Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan and A. A. Sonzogni	NDS 115,135 (2014)	1-Nov-2013

Q(β^-)=−670 *6*; S(n)=9351.7 *19*; S(p)=6707.7 *15*; Q(α)=−6965 *3* 2012Wa38
S(2n)=21158 *14*; S(2p)=16129.7 *19* (2012Wa38).
α: Additional information 1.

^{88}Y Levels

Configurations are assigned on the basis of L values determined in (^{3}He,d).

Cross Reference (XREF) Flags

A	^{88}Zr ε decay	H	^{87}Rb(α,3nγ)	O	^{89}Y(γ,nγ)
B	^{88}Y IT decay (0.301 ms)	I	^{87}Sr(d,n)	P	^{89}Y(n,2nγ)
C	^{88}Y IT decay (13.98 ms)	J	^{87}Sr(p,p′) IAR	Q	^{89}Y(p,d)
D	^{74}Ge(^{18}O,p3nγ),^{76}Ge(^{18}O,p5nγ)	K	^{87}Sr(^{3}He,d),(α,t)	R	^{89}Y(p,dγ)
E	^{82}Se(^{11}B,5nγ)	L	^{88}Sr(p,n),(p,nγ)	S	^{90}Zr(d,α),(pol d,α)
F	^{85}Rb(α,nγ)	M	^{88}Sr(^{3}He,t)	T	^{91}Zr(pol p,α)
G	^{86}Sr(^{3}He,p)	N	^{89}Y(d,t),(^{3}He,α)		

E(level)†	Jπ	$T_{1/2}$‡	XREF	Comments
0.0	4−	106.626 d *21*	ABCDEFGHI KLMNOPQRST	%ε+%β^+=100 Q=+0.16 *3*; μ=−0.42 *1* Jπ: L(d,α)=3 on 0+ target; β^+ spectrum of decay to 2+ level has unique-forbidden shape (1963Rh01), analyzing power in (pol d, α). $T_{1/2}$: weighted average of 106.63 d *5* (2005Am01), 106.62 d *4* (2012Fi12, corrected value of 106.63 d *4* from 2002Un02,1982HoZJ), 106.65 d *13* (1997Ma75), 106.66 d *5* (1983Wa26), 106.612 d 32 (1980Ho17), 107.1 d *14* (1976Bo19) and 106.6 d *4* (1975La16). The uncertainty of the 1980Ho17 measurement was increased from 0.014 d to 0.032 d following 2005Am01. Q,μ: from resonance cell laser spectroscopy (2007Ch07). $\delta<r^2>^{89,88}$=+0.009 fm^2 *1* (2013An02, 2007Ch07). configuration=$\pi 2p_{1/2}$ $\nu 1g_{9/2}^{-1}$.
231.927 *25*	5−	0.8 ns *1*	CDEFGHI KLMNOPQRS	Jπ: L(d,α)=5 on 0+ target; L(p,d)=4 on 1/2− target, analyzing power in (d,α),(pol d,α). C^2S(p,d) and C^2S(d,t) fit the (2J+1)−rule if J=5. $T_{1/2}$: From centroid shift method in ^{85}Rb(α,nγ) (1988Ko08). Other: 0.7 ns *2* from RDM in ^{85}Rb(α,nγ) (1973BrXF). configuration=$\pi 2p_{1/2}$ $\nu 1g_{9/2}^{-1}$.
392.86 *9*	1+	0.301 ms *3*	AB FGH LMNOPQRS	%IT=100 Jπ: L(d,α)=0+2 on 0+ target; L(p,d)=1 on 1/2− target. $T_{1/2}$: weighted average of 0.301 ms *5* (1959Li44), 0.37 ms *3* (1955Hy29), 0.30 ms *3* (1967Iv04) and 0.300 ms *3* (1974Ba88). configuration=$\pi 2p_{1/2}$ $\nu 2p_{1/2}^{-1}$.
674.55 *4*	8+	13.98 ms *17*	CDEF H KLMNOP	%IT=100 Q=+0.06 *6*; μ=+4.88 *3* Jπ: L(^{3}He,d)=4 on 9/2+ target. C^2S(^{3}He,d) and C^2S(α,t) fit the (2J+1)−rule if J=(8,9). E3 443γ to 5− rules out 9+. $T_{1/2}$: weighted average of 13.4 ms *6* (1974Ba06), 13.9 ms *3*

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Adopted Levels, Gammas (continued)

^{88}Y Levels (continued)

