)†	Jπ‡	XREF	Comments
5010[h] 6	5/2⁻,7/2⁻[a]	E H J	
5042[f] 2		D	
5057	1/2⁻,3/2⁻	E	
5072	3/2⁺,5/2⁺[a]	H	
5134[h] 6		E H J	
5212[f] 2	1/2⁻,3/2⁻	DE J	
5230[f] 2		D H	
5257	1/2⁻,3/2⁻	E	
5292[h] 6	1/2⁺[a]	H J	
5347[h] 6	(3/2⁺,5/2⁺)[a]	H J	
5387[h] 6	1/2⁻,3/2⁻[a]	E H J	
5411[h] 6	5/2⁻,7/2⁻	E J	
5522	1/2⁺[a]	H	
5529.7[@] 7	(21/2⁻)[k]	B	
5554		H	
5597[j]	1/2⁻,3/2⁻	E H	
5631?	(3/2⁺,5/2⁺)[a]	H	
5676	1/2⁻,3/2⁻	E	
5689.9[@] 8	(23/2⁻)[k]	B	
5718	1/2⁻,3/2⁻	E	
5826	5/2⁻,7/2⁻	E	
5889[j]	1/2⁻,3/2⁻	E H	
5931?	(3/2⁺,5/2⁺)[a]	H	
5947	5/2⁻,7/2⁻	E	
5987[j]	1/2⁻,3/2⁻	E H	
6045	1/2⁻,3/2⁻	E	
6058?	(3/2⁺,5/2⁺)[a]	H	
6146	1/2⁻,3/2⁻	E	
6184[j]		E H	
6220[j]	1/2⁻,3/2⁻	E H	
6258		E	
6286?		H	
6333[j]	1/2⁻,3/2⁻	E H	
6368[j]		E H	
6392		e H	
6430[l]	*m*	e H j	
6474[jl]	*m*	E H j	
6521[j]		E H	
6555	1/2⁻,3/2⁻	E	
6563?	(3/2⁺,5/2⁺)[a]	H	
6603	1/2⁻,3/2⁻	E	
6661 30		E	
6683 30		E	
6711 30		E	
6816 30		E	
6844.9[d] 8	(23/2⁻)	B	Jπ: ΔJ-1 D γ from (25/2⁻) and D γ to (23/2⁻). Member of negative-parity side band.
6856 30		E	
6892 30		E	
6943 30		E	
6978 30		E	
7054 30		E	

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Adopted Levels, Gammas (continued)

^{49}V Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
7099 *30*			E	
7137 *30*			E	
7240 *30*			E	
7290 *30*			E	
7365 *30*			E	
7430 *30*			E	
7478 *30*			E	
7554 *30*			E	
7605 *30*			E	
7645 *30*			E	
7745.0[f l]	3/2$^-$	8.9 eV *30*	De	%p=90 *4*; %g=10 *4* T=5/2; Γ_p=8 eV *3*; Γ_γ=0.88 eV *25* Jπ: 3/2 from $\gamma(\theta)$ In (p,γ). E2+M3 γ to 7/2$^-$.
7750[f l]	3/2$^-$	6.7 eV *20*	De	%p=90 *4*; %g=10 *4* T=5/2; Γ_p=6 eV *2*; Γ_γ=0.70 eV *20* Jπ: 3/2 from $\gamma(\theta)$ In (p,γ). E2(+M3) γ to 7/2$^-$.
7801.4[@] *8*	(25/2$^-$)[k]		B	
7838.7[f] *21*	(1/2$^-$)[n]		DE	
7910.2[f] *21*	(1/2$^-$)[n]		DE	
7943.5[f l] *21*	(3/2$^-$)[o]		DE	T=5/2
8013.0[f l] *21*	(3/2$^-$)[o]		DE	T=5/2
8058.1[f] *21*	(3/2,5/2$^+$)		De	Jπ: 3/2,5/2 from γ's to 3/2$^-$, 3/2$^+$, 5/2$^-$, and 5/2$^+$ assuming D,E2; 3/2,5/2$^+$ from multidimensional nonmetric scaling analysis.
8071.8[f l] *21*	(5/2)[p]		De	T=5/2
8092.6[f l]	(1/2$^-$)	53 eV *15*	DE	%p=95.2 *19*; %g=4.8 *19* T=5/2; Γ_p=50 eV *15*; Γ_γ=2.5 eV *7* Jπ: 1/2$^-$,3/2,5/2$^+$ from D,E2 γ's to 5/2$^-$ and 1/2$^+$. (1/2) from γ isotropy to 3/2$^-$.
8104.2[f]	3/2$^{(-)}$,5/2		D	Jπ: 3/2,5/2 from γ's to 5/2$^-$, 3/2$^-$, 3/2$^+$, and 5/2$^+$. ≠ 3/2$^+$ from possible γ to 7/2$^-$. (1/2) from isotropic primary γ's In (p,γ) (1972Ki06) discrepant.
8117.5[f]	3/2		D	Γ_γ=0.33 eV *9* Jπ: from $\gamma(\theta)'$s In (p,γ).
8131.5[f] *21*	(3/2$^-$)[o]		D	
8192 *30*			E	
8246 *30*			E	
8290.3[f]	3/2$^{(-)}$		DE	Jπ: J from $\gamma(\theta)'$s In (p,γ); π=− based on greater probability for P-wave penetration and $\delta \neq 0$ to 91 and 153 states.
8371 *30*			E	
8405 *30*			E	
8416.1[@] *9*	(27/2$^-$)[k]		B	Jπ: ΔJ=1 D γ to 25/2$^-$ and ΔJ=2 Q γ to 23/2$^-$.
8444 *30*			E	
8525.3[f] *21*	(5/2)[q]		DE	
8628.2[f] *21*	(3/2$^-$)[o]		DE	
8633.1[f l] *21*	(5/2)[q]		De	T=5/2
8640.9[f] *21*	(3/2$^-$)[o]		De	
8642.9[f] *21*	(3/2$^-$,5/2)		De	Jπ: 3/2$^-$,5/2 from γ's to 3/2$^-$, 3/2$^+$, and 7/2$^-$ assuming D,E2; 3/2,5/2 from multidimensional nonmetric scaling analysis.
8682.0[f] *21*	(5/2)[p]		DE	
8784.9[f l] *21*	(5/2)[p]		D	T=5/2
8788.8[f l] *21*	(5/2$^-$)		D	T=5/2

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Adopted Levels, Gammas (continued)

^{49}V Levels (continued)

E(level)†	Jπ‡	XREF		Comments
				Jπ: 5/2⁻ from γ's to 3/2⁻, 3/2⁺, and 9/2⁻ assuming D,E2; 5/2 from multidimensional nonmetric scaling analysis.
8851.5[f] 21	(5/2⁻,7/2⁻)	De		Jπ: 5/2⁻,7/2⁻ from γ's to 3/2⁻ and 9/2⁻ assuming D,E2; 5/2,7/2 from multidimensional nonmetric scaling analysis.
8867.2[f] 21	(5/2)[q]	De		
8877.0[f l] 21	(5/2)[p]	De		T=5/2
8880.9[f] 21	(5/2)	De		Jπ: (5/2) from γ's to 3/2⁻, 3/2[(+)], 7/2⁻, and 7/2⁺ assuming D,E2; 5/2,7/2 from multidimensional nonmetric scaling analysis.
8890.7[f] 21	(3/2⁻)[o]	De		
8893.6[f l] 21	(5/2⁻)	De		T=5/2 Jπ: 5/2⁻ from γ's to 3/2⁻, 3/2⁺, and 9/2⁻ assuming D,E2; 5/2 from multidimensional nonmetric scaling analysis.
8895.6[f] 21	(5/2)	De		Jπ: 5/2 from γ's to 3/2⁻, 3/2⁺, 7/2⁻, and 7/2⁺ assuming D,E2; 3/2,5/2 from multidimensional nonmetric scaling analysis.
8902.5[f l] 21	(5/2)[pr]	De		T=(5/2) XREF: e(8880,8915).
8912.2[f l] 21	(5/2)[pr]	De		T=(5/2) XREF: e(8880,8915).
8921.1[f] 21	(5/2⁺)[s]	D		
8925.0[f] 21	(7/2⁻)	D		Jπ: 5/2,7/2⁻ from γ's to 3/2⁻, 7/2⁻, and 7/2⁺ assuming D,E2; 7/2 from multidimensional nonmetric scaling analysis.
8927.9[f l] 21	(5/2)[qr]	De		XREF: e(8915).
8942.6[f] 21	(5/2)[q]	D		
8945[l] 25	(1/2⁺)		J	T=(5/2) Jπ,T: from agreement In expected energy for IAS(^{49}Ti 2504, 1/2⁺) and simple seniority estimates In (p,α).
8965.1[f] 21	(5/2⁺)[s]	D		
8998.5[f] 21	(1/2⁻)	D		Jπ: 1/2⁻,3/2,5/2 from γ's to 3/2⁻, 3/2⁺, and 5/2⁻ assuming D,E2; 1/2 from multidimensional nonmetric scaling analysis.
9008.2[f] 21	(5/2⁺)[q]	D		
9029.8[f] 21	(5/2)[q]	D		
9037.6[f] 21	(5/2)[p]	D		
9044.5[f] 21	(7/2⁻)	D		Jπ: 3/2⁻,5/2,7/2⁻ from γ's to 3/2⁻ and 7/2⁻ assuming are D,E2; 7/2 from multidimensional nonmetric scaling analysis.
9056.2[f] 21	(5/2)[p]	D		
9071.9[f] 21	(5/2)[q]	D		
9075.8[f] 21	(5/2)[q]	D		
9078.8[f] 21	(3/2⁻)[o]	D		
9082.7[f l] 21	(3/2⁺)	D	J	T=(5/2) Jπ,T: 3/2,5/2 from γ's to 3/2⁻, 3/2⁺, 5/2⁻, and 5/2⁺ assuming D,E2; 3/2 from multidimensional nonmetric scaling analysis. Jπ=3/2⁺, T=5/2 from agreement In expected energy for IAS(^{49}Ti 2664, (3/2)⁺) and simple seniority estimates In (p,α).
9089.5[f] 21	(3/2⁻,5/2)	D		Jπ: 3/2⁻,5/2 from γ's to 3/2⁻, 3/2⁺, and 7/2⁻ assuming D,E2; 3/2⁻,5/2 from multidimensional nonmetric scaling analysis.
9094.4 21	(5/2)[p]	D		
9118.0[f] 21	(5/2)[q]	D		
9131.7[f] 21	(5/2)[q]	D		
9135.6[f] 21	(5/2)[p]	D		
9148.3[f] 21	(5/2)	D		Jπ: 5/2 from γ's to 3/2⁻, 3/2⁺, 7/2⁻, and 7/2⁺ assuming D,E2; 5/2,7/2 from

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Adopted Levels, Gammas (continued)

^{49}V Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
			multidimensional nonmetric scaling analysis.
9154.2[f] *21*	(5/2$^+$)[s]	D	
9161.1[f] *21*	(1/2$^-$,3/2)[n]	D	
9167.9[f] *21*	(5/2)[q]	D	
9168.9[f] *21*	(3/2$^-$)	D	Jπ: 3/2$^-$,5/2,7/2$^-$ from γ′s to 3/2$^-$ and 7/2$^-$ assuming D,E2; 1/2,3/2 from multidimensional nonmetric scaling analysis.
9174.8[f] *21*	(5/2)[q]	D	
9182.6[f] *21*	(5/2)	D	Jπ: 3/2$^-$,5/2,7/2$^+$ from γ′s to 3/2$^+$ and 7/2$^-$ assuming D,E2; 5/2 from multidimensional nonmetric scaling analysis.
9193.4[f] *21*	(5/2,7/2$^+$)	D	Jπ: 3/2$^-$,5/2,7/2$^+$ from γ′s to 3/2$^+$ and 7/2$^-$ assuming D,E2; 5/2,7/2 from multidimensional nonmetric scaling analysis.
9195.3[f] *21*	(5/2)[q]	D	
9568[l] *10*	(1/2$^-$)	E	T=(5/2) Jπ,T: from IAS identification In (^{3}He,pd).
9662[l] *10*	3/2$^-$	E	T=5/2 Jπ: from Pd(θ) In (^{3}He,d),(^{3}He,pd),(d,n).
10230[l] *10*	(5/2)$^-$	E	T=5/2 Jπ: L(^{3}He,pd)=3. IAS(^{49}Ti 3855, 5/2$^-$).
10925[l] *7*	(5/2)$^+$	E	T=5/2 Jπ: L(^{3}He,pd)=2. IAS(^{49}Ti 4507, 5/2$^+$).
11150[l] *7*	(9/2$^+$)	E	T=5/2 Jπ: L(^{3}He,d),(t,α)=4. IAS(^{49}Ti, 4770, 9/2$^+$).

[†] From a least-squares fit to Eγ except As noted In the XREF column, comments, or footnotes. Resonance E(level)=(0.97955873 *4*)E(p)+S(p) with S(p)=6758.2 *8* (2003Au03).
[‡] From angular momentum transfer In (^{3}He,d), except As noted.
[#] From (α,pγ), except As noted; see discussion of discrepancies there and In (p,nγ). Γ′s from Γ_p and Γ_γ In (p,γ).
[@] Band(A): 7/2$^-$ g.s. yrast band.
[&] Band(B): Kπ=3/2$^+$ rotational band.
[a] From angular momentum transfer In (t,α).
[b] Band(C): Kπ=1/2$^+$ rotational band?
[c] From angular momentum transfer In (p,t).
[d] Band(D): negative-parity side band.
[e] From γ(t) In (p,nγ). Upper limit on the mean lives for these transitions was approximately 10 to 48 ps.
[f] From (p,γ). Excluded from the least-squares adjustment since the connecting transitions have No uncertainties on Eγ or were obtained from the adopted excitation energies.
[g] From deexcitation of resonances assuming D,E2 for strong transitions and multidimensional nonmetric scaling analysis.
[h] From (p,α).
[i] L(^{3}He,d)=1; 3/2 from deexcitation of resonances assuming D,E2 for strong transitions and multidimensional nonmetric scaling analysis.
[j] From (^{3}He,d).
[k] From stretched (ΔJ=1) dipole or stretched (ΔJ=2) quadrupole cascade and membership In 7/2$^-$ g.s. yrast band.
[l] T=5/2 isobaric analog resonances. See (p,γ),(^{3}He,pd), (p,α), below, for correspondence with ^{49}Ti parents.
[m] Jp=7/2$^-$, T=5/2, IAS(^{49}Ti g.s.) for 6446 *25* In (P,A).
[n] 1/2$^-$,3/2,5/2 from γ′s to 3/2$^-$, 3/2$^+$, and 5/2$^-$ assuming D,E2; 1/2,3/2 from multidimensional nonmetric scaling analysis.
[o] 3/2$^-$,5/2 from γ′s to 3/2$^-$, 3/2$^+$, and 7/2$^-$ assuming D,E2; 3/2 from multidimensional nonmetric scaling analysis.
[p] 3/2$^-$,5/2 from γ′s to 3/2$^-$, 3/2$^+$, and 7/2$^-$ assuming D,E2; 5/2 from multidimensional nonmetric scaling analysis.

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Adopted Levels, Gammas (continued)

^{49}V Levels (continued)

[q] 5/2 from γ's to $3/2^-$, $3/2^+$, $7/2^-$, and $7/2^+$ assuming D,E2; 5/2 from multidimensional nonmetric scaling analysis.
[r] Jp=$5/2^-$, T=5/2 from IAS identification In (^{3}He,pd).
[s] $5/2^+$ from γ's to $3/2^-$, $3/2^+$, and $9/2^+$ assuming D,E2; 5/2 from multidimensional nonmetric scaling analysis.

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$

Γ_γ: from (p,γ).

RI(D) TV The following branching ratios are discrepant with the adopted values:

Ex	Branching ratios	From	
153	$I_\gamma(62)/I_\gamma(153)$=0.540	*8*	β^+ (α,pγ)
	=1.087		(p,G) (^{40}Ca,3pγ)
748	$I_\gamma(595)/I_\gamma(658)$=0.92	*7*	(α,pγ)
2234	$I_\gamma(2144)/I_\gamma(2233)$=2.33	*21*	(α,pγ)
2353	$I_\gamma(1199):I_\gamma(1332):I_\gamma(2354)$ =40 *2*:49 *2*:100 *6*		(α,pγ)
2388	$I_\gamma(1639):I_\gamma(2299):I_\gamma(2389)$ =100 *5*:65 *7*:26 *5*		(p,nγ)
2408	$I_\gamma(1253)/I_\gamma(2408)$=0.266	*19*	
2741	$I_\gamma(563):I_\gamma(1139):I_\gamma(1586)$=71:100:286		
2786	$I_\gamma(1631):I_\gamma(1764):I_\gamma(2786)$ =108 *4*:100 *4*:177 *8*		(α,pγ)
	$I_\gamma(2865):I_\gamma(2927):I_\gamma(3017)$ =100 *6*:122 *6*:49 *6*		(α,pγ)
	$I_\gamma(1979):I_\gamma(2114):I_\gamma(3134)$ =42 *2*:14 *2*:100 *5*		(α,pγ)

E(F) TV Weighted average of the following photon energies:

E_x	Adopted	(α,pnγ)	(p,nγ)
748	595.35 *14*	595.3 *2*	595.4 *2*
	657.60 *14*	657.7 *2*	657.5 *2*
1140	987.61 *26*	987.9 *5*	987.5 *3*
	1049.79 *17*	1050.0 *3*	1049.7 *2*
1155	133.80 *17*	133.8 *3*	133.8 *2*
	1064.63 *19*	1064.8 *5*	1064.6 *2*
	1155.33 *17*	1155.4 *3*	1155.3 *2*
1643	1490.24 *18*	1490.2 *2*	1490.4 *4*
1646	898.06 *26*	898.0 *3*	898.2 *5*
1995	854.5 *4*	854.5 *5*	855 *1*
		854.2 *10*	
	1841.0 *8*	1840.3 *14*	1841.4 *10*
	1903.4 *8*	1904.1 *20*	1902 *1*
		1904.2 *10*	
2183	1026.8 *7*	1027.2 *12*	1027 *2*
		1026.4 *10*	
	2181.6 *11*	2183.0 *20*	2180.0 *15*
		2183.2 *20*	
2353	1331.7 *7*	1331.8 *9*	1331.5 *10*
2388	1639.3 *6*	1639.6 *7*	1638.7 *10*
	2235.5 *16*	2235.3 *25*	2235.6 *20*
	2298.6 *15*	2299.2 *22*	2298.1 *20*
	2388.6 *14*	2388.2 *20*	2388.9 *20*
2408	1252.9 *8*	1253.5 *13*	1252.5 *10*
2786	1631.0 *5*	1630.9 *5*	1631.2 *10*
	1764.5 *4*	1746.6 *4*	1764.1 *10*
3017	2865.0 *16*	2864.6 *24*	2865.2 *20*
	2926.5 *13*	2926.1 *16*	2927.1 *20*
	3017.6 *14*	3017.9 *20*	3017.2 *20*
3134	2112.8 *16*	2114.0 *25*	2112.1 *20*
	3133.4 *10*	3133.0 *11*	3135 *5*
		3134.4 *20*	

E(G) TV Weighted average of the following photon energies:

E_x	Adopted	$^{12}C(^{40}Ca,3p\gamma)$, $^{24}Mg(^{32}S,3p\alpha\gamma)$	(α,pnγ)	(p,nγ)
1022	1021.63 *14*	1021.5 *4*	1021.6 *2*	1021.7 *2*
	1241.2 *10*			
2178	575.4 *9*	575 *1*	575.5 *16*	
	1705.0 *10*			
	1037.4 *5*	1038 *1*	1037.0 *7*	1037.7 *10*
	1157.0 *7*	1156 *1*	1157.9 *10*	
2263	1241.69 *18*	1241.7 *4*	1241.7 *2*	
2728	1705.5 *7*	1706 *1*		
2741	562.5 *7*	563 *1*	562.0 *10*	
	1585.8 *9*	1586 *1*	1585.0 *20*	

$^{49}_{23}V_{26}$-10

	2178.3 *8*		2178 *1*		2179.0 *15*		2178.4 *20*												
E(I)	TV	Unweighted average of the following photon energies:																	
E_x	Adopted	$^{12}C(^{40}Ca,3p\gamma)$,		$(\alpha,pn\gamma)$		(p,nγ)			E_x	Adopted	$^{12}C(^{40}Ca,3p\gamma)$,		$(\alpha,pn\gamma)$		(p,nγ)				
		$^{24}Mg(^{32}S,3p\alpha\gamma)$									$^{24}Mg(^{32}S,3p\alpha\gamma)$								
1140	392.7 *6*		392 *1*		393.9 *9*		392.2 *2*		2741	1138.9 *9*		1138 *1*		1139.7 *14*					
	1140.7 *3*			1141.0 *3*		1140.4 *2*			2861	598.3 *7*		599 *1*		597.6 *6*					
2353	1198.9 *11*			1200.0 *15*		1197.8 *10*				1706 *1*		1707 *1*		1705.0 *20*					
2728	464.2 *3*		463.9 *4*		464.5 *3*					3134	1979.5 *15*				1978.0 *15*				
1981 *3*																			
RI(J)	TV	Average of the following branching ratios in percent:																	
EG	Adopted	$(\alpha,p\gamma)$				(p,nγ)													
392	5.7 *5*	7 *1*				5.2 *6*								TVWeighted					
988	17.0 *9*	15 *1*				16.6 *15*	18.4 *5*	13.7 *17*	15.1 *10*	TVWeighted									
1050	24.1 *11*	23 *1*				26.4 *19*	26.8 *11*	21.6 *25*	22.6 *10*	TVUnweighted									
1140	54.2 *18*	55 *3*				51.8 *13*	48.9 *6*	58.9 *38*	56.6 *10*	TVUnweighted									
TVSee	(p,nγ)	for additional details.																	
E(O)	TV	Unweighted average of the following photon energies:																	
E_x	Adopted	β^+ Decay		$(\alpha,pn\gamma)$		(p,nγ)			E_x	Adopted	β^+ Decay								
$(\alpha,pn\gamma)$	(p,nγ)																		
1515	1423.6 *3*	1423.3 *3*		1423.9 *2*					2235	572.5 *25*					570.0 *15*				
	1514.4 *4*	1514.1 *2*		1514.8 *3*											574.9 *10*				
2183	2090.7 *7*	2091.1 *7*	2092.0 *10*	2089 *2*						2142.9 *10*	2143.7 *6*	2144.0 *10*	2140 *2*						
			2090.7 *20*							2143.8 *20*									
					2234.4 *15*	2236.2 *10*	2235.7 *19*	2230.0 *15*											
							2235.6 *20*												
E(X)	TV	Weighted average of the following photon energies:																	
E_x	Adopted	β^+ Decay		$(\alpha,pn\gamma)$		(p,nγ)													
1661	1508.37 *18*	1508.3 *2*	1508.7 *10*	1508.7 *5*															
	1570.83 *17*	1570.6 *2*	1570.7 *4*	1571.1 *2*															
2310	2155.7 *12*		2156.4 *15*	2155.2 *20*															
	2218.6 *8*	2218.6 *10*	2219.3 *14*	2218 *3*															
			2217.8 *20*																
	2310.6 *14*		2310 *2*																
			2311.3 *20*																

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α^p	Comments
90.6392	5/2$^-$	90.639[#] *2*	100	0.0	7/2$^-$	M1	0.0287	α(K)=0.0259 *4*; α(L)=0.00245 *4*; α(M)=0.000320 *5*; α(N+..)=1.629×10^{-5} *23* α(N)=1.629×10^{-5} *23* B(M1)(W.u.)=0.126 *8* Mult.: from α(exp) In (p,nγ) and comparison to RUL. $\Delta\pi$=1 D γ from recoil-$\gamma(\theta)$ In (40C,3pγ). δ: see discussion In (p,nγ).
152.9282	3/2$^-$	62.289[#] *2*	70.5 *24*	90.6392	5/2$^-$	(M1)	0.0787	α(K)=0.0710 *10*; α(L)=0.00676 *10*; α(M)=0.000885 *13*; α(N+..)=4.47×10^{-5} *7* α(N)=4.47×10^{-5} *7*

$^{49}_{23}V_{26}$-11

						B(M1)(W.u.)=0.00176 *8* I_γ: weighted av of Iγ(62γ)/Iγ(153γ)=72.4 *35*/100.0 *52* from (α,pγ) and 68.9 *32*/100.0 *32* from (p,nγ). Iγ(62γ)/Iγ(153γ)=54.0 *7*/100.0 *4* from β= decay and 100/92 from (p,γ) discrepant. Mult.: D from comparison to RUL. $\Delta\pi$=No from the level scheme.
152.928[#] *2*	100[#] *3*	0.0	7/2$^-$	E2	0.0725	α(K)exp=0.069 *5*; K/LM=7.93 *27* (1967Me18) α(K)=0.0654 *10*; α(L)=0.00623 *9*; α(M)=0.000808 *12*; α(N+..)=3.91×10^{-5} *6* α(N)=3.91×10^{-5} *6* B(E2)(W.u.)=17.4 *7* Mult.: from α(exp) In (p,nγ) and comparison to RUL.

