Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh	NDS 114, 841 (2013)	30-Jun-2013

Q(β^-)=−864.7 *9*; S(n)=10245.5 *19*; S(p)=6900.7 *9*; Q(α)=−5320.0 *12* 2012Wa38
S(2n)=18224 *4*, S(2p)=17912.8 *19* (2012Wa38).
^{75}As identified as a mass 75 isotope by Aston: Phil Mag 40, 632 (1920) in mass spectrum of AsH_3.
Other reactions: ^{78}Se(p,α) E=15-16 MeV; measured Q (1982Zu04).
^{75}As(α,α') E=96, 115 MeV; measured excitation energy, $\sigma(\theta)$ (1978Mo10) and E=6.3-14.7 MeV, measured σ(E) (1994Bi01).
Additional information 1.
Mass measurements: 1985El01, 1977De20, 1976De21.
Nuclear moment, hyperfine structure: 1996Ta15, 1994Pa36, 1987Bo57, 1987Bo55.
Nuclear structure calculations: 1997La16, 1996St16, 1995Fe15, 1990Ho10, 1989Va16, 1985Ve10.

^{75}As Levels

Cross Reference (XREF) Flags

A	^{75}Ge β^- decay (82.78 min)	E	^{74}Ge(p,X) IAR	I	^{75}As(n,n'γ)
B	^{75}Ge β^- decay (47.7 s)	F	^{74}Ge(p,γ)	J	Coulomb excitation
C	^{75}As IT decay (17.62 ms)	G	^{74}Ge(^{3}He,d)	K	^{76}Se(d,^{3}He),(pol d,^{3}He)
D	^{75}Se ε decay (119.78 d)	H	^{75}As(γ,γ')		

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
0.0	3/2−	stable	ABCDEFGHIJK	μ=+1.439475 *65* (1953Ti01,1989Ra17,2011StZZ) Q=+0.314 *6* (1982Ef01,1989Ra17,2011StZZ) RMS charge radius <r^2>$^{1/2}$=4.0968 fm *20* (2004An14 evaluation; and 2008 update available at http://cdfe.sinp.msu.ru). Jπ: spin from NMR (1952Je05); others: 1954Fl41, 1948Da08, 1932To01. Parity from L(^{3}He,d)=L(d,^{3}He)=1. μ: NMR (1953Ti01,1952Je05). Additional information 2. Q: from 1982Ef01 (high resolution, Ge semi detector). Others: +0.30 *5* (1983Vo15; optical spectroscopy), 0.29 (1962Ko22).
198.6063 *8*	1/2−	885 ps *30*	ABCD FGHIJK	Jπ: from L(^{3}He,d)=L(d,^{3}He)=1 and $\gamma\gamma(\theta)$ of (136γ-66γ) in ^{75}Se ε decay exclude 3/2−. $T_{1/2}$: average of 870 ps *30* (1969Ho25) and 900 ps *30* (1967Se01); both delayed coin. Others: 1969Az02, 1970Az01, 1970Si21.
264.6581 *6*	3/2−	11.2 ps *3*	AB D FGHIJK	μ=+0.98 *19* (1971BeWK,1989Ra17,2011StZZ) μ: IPAC (1971BeWK,1973Ch45). Jπ: from L(d,^{3}He)=1 and $\gamma\gamma(\theta)$ of (136γ-265γ) in ^{75}Se ε decay exclude 1/2− (non zero A_2). $T_{1/2}$: weighted average of 10.9 ps *7* (1962Me04) and 11.2 ps *3* (1967La07); see ^{75}As(γ,γ').
279.5428 *8*	5/2−	273 ps *3*	ABCD FGHIJK	μ=+0.918 *18* (1989Mo14,2011StZZ) Q=0.30 *10* (1990Mo22,1990Mo23,2011StZZ) $T_{1/2}$: from $\gamma\gamma$(t) (1989Mo14,1990Mo06). Others: 1973Ch45, 1972Gu03, 1971Ba71, 1970Az01, 1969Ho25, 1969Sh12, 1968Go41, 1967La07, 1967Se01, 1962Va02. Jπ: from L(^{3}He,d)=L(d,^{3}He)=3; $\gamma(\theta)$ of 280γ in Coulomb excitation and M1+E2 γ to 3/2−. μ,Q: TDPAC method (1989Mo14,1990Mo22). Others: μ=+0.81 *8* IPAC (1971BeWK), 1973Ch45, 1970Az01, 1966Ag01, 1960Ma03.
303.9243 *8*	9/2+	17.62 ms *23*	CD FG I K	%IT=100

