Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. K. Tuli, E. Browne	NDS 157, 260 (2019)	1-Mar-2019

Q(β^-)=3093.1 *10*; S(n)=7592.94 *12*; S(p)=8398.6 *14*; Q(α)=−7107 *10* 2017Wa10

Production cross sections:
p on Pb (2001Gl05,1997AlZU,1996AlZX),
p on ^{241}Am (2000AdZT),
p on Rb (1998Gi16).
NMR of ^{82}Br in Co: 1999Se07, 1998Se09.
Calculations, Theory:
Possible band configurations: 1994Sa12.
Sum spectra of β and γ in decay of ^{82}Se: 2017Ej02.
First-forbidden G-T transitions: 2017Na01,2011Ra41.
Interpretation of level structure: 1978Do06, 1977DoZP (shell model and Nilsson model), 1984Fe01 (collective excitations).

^{82}Br Levels

Cross Reference (XREF) Flags

A	^{82}Br IT decay	E	^{81}Br(d,p)
B	^{82}Se(p,n)	F	^{80}Se(α,pnγ), ^{82}Se(d,2nγ)
C	^{81}Br(n,γ) E=thermal	G	^{81}Br(n,γ) E=res: 0.88 eV
D	^{82}Se(p,nγ)	H	^{82}Se(^{3}He,t)

E(level)‡	Jπ†	$T_{1/2}$&	XREF	Comments
0	5−	35.282 h *7*	A CDEFG	%β^-=100 μ=+1.6270 *5*; Q=+0.707 *10* Jπ: atomic beam (1959Ga12,2013Ma15). L(d,p)=4 on 3/2− target. μ: from atomic-beam magnetic resonance and low-temperature nuclear orientation (2014StZZ). Q: From 2016St14, Aomic beam; recalculated , Sternheimer correction included. Others: +0.69 2 (2000Ha64); +0.748 *10* (1998Se09). $T_{1/2}$: weighted average of 35.281 h *6* (1989Ab22), 35.28 h *1* (1973Co11), 35.34 h *3* (1968Re04), and 35.39 h *5* (1985An25). Other: 36.0 h *17* (2012Ba12).
45.9492[a] *10*	2−	6.13 min *5*	AbCD FG	%IT=97.6 *3*; %β^-=2.4 *3* Jπ: M3 γ to 5−. High spin excluded by primary γ in (n,γ). $T_{1/2}$: weighted average of 6.05 min *3* (1965An01), 6.20 min *3* (1965Em02), both from x-ray activity, and 6.15 min *9* (1965Em02) from β activity.
75.0621 *14*	(1)+	7.2 ns *8*	bCDEFGH	Jπ: E1 γ to 2−. Hauser-Feshbach calculation in (p,nγ) determines J=1 (1980Fe09). $T_{1/2}$: from from p,γ(t) in (p,nγ) (1977Do08).
290.7807[a] *14*	(3)−		BCDEFG	Jπ: L(d,p)=4 on 3/2− target. 2,3 from p,$\gamma(\theta)$ in (p,nγ). Hauser-Feshbach calculation in (p,nγ) determines J=3 (1980Fe09).
362.8011 *21*	(2)+		BCDeFGH	Jπ: 1,2 from p,$\gamma(\theta)$ in (p,nγ). (M1) γ to (1)+. γ to (3)−. L(d,p)(362+376)=1+4. Also supported by Hauser-Feshbach calculation in (p,nγ) (1980Fe09).
376.70 *9*	(6)−#	<0.2 ns	eF	Jπ: L(d,p)(362+376)=1+4.
420.0682 *16*	(2)		BCD FGH	Jπ: 1,2 from p,$\gamma(\theta)$ in (p,nγ). J=2 from Hauser-Feshbach calculation in (p,nγ) (1980Fe09).
475.4248[a] *17*	(4)−		BCDEF	Jπ: L(d,p)=4 on 3/2− target. M1 γ to (3)−. ΔJ=1 from $\gamma(\theta)$ (1986Fu04).
540.9890 *23*	(2+,3+)		BCD F H	Jπ: 1,2,3 from p,$\gamma(\theta)$ in (p,nγ). (E1) γ's to 2− and (3)−. 2− from (^{3}He,t).
627.2365 *23*	(2,3+)		CD F	Jπ: γ from (4,5+). γ to (1)+.
638? *8*			b E	Probably not identical to 641 level since L(d,p)=4 on 3/2− target determines

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Adopted Levels, Gammas (continued)

^{82}Br Levels (continued)