E(level)†	Jπ	$T_{1/2}$‡	XREF	Comments
				(1975Va16), 13.5 ms *5* (1974Fi18), 14.5 ms *7* (1962Mo19), 14.2 ms *3* (1974Ba88), 13.8 ms *14* (1967Iv04), 14.5 ms *10* (1976Ga33) and 15.5 ms *20* (1966Me02). Q,μ: from resonance cell laser spectroscopy (2007Ch07). μ: other: +4.87 *5* from NMR on oriented nuclei (1980Kl01). δ<r²>=+0.026 fm² relative to ground state (2007Ch07). configuration=$\pi 1g_{9/2}\ \nu 1g_{9/2}^{-1}$.
703.83? *14*	$(7)^+$		D K M	Jπ: L(^{3}He,d)=4 on $9/2^+$ target. C^2S equals the sum of J=6 and J=7 transition strengths; hence, it is concluded that the 712 observed in (^{3}He,d) is a doublet. 483.5γ to 5^- indicates that the 715 level is the 6^+ member. configuration=$\pi 1g_{9/2}\ \nu 1g_{9/2}^{-1}$.
706.79 *13*	2^-	>10 ps	FG L N PQRS	Jπ: L(d,α)=1+2 on 0^+ target, L(p,d)=1+2 on $1/2^-$ target indicate an unresolved doublet of $J^\pi=1^-,2^-$ and $J^\pi=1^+,2^+,3^+$ levels. γ(θ) in ^{88}Sr(p,nγ) uniquely indicates J=2.
707.4 *4*	$1^+,2^+,3^+$		N Q S	Jπ: see comment with 706.72 level.
715.12 *13*	$(6)^+$		F H K M P R	Jπ: see comment with 704 level. configuration=$\pi 1g_{9/2}\ \nu 1g_{9/2}^{-1}$.
766.22 *16*	$(0)^+$	2.4 ps *+13−6*	FG LMN PQR	Jπ: L(p,d)=1 on $1/2^-$ target. L(^{3}He,p)=0 on 0^+ target. C^2S(p,d) and C^2S(d,t) fit the (2J+1)−rule if J=0. configuration=$\pi 2p_{1/2}\ \nu 2p_{1/2}^{-1}$.
843.04 *12*	$(5)^+$	1.8 ps *+9−3*	FGH KLMN P RS	Jπ: L(^{3}He,d)=4 on $9/2^+$ target, M1 128γ to $(6)^+$, 842.5γ to 4^-. configuration=$\pi 1g_{9/2}\ \nu 1g_{9/2}^{-1}$.
984.66 *13*	$(4)^+$	0.82 ps *8*	FG KLMN P R	Jπ: L(^{3}He,d)=4 on $9/2^+$ target. L(^{3}He,p)=4 on 0^+ target. C^2S(^{3}He,d) fits the (2J+1)−rule if J=4. configuration=$\pi 1g_{9/2}\ \nu 1g_{9/2}^{-1}$.
1088.21 *10*	$(4,5,6)^-$		FG KLMN P RS	XREF: G(1103). Jπ: L(^{3}He,d)=(1) on $9/2^+$ target, L(^{3}He,p)=(5) on 0^+ target.
1128.6 *6*	$3^-,4^-,5^-$	<0.25 ps	K MN PQRS	Jπ: L(p,d)=4 on $1/2^-$ target.
1215? *3*			N	
1220.83 *20*	$(0,1)^+$	0.44 ps *4*	FG KLMN QR	Jπ: L(p,d)=1 on $1/2^-$ target, L(^{3}He,p)=(0) on 0^+ target.
1234.0 *20*			L	
1262.0 *20*	$(2,3,4)^-$		L S	Jπ: L(d,α)=(3).
1275.09 *18*	$(1,2)^+$		Fg L N QRS	Jπ: L(p,d)=1 on $1/2^-$ target, 509γ to $(0)^+$.
1283.81 *15*	$(3,4,5)^+$	0.19 ps *2*	FgH KLM P R	Jπ: 299γ to $(4)^+$, 1284γ to 4^-, L(^{3}He,d)=4+(1) on $9/2^+$ target.
1315 *4*	$(4,5,6)^-$		N S	Jπ: L(d,α)=5 on 0^+ target.
1320.13 *10*	$^-$	0.24 ps *3*	F K MN S	Jπ: L(^{3}He,d)=1 on $9/2^+$ target.
1461.6 *3*	$(6^-,7^-)$	1.8 ps *+6−4*	EF H S	Jπ: L(d,α)=(7), 1230γ to 5^-.
1475? *4*	$2^-,3^-,4^-$		G S	Probably different from 1477 level since L(d,α)=3 is in conflict to $J^\pi=(9)^+$. Jπ: L(d,α)=3 on 0^+ target.
1476.86 *13*	9^+	0.11 ps *3*	DEF HI K MN	Jπ: L(^{3}He,d)=4 on $9/2^+$ target. C^2S(^{3}He,d) fits the (2J+1)−rule if J=(8,9). Since the 675 level is the 8^+ member of the multiplet, the 1477 is the 9^+. configuration=$\pi 1g_{9/2}\ \nu 1g_{9/2}^{-1}$.
1559.2 *4*			R	
1570.37 *19*			F kLmN QRS	XREF: Q(1573).
1575.50 *24*	$(1,2)^+$		F k mN S	Jπ: L(p,d)=1 on $1/2^-$ target, 869γ to 2^-.

