Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 158, 1 (2019)	16-May-2019

Q(β^-)=−2725 *7*; S(n)=10794 *6*; S(p)=5656 *4*; Q(α)=−4050 *4* 2017Wa10
S(2n)=19202 *6*, S(2p)=15392 *4* (2017Wa10).
Additional information 1.
2003Al12 (also 1995Al14): theoretical interpretation and calculations of level scheme based on U(6/12) supersymmetric model in vibrational model. Comparisons are also made with interacting boson-fermion model (IBFM) results.

^{73}As Levels

Cross Reference (XREF) Flags

A	^{73}Se ε decay (7.15 h)	E	^{72}Ge(p,γ)	I	^{73}Ge(p,nγ)
B	^{73}Se ε decay (39.8 min)	F	^{72}Ge(p,γ),(p,p),(p,p$'\gamma$) IAS	J	^{74}Se(d,^{3}He)
C	^{64}Ni(^{12}C,p2nγ)	G	^{72}Ge(^{3}He,d)	K	^{75}As(p,t)
D	^{71}Ga(α,2nγ)	H	^{73}Ge(p,n)		

E(level)[†]	J$^\pi$	T$_{1/2}$[‡]	XREF	Comments
0.0	3/2$^-$	80.30 d *6*	ABCDE GHIJK	%ε=100 J$^\pi$: L(p,t)=0 from 3/2$^-$ target. T$_{1/2}$: from 1972Em01. Other: 62 d *24* (2008Li25).
67.035[#] *9*	5/2$^-$	4.95 ns *7*	ABCDE GHIJ	μ=+1.63 *10* (1963Bo26,2014StZZ) Q=+0.356 *12* (1992Sc21,2016St14) J$^\pi$: L(^{3}He,d)=3, M1(+E2) γ to 3/2$^-$. T$_{1/2}$: γ(t) in ^{73}Se ε decay (7.15 h). μ: TDPAC (1963Bo26,1975Re06)). Q: TDPAC (1992Sc21).
84.32 *3*	(1/2)$^-$		B E GHIJ	J$^\pi$: L(d,^{3}He)=1; theoretical structure calculations by 2003Al12 and σ(p,nγ) support 1/2.
253.980 *18*	(1/2)$^-$		B DE G IJK	J$^\pi$: L(^{3}He,d)=1; 515.84γ E2 from 5/2$^-$; σ(p,t) and σ(p,nγ) also suggests 1/2.
393.422 *13*	3/2$^-$		B DE GHIJK	J$^\pi$: L(^{3}He,d)=1; L(p,t)=0(+2) from 3/2$^-$ target; σ(p,nγ) also supports 3/2.
427.902[&] *21*	9/2$^+$	5.7 μs *2*	A CDE GHIJ	%IT=100 μ=+5.234 *14* (1970Be23,1972ReZN,2014StZZ) J$^\pi$: L(^{3}He,d)=4, M2+E3 γ to 5/2$^-$. T$_{1/2}$: weighted average of 5.5 μs *3* from ^{73}Se ε decay (7.15 h), 5.7 μs *2* from ^{72}Ge(d,nγ) and ^{74}Ge(p,2nγ) (both included in (p,nγ) dataset), 6.0 μs *12* from (α,2nγ). μ: stroboscopic perturbed angular distribution (PAD) (1970Be23). Other: +5.157 *32* (1969Qu03,NMR).
510.054 *17*	(5/2)$^+$		AB DE GHIJ	J$^\pi$: L(d,^{3}He)=2; σ(p,nγ) suggests 5/2.
574.55 *3*	(1/2)$^-$		B DE hIjk	J$^\pi$: 320.58γ M1 to 1/2$^-$; σ(p,nγ) suggests 1/2.
577.894 *16*	5/2$^-$		BCDE GhIjk	J$^\pi$: L(^{3}He,d)=3; M1+E2 γ to 3/2$^-$; σ(p,nγ) also favors 5/2 but 7/2$^-$ in (^{12}C,p2nγ) is inconsistent.
628? *5*			H	
655.460 *19*	3/2$^-$		B DE G IJK	J$^\pi$: L(p,t)=0 from 3/2$^-$ target; σ(p,nγ) also supports 3/2.
673.9 *4*			E HI	XREF: E(?). J$^\pi$: possible γ to (5/2)$^+$.
715? *10*			G	
769.821 *15*	5/2$^-$		B E GHIJ	J$^\pi$: L(^{3}He,d)=3; 769.84γ M1(+E2) to 3/2$^-$; σ(p,nγ) also supports 5/2.
850.515 *20*	(5/2)$^-$		B E GHI	J$^\pi$: 850.50γ M1(+E2) to 3/2$^-$; σ(p,nγ) supports 5/2.
860.541[@] *14*	7/2$^-$		CDE GHIJK	J$^\pi$: L(p,t)=2 from 3/2$^-$ target; L(d,^{3}He)=3 from 0$^+$; 860.56γ E2 (ΔJ=2) to 3/2$^-$; σ(p,t) also supports 7/2.

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Adopted Levels, Gammas (continued)

^{73}As Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
886.11 *5*	$1/2^+$		E G IJ	Jπ: L(d,^{3}He)=L(^{3}He,d)=0 from 0^+; σ(p,nγ) also supports 1/2.
929.13[#] *16*	$(9/2^-)$		CD	Jπ: 862.0γ Q (ΔJ=2) to $5/2^-$; band assignment.
993.760 *12*	$(7/2)^-$	0.57 ps *+26−18*	A E HIJK	Jπ: L(p,t)=2 from $3/2^-$ target; σ(p,nγ) supports 7/2; but 3/2 from σ(p,t) is inconsistent.
1013.55 *5*	$(1/2^-)$		D I	Jπ: suggested by σ(p,nγ).
1037.13[&] *3*	$(13/2)^+$	8.3 ps *6*	A CDE HI	Jπ: 609.22γ E2 (ΔJ=2) to $9/2^+$; band assignment; σ(p,nγ) supports 13/2. E(level): 1037 level in (p,γ) with proposed $J^\pi=7/2^-$ may be a different level. $T_{1/2}$: from ^{58}Fe(^{18}O,2npγ) by recoil distance (included in (α,2nγ) dataset).
1077.71 *5*	$(3/2)^-$		B E GHIJ	E(level): doublet in (^{3}He,d) and probably also in (d,^{3}He). Jπ: L(^{3}He,d)=1+3 from 0^+ for a 1073 group and L(d,^{3}He)=1 from 0^+ for a 1081 group; σ(p,nγ) supports 3/2.
1086.97 *4*	$5/2^-$	0.28 ps *+28−12*	B E I	Jπ: 226.56γ M1(+E2) to $7/2^-$; 833.09γ to $1/2^-$ and RUL; σ(p,nγ) also supports 5/2.
1178.08 *7*	$(9/2^-)$		A CDE HI k	XREF: E(?). Jπ: 1110.91γ Q (ΔJ=2) to $5/2^-$; but $7/2^-$ suggested by σ(p,nγ).
1188.75 *10*	$(3/2^-)$		B E I k	Jπ: suggested by σ(p,nγ).
1216.3 *5*	$(3/2)^-$		E G J	Jπ: L(d,^{3}He)=L(^{3}He,d)=1; possible 356γ to $7/2^-$ supports $3/2^-$, but 789γ to $9/2^+$ disfavors both $1/2^-$ and $3/2^-$.
1217.95 *4*	$(3/2)^+$		I	Jπ: 331.92γ M1(+E2) to $1/2^+$, 707.89γ M1,E2 to $(5/2)^+$; σ(p,nγ) supports 3/2.
1221.283 *16*	$(7/2)^-$	0.35 ps *+10−8*	HI	Jπ: 643.38γ M1(+E2) to $5/2^-$; σ(p,nγ) supports 7/2.
1275.15 *7*	$(7/2)^+$		A E GHI	Jπ: 765.12γ M1+E2 to $(5/2)^+$, 847.52γ M1,E2 to $9/2^+$; σ(p,nγ) supports 7/2.
1293.10 *9*	$(11/2)^+$		A Cd hI	E(level): different from 1293.3 level from probable J values and absence of 784γ in ^{71}Ga(α,2nγ). High σ(p,n) in ^{73}Ge(p,nγ) confirms doublet. Jπ: 865.18γ M1,E2 to $9/2^+$, 256.20γ to $(13/2)^+$; σ(p,nγ) supports 11/2.
1293.35 *4*	$(7/2)^+$		A d hI	Jπ: 783.33γ M1,E2 to $(5/2)^+$, 865.18γ D to $9/2^+$; σ(p,nγ) support 7/2.
1299.35 *5*	$(1/2^-,3/2)$		B E g I	Jπ: 1232.34γ to $5/2^-$; σ(p,nγ) supports (1/2,3/2).
1302.20 *7*	$(5/2^-)$		B g I K	XREF: K(1307). Jπ: suggested by σ(p,nγ).
1324.193 *24*	$(5/2^+)$		E ghI	Jπ: σ(p,nγ) supports 5/2; L(^{3}He,d)=1+2 for a 1326 group.
1328.81 *9*	$(7/2)^+$	0.090 ps *21*	A ghI	Jπ: 900.87γ M1,E2 to $9/2^+$; σ(p,nγ) supports $7/2^+$; possible ε feeding from $9/2^+$. But L(^{3}He,d)=1+2 for a 1326 suggests two levels, one with $J^\pi=1/2^-,3/2^-$; the other with $J^\pi=3/2^+,5/2^+$.
1344.506 *22*	$(7/2)^-$		E HIJ	Jπ: L(d,^{3}He)=3; σ(p,nγ) supports 7/2.
1400.9? *10*			E	Jπ: possible γ to $9/2^+$.
1489.46 *20*		0.29 ps *+14−9*	E HI	XREF: E(?). Jπ: 979.4γ to $(5/2)^+$.
1544 *5*			E G	
1557.24 *9*	$(3/2^-,5/2,7/2^-)$		HI	Jπ: γ to $(7/2)^-$; possible γ to $(3/2)^-$.
1588.60 *22*	$(5/2)^-$		gHI	Jπ: L(^{3}He,d)=1+3 for 1590 doublet; 1333.8γ to $1/2^-$. The L=1 component in (^{3}He,d) most likely corresponds to the 1592 level.
1591.6 *8*	$(3/2)^-$		E g JK	Jπ: L(p,t)=0(+2) from $3/2^-$ target; L(d,^{3}He)=1.
1612.76 *17*	$5/2^-,7/2^-$		E HIJ	Jπ: L(d,^{3}He)=3.
1649.7 *3*	$(1/2,3/2,5/2^-)$	0.30 ps *+16−10*	HI	Jπ: 1565.3γ to $(1/2)^-$.
1658.18[@] *13*	$(11/2^-)$		CD	Jπ: 797.4γ Q (ΔJ=2) to $7/2^-$; band assignment.
1690 *5*			H	

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Adopted Levels, Gammas (continued)

^{73}As Levels (continued)

E(level)[†]	J^π	$T_{1/2}$[‡]	XREF	Comments
1706? *5*			H	
1715.7 *20*			E	
1755 *5*			H	
1761.52 *15*	(13/2$^+$)		CD	J^π: 468.4γ D (ΔJ=1) to (11/2)$^+$; 724.4γ possible ΔJ=0 to (13/2)$^+$.
1796.5 *3*			HI	J^π: possible γ to (1/2)$^-$.
1836			K	
1850.89 *16*	(9/2)$^+$	0.27 ps *+10−7*	A E GHI	J^π: L(^{3}He,d)=4; 813.4γ to (13/2)$^+$.
1860.8 *11*			E	
1876.74 *20*	(1/2 to 7/2$^-$)	0.065 ps *14*	HI	J^π: 1483.3γ to 3/2$^-$.
1903.6 *3*	(1/2$^-$ to 9/2$^-$)	0.26 ps *6*	HI	J^π: 1133.8γ to 5/2$^-$.
1910.12 *12*	(9/2$^+$,11/2)		A G	J^π: 1482.29γ to 9/2$^+$ and 872.56γ to (13/2)$^+$; possible ε feeding from 9/2$^+$.
1949.82[&] *20*	(17/2$^+$)		CD	J^π: 912.7γ Q(ΔJ=2) to (13/2)$^+$; band assignment.
1962.87 *20*	(3/2,5/2,7/2)	0.50 ps *+15−12*	HI	J^π: 1452.8γ to (5/2)$^+$; possible 873.8γ to 5/2$^-$.
1972.98 *11*	(1/2$^-$,3/2,5/2$^-$)		B g	XREF: g(1971). J^π: γs to 5/2$^-$ and (1/2)$^-$; possible ε feeding from 3/2$^-$. The 1971 *5* level in (^{3}He,d) with L=3 could correspond to 1972.98+1975.40+1977.54.
1975.40 *11*	(7/2,9/2)		A E g	XREF: g(1971). J^π: 1547.45γ to 9/2$^+$ and 700.0γ and 682.25γ to (7/2)$^+$, 5887 γ from (1/2$^-$,3/2,5/2$^-$); possible ε feeding from 9/2$^+$. The 1971 *5* level in (^{3}He,d) with L=3 could correspond to 1972.98+1975.40+1977.54.
1977.54 *20*	(1/2 to 7/2$^-$)	0.22 ps *6*	gHIj	XREF: g(1971)j(1981). J^π: 1584.1γ to 3/2$^-$; L(^{3}He,d)=3 for a level at 1971 *5*; L(d,^{3}He)=1 for 1981 *7* level.
1982.50 *13*	(1/2,3/2,5/2$^-$)		B j	XREF: j(1981). J^π: 1898.89γ to (1/2)$^-$; log *ft*=6.8 from 3/2$^-$. L(d,^{3}He)=1 for 1981 *7* level.
2023 *5*	1/2$^+$		G	J^π: L(^{3}He,d)=0.
2039.62[#] *12*	(13/2$^-$)		CD	E(level): two separate levels around this energy were proposed by 1977He08 in (α,2nγ) from their placements of 1002.6γ and 1110.4γ from different levels with J^π=(15/2$^+$) assigned to a second level. However, there is no strong evidence to support the existence of two levels and a recent study by 2015Ra20 in (^{12}C,p2nγ) reported that a 1002γ and a 1110γ were from the same level. J^π: 1110.4γ Q (ΔJ=2) to (9/2$^-$), 1002.6γ D (ΔJ=0) to (13/2)$^+$; band assignment in (^{12}C,p2nγ).
2096 *10*			G	
2125 *3*			E	
2136 *5*	1/2$^-$,3/2$^-$		G J	E(level): from (^{3}He,d). Other: 2135 *10* from (d,^{3}He). J^π: L(d,^{3}He)=1.
2180.66 *10*	(7/2,9/2$^+$)		A	J^π: γ's to 9/2$^+$, (5/2)$^+$ and (9/2$^-$); possible ε feeding from 9/2$^+$.
2211.58 *18*	(5/2)$^-$		B G	J^π: L(^{3}He,d)=3; γ's to 5/2$^-$ and (1/2)$^-$; possible ε feeding from 3/2$^-$.
2239 *5*			E G	
2311.61 *6*	(7/2,9/2$^+$)		A G	J^π: γ's to 9/2$^+$ and (5/2)$^+$; possible ε feeding from 9/2$^+$.
2377 *5*			G	
2394 *5*	3/2$^+$,5/2$^+$		G	J^π: L(^{3}He,d)=2.
2415.41 *22*			D	J^π: γ to (11/2)$^+$.
2437 *5*	3/2$^+$,5/2$^+$		G	J^π: L(^{3}He,d)=2.
2461 *5*			G	