E(level)‡	Jπ†	$T_{1/2}$&	XREF	Comments
				π=−.
641.1642 *25*	(3+)		bCD H	Jπ: J=3 from Hauser-Feshbach calculation in (p,nγ). γ to (1)+.
689.249 *6*	(1−,2−,3−)		BCD	Jπ: (M1) γ to 2−.
759.949 *3*	(1+,2,3+)		CD	Jπ: γ's to (1)+ and (3+).
762.13 *7*			CD	
763.714 *17*	(1)+		BCDE H	XREF: E(771). Jπ: γ's to 2−, (1)+, (2+). L(d,p)=1 if level is identical to that observed at 771 keV *6*. J=1 from Hauser-Feshbach calculation in (p,nγ) (1980Fe09). However, 1980Fe09 did not resolve the 760-762-763 triplet, so the assignment is not quite conclusive. Jπ=2− from (^{3}He,t).
792.276[a] *3*	(5)#		C F	
822.811 *4*			BCD	
846.689 *4*	(1+)		BCDE H	Jπ: from (^{3}He,t).
886.70 *3*			C	
910.770 *17*	(4,5+)		CD F	Jπ: dipole γ to 5−. γ to (2,3+).
935.301 *14*			BCDe	XREF: e(959).
967.51[b] *9*	(6)+#		F	
970.918 *12*	(2,3+)		C e	XREF: e(959). Jπ: γ's to (3)−, (3+), (1)+.
988.151 *5*			BCD	
1007.897 *13*			CD	
1022.470 *24*			BCD	
1058.981 *21*	(1,2,3)		BC	Jπ: γ's to (2+), 2−.
1068.73[b] *13*	(7)+#	<0.14 ns	F	
1082.854 *9*			BC	XREF: B(1074).
1093.166 *11*			CD	
1109.794 *20*	(1−,2,3)		BCD	Jπ: γ's to 2−, (3)−, (2+).
1139.930 *9*			C E H	
1155.10 *3*			BCD	
1179.396 *19*	(2,3)		BCDE	Jπ: γ's to 2−, (3)−, (2+), (3+).
1186.69 *6*			CD	
1216.522 *13*			CD	
1226.542 *18*			CD	
1232.572 *25*			BCD H	
1243.59 *4*			CDE	
1261.03[b] *17*	(8)+#	<0.2 ns	F	
1276.204 *25*	(1,2,3+)		BCD	Jπ: γ's to 2−, (1)+, (2+).
1366			B	
1386 *8*	(+)@		B E H	
1432			B	
1478			B	
1484 *2*	1+		B H	
1497 *4*	(−)@		E	
1535			B	
1548			B	
1629			B	
1650 *4*	−@		E	
1680 *2*	(2−)		B H	Jπ: from (^{3}He,t).
1721			B	
1743 *6*	1−,2−		B E	XREF: B(1749). Jπ: L(d,p)=0 on 3/2− target.
1766 *2*	(2−)		B H	Jπ: from (^{3}He,t).
1793.8[b] *3*	(9)+#		F	
1807 *6*	−@		B E	

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Adopted Levels, Gammas (continued)

^{82}Br Levels (continued)

E(level)[‡]	Jπ[†]	XREF	Comments
1830		B	
1866		B	
1897		B	
1916		B	
1942		B	
1955 *4*	(−)[@]	E H	
2026 *8*		E	
2087 *2*	1+	H	
2112 *8*		E	
2136 *2*	1+	H	
2213 *2*	(1+,2−)	E H	Jπ: from (^{3}He,t).
2243.3[b] *4*	(10+)[#]	F	
2272 *2*	1+	H	
2317 *2*	1+	H	
2351 *2*	1+	H	
2498 *2*	1+	H	
2543 *2*	3+	H	
2712 *2*	1+	H	
2801 *2*	1+	H	
2876 *2*	1+	H	
2940 *2*	1+	H	
3028 *2*	1+	H	
3062 *2*	1+	H	
3097 *2*	3+	H	Jπ: from (^{3}He,t).
3172 *2*	1+	H	
3256 *2*	1+	H	
3296 *2*	1+	H	
3333 *2*	1+	H	
3420 *2*	1+	H	
3455 *2*	1+	H	
3507 *2*	3+	H	Jπ: from (^{3}He,t).
3579 *2*	1+	H	
3623 *2*	1+	H	
3688 *2*	(1+,2−)	H	Jπ: from (^{3}He,t).
3720 *2*	1+	H	
3788 *2*	1+	H	
3856 *2*	1+	H	
3951 *2*	1+	H	
4033 *2*	1+	H	
4099 *2*	1+	H	
4170 *2*	1+	H	
4209 *2*	1+	H	
4272 *2*	1+	H	
4317 *2*	1+	H	
4365 *2*	1+	H	
4391 *2*	1+	H	
4433 *2*	1+	H	
4511 *2*	1+	H	
4554 *2*	(1+,2−)	H	Jπ: from (^{3}He,t).
4601 *2*	1+	H	
4632 *2*	1+	H	
4689 *2*	(1+,2−)	H	Jπ: from (^{3}He,t).
4772 *2*	1+	H	
4779 *2*	2−	H	
4869 *2*	1+	H	

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Adopted Levels, Gammas (continued)

^{82}Br Levels (continued)

E(level)‡	Jπ†	XREF	Comments
4910 2	1+	H	
4971 2	1+	H	
5008 2	1+	H	
5066 2	1+	H	
5110 2	1+	H	
5211 2	1+	H	
5250 2	1+	H	
5279 2	1+	H	
5326 2	1+	H	
5371 2	1+	H	
5416 2	1+	H	
5446 2	1+	H	
5491 2	1+	H	
5519 2	1+	H	
5571 2	1+	H	
5614 2	1+	H	
5641 2	1+	H	
5671 2	1+	H	
5712 2	(1+,2−)	H	Jπ: from (^{3}He,t).
5727 2	1+	H	
5761 2	1+	H	
5810 2	(1+,2−)	H	Jπ: from (^{3}He,t).
5866 2	1+	H	
5908 2	1+	H	
5947 2	1+	H	
9676 2		H	IAS.