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Adopted Levels, Gammas (continued)

^{88}Y Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
1595.8 *5*	$3^-,4^-$		FG KLMN S	Jπ: L(d,α)=3 on 0^+ target, L(3He,d)=1 on $9/2^+$ target.
1702.39 *20*	$3^+,4^+$	0.130 ps *15*	FG KLMN QRS	XREF: G(1712). Jπ: L(d,α)=4 on 0^+ target; L(p,d)=3 on $1/2^-$ target. L(^{3}He,p)=(1+3) on 0^+ target is discrepant.
1735 *4*	$(^-)$		K MN S	Jπ: L(^{3}He,d)=(1) on $9/2^+$ target.
1761.0 *20*	$(4,5,6)^-$		G KLMN S	Jπ: L(d,α)=5 on 0^+ target. L(^{3}He,p)=1+(3) on 0^+ target is discrepant.
1832.0 *20*	$3^-,4^-$		G KLMN S	Jπ: L(d,α)=3 on 0^+ target, L(^{3}He,d)=1. $J^\pi=4^-$ is favored from L(^{3}He,p)=(3+5).
1881 *5*	$(^-)$		K MN	Jπ: L(^{3}He,d)=(1) on $9/2^+$ target.
1900 *4*			N S	
1913 *5*	$^-$		K MN	Jπ: L(^{3}He,d)=1 on $9/2^+$ target.
1951 *4*	$1^+,2^+,3^+$		G K MN R	Jπ: L(d,α)=2 on 0^+ target.
1962.5 *4*			QR	XREF: Q(1950).
1971 *5*			K M R	
2056 *4*	$1^+,2^+,3^+$		G K MN QR	Jπ: L(^{3}He,p)=2 on 0^+ target.
2121[#] *8*	$4^-,5^-,6^-$		G R	Jπ: L(^{3}He,p)=5 on 0^+ target.
2136[#] *5*	$(^-)$		K MN	Jπ: L(^{3}He,d)=(1) on $9/2^+$ target.
2210 *5*	$1^+,2^+,3^+$		G MN	Jπ: L(^{3}He,p)=2 on 0^+ target.
2252 *5*			K MN	
2293 *3*	(2^-)[&]		G S	Jπ: L(^{3}He,p)=1(+3).
2305? *5*			K MN	
2312.24 *9*	(9^+)[cd]		D	
2367 *10*			G	
2443.87 *9*	(10^+)	<2[@] ps	DE H	Jπ: (10^+) from γ(θ) in ^{87}Rb(α,3nγ), $(8^+,10^+)$ from γ(θ) in ^{74}Ge(^{18}O,3npγ),^{76}Ge(^{18}O,p5nγ) with (8^+) favored. (10^+) is adopted tentatively. If $J^\pi=(8^+)$, the spins of the cascade ending on the 2444 level have to be lowered by two units.
2444 *3*	(3^-)[&]		G S	
2529 *6*	(3^+)		G	Jπ: L(^{3}He,p)=(2+4) on 0^+ target.
2584 *12*	(2^-)		G	Jπ: L(^{3}He,p)=(1+3) on 0^+ target.
2722 *9*	$3^+,4^+,5^+$		G	Jπ: L(^{3}He,p)=4 on 0^+ target.
2734 *3*	(3^-)[&]		S	E(level): In the ^{91}Zr(pol p,α), it is claimed that this level may correspond to the 2722 level.
2764 *3*	(2^-)[&]		S	
2787 *3*	(1^-)[&]		G S	
2830 *3*	(4^-)[&]		G S	
2944 *3*	(2^-)[&]		S	
2957 *7*			G	
2997 *3*	$(^-)$[&]		S	
3025 *3*	$(^-)$[&]		S	
3036.6 *7*			E	
3052 *3*	$(^-)$[&]		G Q S	
3093 *3*	(3^-)[&]		S	
3122 *3*	(1^-)[&]		S	
3145 *3*	$(^-)$[&]		G S	
3206.7 *3*			H	
3208 *3*	$(^-)$[&]		S	
3256.52 *9*	(10^-)		DE	Jπ: 944γ to (9^+), M1(+E2) 396γ from (11^-).

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Adopted Levels, Gammas (continued)

^{88}Y Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
3262 *5*			G	
3284.1 *6*	$(11^+)^d$		E	Jπ: (E2) 1807γ to $(9)^+$.
3320 *5*			G	
3366 *5*			G	
3628 *5*			G Q	
3652.14 *9*	$(11^-)^{cd}$	<2[@] ps	DE H	
3726.8 *10*			E	
3777 *8*			G	
3857 *11*			G	
3917.7 *10*			E	
3964.24 *14*	$(12^-)^{cd}$	<2[@] ps	D H	
4028 *8*			G	
4087 *8*	$(0^-,1^-,2^-)$		G	Jπ: L(^{3}He,p)=(1) on 0^+ target.
4148 *5*			G	
4178.24 *17*	(13^-)	2.5[@] ps *3*	DE H	Jπ: (M1+E2) 214γ to (12^-) and assumption of increasing spin with increasing excitation energy. Other: (14^-) based on the 214γ to (12^-) measured as (E2) in ^{82}Se(^{11}B,5nγ). See comment on 214γ in Adopted Gammas.
4431.5 *7*			E	
4621.3 *13*			E	
4824.35 *20*	$(14^-)^{cd}$	<0.3[@] ps	DE H	
4878.2 *10*			E	
4967.9 *13*			E	
5264.3 *14*			E	
5558.7 *3*	$(15)^{cd}$	0.10 ps *5*	DE	$T_{1/2}$: from Doppler-shift attenuation in ^{74}Ge(^{18}O,3npγ).
5993.4 *3*	$(16)^d$		D	Jπ: D 435γ to (15).
6264.6 *3*	$(14)^d$		DE	Jπ: 2087γ to (13^-); comparison with shell model calculations.
6537.0 *4*	$(17)^d$		D	Jπ: D 544γ to (16).
6815.4 *3*	$(15)^d$		DE	Jπ: D 551γ to (14).
7.07×10^3 *2*	$(0^+)^a$		Q	IAS: 0.0. Jπ: L(p,d)=(1) on $1/2^-$ target.
7112.4 *5*	$(18)^d$		D	Jπ: D 575γ to (17).
7142.6 *7*	$(16)^d$		DE	Jπ: D 327γ to (15).
7166.9 *9*			E	
7419.2 *6*	$(19)^d$		D	Jπ: (D) 307γ to (18).
7597.6 *9*			E	
7847.2 *8*	$(17)^d$		DE	Jπ: (D) 705γ to (16).
7903.2 *13*			E	
8337.4 *17*			E	
8627.4 *13*	$(18)^d$		DE	Jπ: D 780γ to (17).
8.88×10^3 *2*	$(2^+)^a$		Q	IAS: 1836.
8880.4 *19*			E	
9145.1? *11*			D	
9454.9 *22*			E	
9618.4? *11*			D	
10.29×10^3 *2*	$(2^+)^a$		Q	IAS: 3218.
11418[b]	$(2^+)^a$	20 keV	J	IAS: 4414.
11482[b]		20 keV	J	IAS: 4514.
11630[b]	$(2^+)^a$	35 keV	J	IAS: 4632.