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Adopted Levels, Gammas (continued)

^{73}As Levels (continued)

E(level)[†]	Jπ	XREF	Comments
2475.63[@] *17*	(15/2$^-$)	CD	Jπ: 817γ Q (ΔJ=2) to (11/2$^-$), 436.2γ D to (13/2$^-$); band assignment.
2482.82 *23*	(7/2,9/2$^+$)	A	Jπ: γ's to 9/2$^+$ and (5/2)$^+$; possible ε feeding from 9/2$^+$.
2484.77 *10*	(3/2$^-$)	B G	Jπ: γ's to (1/2)$^-$ and (5/2)$^+$; ε feeding from 3/2$^-$; L(^{3}He,d)=(1).
2545 *5*	3/2$^+$,5/2$^+$	G	Jπ: L(^{3}He,d)=2.
2564 *5*		G	
2584.09 *11*	(7/2,9/2$^-$)	A	Jπ: γ's to 9/2$^+$ and 5/2$^-$; ε feeding from 9/2$^+$.
2606 *5*	1/2$^+$	G	Jπ: L(^{3}He,d)=0.
2622.6 *10*		D	Jπ: γ to (13/2$^-$).
2633 *5*		G	
2703 *5*	1/2$^+$&(1/2,3/2)$^-$	G	Jπ: L(^{3}He,d)=0+1.
2730 *5*		G	
2744 *5*		G	
2823 *10*	$^+$	G	E(level): L(^{3}He,d)=2+4 for a doublet.
2848.15[#] *23*	(17/2$^-$)	CD	Jπ: 808.5γ Q (ΔJ=2) to (13/2$^-$); band assignment.
2903 *10*	3/2$^+$,5/2$^+$	G	Jπ: L(^{3}He,d)=2.
2931 *15*		G	
2965.1[&] *3*	(21/2$^+$)	CD	Jπ: 1015.2γ Q (ΔJ=2) to (17/2$^+$); band assignment.
3003 *15*		G	
3050.4[a] *3*	(19/2$^+$)	CD	Jπ: 1100.6γ D (ΔJ=1) to (17/2$^+$); band assignment.
3087 *15*		G	
3157 *15*	1/2$^+$	G	Jπ: L(^{3}He,d)=0.
3203 *15*		G	
3257 *15*	5/2$^-$,7/2$^-$	G	Jπ: L(^{3}He,d)=3.
3294.33 *24*		D	Jπ: γ to (15/2$^+$).
3372.4[@] *8*	(19/2$^-$)	C	Jπ: 897γ Q (ΔJ=2) to (15/2$^-$); band assignment.
3392 *15*	(1/2$^+$)	G	Jπ: L(^{3}He,d)=(0).
3490.6[b] *7*	(21/2$^+$)	C	Jπ: 1541γ Q (ΔJ=2) to (17/2$^+$); band assignment.
3532 *15*	($^-$)	G	E(level): L(^{3}He,d)=(1+3) for a doublet.
3610 *15*		G	
3666 *15*		G	
3724 *15*		G	
3751.2[#] *11*	(21/2$^-$)	C	Jπ: 903γ Q (ΔJ=2) to (17/2$^-$); band assignment.
3791 *15*		G	
3842.2[c] *11*	(19/2$^-$)	C	Jπ: 994γ D (ΔJ=1) to (17/2$^-$); band assignment.
3880 *15*		G	
3994 *15*		G	
4023.6[a] *7*	(23/2$^+$)	C	Jπ: 974γ Q to (19/2$^+$) and 1058γ D to (21/2$^+$); band assignment.
4082.9[&] *4*	(25/2)$^+$	CD	Jπ: 1117.8γ Q (ΔJ=2) to (21/2$^+$); band assignment.
4267 *15*		G	
4457.4[@] *13*	(23/2$^-$)	C	Jπ: 1085γ Q (ΔJ=2) to (19/2$^-$); band assignment.
4470 *15*		G	
4518 *15*		G	
4586.4[b] *7*	(25/2$^+$)	C	Jπ: 1621γ Q (ΔJ=2) to (21/2$^+$); band assignment.
4600 *15*		G	
4650 *15*	1/2$^+$	G	Jπ: L(^{3}He,d)=0.
4712 *15*	3/2$^+$,5/2$^+$	G	Jπ: L(^{3}He,d)=2.
4780 *15*		G	
4860 *15*		G	
4870.2[#] *15*	(25/2$^-$)	C	Jπ: 1119γ Q (ΔJ=2) to (21/2$^-$); band assignment.
4900 *15*	7/2$^+$,9/2$^+$	G	Jπ: L(^{3}He,d)=4.
4952 *15*	3/2$^+$,5/2$^+$	G	Jπ: L(^{3}He,d)=2.
4964.2[c] *15*	(23/2$^-$)	C	Jπ: 1122γ to (19/2$^-$); band assignment.
5010 *15*		G	

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Adopted Levels, Gammas (continued)

^{73}As Levels (continued)

E(level)[†]	Jπ	XREF	Comments
5070 *15*	$1/2^+$&$(3/2,5/2)^+$	G	E(level): L(^{3}He,d)=0+2.
5118.2 *15*		C	
5190 *15*	$3/2^+,5/2^+$	G	Jπ: L(^{3}He,d)=2.
5278 *15*	$3/2^+,5/2^+$	G	Jπ: L(^{3}He,d)=2.
5411.7[a] *12*	$(27/2^+)$	C	Jπ: 1388γ to $(23/2^+)$; band assignment.
5411.9[&] *11*	$(29/2^+)$	C	Jπ: 1329γ Q (ΔJ=2) to $(25/2^+)$; band assignment.
5686.4[@] *16*	$(27/2^-)$	C	Jπ: 1229γ Q (ΔJ=2) to $(23/2^-)$; band assignment.
5953.4[b] *13*	$(29/2^+)$	C	Jπ: 1367γ to $(25/2^+)$; band assignment.
6132.2[#] *18*	$(29/2^-)$	C	Jπ: 1262γ Q (ΔJ=2) to $(25/2^-)$; band assignment.
6311.2[c] *18*	$(27/2^-)$	C	Jπ: 1347γ to $(23/2^-)$; band assignment.
6908.9[&] *15*	$(33/2^+)$	C	Jπ: 1497γ Q (ΔJ=2) to $(29/2^+)$; band assignment.
7434.2[#] *21*	$(33/2^-)$	C	Jπ: 1302γ Q (ΔJ=2) to $(29/2^-)$; band assignment.
7861.1 *3*	(3/2,5/2)	E	Jπ: γ's to $(1/2)^-$, $5/2^-$ and (7/2,9/2).
8610.9[&] *18*	$(37/2^+)$	C	Jπ: 1702 to $(33/2^+)$; band assignment.
8788.2[#] *23*	$(37/2^-)$	C	Jπ: 1354 to $(33/2^-)$; band assignment.
8994	$(5/2)^+$	F	E(level): other: a doublet at 8890 from (^{3}He,d) is claimed to be the possible analog of g.s. in ^{73}Ge. See (^{3}He,d) for additional levels, which are ≈80 keV lower than the corresponding IAS reported in ^{72}Ge(p,p′), ^{72}Ge(p,γ) and are not adopted here. Jπ: L(p,p′)=2; IAS of E=13, $5/2^+$ in ^{73}Ge.
9045		F	Jπ: IAS of E=65, $3/2^-$ in ^{73}Ge.
9346	$(3/2)^-$	F	Jπ: L(p,p′)=1; IAS of E=364, $3/2^-$ in ^{73}Ge.
9375		F	
9489		F	
9543		F	
9645		F	
9696		F	
9774		F	
9829		F	
9868		F	
9898		F	
10021	$(3/2)^-$	F	Jπ: L(p,p′)=1; IAS of 1043, $3/2^-$ in ^{73}Ge.
10095		F	
10144		F	
10213		F	
10272		F	
10588	$1/2^+$	F	Jπ: L(p,p′)=0; IAS of 1599 in ^{73}Ge.
10617	$(5/2)^+$	F	Jπ: L(p,p′)=2; IAS of 1623, $5/2^+$ in ^{73}Ge.
10686	$1/2^+$	F	Jπ: L(p,p′)=0; IAS of 1742 in ^{73}Ge.

[†] From least-squares fit to Eγ data.

[‡] From DSAM in (p,nγ), unless otherwise stated.

[#] Band(A): Favored band based on $5/2^-,\alpha=+1/2$. At low spins, configuration=$\pi(2p_{3/2}1f_{5/2}2p_{1/2})^5$. First band crossing at $\hbar\omega\approx0.45$ MeV due to pair of $g_{9/2}$ neutrons, second possible band crossing at $\hbar\omega\approx0.6$ MeV due to a pair of $g_{9/2}$ protons; 3qp configuration after first crossing and 5qp configuration after second band crossing.

[@] Band(a): Unfavored band based on $7/2^-,\alpha=-1/2$. At low spins, configuration=$\pi(2p_{3/2}1f_{5/2}2p_{1/2})^5$. First band crossing at $\hbar\omega\approx0.45$ MeV due to a pair of $g_{9/2}$ neutrons, 3qp configuration after first crossing.

[&] Band(B): Band built on $\pi g_{9/2},\alpha=+1/2$. Decoupled (favored) band. At low spins, configuration is $\pi g_{9/2}$, while at higher spins, configuration=$\pi g_{9/2}\otimes\nu g^2_{9/2}$. Unfavored partner of this band is not seen.

[a] Band(C): Band based on $(19/2^+)$.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{73}As Levels (continued)

[b] Band(c): Band based on $(21/2^+)$.
[c] Band(D): Band based on $(19/2^-)$.

Adopted Levels, Gammas (continued)

γ(^{73}As)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ	α[#]	Comments
67.035	5/2$^-$	67.030 *10*	100	0.0	3/2$^-$	M1(+E2)	−0.001 *15*	0.272	B(M1)(W.u.)=0.0116 *2* α(K)=0.241 *4*; α(L)=0.0264 *4*; α(M)=0.00404 *6* α(N)=0.000304 *5* E_γ: others: 67.07 *10* from ^{73}Se ε decay (7.15 h), 67.07 *10* from. Additional information 2.
84.32	(1/2)$^-$	84.18 *18*	100	0.0	3/2$^-$	(M1)		0.1443	Mult.,δ: from ce and γγ(θ) data in ^{73}Se ε decay (7.15 h). α(K)=0.1281 *20*; α(L)=0.01395 *22*; α(M)=0.00213 *4* α(N)=0.0001605 *25* E_γ: unweighted average of 84.0 *1* from ^{73}Se ε decay (39.8 m) and 84.36 *4* from ^{73}Ge(p,nγ).
253.980	(1/2)$^-$	169.69 *6*	2.86 *24*	84.32	(1/2)$^-$	[M1]		0.0220	Mult.: from ce data in ^{73}Se ε decay (39.8 m). α(K)=0.0196 *3*; α(L)=0.00209 *3*; α(M)=0.000319 *5* α(N)=2.42×10^{-5} *4* E_γ: weighted average of 169.72 *6* from ^{73}Se ε decay (39.8 m) and 169.64 *8* from ^{73}Ge(p,nγ). I_γ: weighted average of 2.85 *24* from ^{73}Se ε decay (39.8 m) and 2.9 *5* from ^{73}Ge(p,nγ).
		253.94 *12*	100 *1*	0.0	3/2$^-$	M1+E2	0.33 *6*	0.0096 *6*	α(K)=0.0085 *6*; α(L)=0.00091 *6*; α(M)=0.000139 *9* α(N)=1.04×10^{-5} *7* E_γ: unweighted average of 253.70 *7* from ^{73}Se ε decay (39.8 m), 254.1 *2* from ^{71}Ga(α,2nγ), and 254.02 *2* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Mult.,δ: from ce data in ^{73}Se ε decay (39.8 m). Other: δ=0.22 *8* from ce data in (p,nγ). Value from ^{73}Se ε decay is preferred as level is strongly populated in this decay.
393.422	3/2$^-$	139.45 *4*	5.2 *17*	253.980	(1/2)$^-$	M1+E2	0.35 *10*	0.058 *12*	α(K)=0.051 *10*; α(L)=0.0058 *13*; α(M)=0.00088 *19* α(N)=6.4×10^{-5} *13* E_γ: weighted average of 139.47 *8* from ^{73}Se ε decay (39.8 m) and 139.44 *4* from ^{73}Ge(p,nγ). I_γ: unweighted average of 6.99 *20* from ^{73}Se ε decay (39.8 m) and 3.5 *14* from ^{73}Ge(p,nγ).
		309.10 *5*	10.16 *19*	84.32	(1/2)$^-$	M1+E2	1.2 *4*	0.0094 *16*	Mult.,δ: from ce data in ^{73}Se ε decay (39.8 m). α(K)=0.0083 *14*; α(L)=0.00090 *16*; α(M)=0.000137 *23* α(N)=1.02×10^{-5} *17* E_γ: other: 309.3 *4* from ^{73}Se ε decay (39.8 m). I_γ: weighted average of 10.14 *19* from ^{73}Se ε decay (39.8 m) and 11.1 *12* from ^{73}Ge(p,nγ). δ: from ce data in ^{73}Se ε decay (39.8 m). Other: <0.55 from ce data in (p,nγ).