$^{49}_{23}V_{26}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$ (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α^p	Comments
748.27	$3/2^+$	595.35 *14*	100.0 *15*	152.9282	$3/2^-$	(E1(+M2))[@]	−0.02 *2*	0.000184 *3*	α=0.000184 *3*; α(K)=0.0001664 *25*; α(L)=1.514×10^{-5} *23*; α(M)=1.98×10^{-6} *3* α(N+..)=1.030×10^{-7} *16* α(N)=1.030×10^{-7} *16* B(E1)(W.u.)=0.00024 *3*; B(M2)(W.u.)=1.3 *+26−13* δ: <0.0180 *15* from comparison to RUL.
		657.60 *14*	85.2 *15*	90.6392	$5/2^-$	(E1(+M2))[@]	−0.01 *2*	0.0001450 *21*	α=0.0001450 *21*; α(K)=0.0001317 *19*; α(L)=1.197×10^{-5} *18*; α(M)=1.567×10^{-6} *23* α(N+..)=8.15×10^{-8} *12* α(N)=8.15×10^{-8} *12* B(E1)(W.u.)=0.000154 *18*; B(M2)(W.u.)=0.16 *+66−16*
1021.62	$11/2^-$	1021.63 *14*	100	0.0	$7/2^-$	E2		0.0001310 *19*	α=0.0001310 *19*; α(K)=0.0001184 *17*; α(L)=1.079×10^{-5} *16*; α(M)=1.413×10^{-6} *20* α(N+..)=7.35×10^{-8} *11* α(N)=7.35×10^{-8} *11* B(E2)(W.u.)=14.0 *25* Mult.: Q(+O) from p$\gamma(\theta)$ In (α,pγ). ≠ M2(+E3) from comparison to RUL. ΔJ=2 Q or ΔJ=0 D γ from recoil-$\gamma(\theta)$ In (^{40}Ca,3pγ). δ: −0.03 *3* from p$\gamma(\theta)$In (α,pγ). <0.00033 *3* from comparison to RUL.
1140.53	$5/2^+$	392.7 *6*	10.5 *10*	748.27	$3/2^+$	M1+E2[&]		0.0015 *8*	α=0.0015 *8*; α(K)=0.0013 *7*; α(L)=0.00012 *6*; α(M)=1.6×10^{-5} *8*; α(N+..)=8.E−7 *4* α(N)=8.E−7 *4* δ: −0.26 *12* or −1.2 *3* from (α,pγ).
		987.61 *26*	31.4 *17*	152.9282	$3/2^-$	(E1(+M2))[@]	−0.04 *8*	6.16×10^{-5} *25*	B(E1)(W.u.)=7.E−5 *4*; B(M2)(W.u.)=0.5 *+21−5* α=6.16×10^{-5} *25*; α(K)=5.59×10^{-5} *22*; α(L)=5.07×10^{-6} *21*; α(M)=6.6×10^{-7} *3*; α(N+..)=3.46×10^{-8} *14* α(N)=3.46×10^{-8} *14* δ: weighted av from (p,nγ) and (α,pγ). δ<0.053 *13* from comparison to RUL.
		1049.79 *17*	44.5 *21*	90.6392	$5/2^-$	E1+M2		0.00013 *8*	δ>+0.05<+0.5; B(E1)(W.u.)=8.E−5 *4* α=0.00013 *8*; α(K)=0.00012 *7*; α(L)=1.1×10^{-5} *7*; α(M)=1.4×10^{-6} *9*; α(N+..)=7.E−8 *5* α(N)=7.E−8 *5* Mult.: from α(exp) and $\gamma(\theta)$ In (p,nγ). δ: from $\gamma(\theta)$ In (p,γ). Other: +0.18 *5* from (p,nγ) not adopted from comparison to RUL. δ<0.054 *14* from comparison to RUL.
		1140.7 *3*	100 *4*	0.0	$7/2^-$	E1(+M2)	−0.05 *6*	7.00×10^{-5} *14*	α=7.00×10^{-5} *14*; α(K)=4.27×10^{-5} *13*;

$^{49}_{23}V_{26}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α^p	Comments
									α(L)=3.87×10^{-6} *12*; α(M)=5.07×10^{-7} *15*; α(N+..)=2.30×10^{-5} *4* α(N)=2.65×10^{-8} *8*; α(IPF)=2.29×10^{-5} *4* B(E1)(W.u.)=0.00014 *7*; B(M2)(W.u.)=1.2 *+30−12* Mult.: from α(exp) In (p,nγ) and p$\gamma(\theta)$ In (α,pγ). δ: <0.048 *12* from comparison to RUL.
1155.32	9/2$^-$	133.80 *17*	3.9 *8*	1021.62	11/2$^-$	(M1(+E2))[a]	−0.15[b] *15*	0.013 *7*	α(K)=0.012 *6*; α(L)=0.0011 *6*; α(M)=0.00014 *8*; α(N+..)=7.E−6 *4* α(N)=7.E−6 *4* B(M1)(W.u.)=0.24 *9*; B(E2)(W.u.)=7.E+2 *+15−7*
		1064.63 *17*	30.0 *6*	90.6392	5/2$^-$	E2		0.0001180 *17*	α=0.0001180 *17*; α(K)=0.0001073 *15*; α(L)=9.77×10^{-6} *14*; α(M)=1.280×10^{-6} *18* α(N+..)=6.66×10^{-8} *10* α(N)=6.66×10^{-8} *10* B(E2)(W.u.)=7.9 *22* Mult.: Q from p$\gamma(\theta)$ In (α,pγ). ≠ M2 from comparison to RUL.
		1155.33 *17*	100.0 *10*	0.0	7/2$^-$	M1+E2[&]	+0.70[b] *7*	8.89×10^{-5} *16*	α=8.89×10^{-5} *16*; α(K)=7.78×10^{-5} *14*; α(L)=7.07×10^{-6} *12*; α(M)=9.26×10^{-7} *16*; α(N+..)=3.11×10^{-6} *8* α(N)=4.84×10^{-8} *9*; α(IPF)=3.06×10^{-6} *8* B(M1)(W.u.)=0.0065 *19*; B(E2)(W.u.)=5.8 *18* Mult.: ΔJ=1 D γ from recoil-$\gamma(\theta)$ In (^{40}Ca,3pγ).
1514.54	5/2$^-$	766[s] *1*	37 *11*	748.27	3/2$^+$	(E1(+M2))	[c]	0.00028 *18*	δ<0.0045 *11*; B(E1)(W.u.)=0.006 *3* α=0.00028 *18*; α(K)=0.00025 *16*; α(L)=2.3×10^{-5} *15*; α(M)=3.0×10^{-6} *20*; α(N+..)=1.6×10^{-7} *10* α(N)=1.6×10^{-7} *10* Mult.: D from comparison to RUL. Δπ=yes from level scheme.
		1361.61[#] *7*	100.0 *22*	152.9282	3/2$^-$	M1+E2[&]	−0.57[b] *5*	9.57×10^{-5} *16*	B(M1)(W.u.)=0.10 *4*; B(E2)(W.u.)=42 *18* α=9.57×10^{-5} *16*; α(K)=5.53×10^{-5} *9*; α(L)=5.02×10^{-6} *8*; α(M)=6.58×10^{-7} *10*; α(N+..)=3.47×10^{-5} *7* α(N)=3.44×10^{-8} *6*; α(IPF)=3.46×10^{-5} *7*
		1423.6 *3*	20.3 *11*	90.6392	5/2$^-$	(M1(+E2))[a]	−0.6 *+6−21*	1.06×10^{-4} *16*	B(M1)(W.u.)=0.017 *12*; B(E2)(W.u.)=7 *+12−7* α=1.06×10^{-4} *16*; α(K)=5.1×10^{-5} *5*;

$^{49}_{23}V_{26}$-14

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α^p	Comments
									α(L)=4.6×10^{-6} *5*; α(M)=6.1×10^{-7} *6*; α(N+..)=4.9×10^{-5} *11* α(N)=3.2×10^{-8} *3*; α(IPF)=4.9×10^{-5} *11*
1514.54	5/2$^-$	1514.4 *4*	58 *3*	0.0	7/2$^-$	D,E2[c]			
1602.68	7/2$^+$	447.4 *3*	1.6[d] *8*	1155.32	9/2$^-$	(E1)		0.000376 *6*	B(E1)(W.u.)=0.00011 *8* α=0.000376 *6*; α(K)=0.000340 *5*; α(L)=3.10×10^{-5} *5*; α(M)=4.05×10^{-6} *6*; α(N+..)=2.10×10^{-7} *3* α(N)=2.10×10^{-7} *3* Mult.: D,E2 from α(exp) In (p,nγ). Δπ=yes from level scheme. δ: 0.6 *5* from α(exp) In (p,nγ), <0.06 from comparison to RUL if E1+M2.
		462.2 *2*	13.5[d] *17*	1140.53	5/2$^+$	M1(+E2)	−0.05 *21*	0.00053 *5*	α=0.00053 *5*; α(K)=0.00048 *4*; α(L)=4.4×10^{-5} *4*; α(M)=5.8×10^{-6} *5*; α(N+..)=3.01×10^{-7} *25* α(N)=3.01×10^{-7} *25* B(M1)(W.u.)=0.036 *18*; B(E2)(W.u.)=1.0 *+85−10* Mult.: D(+Q) from pγ(θ) In (α,pγ). ≠ E1+M2 from α(exp) In (p,nγ).
		854.5[r] *3*	15[rd] *4*	748.27	3/2$^+$	(E2)[e]		0.000205 *3*	B(E2)(W.u.)=21 *12* α=0.000205 *3*; α(K)=0.000185 *3*; α(L)=1.692×10^{-5} *24*; α(M)=2.22×10^{-6} *4*; α(N+..)=1.149×10^{-7} *17* α(N)=1.149×10^{-7} *17*
		1512.0 *3*	100[d] *8*	90.6392	5/2$^-$	(E1)[f]		0.000300 *5*	B(E1)(W.u.)=0.00017 *9* α=0.000300 *5*; α(K)=2.61×10^{-5} *4*; α(L)=2.36×10^{-6} *4*; α(M)=3.10×10^{-7} *5*; α(N+..)=0.000271 *4* α(N)=1.620×10^{-8} *23*; α(IPF)=0.000271 *4*
		1602.6 *2*	49.3[d] *20*	0.0	7/2$^-$	(E1+M2)[@]	+0.29 *11*	3.50×10^{-4} *16*	B(E1)(W.u.)=7.E−5 *4*; B(M2)(W.u.)=10 *9* α=3.50×10^{-4} *16*; α(K)=2.8×10^{-5} *3*; α(L)=2.5×10^{-6} *3*; α(M)=3.3×10^{-7} *4*; α(N+..)=0.000320 *19* α(N)=1.71×10^{-8} *19*; α(IPF)=0.000320 *19* δ: <0.14 *4* from comparison to RUL.
1643.19	(3/2$^-$,5/2)	1490.24 *18* 1553[g s]	100[g] <2.4[g]	152.9282 90.6392	3/2$^-$ 5/2$^-$	D+Q			Mult.: from pγ(θ) In (α,pγ).
1646.43	(1/2$^+$)	898.06 *26*	87[h] *12*	748.27	3/2$^+$	D+Q			
		1493.6[i] *3*	100[h] *12*	152.9282	3/2$^-$	(E1(+M2))	[c]	0.00020 *9*	δ<0.204 *26*; B(E1)(W.u.)=1.2×10^{-5} *3* α=0.00020 *9*; α(K)=6.E−5 *3*; α(L)=5.E−6 *3*; α(M)=7.E−7 *4*; α(N+..)=0.00014 *12*

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[p]	Comments
									α(N)=3.5×10^{-8} *18*; α(IPF)=0.00014 *12* Mult.: D,E2 from comparison to RUL. Δπ=yes from level scheme.
1661.40	3/2$^-$	912.3 *10*	9.6 *20*	748.27	3/2$^+$	(E1(+M2))[f]	[c]	0.00018 *11*	δ<0.0095 *26*; B(E1)(W.u.)=0.0021 *10* α=0.00018 *11*; α(K)=0.00016 *10*; α(L)=1.5×10^{-5} *10*; α(M)=2.0×10^{-6} *12*; α(N+..)=1.0×10^{-7} *7* α(N)=1.0×10^{-7} *7*
		1508.37 *18*	65.4 *20*	152.9282	3/2$^-$	D,E2[c]			
		1570.83 *17*	100.0 *20*	90.6392	5/2$^-$	M1(+E2)[a]	−0.04 *9*	1.33×10^{-4} *2*	α=1.33×10^{-4} *2*; α(K)=4.11×10^{-5} *6*; α(L)=3.72×10^{-6} *6*; α(M)=4.88×10^{-7} *7*; α(N+..)=8.74×10^{-5} *13* α(N)=2.56×10^{-8} *4*; α(IPF)=8.73×10^{-5} *13* B(M1)(W.u.)=0.18 *8*; B(E2)(W.u.)=0.3 *+13−3*
		1661.4 *10*	17.3 *20*	0.0	7/2$^-$	(E2(+M3))[e]	[c]	0.00018 *3*	δ<0.00041 *10*; B(E2)(W.u.)=24 *11* α=0.00018 *3*; α(K)=8.E−5 *4*; α(L)=7.E−6 *4*; α(M)=9.E−7 *5*; α(N+..)=9.E−5 *7* α(N)=4.9×10^{-8} *23*; α(IPF)=9.E−5 *7*
1994.7	3/2$^{(+)}$	854.5[r] *4*	85[r] *21*	1140.53	5/2$^+$	(M1+E2)[a]	−0.22 *16*	1.47×10^{-4} *6*	B(M1)(W.u.)=0.020 *10*; B(E2)(W.u.)=3 *+5−3* α=1.47×10^{-4} *6*; α(K)=0.000133 *5*; α(L)=1.21×10^{-5} *5*; α(M)=1.59×10^{-6} *6*; α(N+..)=8.3×10^{-8} *3* α(N)=8.3×10^{-8} *3*
		1246.8[r] *10*	46[r] *5*	748.27	3/2$^+$	D,E2[c]			
		1841.0 *8*	100 *5*	152.9282	3/2$^-$	(E1+M2)[@]	−0.17 *9*	5.35×10^{-4} *16*	B(E1)(W.u.)=5.5×10^{-5} *24*; B(M2)(W.u.)=2.1 *+24−2* α=5.35×10^{-4} *16*; α(K)=2.02×10^{-5} *13*; α(L)=1.83×10^{-6} *12*; α(M)=2.39×10^{-7} *15*; α(N+..)=0.000512 *17* α(N)=1.25×10^{-8} *8*; α(IPF)=0.000512 *17* δ: <0.11 *3* from comparison to RUL.
		1903.4 *8*	62 *5*	90.6392	5/2$^-$	(E1(+M2))[f]	[c]	0.00038 *22*	δ<0.16 *4*; B(E1)(W.u.)=3.2×10^{-5} *14* α=0.00038 *22*; α(K)=3.4×10^{-5} *17*; α(L)=3.1×10^{-6} *15*; α(M)=4.1×10^{-7} *20*; α(N+..)=0.00034 *24* α(N)=2.1×10^{-8} *10*; α(IPF)=0.00034 *24*
2178.3	9/2$^+$	575.4 *9*	11.3[i] *17*	1602.68	7/2$^+$	D(+Q)	−0.07[b] *15*		Iγ≥7.3≤250
		1023[js] *1*		1155.32	9/2$^-$	D,Q[c]			I_γ: from Iγ(1023γ)/Iγ(1157γ)=5/11 and Iγ(1023γ)/Iγ(2178γ)=5/2 In (^{40}Ca,3pγ).
		1037.4 *5*	33.9[i] *17*	1140.53	5/2$^+$	E2		0.0001260 *18*	α=0.0001260 *18*; α(K)=0.0001141 *16*;

$^{49}_{23}V_{26}$-16

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α^p	Comments
									α(L)=1.040×10^{-5} *15*; α(M)=1.361×10^{-6} *20* α(N+..)=7.08×10^{-8} *10* α(N)=7.08×10^{-8} *10* B(E2)(W.u.)=17 *+9−15* Mult.: from pγ(θ) In (α,pγ) and α(exp) In (p,nγ).
2178.3	9/2$^+$	1157.0 *7*	16.1[i] *17*	1021.62	11/2$^-$	D[k]			
		2178.3 *8*	100[i] *5*	0.0	7/2$^-$	D(+Q)	−0.02 *5*		
2182.0	7/2$^-$	1026.8 *7*	32[h] *3*	1155.32	9/2$^-$	(M1(+E2))[f]	[c]	1.00×10^{-4} *2*	δ<0.0084 *18*; B(M1)(W.u.)=0.14 *6* α=1.00×10^{-4} *2*; α(K)=9.09×10^{-5} *13*; α(L)=8.26×10^{-6} *12*; α(M)=1.083×10^{-6} *16*; α(N+..)=5.66×10^{-8} *8* α(N)=5.66×10^{-8} *8* Mult.: d,E2 from comparison to RUL. Δπ=No from level scheme.
		2090.7 *7*	100[h] *9*	90.6392	5/2$^-$	(M1+E2)[a]	−0.09[b] *4*	0.000318 *5*	α=0.000318 *5*; α(K)=2.50×10^{-5} *4*; α(L)=2.26×10^{-6} *4*; α(M)=2.97×10^{-7} *5*; α(N+..)=0.000290 *5* α(N)=1.556×10^{-8} *22*; α(IPF)=0.000290 *5* B(M1)(W.u.)=0.052 *20*; B(E2)(W.u.)=0.23 *23*
		2181.6 *11*	8[h] *5*	0.0	7/2$^-$	D,Q[c]			
2234.0	5/2	572.5[s] *25*	21.9[l] *16*	1661.40	3/2$^-$	D,E2[c]			
		2081.1[s] *20*	26.6 *16*	152.9282	3/2$^-$	D,E2			
		2142.9 *10*	100.0 *16*	90.6392	5/2$^-$	D(+Q)	+0.04[b] *14*		
		2234.4 *15*	7.8[l] *16*	0.0	7/2$^-$	D+Q	[m]		
2263.30	15/2$^-$	1241.69 *18*	100	1021.62	11/2$^-$	E2		9.96×10^{-5} *14*	α=9.96×10^{-5} *14*; α(K)=7.55×10^{-5} *11*; α(L)=6.86×10^{-6} *10*; α(M)=8.99×10^{-7} *13*; α(N+..)=1.637×10^{-5} *24* α(N)=4.69×10^{-8} *7*; α(IPF)=1.632×10^{-5} *24* B(E2)(W.u.)=28 *+8−17* Mult.: from α(exp) In (p,nγ) and comparison to RUL. ΔJ=2 Q or ΔJ=0 D from recoil-γ(θ) In (^{40}Ca,3pγ).
2265.3	5/2$^-$	621[g s]	5.3[g]	1643.19	(3/2$^-$,5/2)	D[c]			
		2112.3[i] *3*	100[g] *15*	152.9282	3/2$^-$	D+Q	[m]		δ: see also table In 1972Ki06.
2309.4	3/2$^-$	1560[g s]	19[g]	748.27	3/2$^+$	(E1(+M2))[f]	[c]	0.00023 *11*	δ<0.028 *8*; B(E1)(W.u.)=0.0007 *4* α=0.00023 *11*; α(K)=5.E−5 *3*;

$^{49}_{23}V_{26}$-17

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α^p	Comments
									α(L)=4.6×10^{-6} *24*; α(M)=6.E−7 *4*; α(N+..)=0.00017 *14* α(N)=3.2×10^{-8} *17*; α(IPF)=0.00017 *14*
2309.4	3/2$^-$	2155.7 *12*	86 *5*	152.9282	3/2$^-$	D+Q	*m*		
		2218.6 *8*	100 *5*	90.6392	5/2$^-$	D+Q	*m*		
		2310.6 *14*	52 *5*	0.0	7/2$^-$	(E2)[e]		0.000490 *7*	B(E2)(W.u.)=12 *6* α=0.000490 *7*; α(K)=2.24×10^{-5} *4*; α(L)=2.03×10^{-6} *3*; α(M)=2.66×10^{-7} *4*; α(N+..)=0.000465 *7* α(N)=1.393×10^{-8} *20*; α(IPF)=0.000465 *7*
2353.4	9/2$^-$	1198.9 *11*	8.9 *18*	1155.32	9/2$^-$	D,E2[c]			
		1331.7 *7*	57.1 *18*	1021.62	11/2$^-$	(M1+E2)[a]	−0.19[b] *16*	8.79×10^{-5} *20*	B(M1)(W.u.)=0.09 *4*; B(E2)(W.u.)=4 *+8−4* α=8.79×10^{-5} *20*; α(K)=5.58×10^{-5} *11*; α(L)=5.06×10^{-6} *10*; α(M)=6.64×10^{-7} *13*; α(N+..)=2.64×10^{-5} *9* α(N)=3.47×10^{-8} *7*; α(IPF)=2.63×10^{-5} *9*
		2262.2[s] *20*	10.7 *18*	90.6392	5/2$^-$	(E2(+M3))[e]	*c*	0.00033 *14*	δ<0.00213 *5*; B(E2)(W.u.)=1.6 *7* α=0.00033 *14*; α(K)=3.9×10^{-5} *16*; α(L)=3.6×10^{-6} *15*; α(M)=4.7×10^{-7} *20*; α(N+..)=0.00029 *16* α(N)=2.4×10^{-8} *10*; α(IPF)=0.00029 *16*
		2353.2[i] *7*	100.0 *18*	0.0	7/2$^-$	M1+E2[&]	−0.54 *23*	4.44×10^{-4} *14*	B(M1)(W.u.)=0.022 *10*; B(E2)(W.u.)=2.9 *22* α=4.44×10^{-4} *14*; α(K)=2.08×10^{-5} *4*; α(L)=1.88×10^{-6} *3*; α(M)=2.47×10^{-7} *4*; α(N+..)=0.000421 *14* α(N)=1.294×10^{-8} *21*; α(IPF)=0.000421 *14*
2388.0	5/2$^+$	393.6[is] *15*	16.9[i] *17*	1994.7	3/2$^{(+)}$	(M1(+E2))[a]	−0.0[b] *4*	0.00076 *20*	α=0.00076 *20*; α(K)=0.00069 *18*; α(L)=6.3×10^{-5} *17*; α(M)=8.3×10^{-6} *22*; α(N+..)=4.3×10^{-7} *11* α(N)=4.3×10^{-7} *11* B(M1)(W.u.)=0.62 *23*
		1247.8[ris] *12*	11.9[ri] *17*	1140.53	5/2$^+$	D,E2[c]			
		1639.3 *6*	100[i] *5*	748.27	3/2$^+$	M1+E2[&]	−0.36[b] *15*	1.57×10^{-4} *5*	B(M1)(W.u.)=0.045 *17*; B(E2)(W.u.)=5 *5* α=1.57×10^{-4} *5*; α(K)=3.86×10^{-5} *7*; α(L)=3.49×10^{-6} *6*; α(M)=4.58×10^{-7} *8*; α(N+..)=0.000115 *4* α(N)=2.40×10^{-8} *5*; α(IPF)=0.000115 *4*
		2235.5[s] *16*	<8.5[i]	152.9282	3/2$^-$				
		2298.6 *15*	28.8[i] *17*	90.6392	5/2$^-$	(E1(+M2))[f]	*c*	0.0006 *3*	δ<0.096 *18*; B(E1)(W.u.)=0.00012 *5*

$^{49}_{23}V_{26}$-18

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[p]	Comments
									α=0.0006 *3*; α(K)=2.4×10^{-5} *11*; α(L)=2.2×10^{-6} *10*; α(M)=2.9×10^{-7} *13*; α(N+..)=0.0005 *3* α(N)=1.5×10^{-8} *7*; α(IPF)=0.0005 *3*
2388.0	5/2$^+$	2388.6 *14*	11.9[i] *17*	0.0	7/2$^-$	(E1(+M2))[f]	[c]	0.0006 *4*	δ<0.17 *4*; B(E1)(W.u.)=4.5×10^{-5} *17* α=0.0006 *4*; α(K)=2.3×10^{-5} *10*; α(L)=2.0×10^{-6} *9*; α(M)=2.7×10^{-7} *12*; α(N+..)=0.0006 *4* α(N)=1.4×10^{-8} *6*; α(IPF)=0.0006 *4*
2408.3	(7/2$^-$)	229.2[is] *20*	<6.3[i]	2178.3	9/2$^+$				
		1252.9 *8*	18.3 *14*	1155.32	9/2$^-$	D,E2[c]			
		1268[gs]	33[g]	1140.53	5/2$^+$	D[c]			
		1385.7[s] *10*	7.0 *14*	1021.62	11/2$^-$	D,E2[c]			
		2316.4[s] *20*	15.5 *14*	90.6392	5/2$^-$	D,E2			
		2408.4[i] *4*	100.0 *14*	0.0	7/2$^-$	D(+Q)	+0.02 *15*		
2671.0	(11/2)$^-$	1517[j] *1*	33[j]	1155.32	9/2$^-$	D,E2[c]			
		1649.2[i] *3*	100[j]	1021.62	11/2$^-$	M1+E2	−0.41 *6*	1.61×10^{-4} *3*	α=1.61×10^{-4} *3*; α(K)=3.83×10^{-5} *6*; α(L)=3.47×10^{-6} *5*; α(M)=4.54×10^{-7} *7*; α(N+..)=0.0001193 *22* α(N)=2.38×10^{-8} *4*; α(IPF)=0.0001193 *22* B(M1)(W.u.)>0.28; B(E2)(W.u.)>32 Mult.: D+Q from pγ(θ) In (α,pγ). δ(9/2,11/2,13/2) and comparison to RUL exclude E1+M2.
2671.3?	7/2$^-$,9/2,11/2$^+$	1649.3[s] *10*	100.0 *12*	1021.62	11/2$^-$	D,E2[c]			
		2579.2[s] *20*	4.4 *12*	90.6392	5/2$^-$	D,Q,E3[c]			
		2672.8[s] *20*	6.7 *12*	0.0	7/2$^-$				
2680.0	(7/2,9/2)	1526[s] *2*	100 *12*	1155.32	9/2$^-$				
		1657[s] *2*	100 *12*	1021.62	11/2$^-$				
2727.5	15/2$^-$	464.2 *3*	100[j]	2263.30	15/2$^-$	M1(+E2)		0.0009 *4*	δ>−0.04<+0.10 B(M1)(W.u.)=1.1 *5*; B(E2)(W.u.)<1.2×10^2 *5* α=0.0009 *4*; α(K)=0.0008 *4*; α(L)=7.E−5 *3*; α(M)=1.0×10^{-5} *4*; α(N+..)=5.0×10^{-7} *20* α(N)=5.0×10^{-7} *20* Mult.: D(+Q) from pγ(θ) In (α,pγ). ≠ E1 from comparison to RUL. ΔJ=2 Q or ΔJ=0 D γ from recoil-γ(θ) In (^{40}Ca,3pγ).

