Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 107,2423 (2006)	1-Jan-2006

Q(β^-)=−4256 *4*; S(n)=9677.8 *9*; S(p)=8488.8 *18*; Q(α)=−2064.2 *19* 2012Wa38
Note: Current evaluation has used the following Q record −4256 4 *9678* 4 *8490*.4 *20*−2067.4 *21* 2003Au03.

^{94}Mo Levels

Cross Reference (XREF) Flags

A	^{94}Tc ε decay (52.0 min)	J	^{96}Mo(p,t)	S	^{90}Zr(^{16}O,^{12}Cγ)
B	^{94}Tc ε decay (293 min)	K	^{93}Nb(p,n),(p,p′) IAR	T	^{94}Zr(α,4nγ)
C	^{94}Tc ε decay: mixed source	L	^{91}Zr(α,nγ)	U	^{94}Mo(p,p′γ)
D	^{94}Nb β^- decay (6.263 min)	M	^{92}Mo(t,p)	V	^{94}Mo(d,d′)
E	^{94}Nb β^- decay (2.03×10^4 y)	N	^{65}Cu(^{36}S,αp2nγ)	W	Coulomb excitation
F	^{94}Mo(γ,γ′)	O	^{95}Mo(d,t)	X	^{96}Ru(^{14}C,^{16}O)
G	^{94}Mo(n,n′γ)	P	^{92}Zr(α,2nγ)	Y	^{92}Zr(^{3}He,n)
H	^{94}Mo(n,n′), (n,n′γ)	Q	^{94}Mo(α,α′)		
I	^{94}Mo(p,p′)	R	^{93}Nb(^{3}He,d)		

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$	XREF	Comments
0.0[@]	0$^+$	stable	ABCDEFGHIJ LMNOPQRSTUVWXY	<r^2>$^{1/2}$=4.3518 fm 9 from 2004An14.
871.098[@] *16*	2$^+$	2.77 ps *6*	ABCDEFGHIJ LMNOPQRSTUVWX	Q=−0.13 *8* (1989Ra17) J$^\pi$: L(t,p)=2. Vector analyzing power (pol p,p′) (1981Pl07). T$_{1/2}$: from B(E2)=0.203 *4* (see Coulomb Excitation). Q: −0.13 *8* or +0.01 *8* (1989Ra17). Q=−0.13 *8* from Coulomb excitation if the excitation to higher excited states interferes constructively, as is usual in this mass region. Q=+0.01 *8* for destructive interference.
1573.76[@] *4*	4$^+$	5.0 ps *7*	BCDE GHIJ LMNOPQRSTUVW	J$^\pi$: L(t,p)=4. T$_{1/2}$: from B(E2)(2$^+$ to 4$^+$)=0.120 *18* (see Coulomb excitation).
1741.65 *15*	0$^+$		C FGHI M O V	J$^\pi$: L(t,p)=0.
1864.31 *5*	2$^+$	0.20 ps *+5−3*	A CD FGHIJ LM O QRS UVW	J$^\pi$: L(t,p)=2. T$_{1/2}$: weighted average of 0.13 ps *+7−3* (p,p′γ) and 0.28 ps *+6−5* (n,n′γ).
2067.35 *6*	2$^+$	35 fs *3*	A C FGHIJ LM O QRS UVW	XREF: R(2080). T$_{1/2}$: from (n,n′γ), other: 32 fs *+10−5* (p,p′γ). J$^\pi$: L(t,p)=2.
2121 *5*			I	
2294.79 *16*	4$^+$	76[a] fs *11*	C GHIJ LM OP R V	J$^\pi$: L(t,p)=4.
2322 *2*	(6$^+$)[#]		I V	
2393.02 *6*	2$^+$	83[a] fs *+12−10*	A C FGHIJ LM O RS V	J$^\pi$: L(t,p)=2.
2423.45[@] *9*	6$^+$		BC G IJ LMNOPQRST V	J$^\pi$: L(t,p)=6.
2533.87 *12*	3$^-$	0.52[a] ps *+9−8*	C GHIJ LM O QR UVW	J$^\pi$: L(t,p)=3.
2564.98 *19*	4$^+$	0.16[a] ps *+5−3*	GHIJ LM O R V	J$^\pi$: L(t,p)=4.
2580 *5*	(3$^-$)[#]		I N V	
2610.57[&] *16*	(5)$^-$	0.44[a] ps *+11−8*	C GHIJ LMN P R V	J$^\pi$: L(^{3}He,d)=1 on 9/2$^+$ target; E1 γ to 4$^+$.
2703 *5*	(3$^-$)[#]		I V	
2739.91 *7*	1$^+$	53[a] fs *5*	A C FGHI PQ S V	J$^\pi$: observed in (γ,γ′), M1+E2 γ to 2$^+$.

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Adopted Levels, Gammas (continued)

^{94}Mo Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
2767.61 *19*	4^+	107[a] fs *12*	GHIJ LM R V	Jπ: L(α,α′)=4 for a level at 2740 *30*, E2 γ to 2^+.
2780.51 *21*	(0^+)	0.48[a] ps *+12−9*	G	
2805.04 *19*	3^+	0.35[a] ps *+5−4*	C GH L O	Jπ: M1+E2 γ′s to 2^+ and 4^+.
2834.91 *24*	$(4)^-$		GHI L R V	Jπ: M1+E2 γ to 3^-, E1 γ to 4^+.
2853 *5*	(4^+)[#]		I V	
2869.90 *8*	2^+	91[a] fs *10*	A C GHIJ LM O Q	Jπ: L=2 in (α,α′).
2872.40 *11*	6^+		BC G L P R T	Jπ: log *ft*=6.3 from 7^+, M1+E2 γ to 6^+, possible γ to $(5)^-$.
2955.55[@] *13*	8^+	98 ns *2*	BC L N P R T	μ=+10.46 *7* (1989Ra17) Jπ: log *ft*=6.1 from 7^+, E2 to 6^+. $T_{1/2}$: from (α,2nγ). Other: 104 ns *4* from (α,4nγ).
2960 *5*	(4^+)[#]		I V	
2965.41 *6*	3^+	52[a] fs *6*	A C GH L O	Jπ: M1+E2 γ′s to 2^+ and 4^+.
2993.10 *19*	2^+	151[a] fs *+19−17*	G I L O V	Jπ: L(d,t)=0 on $5/2^+$ target, M1+E2 γ′s to 2^+, γ to 0^+.
3011.51 *16*	3^-	0.22[a] ps *+6−4*	GH LM QR V	Jπ: L(t,p)=3.
3026.90 *20*	(3)		G R	
3032 *5*	(4^+)[#]		I V	
3072.42 *17*	$(2,3^+)$	0.35[a] ps *+7−6*	G	
3082.46 *24*	$(3)^+$	0.70[a] ps *+28−17*	GHI L V	Jπ: M1+E2 γ to 2^+, no γ to 0^+.
3128.66 *7*	1^+	6.5[a] fs *4*	A C FGHI O V	Jπ: observed in (γ,γ′), M1+E2 γ to 2^+.
3163.29 *19*	$(3)^+$	63[a] fs *7*	A C GH L	Jπ: M1+E2 γ to 2^+,3^+, no γ to 0^+.
3165.77 *9*	6^+	322[a] fs *35*	BC I LM Q V	Jπ: log *ft*=5.9 from 7^+. γ to 4^+.
3171 *10*	2^+,3^+		O	Jπ: L(d,t)=0 on $5/2^+$ target.
3201.11 *23*	(4)	44[a] fs *+6−5*	G I LM V	Jπ: L(t,p)=4.
3243.2 *5*	$(5)^+$	92[a] fs *+16−15*	G L	Jπ: M1+E2 γ to 4^+.
3260.9 *5*	1^-	40[a] fs *4*	FGHI M V	Jπ: L(t,p)=1.
3307.1 *4*	$(2)^+$	0.40[a] ps *+14−9*	GHI L V	
3320 *5*	0^+		J M	Jπ: a clear L=0 distribution was seen in (p,t), while in (t,p) an unresolved group was observed at this energy with no indication for an L=0 contribution.
3320.7 *3*			L P	
3331.74 *17*	3^+	52[a] fs *6*	C G L	Jπ: M1+E2 γ′s to 2^+ and 4^+.
3339.54 *17*	6^+	126[a] fs *21*	BC I LM V	Jπ: log *ft*=5.4 from 7^+, γ to 4^+.
3359.8 *10*	(8^+)		P	Jπ: (E2) γ to 6^+.
3366.5 *4*	$(3^+,4)$	0.61[a] ps *7*	L	
3368.1[&] *3*	(7^-)		L N P	
3371.1 *3*	(2,3,4)	0.14[a] ps *+7−4*	G	
3376 *3*	(4^+)		IJ O V	E(level): weighted average of 3375 *5* from (p,t), 3376 *5* from (p,p′) and (d,d′), and 3378 *10* from (d,t). Jπ: L(p,t)=(5); $J^\pi=(4^+)$ from analysis in (p,p′) and (d,d′); L(d,t)=4 gives $J^\pi=1^+$ to 7^+.
3380 *20*			M	Jπ: L(t,p)=(5); however, (t,p) shows a group composed of several states partly resolved.
3389.4 *5*	$(5)^-$	0.49[a] ps *12*	I L V	XREF: I(3396)V(3396). Jπ: E1 γ to 4^+.
3398.3 *4*	(3,4)	35[a] fs *+7−6*	G L	
3400.83 *17*		22.9[a] fs *28*	A GH J M O Q	