$^{73}_{33}As_{40}$-7

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	δ	α[#]	Comments
393.422	3/2$^-$	326.4[&]	<0.6	67.035	5/2$^-$				
		393.42 *2*	100.0 *10*	0.0	3/2$^-$	M1+E2	1.0 *3*	0.0041 *5*	α(K)=0.0037 *5*; α(L)=0.00039 *5*; α(M)=5.9×10^{-5} *8* α(N)=4.5×10^{-6} *6* E_γ: weighted average of 393.43 *7* from ^{73}Se ε decay (39.8 m) and 393.42 *2* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 100 *11* from (p,nγ). δ: from ce data in ^{73}Se ε decay. Other: <0.45 from ce data in (p,nγ).
427.902	9/2$^+$	360.86 *2*	100	67.035	5/2$^-$	M2+E3	−0.035 *10*	0.01315	B(M2)(W.u.)=0.0502 *18*; B(E3)(W.u.)=1.0 *+7–5* α(K)=0.01165 *17*; α(L)=0.001286 *18*; α(M)=0.000197 *3* α(N)=1.486×10^{-5} *21* E_γ: others: 361.2 *3* from ^{73}Se ε decay (7.15 h) and 361.1 *2* from ^{71}Ga(α,2nγ). Mult.,δ: from ^{73}Se ε decay (7.15 h). Other: δ<0.15 from ce data in (p,nγ).
		428.3 *3*	0.080 *15*	0.0	3/2$^-$	[E3]		0.01353	B(E3)(W.u.)=0.20 *5* α(K)=0.01191 *17*; α(L)=0.001392 *20*; α(M)=0.000212 *3* α(N)=1.533×10^{-5} *22* E_γ,I_γ: from ^{73}Se ε decay (7.15 h) only.
510.054	(5/2)$^+$	116.59 *14*	2.4 *5*	393.422	3/2$^-$				
		443.04 *2*	19.1 *11*	67.035	5/2$^-$	E1		1.04×10^{-3}	α(K)=0.000926 *13*; α(L)=9.55×10^{-5} *14*; α(M)=1.454×10^{-5} *21* α(N)=1.104×10^{-6} *16* E_γ: others: 442.3 *3* from ^{73}Se ε decay (7.15 h) and 442.3 *4* from ^{73}Se ε decay (39.8 m). I_γ: weighted average of 19.0 *11* from ^{73}Se ε decay (7.15 h), and 19.5 *19* from ^{73}Ge(p,nγ). Mult.: from ce data in (p,nγ).
		510.03 *10*	100 *3*	0.0	3/2$^-$				I_γ: from ^{73}Se ε decay (7.15 h). Other: 100 *14* from ^{73}Ge(p,nγ), ≈100 from ^{73}Se ε decay (39.8 m).
574.55	(1/2)$^-$	181.13 *4*	55.9 *19*	393.422	3/2$^-$	M1+E2	0.40 *8*	0.028 *4*	α(K)=0.025 *3*; α(L)=0.0027 *4*; α(M)=0.00042 *6* α(N)=3.1×10^{-5} *4* E_γ: weighted average of 181.06 *7* from ^{73}Se ε decay (39.8 m) and 181.15 *4* from ^{73}Ge(p,nγ). I_γ: weighted average of 56.1 *12* from ^{73}Se ε decay (39.8 m) and 32 *15* from ^{73}Ge(p,nγ). Mult.,δ: from ce data in ^{73}Se ε decay (39.8 m). Other: ce data in (p,nγ) gives M1 or E1(+M2) with δ<0.24.
		320.58 *3*	100.0 *12*	253.980	(1/2)$^-$	M1		0.00444	α(K)=0.00396 *6*; α(L)=0.000416 *6*; α(M)=6.34×10^{-5} *9* α(N)=4.83×10^{-6} *7*

$^{73}_{33}As_{40}$-8

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult. [‡]	δ	α [#]	Comments
									E_γ: weighted average of 320.53 *8* from ^{73}Se ε decay (39.8 m) and 320.59 *3* from ^{73}Ge(p,nγ).
									I_γ: from ^{73}Se ε decay (39.8 m). Other: 100 *10* from ^{73}Ge(p,nγ).
									Mult.: from ce data in ^{73}Se ε decay (39.8 m) and (p,nγ).
574.55	(1/2)$^-$	490.23 *12*	16.2 *4*	84.32	(1/2)$^-$				E_γ: weighted average of 490.24 *17* from ^{73}Se ε decay (39.8 m) and 490.23 *12* from ^{73}Ge(p,nγ).
									I_γ: from ^{73}Se ε decay (39.8 m). Other: 10 *3* from ^{73}Ge(p,nγ).
577.894	5/2$^-$	184.44 *20*	1.0 *5*	393.422	3/2$^-$				
		323.95 *10*	1.4 *7*	253.980	(1/2)$^-$				
		493.5[&]	<0.6	84.32	(1/2)$^-$				
		510.86 *10*	71 *20*	67.035	5/2$^-$				I_γ: 216 *36* is discrepant in (^{12}C,p2nγ).
		577.89 *2*	100 *12*	0.0	3/2$^-$	M1+E2	+0.5 *+5−2*	0.00123 *16*	α(K)=0.00109 *14*; α(L)=0.000114 *16*; α(M)=1.74×10^{-5} *24* α(N)=1.32×10^{-6} *18*
									E_γ,I_γ: others: 577.63 *27* from ^{73}Se ε decay (39.8 m), 577.4 *2* from (α,2nγ).
									Mult.: from γ(θ) and ce data in (p,nγ). Other: (E2) from ce data in ^{73}Se ε decay (39.8 m).
									δ: from γ(θ) in (p,nγ).
655.460	3/2$^-$	77.6[&]	<7	577.894	5/2$^-$				
		262.05 *3*	13.4 *3*	393.422	3/2$^-$	M1+E2	0.6 *2*	0.0113 *20*	α(K)=0.0100 *17*; α(L)=0.00109 *20*; α(M)=0.00017 *3* α(N)=1.23×10^{-5} *21*
									E_γ: weighted average of 262.01 *7* from ^{73}Se ε decay (39.8 m) and 262.06 *3* from ^{73}Ge(p,nγ).
									I_γ: from ^{73}Se ε decay (39.8 m). Other: 10 *4* from ^{73}Ge(p,nγ).
									Mult.,δ: from ce data in ^{73}Se ε decay (39.8 m). Other: δ<0.6 from ce data in (p,nγ).
		401.47 *2*	100.0 *10*	253.980	(1/2)$^-$	M1+E2	1.0 *3*	0.0039 *5*	α(K)=0.0034 *4*; α(L)=0.00037 *5*; α(M)=5.6×10^{-5} *7* α(N)=4.2×10^{-6} *5*
									E_γ: weighted average of 401.47 *7* from ^{73}Se ε decay (39.8 m), 401.3 *2* from ^{71}Ga(α,2nγ), and 401.47 *2* from ^{73}Ge(p,nγ).
									I_γ: from ^{73}Se ε decay (39.8 m). Others: 100 *8* from ^{71}Ga(α,2nγ) and 100 *10* from ^{73}Ge(p,nγ).
									Mult.,δ: from ce data in ^{73}Se ε decay (39.8 m). Other: δ<0.7 from ce data in (p,nγ).
		571.08 *6*	19.4 *6*	84.32	(1/2)$^-$				E_γ: weighted average of 570.96 *27* from ^{73}Se ε decay (39.8 m) and 571.09 *6* from ^{73}Ge(p,nγ).
									I_γ: weighted average of 19.4 *6* from ^{73}Se ε decay (39.8 m) and 20 *4* from ^{73}Ge(p,nγ).
		588.34 *15*	7.1 *4*	67.035	5/2$^-$				E_γ: weighted average of 588.28 *17* from ^{73}Se ε decay (39.8 m) and 588.39 *15* from ^{73}Ge(p,nγ).

$^{73}_{33}As_{40}$-9

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.‡	δ	α#	Comments
655.460	3/2−	655.42 *11*	9.51 *13*	0.0	3/2−				I_γ: weighted average of 7.0 *4* from ^{73}Se ε decay (39.8 m) and 8.2 *18* from ^{73}Ge(p,nγ). E_γ: weighted average of 655.30 *14* from ^{73}Se ε decay (39.8 m) and 655.50 *11* from ^{73}Ge(p,nγ). I_γ: weighted average of 9.5 *1* from ^{73}Se ε decay (39.8 m) and 10 *3* from ^{73}Ge(p,nγ).
673.9		164&	100	510.054	(5/2)+				
769.821	5/2−	191.92 *15*	1.7 *11*	577.894	5/2−				
		376.42 *4*	9.4 *13*	393.422	3/2−				
		515.84 *3*	16.7 *19*	253.980	(1/2)−	E2		0.00232	α(K)=0.00206 *3*; α(L)=0.000219 *3*; α(M)=3.33×10^{-5} *5* α(N)=2.50×10^{-6} *4* Mult.: from ce data in (p,nγ).
		685.5&	<1	84.32	(1/2)−				
		702.77 *2*	60.9 *9*	67.035	5/2−	D+Q			E_γ: other: 702.58 *23* from ^{73}Se ε decay (39.8 m). I_γ: weighted average of 60.9 *9* from ^{73}Se ε decay (39.8 m) and 59 *6* from ^{73}Ge(p,nγ). Mult.: from γ(θ) in (p,nγ) with δ=−0.25 *+44−56* or +1.2<δ<−5.7.
		769.72 *13*	100.0 *22*	0.0	3/2−	M1(+E2)	<2.0	0.00065 *6*	α(K)=0.00058 *6*; α(L)=6.1×10^{-5} *6*; α(M)=9.2×10^{-6} *9* α(N)=7.0×10^{-7} *7* E_γ: unweighted average of 769.59 *10* from ^{73}Se ε decay (39.8 m) and 769.85 *2* from ^{73}Ge(p,nγ). Mult.,δ: from ce data in (p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 100 *10* from ^{73}Ge(p,nγ).
850.515	(5/2)−	195.07 *18*	1.4 *8*	655.460	3/2−				
		457.04 *12*	2.1 *3*	393.422	3/2−				
		596.57 *12*	1.7 *10*	253.980	(1/2)−				
		850.51 *2*	100 *10*	0.0	3/2−	M1+E2	+0.19 *+19−17*	4.86×10^{-4} *11*	α(K)=0.000434 *10*; α(L)=4.47×10^{-5} *11*; α(M)=6.82×10^{-6} *16* α(N)=5.21×10^{-7} *12* E_γ: others: 850.17 *18* from ^{73}Se ε decay (39.8 m). Mult.,δ: from γ(θ) and ce data in (p,nγ).
860.541	7/2−	282.66 *9*	0.69 *14*	577.894	5/2−				
		467.15 *5*	4.6 *5*	393.422	3/2−				
		793.47 *2*	65 *5*	67.035	5/2−	M1+E2	+0.21 *+15−18*	5.65×10^{-4} *12*	α(K)=0.000504 *11*; α(L)=5.20×10^{-5} *12*; α(M)=7.93×10^{-6} *18* α(N)=6.06×10^{-7} *13*