$^{49}_{23}V_{26}$-19

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[p]	Comments
2727.5	15/2$^-$	1705.5 *7*	100[j]	1021.62	11/2$^-$	(E2)	0.000218 *4*	B(E2)(W.u.)=18 *8* α=0.000218 *4*; α(K)=3.91×10^{-5} *6*; α(L)=3.55×10^{-6} *5*; α(M)=4.65×10^{-7} *7*; α(N+..)=0.0001749 *25* α(N)=2.43×10^{-8} *4*; α(IPF)=0.0001748 *25* Mult.: D,E2 from comparison to RUL. ΔJ=2 Q or ΔJ=0 D from recoil-γ(θ) In (^{40}Ca,3pγ). ΔJ$^\pi$=^{2,}Nofrom level scheme.
2741.0	11/2$^+$	562.5 *7*	27.1[i] *21*	2178.3	9/2$^+$	D,E2[c]		
		1138.9 *9*	100[i] *5*	1602.68	7/2$^+$	(E2)[e]	0.0001040 *15*	B(E2)(W.u.)=33 *+15−33* α=0.0001040 *15*; α(K)=9.17×10^{-5} *13*; α(L)=8.34×10^{-6} *12*; α(M)=1.093×10^{-6} *16* α(N+..)=2.73×10^{-6} *7* α(N)=5.69×10^{-8} *8*; α(IPF)=2.67×10^{-6} *7*
		1585.8 *9*	81[i] *5*	1155.32	9/2$^-$	(E1(+M2))[f]	0.00024 *12*	B(E1)(W.u.)=0.00012 *+6−12* α=0.00024 *12*; α(K)=4.9×10^{-5} *25*; α(L)=4.5×10^{-6} *23*; α(M)=6.E−7 *3*; α(N+..)=0.00018 *15* α(N)=3.1×10^{-8} *16*; α(IPF)=0.00018 *15*
		1719.0[is] *15*	<10[i]	1021.62	11/2$^-$	(E1(+M2))[f]	0.00029 *17*	B(E1)(W.u.)=6.E−6 *+7−6* α=0.00029 *17*; α(K)=4.2×10^{-5} *21*; α(L)=3.8×10^{-6} *19*; α(M)=5.0×10^{-7} *25*; α(N+..)=0.00025 *19* α(N)=2.6×10^{-8} *13*; α(IPF)=0.00025 *19*
2786.4	(9/2)$^-$	1184.3[s] *10*	6.7 *23*	1602.68	7/2$^+$	D,E2[c]		
		1631.0 *5*	53.3 *23*	1155.32	9/2$^-$	D+Q		
		1764.5 *4*	100.0 *23*	1021.62	11/2$^-$	D+Q,E2		Mult.: D+Q,Q from pγ(θ) In (α,pγ). ≠ M2 from comparison to RUL.
		2697.2[s] *20*	8.9 *23*	90.6392	5/2$^-$	D,E2[c]		
		2786.4[i] *5*	53.3 *23*	0.0	7/2$^-$	M1+E2,E2		Mult.: D+Q,Q from pγ(θ) In (α,pγ). δ(9/2) and comparison to RUL exclude E1+M2; ≠ M2 from comparison to RUL.
2796.6?		1775.0[s] *15*	61 *10*	1021.62	11/2$^-$			
		2796[s] *4*	100 *10*	0.0	7/2$^-$			
2808.3	5/2$^+$	1206.6 *10*	26 *5*	1602.68	7/2$^+$	D,E2[c]		
		1666.7 *10*	24 *5*	1140.53	5/2$^+$	D,E2[c]		
		2058[is]	54[i] *17*	748.27	3/2$^+$	D,E2[c]		
		2655.7 *20*	88 *8*	152.9282	3/2$^-$	(E1(+M2))[f]	0.0007 *4*	δ<0.25 *3*; B(E1)(W.u.)=2.5×10^{-5} *6* α=0.0007 *4*; α(K)=1.9×10^{-5} *8*; α(L)=1.7×10^{-6} *7*; α(M)=2.2×10^{-7} *9*; α(N+..)=0.0007 *4* α(N)=1.2×10^{-8} *5*; α(IPF)=0.0007 *4*
		2808.5 *20*	100 *8*	0.0	7/2$^-$	(E1(+M2))[f]	0.0008 *4*	δ<0.28 *4*; B(E1)(W.u.)=2.4×10^{-5} *6* α=0.0008 *4*; α(K)=1.7×10^{-5} *7*; α(L)=1.5×10^{-6} *6*; α(M)=2.0×10^{-7} *8*; α(N+..)=0.0008 *4* α(N)=1.1×10^{-8} *4*; α(IPF)=0.0008 *4*

$^{49}_{23}V_{26}$-20

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[p]	Comments
2810.9	5/2⁻,7/2⁻	628.4 *10*	33 *5*	2182.0	7/2⁻	M1[c]		0.000273 *4*	α=0.000273 *4*; α(K)=0.000247 *4*; α(L)=2.25×10^{-5} *4*; α(M)=2.95×10^{-6} *5*; α(N+..)=1.540×10^{-7} *23* α(N)=1.540×10^{-7} *23* B(M1)(W.u.)>1.0
		1673[s] *2*	25 *6*	1140.53	5/2⁺	D,E2[c]			
		2720.3[i] *19*	100 *5*	90.6392	5/2⁻	D,E2[c]			
		2810.9[i] *5*	75 *5*	0.0	7/2⁻	D,E2[c]			
2861.5	13/2⁻	134[js] *1*		2727.5	15/2⁻	(M1(+E2))	[c]	0.07 *6*	Iγ≥0.4≤2.5; δ<0.49; B(M1)(W.u.)≥0.26 *16*≤1.7 *11* α(K)=0.06 *5*; α(L)=0.006 *5*; α(M)=0.0007 *7*; α(N+..)=4.E−5 *3* α(N)=4.E−5 *3* Mult.: D from comparison to RUL. Δπ=No from the level scheme. I_γ: from Iγ(134γ)/Iγ(599γ)=0.0125 and Iγ(134γ)/Iγ(1707γ)=0.025 In (^{40}Ca,3pγ).
		598.3 *7*	28.2 *13*	2263.30	15/2⁻	(M1(+E2))	[c]	0.00043 *13*	δ<0.5; B(M1)(W.u.)=0.22 *17* α=0.00043 *13*; α(K)=0.00039 *12*; α(L)=3.6×10^{-5} *11*; α(M)=4.7×10^{-6} *14*; α(N+..)=2.4×10^{-7} *7* α(N)=2.4×10^{-7} *7* Mult.: ΔJ=1 D transition from recoil-γ(θ) In (^{40}Ca,3pγ). Δπ=No from level scheme.
		1706 *1*	100 *6*	1155.32	9/2⁻	E2(+M3)	−0.09 *17*	2.18×10^{-4} *5*	α=2.18×10^{-4} *5*; α(K)=4.0×10^{-5} *4*; α(L)=3.6×10^{-6} *4*; α(M)=4.7×10^{-7} *5*; α(N+..)=0.000174 *9* α(N)=2.46×10^{-8} *24*; α(IPF)=0.000174 *9* B(E2)(W.u.)=28 *18*; B(M3)(W.u.)=6.E+5 *+21−6* Mult.: Q+O from pγ(θ) In (α,pγ). ≠ M2+E3 from comparison to RUL. ΔJ=2 Q or ΔJ=0 D from recoil-γ(θ) In (^{40}Ca,3pγ).
		1840[js] *1*		1021.62	11/2⁻	D,E2[c]			Iγ≥1.4≤10 I_γ: from Iγ(1840γ)/Iγ(599γ)=1.4 and Iγ(1840γ)/Iγ(1707γ)=10 In (^{40}Ca,3pγ).
3017.3		1414.1[s] *10*	22.5 *25*	1602.68	7/2⁺	D,Q[c]			
		2865.0 *16*	100 *5*	152.9282	3/2⁻				
		2926.5 *13*	92 *5*	90.6392	5/2⁻				
		3017.6 *14*	35 *5*	0.0	7/2⁻				

$^{49}_{23}V_{26}$-21

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]
3133.9	(9/2,11/2,13/2)	462.9[i] *3*	100[i]	2671.0	$(11/2)^-$	D[c]	
3134.0	$7/2,9/2^{(+)}$	1979.5 *15*	39.0 *25*	1155.32	$9/2^-$	D,Q[c]	
		2112.8 *16*	34.1 *25*	1021.62	$11/2^-$	D,Q[c]	
		2385.7[s] *20*	17.1 *25*	748.27	$3/2^+$	D,Q,E3[c]	
		3043.5[s] *20*	53.7 *25*	90.6392	$5/2^-$		
		3133.4 *10*	100.0 *25*	0.0	$7/2^-$	D+Q	+0.26 *12*
3152.1?		2012.0[s] *15*	100 *10*	1140.53	$5/2^+$		
		2131.0[s] *15*	61 *10*	1021.62	$11/2^-$		
3224	$(1/2,3/2,5/2^-)$	1566[g]	100[g]	1661.40	$3/2^-$		
		3074[g]	100[g]	152.9282	$3/2^-$		
3239.5	$7/2^-$	1725.2 *10*	50.8 *17*	1514.54	$5/2^-$	D,Q[c]	
		3148.9 *20*	100.0 *17*	90.6392	$5/2^-$		
		3238.2 *20*	13.1 *17*	0.0	$7/2^-$	D,Q,E3[c]	
3259.5	(≥9/2)	473.1[i] *2*	100[i]	2786.4	$(9/2)^-$		
3303.2	$3/2^-,5/2,7/2,9/2$	1121.0 *10*	54 *6*	2182.0	$7/2^-$	D,E2[c]	
		3213.5 *20*	40 *6*	90.6392	$5/2^-$	D,Q,E3[c]	
		3302.6 *20*	100 *4*	0.0	$7/2^-$		
3325.2	$(17/2^-)$	464[j] *1*	36.84[j]	2861.5	$13/2^-$	D,Q[n]	
		597.1[j] *5*	21.05[j]	2727.5	$15/2^-$	D[k]	
		1061.9[j] *5*	100[j]	2263.30	$15/2^-$	D[k]	
3340.5		1106.3 *10*	37 *5*	2234.0	5/2	D,E2	
		3341.2 *20*	100 *3*	0.0	$7/2^-$		
3341.8	$(13/2^+)$	601.0[i] *8*	72.5[i] *25*	2741.0	$11/2^+$	D,E2[c]	
		670.5[i] *8*	78[i] *5*	2671.0	$(11/2)^-$	D,E2[c]	
		1163.0[i] *10*	100[i] *5*	2178.3	$9/2^+$	D,Q[c]	
3388	$(3/2,5/2^-)$	1729[g]	67[g]	1661.40	$3/2^-$		
		1876[g]	100[g]	1514.54	$5/2^-$		
3388.5	5/2,7/2	602.3 *10*	30 *7*	2786.4	$(9/2)^-$	D,E2	
		1745[s] *2*	11.1 *24*	1643.19	$(3/2^-,5/2)$	D,Q	
		2233.7 *20*	39 *4*	1155.32	$9/2^-$	D,Q	
		2638.9 *20*	100 *4*	748.27	$3/2^+$	D,Q	
		3296[s] *2*	29 *13*	90.6392	$5/2^-$		
3462.9	$(3/2^+$ to $9/2^+)$	1862.0[s] *15*		1602.68	$7/2^+$		
		3462.8 *17*		0.0	$7/2^-$		
3500.6		1092.2 *10*	82 *15*	2408.3	$(7/2^-)$	D,E2	
		3500.9 *20*	100 *8*	0.0	$7/2^-$		
3531?	$(\leq 7/2^-)$	1870[g,s]	25[g]	1661.40	$3/2^-$		
		1887[g,s]	42[g]	1643.19	$(3/2^-,5/2)$		
		3378[g,s]	100[g]	152.9282	$3/2^-$		
3531.1	$5/2^-,7/2,9/2^+$	1178.4 *10*	74 *3*	2353.4	$9/2^-$	D,E2[c]	
		1348.4 *10*	41 *3*	2182.0	$7/2^-$	D,E2[c]	

$^{49}_{23}V_{26}$-22

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
3531.1	5/2$^-$,7/2,9/2$^+$	2015.6 *20*	38 *3*	1514.54	5/2$^-$	D,Q[c]		
		2375.7 *20*	15 *3*	1155.32	9/2$^-$			
		3378.5 *20*	100 *3*	152.9282	3/2$^-$	D,Q,E3[c]		
		3531.0 *20*	26 *3*	0.0	7/2$^-$			
3623.9	≤9/2	2483.3 *20*	100	1140.53	5/2$^+$	D,Q[c]		
3639.8	(7/2$^-$)	1461.5 *10*	13 *4*	2178.3	9/2$^+$	D,Q[c]		
		2123.8 *20*	50 *6*	1514.54	5/2$^-$	D,Q[c]		
		2618.1 *20*	100 *6*	1021.62	11/2$^-$	D,Q[c]		
		3640.8 *20*	22.2 *19*	0.0	7/2$^-$			
3665.9	11/2	1312.1 *10*	35 *3*	2353.4	9/2$^-$	D,E2[c]		
		1402.7 *10*	17 *3*	2263.30	15/2$^-$	D,Q[c]		
		3666.7 *20*	100 *3*	0.0	7/2$^-$	D,Q,E3[c]		
3741	1/2$^-$,3/2$^-$	2230[g]	67[g]	1514.54	5/2$^-$			
		3591[g]	100[g]	152.9282	3/2$^-$			
		3653[g]	100[g]	90.6392	5/2$^-$			
3742.4	(19/2$^-$)	416.9[j] *5*	100[j]	3325.2	(17/2$^-$)	D+Q	−2.0 *4*	Mult.,δ: from γ(θ) In (^{32}S,3pαγ). ΔJ=1 D from recoil-γ(θ) In (^{40}Ca,3pγ).
		1479.1[j] *9*	93[j]	2263.30	15/2$^-$	D,Q[n]		
3816	(≤7/2$^-$)	3725[g]	100[g]	90.6392	5/2$^-$			
3841	1/2$^{(+)}$,3/2,5/2$^-$	2180[g]	100[g]	1661.40	3/2$^-$			
		2197[g]	67[g]	1643.19	(3/2$^-$,5/2)			
3912	(3/2)$^-$	1650[g]	50[g]	2265.3	5/2$^-$			
		2270[g]	83[g]	1643.19	(3/2$^-$,5/2)			
		3761[g]	100[g]	152.9282	3/2$^-$	D(+Q)	−1.3 *20*	
4002	(3/2)$^-$	1693[g]	67[g]	2309.4	3/2$^-$			
		2358[g]	100[g]	1643.19	(3/2$^-$,5/2)			
4088	3/2$^{(-)}$,5/2,7/2$^-$	1855[g]	33[g]	2234.0	5/2			
		2576[g]	100[g]	1514.54	5/2$^-$			
		3937[g]	83[g]	152.9282	3/2$^-$			
		4090[g]	67[g]	0.0	7/2$^-$			
4129	(5/2)$^-$	3380[g]	100[g]	748.27	3/2$^+$			
4253	1/2$^-$,3/2$^-$	2589[g]	100[g]	1661.40	3/2$^-$			
		2606[g]	100[g]	1646.43	(1/2$^+$)			
4373	1/2$^-$,3/2$^-$	2064[g]	60[g]	2309.4	3/2$^-$			
		2138[g]	60[g]	2234.0	5/2			
		2712[g]	100[g]	1661.40	3/2$^-$			
4498	5/2$^{(-)}$,7/2$^{(-)}$	3343[g]	43[g]	1155.32	9/2$^-$			
		4345[g]	100[g]	152.9282	3/2$^-$			
4590		2355[g]	100[g]	2234.0	5/2			
4635	(5/2)$^-$	4548[g]	100[g]	90.6392	5/2$^-$			
		4639[g]	60[g]	0.0	7/2$^-$			

$^{49}_{23}V_{26}$-23

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α^p	Comments
4947	1/2$^-$,3/2$^-$	4853[g]	100[g]	90.6392	5/2$^-$				
5212	1/2$^-$,3/2$^-$	2903[g]	100[g]	2309.4	3/2$^-$				
5529.7	(21/2$^-$)	1787[j] *1*	100[j]	3742.4	(19/2$^-$)	D			Mult.: from recoil-γ(θ) In (^{40}Ca,3pγ).
		2204[j] *1*	43[j]	3325.2	(17/2$^-$)				
5689.9	(23/2$^-$)	160[j] *1*	2.7[j]	5529.7	(21/2$^-$)				
		1947[j] *1*	100[j]	3742.4	(19/2$^-$)	D,Q[n]			
6844.9	(23/2$^-$)	1155[j] *1*	100[j]	5689.9	(23/2$^-$)	D[k]			
		1315[j] *1*	6.2[j]	5529.7	(21/2$^-$)				
		3102[j] *1*	12.5[j]	3742.4	(19/2$^-$)				
7745.0	3/2$^-$	3111	22.2	4635	(5/2)$^-$	D,E2[c]			
		3249[s]	5.6	4498	5/2$^{(-)}$,7/2$^{(-)}$	D,E2[c]			
		3620	27.8	4129	(5/2)$^-$	D,E2[c]			
		3658	94.4	4088	3/2$^{(-)}$,5/2,7/2$^-$	D(+Q)	0.00 *3*		
		3741	11.1	4002	(3/2)$^-$	D,E2[c]			
		3830	55.6	3912	(3/2)$^-$	D(+Q)	+0.01 *2*		
		3931[s]	5.6	3816	(≤7/2$^-$)	D,E2[c]			
		3999	50	3741	1/2$^-$,3/2$^-$	D(+Q)	−0.01 *2*		
		4355	11.1	3388	(3/2,5/2$^-$)	D,E2[c]			
		5363	5.6	2388.0	5/2$^+$	(E1(+M2))[f]	[c]	0.0016 *5*	δ<0.10; B(E1)(W.u.)=0.00062 α=0.0016 *5*; α(K)=6.3×10^{-6} *16*; α(L)=5.7×10^{-7} *14*; α(M)=7.4×10^{-8} *19*; α(N+..)=0.0016 *5* α(N)=3.9×10^{-9} *10*; α(IPF)=0.0016 *5*
		5443	16.7	2309.4	3/2$^-$	D+Q			δ: 0.00 *7* or +3.9 *10*.
		5486	5.6	2265.3	5/2$^-$	D,E2[c]			
		5516	11.1	2234.0	5/2	D+Q			δ: −0.11 *23* or −1.4 *6*.
		6089	27.8	1661.40	3/2$^-$	D+Q			δ: −0.23 *4* or +28 *12*.
		6104	38.9	1643.19	(3/2$^-$,5/2)	D+Q	+0.038 *25*		
		6995[s]	5.6	748.27	3/2$^+$	(E1(+M2))[c f]	[c]		δ<0.19; B(E1)(W.u.)=0.00028
		7592	100	152.9282	3/2$^-$	(M1+E2)[o]	−0.023 *14*		B(M1)(W.u.)=0.017 *5*; B(E2)(W.u.)=0.0004 *+5−4*
		7654	72.2	90.6392	5/2$^-$	(M1(+E2))[o]	−0.01 *2*		B(M1)(W.u.)=0.012 *4*; B(E2)(W.u.)=5.E−5 *+20−5*
		7745	5.6	0.0	7/2$^-$	E2+M3	−0.02 *1*		B(E2)(W.u.)=0.036 *11*; B(M3)(W.u.)=1.7 *+18−17* Mult.: Q+O from γ(θ) In (p,γ). ≠ M2+E3 from comparison to RUL.
7750	3/2$^-$	3116	6.7	4635	(5/2)$^-$	D,E2[c]			
		3627	6.7	4129	(5/2)$^-$	D,E2[c]			
		3664	30	4088	3/2$^{(-)}$,5/2,7/2$^-$	D(+Q)	+0.01 *3*		
		3746	33.3	4002	(3/2)$^-$	(M1(+E2))[o]	−0.01 *2*	0.000967 *14*	α=0.000967 *14*; α(K)=9.96×10^{-6} *14*;

$^{49}_{23}V_{26}$-24

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. ‡	δ ‡	α p	Comments
									α(L)=9.00×10^{-7} *13*; α(M)=1.179×10^{-7} *17* α(N+..)=0.000956 *14* α(N)=6.19×10^{-9} *9*; α(IPF)=0.000956 *14* B(M1)(W.u.)=0.064 *19*; B(E2)(W.u.)=0.0011 *+44−11*
7750	3/2$^-$	3836	23.3	3912	(3/2)$^-$	(M1(+E2)) o	−0.01 *2*	0.001000 *14*	α=0.001000 *14*; α(K)=9.62×10^{-6} *14*; α(L)=8.69×10^{-7} *13*; α(M)=1.139×10^{-7} *16* α(N+..)=0.000990 *14* α(N)=5.98×10^{-9} *9*; α(IPF)=0.000989 *14* B(M1)(W.u.)=0.041 *12*; B(E2)(W.u.)=0.0007 *+28−7*
		3993	6.7	3757	5/2$^-$,7/2$^-$	D,E2 c			
		4005	30	3741	1/2$^-$,3/2$^-$	(M1(+E2)) o	+0.01 *2*	0.001060 *15*	α=0.001060 *15*; α(K)=9.03×10^{-6} *13*; α(L)=8.16×10^{-7} *12*; α(M)=1.069×10^{-7} *15* α(N+..)=0.001050 *15* α(N)=5.61×10^{-9} *8*; α(IPF)=0.001050 *15* B(M1)(W.u.)=0.047 *14*; B(E2)(W.u.)=0.0007 *+29−7*
		4343	10	3405	(3/2)$^-$	D,E2 c			
		4360	6.7	3388	(3/2,5/2$^-$)	D,E2 c			
		5448	16.7	2309.4	3/2$^-$	(M1+E2) o	−0.09 *6*	0.001480 *21*	α=0.001480 *21*; α(K)=5.85×10^{-6} *9*; α(L)=5.28×10^{-7} *8*; α(M)=6.92×10^{-8} *10*; α(N+..)=0.001473 *21* α(N)=3.64×10^{-9} *5*; α(IPF)=0.001473 *21* B(M1)(W.u.)=0.010 *3*; B(E2)(W.u.)=0.007 *+10−7*
		5491	3.3	2265.3	5/2$^-$	D,E2 c			
		6095	10	1661.40	3/2$^-$	D+Q			δ: −0.32 *7* or −16 *8*.
		6111	36.7	1646.43	(1/2$^+$)	(E1(+M2))	+0.02 *3*		B(E1)(W.u.)=0.00037 *11*; B(M2)(W.u.)=0.018 *+55−18* Mult.: D(+Q) from γ(θ) In (p,γ). Δπ=yes from level scheme.
		6235	3.3	1514.54	5/2$^-$	D+Q			
		6611	3.3	1140.53	5/2$^+$	(E1) f			B(E1)(W.u.)=2.6×10^{-5} *8* α(IPF)=2.434×10^{-3} *34*
		7001	3.3	748.27	3/2$^+$	(E1(+M2))	+0.07 *25*		B(E1)(W.u.)=2.2×10^{-5} *7*; B(M2)(W.u.)=0.010 *+72−10* Mult.: D(+Q) from γ(θ) In (p,γ). Δπ=yes from level scheme.
		7596	3.3	152.9282	3/2$^-$	D+Q			δ: +0.13 *15* or +2.5 *10*.
		7660	100	90.6392	5/2$^-$	(M1+E2) o	+0.03 *2*		B(M1)(W.u.)=0.022 *7*; B(E2)(W.u.)=0.0008 *+12−8*
		7752	3.3	0.0	7/2$^-$	E2(+M3)	−0.03 *38*		B(E2)(W.u.)=0.029 *9*; B(M3)(W.u.)=3 *+76−3* Mult.: Q(+O) from γ(θ) In (p,γ). ≠ M2 from comparison to RUL.
7801.4	(25/2$^-$)	956 j *1*	88.9 j	6844.9	(23/2$^-$)	D k			
		2111 j *1*	100 j	5689.9	(23/2$^-$)	D k			
		2271 j *1*	8.9 j	5529.7	(21/2$^-$)				
7838.7	(1/2$^-$)	4098	9	3741	1/2$^-$,3/2$^-$				
		4451	21	3388	(3/2,5/2$^-$)				

$^{49}_{23}V_{26}$-25

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
7838.7	(1/2⁻)	5574	12	2265.3	5/2⁻
		6177	47	1661.40	3/2⁻
		6196	100	1643.19	(3/2⁻,5/2)
		7090	26	748.27	3/2⁺
		7685	19	152.9282	3/2⁻
7910.2	(1/2⁻)	4522	29	3388	(3/2,5/2⁻)
		5600	62	2309.4	3/2⁻
		5645	25	2265.3	5/2⁻
		5915	46	1994.7	3/2⁽⁺⁾
		6248	62	1661.40	3/2⁻
		6264	29	1646.43	(1/2⁺)
		7161	62	748.27	3/2⁺
		7756	100	152.9282	3/2⁻
7943.5	(3/2⁻)	3690	6	4253	1/2⁻,3/2⁻
		3725	6	4218	(3/2)⁻
		4031	6	3912	(3/2)⁻
		4127	6	3816	(≤7/2⁻)
		4265	28	3678	(7/2)⁻
		4412	6	3531?	(≤7/2⁻)
		4555	17	3388	(3/2,5/2⁻)
		5132	17	2810.9	5/2⁻,7/2⁻
		5633	50	2309.4	3/2⁻
		5678	100	2265.3	5/2⁻
		5708	11	2234.0	5/2
		5948	28	1994.7	3/2⁽⁺⁾
		6281	83	1661.40	3/2⁻
		6802	22	1140.53	5/2⁺
		7194	11	748.27	3/2⁺
		7789	72	152.9282	3/2⁻
		7851	78	90.6392	5/2⁻
		7942	11	0.0	7/2⁻
8013.0	(3/2⁻)	4789	2	3224	(1/2,3/2,5/2⁻)
		5703	6	2309.4	3/2⁻
		6351	6	1661.40	3/2⁻
		6872	5	1140.53	5/2⁺
		7264	100	748.27	3/2⁺
		7859	15	152.9282	3/2⁻
		7921	5	90.6392	5/2⁻
		8012	23	0.0	7/2⁻
8058.1	(3/2,5/2⁺)	4317	35	3741	1/2⁻,3/2⁻
		4670	9	3388	(3/2,5/2⁻)
		4799	4	3259.5	(≥9/2)
		4816	13	3242	(3/2,5/2,7/2⁻)

$^{49}_{23}V_{26}$-26

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[p]	Comments
8058.1	(3/2,5/2$^+$)	4834	4	3224	(1/2,3/2,5/2$^-$)			
		5670	9	2388.0	5/2$^+$			
		5748	17	2309.4	3/2$^-$			
		5793	17	2265.3	5/2$^-$			
		5823	43	2234.0	5/2			
		6063	9	1994.7	3/2$^{(+)}$			
		6412	26	1646.43	(1/2$^+$)			
		6543	57	1514.54	5/2$^-$			
		6917	43	1140.53	5/2$^+$			
		7309	30	748.27	3/2$^+$			
		7904	100	152.9282	3/2$^-$			
		7966	17	90.6392	5/2$^-$			
8071.8	(5/2)	5806	22	2265.3	5/2$^-$			
		6428	37	1643.19	(3/2$^-$,5/2)			
		7322	5	748.27	3/2$^+$			
		7917	100	152.9282	3/2$^-$			
		7979	32	90.6392	5/2$^-$			
		8070	49	0.0	7/2$^-$			
8092.6	(1/2$^-$)	3456	3.1	4635	(5/2)$^-$	(E2(+M3))[e]	0.00074 *25*	δ<0.0012; B(E2)(W.u.)=12 α=0.00074 *25*; α(K)=1.7×10^{-5} *6*; α(L)=1.5×10^{-6} *5*; α(M)=2.0×10^{-7} *7*; α(N+..)=0.0007 *3* α(N)=1.1×10^{-8} *4*; α(IPF)=0.0007 *3*
		3718	7.8	4373	1/2$^-$,3/2$^-$	D,E2[c]		
		4089	4.7	4002	(3/2)$^-$	D,E2[c]		
		4179	4.7	3912	(3/2)$^-$	D,E2[c]		
		4249	6.2	3841	1/2$^{(+)}$,3/2,5/2$^-$	D,E2[c]		
		4349	6.2	3741	1/2$^-$,3/2$^-$	D,E2[c]		
		4851	1.6	3242	(3/2,5/2,7/2$^-$)	D,E2[c]		
		4866	6.2	3224	(1/2,3/2,5/2$^-$)	D,E2[c]		
		6429	1.6	1661.40	3/2$^-$	D,E2[c]		
		6447	9.4	1646.43	(1/2$^+$)	(E1)[f]		B(E1)(W.u.)=0.00063 *18* α(IPF)=2.401×10^{-3} *34*
		7341	1.6	748.27	3/2$^+$	(E1)[f]		B(E1)(W.u.)=7.2×10^{-5} *21* α(IPF)=2.591×10^{-3} *37*
		7936	100	152.9282	3/2$^-$	D,E2		Mult.: from comparison to RUL. $\gamma(\theta)$ isotropic In (p,γ).
		7999	1.6	90.6392	5/2$^-$	(E2+(M3))[e]		δ<0.032; B(E2)(W.u.)=0.092
8104.2	3/2$^{(-)}$,5/2	4263	24	3841	1/2$^{(+)}$,3/2,5/2$^-$			
		4716	12	3388	(3/2,5/2$^-$)			
		4880	16	3224	(1/2,3/2,5/2$^-$)			
		5716	16	2388.0	5/2$^+$			
		5796	28	2309.4	3/2$^-$			
		6443	28	1661.40	3/2$^-$			

$^{49}_{23}V_{26}$-27

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
8104.2	$3/2^{(-)},5/2$	6460	100	1643.19	$(3/2^-,5/2)$			
		6589	76	1514.54	$5/2^-$			
		6963	16	1140.53	$5/2^+$			
		7355	36	748.27	$3/2^+$			
		7950	16	152.9282	$3/2^-$			
		8012	8	90.6392	$5/2^-$			
		8103[s]	4	0.0	$7/2^-$			
8117.5	3/2	3743	13.6	4373	$1/2^-,3/2^-$	D,E2[c]		
		4114	18.2	4002	$(3/2)^-$	D,E2[c]		
		4728	22.7	3388	$(3/2,5/2^-)$	D,E2[c]		
		4892	13.6	3224	$(1/2,3/2,5/2^-)$	D,E2[c]		
		5730	13.6	2388.0	$5/2^+$	D,E2[c]		
		5808	13.6	2309.4	$3/2^-$	D,E2[c]		
		5853	13.6	2265.3	$5/2^-$	D,E2[c]		
		5884	13.6	2234.0	5/2	D,E2[c]		
		6121	59.1	1994.7	$3/2^{(+)}$	D+Q		Γ_γ=0.05 eV δ: −0.31 *5* or +4.6 *10*.
		6456	22.7	1661.40	$3/2^-$	D+Q		Γ_γ=0.02 eV δ: +0.20 *10* or −19 *10*.
		6473	31.8	1643.19	$(3/2^-,5/2)$	D+Q		Γ_γ=0.02 eV δ: +0.19 *6* or −2.9 *5*.
		6601	9.1	1514.54	$5/2^-$	D,E2[c]		
		6978	45.4	1140.53	$5/2^+$	D+Q	−0.11 *8*	Γ_γ=0.03 eV
		7370	36.4	748.27	$3/2^+$	D+Q	+0.10 *4*	Γ_γ=0.03 eV
		7966	100	152.9282	$3/2^-$	D+Q		Γ_γ=0.05 eV δ: +0.07 *7* or +3.5 *15*.
		8027	18.2	90.6392	$5/2^-$	D(+Q)	+0.14 *15*	Γ_γ=0.009 eV
		8118	9.1	0.0	$7/2^-$	Q+O	−0.29 *15*	
8131.5	$(3/2^-)$	4528	8.4	3603				
		4600	12	3531?	$(\leq 7/2^-)$			
		4743	8.4	3388	$(3/2,5/2^-)$			
		4889	2.4	3242	$(3/2,5/2,7/2^-)$			
		5743	11	2388.0	$5/2^+$			
		6136	14	1994.7	$3/2^{(+)}$			
		6469	20	1661.40	$3/2^-$			
		6488	29	1643.19	$(3/2^-,5/2)$			
		6616	24	1514.54	$5/2^-$			
		6990	100	1140.53	$5/2^+$			
		7382	14	748.27	$3/2^+$			
		7977	20	152.9282	$3/2^-$			
		8039	6.0	90.6392	$5/2^-$			
		8130	2.4	0.0	$7/2^-$			
8290.3	$3/2^{(-)}$	4287	5.1	4002	$(3/2)^-$			