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Adopted Levels, Gammas (continued)

^{94}Mo Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
3429.1 *8*			G	
3435 *5*	$(2^+)^{\#}$		I V	
3447.6 *4*	$(1,2^+)$	35[a] fs *+5−4*	A C GHIJ LM V	Jπ: γ's to 0^+ and 2^+.
3448.7 *4*	5^+	0.45[a] ps *14*	L	Jπ: M1+E2 γ's to 4^+, 6^+.
3456 *5*	2^+		V	Jπ: from σ(θ) in (d,d′).
3462 *10*	$(3)^-$		I O Q V	XREF: I(3465)Q(3.48E+3). Jπ: L(d,t)=1 on $5/2^+$ target. $J^\pi=(3^-,5^-)$ from analysis in (p,p′) and (d,d′).
3511.86 *14*	$1^{(+)}$	9[a] fs *+6−3*	A C FGH	Jπ: observed in (γ,γ′), γ's to 0^+, 2^+.
3531.5 *4*	$(1,2^+)$		G	
3534.32 *9*	2^+	105[a] fs *28*	C LM	Jπ: L(t,p)=2.
3539 *5*	$(1^-)^{\#}$		I V	
3588 *5*	$(2^+)^{\#}$		I V	
3588.6 *5*			G	
3602 *11*	$^+$		O	Jπ: L(d,t)=2 on $5/2^+$ target.
3604 *5*	$(3^-)^{\#}$		I V	
3620 *12*	(5^-)		E HIJ M O Q	XREF: Q(3.68E+3). Jπ: L(t,p)=5; L(α,α′)=5 for level at 3680 keV *30*.
3627 *5*	$(3^-)^{\#}$		I V	
3647 *5*	$(2)^+$		I O V	Jπ: (2) from analysis in (p,p′) and (d,d′); π=+ from L(d,t)=2 on a $5/2^+$ target.
3693.4 *5*	(3,4)	0.105[a] fs *35*	L	
3700 *5*	0^+		IJ V	see comment on the 3714 level. Jπ: L(p,t)=0.
3707 *5*	$(4^+)^{\#}$		I V	
3714 *10*			M	Complex group observed in (t,p) with no indication of L=0 contribution.
3730 *5*	$(4^+)^{\#}$		I V	
3792.87 *15*	2^+		A C M	Jπ: L(t,p)=2.
3800 *5*	3^-		J	Jπ: L(p,t)=3.
3802 *5*	$(2^+)^{\#}$		I V	
3805.0 *6*	(8,10)		L P	
3847.3 *7*	4^+	136[a] fs *28*	I LM V	Jπ: L(t,p)=4.
3866.8? *4*	(9^+)		L P	
3869 *5*	$(5^-)^{\#}$		I V	
3892.16 *7*	$(1,2^+)$		A C	
3895 *12*			M	
3897.1[@] *6*	(10^+)		N P T	Jπ: (E2) γ to (8^+).
3897.5 *10*	$(3^+,5^+)$	78[a] fs *28*	L	
3901 *5*	$(2^+)^{\#}$		I V	
3917 *5*			I V	
3928 *5*	$(2^+)^{\#}$		I V	
3932.4 *7*	$(7)^+$	126[a] fs *21*	L	Jπ: M1+E2 γ to 6^+.
3995 *5*	2^+		IJ M V	XREF: M(3984). Jπ: L(p,t)=2.
4004 *5*	$(2^+)^{\#}$		I V	
4007.8 *8*			P	
4024 *5*	5^-		I M V	Jπ: L(t,p)=5; $(5^-,6^+)$ from analysis in (p,p′) and (d,d′).
4062 *5*	$(3^-)^{\#}$		I V	
4093 *5*	4^+		IJ M Q V	XREF: M(4079)Q(4.11E+3).

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Adopted Levels, Gammas (continued)

^{94}Mo Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
				Jπ: L(t,p)=4.
4096.8[&] *5*	(9⁻)		N	
4105.5 *10*		91[a] fs *28*	L	
4113 *5*	(3⁻)[#]		I V	
4120 *12*	2⁺,3⁻		J M	Jπ: L(t,p)=2,3.
4128 *5*	(3⁻)[#]		I V	
4139 *5*	2⁺		IJ V	Jπ: L(p,t)=2.
4174 *12*	6⁺		M	Jπ: L(t,p)=6.
4190.1 *8*			P	
4191 *5*	(2⁺)[#]		I V	
4191.5[@] *6*	(12⁺)		N	
4223 *12*	4⁺		M	Jπ: L(t,p)=4.
4237.5 *12*		62[a] fs *28*	L	
4264.5 *6*			N	
4293 *12*			M	
4317 *5*	(2⁺)[#]		I M V	
4388 *15*			M	
4436 *12*			M Q	
4475 *12*	(2⁺)		M	Jπ: L(t,p)=(2).
4495.6 *9*			P	
4499.3 *6*			N	
4565 *12*			M	
4602 *5*			I M	
4636 *12*			M	
4729 *15*			M	
4749.9[&] *5*	(11⁻)		N	
4755 *12*			M	
4804 *12*			M	
4833 *12*			M	
4886 *12*			M	
4921 *12*			M	
4975 *12*			M	
5059 *15*			M	
5734.2[&] *6*	(13⁻)		N	
5804.1 *10*	(13⁺)		N	
6397.3[&] *8*	(14⁻)		N	
6555.1 *5*	(1,2⁺)		F	Jπ: γ to 0⁺.
6580.3 *10*	(13⁺)		N	
6962.7 *9*	(15⁻)		N	
7021.2[&] *9*	(15⁻)		N	
7067.6 *11*	(13⁺)		N	
7518.0 *9*	(16⁻)		N	
7554.6 *10*	(14⁺)		N	
7795.7 *11*	(15⁺)		N	
7899.9 *11*	(14⁺)		N	
8239.0 *12*	(16⁺)		N	
8452.6 *9*			N	
8614.6 *11*	(15⁺)		N	
9030.2 *12*	(17⁺)		N	
9162.8 *12*	(16⁺)		N	
9209.9[&] *13*	(16⁻)		N	
9956.0 *11*	(16⁺)		N	
9979.1 *15*	(17⁺)		N	