$^{73}_{33}As_{40}$-10

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	δ	α[#]	Comments
									E_γ: others: 794.0 *2* from ^{71}Ga(α,2nγ). I_γ: weighted average of 71 *8* from ^{64}Ni(^{12}C,p2nγ) and 62 *5* from ^{73}Ge(p,nγ). Other: 17 *2* from ^{71}Ga(α,2nγ), Mult.: from γ(θ) and ce data in (p,nγ), γ(DCO) in (^{12}C,p2nγ). δ: or +3.7<δ<−1.2, from γ(θ) in (p,nγ).
860.541	7/2$^-$	860.56 *2*	100 *9*	0.0	3/2$^-$	E2		5.57×10^{-4}	α(K)=0.000496 *7*; α(L)=5.17×10^{-5} *8*; α(M)=7.88×10^{-6} *11* α(N)=5.98×10^{-7} *9* E_γ: other: 861.1 *2* from ^{71}Ga(α,2nγ). I_γ: from ^{64}Ni(^{12}C,p2nγ). Other: 100 *11* from ^{73}Ge(p,nγ). Mult.: from γ(θ) and ce data in (p,nγ), γ(θ) in (α,2nγ) and γ(DCO) in (^{12}C,p2nγ).
886.11	1/2$^+$	311.45 *15*	26 *7*	574.55	(1/2)$^-$				
		376.08 *7*	46 *14*	510.054	(5/2)$^+$				
		492.71 *8*	100	393.422	3/2$^-$				
		632.14 *11*	12 *4*	253.980	(1/2)$^-$				
929.13	(9/2$^-$)	862.0 *2*	100	67.035	5/2$^-$	Q			E_γ: from (α,2nγ). Mult.: from γ(DCO) in (^{12}C,p2nγ).
993.760	(7/2)$^-$	133.2[&]	<1	860.541	7/2$^-$				
		223.93 *5*	5 *1*	769.821	5/2$^-$				
		415.85 *5*	13 *2*	577.894	5/2$^-$	M1(+E2)	<0.65	0.0027 *4*	B(M1)(W.u.)=0.020 *+31−9* α(K)=0.0024 *3*; α(L)=0.00025 *4*; α(M)=3.9×10^{-5} *5* α(N)=2.9×10^{-6} *4* Mult.,δ: from ce data in (p,nγ).
		483.72 *3*	8 *2*	510.054	(5/2)$^+$	[E1]		8.31×10^{-4}	B(E1)(W.u.)=2.0×10^{-4} *+18−10* α(K)=0.000742 *11*; α(L)=7.65×10^{-5} *11*; α(M)=1.164×10^{-5} *17* α(N)=8.84×10^{-7} *13*
		600.31 *3*	36 *4*	393.422	3/2$^-$	[E2]		1.47×10^{-3}	B(E2)(W.u.)=1.0×10^{2} *+7−4* α(K)=0.001312 *19*; α(L)=0.0001385 *20*; α(M)=2.11×10^{-5} *3* α(N)=1.590×10^{-6} *23*
		926.72 *2*	82 *8*	67.035	5/2$^-$	M1+E2	+1.0 *+11−5*	4.33×10^{-4} *20*	B(M1)(W.u.)=0.008 *+13−6*; B(E2)(W.u.)=13 *+22−10* α(K)=0.000387 *18*; α(L)=4.00×10^{-5} *20*; α(M)=6.1×10^{-6} *3* α(N)=4.65×10^{-7} *22*
		993.77 *2*	100	0.0	3/2$^-$	(E2)		3.92×10^{-4}	E_γ,I_γ: other: 926.19 *15*, Iγ=80 *26* from ^{73}Se ε decay (7.15 h). Mult.,δ: from γ(θ) and ce data in (p,nγ). B(E2)(W.u.)=23 *+13−8*

$^{73}_{33}As_{40}$-11

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ	α[#]	Comments
									α(K)=0.000350 *5*; α(L)=3.63×10^{-5} *5*; α(M)=5.52×10^{-6} *8* α(N)=4.20×10^{-7} *6*
									E_γ: weighted average of 993.52 *12* from ^{73}Se ε decay (7.15 h) and 993.78 *2* from ^{73}Ge(p,nγ).
1013.55	(1/2$^-$)	358.09 *4*	100	655.460	3/2$^-$				
1037.13	(13/2)$^+$	609.22 *2*	100	427.902	9/2$^+$	E2		1.41×10^{-3}	B(E2)(W.u.)=45 *3* α(K)=0.001258 *18*; α(L)=0.0001327 *19*; α(M)=2.02×10^{-5} *3* α(N)=1.523×10^{-6} *22* E_γ: others: 609.17 *19* from ^{73}Se ε decay (7.15 h) and 609.3 *2* from ^{71}Ga(α,2nγ). Mult.: from ce data and γ(θ) in (p,nγ), γ(θ) in (α,2nγ).
1077.71	(3/2)$^-$	503.39 *15*	34 *7*	574.55	(1/2)$^-$				
		684.4[&]	<9	393.422	3/2$^-$				
		823.84 *16*	18.5 *11*	253.980	(1/2)$^-$				E_γ: unweighted average of 823.68 *8* from ^{73}Se ε decay (39.8 m) and 823.99 *8* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 22 *7* from (p,nγ).
		993.37 *16*	12.9 *3*	84.32	(1/2)$^-$				E_γ: unweighted average of 993.28 *6* from ^{73}Se ε decay (39.8 m) and 993.63 *10* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 13 *5* from (p,nγ).
		1010.69 *25*	1.3 *8*	67.035	5/2$^-$				E_γ,I_γ: from ^{73}Se ε decay (39.8 m) only.
		1077.66 *6*	100	0.0	3/2$^-$				E_γ: weighted average of 1077.64 *5* from ^{73}Se ε decay (39.8 m) and 1077.91 *20* from ^{73}Ge(p,nγ).
1086.97	5/2$^-$	226.56 *17*	12 *4*	860.541	7/2$^-$	M1(+E2)	<0.3	0.0116 *12*	B(M1)(W.u.)=0.18 *+33−13* α(K)=0.0103 *10*; α(L)=0.00110 *12*; α(M)=0.000168 *18* α(N)=1.27×10^{-5} *13*
		317.18 *6*	25 *10*	769.821	5/2$^-$				
		431.59 *20*	8 *4*	655.460	3/2$^-$				
		512.45 *10*	12 *6*	574.55	(1/2)$^-$	[E2]			B(E2)(W.u.)=9×10^1 *+17−7*
		693.59 *8*	33.0 *16*	393.422	3/2$^-$				I_γ: from ^{73}Se ε decay (39.8 m). Other: 40 *14* from (p,nγ).
		833.09 *10*	83 *8*	253.980	(1/2)$^-$	[E2]			B(E2)(W.u.)=6×10^1 *+6−3* I_γ: from ^{73}Se ε decay (39.8 m). Other: 80 *31* from (p,nγ).
		1002.48 *10*	100	84.32	(1/2)$^-$	(E2)		3.84×10^{-4}	B(E2)(W.u.)=27 *+26−15* α(K)=0.000343 *5*; α(L)=3.55×10^{-5} *5*; α(M)=5.41×10^{-6} *8* α(N)=4.12×10^{-7} *6*
		1019.70 *17*	84.2 *18*	67.035	5/2$^-$				E_γ: unweighted average of 1019.54 *12* from ^{73}Se ε decay (39.8 m) and 1019.87 *13* from (p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 39 *13* from (p,nγ).
		1086.89 *11*	52 *11*	0.0	3/2$^-$				E_γ: unweighted average of 1086.78 *8* from ^{73}Se ε decay (39.8 m) and 1086.99 *5* from (p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 53 *17* from (p,nγ).
1178.08	(9/2$^-$)	317.50 *15*	2 *1*	860.541	7/2$^-$				I_γ: other: 13 *7* in (^{12}C,p2nγ).
		408.19 *20*	2.1 *4*	769.821	5/2$^-$				γ not seen in (^{12}C,p2nγ).

$^{73}_{33}As_{40}$-12

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult. [‡]	δ	α [#]	Comments
1178.08	(9/2$^-$)	600.13 *15*	8 *2*	577.894	5/2$^-$				I_γ: 80 *5* in (^{12}C,p2nγ).
		1110.91 *14*	100	67.035	5/2$^-$	Q			E_γ: unweighted average of 1110.64 *6* from ^{73}Se ε decay (7.15 h), 1111.1 *2* from ^{71}Ga(α,2nγ) and 1111.00 *2* from (p,nγ). Mult.: from γ(DCO) in (^{12}C,p2nγ).
1188.75	(3/2$^-$)	934.84 *15*	100 *3*	253.980	(1/2)$^-$				E_γ,I_γ: from ^{73}Se ε decay (39.8 m).
		1188.69 *13*	32 *11*	0.0	3/2$^-$				E_γ,I_γ: from ^{73}Se ε decay (39.8 m).
1216.3	(3/2)$^-$	356 [&]		860.541	7/2$^-$				E_γ: from (p,γ).
		642		574.55	(1/2)$^-$				E_γ: from (p,γ).
		789		427.902	9/2$^+$	[E3]		1.61×10^{-3}	α(K)=0.001433 *20*; α(L)=0.0001549 *22*; α(M)=2.36×10^{-5} *4* α(N)=1.768×10^{-6} *25* E_γ: from (p,γ). γ to 9/2$^+$, implying mult=E3 makes this transition less likely.
		1151		67.035	5/2$^-$				E_γ: from (p,γ).
1217.95	(3/2)$^+$	331.92 *12*	51 *8*	886.11	1/2$^+$	M1(+E2)	<0.8	0.0052 *11*	α(K)=0.0046 *10*; α(L)=0.00049 *11*; α(M)=7.5×10^{-5} *17* α(N)=5.6×10^{-6} *12*
		707.89 *3*	100	510.054	(5/2)$^+$	M1,E2		0.00082 *11*	α(K)=0.00073 *10*; α(L)=7.6×10^{-5} *11*; α(M)=1.16×10^{-5} *16* α(N)=8.8×10^{-7} *12*
1221.283	(7/2)$^-$	451.45 *2*	12 *2*	769.821	5/2$^-$				
		565.86 *20*	4 *1*	655.460	3/2$^-$	[E2]			B(E2)(W.u.)=47 *+32−21*
		643.38 *3*	10 *2*	577.894	5/2$^-$	M1(+E2)	<1.0	0.00096 *9*	B(M1)(W.u.)=0.009 *+20−4* α(K)=0.00086 *8*; α(L)=8.9×10^{-5} *8*; α(M)=1.36×10^{-5} *13* α(N)=1.04×10^{-6} *9* Mult.,δ: from ce data in (p,nγ).
		827.83 *15*	4 *1*	393.422	3/2$^-$	[E2]			B(E2)(W.u.)=7.1 *+48−31*
		1154.25 *2*	100	67.035	5/2$^-$	(M1+E2)	−0.8 *+4−6*	2.68×10^{-4} *7*	B(M1)(W.u.)=0.019 *+18−11*; B(E2)(W.u.)=13 *+17−10* α(K)=0.000237 *6*; α(L)=2.44×10^{-5} *7*; α(M)=3.71×10^{-6} *10* α(N)=2.84×10^{-7} *8*; α(IPF)=2.8×10^{-6} *3*
1275.15	(7/2)$^+$	765.12 *12*	100.0 *15*	510.054	(5/2)$^+$	M1+E2	−0.31 *+12−28*	0.00062 *3*	Mult.,δ: from γ(θ) in (p,nγ). α(K)=0.000551 *24*; α(L)=5.7×10^{-5} *3*; α(M)=8.7×10^{-6} *4* α(N)=6.6×10^{-7} *3* E_γ: weighted average of 765.07 *12* from ^{73}Se ε decay (7.15 h) and 765.25 *20* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (7.15 h). Other: 100 *10*

$^{73}_{33}As_{40}$-13

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[#]	Comments
								from ^{73}Ge(p,nγ).
1275.15	(7/2)$^+$	847.40 *17*	63 *5*	427.902	9/2$^+$	M1,E2	0.00053 *5*	Mult.,δ: from ce data and γ(θ) in (p,nγ). α(K)=0.00048 *5*; α(L)=4.9×10^{-5} *5*; α(M)=7.5×10^{-6} *7* α(N)=5.7×10^{-7} *5* E_γ: weighted average of 847.16 *17* from ^{73}Se ε decay (7.15 h) and 847.52 *12* from ^{73}Ge(p,nγ) 73AS G 1207.9 3 8 1. I_γ: weighted average of 63 *5* from ^{73}Se ε decay (7.15 h) and 63 *6* from ^{73}Ge(p,nγ).
		1208.0 *3*	8 *5*	67.035	5/2$^-$			E_γ: weighted average of 1207.9 *3* from ^{73}Se ε decay (7.15 h) and 1208.0 *3* from ^{73}Ge(p,nγ). I_γ: unweighted average of 3.1 *8* from ^{73}Se ε decay (7.15 h) and 13.5 *19* from ^{73}Ge(p,nγ).
		1274.39 *21*	5.3 *8*	0.0	3/2$^-$	[M2]	4.46×10^{-4}	α(K)=0.000394 *6*; α(L)=4.09×10^{-5} *6*; α(M)=6.24×10^{-6} *9* α(N)=4.78×10^{-7} *7*; α(IPF)=4.12×10^{-6} *6* E_γ,I_γ: from ^{73}Se ε decay (7.15 h) only. Poor fit, level-energy difference=1275.14.
1293.10	(11/2)$^+$	256.20 *20*	1.9 *3*	1037.13	(13/2)$^+$			
		865.18[@] *12*	100[@] *12*	427.902	9/2$^+$	M1,E2	0.00051 *5*	α(K)=0.00045 *4*; α(L)=4.7×10^{-5} *5*; α(M)=7.1×10^{-6} *7* α(N)=5.4×10^{-7} *5* E_γ: weighted average of 865.09 *12* from ^{73}Se ε decay (7.15 h), 865.3 *2* from ^{71}Ga(α,2nγ), and 865.5 *3* from ^{73}Ge(p,nγ). Mult.: from γ(θ) and ce data in (p,nγ), D from γ(θ) in (α,2nγ).
1293.35	(7/2)$^+$	299.68 *20*	6 *1*	993.760	(7/2)$^-$			
		783.33 *3*	100	510.054	(5/2)$^+$	M1,E2	0.00064 *7*	α(K)=0.00057 *6*; α(L)=5.9×10^{-5} *7*; α(M)=9.1×10^{-6} *10* α(N)=6.9×10^{-7} *8* E_γ: weighted average of 783.7 *3* from ^{73}Se ε decay (7.15 h) and 783.33 *2* from ^{73}Ge(p,nγ).
		865.18[@] *12*	28[@] *11*	427.902	9/2$^+$	D		E_γ: weighted average of 865.09 *12* from ^{73}Se ε decay (7.15 h), 865.3 *2* from ^{71}Ga(α,2nγ), and 865.5 *3* from ^{73}Ge(p,nγ). Mult.: from γ(θ) in (α,2nγ). I_γ: weighted average of 33 *17* from ^{73}Se ε decay (7.15 h) and 26 *11* from ^{73}Ge(p,nγ).
		1226.6 *9*	5 *3*	67.035	5/2$^-$			E_γ,I_γ: from ^{73}Se ε decay (7.15 h) only.
1299.35	(1/2$^-$,3/2)	643.94 *20*	25.0 *20*	655.460	3/2$^-$			E_γ: weighted average of 643.9 *3* from ^{73}Se ε decay (39.8 m) and 643.96 *20* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 16 *10* from ^{73}Ge(p,nγ).