$^{49}_{23}V_{26}$-28

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	Comments
8290.3	3/2$^{(-)}$	4548	5.1	3741	1/2$^-$,3/2$^-$		
		5980	12.8	2309.4	3/2$^-$		
		6295	5.1	1994.7	3/2$^{(+)}$	D+Q	δ: +0.34 *25*; −5.1 *30*.
		6627	5.1	1661.40	3/2$^-$	D+Q	δ: −0.07 *7*; +5.7 *30*.
		6645	20.5	1646.43	(1/2$^+$)	D+Q	δ: +0.20 *8*; −2.3 *8* (J_f=1/2).
		6773	2.6	1514.54	5/2$^-$		
		7148	51.3	1140.53	5/2$^+$		
		7540	100	748.27	3/2$^+$	D+Q	δ: +0.015 *30*; −4.2 *8*.
		8137	18	152.9282	3/2$^-$	D+Q	δ: +0.54 *15*; +4.1 *20*.
		8197	7.7	90.6392	5/2$^-$	D+Q	δ: +0.12 *20*; +2.9 *10*.
		8288	10.3	0.0	7/2$^-$	Q+O	δ: −0.07 *7*; +1.7 *8*.
8416.1	(27/2$^-$)	613[j] *1*	100[j]	7801.4	(25/2$^-$)	D[k]	
		5690[j] *1*	45[j]	2727.5	15/2$^-$	(Q)[n]	
8525.3	(5/2)	4566	14	3960	(3/2$^-$,5/2,7/2$^-$)		
		4923	14	3603			
		6118	3	2408.3	(7/2$^-$)		
		6531	5	1994.7	3/2$^{(+)}$		
		6863	57	1661.40	3/2$^-$		
		6922	3	1602.68	7/2$^+$		
		7010	5	1514.54	5/2$^-$		
		7385	24	1140.53	5/2$^+$		
		7777	19	748.27	3/2$^+$		
		8372	24	152.9282	3/2$^-$		
		8434	100	90.6392	5/2$^-$		
		8525	3	0.0	7/2$^-$		
8628.2	(3/2$^-$)	5817	26	2810.9	5/2$^-$,7/2$^-$		
		6363	15	2265.3	5/2$^-$		
		6633	37	1994.7	3/2$^{(+)}$		
		6965	22	1661.40	3/2$^-$		
		6981	48	1646.43	(1/2$^+$)		
		7487	100	1140.53	5/2$^+$		
		7879	100	748.27	3/2$^+$		
		8474	15	152.9282	3/2$^-$		
		8536	4	90.6392	5/2$^-$		
		8627	4	0.0	7/2$^-$		
8633.1	(5/2)	4504	17	4129	(5/2)$^-$		
		4673	12	3960	(3/2$^-$,5/2,7/2$^-$)		
		5117	8	3516	(3/2$^-$ to 9/2)		
		5245	8	3388	(3/2,5/2$^-$)		
		6245	8	2388.0	5/2$^+$		
		6323	29	2309.4	3/2$^-$		
		6398	12	2234.0	5/2		
		6450	17	2182.0	7/2$^-$		

$^{49}_{23}V_{26}$-29

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f
8633.1	(5/2)	6638	12	1994.7	3/2$^{(+)}$
		6970	12	1661.40	3/2$^-$
		6989	17	1643.19	(3/2$^-$,5/2)
		7029	12	1602.68	7/2$^+$
		7117	42	1514.54	5/2$^-$
		7492	38	1140.53	5/2$^+$
		7884	29	748.27	3/2$^+$
		8479	100	152.9282	3/2$^-$
		8541	38	90.6392	5/2$^-$
		8632	4	0.0	7/2$^-$
8640.9	(3/2$^-$)	4422	3	4218	(3/2)$^-$
		4639	3	4002	(3/2)$^-$
		4680	3	3960	(3/2$^-$,5/2,7/2$^-$)
		4728	6	3912	(3/2)$^-$
		4799	3	3841	1/2$^{(+)}$,3/2,5/2$^-$
		4899	3	3741	1/2$^-$,3/2$^-$
		4919	9	3721	($\le$7/2)$^-$
		5002	3	3639.8	(7/2$^-$)
		5401	6	3239.5	7/2$^-$
		5623	3	3017.3	
		5834	3	2810.9	5/2$^-$,7/2$^-$
		6330	3	2309.4	3/2$^-$
		6996	17	1643.19	(3/2$^-$,5/2)
		7124	11	1514.54	5/2$^-$
		7891	66	748.27	3/2$^+$
		8486	100	152.9282	3/2$^-$
		8548	43	90.6392	5/2$^-$
		8639	3	0.0	7/2$^-$
8642.9	(3/2$^-$,5/2)	4383	6	4259	(3/2,5/2,7/2)
		4389	6	4253	1/2$^-$,3/2$^-$
		4640	11	4002	(3/2)$^-$
		4682	6	3960	(3/2$^-$,5/2,7/2$^-$)
		5254	6	3388	(3/2,5/2$^-$)
		5317	6	3325	(1/2$^+$ to 7/2$^+$)
		5400	6	3242	(3/2,5/2,7/2$^-$)
		5508	6	3134.0	7/2,9/2$^{(+)}$
		5625	22	3017.3	
		5831	6	2810.9	5/2$^-$,7/2$^-$
		6254	6	2388.0	5/2$^+$
		6332	6	2309.4	3/2$^-$
		6377	6	2265.3	5/2$^-$
		6407	17	2234.0	5/2
		6647	17	1994.7	3/2$^{(+)}$
8642.9	(3/2$^-$,5/2)	6979	56	1661.40	3/2$^-$
		6995	39	1646.43	(1/2$^+$)
		7126	17	1514.54	5/2$^-$
		7501	50	1140.53	5/2$^+$
		7893	100	748.27	3/2$^+$
		8488	44	152.9282	3/2$^-$
		8550	100	90.6392	5/2$^-$
		8641	11	0.0	7/2$^-$
8682.0	(5/2)	5011	2	3671	(1/2$^+$ to 9/2$^+$)
		5044	2	3639.8	(7/2$^-$)
		5357	5	3325	(1/2$^+$ to 7/2$^+$)
		5458	2	3224	(1/2,3/2,5/2$^-$)
		6274	2	2408.3	(7/2$^-$)
		6294	2	2388.0	5/2$^+$
		6417	5	2265.3	5/2$^-$
		6447	2	2234.0	5/2
		6687	5	1994.7	3/2$^{(+)}$
		7019	9	1661.40	3/2$^-$
		7035	7	1646.43	(1/2$^+$)
		7166	11	1514.54	5/2$^-$
		7541	2	1140.53	5/2$^+$
		7933	9	748.27	3/2$^+$
		8528	100	152.9282	3/2$^-$
		8590	7	90.6392	5/2$^-$
		8681	50	0.0	7/2$^-$
8784.9	(5/2)	6377	6	2408.3	(7/2$^-$)
		6397	6	2388.0	5/2$^+$
		6789	16	1994.7	3/2$^{(+)}$
		7122	29	1661.40	3/2$^-$
		7269	16	1514.54	5/2$^-$
		7644	16	1140.53	5/2$^+$
		8036	26	748.27	3/2$^+$
		8631	19	152.9282	3/2$^-$
		8693	71	90.6392	5/2$^-$
		8784	100	0.0	7/2$^-$
8788.8	(5/2$^-$)	5401	8	3388	(3/2,5/2$^-$)
		5547	3	3242	(3/2,5/2,7/2$^-$)
		5565	5	3224	(1/2,3/2,5/2$^-$)
		5772	8	3017.3	
		6109	5	2680.0	(7/2,9/2)
		6381	5	2408.3	(7/2$^-$)
		6401	5	2388.0	5/2$^+$
		6479	5	2309.4	3/2$^-$

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$ (continued)

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π
8788.8	$(5/2^-)$	6606	5	2182.0	$7/2^-$
		7185	3	1602.68	$7/2^+$
		7273	5	1514.54	$5/2^-$
		7633	11	1155.32	$9/2^-$
		7648	5	1140.53	$5/2^+$
		8040	16	748.27	$3/2^+$
		8635	100	152.9282	$3/2^-$
		8697	38	90.6392	$5/2^-$
		8788	32	0.0	$7/2^-$
8851.5	$(5/2^-,7/2^-)$	4723	6	4129	$(5/2)^-$
		4940	6	3912	$(3/2)^-$
		5464	16	3388	$(3/2,5/2^-)$
		5628	6	3224	$(1/2,3/2,5/2^-)$
		5835	9	3017.3	
		6046	12	2810.9	$5/2^-,7/2^-$
		6444	6	2408.3	$(7/2^-)$
		6464	25	2388.0	$5/2^+$
		6617	25	2234.0	5/2
		7248	3	1602.68	$7/2^+$
		7336	9	1514.54	$5/2^-$
		7696	3	1155.32	$9/2^-$
		7711	41	1140.53	$5/2^+$
		8698	100	152.9282	$3/2^-$
		8760	3	90.6392	$5/2^-$
		8851	22	0.0	$7/2^-$
8867.2	(5/2)	4955	9	3912	$(3/2)^-$
		5026	9	3841	$1/2^{(+)},3/2,5/2^-$
		5126	9	3741	$1/2^-,3/2^-$
		5229	4	3639.8	$(7/2^-)$
		5403	4	3462.9	$(3/2^+$ to $9/2^+)$
		5479	4	3388	$(3/2,5/2^-)$
		5625	4	3242	$(3/2,5/2,7/2^-)$
		5733	13	3134.0	$7/2,9/2^{(+)}$
		5850	4	3017.3	
		6459	4	2408.3	$(7/2^-)$
		6479	4	2388.0	$5/2^+$
		6557	22	2309.4	$3/2^-$
		6602	9	2265.3	$5/2^-$
		6632	9	2234.0	5/2
		6871	4	1994.7	$3/2^{(+)}$
		7204	48	1661.40	$3/2^-$
		7263	4	1602.68	$7/2^+$
		7351	17	1514.54	$5/2^-$

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π
8867.2	(5/2)	7726	35	1140.53	$5/2^+$
		8118	52	748.27	$3/2^+$
		8713	100	152.9282	$3/2^-$
		8775	22	90.6392	$5/2^-$
		8866	35	0.0	$7/2^-$
8877.0	(5/2)	5489	3	3388	$(3/2,5/2^-)$
		5552	3	3325	$(1/2^+$ to $7/2^+)$
		5638	3	3239.5	$7/2^-$
		5653	3	3224	$(1/2,3/2,5/2^-)$
		5743	3	3134.0	$7/2,9/2^{(+)}$
		5860	3	3017.3	
		6066	3	2810.9	$5/2^-,7/2^-$
		6489	12	2388.0	$5/2^+$
		6567	3	2309.4	$3/2^-$
		6642	12	2234.0	5/2
		7214	6	1661.40	$3/2^-$
		7361	6	1514.54	$5/2^-$
		7736	64	1140.53	$5/2^+$
		8128	33	748.27	$3/2^+$
		8723	18	152.9282	$3/2^-$
		8785	27	90.6392	$5/2^-$
		8876	100	0.0	$7/2^-$
8880.9	(5/2)	4879	4	4002	$(3/2)^-$
		4969	4	3912	$(3/2)^-$
		5040	4	3841	$1/2^{(+)},3/2,5/2^-$
		5065	4	3816	$(\leq 7/2^-)$
		5187	4	3694	$3/2^+,5/2^+$
		5417	13	3462.9	$(3/2^+$ to $9/2^+)$
		5493	9	3388	$(3/2,5/2^-)$
		5864	22	3017.3	
		6473	4	2408.3	$(7/2^-)$
		6571	13	2309.4	$3/2^-$
		6646	13	2234.0	5/2
		6698	22	2182.0	$7/2^-$
		6885	22	1994.7	$3/2^{(+)}$
		7234	17	1646.43	$(1/2^+)$
		7277	9	1602.68	$7/2^+$
		7365	13	1514.54	$5/2^-$
		7740	13	1140.53	$5/2^+$
		8789	100	90.6392	$5/2^-$
		8880	52	0.0	$7/2^-$
8890.7	$(3/2^-)$	4256	7	4635	$(5/2)^-$
		4518	7	4373	$1/2^-,3/2^-$

$^{49}_{23}V_{26}$-31

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
8890.7	(3/2$^-$)	4621	7	4270	
		4638	3	4253	1/2$^-$,3/2$^-$
		4793	3	4098	(≤7/2$^-$)
		4931	3	3960	(3/2$^-$,5/2,7/2$^-$)
		5050	3	3841	1/2$^{(+)}$,3/2,5/2$^-$
		5075	3	3816	(≤7/2$^-$)
		5150	10	3741	1/2$^-$,3/2$^-$
		5197	3	3694	3/2$^+$,5/2$^+$
		5503	7	3388	(3/2,5/2$^-$)
		6581	10	2309.4	3/2$^-$
		6626	13	2265.3	5/2$^-$
		6656	7	2234.0	5/2
		6895	10	1994.7	3/2$^{(+)}$
		7228	13	1661.40	3/2$^-$
		7244	43	1646.43	(1/2$^+$)
		8142	100	748.27	3/2$^+$
		8737	50	152.9282	3/2$^-$
		8799	23	90.6392	5/2$^-$
		8890	7	0.0	7/2$^-$
8893.6	(5/2$^-$)	4496	3	4397	5/2$^-$,7/2$^-$
		4634	3	4259	(3/2,5/2,7/2)
		4764	3	4129	(5/2)$^-$
		4981	6	3912	(3/2)$^-$
		5152	3	3741	1/2$^-$,3/2$^-$
		5255	3	3639.8	(7/2$^-$)
		6082	3	2810.9	5/2$^-$,7/2$^-$
		6087	3	2808.3	5/2$^+$
		6583	6	2309.4	3/2$^-$
		6628	9	2265.3	5/2$^-$
		6658	18	2234.0	5/2
		6710	6	2182.0	7/2$^-$
		6897	9	1994.7	3/2$^{(+)}$
		7230	12	1661.40	3/2$^-$
		7289	9	1602.68	7/2$^+$
		7377	9	1514.54	5/2$^-$
		7737	3	1155.32	9/2$^-$
		7752	18	1140.53	5/2$^+$
		8144	12	748.27	3/2$^+$
		8739	21	152.9282	3/2$^-$
		8801	38	90.6392	5/2$^-$
		8892	100	0.0	7/2$^-$
8895.6	(5/2)	4636	7	4259	(3/2,5/2,7/2)
		5507	7	3388	(3/2,5/2$^-$)
8895.6	(5/2)	5653	7	3242	(3/2,5/2,7/2$^-$)
		6630	10	2265.3	5/2$^-$
		6899	7	1994.7	3/2$^{(+)}$
		7232	31	1661.40	3/2$^-$
		7291	7	1602.68	7/2$^+$
		7379	14	1514.54	5/2$^-$
		7754	41	1140.53	5/2$^+$
		8146	100	748.27	3/2$^+$
		8741	59	152.9282	3/2$^-$
		8803	41	90.6392	5/2$^-$
		8894	14	0.0	7/2$^-$
8902.5	(5/2)	4614	5	4289	3/2$^+$,5/2$^+$
		5664	20	3239.5	7/2$^-$
		5886	10	3017.3	
		6593	15	2309.4	3/2$^-$
		6668	30	2234.0	5/2
		6907	20	1994.7	3/2$^{(+)}$
		7256	10	1646.43	(1/2$^+$)
		7259	35	1643.19	(3/2$^-$,5/2)
		7387	10	1514.54	5/2$^-$
		7762	30	1140.53	5/2$^+$
		8154	65	748.27	3/2$^+$
		8749	95	152.9282	3/2$^-$
		8811	55	90.6392	5/2$^-$
		8902	100	0.0	7/2$^-$
8912.2	(5/2)	4515	5	4397	5/2$^-$,7/2$^-$
		4783	3	4129	(5/2)$^-$
		5000	5	3912	(3/2)$^-$
		5218	3	3694	3/2$^+$,5/2$^+$
		5309	3	3603	
		5524	3	3388	(3/2,5/2$^-$)
		5673	3	3239.5	7/2$^-$
		6101	10	2810.9	5/2$^-$,7/2$^-$
		6504	5	2408.3	(7/2$^-$)
		6602	5	2309.4	3/2$^-$
		6647	5	2265.3	5/2$^-$
		6677	8	2234.0	5/2
		6916	8	1994.7	3/2$^{(+)}$
		7249	8	1661.40	3/2$^-$
		7265	3	1646.43	(1/2$^+$)
		7396	3	1514.54	5/2$^-$
		7771	8	1140.53	5/2$^+$
		8163	13	748.27	3/2$^+$

$^{49}_{23}V_{26}$-32

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
8912.2	(5/2)	8758	21	152.9282	$3/2^-$
		8820	49	90.6392	$5/2^-$
		8911	100	0.0	$7/2^-$
8921.1	$(5/2^+)$	6612	42	2309.4	$3/2^-$
		6739	16	2182.0	$7/2^-$
		6743	16	2178.3	$9/2^+$
		6926	21	1994.7	$3/2^{(+)}$
		7275	42	1646.43	$(1/2^+)$
		7318	53	1602.68	$7/2^+$
		7406	21	1514.54	$5/2^-$
		7781	16	1140.53	$5/2^+$
		8173	42	748.27	$3/2^+$
		8768	100	152.9282	$3/2^-$
		8831	68	90.6392	$5/2^-$
		8921	89	0.0	$7/2^-$
8925.0	$(7/2^-)$	4290	2	4635	$(5/2)^-$
		4890	2	4035	$(3/2^-$ to $9/2^+)$
		5143	4	3782	$(\geq 9/2)$
		5537	4	3388	$(3/2,5/2^-)$
		6690	4	2234.0	5/2
		7262	4	1661.40	$3/2^-$
		7321	15	1602.68	$7/2^+$
		7409	4	1514.54	$5/2^-$
		7784	6	1140.53	$5/2^+$
		8771	49	152.9282	$3/2^-$
		8833	13	90.6392	$5/2^-$
		8924	100	0.0	$7/2^-$
8927.9	(5/2)	5540	22	3388	$(3/2,5/2^-)$
		5911	33	3017.3	
		6618	22	2309.4	$3/2^-$
		6693	39	2234.0	5/2
		6932	11	1994.7	$3/2^{(+)}$
		7265	56	1661.40	$3/2^-$
		7281	83	1646.43	$(1/2^+)$
		7324	11	1602.68	$7/2^+$
		7412	11	1514.54	$5/2^-$
		7787	56	1140.53	$5/2^+$
		8179	22	748.27	$3/2^+$
		8774	50	152.9282	$3/2^-$
		8836	39	90.6392	$5/2^-$
		8927	100	0.0	$7/2^-$
8942.6	(5/2)	5249	14	3678	$(7/2)^-$
		5926	10	3017.3	
8942.6	(5/2)	6555	14	2388.0	$5/2^+$
		6633	29	2309.4	$3/2^-$
		6708	5	2234.0	5/2
		6947	14	1994.7	$3/2^{(+)}$
		7280	62	1661.40	$3/2^-$
		7296	62	1646.43	$(1/2^+)$
		7339	14	1602.68	$7/2^+$
		7427	14	1514.54	$5/2^-$
		7802	10	1140.53	$5/2^+$
		8194	29	748.27	$3/2^+$
		8789	48	152.9282	$3/2^-$
		8851	52	90.6392	$5/2^-$
		8942	100	0.0	$7/2^-$
8965.1	$(5/2^+)$	4712	4	4253	$1/2^-,3/2^-$
		4747	4	4218	$(3/2)^-$
		4877	4	4088	$3/2^{(-)},5/2,7/2^-$
		5005	8	3960	$(3/2^-,5/2,7/2^-)$
		5038	8	3927	$(1/2^+$ to $9/2^+)$
		5053	8	3912	$(3/2)^-$
		5149	8	3816	$(\leq 7/2^-)$
		5224	17	3741	$1/2^-,3/2^-$
		5577	12	3388	$(3/2,5/2^-)$
		5741	4	3224	$(1/2,3/2,5/2^-)$
		5831	8	3134.0	$7/2,9/2^{(+)}$
		5948	12	3017.3	
		6285	8	2680.0	(7/2,9/2)
		6557	8	2408.3	$(7/2^-)$
		6785	8	2178.3	$9/2^+$
		7449	38	1514.54	$5/2^-$
		7824	100	1140.53	$5/2^+$
		8216	42	748.27	$3/2^+$
		8811	42	152.9282	$3/2^-$
		8873	50	90.6392	$5/2^-$
		8964	21	0.0	$7/2^-$
8998.5	$(1/2^-)$	6733	27	2265.3	$5/2^-$
		7351	11	1646.43	$(1/2^+)$
		8249	19	748.27	$3/2^+$
		8844	100	152.9282	$3/2^-$
9008.2	$(5/2^+)$	4920	6	4088	$3/2^{(-)},5/2,7/2^-$
		5006	9	4002	$(3/2)^-$
		5096	14	3912	$(3/2)^-$
		5237	6	3771	$(1/2^+$ to $9/2^+)$
		5267	9	3741	$1/2^-,3/2^-$

$^{49}_{23}V_{26}$-33

Adopted Levels, Gammas (continued)

γ(^{49}V) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
9008.2	(5/2$^+$)	5330	9	3678	(7/2)$^-$
		5337	9	3671	(1/2$^+$ to 9/2$^+$)
		5666	9	3342	(1/2$^+$ to 9/2$^+$)
		5991	11	3017.3	
		6600	6	2408.3	(7/2$^-$)
		6620	29	2388.0	5/2$^+$
		6698	11	2309.4	3/2$^-$
		7012	14	1994.7	3/2$^{(+)}$
		7361	3	1646.43	(1/2$^+$)
		7404	3	1602.68	7/2$^+$
		7867	14	1140.53	5/2$^+$
		8259	14	748.27	3/2$^+$
		8854	100	152.9282	3/2$^-$
		8916	9	90.6392	5/2$^-$
		9007	9	0.0	7/2$^-$
9029.8	(5/2)	4490	4	4540	
		5359	2	3671	(1/2$^+$ to 9/2$^+$)
		5427	2	3603	
		5642	2	3388	(3/2,5/2$^-$)
		5791	9	3239.5	7/2$^-$
		5896	2	3134.0	7/2,9/2$^{(+)}$
		6013	7	3017.3	
		6622	2	2408.3	(7/2$^-$)
		6642	4	2388.0	5/2$^+$
		6720	2	2309.4	3/2$^-$
		6794	7	2234.0	5/2
		7034	11	1994.7	3/2$^{(+)}$
		7367	7	1661.40	3/2$^-$
		7386	16	1643.19	(3/2$^-$,5/2)
		7426	2	1602.68	7/2$^+$
		7889	4	1140.53	5/2$^+$
		8281	7	748.27	3/2$^+$
		8876	11	152.9282	3/2$^-$
		8938	9	90.6392	5/2$^-$
		9029	100	0.0	7/2$^-$
9037.6	(5/2)	7897	96	1140.53	5/2$^+$
		8289	22	748.27	3/2$^+$
		8884	93	152.9282	3/2$^-$
		8946	100	90.6392	5/2$^-$
		9037	59	0.0	7/2$^-$
9044.5	(7/2$^-$)	5084	13	3960	(3/2$^-$,5/2,7/2$^-$)
		5132	13	3912	(3/2)$^-$
		5528	13	3516	(3/2$^-$ to 9/2)
9044.5	(7/2$^-$)	5785	25	3259.5	(≥9/2)
		6373^{qs}	19^q	2671.3?	7/2$^-$,9/2,11/2$^+$
		6373^{qs}	19^q	2671.0	(11/2)$^-$
		6734	69	2309.4	3/2$^-$
		6808	44	2234.0	5/2
		6860	69	2182.0	7/2$^-$
		7528	19	1514.54	5/2$^-$
		7903	81	1140.53	5/2$^+$
		8890	94	152.9282	3/2$^-$
		8952	69	90.6392	5/2$^-$
		9043	100	0.0	7/2$^-$
9056.2	(5/2)	6747	23	2309.4	3/2$^-$
		7061	20	1994.7	3/2$^{(+)}$
		7394	10	1661.40	3/2$^-$
		7541	10	1514.54	5/2$^-$
		7916	7	1140.53	5/2$^+$
		8308	27	748.27	3/2$^+$
		8903	100	152.9282	3/2$^-$
		8965	53	90.6392	5/2$^-$
		9056	83	0.0	7/2$^-$
9071.9	(5/2)	5551	14	3516	(3/2$^-$ to 9/2)
		5684	5	3388	(3/2,5/2$^-$)
		6055	10	3017.3	
		6261	5	2810.9	5/2$^-$,7/2$^-$
		6684	10	2388.0	5/2$^+$
		6761	48	2309.4	3/2$^-$
		6836	5	2234.0	5/2
		6888	10	2182.0	7/2$^-$
		7076	19	1994.7	3/2$^{(+)}$
		7409	24	1661.40	3/2$^-$
		7425	29	1646.43	(1/2$^+$)
		7468	10	1602.68	7/2$^+$
		7556	10	1514.54	5/2$^-$
		7931	19	1140.53	5/2$^+$
		8323	24	748.27	3/2$^+$
		8918	81	152.9282	3/2$^-$
		8980	100	90.6392	5/2$^-$
		9071	57	0.0	7/2$^-$
9075.8	(5/2)	5116	5	3960	(3/2$^-$,5/2,7/2$^-$)
		5164	11	3912	(3/2)$^-$
		5355	5	3721	(≤7/2)$^-$
		5382	5	3678	(7/2)$^-$
		5751	11	3325	(1/2$^+$ to 7/2$^+$)