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{75}As Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
				$T_{1/2}$: from 1998Hw05 (correlation counting method). Others: 16.2 ms *3* (1994Sm09), 16.79 ms *15* (1980Jo11), 16.9 ms *6*, 18.2 ms *10* (1984Br30), 17.53 ms *8* (1972Br53), 16.5 ms *3* (1969Ku08), 1969Fa13 (and 1969FaZY), 17.5 ms *10* (1966Me02), 16.3 ms *16* (1967Iv04), 15.4 ms *6* (1966La25), 16.8 ms *4* (1961Sc09), 15.6 ms *4* (1961Mo06), 17.0 ms *10* (1959Gl56), 17.0 ms *10* (1958Du80), 17.0 ms *7* (1957Sc11). 1998Hw05 obtain 16.5 ms by analyzing data in the same manner as 1994Sm09. Weighted average of all values is 16.9 ms *2*.
				Jπ: L(^{3}He,d)=L(d,^{3}He)=4; E3 γ to 3/2$^-$.
400.6583 *6*	5/2$^+$	1.67 ns *5*	AB D FGHIJK	E(level): uncertain in ^{75}Ge β$^-$ decay(82.78) and ^{75}As(γ,γ′).
				Jπ: from L(^{3}He,d)=L(d,^{3}He)=2 and E2 γ to 9/2$^+$. In 2012Sa41, the authors compare σ(θ) with Hauser-Feshbach calculations and find J=5/2$^-$.
				$T_{1/2}$: from ^{75}Se ε decay (1967Se01). Others: 1969Ho25, 1970Az01, 1959Ve22.
468.74 *17*	1/2$^-$		A D FGHIJK	Jπ: from L(^{3}He,d)=L(d,^{3}He)=1; L-1/2 from analyzing powers.
572.41 *3*	5/2$^-$	2.9 ps *3*	D FGHIJK	Jπ: L(d,^{3}He)=3; L+1/2 from $A_y(\theta)$ in (pol d,^{3}He). Also γ(θ) of 572 γ in Coul. ex. supports 5/2$^-$.
				$T_{1/2}$: from ^{75}As(γ,γ′). Coul. ex. gives 2.4 ps *6*.
585 *7*	1/2$^-$		FG K	XREF: G(?).
				Jπ: L(d,^{3}He)=1; L-1/2 from (pol d,^{3}He).
				E(level): from (^{3}He,d). Level uncertain in (^{3}He,d). 1997Ra16 reported E=585 in (p,γ).
617.68 *4*	1/2$^-$,3/2$^-$		A D F HIJK	Jπ: from L(d,^{3}He)=1.
821.62 *15*	7/2$^-$	3.0 ps *3*	D FGHIJK	Jπ: from L(^{3}He,d)=3, (d,^{3}He) and γ(θ) of 822γ in Coul. ex.
				$T_{1/2}$: from 1981Ca10 by nuclear resonance fluorescence technique. Other: 2.46 ps *19* from B(E2) and Coul. ex.
860.0 *4*	1/2$^+$		G I K	Jπ: from L(^{3}He,d)=L(d,^{3}He)=0. γ to 5/2$^-$ does not support positive parity.
865.4 *5*	(3/2$^-$,5/2$^-$)	0.60 ps *5*	F HIJ	Jπ: Coulomb excitation suggest 1/2$^-$, 3/2$^-$, 5/2$^-$, 7/2$^-$. γ to 1/2$^-$ rules out Jπ=7/2$^-$; γ from 7/2-rules out 1/2.
				$T_{1/2}$: from 1981Ca10 (nuclear resonance fluorescence technique).
886.4 *5*			F I	Jπ: gammas to 3/2$^-$ and 5/2$^-$ suggest 1/2$^-$, 3/2, 5/2, 7/2$^-$.
1043.4 *6*	7/2$^-$&		FG I	Jπ: γ to 3/2$^-$ suggests negative parity.
1063.3 *5*	3/2$^-$&		Fg IJ	XREF: g(1070).
1074.5@ *7*	3/2$^-$	0.199 ps *13*	FgHIJK	Jπ: from L(d,^{3}He)=1 and γ(θ) in (n,n′γ). From the comparison of σ(θ) with Hauser-Feshbach calculations, the authors of 2012Sa41 assign J=3/2$^-$,5/2$^-$.
				$T_{1/2}$: from 1981Ca10.
1080.8 *8*	(5/2$^+$)&		I	
1096.3 *7*	(7/2$^-$)		I	Jπ: γ to 5/2$^-$; γ from (3/2$^-$,5/2$^+$). γ(θ) in (n,n′γ) rules out J=1/2, 3/2 and 5/2.
1100.2 *6*	(5/2$^+$,7/2$^-$)		I	Jπ: γ′s to 9/2$^+$ and 3/2$^-$. J=1/2 proposed in (n,n′γ) is inconsistent.
1126.7 *6*	(1/2$^+$)&	1.02 ps *11*	F HI	$T_{1/2}$: from 1981Ca10 in ^{75}As(γ,γ).
1127 *6*	1/2$^-$,3/2$^-$		G K	E(level): weighted average of 1131 *10* (^{3}He,d) and 1127 *6* (d,^{3}He).
				Jπ: L(^{3}He,d)=L(d,^{3}He)=1.
1172.0 *6*	(1/2$^-$ to 7/2$^-$)		I	Jπ: gammas to 5/2$^-$ and 3/2$^-$ inconsistent with J=11/2 in (n,n′γ).
1203.5 *6*	3/2$^-$		FGHI K	XREF: G(1213).
				E(level): level is uncertain in (^{3}He,d).
				Jπ: L(^{3}He,d)=(d,^{3}He)=1; γ(θ) in (n,n′γ) support 3/2.
1260? *4*			H	E(level): γ from 1/2$^{(+)}$ suggests this level is different from 9/2$^+$ from (d,^{3}He).
1261 *5*	9/2$^+$		F K	XREF: K(1272).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{75}As Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
				E(level): from ^{74}Ge(p,γ). Level uncertain in (d,^{3}He). Jπ: L(d,^{3}He)=4 and analyzing powers.
1302.3 *7*	5/2$^+$		FG I	XREF: G(1297). Jπ: L(^{3}He,d)=2 and γ(θ) in (n,n′γ) favor 5/2$^+$.
1309.5 *4*	7/2$^-$		F I K	Jπ: from L(d,^{3}He)=3; L-1/2 from analyzing powers. But γ(θ) in (n,n′γ) gives 5/2.
1349.4 *6*	3/2$^-$	0.125 ps *22*	FGHI	Jπ: L(^{3}He,d)=1. Jπ=1/2 is ruled out in (n,n′γ). $T_{1/2}$: from 1981Ca10.
1370.8 *7*	(3/2$^-$)&	0.15 ps *3*	F HI	$T_{1/2}$: from 1981Ca10.
1420.2 *5*	(5/2$^-$)&		EF I	
1430 *8*	9/2$^+$		g k	Jπ: L(d,^{3}He)=L(^{3}He,d)=1+4 for a 1435 doublet. L+1/2 from (pol d,^{3}He). The L=1 component is most likely associated with 1430.5 level seen in (n,n′γ).
1430.5 *6*	3/2$^-$&		FgHI k	Jπ: L(^{3}He,d)=L(d,^{3}He)=1+4 for a 1435 doublet. Positive parity is suggested in (n,n′γ).
1503.4 *5*	3/2$^{(+)}$&		F HI	Jπ: γ to 7/2$^-$ does not support positive parity.
1579.8 *7*	1/2$^-$&		F I	
1595 *10*	$^+$		FG	E(level): from (^{3}He,d) for a doublet and level uncertain in (p,γ). Jπ: L(^{3}He,d)=2+4 gives 3/2$^+$,5/2$^+$ and 7/2$^+$,9/2$^+$.
1606.3 *5*	1/2$^-$,3/2$^-$		F HI K	Jπ: L(d,^{3}He)=1; L-1/2 from analyzing powers; but 1/2$^-$ is inconsistent with (n,n′γ).
1654.6 *6*	3/2$^{(+)}$&		f I	XREF: f(1662).
1660 *10*	5/2$^-$,7/2$^-$		fG	E(level): from (^{3}He,d). Jπ: L(^{3}He,d)=3.
1684.2 *5*	(3/2$^-$)&		I	
1687.9 *6*	1/2$^{(-)}$&		I	
1691 *9*	7/2$^-$		K	Jπ: L(d,^{3}He)=3; L+1/2 from analyzing powers.
1765? *7*			G	
1808 *2*	9/2$^+$		FG K	E(level): from (p,γ). Jπ: L(^{3}He,d)=L(d,^{3}He)=4; L+1/2 from analyzing powers In (d,^{3}He).
1842? *5*			H	
1873.2 *5*	3/2$^-$		F HI K	XREF: K(1878). Jπ: L(d,^{3}He)=1. Jπ=1/2$^-$ is ruled out in (n,n′γ). γ to 9/2$^+$ is inconsistent with Jπ=3/2$^-$.
1900.9 *6*	(5/2$^+$)&		I	Jπ: γ to 9/2$^+$ supports Jπ=5/2$^+$.
1909.2 *7*	1/2$^+$		G I	XREF: G(1903). Jπ: L(^{3}He,d)=0. γ to 5/2$^-$ does not support positive parity.
1928 *10*	7/2$^-$		K	Jπ: L(d,He)=3; L+1/2 from analyzing powers.
1942 *10*	1/2$^-$,3/2$^-$		G	Jπ: L(^{3}He,d)=1.
1987.8 *6*	1/2&		I	
2001.0 *5*	5/2&		I	
2009.8 *6*	(5/2)		I	Jπ: γ's to 3/2$^-$, 9/2$^+$ and 1/2$^-$. Jπ=1/2$^-$,3/2$^+$ from (n,n′γ) is inconsistent.
2021.3 *6*	(1/2$^-$,3/2$^+$)&		I	
2061 *3*			F	
2066.8 *6*	(5/2$^+$)		HI	Jπ: gammas to 3/2$^-$ and 9/2$^+$; γ from 1/2$^{(+)}$. Jπ=1/2$^-$,3/2$^+$ from (n,n′γ) is inconsistent.
2098			F H	E(level): from (p,γ).
2103.9 *8*	1/2$^{(+)}$&		I	
2111.1 *5*	3/2$^-$		G I	Jπ: L(^{3}He,d)=1. γ to 5/2$^+$.
2148.2 *6*			I	
2159.8 *10*	1/2$^+$&		I	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{75}As Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
2175.8 *10*	1/2&		F HI	XREF: F(2180).
2210 *10*	5/2−,7/2−		G	Jπ: L(^{3}He,d)=3.
2228.0 *7*	1/2−,3/2&		HI	
2237.8 *6*	3/2−&		I K	XREF: K(2246). Jπ: also L(d,^{3}He)=1.
2258.6 *10*	1/2&		I	
2296 *5*	5/2−,7/2−		G	Jπ: L(^{3}He,d)=3.
2303.2 *6*	(3/2−,5/2+)		I	Jπ: gammas to 1/2+ and 7/2−.
2326.6? *16*			I	
2358.2? *18*			I	
2379.6 *6*	3/2−		G I K	XREF: G(2385). Jπ: L(^{3}He,d)=L(d,^{3}He)=1; γ to 7/2− rules out 1/2−.
2419.0? *20*			I	
2446 *10*	1/2−,3/2−		G	Jπ: L(^{3}He,d)=1.
2469 *5*			F	
2485 *10*	1/2−,3/2−		FGH	XREF: F(2470)H(2470). Jπ: L(^{3}He,d)=1. E(level): from (^{3}He,d). Level uncertain in (p,γ) and (γ,γ′).
2503.5 *6*	(1/2−,3/2,5/2+)		I	Jπ: gammas to 1/2+ and 5/2−.
2508.2 *6*	(5/2+)		I	Jπ: γ′s to (1/2+) and 9/2+.
2528 *10*			G	E(level): L(^{3}He,d)=0+1 suggests a possible doublet.
2570.9 *6*	(5/2+)		F HI	E(level): level uncertain in (γ,γ′). Jπ: γ′s to 3/2− and 9/2+; γ from 1/2(+).
2595 *5*			GH	XREF: H(2596). E(level): from (^{3}He,d). L(^{3}He,d)=1(+2) suggests a possible doublet.
2608.9? *20*			I	
2663 *4*			F	
2683			FGH	XREF: G(2680). E(level): from (p,γ). L(^{3}He,d)=0+2 suggests a possible doublet. Level uncertain in (γ,γ′).
2798 *5*			G	
2920 *5*			G	E(level): L(^{3}He,d)=0+2 suggests a possible doublet.
2938 *4*			F	
3046 *10*	1/2−,3/2−		G	Jπ: L(^{3}He,d)=1.
3099 *10*	(1/2−,3/2−)		G	Jπ: L(^{3}He,d)=(1).
3152 *10*	(1/2−,3/2,5/2+)		G	Jπ: L(^{3}He,d)=1,2.
3222 *15*	1/2−,3/2−		G	Jπ: L(^{3}He,d)=1.
3308 *10*	‡		G	
3355 *10*	‡		G	
3414 *15*	#		G	
3460 *15*	#		G	
3565 *15*	(1/2−,3/2−)		G	Jπ: L(^{3}He,d)=(1).
3608 *10*	(3/2+,5/2+)		G	Jπ: L(^{3}He,d)=(2).
3716 *10*	(1/2−,3/2,5/2+)		G	Jπ: L(^{3}He,d)=(1,2).
3778 *10*	(1/2−,3/2,5/2+)		G	Jπ: L(^{3}He,d)=(1,2).
3869 *10*	(1/2−,3/2,5/2+)		G	Jπ: L(^{3}He,d)=(1,2).
3906 *10*			G	
7645.4 *10*	1/2(+)	1.3 fs *4*	H	Jπ: from γ(θ) and transition strength. $T_{1/2}$: from 1969Mo27.
9399			F	
10421 *3*	(1/2−)[a]		E	
10639 *3*	(9/2+)[a]		E	
10668 *3*	(1/2−)[a]		E	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{75}As Levels (continued)

E(level)†	J$^{\pi}$	XREF	E(level)†	J$^{\pi}$	XREF	E(level)†	XREF
10999 *3*	(3/2$^-$)[a]	E	11842 *3*	(5/2$^+$)[a]	E	12411	E
11027 *3*	(3/2$^+$)[a]	E	11871		E	12657	E
11092		E	11884 *3*		E	12782	E
11118	(1/2$^+$)[a]	E	11958 *3*		E	12953	E
11334 *3*	(1/2$^-$)[a]	E	12108		E	13068	E
11570	(3/2$^-$)[a]	E	12273		E	13282	E

† From least-squares fit to Eγ data for levels populated in γ-ray studies.
‡ L=1+4 for 3308+3355 levels.
# L=(1+2) for 3414+3460 levels.
@ From levels in Coulomb excitation.
& From comparison of measured yield and $\gamma(\theta)$ with Hauser-Feshbach calculation in ^{75}As(n,n$'\gamma$).
[a] From L transfer and/or J$^{\pi}$ of parent state in ^{75}Ge.