$^{73}_{33}As_{40}$-14

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[#]	Comments
1299.35	(1/2$^-$,3/2)	724.77 *12*	100 *3*	574.55	(1/2)$^-$			E_γ: weighted average of 724.80 *12* from ^{73}Se ε decay (39.8 m) and 724.69 *20* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 100 *50* from ^{73}Ge(p,nγ).
		1045.35 *6*	25 *8*	253.980	(1/2)$^-$			E_γ: weighted average of 1045.58 *22* from ^{73}Se ε decay (39.8 m) and 1045.33 *6* from ^{73}Ge(p,nγ). I_γ: from (p,nγ). Other: 23 *13* from ^{73}Se ε decay (39.8 m).
		1215.4 *4*	40 *4*	84.32	(1/2)$^-$			E_γ: unweighted average of 1215.80 *24* from ^{73}Se ε decay (39.8 m) and 1214.97 *20* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 16 *6* from (p,nγ).
		1232.34 *15*	53 *3*	67.035	5/2$^-$			E_γ: weighted average of 1232.40 *19* from ^{73}Se ε decay (39.8 m) and 1232.30 *15* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 22 *8* from (p,nγ).
1302.20	(5/2$^-$)	441.68 *20*	17 *7*	860.541	7/2$^-$			
		646.78 *20*	1.6 *7*	655.460	3/2$^-$			E_γ: weighted average of 646.7 *3* from ^{73}Se ε decay (39.8 m) and 646.82 *20* from ^{73}Ge(p,nγ). I_γ: weighted average of 1.5 *7* from ^{73}Se ε decay (39.8 m) and 1.8 *9* from ^{73}Ge(p,nγ).
		724.35 *20*	23 *8*	577.894	5/2$^-$			
		792.28 *20*	25.7 *22*	510.054	(5/2)$^+$			E_γ: weighted average of 792.48 *22* from ^{73}Se ε decay (39.8 m) and 792.12 *20* from ^{73}Ge(p,nγ). I_γ: weighted average of 26.5 *22* from ^{73}Se ε decay (39.8 m) and 20 *6* from ^{73}Ge(p,nγ).
		908.65 *20*	31.9 *11*	393.422	3/2$^-$			E_γ: weighted average of 908.46 *19* from ^{73}Se ε decay (39.8 m) and 908.86 *20* from ^{73}Ge(p,nγ). I_γ: weighted average of 32.0 *11* from ^{73}Se ε decay (39.8 m) and 25 *10* from ^{73}Ge(p,nγ).
		1302.15 *11*	100.0 *18*	0.0	3/2$^-$			E_γ: unweighted average of 1302.04 *6* from ^{73}Se ε decay (39.8 m) and 1302.25 *4* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (39.8 m). Other: 100 *12* from ^{73}Ge(p,nγ).
1324.193	(5/2$^+$)	814.06 *7*	80 *14*	510.054	(5/2)$^+$			
		930.77 *4*	63 *18*	393.422	3/2$^-$			
		1324.19 *3*	100	0.0	3/2$^-$			
1328.81	(7/2)$^+$	818.71 *15*	27.6 *14*	510.054	(5/2)$^+$			E_γ: weighted average of 818.65 *15* from ^{73}Se ε decay (7.15 h) and 818.76 *15* from ^{73}Ge(p,nγ). I_γ: weighted average of 27.3 *14* from ^{73}Se ε decay (7.15 h) and 30 *4* from ^{73}Ge(p,nγ).
		900.87 *14*	100.0 *14*	427.902	9/2$^+$	M1,E2	0.00046 *4*	α(K)=0.00041 *4*; α(L)=4.3×10^{-5} *4*; α(M)=6.5×10^{-6} *6* α(N)=5.0×10^{-7} *4* E_γ: unweighted average of 900.73 *10* from ^{73}Se ε decay (7.15 h) and 901.01 *2* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (7.15 h). Other: 100 *11* from ^{73}Ge(p,nγ).

$^{73}_{33}As_{40}$-15

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[‡]	α[#]	Comments
1344.506	(7/2)$^-$	350.77 *3*	27 *4*	993.760	(7/2)$^-$			
		483.94 *20*	9 *3*	860.541	7/2$^-$			
		574.72 *20*	31 *5*	769.821	5/2$^-$			
		689.03 *2*	49 *7*	655.460	3/2$^-$			
		766.65 *20*	42 *13*	577.894	5/2$^-$			
		951.02 *16*	7 *3*	393.422	3/2$^-$			
		1277.47 *20*	100	67.035	5/2$^-$			
		1344.57 *12*	9 *2*	0.0	3/2$^-$			
1400.9?		973[&]		427.902	9/2$^+$			
1489.46		979.4 *2*	100	510.054	(5/2)$^+$			
1557.24	(3/2$^-$,5/2,7/2$^-$)	479.7[&] *2*	29 *2*	1077.71	(3/2)$^-$			
		696.7 *1*	100 *4*	860.541	7/2$^-$			
		787.4 *2*	41 *1*	769.821	5/2$^-$			
1588.60	(5/2)$^-$	1011.5 *3*	45 *9*	577.894	5/2$^-$			
		1333.8 *3*	100 *9*	253.980	(1/2)$^-$			
		1521.9[&] *3*	64 *9*	67.035	5/2$^-$			
1591.6	(3/2)$^-$	936		655.460	3/2$^-$			E_γ: from (p,γ).
1612.76	5/2$^-$,7/2$^-$	1102.7 *3*	28 *4*	510.054	(5/2)$^+$			
		1545.7 *2*	100 *4*	67.035	5/2$^-$			
1649.7	(1/2,3/2,5/2$^-$)	1565.3[&] *3*	100	84.32	(1/2)$^-$			
1658.18	(11/2$^-$)	480.2 *2*	100 *10*	1178.08	(9/2$^-$)	(D)		E_γ,I_γ: from (α,2nγ).
		729	43 *10*	929.13	(9/2$^-$)			E_γ,I_γ: γ only in (^{12}C,p2nγ).
		797.4 *2*	45 *6*	860.541	7/2$^-$	Q		E_γ,I_γ: from (α,2nγ). Other: Iγ=255 *17* in (^{12}C,p2nγ). Mult.: from γ(DCO) in (^{12}C,p2nγ).
1761.52	(13/2$^+$)	468.4 *2*	100 *5*	1293.10	(11/2)$^+$	D		E_γ,I_γ: from (α,2nγ). Mult.: from γ(θ) in (α,2nγ).
		724.4 *2*	73 *13*	1037.13	(13/2)$^+$			E_γ,I_γ: from (α,2nγ). Other: Iγ=183 *46* in (^{12}C,p2nγ). Mult.: possible ΔJ=0, dipole transition in (α,2nγ).
		1333.7[&] *2*	166 *12*	427.902	9/2$^+$			E_γ,I_γ: from (α,2nγ), γ not seen in (^{12}C,p2nγ).
1796.5		1712.1[&] *3*	100	84.32	(1/2)$^-$			
1850.89	(9/2)$^+$	558.0 *3*	36.7 *13*	1293.10	(11/2)$^+$			E_γ: weighted average of 557.9 *5* from ^{73}Se ε decay (7.15 h) and 558.0 *3* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (7.15 h). Other: and 31 *6* from ^{73}Ge(p,nγ).
		575.9 *5*	100 *5*	1275.15	(7/2)$^+$			E_γ,I_γ: from ^{73}Se ε decay (7.15 h), not seen in (p,nγ).
		813.4 *3*	6.0 *7*	1037.13	(13/2)$^+$	[E2]	6.42×10^{-4}	B(E2)(W.u.)=6.9 +*39*−*26* α(K)=0.000573 *8*; α(L)=5.98×10^{-5} *9*; α(M)=9.10×10^{-6} *13* α(N)=6.90×10^{-7} *10*
		1340.9 *4*	47.3 *13*	510.054	(5/2)$^+$	[E2]	2.39×10^{-4}	E_γ,I_γ: from ^{73}Se ε decay (7.15 h). α(K)=0.000180 *3*; α(L)=1.85×10^{-5} *3*; α(M)=2.81×10^{-6} *4* α(N)=2.15×10^{-7} *3*; α(IPF)=3.77×10^{-5} *6*

$^{73}_{33}As_{40}$-16

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	Comments
							B(E2)(W.u.)=4.5 *+19−14* E_γ: unweighted average of 1340.50 *7* from ^{73}Se ε decay (7.15 h) and 1341.2 *3* from ^{73}Ge(p,nγ). I_γ: from ^{73}Se ε decay (7.15 h).
1850.89	$(9/2)^+$	1423.0 *3*	93 *3*	427.902	$9/2^+$		E_γ,I_γ: from ^{73}Se ε decay (7.15 h).
1876.74	(1/2 to 7/2$^-$)	1483.3 *2*	100	393.422	$3/2^-$		
1903.6	(1/2$^-$ to 9/2$^-$)	1133.8 *3*	100	769.821	$5/2^-$		
		1229.7[&] *2*	215 *8*	673.9			
1910.12	$(9/2^+,11/2)$	872.56 *27*	100 *18*	1037.13	$(13/2)^+$		E_γ,I_γ: from ^{73}Se ε decay (7.15 h).
		1482.29 *12*	59 *3*	427.902	$9/2^+$		E_γ,I_γ: from ^{73}Se ε decay (7.15 h).
1949.82	$(17/2^+)$	912.7 *2*	100	1037.13	$(13/2)^+$	Q	E_γ: from (α,2nγ). Mult.: from γ(DCO) in (^{12}C,p2nγ) and γ(θ) in (α,2nγ).
1962.87	(3/2,5/2,7/2)	873.8[&] *3*	115 *8*	1086.97	$5/2^-$		
		1452.8 *2*	100 *8*	510.054	$(5/2)^+$		
1972.98	$(1/2^-,3/2,5/2^-)$	1719.1 *4*	100 *13*	253.980	$(1/2)^-$		
		1888.74 *14*	56 *13*	84.32	$(1/2)^-$		
		1905.74 *17*	50 *13*	67.035	$5/2^-$		
1975.40	(7/2,9/2)	682.25 *20*	43 *4*	1293.35	$(7/2)^+$		
		700.0 *5*	100 *4*	1275.15	$(7/2)^+$		
		1547.45 *12*	69.6 *22*	427.902	$9/2^+$		
1977.54	(1/2 to 7/2$^-$)	1584.1 *2*	100	393.422	$3/2^-$		
1982.50	(1/2,3/2,5/2$^-$)	1326.5 *3*	50 *14*	655.460	$3/2^-$		
		1588.5 *12*	64 *9*	393.422	$3/2^-$		
		1898.89 *23*	27 *14*	84.32	$(1/2)^-$		E_γ: poor fit, level-energy difference=1898.15.
		1982.24 *17*	100 *5*	0.0	$3/2^-$		
2039.62	(13/2$^-$)	382	5.1 *10*	1658.18	$(11/2^-)$		E_γ,I_γ: seen in (^{12}C,p2nγ) only.
		746.6 *2*		1293.10	$(11/2)^+$		E_γ: weak γ observed in (α,2nγ) only.
		862	6.3 *12*	1178.08	$(9/2^-)$		E_γ,I_γ: seen in (^{12}C,p2nγ) only.
		1002.6 *2*	15.5 *22*	1037.13	$(13/2)^+$	D	E_γ: from (α,2nγ). I_γ: from (^{12}C,p2nγ). Mult.: ΔJ=0, dipole transition from γ(DCO) in (^{12}C,p2nγ). 1977He08 in (α,2nγ) gives Mult.=M1+E2 with ΔJ=1 based on γ(θ).
		1110.4 *2*	100 *3*	929.13	$(9/2^-)$	Q	E_γ: from (α,2nγ). This γ is placed from a separate level with a similar energy to the level for 1002.6γ by 1977He08 in (α,2nγ), however, there is no strong evidence to support this placement and thus the existence of these two levels and the recent study by 2015Ra20 in (^{12}C,p2nγ) reports that a 1002γ and a 1110γ are from the same level. I_γ: from (^{12}C,p2nγ). Mult.: from γ(DCO) in (^{12}C,p2nγ) and γ(θ) in (α,2nγ).
2180.66	$(7/2,9/2^+)$	887.46 *18*	100 *70*	1293.35	$(7/2)^+$		
		1001.9 *2*	36 *9*	1178.08	$(9/2^-)$		E_γ: poor fit, level-energy difference=1002.58.
		1670.81 *16*	45 *9*	510.054	$(5/2)^+$		
		1752.88 *20*	100 *9*	427.902	$9/2^+$		