† 1+ levels are from (^{3}He,t), from angular distribution measurements,unless given otherwise.
‡ Levels with ΔE<1 keV are deduced from the adopted gammas.
# Tentative assignment from $\gamma(\theta)$ and polarization of decay gammas, and Iγ in different reactions (1986Fu04).
@ From L(d,p).
& $T_{1/2}$ limits are taken from center of gravity analysis of γ(t) in ^{80}Se(α,pnγ), ^{82}Se(d,2nγ).
a Band(A): possible π=− collective band.
b Band(B): π=+ sequence with Configuration=((π $g_{9/2}$)(ν $g_{9/2}$)) (1986Fu04).

Adopted Levels, Gammas (continued)

γ(^{82}Br)

Unplaced γ′s are not given here, see (n,γ), (p,nγ).

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[ac]	α[b]	Comments
45.9492	2⁻	45.949 *1*	100	0	5⁻	M3		400	α(K)=288 *4*; α(L)=94.6 *14*; α(M)=15.91 *23* α(N)=1.297 *19* B(M3)(W.u.)=2.86 *5* Additional information 1.
75.0621	(1)⁺	29.113 *1*	100	45.9492	2⁻	E1		3.08	B(E1)(W.u.)=0.00049 *6* α(K)=2.71 *4*; α(L)=0.315 *5*; α(M)=0.0490 *7* α(N)=0.00420 *6*
290.7807	(3)⁻	215.75 *10*	0.62 *21*	75.0621	(1)⁺				
		244.831 *1*	100 *4*	45.9492	2⁻	(M1)		0.01083	α(K)=0.00962 *14*; α(L)=0.001039 *15*; α(M)=0.0001652 *24* α(N)=1.540×10⁻⁵ *22*
362.8011	(2)⁺	72.028 *23*	0.42 *18*	290.7807	(3)⁻				
		287.738 *2*	100 *4*	75.0621	(1)⁺	(M1)		0.00724	α(K)=0.00643 *9*; α(L)=0.000691 *10*; α(M)=0.0001099 *16* α(N)=1.026×10⁻⁵ *15*
376.70	(6)⁻	376.7[‡] *1*	100[‡]	0	5⁻	M1+E2	+0.3 *1*	0.00405 *21*	α(K)=0.00360 *19*; α(L)=0.000387 *21*; α(M)=6.1×10⁻⁵ *4* α(N)=5.7×10⁻⁶ *3* B(M1)(W.u.)>0.0018; B(E2)(W.u.)>0.56
420.0682	(2)	57.267 *3*	2.7 *3*	362.8011	(2)⁺				
		345.006 *1*	100 *6*	75.0621	(1)⁺	D(+Q)			
		374.118 *4*	11.2 *11*	45.9492	2⁻				
475.4248	(4)⁻	184.644 *1*	100	290.7807	(3)⁻	M1[@]		0.0223	α(K)=0.0198 *3*; α(L)=0.00215 *3*; α(M)=0.000342 *5* α(N)=3.19×10⁻⁵ *5*
540.9890	(2⁺,3⁺)	178.16 *3*	2.9 *14*	362.8011	(2)⁺				
		250.208 *2*	61 *4*	290.7807	(3)⁻	(E1)		0.00572	α(K)=0.00509 *8*; α(L)=0.000538 *8*; α(M)=8.51×10⁻⁵ *12* α(N)=7.88×10⁻⁶ *11*
		495.036 *6*	100 *29*	45.9492	2⁻	(E1)		9.22×10⁻⁴	α(K)=0.000821 *12*; α(L)=8.62×10⁻⁵ *12*; α(M)=1.366×10⁻⁵ *20* α(N)=1.274×10⁻⁶ *18*
627.2365	(2,3⁺)	151.803 *10*	5.2 *9*	475.4248	(4)⁻				
		264.435 *1*	100 *4*	362.8011	(2)⁺	D			
		336.35 *16*	3.0 *13*	290.7807	(3)⁻				
		552.150 *27*	14 *3*	75.0621	(1)⁺				
		581.300 *15*	27.8 *17*	45.9492	2⁻				
641.1642	(3⁺)	221.095 *6*	16.8 *15*	420.0682	(2)				
		278.358 *5*	27.9 *21*	362.8011	(2)⁺				
		350.384 *3*	13.5 *18*	290.7807	(3)⁻				
		566.097 *6*	100 *15*	75.0621	(1)⁺				

$^{82}_{35}Br_{47}$-5

Adopted Levels, Gammas (continued)