Adopted Levels, Gammas (continued)

γ(^{75}As)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[#]	α[e]	Comments
198.6063	1/2⁻	198.6060 *12*	100	0.0	3/2⁻	M1+E2	0.389 *17*	0.0208 *6*	α(K)=0.0184 *5*; α(L)=0.00202 *6*; α(M)=0.000307 *9*; α(N)=2.28×10^{-5} *7* B(M1)(W.u.)=0.00270 *10*; B(E2)(W.u.)=14.2 *12* δ: other: 0.425 *18* from $T_{1/2}$ and B(E2).
264.6581	3/2⁻	66.0518 *8*	1.887 *12*	198.6063	1/2⁻	M1+E2	+0.066 *19*	0.298 *11*	α(K)=0.264 *9*; α(L)=0.0296 *14*; α(M)=0.00452 *22*; α(N)=0.000336 *14* B(M1)(W.u.)=0.125 *4*; B(E2)(W.u.)=1.7×10^2 *10*
		264.6576 *9*	100.0 *5*	0.0	3/2⁻	M1+E2	−0.07 *2*	0.00718 *11*	α=0.00718 *11*; α(K)=0.00639 *10*; α(L)=0.000675 *11*; α(M)=0.0001030 *16*; α(N)=7.83×10^{-6} B(M1)(W.u.)=0.103 *3*; B(E2)(W.u.)=10 *6* δ: other: 0.0362 *15* from $T_{1/2}$ and B(E2).
279.5428	5/2⁻	14.89[i]	≤0.0047	264.6581	3/2⁻	[M1(+E2)]	0.15 *15*	50 *30*	α(K)=28 *9*; α(L)=20 *18*; α(M)=3 *3*; α(N)=0.15 *13* B(M1)(W.u.)=0.019 *16* δ: from RUL(E2)<300.
		81.15 *9*	0.0339 *26*	198.6063	1/2⁻	E2		1.72	α(K)=1.472 *21*; α(L)=0.213 *3*; α(M)=0.0322 *5*; α(N)=0.00211 *3* B(E2)(W.u.)=10.2 *9*
		279.5422 *10*	100.0 *5*	0.0	3/2⁻	M1+E2	−0.49 *3*	0.0084 *3*	α=0.0084 *3*; α(K)=0.00751 *23*; α(L)=0.000807 *25*; α(M)=0.000123 *4*; α(N)=9.2×10^{-6} *3* B(M1)(W.u.)=0.00286 *11*; B(E2)(W.u.)=12.0 *13*
303.9243	9/2⁺	24.38	1.93 *9*	279.5428	5/2⁻	M2(+E3)	0.013 *13*	205 *5*	α(K)=165.6 *24*; α(L)=33.3 *22*; α(M)=5.2 *4*; α(N)=0.364 *17* B(M2)(W.u.)=0.044 *10* δ: from RUL(E3)<100.
		303.9236 *10*	100.0 *5*	0.0	3/2⁻	E3		0.0538	α(K)=0.0469 *7*; α(L)=0.00592 *9*; α(M)=0.000899 *13*; α(N)=6.30×10^{-5} *9* B(E3)(W.u.)=0.171 *8*
400.6583	5/2⁺	96.7340 *9*	5.89 *3*	303.9243	9/2⁺	E2		0.893	α(K)=0.772 *11*; α(L)=0.1044 *15*; α(M)=0.01576 *22*; α(N)=0.001058 *15* B(E2)(W.u.)=76.4 *25*
		121.1155 *11*	29.39 *15*	279.5428	5/2⁻	E1		0.0417	α(K)=0.0372 *6*; α(L)=0.00388 *6*; α(M)=0.000588 *9*; α(N)=4.37×10^{-5} *7* B(E1)(W.u.)=2.29×10^{-5} *7*
		136.0001 *6*	100.0 *5*	264.6581	3/2⁻	E1		0.0295	α(K)=0.0263 *4*; α(L)=0.00274 *4*; α(M)=0.000415 *6*; α(N)=3.10×10^{-5} *5* B(E1)(W.u.)=5.51×10^{-5} *17*
		400.6572 *8*	19.50 *10*	0.0	3/2⁻	E1		0.001346 *19*	α=0.001346 *19*; α(K)=0.001202 *17*; α(L)=0.0001241 *18*; α(M)=1.89×10^{-5} *3*; α(N)=1.432×10^{-6} B(E1)(W.u.)=4.21×10^{-7} *13*
468.74	1/2⁻	204.26[a] 270.2[a] *4*	<0.5 1.5 *5*	264.6581 198.6063	3/2⁻ 1/2⁻				

Adopted Levels, Gammas (continued)

γ(^{75}As) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[#]	α[e]	Comments
468.74	1/2⁻	468.8[a] *2*	100 *4*	0.0	3/2⁻				
572.41	5/2⁻	292.6[b] *4*	1.01 *22*	279.5428	5/2⁻				
		308.0[b] *7*	0.41 *10*	264.6581	3/2⁻				
		373.87[&] *8*	7.0 *3*	198.6063	1/2⁻	[E2]		0.00646 *10*	α=0.00646 *10*; α(K)=0.00573 *9*; α(L)=0.000620 *10*; α(M)=9.43×10^{-5} *15*; α(N)=7.01×10^{-6} *11* B(E2)(W.u.)=92 *11* I_γ: from ε decay. 0.51 *20* in Coul. ex.
		572.40[&] *3*	100.0 *10*	0.0	3/2⁻	M1+E2	+0.39 *5*	0.00122 *3*	α=0.00122 *3*; α(K)=0.001093 *22*; α(L)=0.0001138 *23*; α(M)=1.73×10^{-5} *4*; α(N)=1.32×10^{-6} B(M1)(W.u.)=0.032 *4*; B(E2)(W.u.)=21 *5* δ: average of 0.43 *5* (from α(K)exp=0.0061 *24*) and 0.39 *5* (from γ(θ) in Coul. ex.).
617.68	1/2⁻,3/2⁻	338.0[a] *4*	2.5 *6*	279.5428	5/2⁻				I_γ: from ^{75}Ge β⁻. Others: 6.2 in (n,n′γ), 12 in Coul. ex.
		353.0[a] *5*	11.1 *12*	264.6581	3/2⁻				
		419.08 *4*	100 *3*	198.6063	1/2⁻	M1(+E2)	<0.35	0.00258 *24*	
		617.67 *7*	36.4 *7*	0.0	3/2⁻	M1,E2		0.00116 *20*	I_γ: from ε decay. Other: 62 *3* from ^{75}Ge decay is in disagreement.
821.62	7/2⁻	249.3[&] *3*	6.4 *9*	572.41	5/2⁻				
		542.3[&] *4*	9.6 *11*	279.5428	5/2⁻				
		557.0[&] *8*	0.7 *2*	264.6581	3/2⁻	[E2]		0.00184 *3*	α=0.00184 *3*; α(K)=0.001635 *24*; α(L)=0.000173 *3*; α(M)=2.64×10^{-5} *4*; α(N)=1.98×10^{-6} *3* B(E2)(W.u.)=1.1 *4*
		821.6[&] *2*	100.0 *15*	0.0	3/2⁻	[E2]		0.000626 *9*	α=0.000626 *9*; α(K)=0.000558 *8*; α(L)=5.82×10^{-5} *9*; α(M)=8.87×10^{-6} *13*; α(N)=6.73×10^{-7} *10* B(E2)(W.u.)=23.0 *24*
860.0	1/2⁺	459.44	100	400.6583	5/2⁺				
		582.3	39	279.5428	5/2⁻				
		661.4	36	198.6063	1/2⁻				
		859.93	82	0.0	3/2⁻				
865.4	(3/2⁻,5/2⁻)	292.0	4	572.41	5/2⁻				
		564.4[ci]	5	303.9243	9/2⁺	[M2,E3]			E_γ: questionable γ ray due to M2 or E3 multipolarity involved, and poor fit in level scheme. Level-energy difference=561.5.
		585.6	5	279.5428	5/2⁻				
		667.4	7	198.6063	1/2⁻				
		864.12	100	0.0	3/2⁻				
886.4		313.51	38	572.41	5/2⁻				
		606.32	100	279.5428	5/2⁻				
		621.3	28	264.6581	3/2⁻				
1043.4	7/2⁻	642.89	100	400.6583	5/2⁺				
		739.62	41	303.9243	9/2⁺				I_γ: 100 in (p,γ) is discrepant.