$^{73}_{33}As_{40}$-17

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. ‡	Comments
2211.58	(5/2)$^-$	1125.5 *6*	100 *40*	1086.97	5/2$^-$		
		1133.4 *6*	64 *30*	1077.71	(3/2)$^-$		
		2127.4 *4*	14 *7*	84.32	(1/2)$^-$		
		2144.38 *23*	21 *14*	67.035	5/2$^-$		
2311.61	(7/2,9/2$^+$)	982.75 *13*	63.6 *18*	1328.81	(7/2)$^+$		
		1018.52 *13*	100 *4*	1293.35	(7/2)$^+$		
		1036.38 *9*	27.3 *18*	1275.15	(7/2)$^+$		
		1317.75 *21*	10.9 *18*	993.760	(7/2)$^-$		
		1801.36 *14*	36 *9*	510.054	(5/2)$^+$		
		1883.85 *15*	56 *4*	427.902	9/2$^+$		
2415.41		1122.3 *2*	100	1293.10	(11/2)$^+$		
2475.63	(15/2$^-$)	436.2 *2*	27 *4*	2039.62	(13/2$^-$)	D	E_γ: from (α,2nγ). I_γ: weighted average of 24 *7* from ^{64}Ni(^{12}C,p2nγ) and 28 *4* from ^{71}Ga(α,2nγ). Mult.: from $\gamma(\theta)$ in (α,2nγ).
		526		1949.82	(17/2$^+$)		E_γ: seen in (^{12}C,p2nγ) only.
		817.3 *2*	100 *7*	1658.18	(11/2$^-$)	Q	E_γ,I_γ: from (α,2nγ). Other: Iγ=100 *9* in (^{12}C,p2nγ). Mult.: from γ(DCO) in (^{12}C,p2nγ).
		1438	42 *5*	1037.13	(13/2)$^+$		E_γ,I_γ: from (^{12}C,p2nγ) only.
2482.82	(7/2,9/2$^+$)	1153.9 *3*	100 *20*	1328.81	(7/2)$^+$		
		1973.4 *4*	20 *20*	510.054	(5/2)$^+$		
		2053.8 *6*	60 *20*	427.902	9/2$^+$		
2484.77	(3/2$^-$)	1407.3 *3*	33 *11*	1077.71	(3/2)$^-$		
		1910.33 *17*	39 *11*	574.55	(1/2)$^-$		
		1974.67 *18*	100 *11*	510.054	(5/2)$^+$		
		2090.7 *3*	44 *11*	393.422	3/2$^-$		
		2400.3 *3*	17 *11*	84.32	(1/2)$^-$		
		2484.78 *21*	28 *11*	0.0	3/2$^-$		
2584.09	(7/2,9/2$^-$)	1308.9 *2*	80 *20*	1275.15	(7/2)$^+$		
		1406.3 *4*	40 *20*	1178.08	(9/2$^-$)		
		2156.04 *14*	100 *20*	427.902	9/2$^+$		
		2517.31 *25*	100 *20*	67.035	5/2$^-$		
2622.6		583.0	100	2039.62	(13/2$^-$)		
2848.15	(17/2$^-$)	373	5.2 *12*	2475.63	(15/2$^-$)		E_γ,I_γ: from (^{12}C,p2nγ) only.
		808.5 *2*	100 *3*	2039.62	(13/2$^-$)	Q	E_γ: from (α,2nγ). I_γ: from (^{12}C,p2nγ). Mult.: from γ(DCO) in (^{12}C,p2nγ) and $\gamma(\theta)$ in (α,2nγ).
2965.1	(21/2$^+$)	1015.2 *2*	100	1949.82	(17/2$^+$)	Q	E_γ: from (α,2nγ). Mult.: from γ(DCO) in (^{12}C,p2nγ) and $\gamma(\theta)$ in (α,2nγ).
3050.4	(19/2$^+$)	1100.6 *2*	100	1949.82	(17/2$^+$)	D	E_γ: from (α,2nγ). Mult.: from γ(DCO) in (^{12}C,p2nγ).
3294.33		1254.7 *2*	100	2039.62	(13/2$^-$)		
3372.4	(19/2$^-$)	524		2848.15	(17/2$^-$)		
		897	100 *7*	2475.63	(15/2$^-$)	Q	

Adopted Levels, Gammas (continued)

γ(^{73}As) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult. [‡]	Comments
3490.6	(21/2$^+$)	440	66 *33*	3050.4	(19/2$^+$)		
		1541	100 *12*	1949.82	(17/2$^+$)	Q	
3751.2	(21/2$^-$)	903	100	2848.15	(17/2$^-$)	Q	
3842.2	(19/2$^-$)	994	100	2848.15	(17/2$^-$)	D	
4023.6	(23/2$^+$)	974	79 *10*	3050.4	(19/2$^+$)	Q	
		1058	100 *15*	2965.1	(21/2$^+$)	D	
4082.9	(25/2)$^+$	1117.8 *2*	100	2965.1	(21/2$^+$)	Q	E_γ: from (α,2nγ).
4457.4	(23/2$^-$)	1085	100	3372.4	(19/2$^-$)	Q	
4586.4	(25/2$^+$)	563	61 *11*	4023.6	(23/2$^+$)		
		1096	100 *14*	3490.6	(21/2$^+$)		
		1621	100 *11*	2965.1	(21/2$^+$)	Q	
4870.2	(25/2$^-$)	1119	100	3751.2	(21/2$^-$)	Q	
4964.2	(23/2$^-$)	1122	100	3842.2	(19/2$^-$)		
5118.2		1276	100	3842.2	(19/2$^-$)		
5411.7	(27/2$^+$)	1388	100	4023.6	(23/2$^+$)		
5411.9	(29/2$^+$)	1329	100	4082.9	(25/2)$^+$	Q	
5686.4	(27/2$^-$)	1229	100	4457.4	(23/2$^-$)	Q	
5953.4	(29/2$^+$)	1367	100	4586.4	(25/2$^+$)		
6132.2	(29/2$^-$)	1262	100	4870.2	(25/2$^-$)	Q	
6311.2	(27/2$^-$)	1347	100	4964.2	(23/2$^-$)		
6908.9	(33/2$^+$)	1497	100	5411.9	(29/2$^+$)	Q	
7434.2	(33/2$^-$)	1302	100	6132.2	(29/2$^-$)	Q	
7861.1	(3/2,5/2)	5887	74	1975.40	(7/2,9/2)		
		6000	<10	1860.8			
		6269	100	1591.6	(3/2)$^-$		
		6561	95	1299.35	(1/2$^-$,3/2)		
		6647	24	1216.3	(3/2)$^-$		
		7010	28	850.515	(5/2)$^-$		
		7091	55	769.821	5/2$^-$		
		7205	87	655.460	3/2$^-$		
		7285	73	574.55	(1/2)$^-$		
		7465	81	393.422	3/2$^-$		
		7606	43	253.980	(1/2)$^-$		
		7776	83	84.32	(1/2)$^-$		
		7794	68	67.035	5/2$^-$		
		7861	92	0.0	3/2$^-$		
8610.9	(37/2$^+$)	1702	100	6908.9	(33/2$^+$)		
8788.2	(37/2$^-$)	1354	100	7434.2	(33/2$^-$)		

[†] From (p,nγ), unless otherwise noted. For some gammas, branching ratios are already deduced by 1997So08 in (p,nγ) dataset (given under comments there) by including more (p,nγ) measurements in addition to the quoted relative Iγ values from one of their measurements, and therefore are adopted here, instead of those

$^{73}_{33}As_{40}$-19

Adopted Levels, Gammas (continued)

$\gamma(^{73}As)$ (continued)

deduced from relative Iγ values in (p,nγ).

‡ From ce data in ^{73}Se ε decay (39.8 min) and/or (p,nγ) up to 1977 level and from γ(DCO) in (^{12}C,p2nγ) above that, unless otherwise noted.

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.

@ Multiply placed with intensity suitably divided.

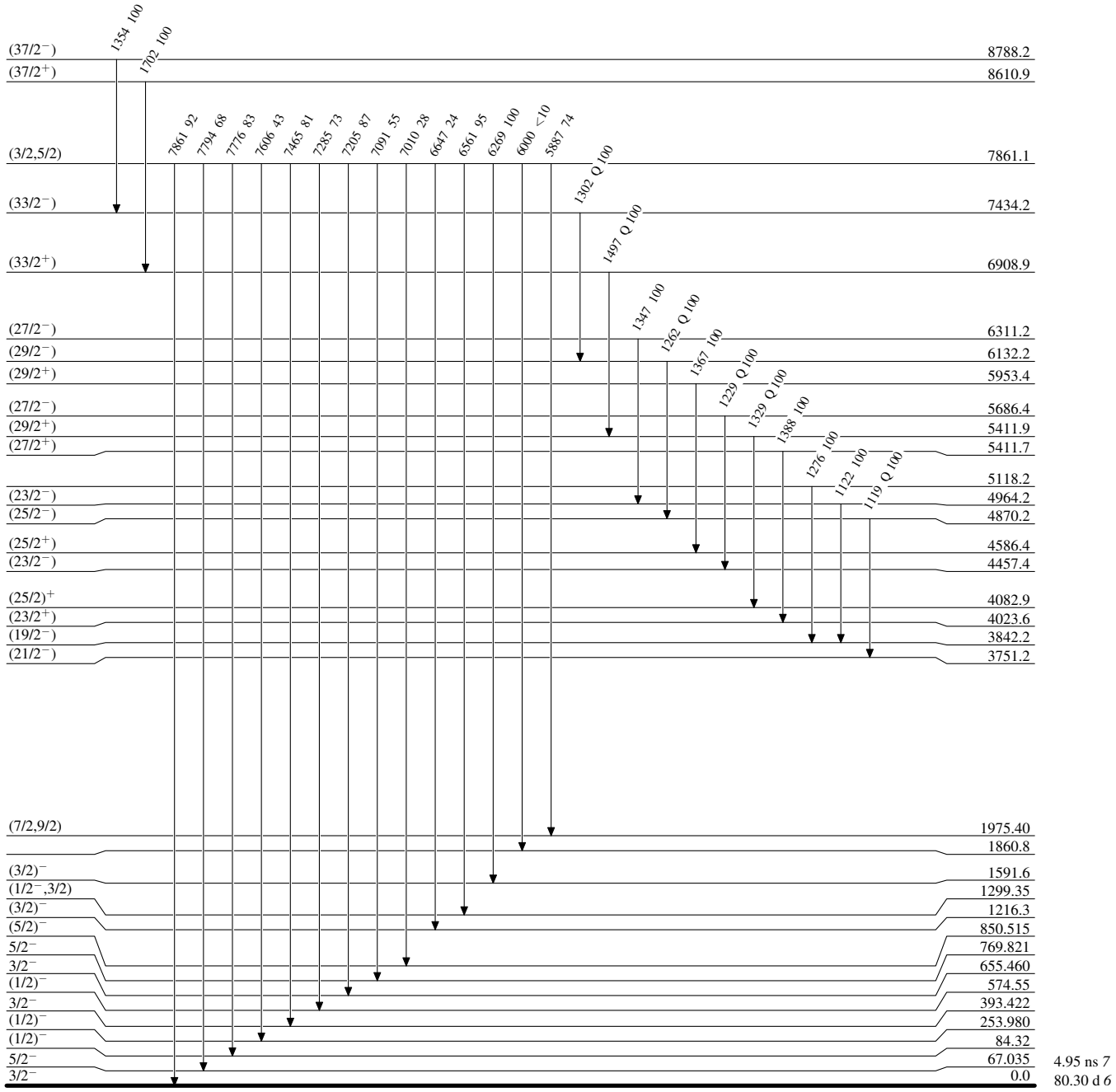
& Placement of transition in the level scheme is uncertain.