$^{49}_{23}V_{26}$-34

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f
9075.8	(5/2)	6059	16	3017.3	
		6668	11	2408.3	(7/2⁻)
		6765	32	2309.4	3/2⁻
		6892	11	2182.0	7/2⁻
		7080	32	1994.7	3/2$^{(+)}$
		7413	32	1661.40	3/2⁻
		7432	32	1643.19	(3/2⁻,5/2)
		7472	26	1602.68	7/2⁺
		7560	37	1514.54	5/2⁻
		7935	37	1140.53	5/2⁺
		8327	11	748.27	3/2⁺
		8922	53	152.9282	3/2⁻
		8984	63	90.6392	5/2⁻
		9075	100	0.0	7/2⁻
9078.8	(3/2⁻)	6062	5	3017.3	
		6691	10	2388.0	5/2⁺
		7416	7	1661.40	3/2⁻
		7435	7	1643.19	(3/2⁻,5/2)
		7563	10	1514.54	5/2⁻
		8330	100	748.27	3/2⁺
		8925	16	152.9282	3/2⁻
		8987	9	90.6392	5/2⁻
		9078	9	0.0	7/2⁻
9082.7	(3/2⁺)	7420	27	1661.40	3/2⁻
		7439	43	1643.19	(3/2⁻,5/2)
		7942	57	1140.53	5/2⁺
		8334	53	748.27	3/2⁺
		8929	13	152.9282	3/2⁻
		8993	100	90.6392	5/2⁻
9089.5	(3/2⁻,5/2)	6702	7	2388.0	5/2⁺
		7443	3	1646.43	(1/2⁺)
		8341	10	748.27	3/2⁺
		8936	100	152.9282	3/2⁻
		8998	33	90.6392	5/2⁻
		9089	5	0.0	7/2⁻
9094.4	(5/2)	5183	7	3912	(3/2)⁻
		5354	7	3741	1/2⁻,3/2⁻
		5401	7	3678	(7/2)⁻
		6078	14	3017.3	
		6784	7	2309.4	3/2⁻
		6859	11	2234.0	5/2
		7448	36	1643.19	(3/2⁻,5/2)
		7579	21	1514.54	5/2⁻
9094.4	(5/2)	7954	36	1140.53	5/2⁺
		8346	100	748.27	3/2⁺
		8941	25	152.9282	3/2⁻
		9003	82	90.6392	5/2⁻
		9094	4	0.0	7/2⁻
9118.0	(5/2)	5730	5	3388	(3/2,5/2⁻)
		6101	33	3017.3	
		6312	24	2810.9	5/2⁻,7/2⁻
		6807	10	2309.4	3/2⁻
		6882	52	2234.0	5/2
		7122	48	1994.7	3/2$^{(+)}$
		7514	14	1602.68	7/2⁺
		7602	100	1514.54	5/2⁻
		7977	29	1140.53	5/2⁺
		8369	24	748.27	3/2⁺
		8964	29	152.9282	3/2⁻
		9026	81	90.6392	5/2⁻
		9117	29	0.0	7/2⁻
9131.7	(5/2)	6821	9	2309.4	3/2⁻
		6866	13	2265.3	5/2⁻
		7469	9	1661.40	3/2⁻
		7485	24	1646.43	(1/2⁺)
		7528	17	1602.68	7/2⁺
		8383	11	748.27	3/2⁺
		8978	100	152.9282	3/2⁻
		9040	24	90.6392	5/2⁻
		9131	11	0.0	7/2⁻
9135.6	(5/2)	7472	38	1661.40	3/2⁻
		7488	21	1646.43	(1/2⁺)
		8386	28	748.27	3/2⁺
		8981	100	152.9282	3/2⁻
		9043	21	90.6392	5/2⁻
		9134	49	0.0	7/2⁻
9148.3	(5/2)	5618	25	3531?	(≤7/2⁻)
		6760	35	2388.0	5/2⁺
		6965	35	2182.0	7/2⁻
		7153	65	1994.7	3/2$^{(+)}$
		7545	60	1602.68	7/2⁺
		7633	50	1514.54	5/2⁻
		8400	100	748.27	3/2⁺
		8995	45	152.9282	3/2⁻
		9057	65	90.6392	5/2⁻
		9148	20	0.0	7/2⁻

$^{49}_{23}V_{26}$-35

$\gamma(^{49}V)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f
9154.2	$(5/2^+)$	5915	9	3239.5	$7/2^-$
		5930	5	3224	$(1/2,3/2,5/2^-)$
		6348	14	2810.9	$5/2^-,7/2^-$
		6843	59	2309.4	$3/2^-$
		6888	23	2265.3	$5/2^-$
		6974	14	2178.3	$9/2^+$
		7491	36	1661.40	$3/2^-$
		7507	23	1646.43	$(1/2^+)$
		7638	59	1514.54	$5/2^-$
		8405	100	748.27	$3/2^+$
		9000	50	152.9282	$3/2^-$
		9062	41	90.6392	$5/2^-$
		9153	23	0.0	$7/2^-$
9161.1	$(1/2^-,3/2)$	5937	5	3224	$(1/2,3/2,5/2^-)$
		6895	7	2265.3	$5/2^-$
		6925	16	2234.0	5/2
		7517	19	1643.19	$(3/2^-,5/2)$
		8412	9	748.27	$3/2^+$
		9007	100	152.9282	$3/2^-$
		9069	19	90.6392	$5/2^-$
9167.9	(5/2)	4533	8	4635	$(5/2)^-$
		4746	8	4422	
		4809	15	4359	
		5133	8	4035	$(3/2^-$ to $9/2^+)$
		5208	15	3960	$(3/2^-,5/2,7/2^-)$
		5427	8	3741	$1/2^-,3/2^-$
		5474	8	3694	$3/2^+,5/2^+$
		5490	8	3678	$(7/2)^-$
		5565	8	3603	
		5780	15	3388	$(3/2,5/2^-)$
		5926	15	3242	$(3/2,5/2,7/2^-)$
		6151	15	3017.3	
		6362	23	2810.9	$5/2^-,7/2^-$
		6759	15	2408.3	$(7/2^-)$
		6779	15	2388.0	$5/2^+$
		6857	62	2309.4	$3/2^-$
		6902	15	2265.3	$5/2^-$
		6932	8	2234.0	5/2
		7172	8	1994.7	$3/2^{(+)}$
		7505	69	1661.40	$3/2^-$
		7524	62	1643.19	$(3/2^-,5/2)$
		7564	54	1602.68	$7/2^+$
		7652	46	1514.54	$5/2^-$
9167.9	(5/2)	8027	31	1140.53	$5/2^+$
		8419	23	748.27	$3/2^+$
		9014	77	152.9282	$3/2^-$
		9076	31	90.6392	$5/2^-$
		9167	100	0.0	$7/2^-$
9168.9	$(3/2^-)$	5428	2	3741	$1/2^-,3/2^-$
		5781	2	3388	$(3/2,5/2^-)$
		5945	3	3224	$(1/2,3/2,5/2^-)$
		6858	5	2309.4	$3/2^-$
		7173	7	1994.7	$3/2^{(+)}$
		7506	5	1661.40	$3/2^-$
		7525	12	1643.19	$(3/2^-,5/2)$
		7565	3	1602.68	$7/2^+$
		7653	3	1514.54	$5/2^-$
		9015	100	152.9282	$3/2^-$
		9077	3	90.6392	$5/2^-$
		9168	7	0.0	$7/2^-$
9174.8	(5/2)	6157	14	3017.3	
		6863	9	2309.4	$3/2^-$
		7511	23	1661.40	$3/2^-$
		7570	11	1602.68	$7/2^+$
		8033	23	1140.53	$5/2^+$
		8425	40	748.27	$3/2^+$
		9020	49	152.9282	$3/2^-$
		9082	17	90.6392	$5/2^-$
		9173	100	0.0	$7/2^-$
9182.6	(5/2)	7667	7	1514.54	$5/2^-$
		8042	100	1140.53	$5/2^+$
		8434	74	748.27	$3/2^+$
		9091	47	90.6392	$5/2^-$
		9182	5	0.0	$7/2^-$
9193.4	$(5/2,7/2^+)$	7197	100	1994.7	$3/2^{(+)}$
		7546	42	1646.43	$(1/2^+)$
		8444	100	748.27	$3/2^+$
		9101	92	90.6392	$5/2^-$
		9192	83	0.0	$7/2^-$
9195.3	(5/2)	5674	14	3521	$(\leq 9/2)$
		6178	14	3017.3	
		6786	14	2408.3	$(7/2^-)$
		6806	14	2388.0	$5/2^+$
		6884	14	2309.4	$3/2^-$
		7532	38	1661.40	$3/2^-$
		7591	19	1602.68	$7/2^+$

From ENSDF

$^{49}_{23}V_{26}$-36

Adopted Levels, Gammas (continued)

$\gamma(^{49}V)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
9195.3	(5/2)	7679	38	1514.54	$5/2^-$
		8054	76	1140.53	$5/2^+$
		8446	90	748.27	$3/2^+$
		9041	19	152.9282	$3/2^-$
		9103	24	90.6392	$5/2^-$
		9194	100	0.0	$7/2^-$

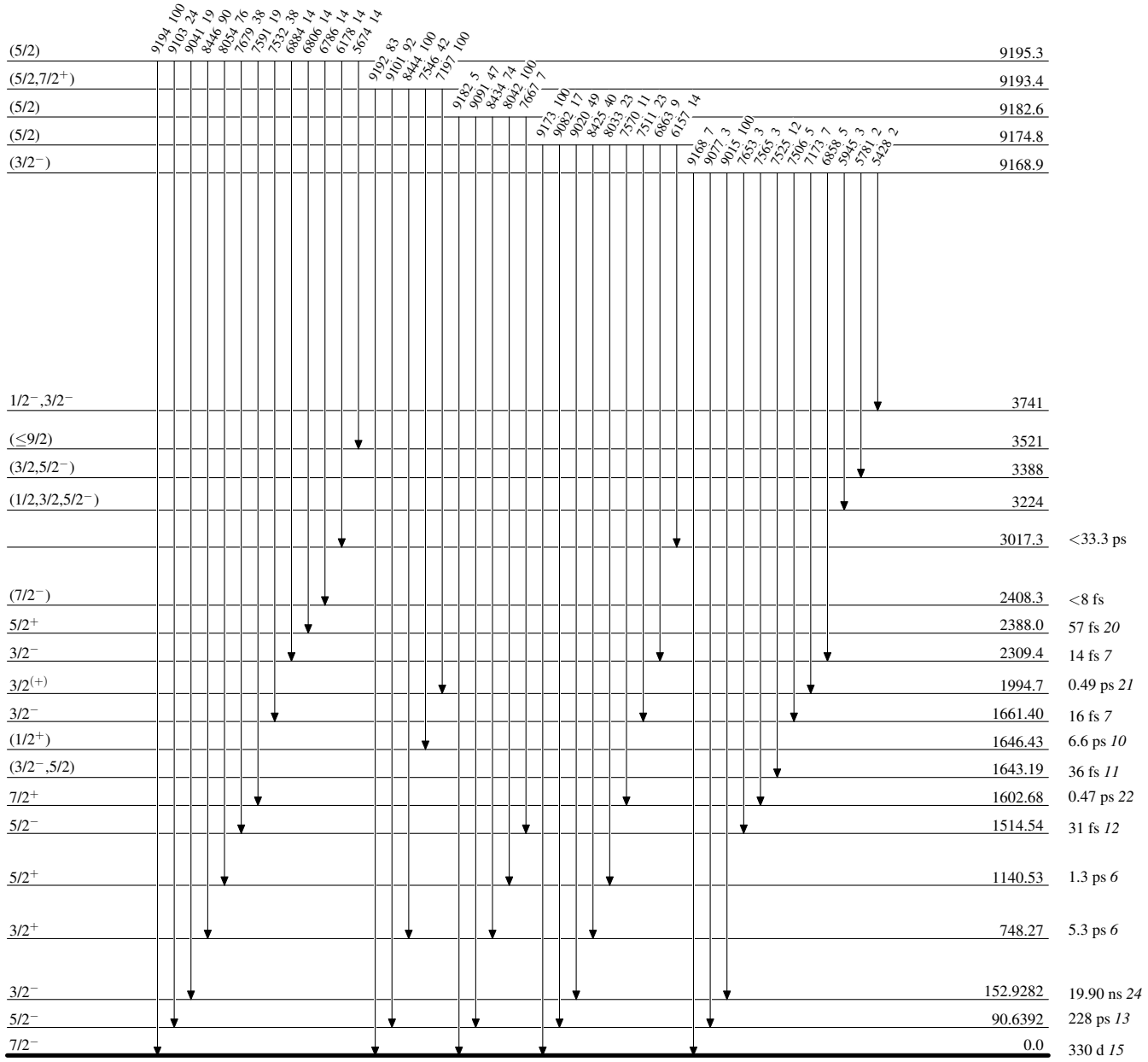
† From (p,nγ) for the bound states and (p,γ) for the unbound states, except As noted.
‡ From p$\gamma(\theta)$ In (α,pγ) for secondary gammas and $\gamma(\theta)$ In (p,γ) for primary gammas, except As noted.
# From β^+ decay.
@ D+Q or D(+Q) from p$\gamma(\theta)$ In (α,pγ). $\Delta\pi$=yes from level scheme.
& D+Q from p$\gamma(\theta)$ In (α,pγ). E1+M2 excluded by δ and comparison to RUL.
a D+Q or D(+Q) from p$\gamma(\theta)$ In (α,pγ). $\Delta\pi$=No from level scheme.
b As recommended by 1980Kr22 and 1978Kr19.
c From comparison to RUL.
d Results from (^{40}Ca,3pγ), (α,pγ), and other (p,nγ) measurements are discrepant. This May Be due, In part, to the bombarding energies and the higher-lying states excited. Note, for example, the 463γ.
e D,E2 from comparison to RUL. ΔJ=2 from level scheme.
f D,E2 from comparison to RUL. $\Delta\pi$=yes from level scheme.
g From (p,γ) E=960− 2488 keV res.
h Unweighted average of Iγ(898γ)/Iγ(1493γ)=53% 3/47% 2 from (α,pγ) and 40% 4/60% 5 from (p,nγ) and Iγ(1027γ):Iγ(2089γ):Iγ(2187γ)=21% 1:79% 4:<5% from (α,pγ) and Iγ(1027γ):Iγ(2089γ):Iγ(2187γ)=25% 1:66% 1:9% 1 from (p,nγ).
i From (α,pγ).
j From (^{40}Ca,3pγ).
k Stretched (ΔJ=1) dipole transition from recoil-$\gamma(\theta)$ In (^{40}Ca,3pγ).
l Note that Iγ(572γ) from (p,nγ) May have an unresolved component from 2178 state and that Iγ(2233γ) from (α,pγ) May have an unresolved component from the 3388 state discrepant.
m See (α,pγ) for possible δ's.
n Stretched (ΔJ=2) quadrupole or ΔJ=0 dipole transition from recoil-$\gamma(\theta)$ In (^{40}Ca,3pγ).
o D+Q or D(+Q) from $\gamma(\theta)$ In (p,γ). $\Delta\pi$=No from level scheme.
p 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.
q Multiply placed with undivided intensity.
r Multiply placed with intensity suitably divided.
s Placement of transition in the level scheme is uncertain.