$^{75}_{33}As_{42}$-7

Adopted Levels, Gammas (continued)

γ(^{75}As) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[#]	α[e]	Comments
1043.4	7/2⁻	1044	22	0.0	3/2⁻				E_γ: from (p,γ) only.
1063.3	3/2⁻	491.9	19	572.41	5/2⁻	D+Q	+0.81[@]		
		784.38	100	279.5428	5/2⁻	D+Q	−0.67 [@]		
		798.3	60	264.6581	3/2⁻				
		1063.12	9	0.0	3/2⁻	D+Q	−1.25[@]		
1074.5	3/2⁻	458	37	617.68	1/2⁻,3/2⁻				
		608	67	468.74	1/2⁻				
		875.6	7	198.6063	1/2⁻	M1+E2	+0.38[@]	0.000464 *7*	α=0.000464 *7*; α(K)=0.000414 *6*; α(L)=4.27×10^{-5} *6*; α(M)=6.51×10^{-6} *10*; α(N)=4.98×10^{-7} *7* B(M1)(W.u.)=0.0094; B(E2)(W.u.)=2.4 Mult.,δ: from (n,n′γ) (1978Ab06).
		1074.72	100	0.0	3/2⁻				
1080.8	(5/2⁺)	195.3	82	886.4					
		815.33[h]	100	264.6581	3/2⁻				
1096.3	(7/2⁻)	815.33[h]	100	279.5428	5/2⁻				
1100.2	(5/2⁺,7/2⁻)	795.6	100	303.9243	9/2⁺				
		1101.04	54	0.0	3/2⁻				
1126.7	(1/2⁺)	1127.77	100	0.0	3/2⁻	[E1]			B(E1)(W.u.)=2.6×10^{-4} *3*
1172.0	(1/2⁻ to 7/2⁻)	600.10	100	572.41	5/2⁻				
		892.57	89	279.5428	5/2⁻				
1203.5	3/2⁻	734.7	31	468.74	1/2⁻				
		924.2	11	279.5428	5/2⁻				
		1203.51	100	0.0	3/2⁻				
1302.3	5/2⁺	260.8	32	1043.4	7/2⁻				
		1020.34	100	279.5428	5/2⁻				E_γ: level-energy difference=1022.8.
1309.5	7/2⁻	445.1	15	865.4	(3/2⁻,5/2⁻)				
		736.9	32	572.41	5/2⁻				
		908.9	20	400.6583	5/2⁺				
		1005.65	32	303.9243	9/2⁺				
		1044.22	100	264.6581	3/2⁻				
		1308.97	46	0.0	3/2⁻				
1349.4	3/2⁻	881.2	21	468.74	1/2⁻				
		947.86	28	400.6583	5/2⁺				
		1349.28	100	0.0	3/2⁻				
1370.8	(3/2⁻)	241.7	83	1126.7	(1/2⁺)				
		549.5	30	821.62	7/2⁻				
		1370.65	100	0.0	3/2⁻				
1420.2	(5/2⁻)	248.9	80	1172.0	(1/2⁻ to 7/2⁻)				
		1142.02	100	279.5428	5/2⁻				
		1156.4	18	264.6581	3/2⁻				
		1420.04	30	0.0	3/2⁻				
1430.5	3/2⁻	303.6	67	1126.7	(1/2⁺)				

$^{75}_{33}As_{42}$-8

Adopted Levels, Gammas (continued)

γ(^{75}As) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	Comments
1430.5	3/2$^-$	1030.1	49	400.6583	5/2$^+$		
		1232.0	16	198.6063	1/2$^-$		
		1430.30	100	0.0	3/2$^-$		
1503.4	3/2$^{(+)}$	403.3	28	1100.2	(5/2$^+$,7/2$^-$)		
		682.0	16	821.62	7/2$^-$		
		1105.7	16	400.6583	5/2$^+$		E_γ: level-energy difference=1102.7.
		1302.8	100	198.6063	1/2$^-$		
		1503.1	16	0.0	3/2$^-$		
1579.8	1/2$^-$	1299.5	100	279.5428	5/2$^-$		
		1580.6	12	0.0	3/2$^-$		
1606.3	1/2$^-$,3/2$^-$	988.6	15	617.68	1/2$^-$,3/2$^-$		
		1137.9	24	468.74	1/2$^-$		
		1408.3	31	198.6063	1/2$^-$		
		1605.52	100	0.0	3/2$^-$		
1654.6	3/2$^{(+)}$	1037.1	54	617.68	1/2$^-$,3/2$^-$		
		1082.60	100	572.41	5/2$^-$		
		1653.99	79	0.0	3/2$^-$		
1684.2	(3/2$^-$)	557.4	55	1126.7	(1/2$^+$)		
		825.0	55	860.0	1/2$^+$		
		1066.1	100	617.68	1/2$^-$,3/2$^-$		
		1281.5	68	400.6583	5/2$^+$		E_γ: level-energy difference=1283.5.
		1405.7	86	279.5428	5/2$^-$		
		1684.7	91	0.0	3/2$^-$		
1687.9	1/2$^{(-)}$	1070.6	23	617.68	1/2$^-$,3/2$^-$		
		1423.41	33	264.6581	3/2$^-$		
		1688.0	100	0.0	3/2$^-$		
1808	9/2$^+$	1408	100	400.6583	5/2$^+$		
		1504	70	303.9243	9/2$^+$		
		1543	90	264.6581	3/2$^-$		
1873.2	3/2$^-$	669	176	1203.5	3/2$^-$		I_γ: calculated based on the intensities seen in ^{74}Ge(p,γ) where the 1593.5 γ was not observed.
		1009[i]		865.4	(3/2$^-$,5/2$^-$)		
		1052.1	18	821.62	7/2$^-$		
		1474	73	400.6583	5/2$^+$		I_γ: calculated based on the intensities seen in ^{74}Ge(p,γ) where the 1593.5 γ was not observed.
		1568.8[g]	52	303.9243	9/2$^+$	[E3]	
		1593.5	100	279.5428	5/2$^-$		
		1609		264.6581	3/2$^-$		
		1675.1	91	198.6063	1/2$^-$		
		1872.30	42	0.0	3/2$^-$		
1900.9	(5/2$^+$)	1599.0	80	303.9243	9/2$^+$		E_γ: level-energy difference=1596.9.
		1620.8	77	279.5428	5/2$^-$		
		1899.24	100	0.0	3/2$^-$		

$^{75}_{33}As_{42}$-9

Adopted Levels, Gammas (continued)

γ(^{75}As) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [‡]	E_f	J_f^π	Comments
1909.2	1/2+	1629.48	67	279.5428	5/2−	
		1644.7	100	264.6581	3/2−	
1987.8	1/2	300.5	22	1687.9	1/2(−)	
		1517.90	100	468.74	1/2−	
		1723.6	35	264.6581	3/2−	
		1987.8	47	0.0	3/2−	
2001.0	5/2	938.6	23	1063.3	3/2−	
		1112.5	25	886.4		E_γ: level-energy difference=1114.6.
		1178.6	18	821.62	7/2−	
		1602.1	21	400.6583	5/2+	
		1737.4	41	264.6581	3/2−	
		1999.89	100	0.0	3/2−	
2009.8	(5/2)	912.9	22	1096.3	(7/2−)	
		1543.2	72	468.74	1/2−	E_γ: level-energy difference=1541.0.
		1704.5	83	303.9243	9/2+	
		2009.40	100	0.0	3/2−	
2021.3	(1/2−,3/2+)	895.8	56	1126.7	(1/2+)	
		1753.2[c]	100	264.6581	3/2−	E_γ: level-energy difference=1756.6.
		2022.00	67	0.0	3/2−	
2061		932	63	1126.7	(1/2+)	
		996	100	1063.3	3/2−	
		1757	88	303.9243	9/2+	
2066.8	(5/2+)	757.4	100	1309.5	7/2−	
		763.9	93	1302.3	5/2+	
		1762.8	86	303.9243	9/2+	
		2067.6	79	0.0	3/2−	
2098		1033[i]		1063.3	3/2−	
		1233	70	865.4	(3/2−,5/2−)	
		1698	44	400.6583	5/2+	
		1794	56	303.9243	9/2+	
		2098	100	0.0	3/2−	
2103.9	1/2(+)	1245.0	100	860.0	1/2+	
		2102.8	75	0.0	3/2−	
2111.1	3/2−	1537.6	66	572.41	5/2−	
		1710.4	74	400.6583	5/2+	
		1914.3	100	198.6063	1/2−	
		2110.3	24	0.0	3/2−	
2148.2		1885.7	52	264.6581	3/2−	E_γ: level-energy difference=1883.5.
		2147.3	100	0.0	3/2−	
2159.8	1/2+	2159.81	100	0.0	3/2−	
2175.8	1/2	575[i]		1606.3	1/2−,3/2−	
		1911[f] 4	100	264.6581	3/2−	
		1981	14	198.6063	1/2−	

$^{75}_{33}As_{42}$-10

Adopted Levels, Gammas (continued)