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Adopted Levels, Gammas (continued)

^{88}Y Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[‡]	XREF	Comments
11909[b]	$(4^+,5^+)$[a]	35 keV	J	IAS: 4873.
12082[b]		30 keV	J	IAS: 5109.
12446[b]	(4^+)[a]	70 keV	J	IAS: 5465.
12690[b]	$(4^+,5^+)$[a]	80 keV	J	IAS: 5729.

[†] From a least-squares fit to Eγ by evaluators for levels connected by γ's. For those levels observed in transfer reactions, the most precisely measured value is given.
[‡] From DSAM in ^{85}Rb(α,nγ), except where noted.
[#] Probable doublet.
[@] From Recoil-distance Doppler shift in ^{74}Ge(^{18}O,3npγ).
[&] From σ(θ) in ^{91}Zr(pol p,α).
[a] From ^{88}Sr IAS.
[b] IAR energy deduced for S(p)=6707.7 keV 15.
[c] From angular distribution and linear polarization in ^{74}Ge(^{18}O,3npγ),^{76}Ge(^{18}O,p5nγ).
[d] Assumption of increasing spin with increasing excitation energy is included in the spin assignment.

Adopted Levels, Gammas (continued)

$\gamma(^{88}Y)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
231.927	5^-	231.929 *25*	100	0.0	4^-	M1	0.0191	α(K)=0.01687 *24*; α(L)=0.00190 *3*; α(M)=0.000325 *5*; α(N)=4.37×10^{-5} *7*; α(O)=3.02×10^{-6} *5* B(M1)(W.u.)=0.0022 *3* Mult.: E1 or M1 from K/(L+M) in ^{87}Rb(α,3nγ), $\Delta\pi$=no from level scheme. E_γ: from ^{74}Ge(^{18}O,p3nγ),^{76}Ge(^{18}O,p5nγ).
392.86	1^+	392.87 *9*	100	0.0	4^-	E3	0.0279	α(K)=0.0239 *4*; α(L)=0.00331 *5*; α(M)=0.000569 *8*; α(N)=7.34×10^{-5} *11*; α(O)=4.01×10^{-6} *6* B(E3)(W.u.)=5.91 *6* Mult.: from α(K)exp=0.025 *10* in ^{88}Zr ε decay.
674.55	8^+	442.62 *3*	100	231.927	5^-	E3	0.01776	α(K)=0.01532 *22*; α(L)=0.00204 *3*; α(M)=0.000351 *5*; α(N)=4.56×10^{-5} *7*; α(O)=2.60×10^{-6} *4* B(E3)(W.u.)=0.0558 *7* Mult.: E3 or M3 from K/(L+M) in ^{87}Rb(α,3nγ), $\Delta\pi$=yes from level scheme.
706.79	2^-	313.93 *10*	100 *6*	392.86	1^+			
		706.3 *5*	8 *4*	0.0	4^-	[E2]		B(E2)(W.u.)<1.0
715.12	$(6)^+$	483.50 *20*	100	231.927	5^-			
766.22	$(0)^+$	373.30 *15*	100	392.86	1^+	(M1)	0.00582	α(K)=0.00514 *8*; α(L)=0.000571 *8*; α(M)=9.77×10^{-5} *14*; α(N)=1.314×10^{-5} *19*; α(O)=9.15×10^{-7} *13* B(M1)(W.u.)=0.18 *+6−6* Mult.: D from comparison to RUL, $\Delta\pi$=no from level scheme.
843.04	$(5)^+$	128.0 *1*	100 *5*	715.12	$(6)^+$	M1	0.0922	α(K)=0.0810 *12*; α(L)=0.00929 *14*; α(M)=0.001592 *23*; α(N)=0.000213 *3*; α(O)=1.457×10^{-5} *21* B(M1)(W.u.)=3.0 *+6−10* Mult.: from comparison to RUL.
		611.0 *2*	39 *3*	231.927	5^-	[E1]		B(E1)(W.u.)=1.8×10^{-4} *+4−6*
		842.5 *3*	41 *4*	0.0	4^-	[E1]		B(E1)(W.u.)=7.1×10^{-5} *+14−24*
984.66	$(4)^+$	141.6 *1*	64 *5*	843.04	$(5)^+$	(M1)	0.0701	α(K)=0.0617 *9*; α(L)=0.00706 *10*; α(M)=0.001208 *17*; α(N)=0.0001619 *23* α(O)=1.108×10^{-5} *16* B(M1)(W.u.)=3.6 *5* Mult.: from comparison to RUL.
		984.6 *4*	100 *6*	0.0	4^-	[E1]		B(E1)(W.u.)=0.00026 *4*
1088.21	$(4,5,6)^-$	1088.20[#] *10*	100	0.0	4^-			
1128.6	$3^-,4^-,5^-$	896.7 *6*	100	231.927	5^-			
1220.83	$(0,1)^+$	828.3 *3*	100	392.86	1^+			
1234.0		1234 *2*	100	0.0	4^-			
1262.0	$(2,3,4)^-$	1262 *2*	100	0.0	4^-			
1275.09	$(1,2)^+$	508.85 *10*	100 *6*	766.22	$(0)^+$			
		882.1 *23*	22 *3*	392.86	1^+			
1283.81	$(3,4,5)^+$	299.1 *1*	100 *6*	984.66	$(4)^+$	(M1)	0.01005	α(K)=0.00887 *13*; α(L)=0.000992 *14*; α(M)=0.0001696 *24*; α(N)=2.28×10^{-5} *4*