γ(^{82}Br) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[ac]	α[b]	Comments
641.1642	(3$^+$)	595.200 *18*	10.9 *12*	45.9492	2$^-$				
689.249	(1$^-$,2$^-$,3$^-$)	148.21 *5*	12.2 *24*	540.9890	(2$^+$,3$^+$)				
		643.289 *6*	100 *27*	45.9492	2$^-$	(M1)		1.09×10^{-3}	α(K)=0.000969 *14*; α(L)=0.0001023 *15*; α(M)=1.625×10^{-5} *23* α(N)=1.523×10^{-6} *22*
759.949	(1$^+$,2,3$^+$)	118.770 *8*	3.5 *10*	641.1642	(3$^+$)				
		284.55 *12*	4.5 *20*	475.4248	(4)$^-$				
		339.882 *3*	38 *6*	420.0682	(2)	E2+M1	>0.7	0.0085 *19*	α(K)=0.0075 *17*; α(L)=0.00084 *20*; α(M)=0.00013 *3* α(N)=1.2×10^{-5} *3*
		397.127 *20*	37 *6*	362.8011	(2)$^+$				
		684.877 *12*	100 *30*	75.0621	(1)$^+$				
762.13		687.05 *11*	6.8 *17*	75.0621	(1)$^+$				
		716.18 *8*	100 *9*	45.9492	2$^-$				
763.714	(1)$^+$	400.93 *5*	65 *13*	362.8011	(2)$^+$				
		688.65 *3*	17.9 *17*	75.0621	(1)$^+$				
		717.71 *9*	100 *10*	45.9492	2$^-$				
792.276	(5)	316.851 *2*	100 *10*	475.4248	(4)$^-$				
		501.46 *5*	21 *15*	290.7807	(3)$^-$				
822.811		133.547 *10*	7.1 *20*	689.249	(1$^-$,2$^-$,3$^-$)				
		181.54 *8*	6.1 *20*	641.1642	(3$^+$)				
		402.743 *3*	100 *22*	420.0682	(2)				
846.689	(1$^+$)	205.510 *25*	2.1 *7*	641.1642	(3$^+$)				
		305.73 *12*	2.9 *18*	540.9890	(2$^+$,3$^+$)				
		426.625 *8*	12.5 *29*	420.0682	(2)				
		483.885 *3*	100 *14*	362.8011	(2)$^+$	D			
		771.60 *15*	37 *5*	75.0621	(1)$^+$				
886.70		245.55 *10*	45 *20*	641.1642	(3$^+$)				
		466.634 *30*	100 *18*	420.0682	(2)				
910.770	(4,5$^+$)	283.540 *22*	4.0 *9*	627.2365	(2,3$^+$)				
		910.74 *5*	100 *5*	0	5$^-$	D			
935.301		459.875 *13*	100	475.4248	(4)$^-$				
967.51	(6)$^+$	590.8[‡] *1*	91[‡] *5*	376.70	(6)$^-$				
		967.5[‡] *1*	100[‡] *5*	0	5$^-$	E1[@]		2.10×10^{-4}	α(K)=0.000187 *3*; α(L)=1.95×10^{-5} *3*; α(M)=3.09×10^{-6} *5* α(N)=2.90×10^{-7} *4*
970.918	(2,3$^+$)	207.250 *30*	5.0 *12*	763.714	(1)$^+$				
		329.755 *15*	27 *4*	641.1642	(3$^+$)				
		608.12 *4*	100 *44*	362.8011	(2)$^+$				
		680.15 *5*	10 *3*	290.7807	(3)$^-$				
988.151		346.986 *4*	100 *14*	641.1642	(3$^+$)				
		625.30 *4*	71 *18*	362.8011	(2)$^+$				
1007.897		932.76 *10*	100 *8*	75.0621	(1)$^+$				

$^{82}_{35}Br_{47}$-6

Adopted Levels, Gammas (continued)