γ(^{75}As) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Comments
2175.8	1/2	2175.80		0.0	3/2$^-$	
2228.0	1/2$^-$,3/2	1962.5	100	264.6581	3/2$^-$	
		2228.49	100	0.0	3/2$^-$	
2237.8	3/2$^-$	364.3	28	1873.2	3/2$^-$	
		1376.7	36	860.0	1/2$^+$	
		2239.09	100	0.0	3/2$^-$	
2258.6	1/2	2258.60	100	0.0	3/2$^-$	
2303.2	(3/2$^-$,5/2$^+$)	1206.1	46	1096.3	(7/2$^-$)	
		1444.3	72	860.0	1/2$^+$	
		1481.9	100	821.62	7/2$^-$	
		2302.5	39	0.0	3/2$^-$	
2326.6?		717.5[i]	45	1606.3	1/2$^-$,3/2$^-$	
		2326.5[i]	100	0.0	3/2$^-$	
2358.2?		2358.2[i]	100	0.0	3/2$^-$	
2379.6	3/2$^-$	356.8	29	2021.3	(1/2$^-$,3/2$^+$)	
		1559.4	79	821.62	7/2$^-$	
		2379.5	100	0.0	3/2$^-$	
2419.0?		2419.4[i]	100	0.0	3/2$^-$	
2503.5	(1/2$^-$,3/2,5/2$^+$)	1001.1	53	1503.4	3/2$^{(+)}$	
		1616.8	100	886.4		
		1931.2	30	572.41	5/2$^-$	
		2502.4	68	0.0	3/2$^-$	
2508.2	(5/2$^+$)	361.3	50	2148.2		
		1379.5	65	1126.7	(1/2$^+$)	
		2203.1	79	303.9243	9/2$^+$	
		2507.6	100	0.0	3/2$^-$	
2570.9	(5/2$^+$)	1153.2	69	1420.2	(5/2$^-$)	E_γ: level-energy difference=1150.6.
		1526.0	61	1043.4	7/2$^-$	
		1953[d]		617.68	1/2$^-$,3/2$^-$	
		2103[d]		468.74	1/2$^-$	
		2266.0	47	303.9243	9/2$^+$	
		2307[d]		264.6581	3/2$^-$	
		2570.6	100	0.0	3/2$^-$	
2608.9?		2608.9[i]	100	0.0	3/2$^-$	
2663		565[i]		2098		
		2263		400.6583	5/2$^+$	
2683		1078[i]		1606.3	1/2$^-$,3/2$^-$	
		1818	71	865.4	(3/2$^-$,5/2$^-$)	
		2214	36	468.74	1/2$^-$	
		2418	79	264.6581	3/2$^-$	
		2484	100	198.6063	1/2$^-$	
		2683	71	0.0	3/2$^-$	

$^{75}_{33}As_{42}$-11

Adopted Levels, Gammas (continued)

γ(^{75}As) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π
2938		1516	78	1420.2	(5/2$^-$)
		1733	100	1203.5	3/2$^-$
		2634	83	303.9243	9/2$^+$
7645.4	1/2$^{(+)}$	4959 *4*		2683	
		5050 *4*	1.2 *5*	2595	
		5074 *4*		2570.9	(5/2$^+$)
		5176 *4*		2485	1/2$^-$,3/2$^-$
		5413 *4*	2.4 *5*	2228.0	1/2$^-$,3/2
		5470 *4*	2.2 *5*	2175.8	1/2
		5549 *4*	4.4 *10*	2098	
		5582 *4*	1.2 *5*	2066.8	(5/2$^+$)
		5774 *4*	6.1 *5*	1873.2	3/2$^-$
		5803 *4*	0.24 *24*	1842?	
		6039 *4*	2.9 *5*	1606.3	1/2$^-$,3/2$^-$
		6141 *4*	2.9 *5*	1503.4	3/2$^{(+)}$
		6214 *4*	17.3 *15*	1430.5	3/2$^-$
		6291 *4*	2.2 *5*	1349.4	3/2$^-$
		6384 *4*	3.4 *7*	1260?	
		6443 *4*	5.1 *5*	1203.5	3/2$^-$
		6512 *4*	16.6 *12*	1126.7	(1/2$^+$)
		6570 *4*	13.9 *12*	1074.5	3/2$^-$
		7028 *4*	7.1 *5*	617.68	1/2$^-$,3/2$^-$
		7078 *4*		572.41	5/2$^-$
		7178 *4*	23.7 *20*	468.74	1/2$^-$
		7242 *4*		400.6583	5/2$^+$
		7381 *4*	100 *7*	264.6581	3/2$^-$
		7447 *4*	3.7 *7*	198.6063	1/2$^-$
		7646 *4*	27.6 *22*	0.0	3/2$^-$
9399		6461	100	2938	
9399		6713	78	2683	
		6733	73	2663	
		6824[i]	≤15	2570.9	(5/2$^+$)
		7221	36	2175.8	1/2
		7299	93	2098	
		7335[i]	≤15	2061	
		7524	90	1873.2	3/2$^-$
		7591	61	1808	9/2$^+$
		7793	63	1606.3	1/2$^-$,3/2$^-$
		7891	55	1503.4	3/2$^{(+)}$
		7966	31	1430.5	3/2$^-$
		7976	28	1420.2	(5/2$^-$)
		8046	55	1349.4	3/2$^-$
		8193	82	1203.5	3/2$^-$
		8268	31	1126.7	(1/2$^+$)
		8331[i]	≤15	1074.5	3/2$^-$
		8343[i]	≤15	1063.3	3/2$^-$
		8353[i]	≤15	1043.4	7/2$^-$
		8536	58	865.4	(3/2$^-$,5/2$^-$)
		8779	70	617.68	1/2$^-$,3/2$^-$
		8828	63	572.41	5/2$^-$
		8930	67	468.74	1/2$^-$
		8997	36	400.6583	5/2$^+$
		9093	24	303.9243	9/2$^+$
		9120	39	279.5428	5/2$^-$
		9133	78	264.6581	3/2$^-$
		9200	93	198.6063	1/2$^-$
		9398	70	0.0	3/2$^-$

[†] From ^{75}Se ε decay, except as noted. Gammas from levels higher than 822 are from (n,n′γ). Uncertainty of 1 keV when not given. Reduced χ^2=1.2.
[‡] Relative photon branching from each level.
[#] From ^{75}Se ε decay, except as noted.
[@] From 1978Ab06 in (n,n′γ).
[&] Weighted average of Eγ data from ^{75}Se ε decay (119.78 d) and Coulomb excitation.
[a] From ^{75}Ge β$^-$ decay (82.78 min).
[b] From Coulomb excitation.
[c] Poor energy fit.
[d] γ seen only in ^{74}Ge(p,γ), where the 2570.6γ was not observed.

$^{75}_{33}As_{42}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{75}As)$ (continued)

[e] Additional information 3.
[f] From $^{75}As(\gamma,\gamma')$.
[g] This placement is unlikely since ΔJ^{π} requires E3.
[h] Multiply placed.
[i] Placement of transition in the level scheme is uncertain.

$^{75}_{33}As_{42}$-13

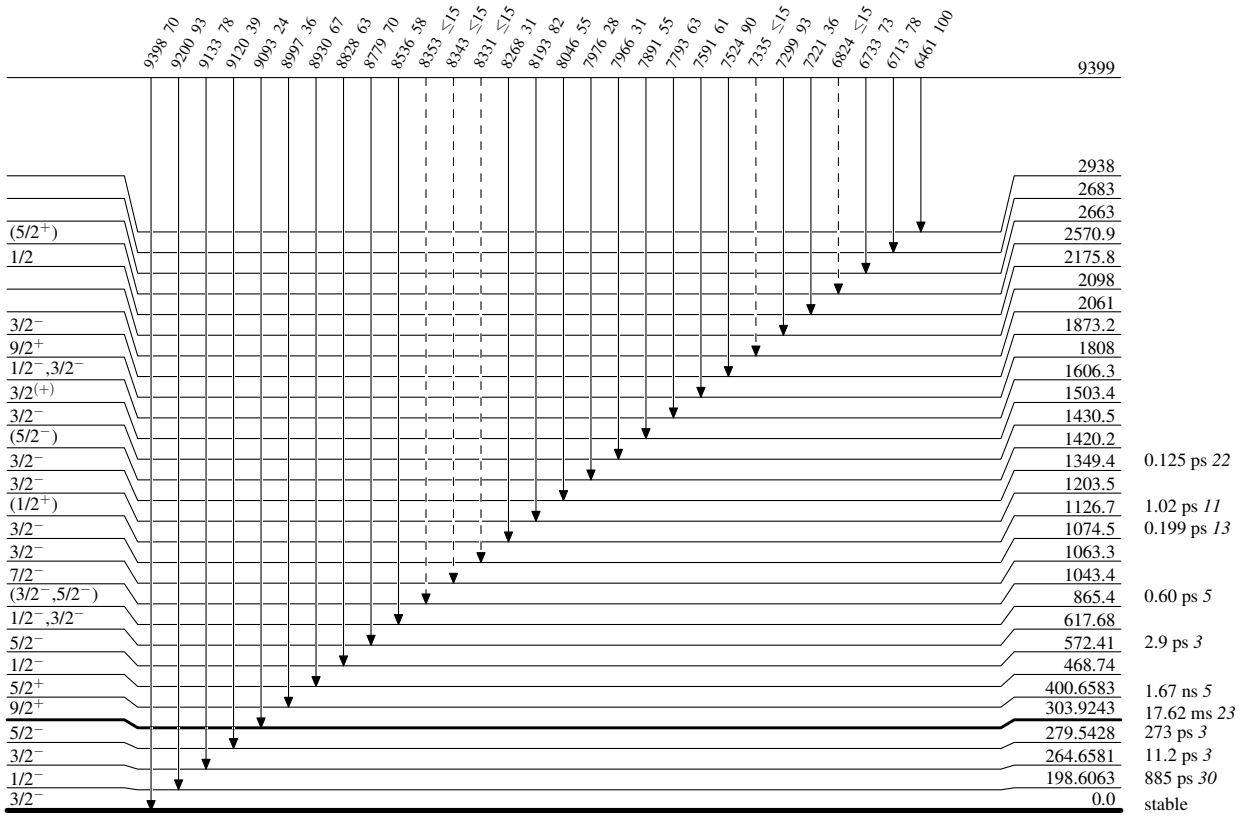
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{75}_{33}As_{42}$