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Adopted Levels, Gammas (continued)

^{94}Mo Levels (continued)

E(level)†	Jπ‡	XREF	Comments
10052.3 *14*		N	
10272.4& *14*	(17⁻)	N	
10275.2 *13*	(18⁺)	N	
11588.3 *18*	(18⁺)	N	
S(p)+4769	(6)⁺	K	IAS: ^{94}Nb g.s.
S(p)+4812	3⁺	K	IAS: 40.9 keV.
S(p)+4830	(4)⁺	K	IAS: 58.7 keV.
S(p)+4848	(5,6,7)⁺	K	IAS: 78.7 keV.
S(p)+4882	(5)⁺	K	IAS: 113.4 keV.
S(p)+5083	(4,5)⁺	K	IAS: 311.8 keV.
S(p)+5110	(3)⁺	K	IAS: 334.1 keV.
S(p)+5738		K	
S(p)+5808		K	
S(p)+5847	(5)⁺	K	IAS: 957.4 keV (1972Ke32); however, E(res)=5738 gives better energy agreement as IAS of 957.4 level.
S(p)+5966		K	
S(p)+5986	(2,3,4)⁺	K	IAS: 1232 keV.
S(p)+6085	4⁺,5⁺	K	IAS: 1281 keV & 1321 keV.
S(p)+6292		K	IAS: 1499 keV & 1519 keV.
S(p)+6391		K	
S(p)+6441		K	
S(p)+6530		K	
S(p)+6619		K	
S(p)+6738		K	
S(p)+6856		K	

† Level energies with ΔE<5 keV are calculated from the adopted γ′s by a least-squares fit. The other are from (d,t), (t,p), and (p,t). Some of the high-energy levels are unresolved multiplets (see, *e.g.*, (t,p)).

‡ Arguments are given in comments for each level. For the IAR′s at S(p)+4769 and higher energies, the J^π assigned are from the corresponding IAS′s.

From coupled-channels analysis in (p,p′) and (d,d′).

@ Band(A): Yrast band.

& Band(B): Negative parity band.

a From the ^{94}Tc ε decay: mixed source, ^{91}Zr(α,nγ), ^{94}Mo(n,n′γ) and ^{94}Mo(γ,γ′) datasets.

Adopted Levels, Gammas (continued)

γ(^{94}Mo)

E_i(level)	J_i^π	E_γ [†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[‡]	α[d]	Comments
871.098	2^+	871.089 *17*	100	0.0	0^+	E2		0.00108	α(K)=0.00094 *3*; α(L)=0.00011 B(E2)(W.u.)=16.0 *4* Mult.: Q from γ(θ) in (p,p′γ); E2 from RUL.
1573.76	4^+	702.65 *4*	100	871.098	2^+	E2		0.00186	α(K)=0.00161 *5*; α(L)=0.00019 *1* B(E2)(W.u.)=26 *4* Mult.: from γγ(θ) and polarization correlation in ^{94}Nb β^- decay.
1741.65	0^+	871.4[b] *5*	100	871.098	2^+				
1864.31	2^+	993.15 *7*	100.0 *8*	871.098	2^+	M1+E2	−2.0 *3*	0.00080	α(K)=0.00070 B(E2)(W.u.)=85 *5*; B(M1)(W.u.)=0.021 *5* Mult.: D+Q from γγ(θ) in β^+ decay (52.0 min); M1+E2 from RUL. δ: −0.87 *+9−17* or −3.2 *+7−9* from γ(θ) in (p,p′γ).
		1864.3[b] *2*	8.9 *11*	0.0	0^+	E2			B(E2)(W.u.)=0.40 *+8−12* Mult.: Q from γ(θ) in (p,p′γ); E2 from RUL.
2067.35	2^+	1196.2[a] *1*	100.0 *7*	871.098	2^+	M1+E2	+0.15 *4*	0.00048	α(K)=0.00048 B(E2)(W.u.)=5 *3*; B(M1)(W.u.)=0.31 *3*
		2067.4[a] *1*	15.1 *7*	0.0	0^+	E2			B(E2)(W.u.)=2.21 *22*
2294.79	4^+	721.0[a] *2*	100.0 *2*	1573.76	4^+	M1(+E2)	+0.03 *4*	0.00168	α(K)=0.00146; α(L)=0.00016 B(M1)(W.u.)=0.68 *10*
		1423.7[a] *3*	13.3 *2*	871.098	2^+	E2(+M3)	+0.08 *8*	0.00032 *2*	α(K)=0.00032 *2* B(E2)(W.u.)=5.8 *9*
2393.02	2^+	325.7[a] *3*	0.61 *14*	2067.35	2^+				
		528.7[a] *3*	0.72 *3*	1864.31	2^+				
		1521.8[a] *1*	100.0 *20*	871.098	2^+	M1+E2	−0.12 *3*		B(E2)(W.u.)=0.42 *21*; B(M1)(W.u.)=0.0660 *5*
		2393.1[a] *1*	11.11 *22*	0.0	0^+				
2423.45	6^+	849.7[b] *1*	100	1573.76	4^+	E2(+M3)	−0.04 *5*	0.00116 *4*	α(K)=0.00100 *3*; α(L)=0.00011
2533.87	3^-	466.4[a] *3*	57.3 *10*	2067.35	2^+	E1(+M2)	0.00 *3*	0.009 *7*	α(K)=0.008 *6*; α(L)=0.0009 *8* B(E1)(W.u.)=0.00132
		669.6[a] *2*	31.9 *13*	1864.31	2^+	E1(+M2)	−0.03 *13*	0.00077 *12*	α(K)=0.00067 *10* B(E1)(W.u.)=0.0002472 *20*
		960.1[a] *3*	81 *3*	1573.76	4^+	E1(+M2)	0.00 *2*	0.0013 *9*	α(K)=0.0011 *8*; α(L)=0.00012 *9* B(E1)(W.u.)=0.00021
		1662.7[a] *3*	100.0 *22*	871.098	2^+	E1(+M2)	+0.03 *7*		B(E1)(W.u.)=5.062×10^{-5} *22*
2564.98	4^+	991.2[a] *2*	100.0 *8*	1573.76	4^+	M1(+E2)	+0.10 *+25−17*	0.00083	α(K)=0.00072 B(E2)(W.u.)=1.3; B(M1)(W.u.)=0.125 *7*
		1693.9[a] *7*	11.8 *8*	871.098	2^+	E2(+M3)	−0.01 *10*		B(E2)(W.u.)=1.0543 *21*
2610.57	$(5)^-$	1036.8[a] *2*	100	1573.76	4^+	E1(+M2)	0.00 *4*	0.0009 *7*	α(K)=0.0009 *7* B(E1)(W.u.)=0.00067
2739.91	1^+	672.0[a] *7*	3.0 *5*	2067.35	2^+				

$^{94}_{42}Mo_{52}$-6

Adopted Levels, Gammas (continued)