γ(^{82}Br) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	α[b]	Comments
1007.897		962.00 *22*	24 *5*	45.9492	2^-			
1022.470		135.82 *10*	2.4 *10*	886.70				
		602.41 *3*	13.5 *29*	420.0682	(2)			
		947.34 *20*	13.0 *24*	75.0621	$(1)^+$			
		976.49 *4*	100 *3*	45.9492	2^-			
1058.981	(1,2,3)	88.093 *25*	4.3 *14*	970.918	$(2,3^+)$			
		295.22 *3*	20 *5*	763.714	$(1)^+$			
		696.14 *29*	12 *4*	362.8011	$(2)^+$			
		1012.96 *17*	100 *22*	45.9492	2^-			
1068.73	$(7)^+$	101.2[‡] *1*	100[‡] *4*	967.51	$(6)^+$	M1[&]	0.1109	α(K)=0.0982 *14*; α(L)=0.01087 *16*; α(M)=0.001731 *25* α(N)=0.0001607 *23* B(M1)(W.u.)>0.10
		692.5[‡] *5*	39[‡] *15*	376.70	$(6)^-$	[E1]	4.21×10^{-4}	α(K)=0.000375 *6*; α(L)=3.92×10^{-5} *6*; α(M)=6.21×10^{-6} *9* α(N)=5.81×10^{-7} *9* B(E1)(W.u.)>2.0×10^{-6}
1082.854		393.600 *7*	60 *15*	689.249	$(1^-,2^-,3^-)$			
		455.70 *4*	66 *13*	627.2365	$(2,3^+)$			
		541.90 *4*	91 *32*	540.9890	$(2^+,3^+)$			
		1037.11 *15*	100 *13*	45.9492	2^-			
1093.166		85.266 *7*	4.4 *12*	1007.897				
		465.936 *11*	100 *9*	627.2365	$(2,3^+)$			
		730.35 *28*	11 *3*	362.8011	$(2)^+$			
		802.5 *4*	9 *3*	290.7807	$(3)^-$			
1109.794	$(1^-,2,3)$	746.91 *13*	46 *5*	362.8011	$(2)^+$			
		1034.68 *8*	100 *7*	75.0621	$(1)^+$			
		1064.00 *24*	17 *3*	45.9492	2^-			
1139.930		379.974 *10*	50 *6*	759.949	$(1^+,2,3^+)$			
		498.779 *14*	100 *9*	641.1642	(3^+)			
1155.10		308.420 *30*	4.1 *12*	846.689	(1^+)			
		391.38 *6*	13 *5*	763.714	$(1)^+$			
		735.06 *12*	32 *3*	420.0682	(2)			
		1079.99 *9*	100 *9*	75.0621	$(1)^+$			
1179.396	(2,3)	69.614 *20*	6 *3*	1109.794	$(1^-,2,3)$			
		96.54 *3*	4.6 *23*	1082.854				
		419.44 *5*	36 *11*	759.949	$(1^+,2,3^+)$			
		538.17 *5*	25 *11*	641.1642	(3^+)			
		759.36 *26*	37 *8*	420.0682	(2)			
		816.48 *22*	57 *11*	362.8011	$(2)^+$			
		888.77 *26*	34 *14*	290.7807	$(3)^-$			
		1133.40 *21*	100 *24*	45.9492	2^-			
1186.69		275.96 *8*	3.8 *19*	910.770	$(4,5^+)$			
		363.80 *29*	4.4 *25*	822.811				
		895.86 *8*	100 *11*	290.7807	$(3)^-$			

$^{82}_{35}Br_{47}$-7

Adopted Levels, Gammas (continued)

γ(^{82}Br) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[#]	δ[ac]	α[b]	Comments
1216.522		106.703 *25*	8 *4*	1109.794	(1⁻,2,3)				
		208.625 *4*	100 *9*	1007.897					
		228.30 *10*	15 *6*	988.151					
		1141.6 *9*	17 *13*	75.0621	$(1)^+$				
1226.542		255.65 *4*	3.5 *14*	970.918	$(2,3^+)$				
		315.770 *5*	100 *8*	910.770	$(4,5^+)$	(E1)		0.00298	α(K)=0.00266 *4*; α(L)=0.000280 *4*; α(M)=4.44×10^{-5} *7* α(N)=4.12×10^{-6} *6*
		585.28 *7*	10 *3*	641.1642	(3^+)				
		599.33 *6*	13 *5*	627.2365	$(2,3^+)$				
1232.572		92.656 *30*	4.6 *23*	1139.930					
		173.58 *4*	8 *3*	1058.981	(1,2,3)				
		1157.46 *7*	100 *7*	75.0621	$(1)^+$				
		1186.52 *11*	28 *5*	45.9492	2^-				
1243.59		235.70 *4*	32 *9*	1007.897					
		880.75 *9*	100 *9*	362.8011	$(2)^+$				
1261.03	$(8)^+$	192.3[‡] *1*	100[‡]	1068.73	$(7)^+$	M1[@]		0.0201	α(K)=0.0178 *3*; α(L)=0.00194 *3*; α(M)=0.000308 *5* α(N)=2.87×10^{-5} *4* B(M1)(W.u.)>0.015
1276.204	$(1,2,3^+)$	512.490 *21*	100 *16*	763.714	$(1)^+$				
		856.12 *9*	53 *4*	420.0682	(2)				
		913.6 *4*	8.6 *29*	362.8011	$(2)^+$				
		1201.11 *10*	57 *5*	75.0621	$(1)^+$				
		1230.20 *15*	34 *4*	45.9492	2^-				
1793.8	$(9)^+$	532.7[‡] *2*	100[‡]	1261.03	$(8)^+$	M1+E2	−0.14 *6*	0.00168 *3*	α(K)=0.001496 *25*; α(L)=0.000159 *3*; α(M)=2.52×10^{-5} *5* α(N)=2.36×10^{-6} *4*
2243.3	(10^+)	449.5[‡] *3*	100[‡] *25*	1793.8	$(9)^+$				
		983[‡] *1*	≈83[‡]	1261.03	$(8)^+$				

[†] From ^{81}Br(n,γ) E=thermal, except as noted otherwise.
[‡] From ^{80}Se(α,pnγ), ^{82}Se(d,2nγ).
[#] From K/L and α(K)exp in (n,γ), and α(K)exp and γ(θ) in (p,nγ), except as noted otherwise.
[@] From linear polarization measurement in (α,pnγ), (d,2nγ).
[&] From lifetime and γ(θ) in ^{80}Se(α,pnγ), ^{82}Se(d,2nγ).
[a] From γ(θ) in (α,pnγ), (d,2nγ).
[b] Additional information 2.
[c] If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.