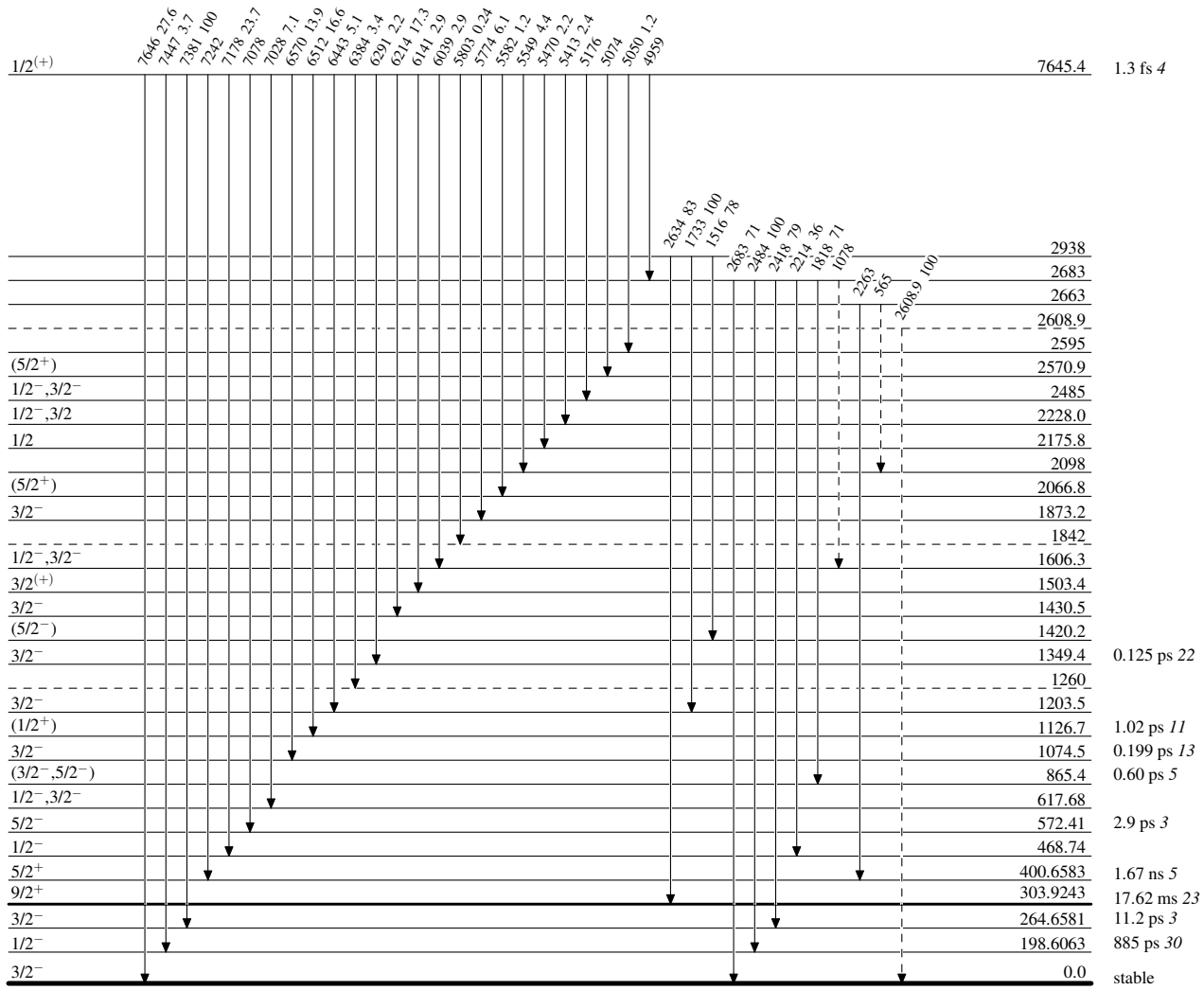
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{75}_{33}As_{42}$

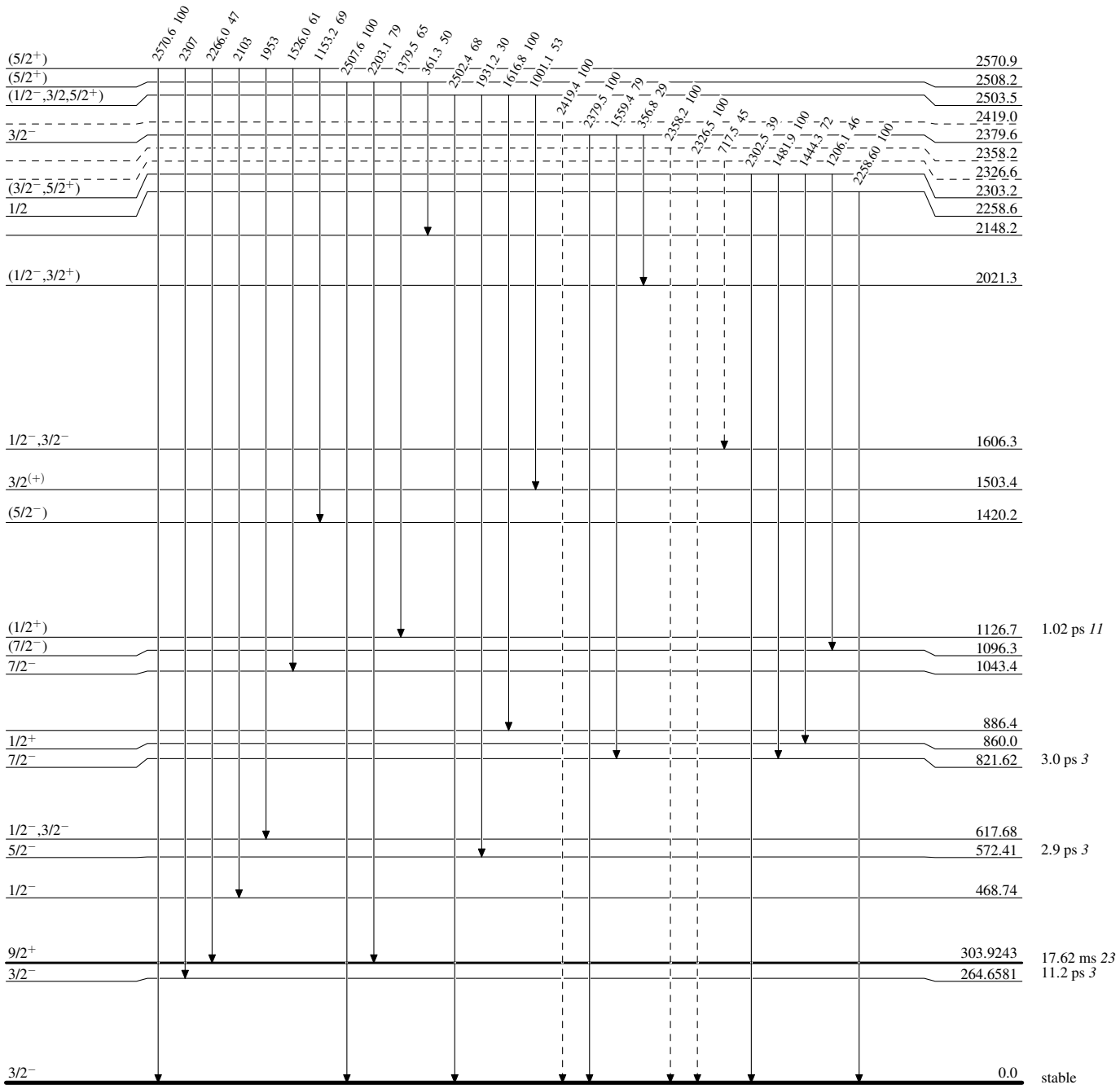
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{75}_{33}As_{42}$