$^{49}_{23}V_{26}$-37

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

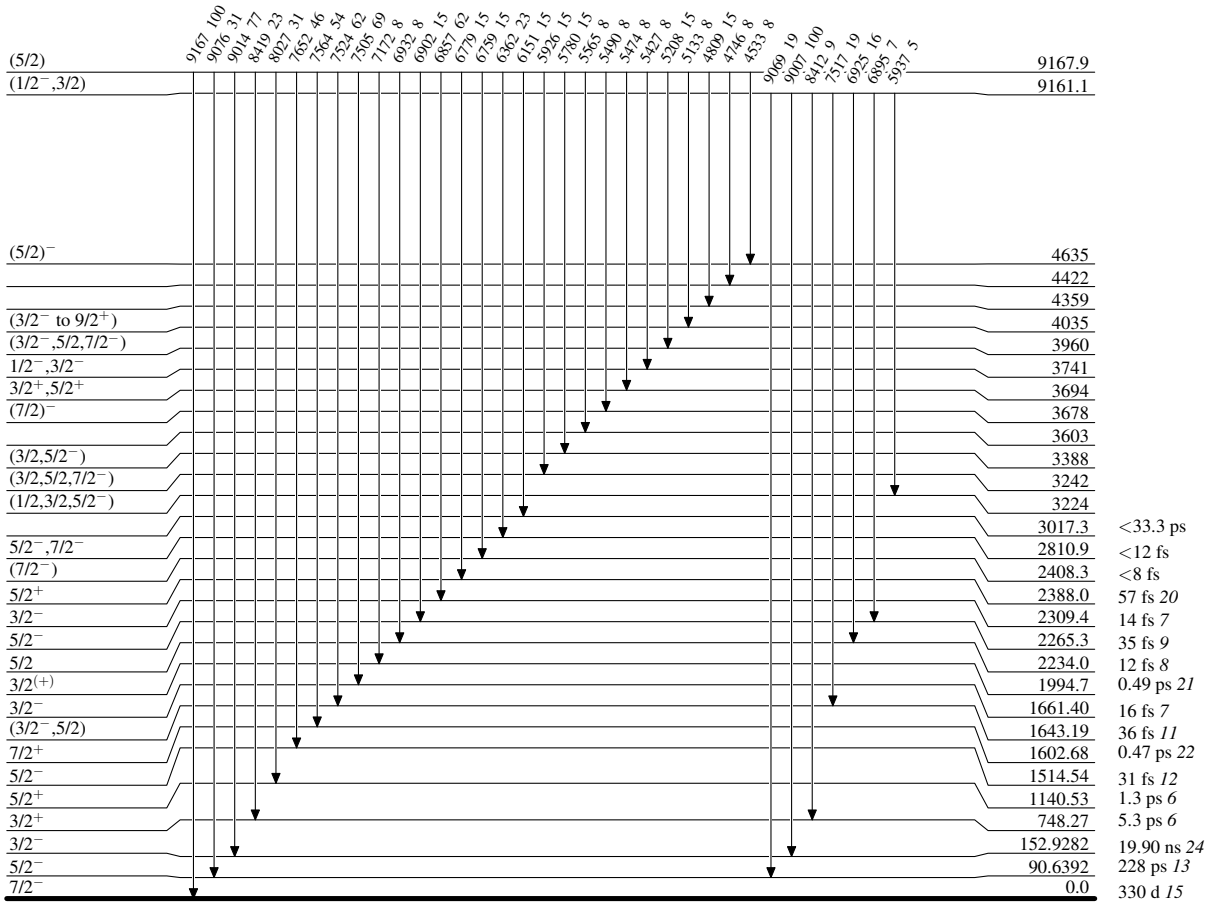


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

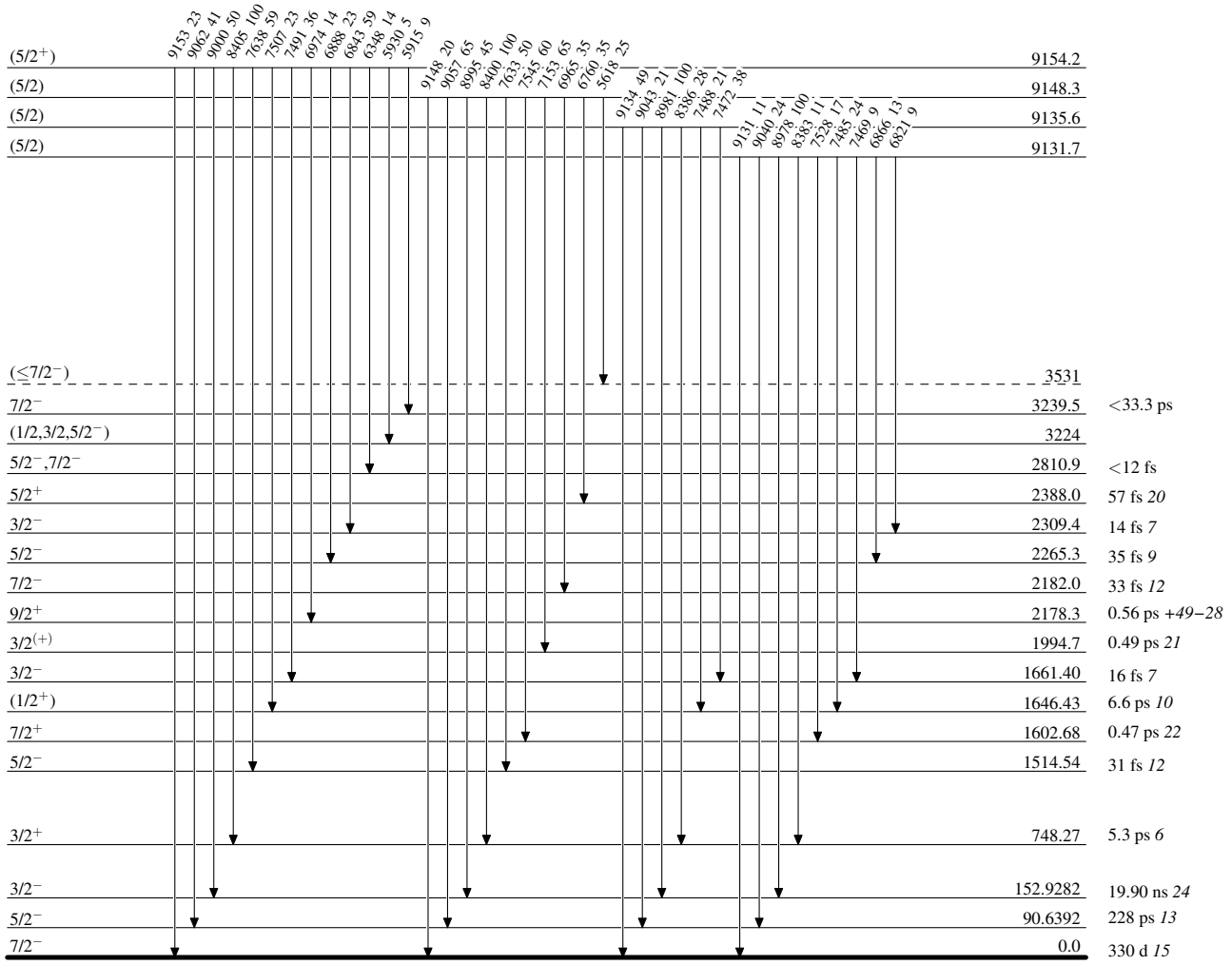


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

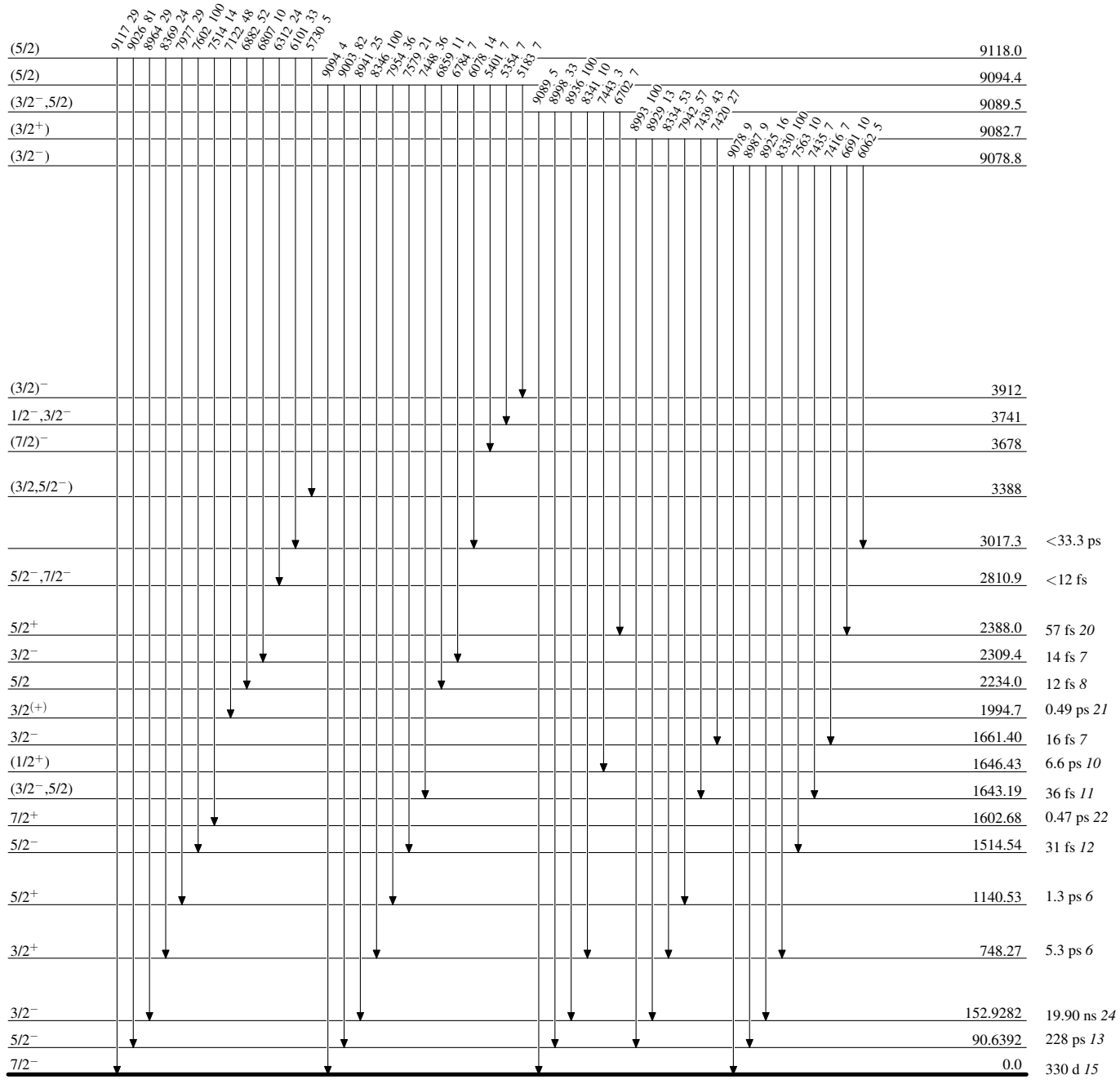


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

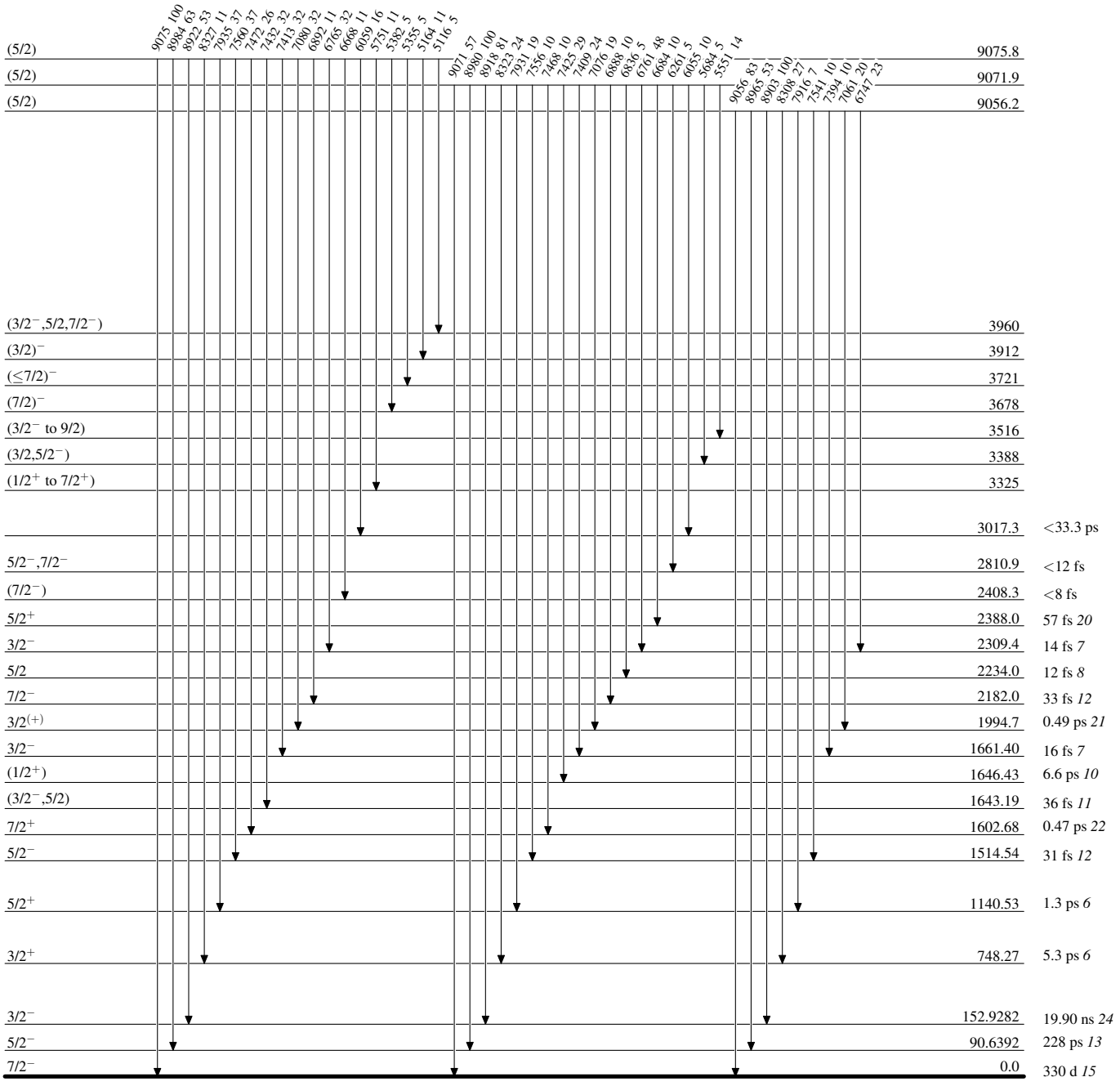


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{49}_{23}V_{26}$

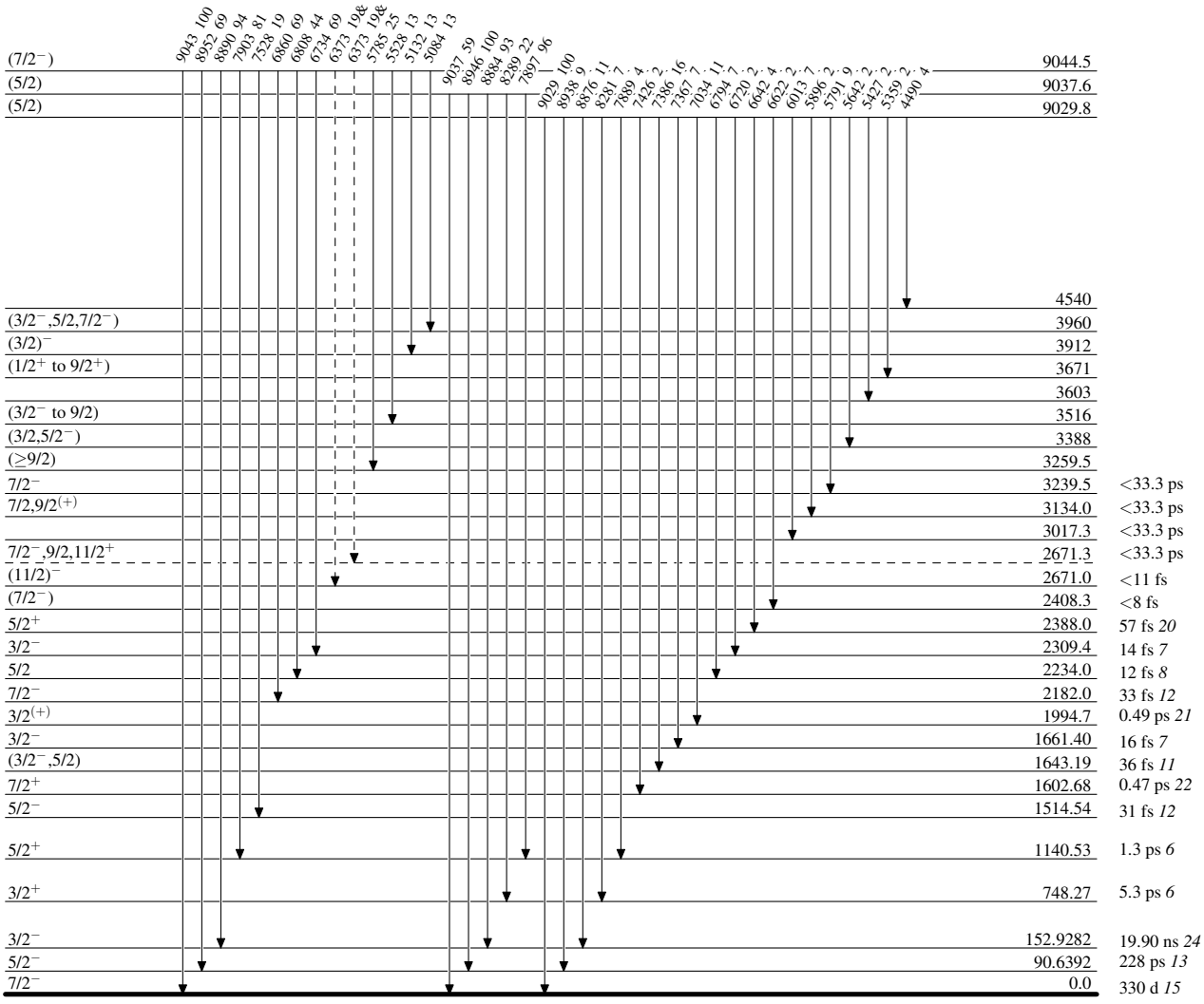
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

– – – – – – ► γ Decay (Uncertain)