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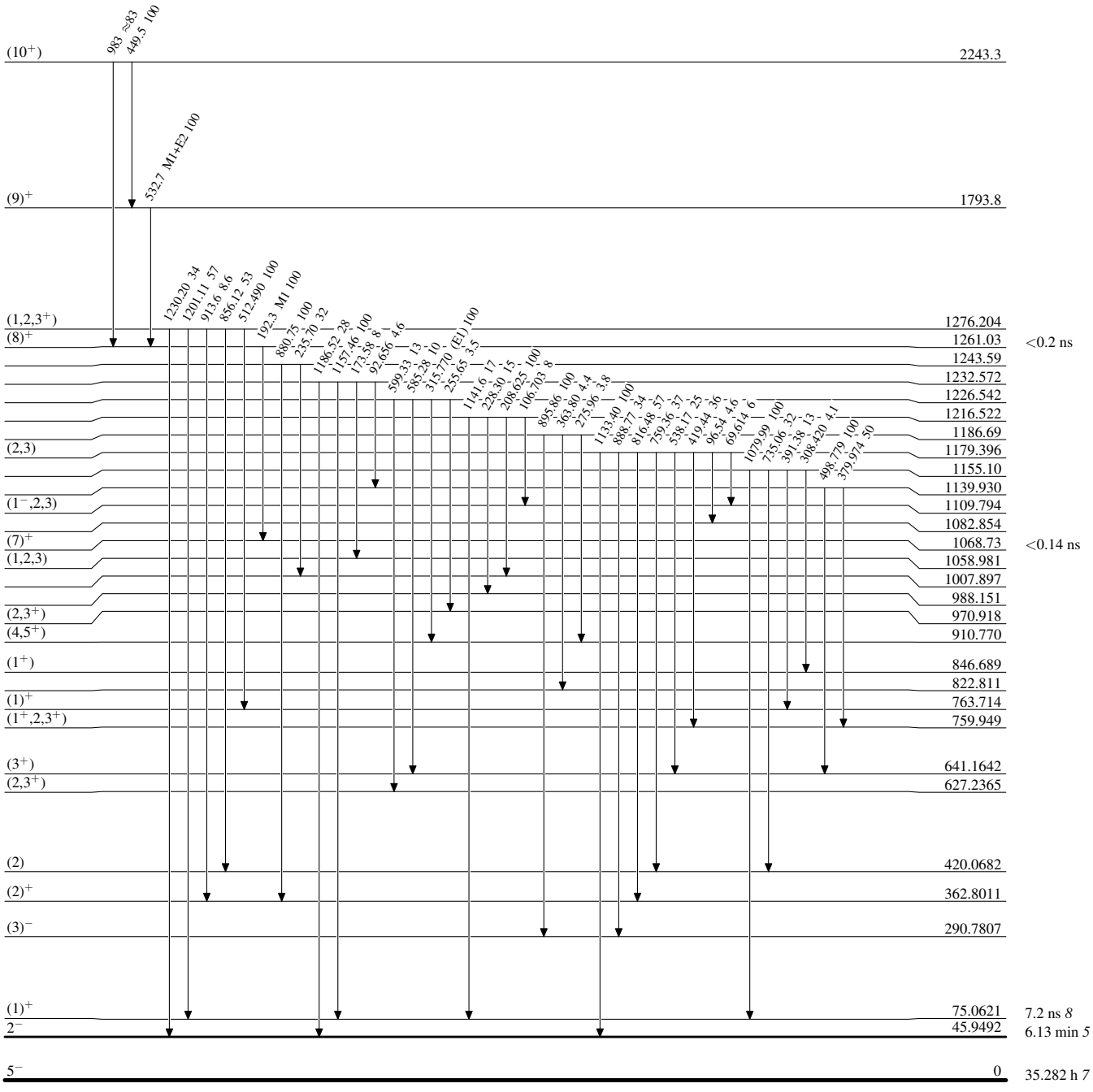
Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