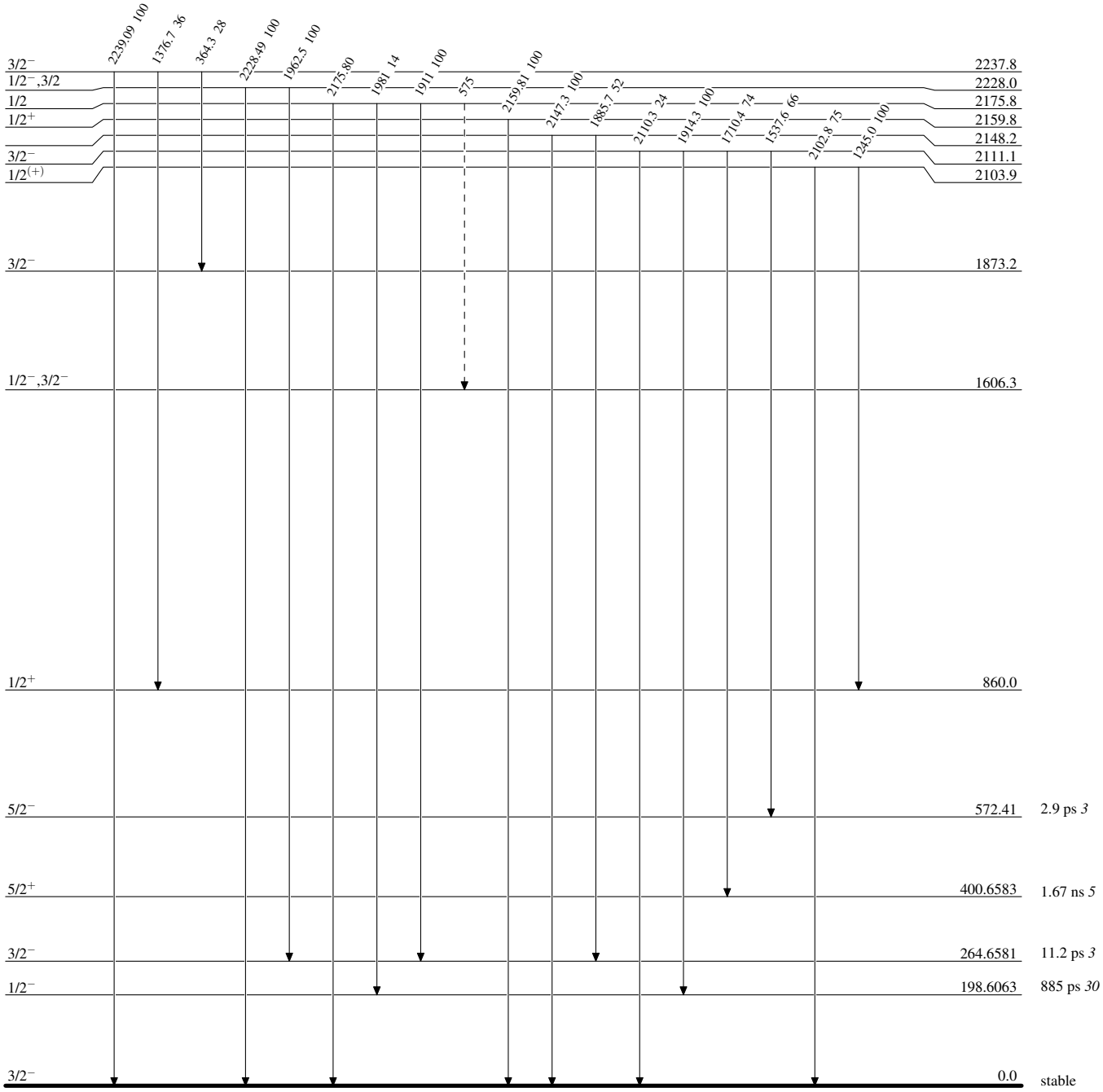
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{75}_{33}As_{42}$

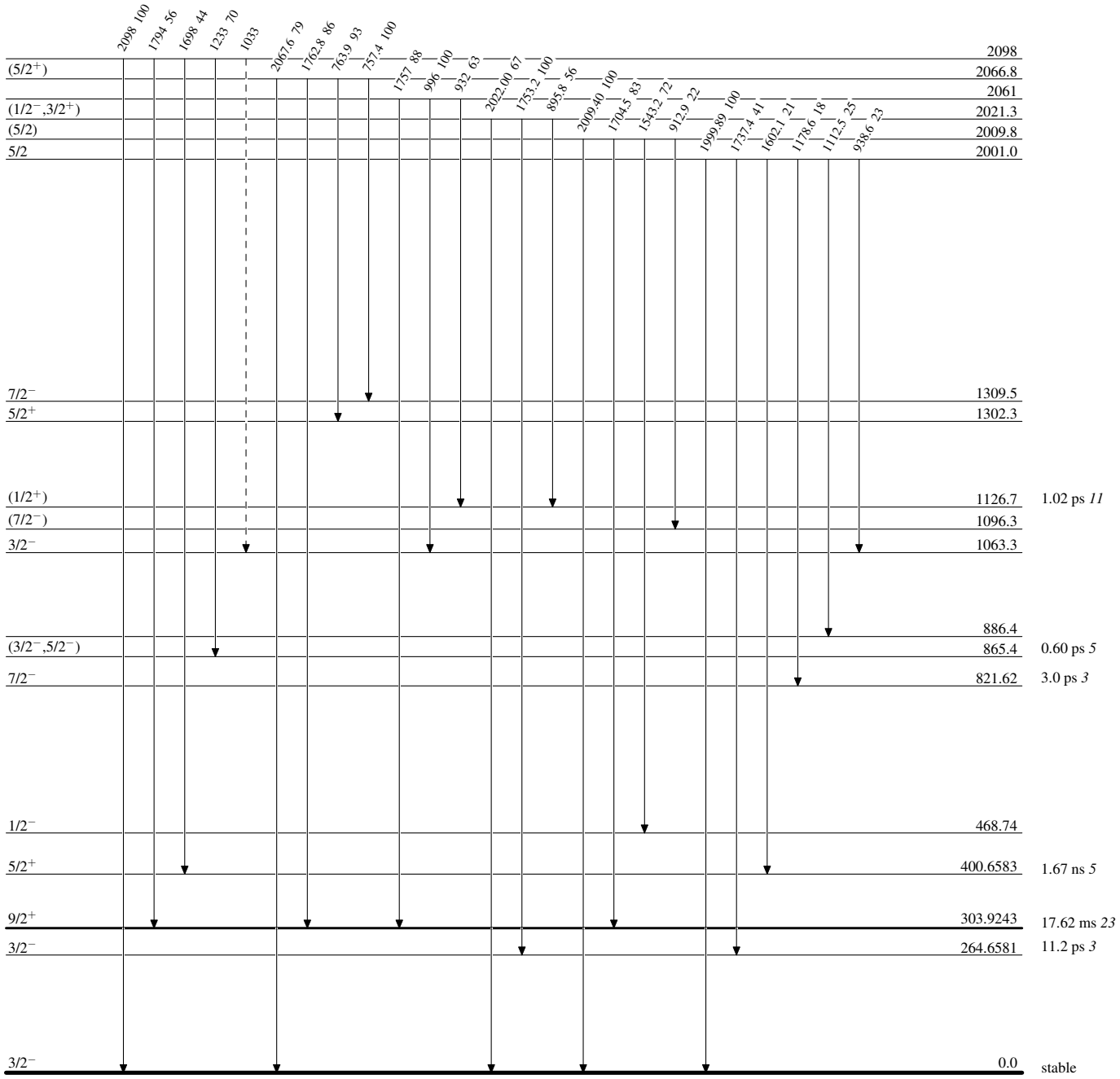
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{75}_{33}As_{42}$

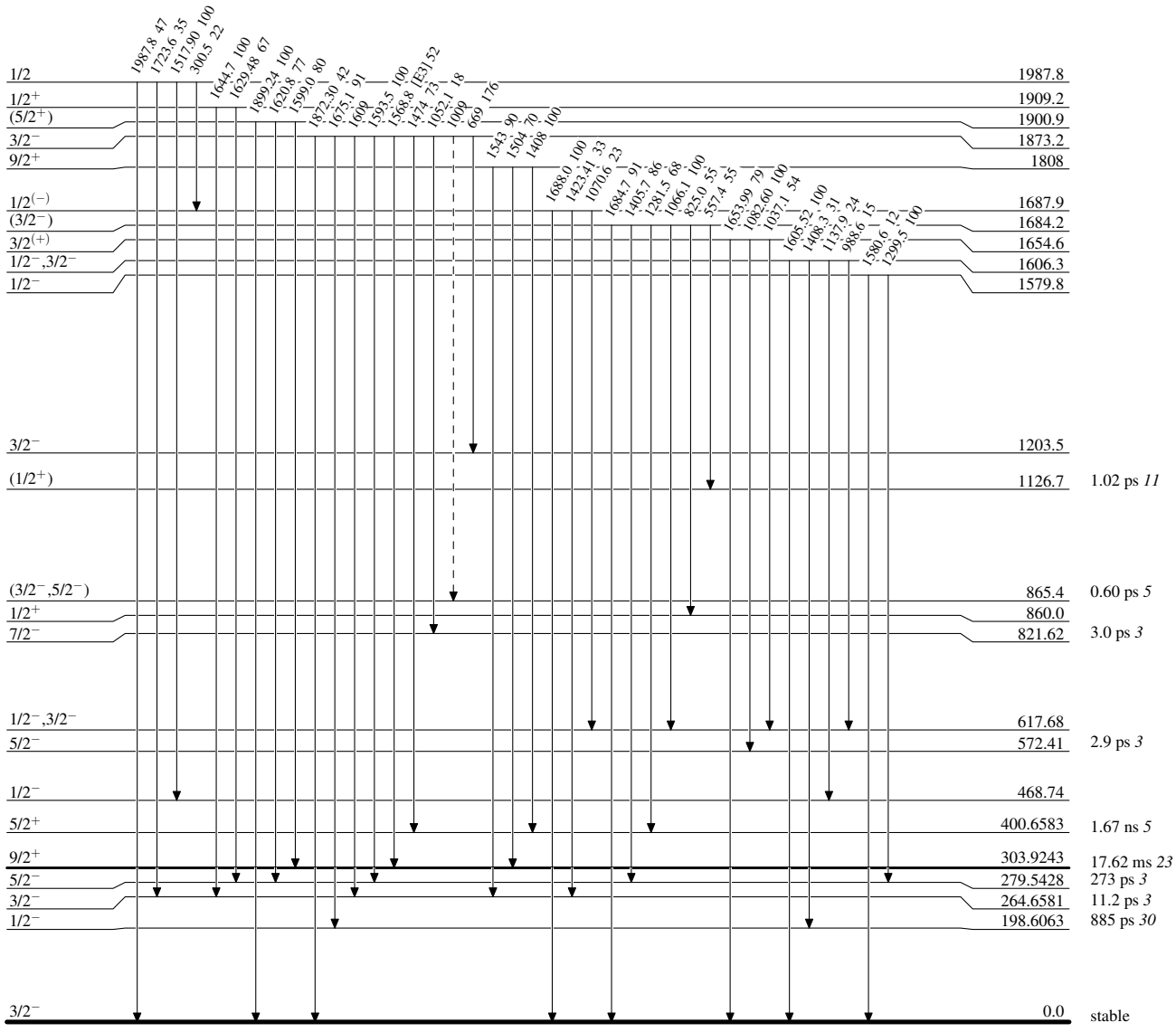
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