γ(^{94}Mo) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[‡]	α[d]	Comments
2739.91	1+	875.5[a] *2*	24.4 *5*	1864.31	2+	M1+E2	−0.10 *2*	0.00109	α(K)=0.00095; α(L)=0.00011 B(E2)(W.u.)=1.0 *4*; B(M1)(W.u.)=0.076 *8*
		998.2[a] *2*	4.44 *10*	1741.65	0+				
		1868.8[a] *1*	100.0 *20*	871.098	2+	M1+E2	−0.12 *2*		B(E2)(W.u.)=0.13 *5*; B(M1)(W.u.)=0.032 *3*
		2739.9[a] *1*	65.4 *13*	0.0	0+				
2767.61	4+	1193.8[a] *5*	71 *4*	1573.76	4+				
		1896.5[a] *2*	100 *4*	871.098	2+	E2(+M3)	+0.02 *3*		B(E2)(W.u.)=5.0 *7*
2780.51	(0+)	916.2[a] *2*	100	1864.31	2+				
2805.04	3+	940.7[a] *4*	63 *4*	1864.31	2+	M1+E2	+2.3 *+7−5*	0.00090	α(K)=0.00079 B(E2)(W.u.)=19.2 *19*; B(M1)(W.u.)=0.0032 *17*
		1231.2[a] *3*	100 *5*	1573.76	4+	M1+E2	+8 *+5−3*	0.00043	α(K)=0.00043 B(E2)(W.u.)=9.27 *18*; B(M1)(W.u.)=0.00022 *+27−22*
		1933.9[a] *4*	76 *3*	871.098	2+	M1+E2			
2834.91	(4)−	224.2[a] *5*	7.2 *10*	2610.57	(5)−	M1+E2		0.048 *20*	α(K)=0.041 *16*; α(L)=0.0053 *25*; α(N+..)=0.00017 *8*
		301.1[a] *3*	13.1 *12*	2533.87	3−	M1+E2	+0.12 *10*	0.0137 *4*	α(K)=0.0119 *3*; α(L)=0.00136 *5*
		1261.1[a] *5*	100.0	1573.76	4+	E1(+M2)	+0.06 *7*	0.00019 *1*	α(K)=0.00019 *1*
2869.90	2+	802.6[a] *2*	26.2 *15*	2067.35	2+				
		1005.5[a] *1*	100 *4*	1864.31	2+	M1+E2	−0.05 *4*	0.00070	α(K)=0.00070 B(E2)(W.u.)=0.4 *+6−4*; B(M1)(W.u.)=0.152 *19*
		1998.9[a] *2*	13.1 *6*	871.098	2+	M1+E2	+1.3 *+14−4*		B(E2)(W.u.)=0.4 *4*; B(M1)(W.u.)=0.0009 *9*
		2870.0[a] *2*	17.3 *5*	0.0	0+				
2872.40	6+	261.7[e] *10*	4 *2*	2610.57	(5)−				E_γ: observed only in ^{92}Zr(α,2nγ).
		449.0[b] *1*	100 *8*	2423.45	6+	M1+E2	+0.14 *9*	0.00510 *5*	α(K)=0.00443 *4*; α(L)=0.00050 *1*
2955.55	8+	83.6 *10*	9. *2*	2872.40	6+	E2		2.32	α(K)=1.83 *6*; α(L)=0.408 *13*; α(M)=0.0738 *23*; α(N+..)=0.0120 *4* B(E2)(W.u.)=4.6 *12* Mult.: from α(exp) in (α,2nγ), Eγ from same dataset.
		532.1[b] *1*	100. *11*	2423.45	6+	E2(+M3)	−0.03 *5*	0.00402 *14*	α(K)=0.00347 *13*; α(L)=0.00041 *2* B(E2)(W.u.)=0.0049 *8*
2965.41	3+	898.1[a] *1*	23.0 *12*	2067.35	2+	M1+E2		0.00102 *1*	α(K)=0.00088 *1*; α(L)=9.9×10^{-5} *1* δ: +2.0 *+12−6* or +0.39 *25*.
		1101.1[a] *1*	100.0 *23*	1864.31	2+	M1+E2	−0.09 *6*	0.00058	α(K)=0.00058 B(E2)(W.u.)=1.0 *+13−10*; B(M1)(W.u.)=0.141 *17*
		1391.6[a] *1*	63.0 *24*	1573.76	4+	M1+E2	−0.08 *6*	0.00035	α(K)=0.00035 B(E2)(W.u.)=0.15 *+22−15*; B(M1)(W.u.)=0.044 *6*
		2094.3[a] *1*	36.9 *14*	871.098	2+	M1+E2	+1.1 *+10−4*		B(E2)(W.u.)=1.0 *8*; B(M1)(W.u.)=0.003 *3*
2993.10	2+	925.8[&] *3*	45 *3*	2067.35	2+	M1(+E2)	−0.07 *+7−6*	0.00096	α(K)=0.00084 B(M1)(W.u.)=0.0382 *4*
		1128.6[&] *5*	100 *4*	1864.31	2+	M1+E2	−3.4 *+7−9*	0.00052	α(K)=0.00052 B(E2)(W.u.)=34.4 *12*; B(M1)(W.u.)=0.0037 *15*

$^{94}_{42}Mo_{52}$-7

Adopted Levels, Gammas (continued)

γ(^{94}Mo) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[‡]	α[d]	Comments
2993.10	2^+	2122.0[&] *3*	63.7 *15*	871.098	2^+	M1+E2	−2.6 *+6−7*		B(E2)(W.u.)=0.88 *6*; B(M1)(W.u.)=0.00058 *24*
		2993.0[&] *10*	6.8 *9*	0.0	0^+				
3011.51	3^-	477.5[&] *5*	50.9 *17*	2533.87	3^-	M1(+E2)	−0.10 *19*	0.00439 *8*	α(K)=0.00382 *7*; α(L)=0.00043 *1* B(M1)(W.u.)=0.219 *9*
		944.3[&] *6*	11.9 *16*	2067.35	2^+				
		1147.3[&] *5*	11.5 *15*	1864.31	2^+	E1(+M2)	+0.01 *6*	0.00023 *1*	α(K)=0.00023 *1* B(E1)(W.u.)=5.359×10^{-5} *7*
		1437.6[&] *5*	37 *3*	1573.76	4^+	E1(+M2)	+0.04 *6*	0.00015 *1*	α(K)=0.00015 *1* B(E1)(W.u.)=8.75×10^{-5} *5*
		2140.4[&] *2*	100.0 *23*	871.098	2^+	E1(+M2)	+0.03 *5*		B(E1)(W.u.)=7.172×10^{-5} *22*
3026.90	(3)	416.4[a] *3*	100 *4*	2610.57	$(5)^-$				
		493.0[a] *2*	60 *4*	2533.87	3^-				
3072.42	$(2,3^+)$	538.5[a] *7*	11.5 *23*	2533.87	3^-				
		1208.1[a] *2*	100 *5*	1864.31	2^+				
		2201.3[a] *3*	37.3 *22*	871.098	2^+				
3082.46	$(3)^+$	1218.2[&] *4*	14.2 *21*	1864.31	2^+	M1+E2	+0.09 *5*	0.00047	α(K)=0.00047 B(E2)(W.u.)=0.012 *+13−12*; B(M1)(W.u.)=0.002146 *20*
		2211.3[&] *3*	100.0 *21*	871.098	2^+	M1(+E2)	−0.01 *6*		B(M1)(W.u.)=0.002547 *3*
3128.66	1^+	1061.1[a] *5*	1.16 *11*	2067.35	2^+	M1+E2		0.00061 *2*	α(K)=0.00061 *2*
		1264.3[a] *1*	18.3 *4*	1864.31	2^+	M1+E2	−0.08 *3*	0.00043	α(K)=0.00043 B(E2)(W.u.)=1.0 *8*; B(M1)(W.u.)=0.246 *17*
		2257.6[a] *1*	4.29 *10*	871.098	2^+	M1+E2	+0.74 *+21−17*		B(E2)(W.u.)=0.7 *3*; B(M1)(W.u.)=0.0066 *14*
		3128.5[a] *2*	100.0 *3*	0.0	0^+				
3163.29	$(3)^+$	358.0[&] *5*	16.7 *13*	2805.04	3^+	M1+E2	−0.35 *12*	0.0093 *4*	α(K)=0.0081 *3*; α(L)=0.00094 *5* B(E2)(W.u.)=9.E+2 *6*; B(M1)(W.u.)=0.97 *16*
		2292.2[&] *2*	100.0 *13*	871.098	2^+	M1+E2	+0.17 *4*		B(E2)(W.u.)=0.13 *7*; B(M1)(W.u.)=0.024 *3*
3165.77	6^+	293.4[&] *1*	79.4 *25*	2872.40	6^+	M1+E2	+0.18 *5*	0.0149 *2*	α(K)=0.0129 *2*; α(L)=0.00148 *3* B(E2)(W.u.)=3.8×10^2 *21*; B(M1)(W.u.)=1.00 *12*
		742.2[&] *2*	29.4 *11*	2423.45	6^+	M1+E2	+0.15 *7*	0.00158	α(K)=0.00137; α(L)=0.00015 B(E2)(W.u.)=1.0 *9*; B(M1)(W.u.)=0.023 *3*
		1592.0[&] *1*	100 *4*	1573.76	4^+	E2(+M3)	−0.01 *6*		B(E2)(W.u.)=3.2 *4*
3201.11	(4)	906.3[&] *2*	100.0 *22*	2294.79	4^+	D(+Q)	0.00 *6*		
		1627.4[&] *5*	29.4 *22*	1573.76	4^+	D(+Q)	+0.2 *2*		
3243.2	$(5)^+$	1669.4[&] *5*	100	1573.76	4^+	M1+E2	+0.71 *14*		B(E2)(W.u.)=6.3 *17*; B(M1)(W.u.)=0.034 *5*
3260.9	1^-	2392.8[e] *20*	67 *17*	871.098	2^+				E_γ: not seen in (γ,γ′) or (n,n′γ).
		3260.7[a] *5*	100 *17*	0.0	0^+				