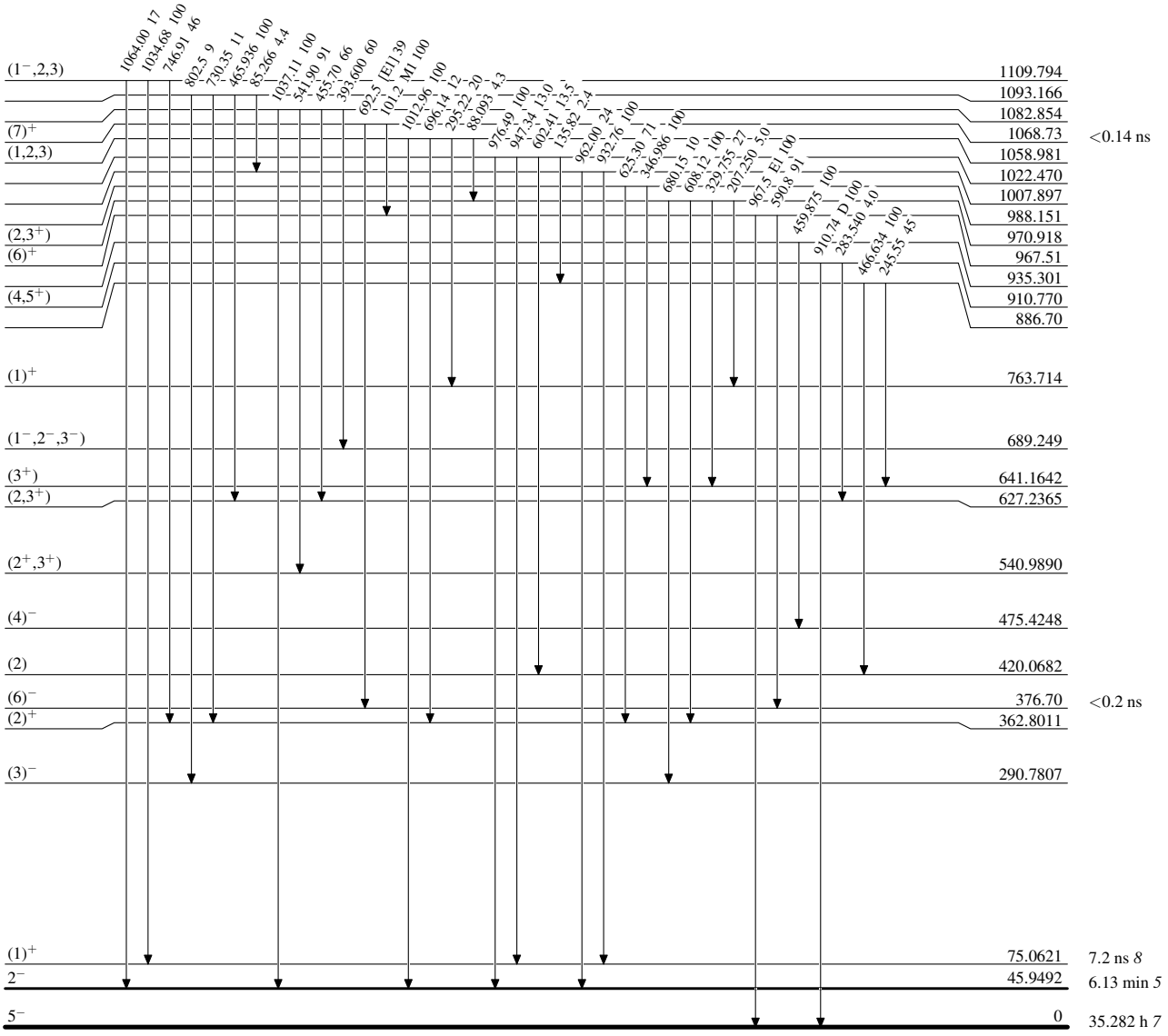


$^{82}_{35}Br_{47}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

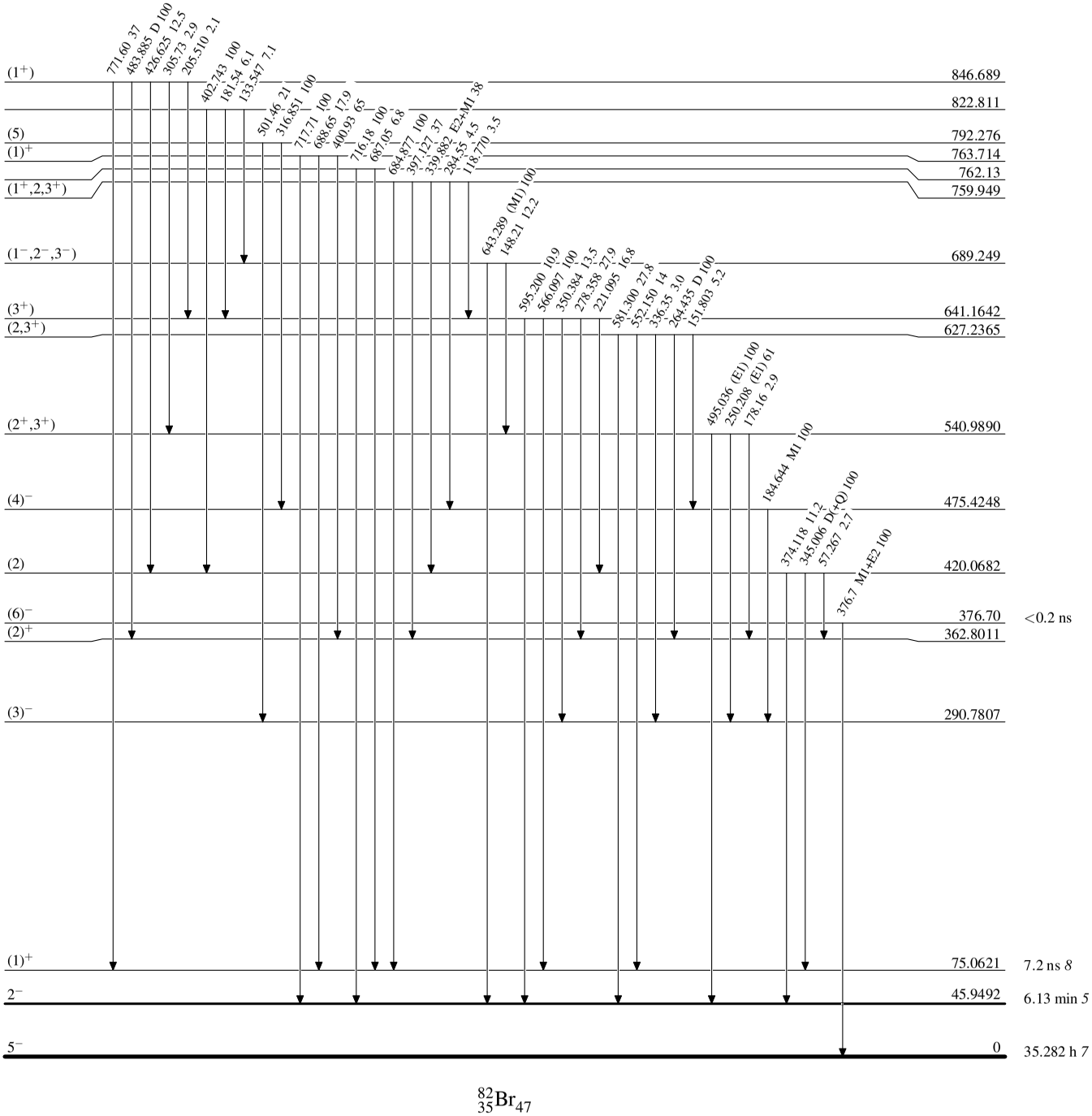


$^{82}_{35}Br_{47}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