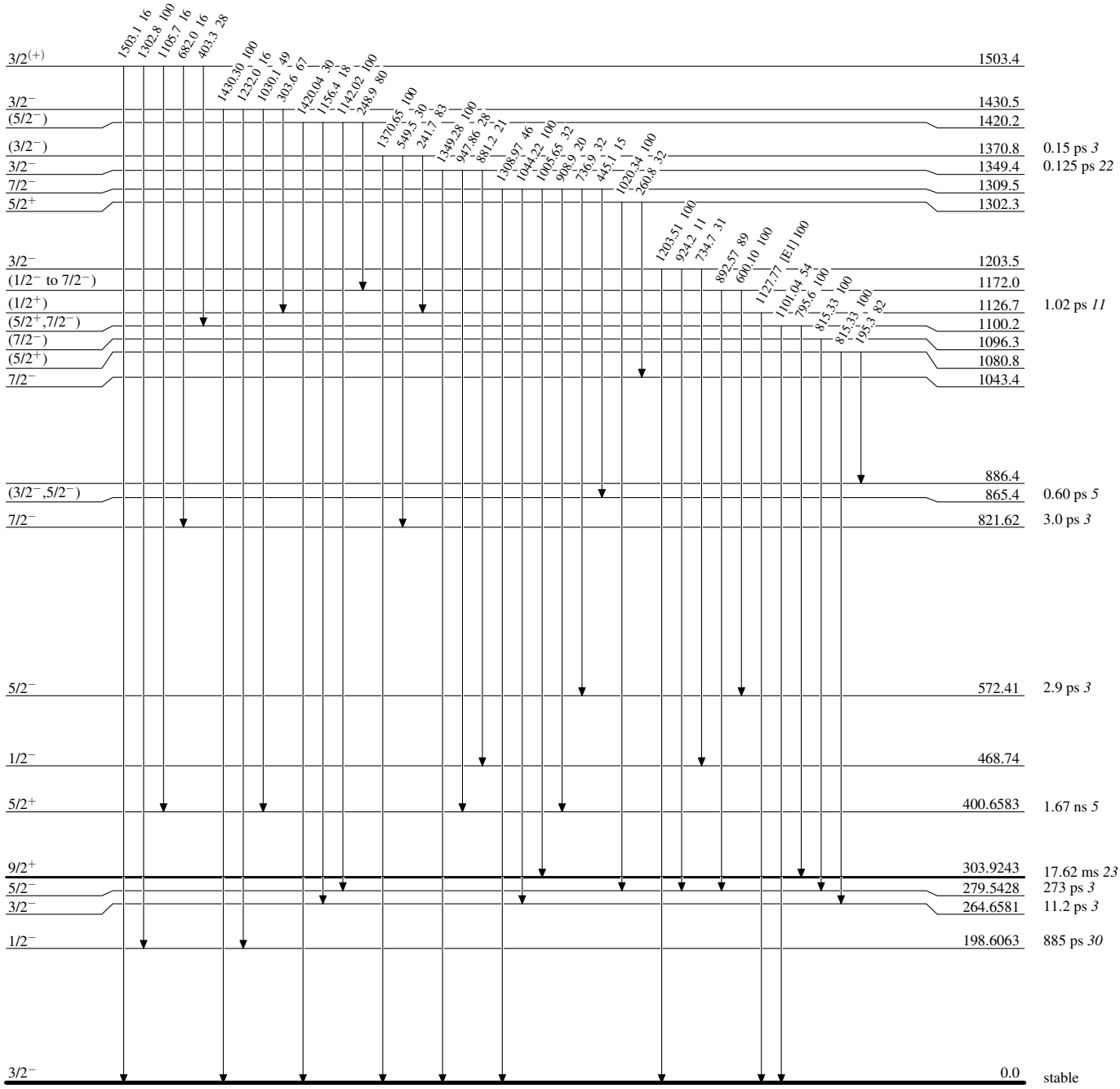


$^{75}_{33}As_{42}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{75}_{33}As_{42}$

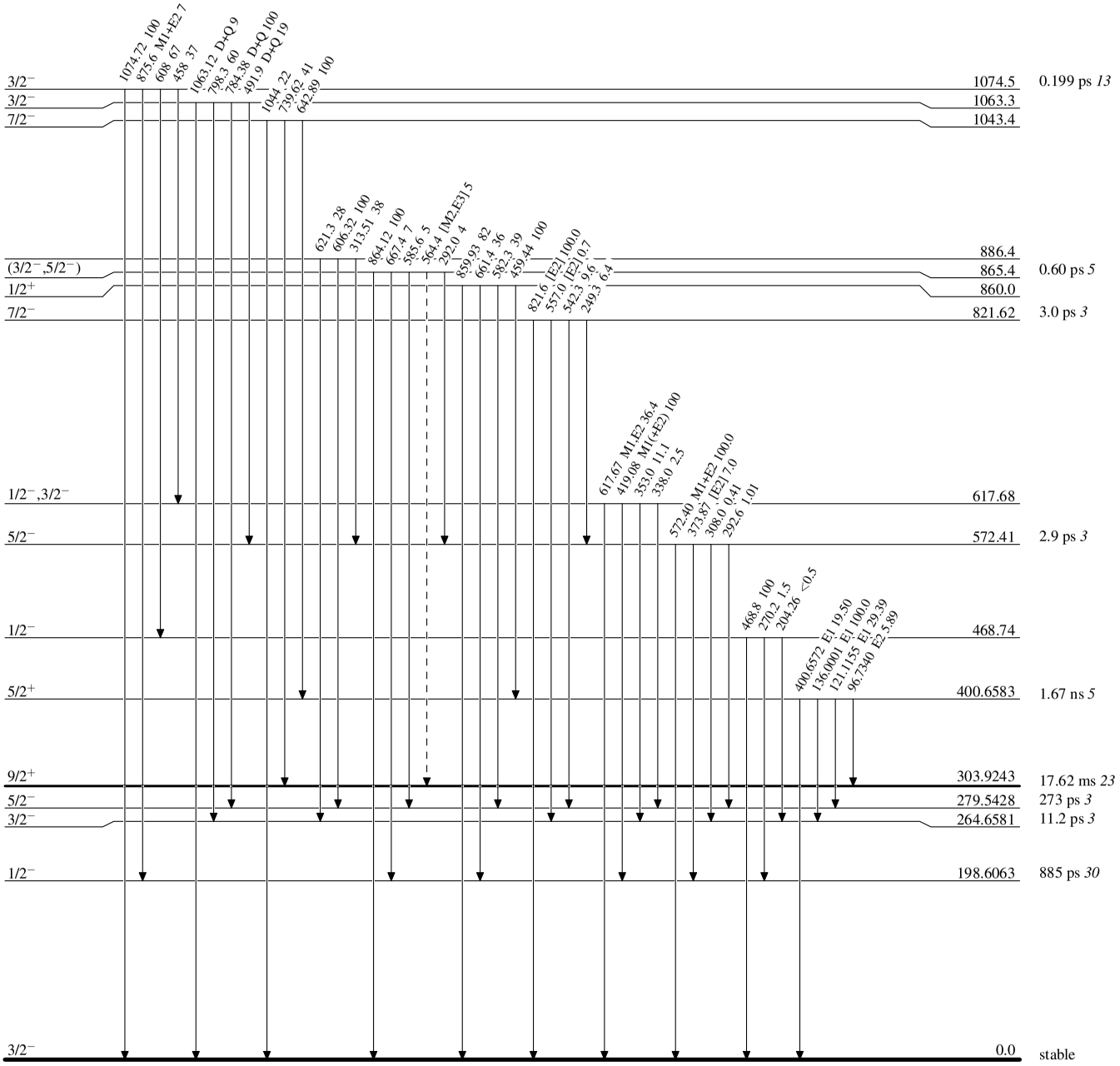
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

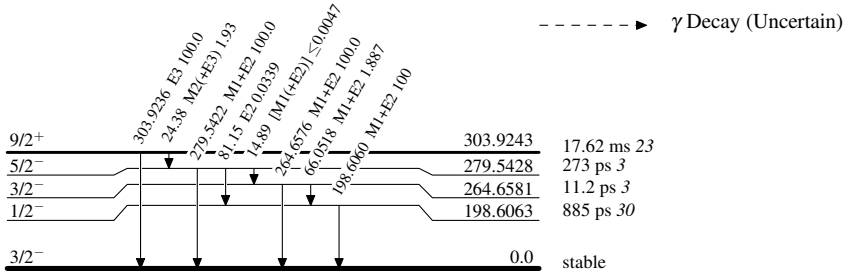


$^{75}_{33}As_{42}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{75}_{33}As_{42}$