$^{94}_{42}Mo_{52}$-8

Adopted Levels, Gammas (continued)

γ(^{94}Mo) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[‡]	α[d]	Comments
3307.1	(2)$^+$	2436.0[&] *4*	100	871.098	2$^+$	M1+E2			
3320.7		365.2[&] *3*	100	2955.55	8$^+$	(M1+E2)	+2.2 *3*	0.0120 *2*	α(K)=0.0103 *2*; α(L)=0.00127 *3*
3331.74	3$^+$	1467.3[&] *3*	48 *3*	1864.31	2$^+$	M1+E2	+0.3 *+29−2*	0.00032 *2*	α(K)=0.00032 *2* B(E2)(W.u.)=2 *+29−16*; B(M1)(W.u.)=0.04 *+6−4*
		1758.0[&] *2*	100 *6*	1573.76	4$^+$	M1+E2	−0.10 *3*		B(E2)(W.u.)=0.16 *10*; B(M1)(W.u.)=0.050 *7*
		2460.8[&] *8*	7.4 *11*	871.098	2$^+$				
3339.54	6$^+$	916.10 *15*	100 *5*	2423.45	6$^+$	M1(+E2)[#]	−0.04 *4*	0.00099	α(K)=0.00086 B(M1)(W.u.)=0.22 *4*
		1765.6 *7*	3.8 *7*	1573.76	4$^+$				
3359.8	(8$^+$)	936.3 *10*	100	2423.45	6$^+$	(E2)[@]		0.00091	α(K)=0.00079 *2*
3366.5	(3$^+$,4)	401.1[&] *5*	24 *4*	2965.41	3$^+$				
		1071.6[&] *5*	100 *4*	2294.79	4$^+$				
3368.1	(7$^-$)	757.5[c] *4*	100	2610.57	(5)$^-$				
		944.7[c] *4*	50 *3*	2423.45	6$^+$				
3371.1	(2,3,4)	405.8[a] *5*	83 *7*	2965.41	3$^+$				
		806.1[a] *5*	93 *8*	2564.98	4$^+$				
		1303.7[a] *7*	26 *4*	2067.35	2$^+$				
		1797.4[a] *5*	100 *7*	1573.76	4$^+$				
3389.4	(5)$^-$	1094.6[&] *5*	100	2294.79	4$^+$	E1(+M2)	−0.01 *3*	0.00025	α(K)=0.00025 B(E1)(W.u.)=0.00051 *13*
3398.3	(3,4)	1824.5[&] *4*	100	1573.76	4$^+$				
3400.83		1536.5[a] *2*	4.2 *8*	1864.31	2$^+$				
		2529.7[a] *3*	100.0 *8*	871.098	2$^+$				
3429.1		2558.0[a] *8*	100	871.098	2$^+$				
3447.6	(1,2$^+$)	2576.5[&] *5*	100.0 *3*	871.098	2$^+$	D+Q			
		3447.5[&] *10*	5.1 *3*	0.0	0$^+$				
3448.7	5$^+$	576.7[&] *5*	33 *7*	2872.40	6$^+$	M1(+E2)	+0.03 *5*	0.00281	α(K)=0.00244; α(L)=0.00027 B(M1)(W.u.)=0.063 *25*
		1874.6[&] *5*	100 *7*	1573.76	4$^+$	M1+E2	−0.75 *25*		B(E2)(W.u.)=0.6 *4*; B(M1)(W.u.)=0.0036 *15*
3511.86	1$^{(+)}$	1770.4[a] *2*	49 *9*	1741.65	0$^+$				
		2640.7[a] *3*	51.6 *13*	871.098	2$^+$				
		3511.6[a] *2*	100.0 *11*	0.0	0$^+$				
3531.5	(1,2$^+$)	1789.8[a] *5*	78 *5*	1741.65	0$^+$				
		2660.1[a] *10*	100 *8*	871.098	2$^+$				
		3532.0[a] *10*	19.8 *25*	0.0	0$^+$				
3534.32	2$^+$	1670.0[&] *1*	56.1 *20*	1864.31	2$^+$	M1(+E2)	+0.15 *19*		B(M1)(W.u.)=0.015 *5*

$^{94}_{42}Mo_{52}$-9

Adopted Levels, Gammas (continued)

γ(^{94}Mo) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[‡]	α[d]	Comments
3534.32	2+	2663.2[&] *2*	100.0 *23*	871.098	2+	M1+E2	−0.3 *2*		B(E2)(W.u.)=0.08 *8*; B(M1)(W.u.)=0.0063 *19*
		3534.0[&] *4*	5.1 *6*	0.0	0+				
3588.6		978.0[a] *5*	100	2610.57	(5)−				
3693.4	(3,4)	925.8[&] *5*	100 *22*	2767.61	4+				
		2822.1[&] *15*	95 *22*	871.098	2+				
3792.87	2+	1399.9[b] *2*	55 *3*	2393.02	2+				
		1928.5[b] *2*	100 *4*	1864.31	2+				
		3792.3[b] *10*	77.8 *20*	0.0	0+				
3805.0	(8,10)	484.5 *10*	100	3320.7					
3847.3	4+	1552.5[&] *7*	100	2294.79	4+				
3866.8?	(9+)	61.7[e] *10*	≈0.7	3805.0	(8,10)				E_γ: observed only in (α,2nγ).
		911.3[&] *4*	100 *17*	2955.55	8+	(M1+E2)	+6.6 *+33−16*	0.00097	α(K)=0.00084
3892.16	(1,2+)	1499.1[b] *1*	79.4 *22*	2393.02	2+				
		1824.9[b] *3*	25.8 *10*	2067.35	2+				
		2027.9[b] *2*	22.3 *10*	1864.31	2+				
		3021.0[b] *1*	100.0 *24*	871.098	2+				
		3891.6[b] *10*	17.4 *9*	0.0	0+				
3897.1	(10+)	941.3 *10*	100	2955.55	8+	(E2)[@]		0.00090	α(K)=0.00078 *2*
3897.5	(3+,5+)	1602.7[&] *10*	100.0	2294.79	4+				
3932.4	(7)+	1508.9[&] *7*	100	2423.45	6+	M1+E2			
4007.8		202.8 *10*	14 *6*	3805.0	(8,10)				
		1052.3 *10*	100 *14*	2955.55	8+				
4096.8	(9−)	728.7 *4*	23.7	3368.1	(7−)				DCO=1.9 *3*.
4105.5		1810.7[&] *10*	100	2294.79	4+				
4190.1		292.8 *10*	100 *8*	3897.1	(10+)				
		385.4[e] *10*	5 *2*	3805.0	(8,10)				
4191.5	(12+)	294.4 *4*	100	3897.1	(10+)				
4237.5		1942.7[&] *12*	100	2294.79	4+				
4264.5		367.4 *4*	100	3897.1	(10+)				
4495.6		305.6 *10*	100 *8*	4190.1					
		598.4 *10*	71 *17*	3897.1	(10+)				
4499.3		307.8 *4*	100	4191.5	(12+)				
4749.9	(11−)	250.6 *4*	20 *10*	4499.3					
		485.4 *4*	29 *15*	4264.5					
		653.1 *4*	100	4096.8	(9−)				
5734.2	(13−)	984.3 *4*	100	4749.9	(11−)				