$^{88}_{39}Y_{49}$-6

Adopted Levels, Gammas (continued)

γ(^{88}Y) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α	Comments
									α(O)=1.583×10^{-6} *23* B(M1)(W.u.)=3.4 *5* Mult.: from comparison to RUL.
1283.81	(3,4,5)$^+$	1284.2 *3*	28 *6*	0.0	4$^-$	[E1]			B(E1)(W.u.)=0.00018 *5*
1320.13	$^-$	1088.2[#] *1*	100	231.927	5$^-$				
1461.6	(6$^-$,7$^-$)	1229.7 *3*	100	231.927	5$^-$				
1476.86	9$^+$	802.25 *16*	100	674.55	8$^+$	(M1+E2)	−0.23 *12*	9.93×10^{-4} *15*	α(K)=0.000878 *13*; α(L)=9.59×10^{-5} *15*; α(M)=1.637×10^{-5} *25*; α(N)=2.21×10^{-6} *4* α(O)=1.551×10^{-7} *23* B(E2)(W.u.)=33 *9*; B(M1)(W.u.)=0.37 *10*
1559.2		793.2 *8*	67 *26*	766.22	(0)$^+$				
		1166.2 *5*	100 *20*	392.86	1$^+$				
1570.37		286.2 *8*	26 *4*	1283.81	(3,4,5)$^+$				
		295.1[@] *3*	14 *3*	1275.09	(1,2)$^+$				
		349.57 *8*	100 *8*	1220.83	(0,1)$^+$				
		863.0 *4*	27 *5*	707.4	1$^+$,2$^+$,3$^+$				
		1177.3 *3*	40 *7*	392.86	1$^+$				
1575.50	(1,2)$^+$	868.7 *2*	100	706.79	2$^-$				
1595.8	3$^-$,4$^-$	1362[@] *2*	<33	231.927	5$^-$				
		1595.9 *5*	100	0.0	4$^-$				
1702.39	3$^+$,4$^+$	481[@] *1*	<25	1220.83	(0,1)$^+$				
		717.85 *20*	100 *12*	984.66	(4)$^+$				
		862[@] *2*	<25	843.04	(5)$^+$				
		1309.0 *4*	10 *6*	392.86	1$^+$				
1761.0	(4,5,6)$^-$	1761 *2*	100	0.0	4$^-$				
1832.0	3$^-$,4$^-$	1832 *2*	100	0.0	4$^-$				
1962.5		1962.5 *4*	100	0.0	4$^-$				
2312.24	(9$^+$)	1608.4 *1*	100 *13*	703.83?	(7)$^+$				
		1637.7 *1*	59 *5*	674.55	8$^+$	(M1+E2)	+0.34 *8*	3.44×10^{-4}	α(K)=0.000198 *3*; α(L)=2.14×10^{-5} *3*; α(M)=3.65×10^{-6} *6*; α(N)=4.92×10^{-7} *7*; α(O)=3.49×10^{-8} *5*
2443.87	(10$^+$)	131.4 *10*	2.8 *5*	2312.24	(9$^+$)	(M1)		0.0858 *22*	α(K)=0.0755 *19*; α(L)=0.00865 *22*; α(M)=0.00148 *4*; α(N)=0.000199 *5*; α(O)=1.36×10^{-5} *4* B(M1)(W.u.)>0.12 Mult.: Dipole from comparison with RUL, Δπ=no from level scheme.
		967.6[@] *3*	9 *3*	1476.86	9$^+$				
		1769.3 *1*	100 *4*	674.55	8$^+$	(E2)		3.88×10^{-4}	α(K)=0.0001677 *24*; α(L)=1.81×10^{-5} *3*;

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Adopted Levels, Gammas (continued)