$^{73}_{33}As_{40}$-20

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

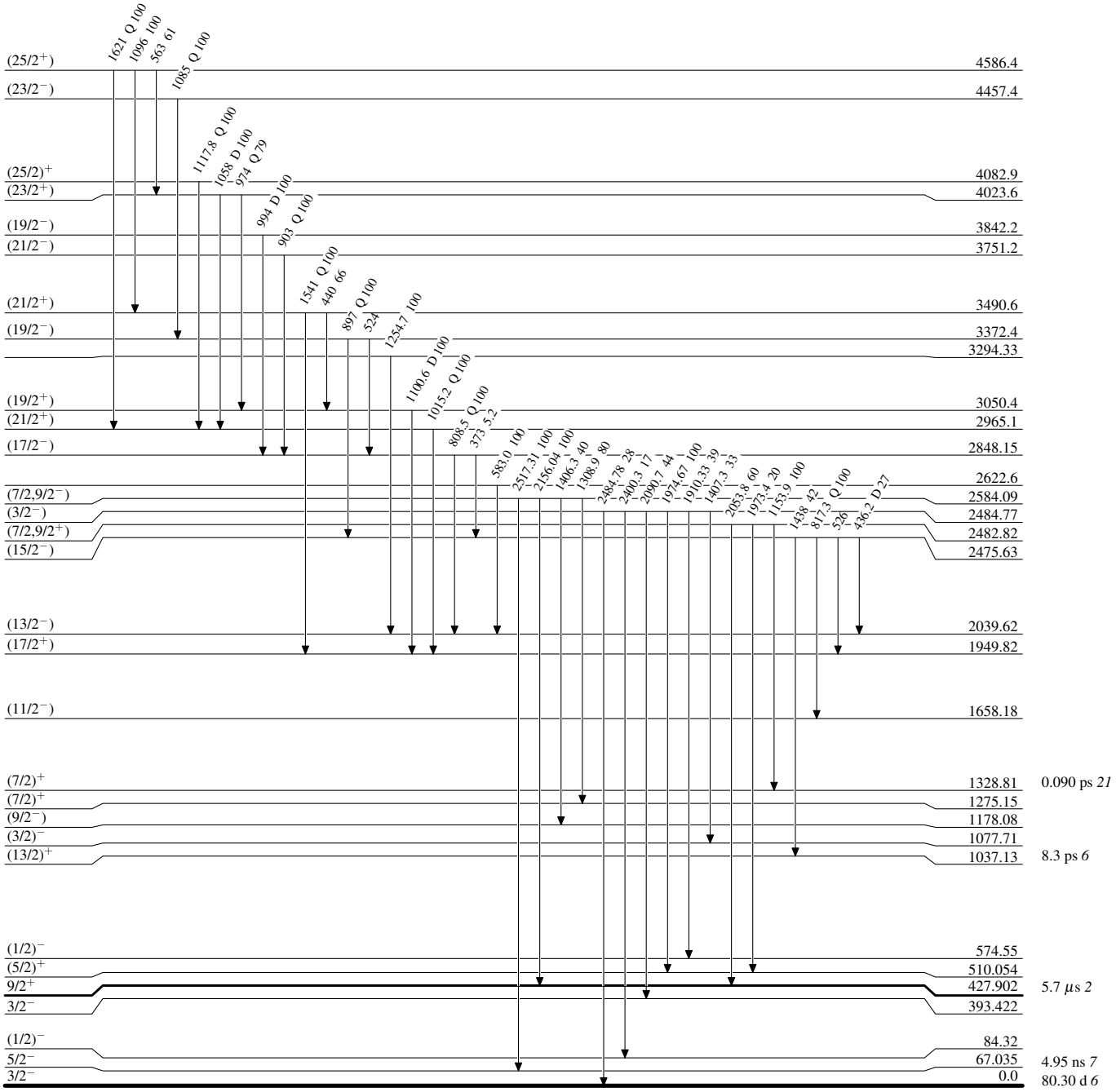


$^{73}_{33}As_{40}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

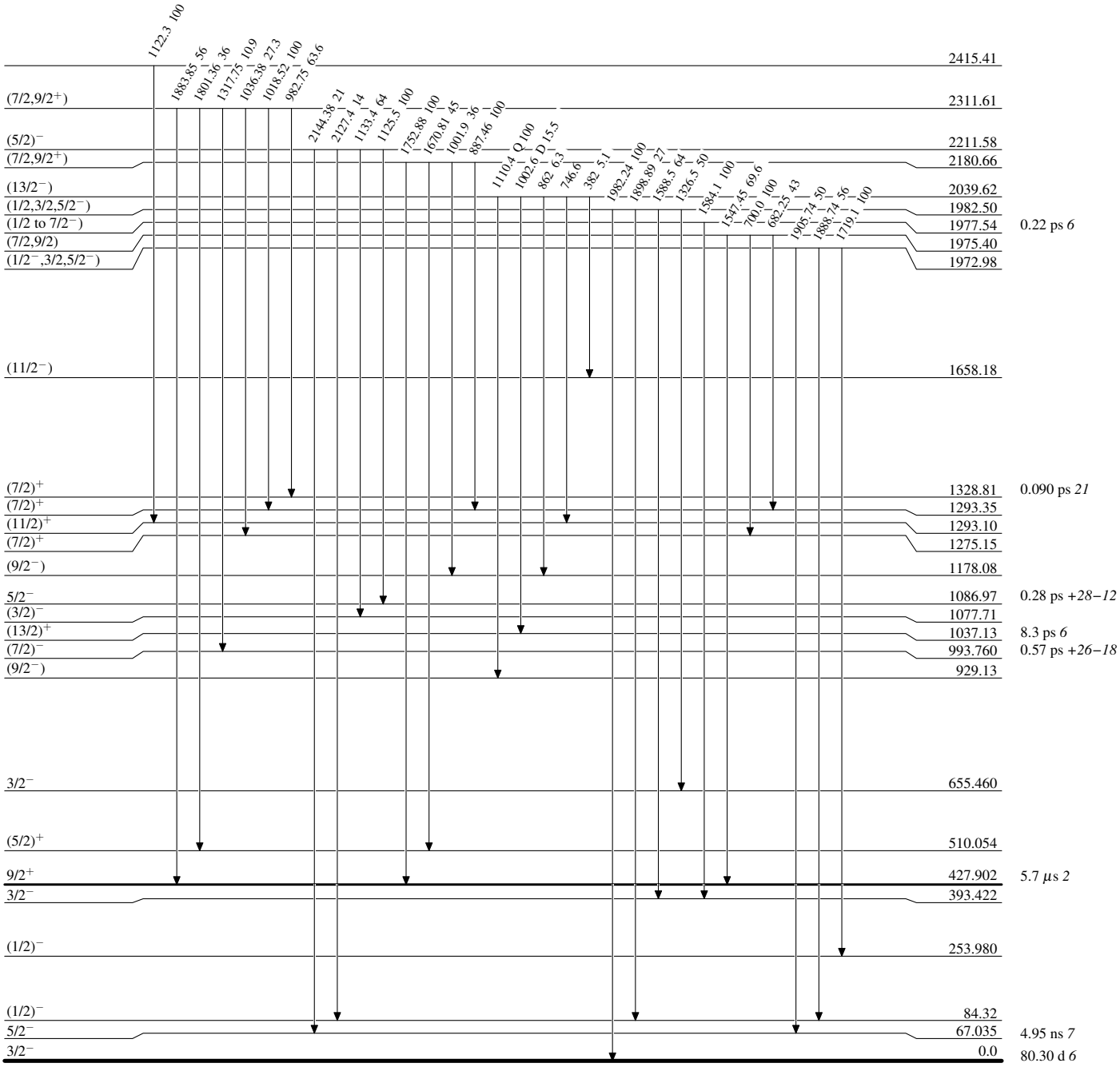


$^{73}_{33}As_{40}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{73}_{33}As_{40}$

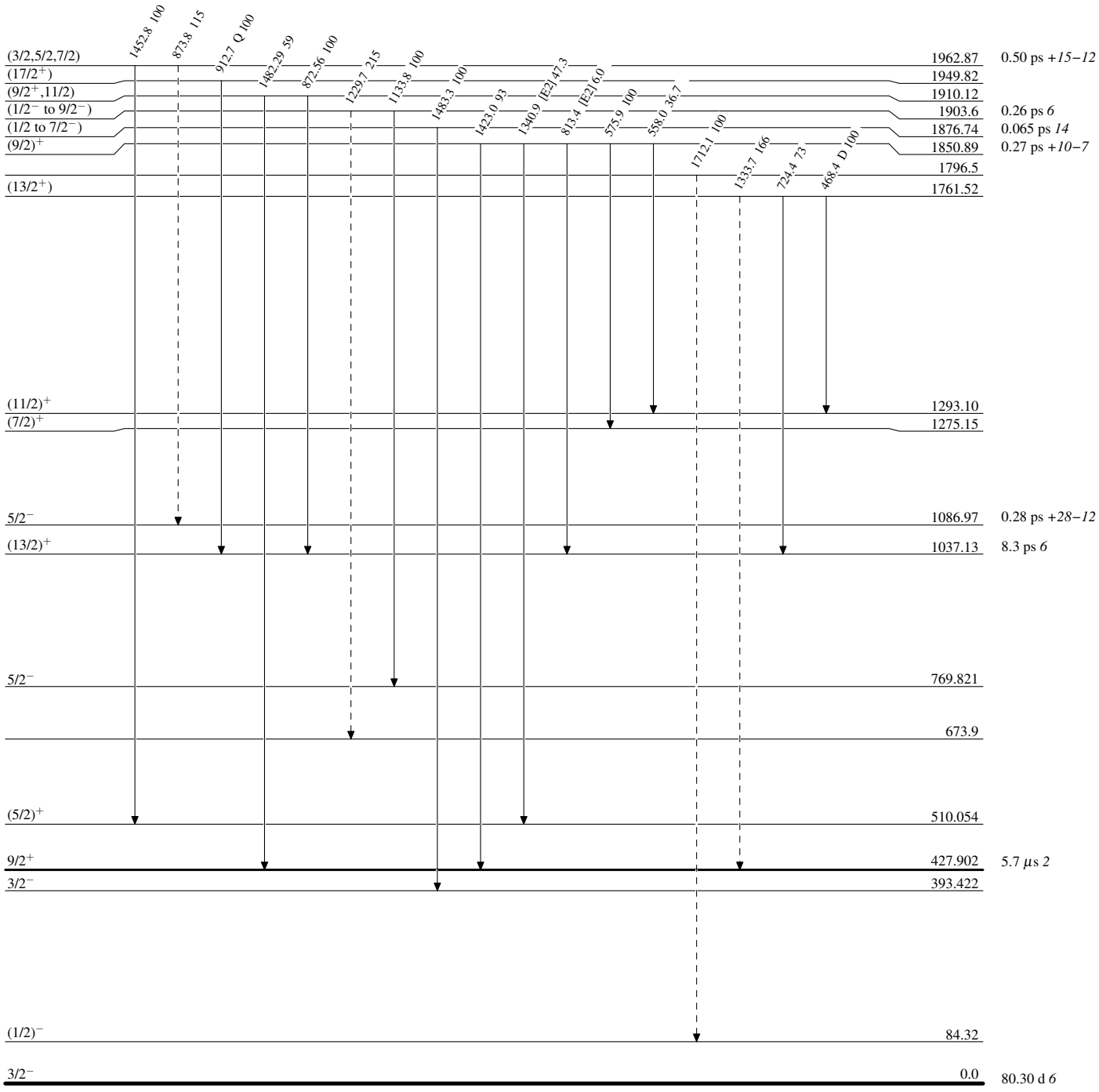
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{73}_{33}As_{40}$

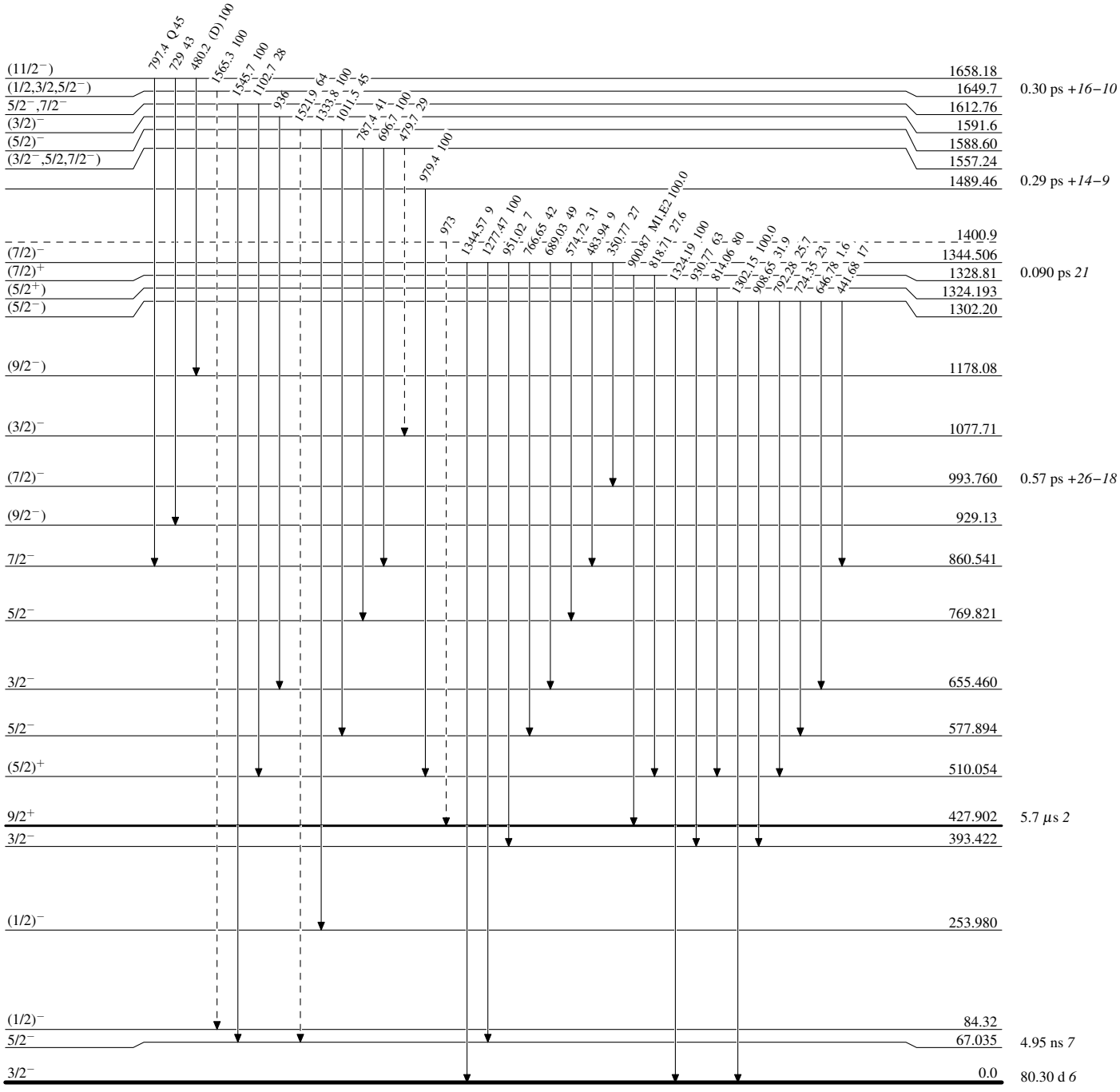
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