$^{94}_{42}Mo_{52}$-10

Adopted Levels, Gammas (continued)

$\gamma(^{94}Mo)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π	E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π
5734.2	(13^-)	1542.7 *10*	7 *4*	4191.5	(12^+)	7899.9	(14^+)	2095.6 *10*	100	5804.1	(13^+)
5804.1	(13^+)	1612.3 *10*	100	4191.5	(12^+)	8239.0	(16^+)	443.3 *4*	100	7795.7	(15^+)
6397.3	(14^-)	663.1 *4*	27.6	5734.2	(13^-)	8452.6		1431.3 *4*		7021.2	(15^-)
6555.1	$(1,2^+)$	4487	79 *15*	2067.35	2^+	8614.6	(15^+)	714.7 *4*	1.0×10^2 *5*	7899.9	(14^+)
		4692	15 *7*	1864.31	2^+			1060.0 *4*	100 *23*	7554.6	(14^+)
		5683	100 *15*	871.098	2^+	9030.2	(17^+)	791.2 *4*	100	8239.0	(16^+)
		6555	93	0.0	0^+	9162.8	(16^+)	1367.1 *4*	100	7795.7	(15^+)
6580.3	(13^+)	2389.0 *10*	100	4191.5	(12^+)	9209.9	(16^-)	2188.6 *10*	4.0 *10*	7021.2	(15^-)
6962.7	(15^-)	565.4 *4*	100	6397.3	(14^-)	9956.0	(16^+)	1341.4 *4*	6.0 *15*	8614.6	(15^+)
7021.2	(15^-)	623.9 *4*	100	6397.3	(14^-)	9979.1	(17^+)	1740.1 *10*	3.0 *10*	8239.0	(16^+)
7518.0	(16^-)	555.3 *4*	100	6962.7	(15^-)	10052.3		1599.7 *10*	1.0	8452.6	
7554.6	(14^+)	487.0 *4*	92 *23*	7067.6	(13^+)	10272.4	(17^-)	1062.5 *4*	11.0	9209.9	(16^-)
		974.4 *4*	23 *6*	6580.3	(13^+)	10275.2	(18^+)	1245.0 *4*	≤1	9030.2	(17^+)
		1750.3 *10*	100 *23*	5804.1	(13^+)	11588.3	(18^+)	1609.1 *10*	3.0 *10*	9979.1	(17^+)
7795.7	(15^+)	241.1 *4*	100	7554.6	(14^+)						

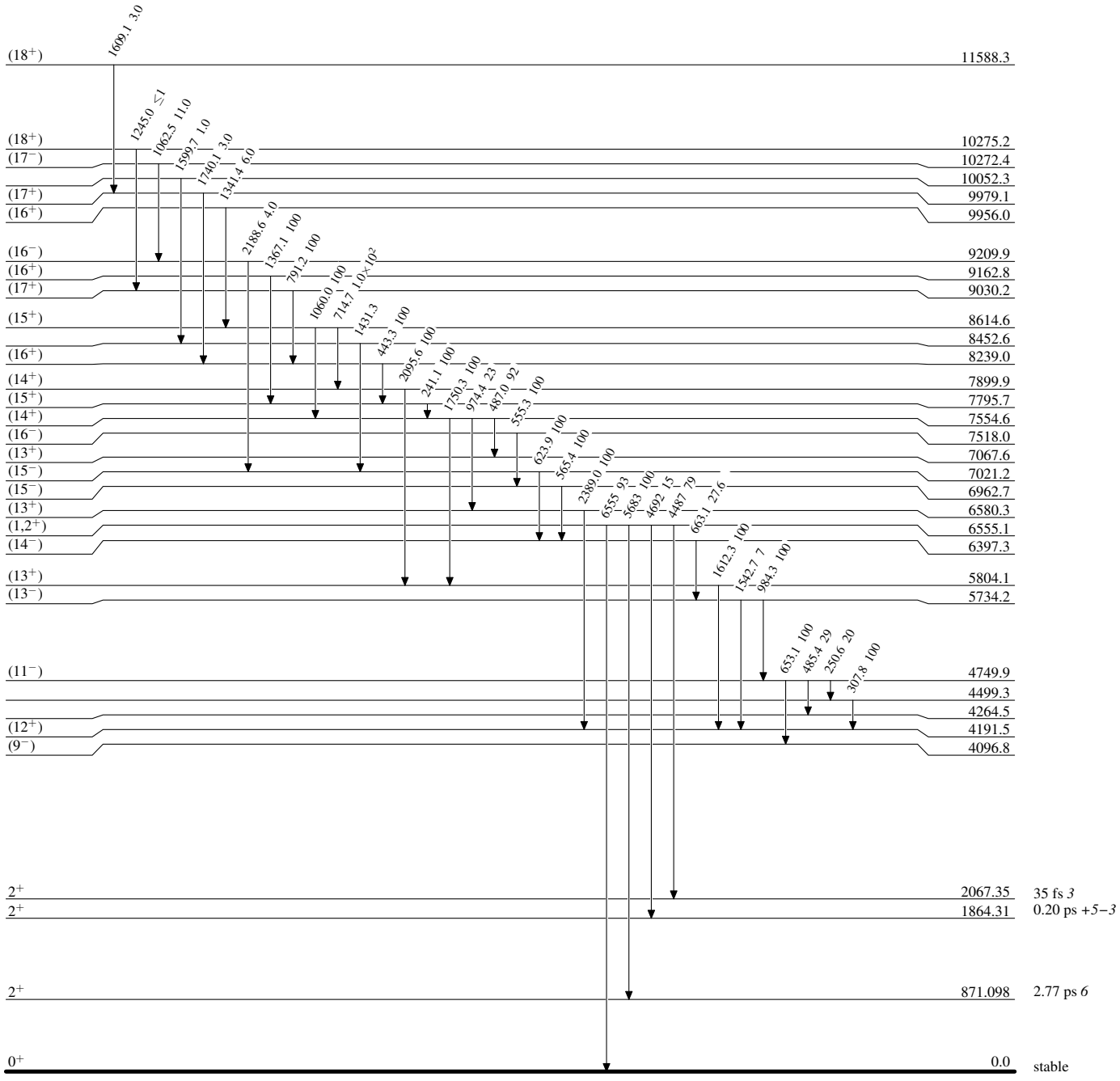
† Weighted averages of all available data, unless otherwise indicated.
‡ From ^{94}Tc ε decay: mixed source, $\gamma\gamma(\theta)$ in ^{94}Nb β^- decay or ^{94}Tc β^+ decay datasets, unless stated otherwise.
# From $\gamma\gamma(\theta)$ and ΔJ^π of initial and final levels.
@ Stretched E2 assumed on the basis of $\gamma(\theta)$ in $(\alpha,2n\gamma)$.
& From ^{91}Zr$(\alpha,n\gamma)$.
a From ^{94}Mo$(n,n'\gamma)$.
b From ^{94}Tc ε decay: mixed source.
c From ^{65}Cu$(^{36}$S$,\alpha p2n\gamma)$.
d 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.
e Placement of transition in the level scheme is uncertain.