$\gamma(^{88}Y)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α	Comments
									α(M)=3.09×10^{-6} *5*; α(N)=4.16×10^{-7} *6*; α(O)=2.93×10^{-8} *5* B(E2)(W.u.)>0.6
3036.6		1559.7	100	1476.86	9$^+$				
3206.7		1729.8 *3*	100	1476.86	9$^+$				
3256.52	(10$^-$)	219.9		3036.6					
		812.0 *10*	1.1 *5*	2443.87	(10$^+$)				
		944.3 *1*	100 *6*	2312.24	(9$^+$)				
		1779.3 *2*	67 *5*	1476.86	9$^+$				
3284.1	(11$^+$)	840.0		2443.87	(10$^+$)				
		1807.3		1476.86	9$^+$	(E2)		3.98×10^{-4}	α(K)=0.0001611 *23*; α(L)=1.738×10^{-5} *25*; α(M)=2.96×10^{-6} *5*; α(N)=3.99×10^{-7} *6*; α(O)=2.81×10^{-8} *4* Mult.: from ADO ratio in ^{82}Se(^{11}B,5nγ).
3652.14	(11$^-$)	395.61 *3*	31.9 *15*	3256.52	(10$^-$)	M1(+E2)	−0.09 *9*	0.00508 *11*	α(K)=0.00449 *9*; α(L)=0.000498 *11*; α(M)=8.52×10^{-5} *19*; α(N)=1.146×10^{-5} *24*; α(O)=7.98×10^{-7} *15* B(M1)(W.u.)>0.04
		1208.29 *6*	100 *4*	2443.87	(10$^+$)	E1(+M2)	−0.03 *5*	2.37×10^{-4} *5*	α(K)=0.000168 *5*; α(L)=1.80×10^{-5} *5*; α(M)=3.07×10^{-6} *8*; α(N)=4.14×10^{-7} *11*; α(O)=2.91×10^{-8} *8* B(E1)(W.u.)>7.3×10^{-5}
3726.8		1282.9	100	2443.87	(10$^+$)				
3917.7		661.2	100	3256.52	(10$^-$)				
3964.24	(12$^-$)	312.1 *1*		3652.14	(11$^-$)	(M1+E2)	−0.07 *4*	0.00909 *15*	α(K)=0.00802 *13*; α(L)=0.000896 *15*; α(M)=0.0001533 *25*; α(N)=2.06×10^{-5} *4* α(O)=1.429×10^{-6} *22*
		680.0		3284.1	(11$^+$)				E_γ: observed only in ^{82}Se(^{11}B,5nγ).
4178.24	(13$^-$)	214.0 *1*	100	3964.24	(12$^-$)	(M1+E2)	−0.09 *4*	0.0239 *5*	α(K)=0.0211 *5*; α(L)=0.00239 *6*; α(M)=0.000408 *10*; α(N)=5.48×10^{-5} *13*; α(O)=3.76×10^{-6} *8* B(E2)(W.u.)=170 *20*; B(M1)(W.u.)=0.87 *10* Mult.: other: (E2) from ADO ratio in ^{82}Se(^{11}B,5nγ), however, E2 is not allowed by comparison to RUL.
4431.5		253.4		4178.24	(13$^-$)				
		467.2		3964.24	(12$^-$)				
4621.3		894.5	100	3726.8					
4824.35	(14$^-$)	646.1 *1*	100	4178.24	(13$^-$)	(M1)		1.60×10^{-3}	α(K)=0.001418 *20*; α(L)=0.0001554 *22*; α(M)=2.65×10^{-5} *4*; α(N)=3.58×10^{-6} *5*; α(O)=2.51×10^{-7} *4* B(M1)(W.u.)>0.27 Mult.: D from angular distribution and linear polarization

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Adopted Levels, Gammas (continued)

$\gamma(^{88}Y)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
								in ^{74}Ge(^{18}O,3npγ),^{76}Ge(^{18}O,p5nγ); $\Delta\pi$=no from level scheme.
4878.2		914.0	100	3964.24	(12$^-$)			
4967.9		1241.1	100	3726.8				
5264.3		296.4		4967.9				
		643.0		4621.3				
5558.7	(15)	734.4 *2*	100	4824.35	(14$^-$)	D(+Q)	−0.05 *10*	
5993.4	(16)	434.7 *2*	100	5558.7	(15)	D		
6264.6	(14)	2086.8 *10*	100	4178.24	(13$^-$)			
6537.0	(17)	543.6 *2*	100	5993.4	(16)	D		
6815.4	(15)	550.8 *2*	51 *6*	6264.6	(14)	D		
		1991.0 *2*	100 *8*	4824.35	(14$^-$)			
7112.4	(18)	575.4 *3*	100	6537.0	(17)	D		
7142.6	(16)	327.0 *10*		6815.4	(15)	D		
		1584.0		5558.7	(15)			
7166.9		1608.1	100	5558.7	(15)			
7419.2	(19)	306.8 *3*	100	7112.4	(18)	(D)		
7597.6		430.7		7166.9				
		2038.8[@]		5558.7	(15)			
7847.2	(17)	704.6 *2*	100	7142.6	(16)	(D)		
7903.2		305.6	100	7597.6				
8337.4		434.2	100	7903.2				
8627.4	(18)	780.2 *10*	100	7847.2	(17)	D		
8880.4		543.0		8337.4				
9145.1?		2032.6[@] *10*	100	7112.4	(18)			
9454.9		574.5	100	8880.4				
9618.4?		3081.3[@] *10*	100	6537.0	(17)			

[†] Weighted average of all available measurements, except where noted.
[‡] From angular distribution and linear polarization measurements in ^{74}Ge(^{18}O,3npγ), except where noted.
[#] Multiply placed.
[@] Placement of transition in the level scheme is uncertain.