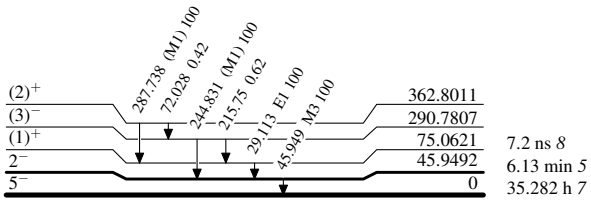


$^{82}_{35}Br_{47}$

Adopted Levels, Gammas

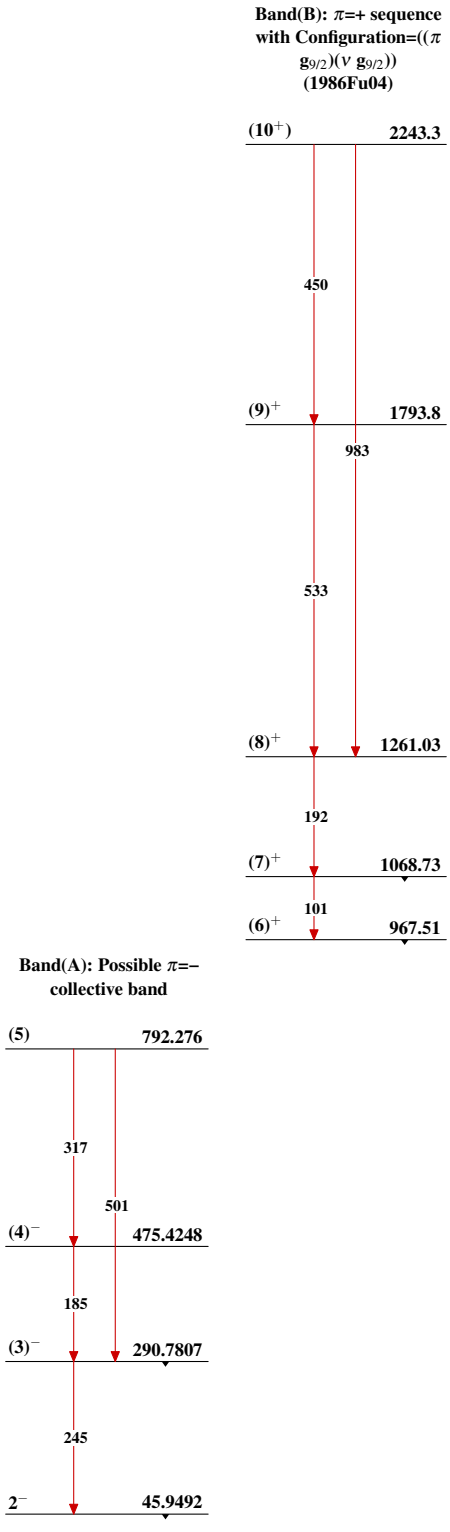
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{82}_{35}Br_{47}$

Adopted Levels, Gammas



$^{82}_{35}Br_{47}$