$^{94}_{42}Mo_{52}$-11

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{94}_{42}Mo_{52}$

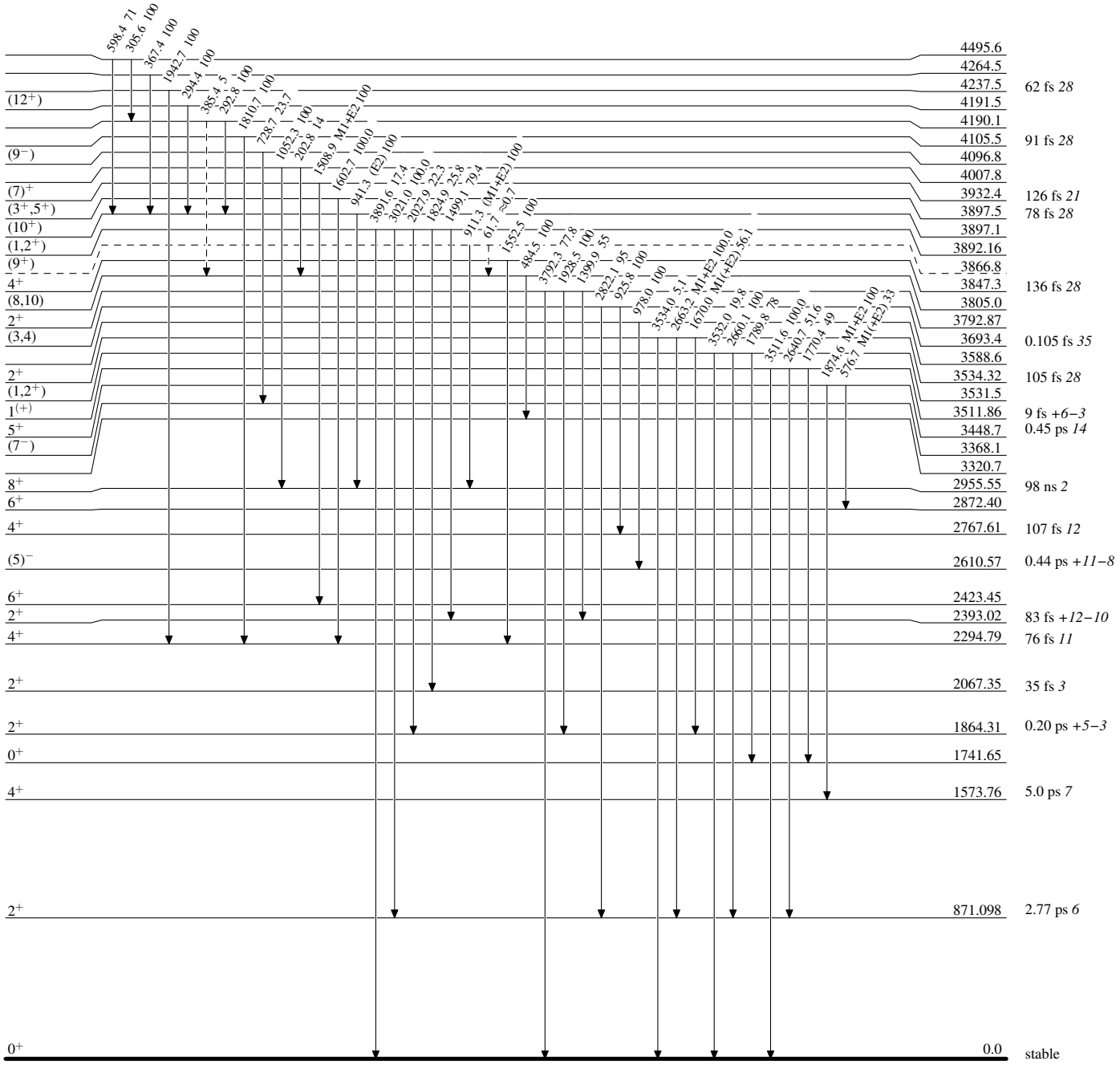
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{94}_{42}Mo_{52}$

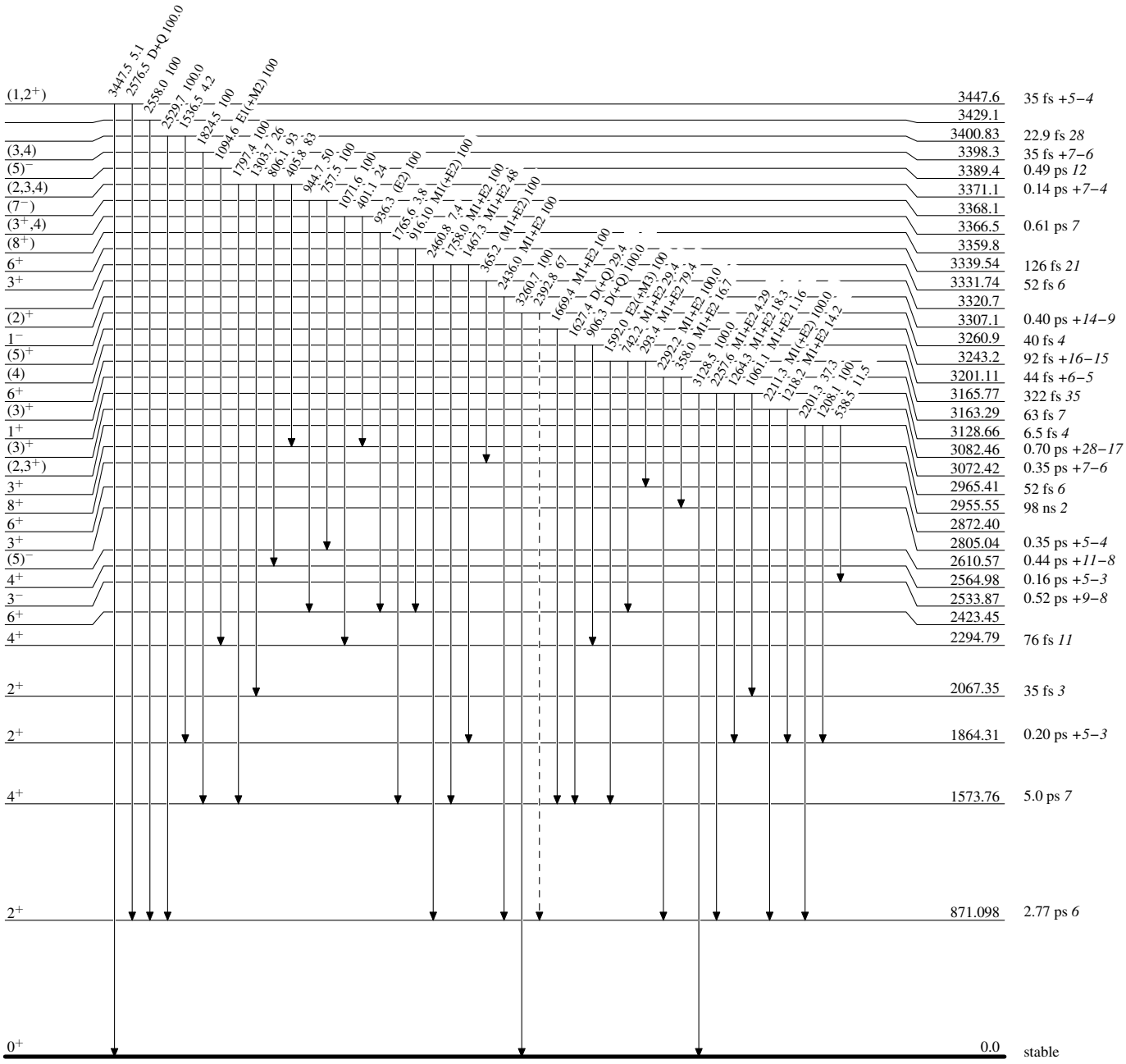
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{94}_{42}Mo_{52}$