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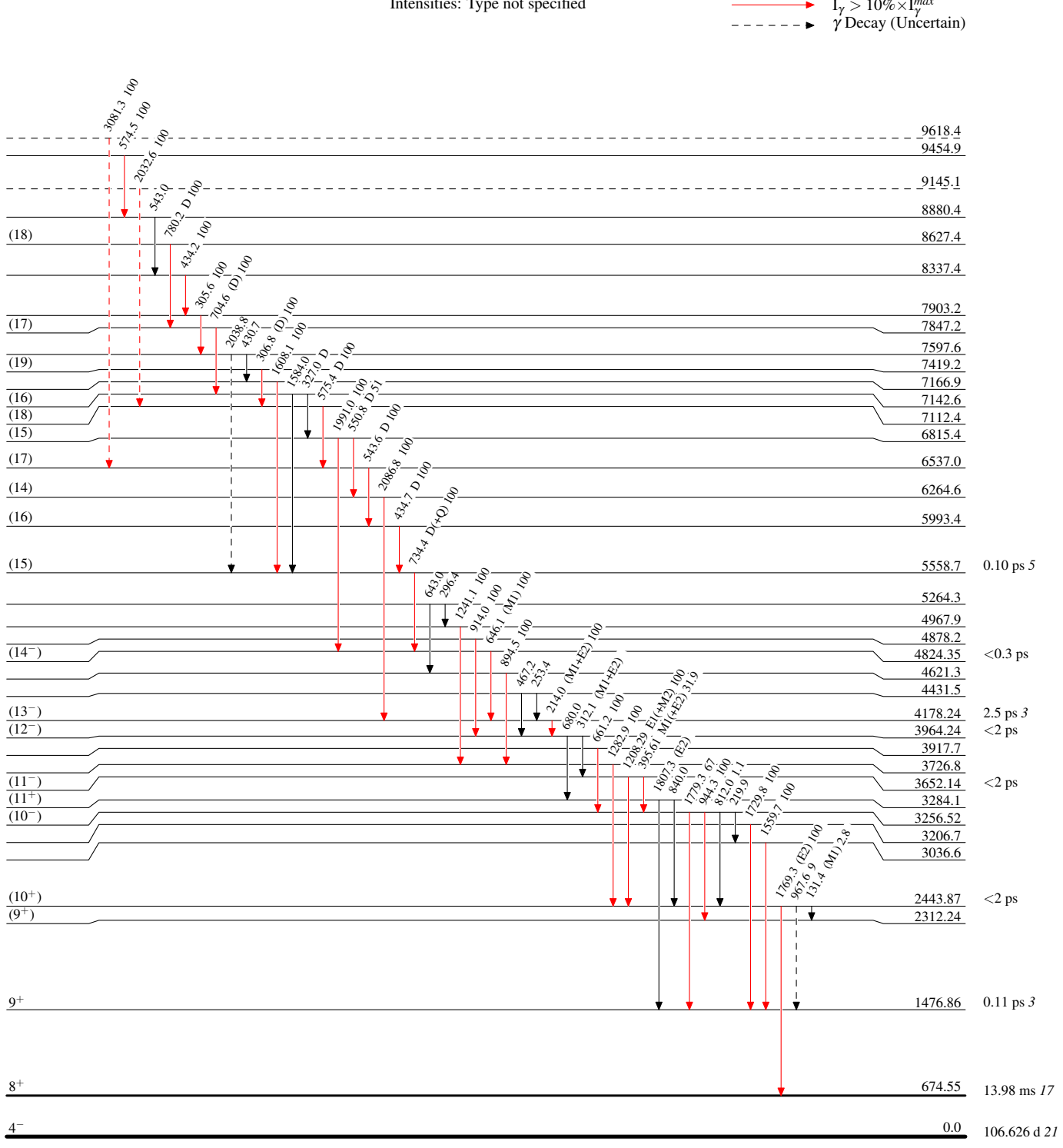
Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified