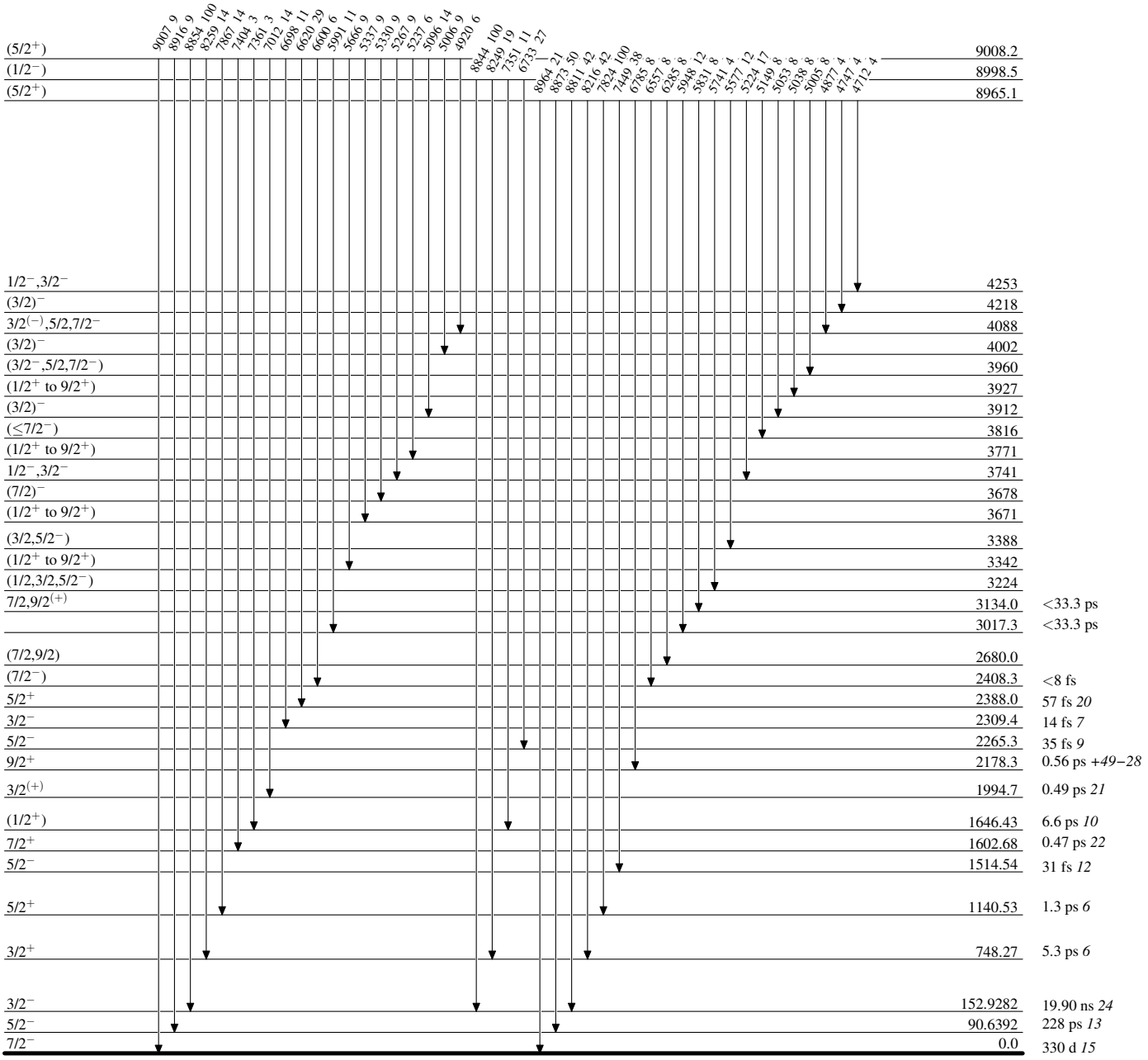


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

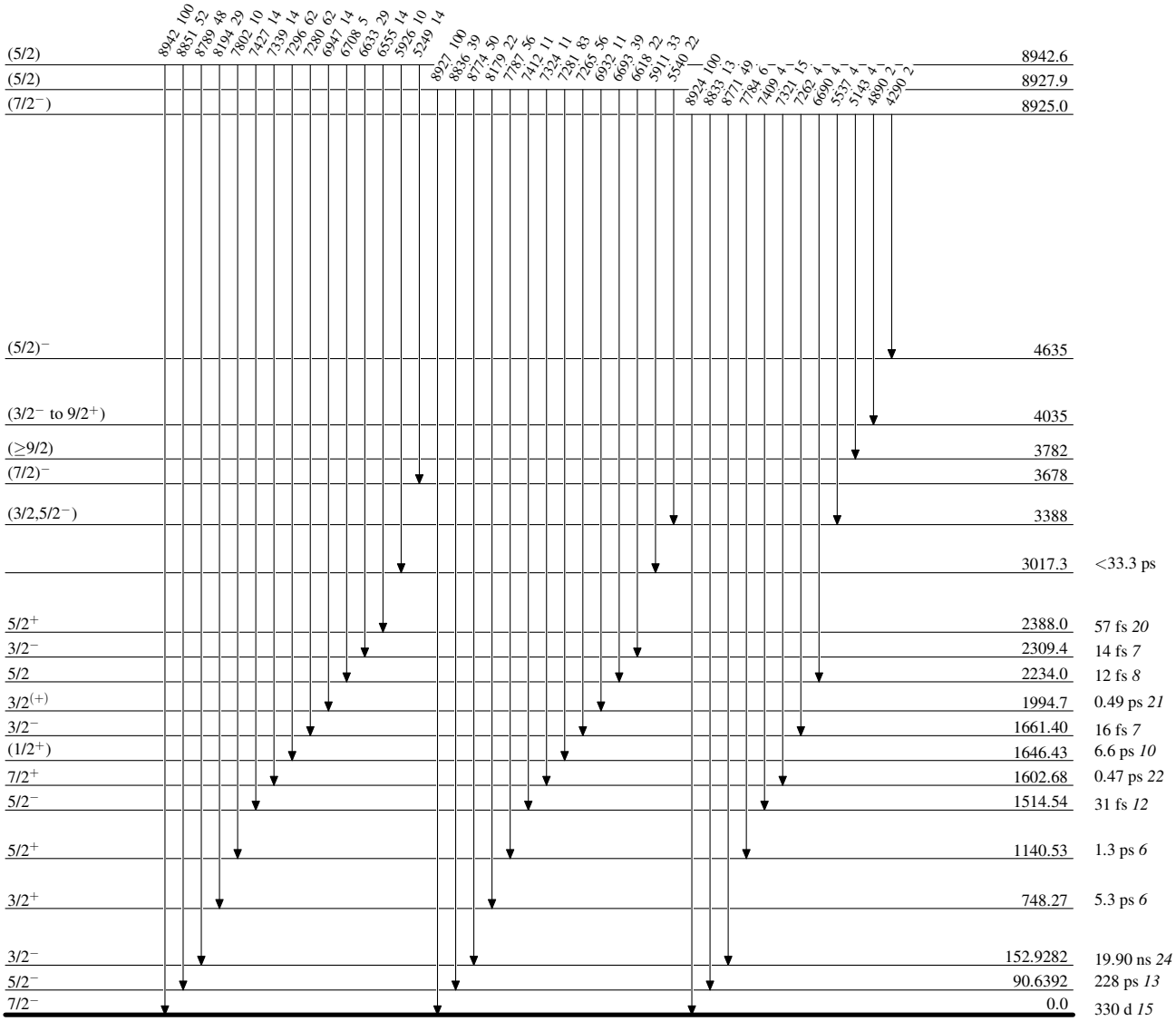


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

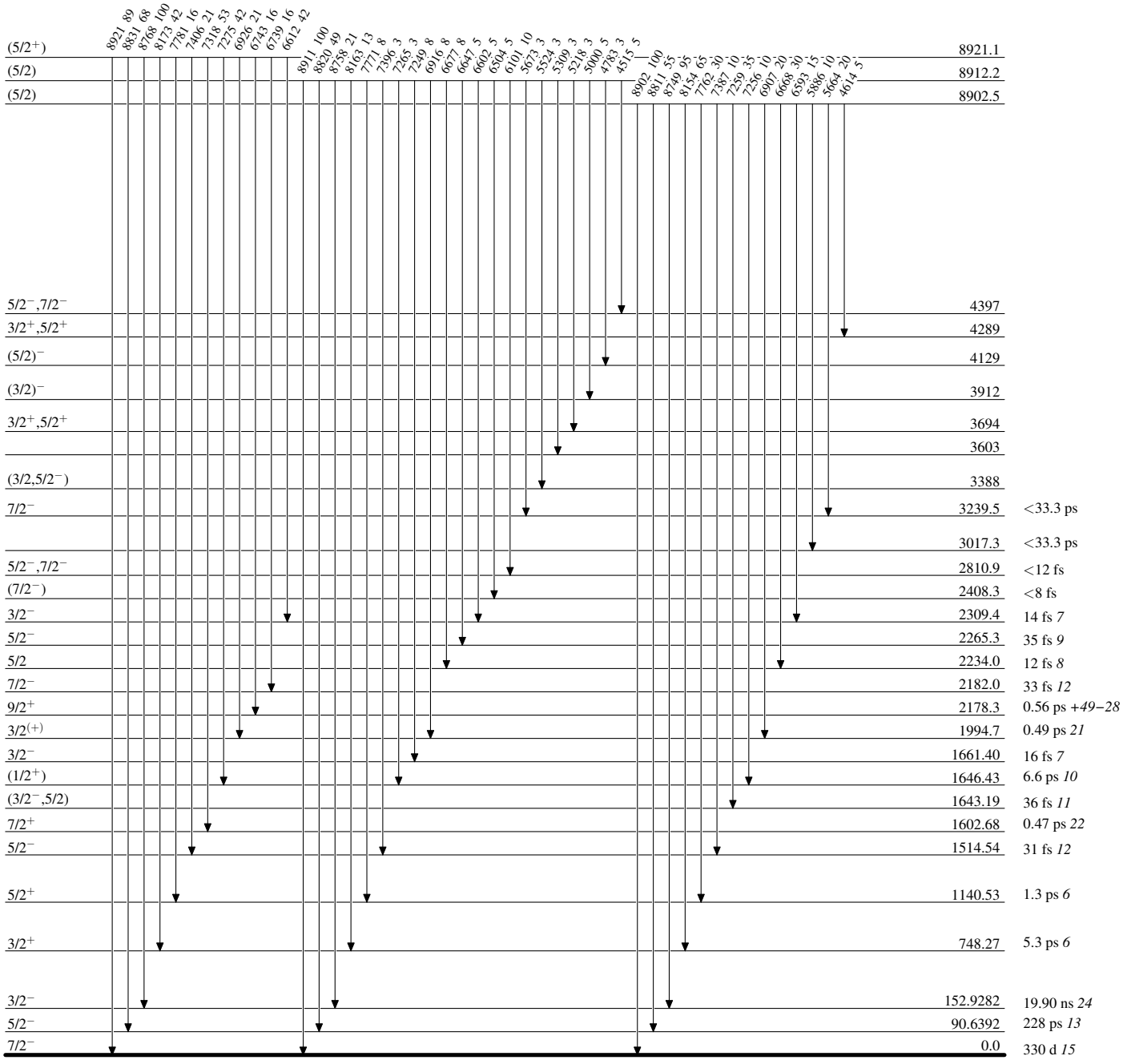


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

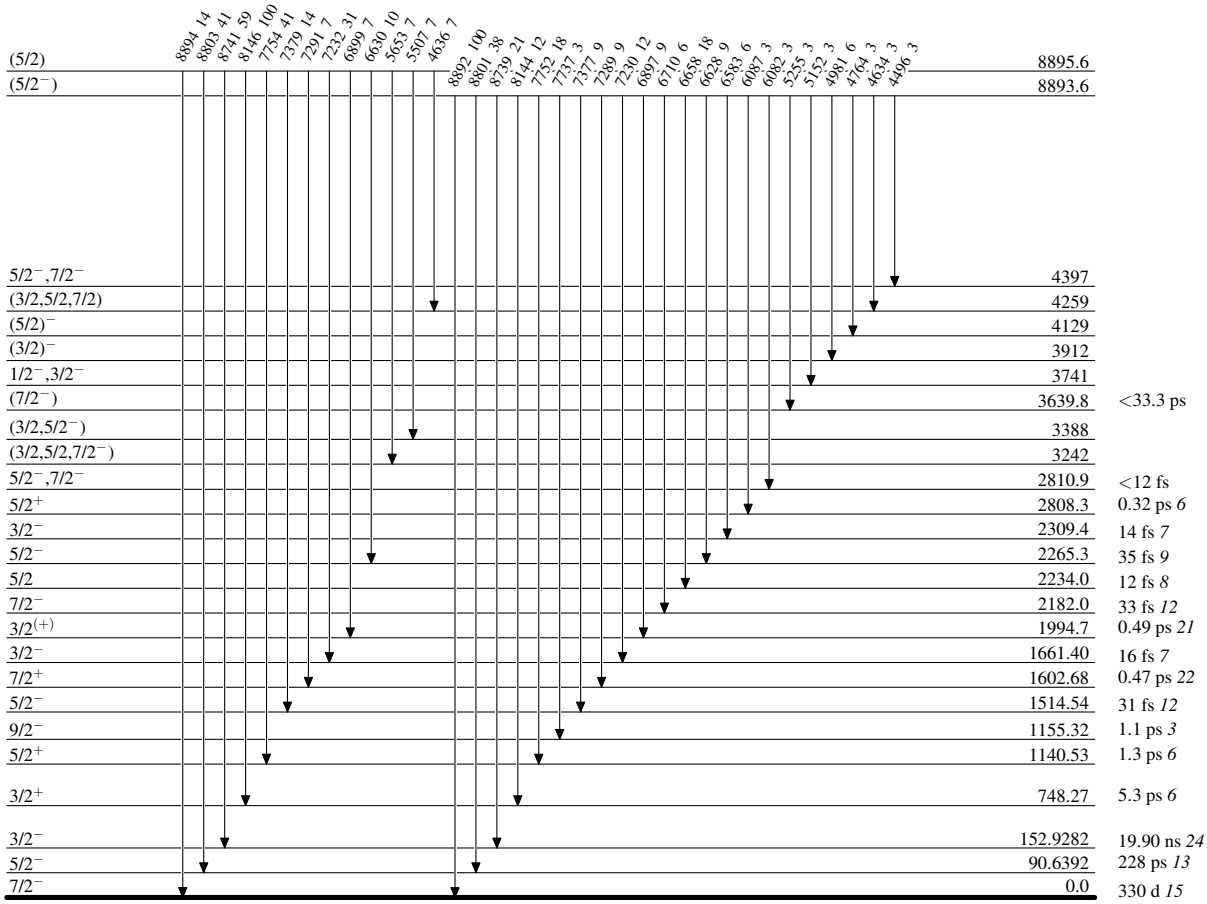


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

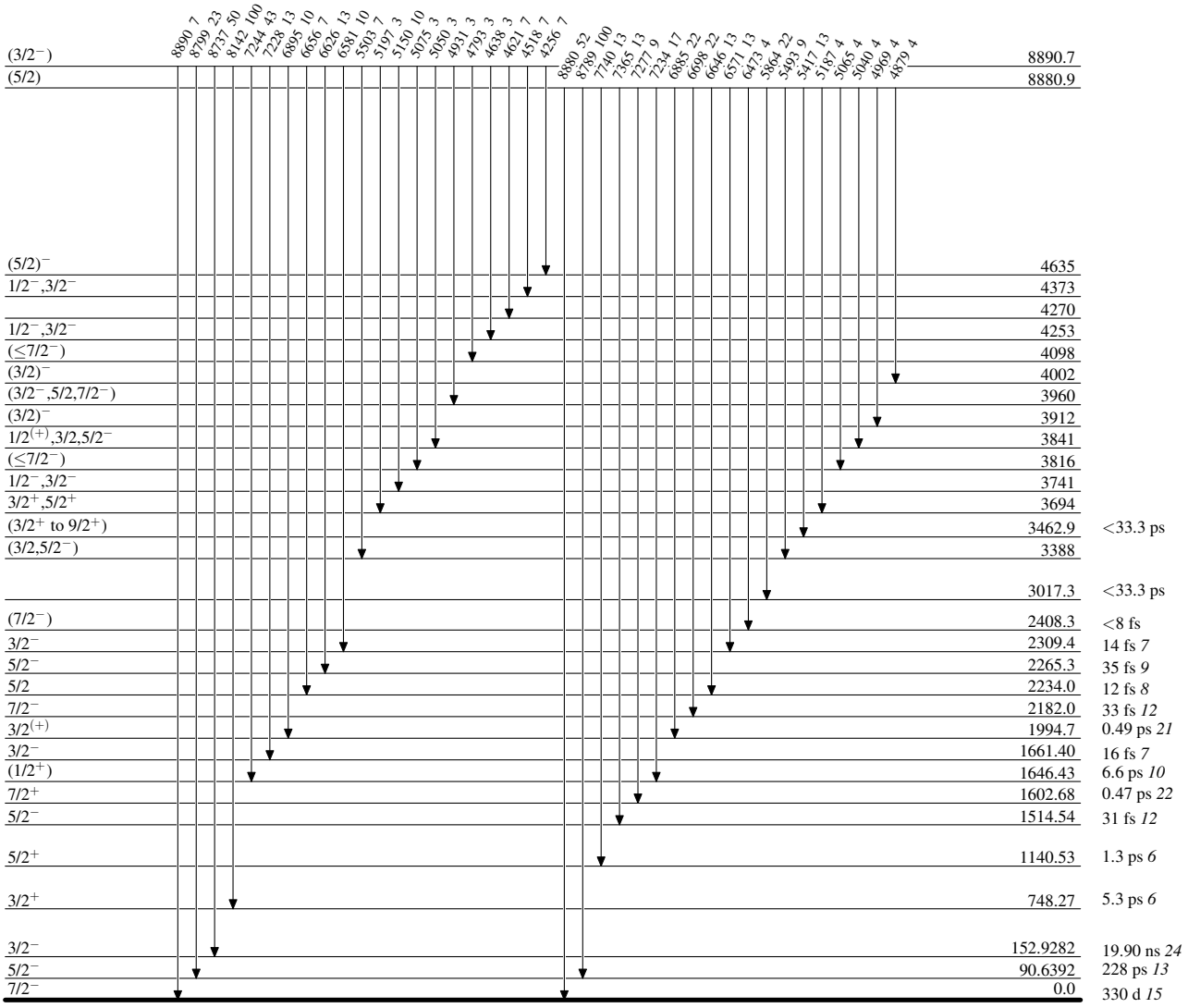


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

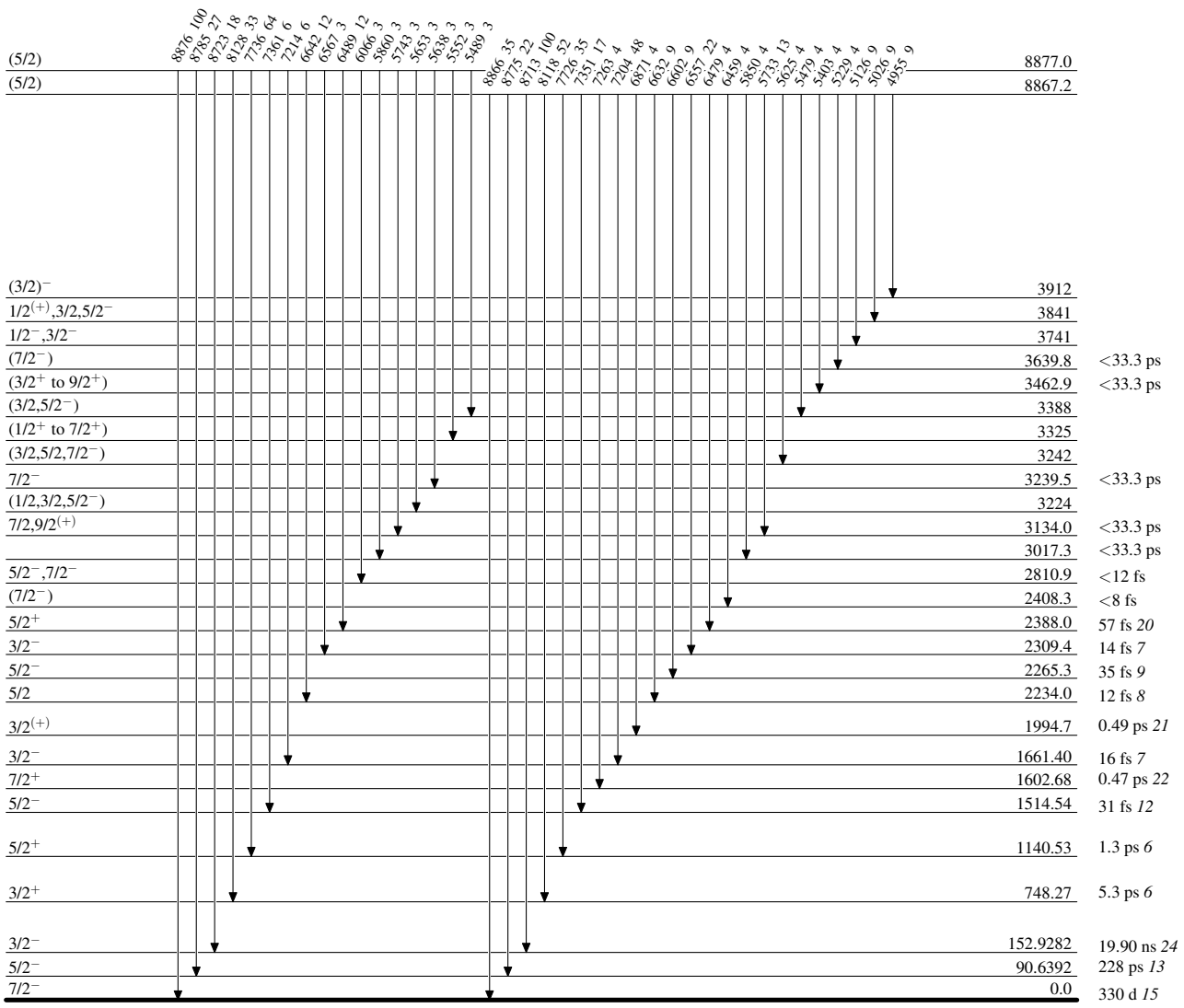


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

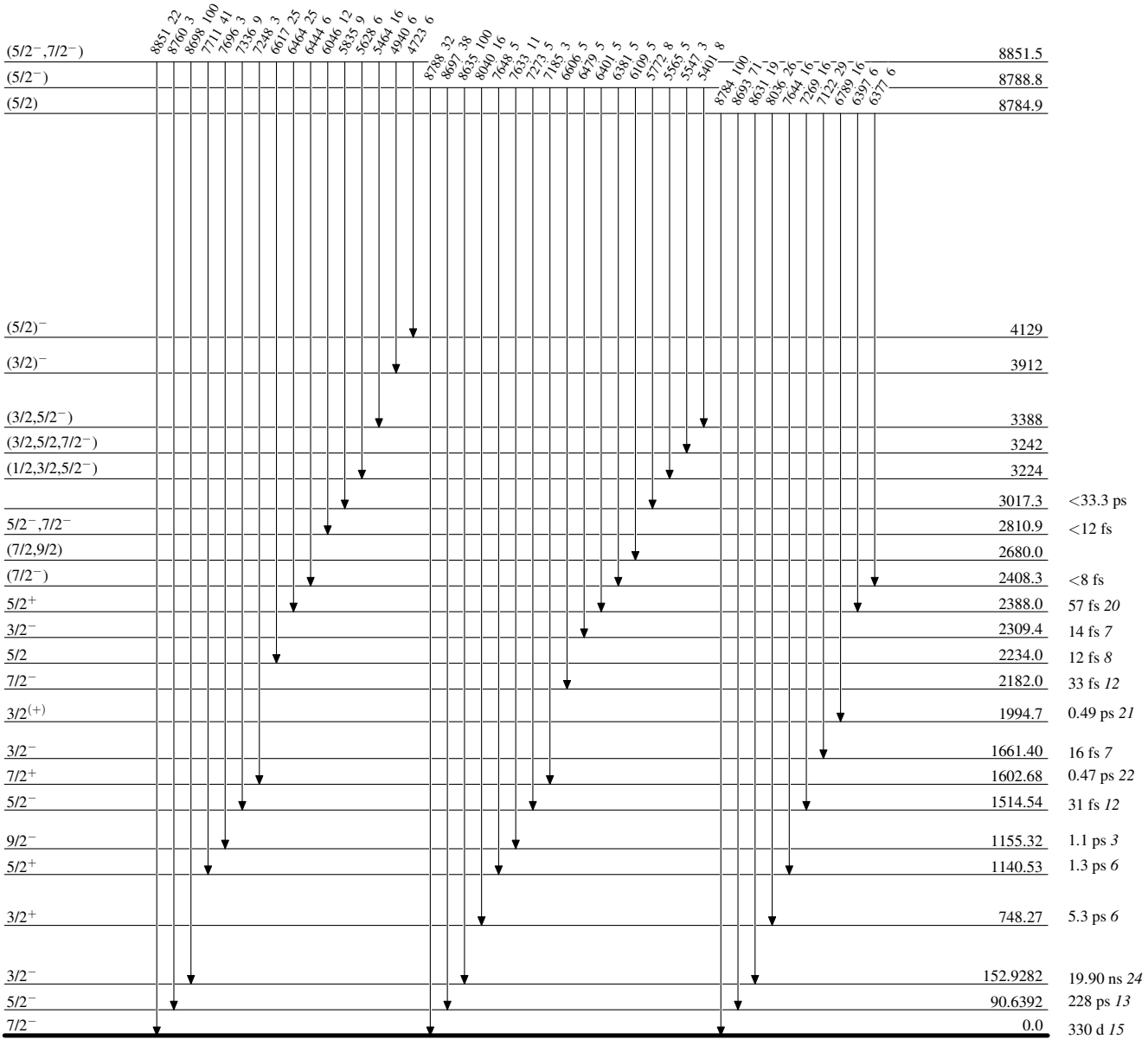


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

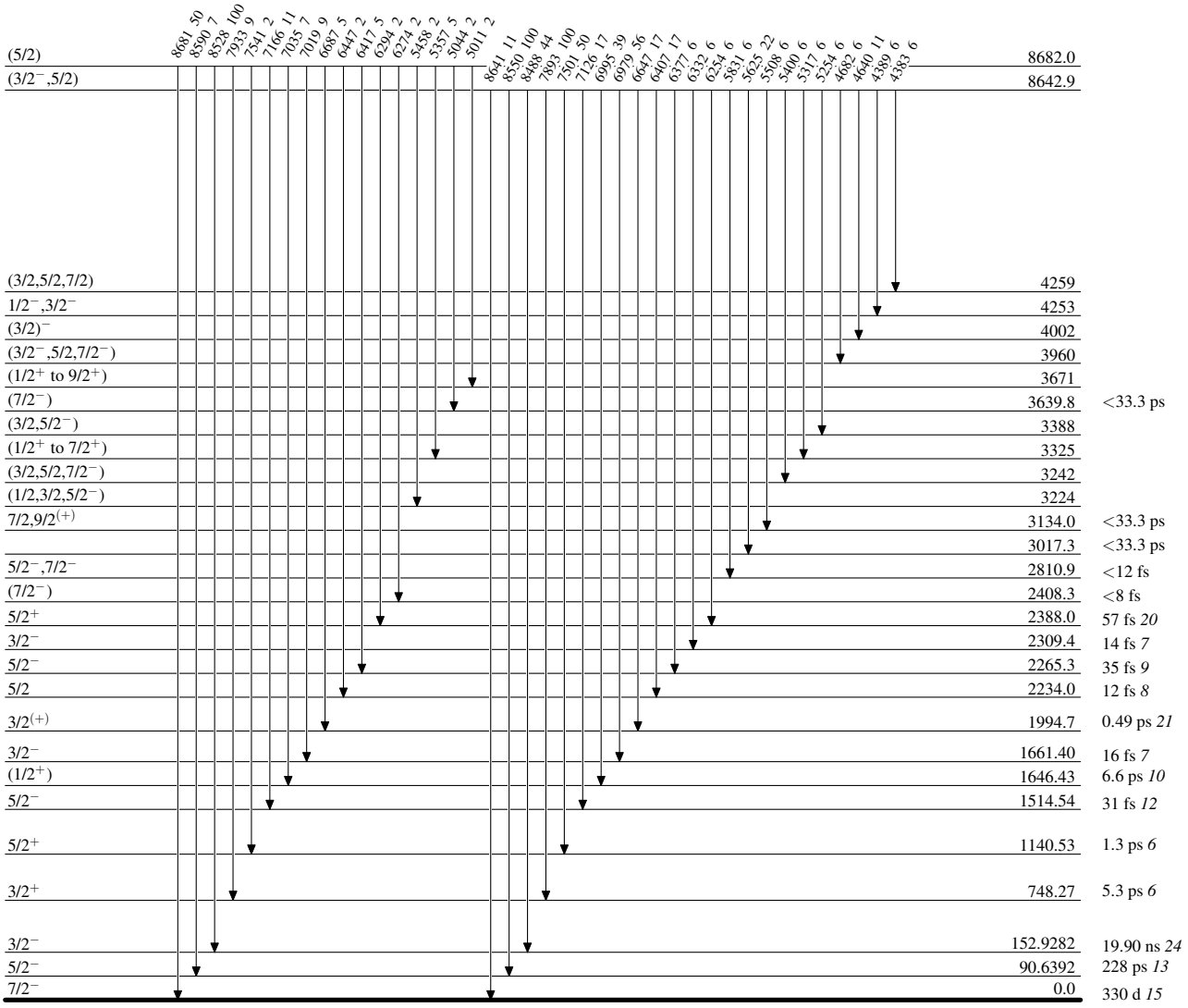


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

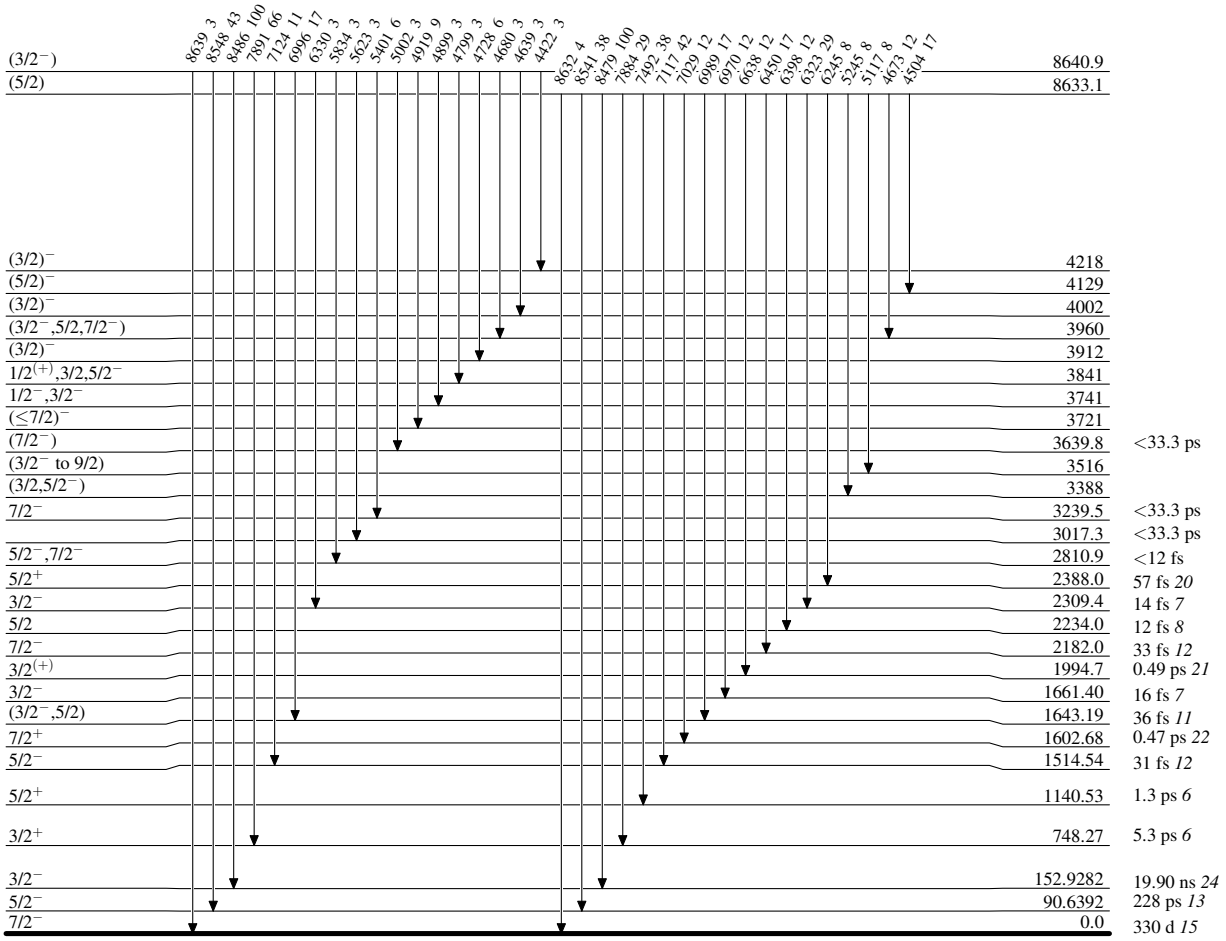


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

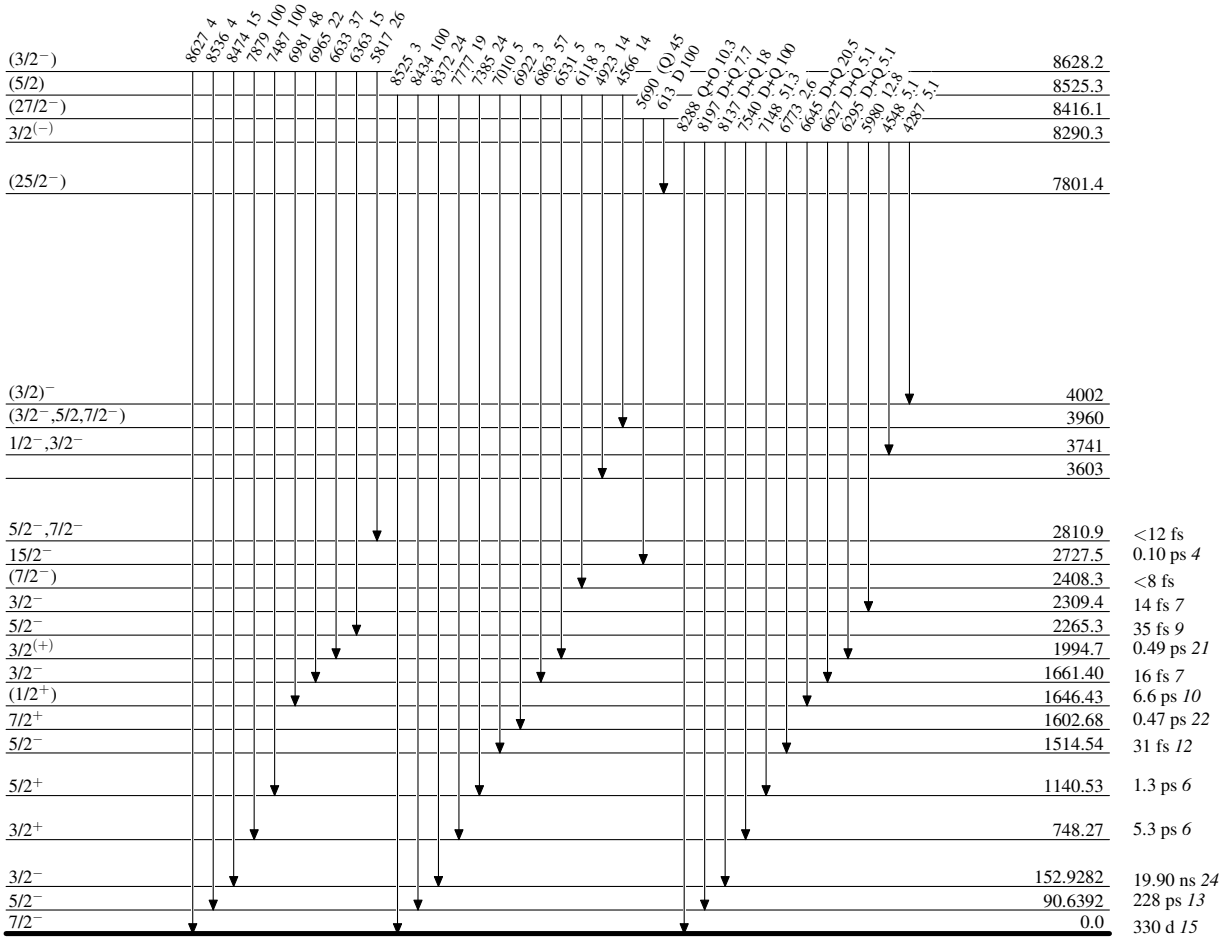


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{49}_{23}V_{26}$

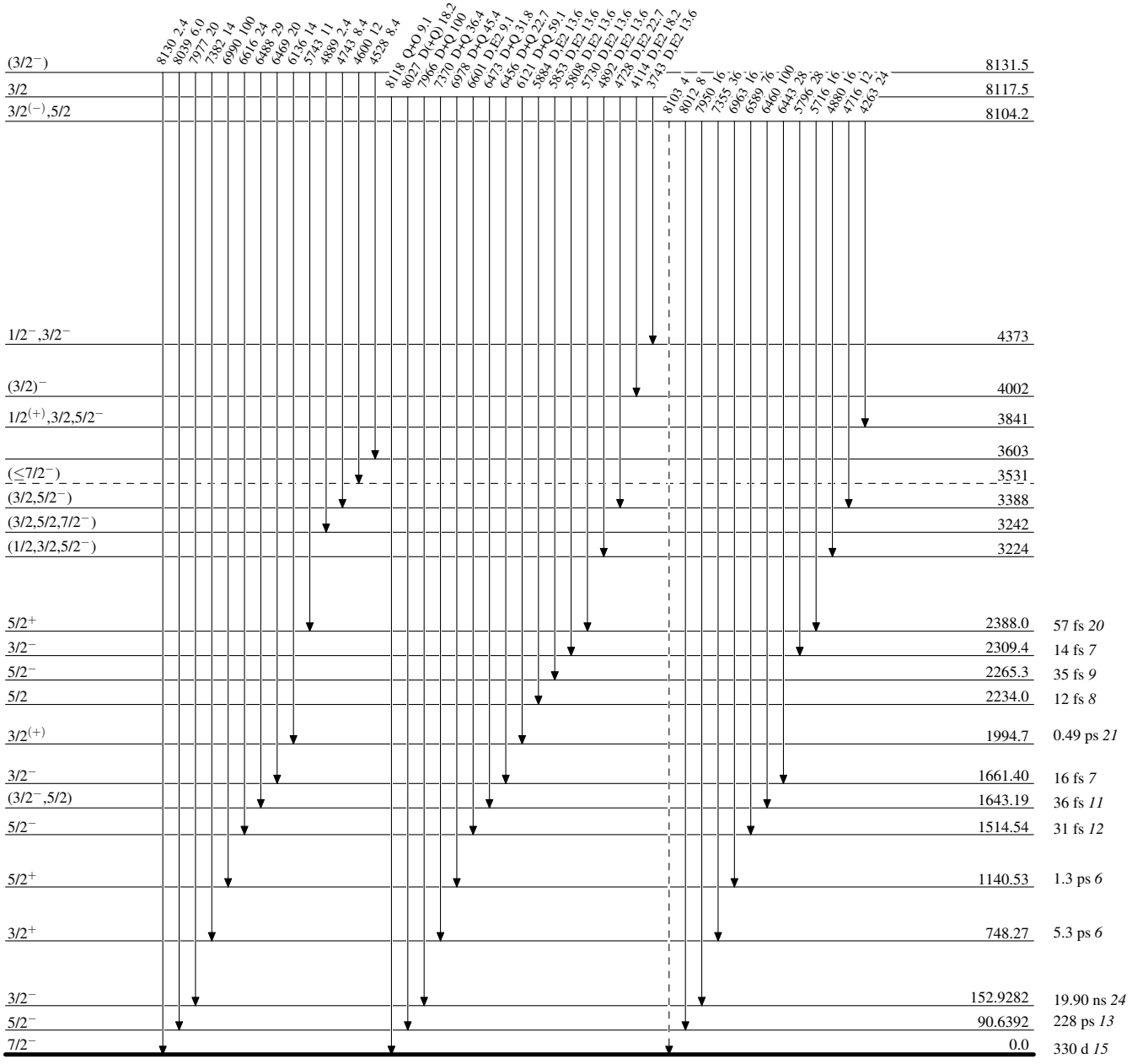
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

– – – – – – ► γ Decay (Uncertain)

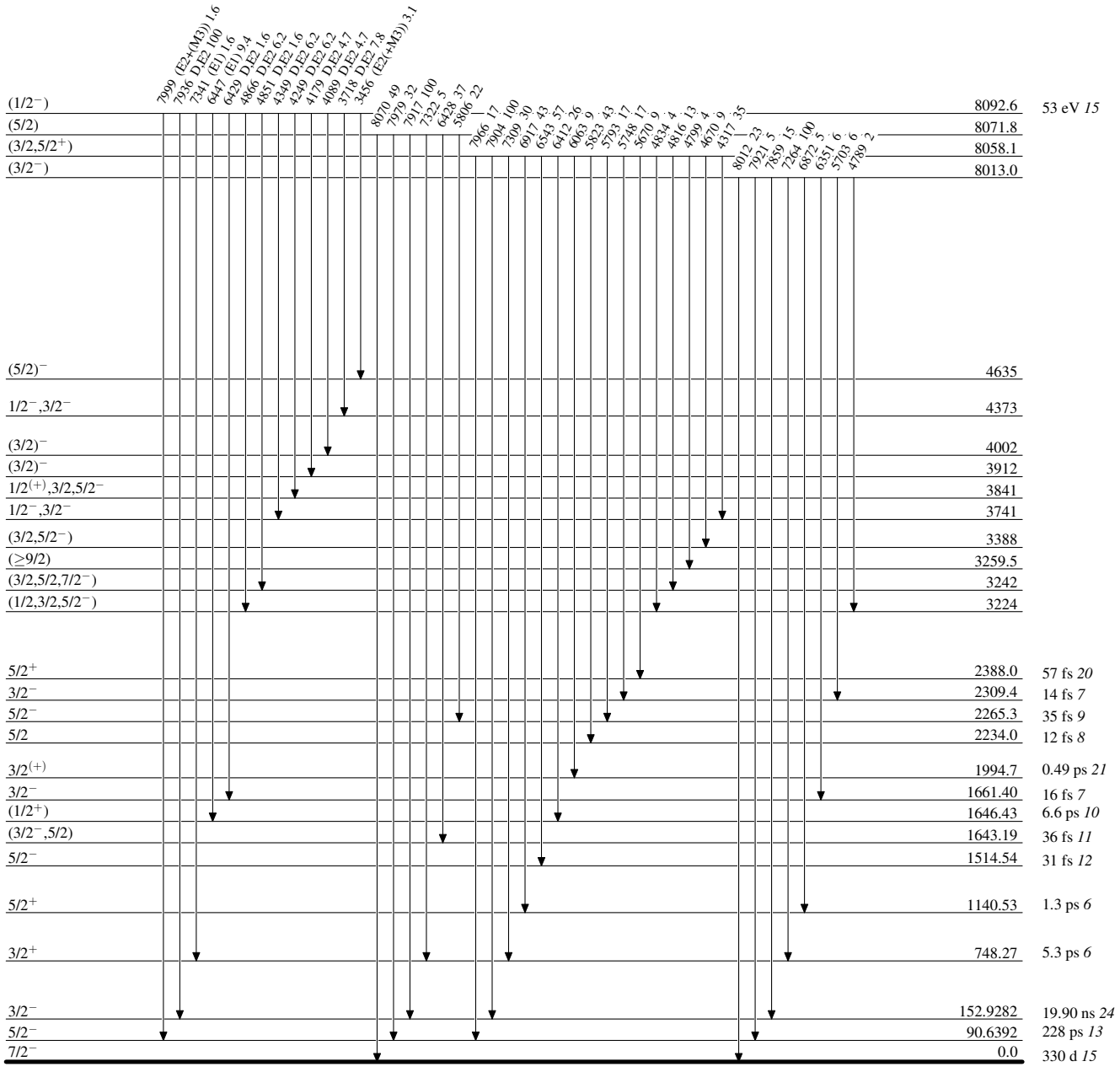


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

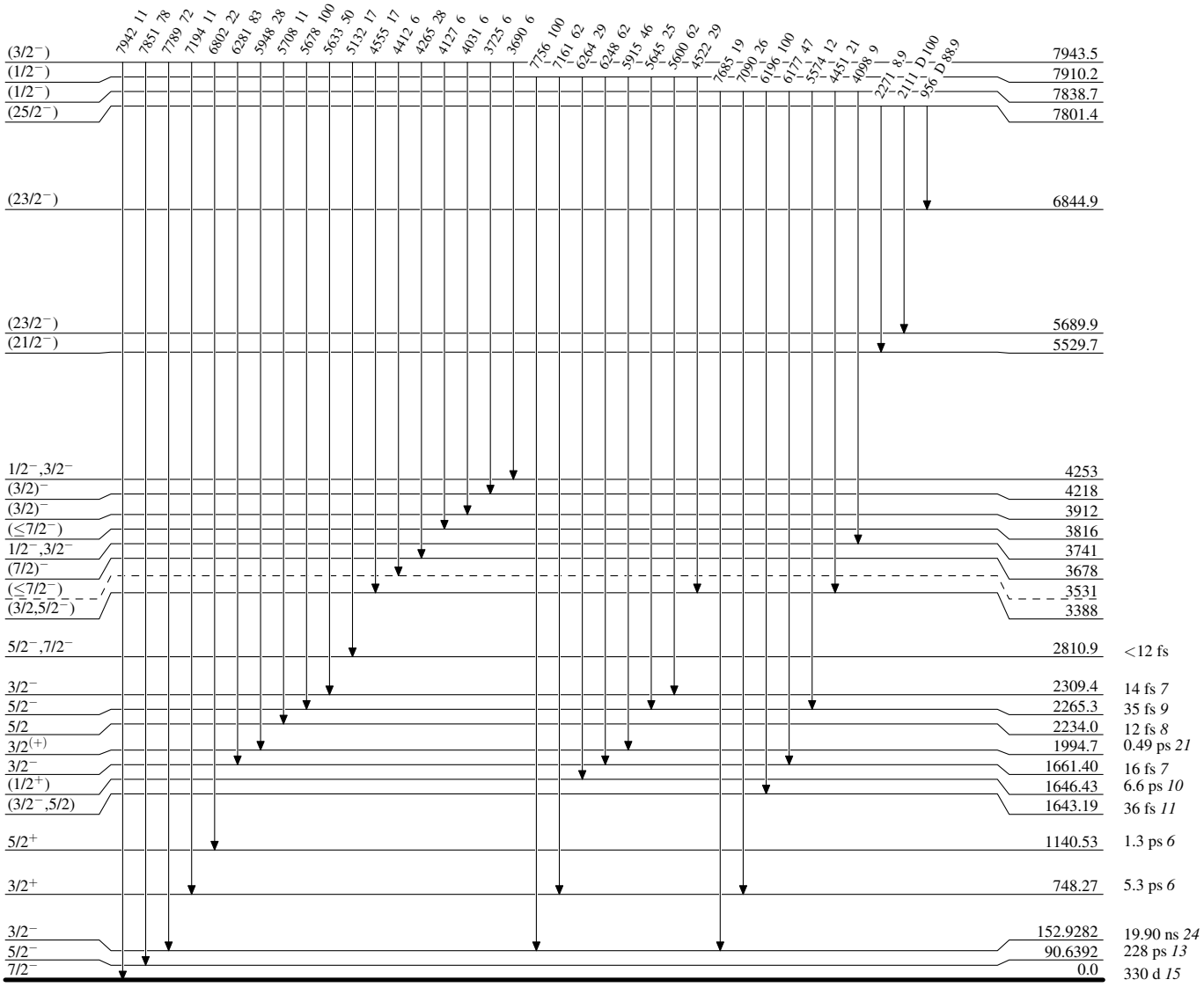


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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