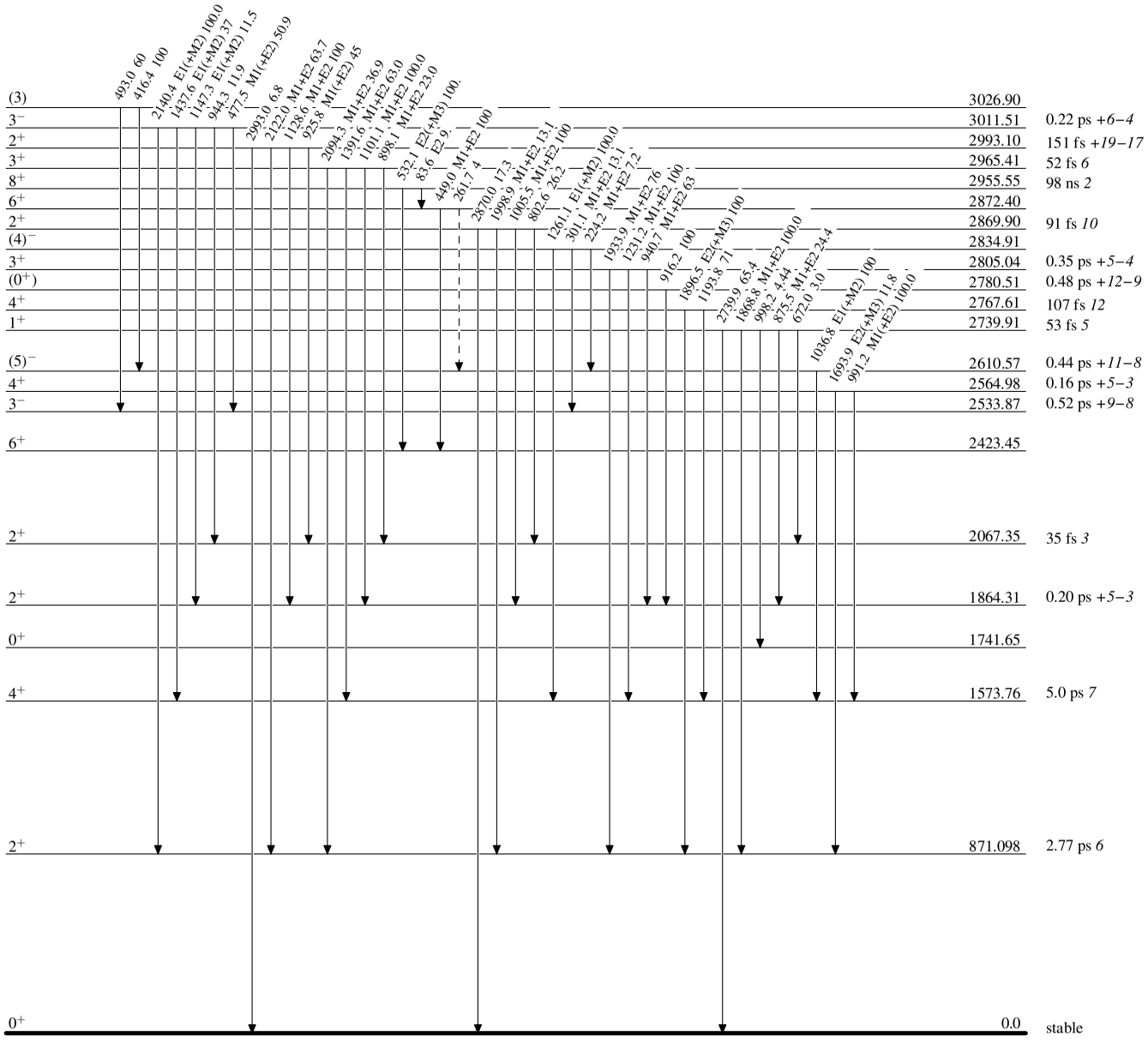
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)

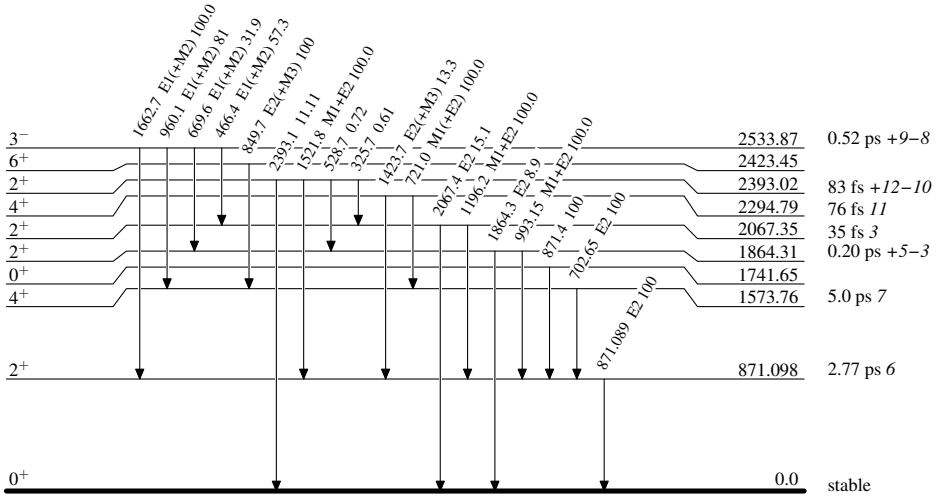


$^{94}_{42}Mo_{52}$

Adopted Levels, Gammas

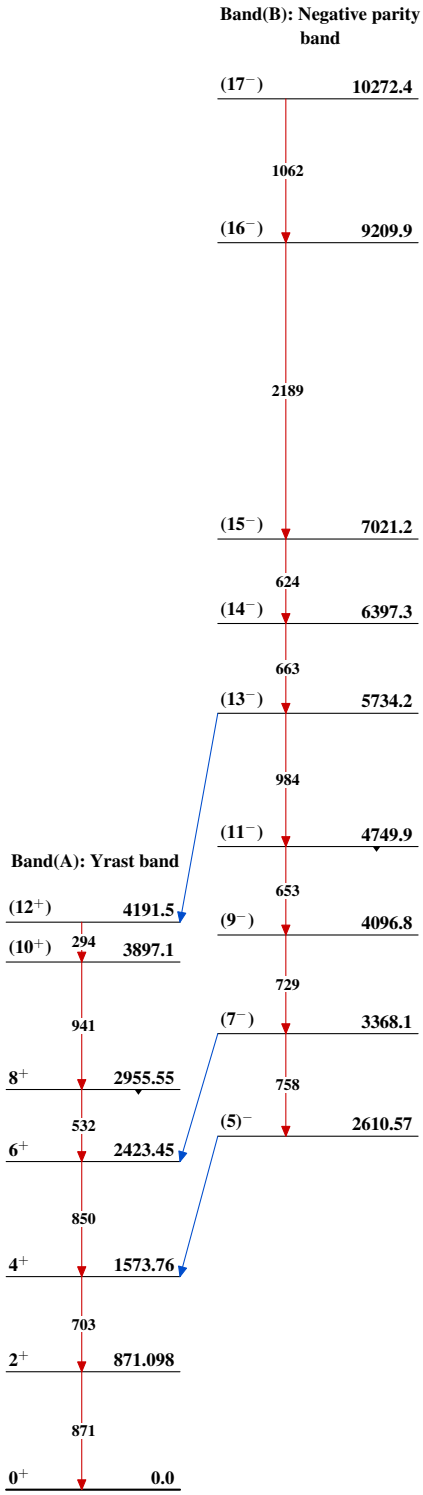
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{94}_{42}Mo_{52}$

Adopted Levels, Gammas



$^{94}_{42}Mo_{52}$