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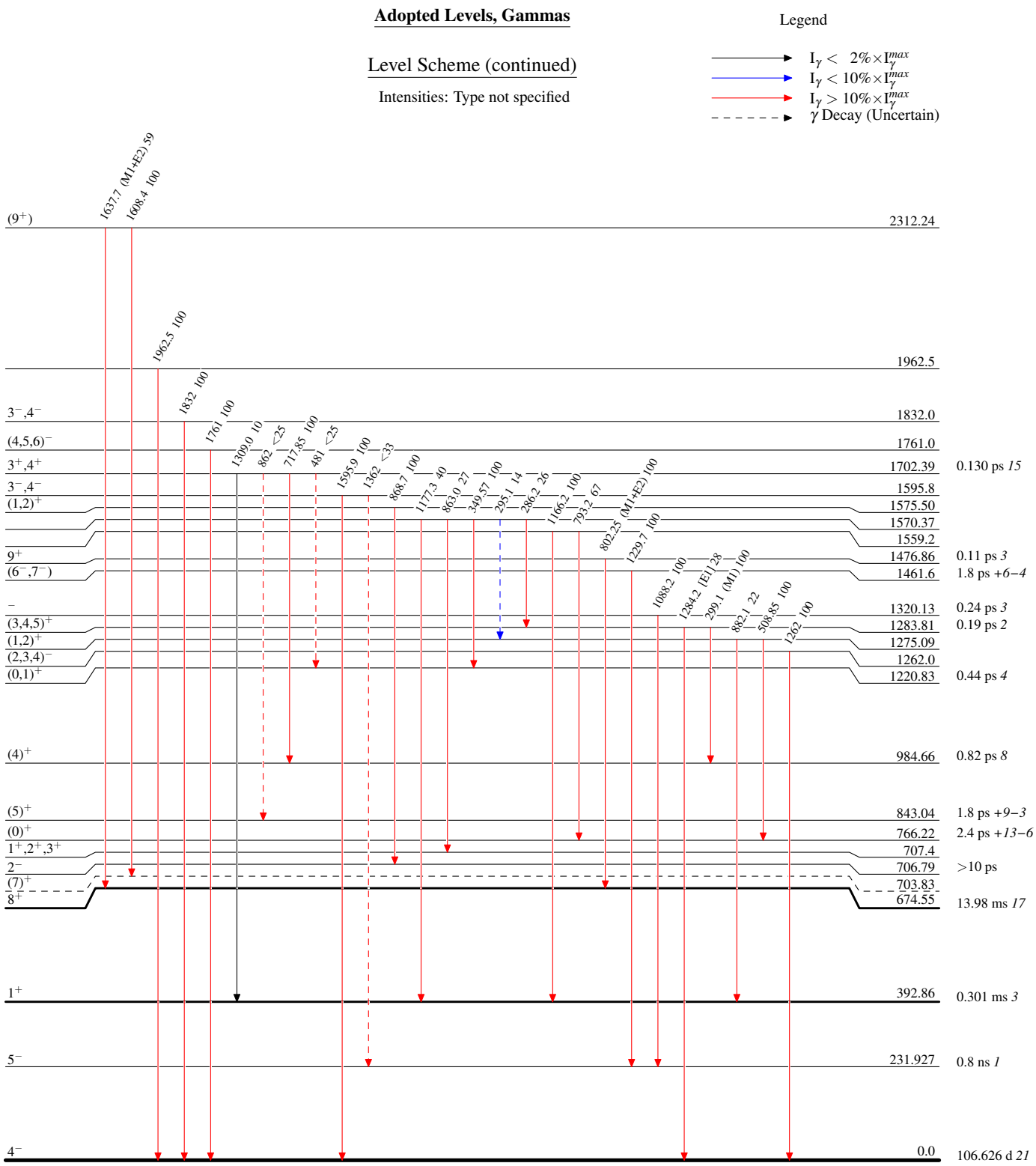
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



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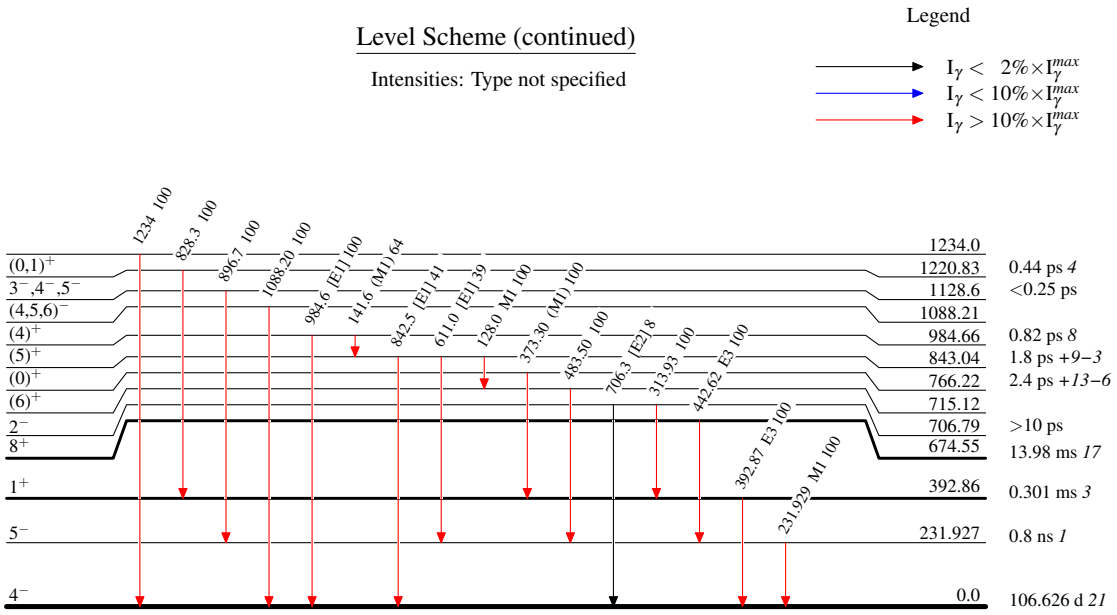
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



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