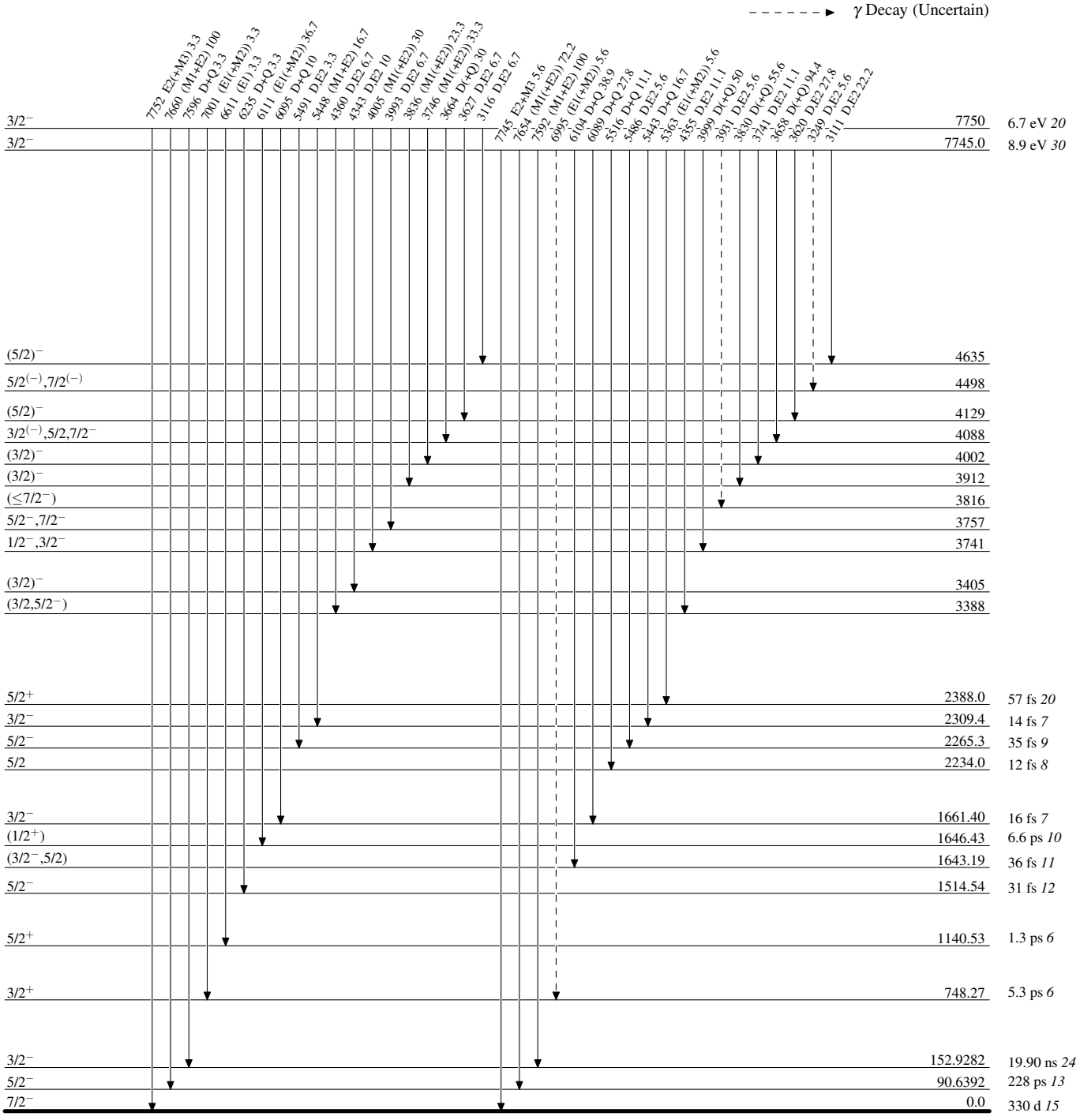
$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

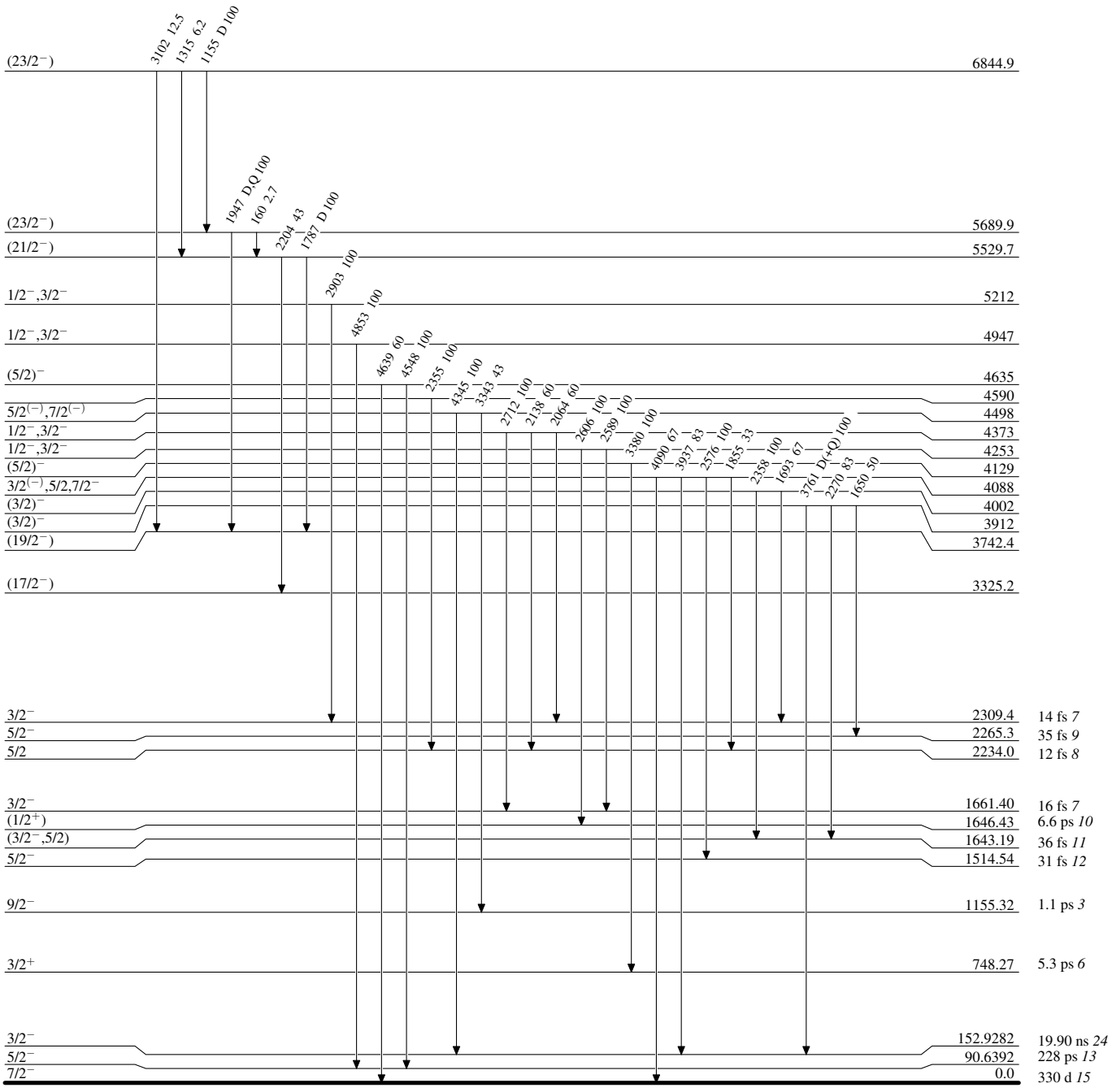


$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{49}_{23}V_{26}$

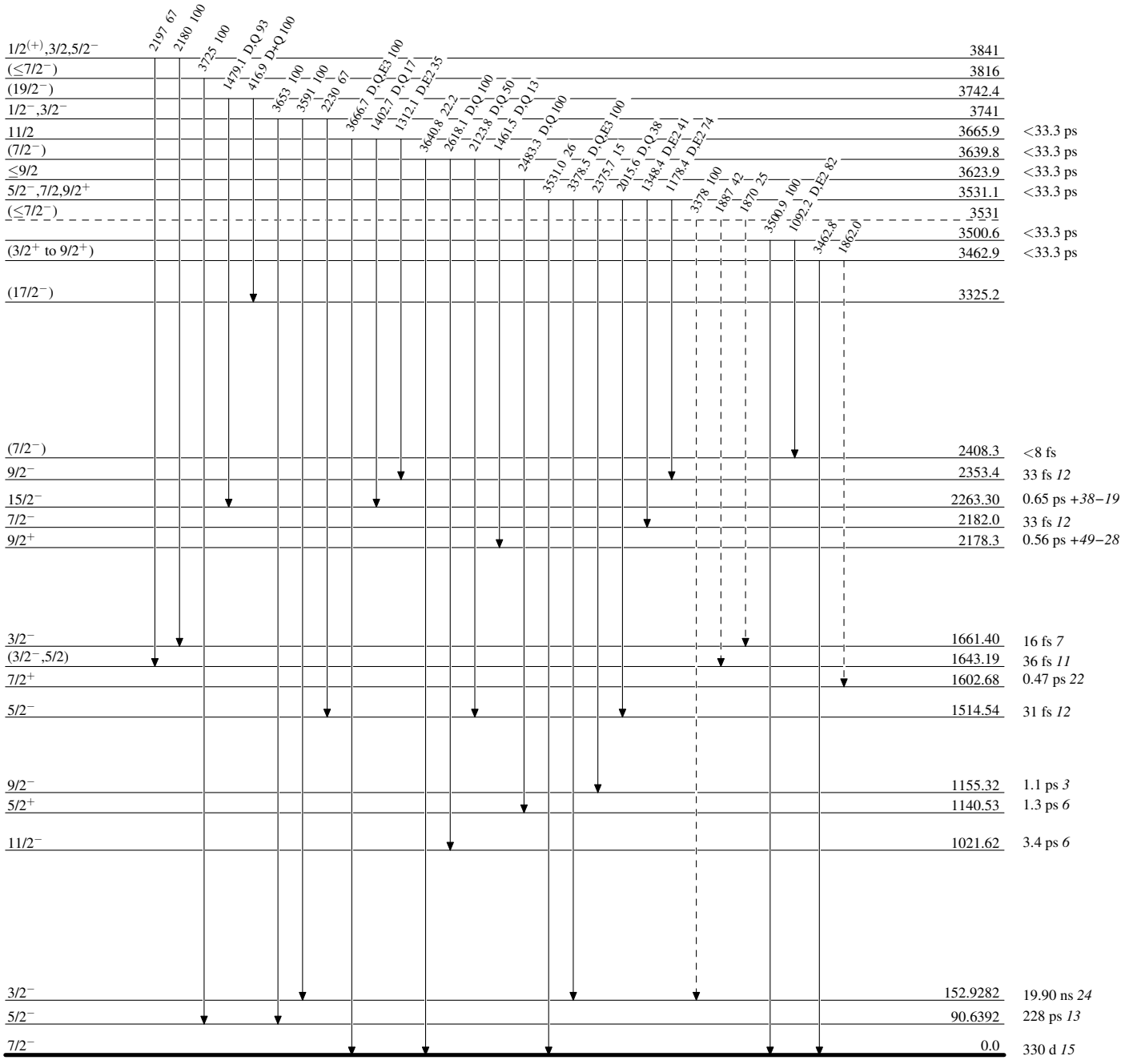
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)



$^{49}_{23}V_{26}$

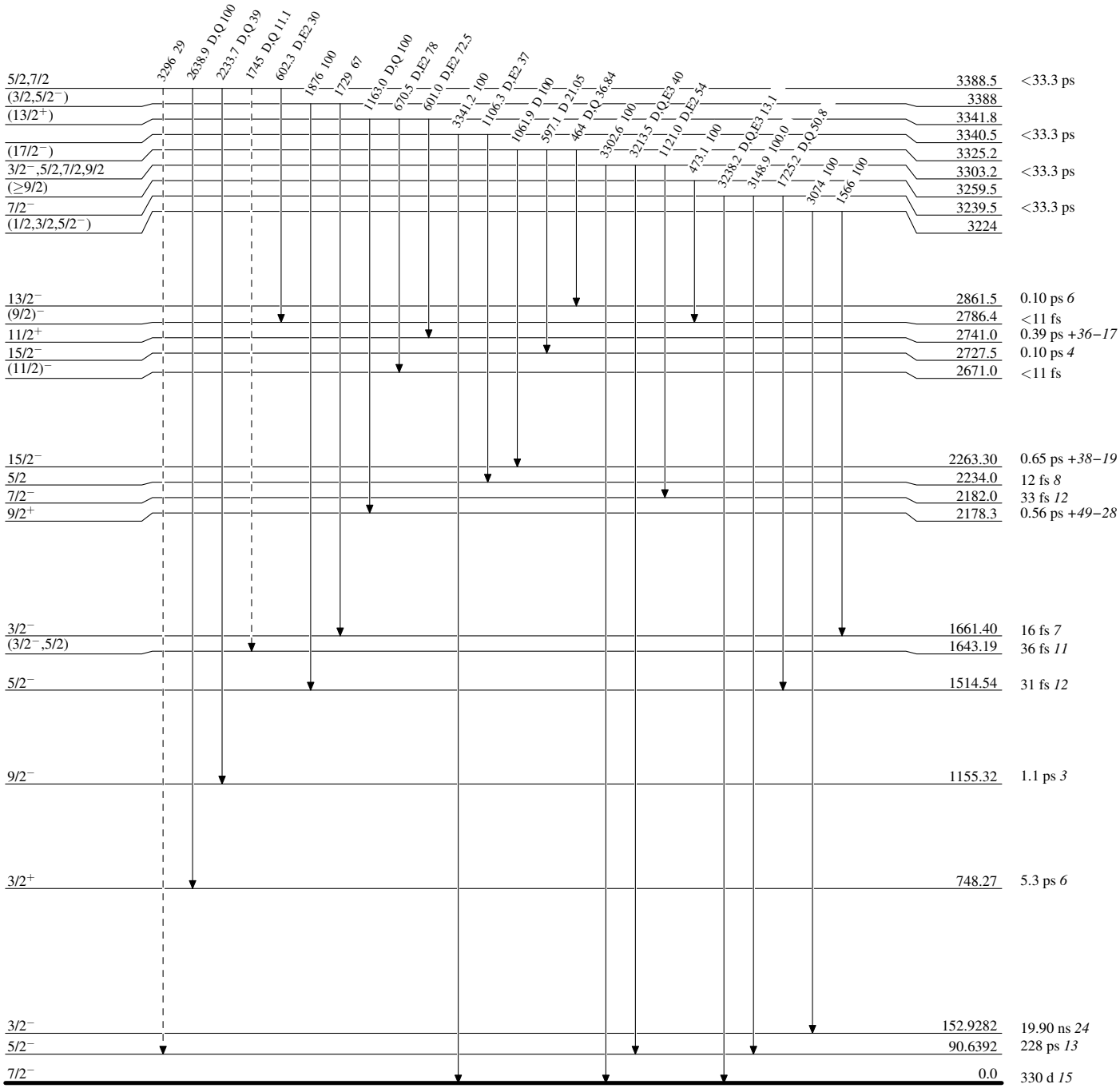
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

– – – – – – ► γ Decay (Uncertain)



$^{49}_{23}V_{26}$

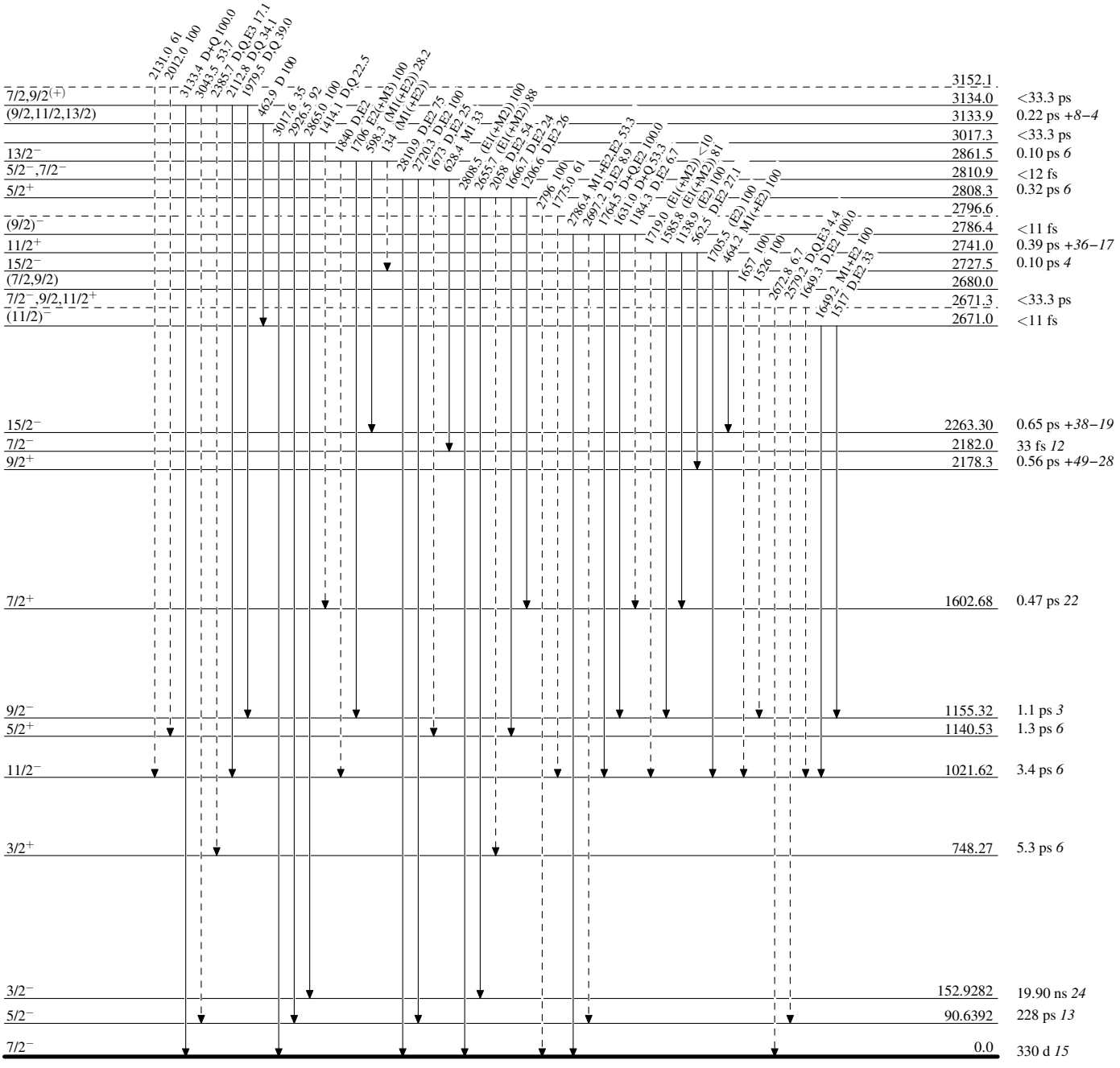
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

γ Decay (Uncertain)



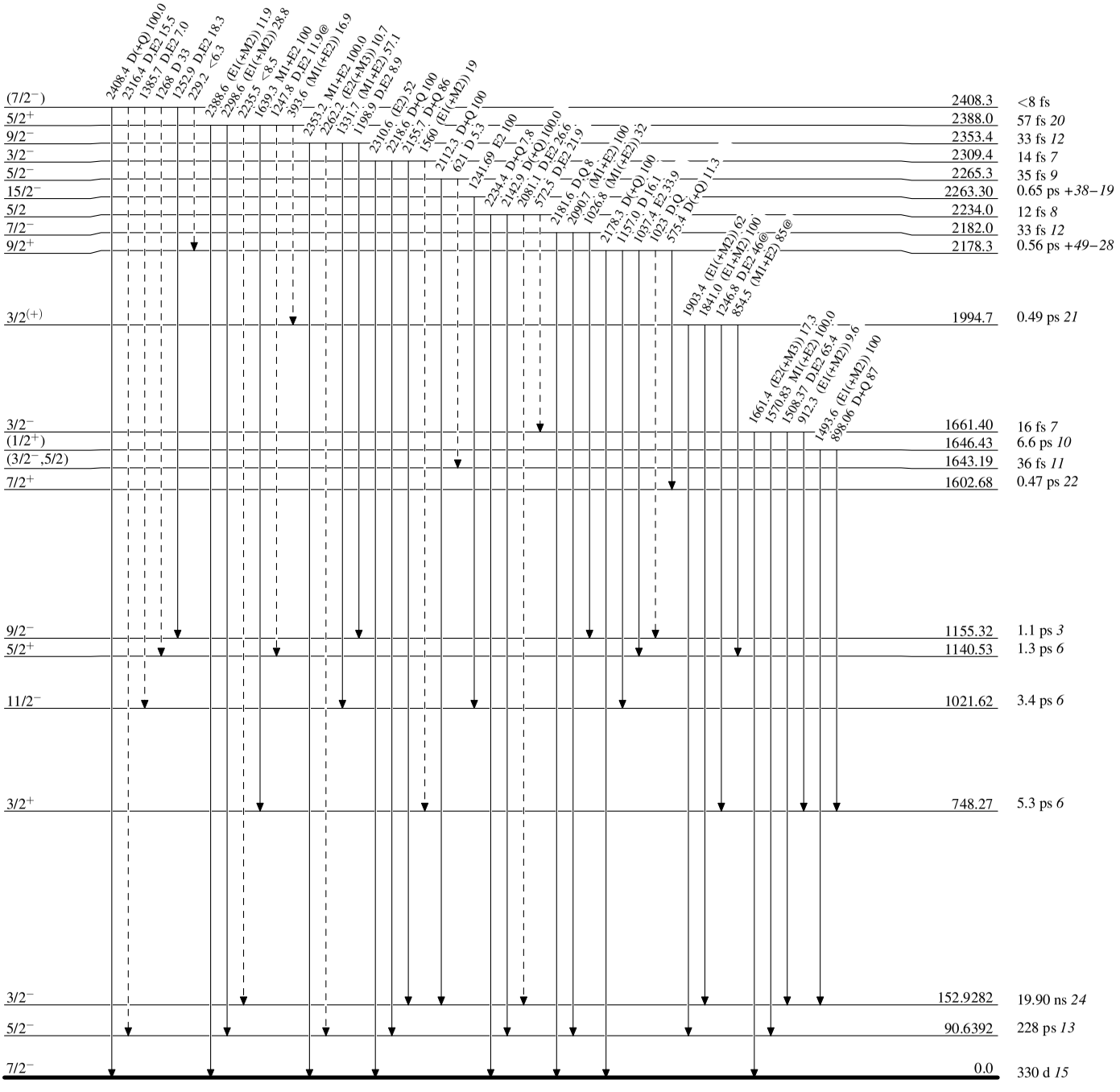
$^{49}_{23}V_{26}$

Adopted Levels, Gammas

Level Scheme (continued)

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

Legend: ------► γ Decay (Uncertain)



$^{49}_{23}V_{26}$

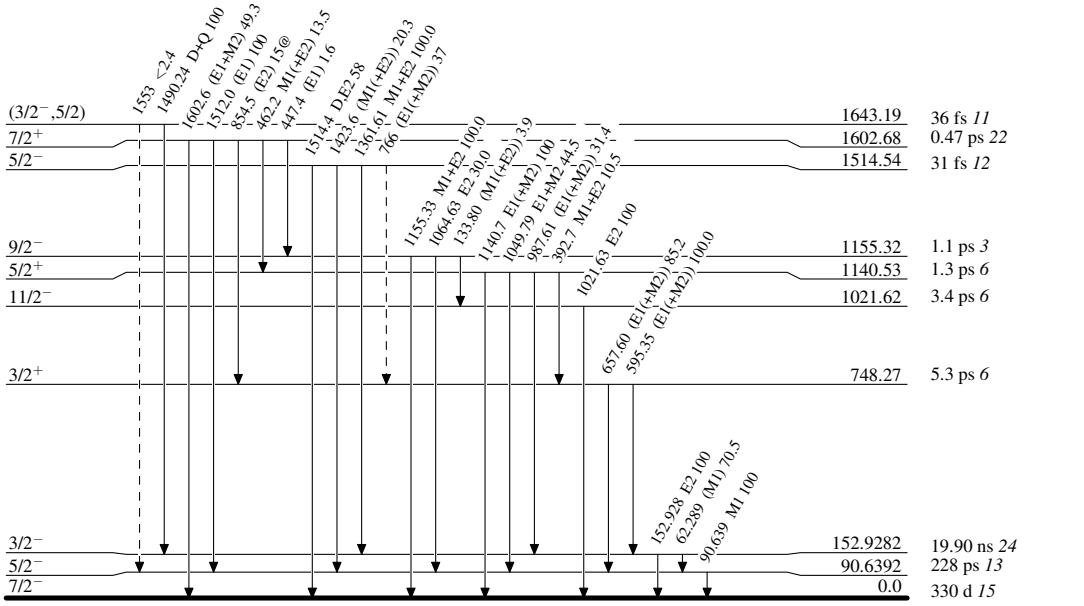
Adopted Levels, Gammas

Level Scheme (continued)

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

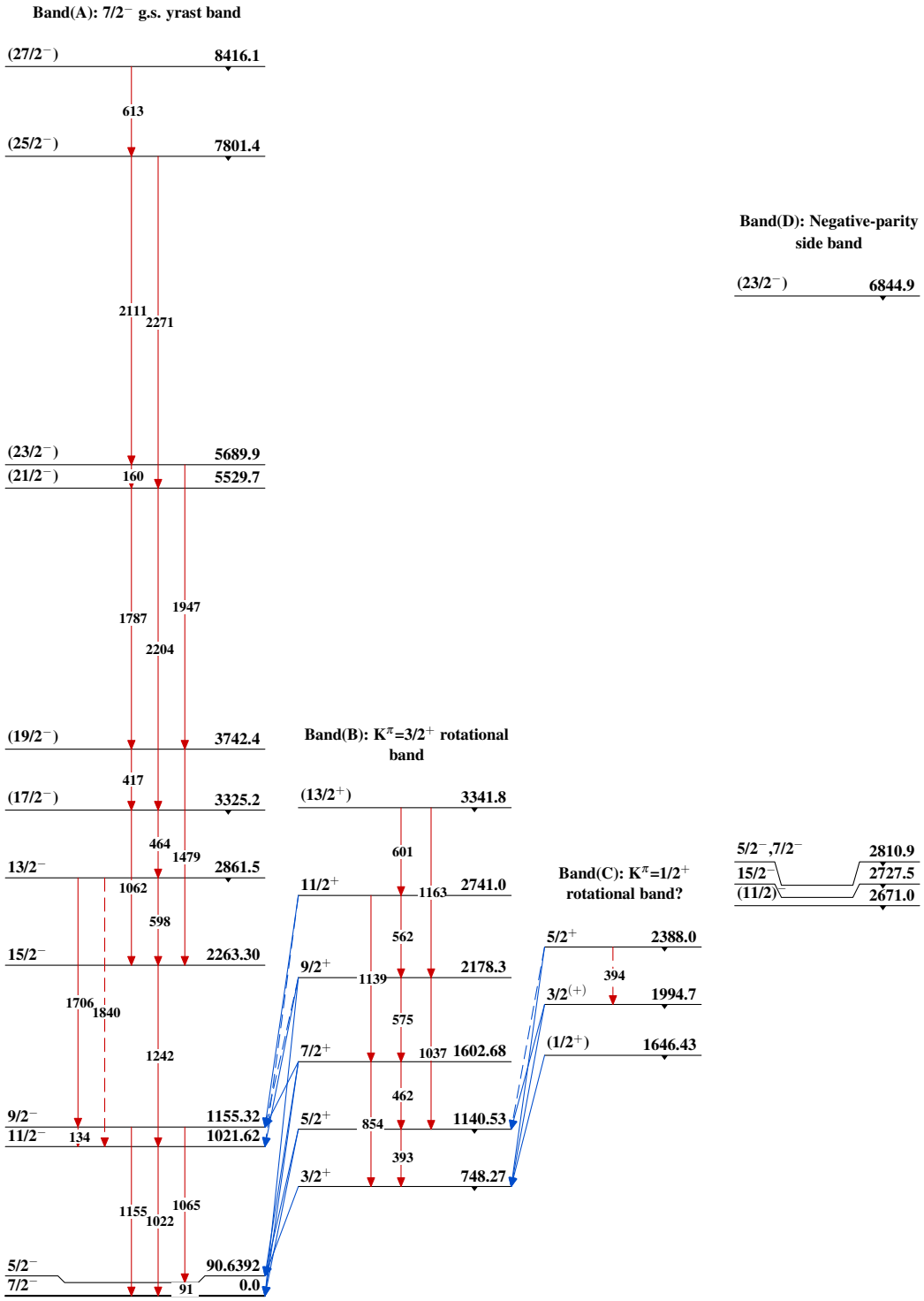
Legend

- - - - - - ► γ Decay (Uncertain)



$^{49}_{23}V_{26}$

Adopted Levels, Gammas



$^{49}_{23}V_{26}$