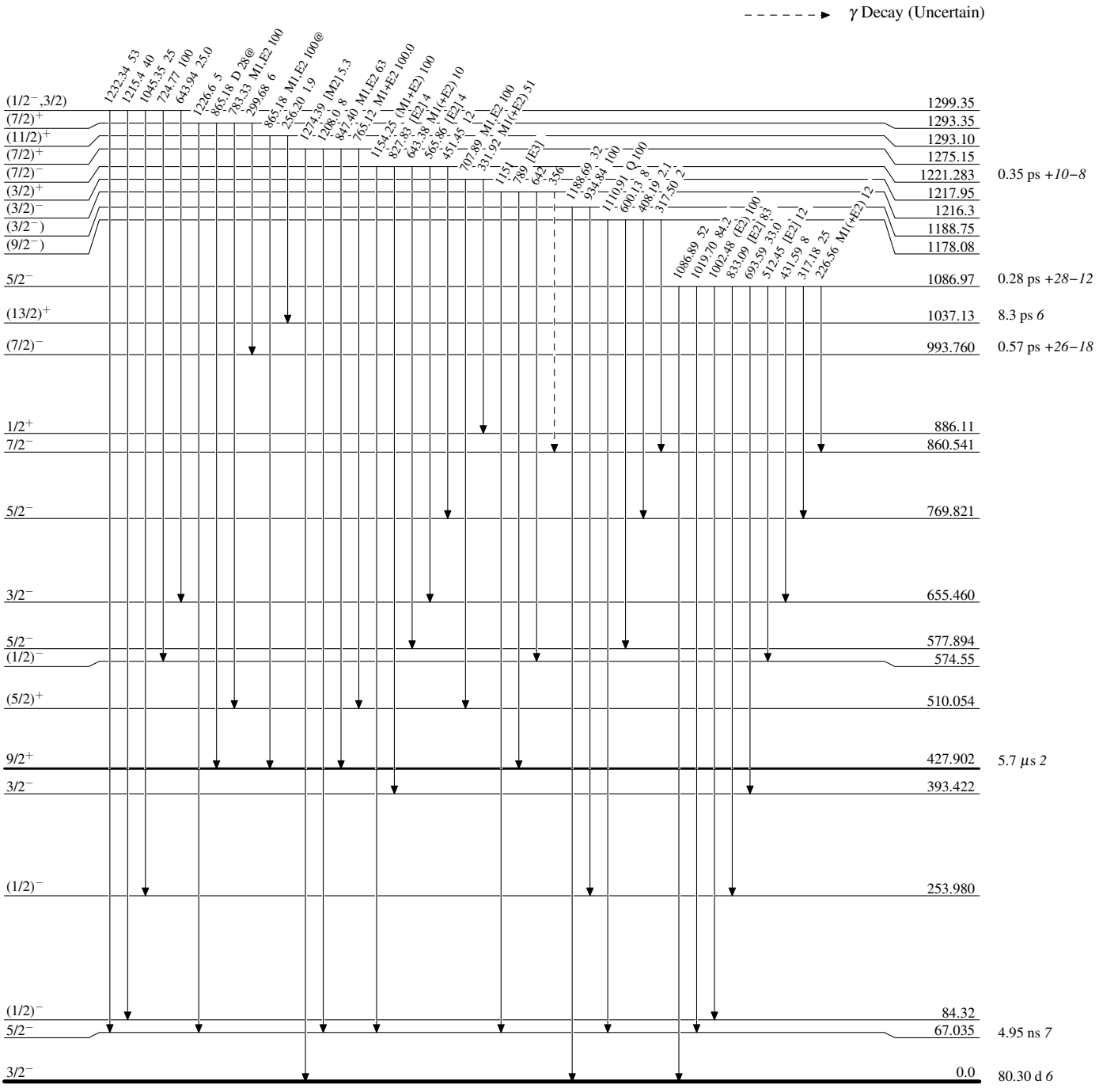
$^{73}_{33}As_{40}$

Adopted Levels, Gammas

Level Scheme (continued)

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

Legend



$^{73}_{33}As_{40}$

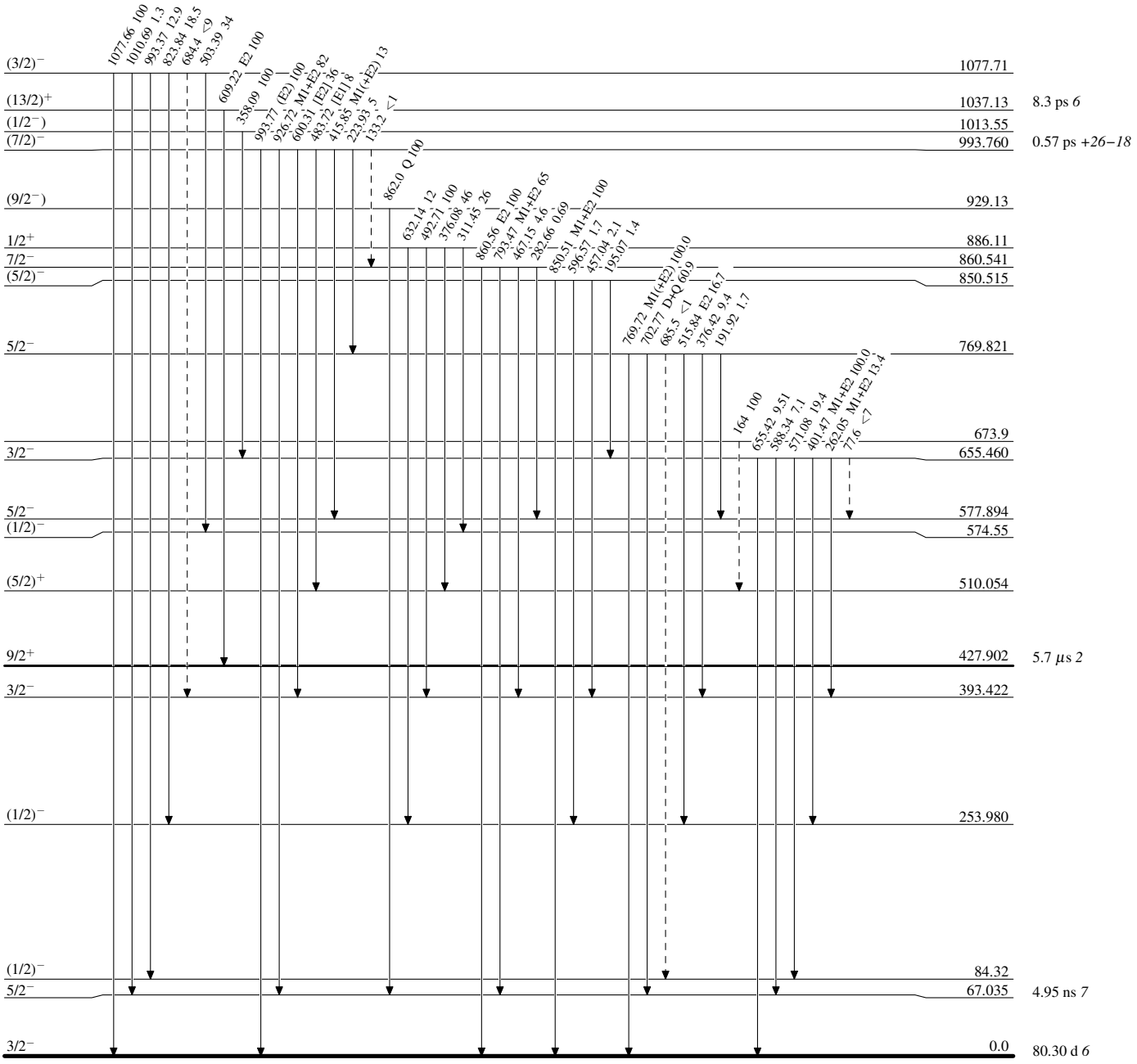
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

– – – – – – ► γ Decay (Uncertain)



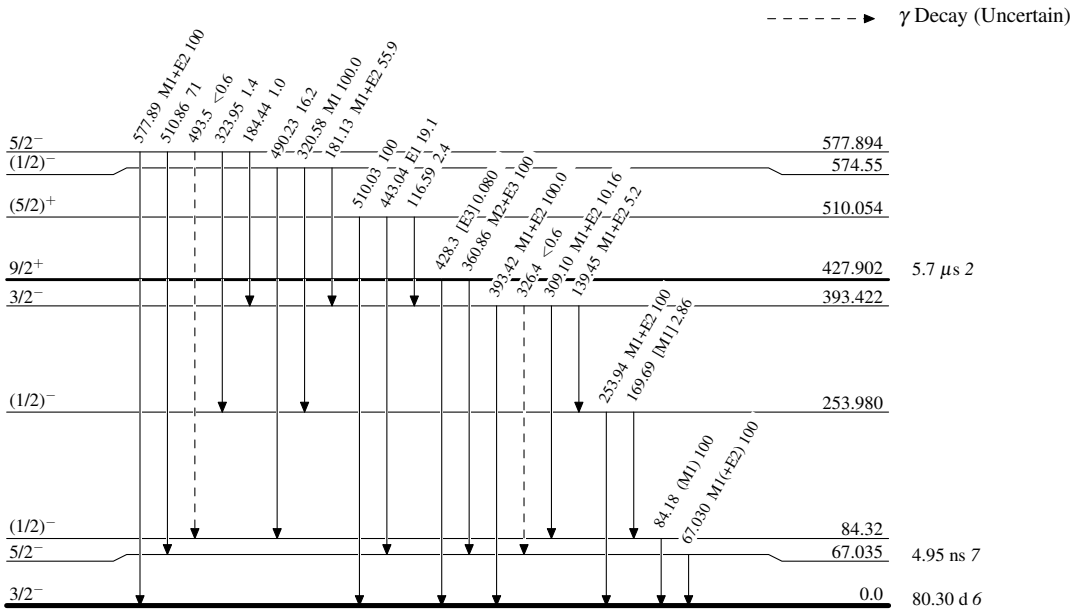
$^{73}_{33}As_{40}$

Adopted Levels, Gammas

Legend

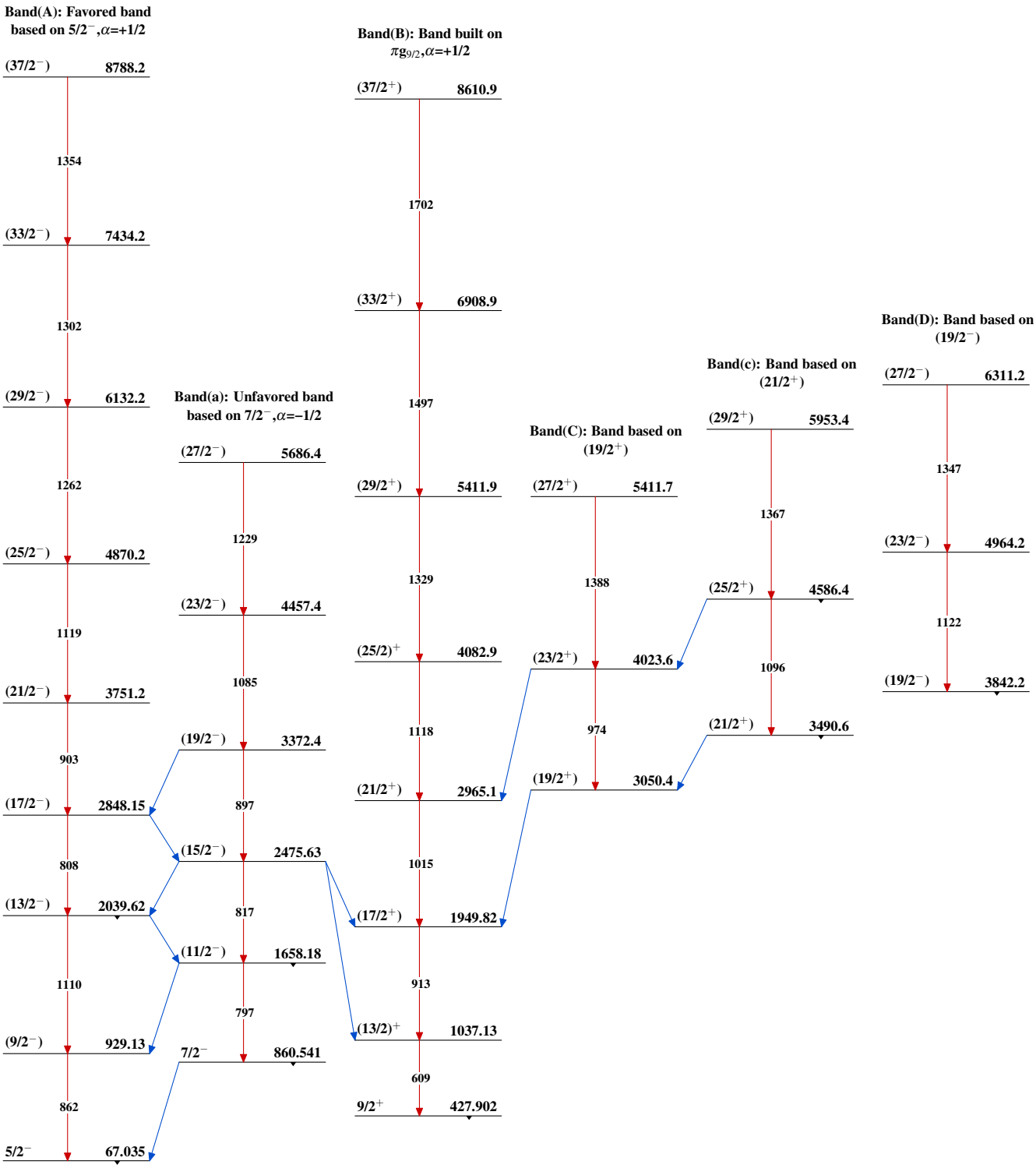
Level Scheme (continued)

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



$^{73}_{33}As_{40}$

Adopted Levels, Gammas



$^{73}_{33}As_{40}$