Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 111,525 (2010)	19-Nov-2009

Q(β^-)=2659.7 *18*; S(n)=5575.1 *4*; S(p)=11896 *6*; Q(α)=−5287 *8* 2012Wa38
Note: Current evaluation has used the following Q record 2659.0 18 *5575.2 4* 11889 *23* −5287 *8* 2003Au03.

Theory, calculations, systematics:
mean square charge radii, isotope shifts: 2005Bi25, 2003Th03, 2002Ca37
role of pairing interaction: 2007Bh01
calculated Gamow-Teller strength distribution: 2005Ju11
shell model, effective interation: 2000Ho15
FH-BCS calculations, deduced isospin dependence: 1996La31

^{97}Zr Levels

Cross Reference (XREF) Flags

A	^{97}Y β^- decay (3.75 s)	F	^{96}Zr(d,p),(α,^{3}He)
B	^{97}Y β^- decay (1.17 s)	G	^{96}Zr(^{12}C,^{11}C)
C	^{97}Y β^- decay (142 ms)	H	^{238}U(^{48}Ca,Fγ)
D	^{98}Y β^-n decay (0.548 s)	I	^{252}Cf SF decay
E	^{98}Y β^-n decay (2.0 s)		

E(level)[†]	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	1/2$^+$	16.749 h *8*	ABCDEF I	%β^-=100 μ=−0.937 *5* (2005St24); Configuration=(π 3s$_{1/2}$) J$^\pi$: L=0 in (d,p),(α,^{3}He). T$_{1/2}$: weighted average of 16.744 h *11* (1987Si22) and 16.755 h *13* (2005Hu14); others: 16.90 h *5* (1973Sa36), 17.0 h *2* (1940Gr04,1950Bu54,1952Ma24). μ: measured by resonance cell LASER spectroscopy (2003Th03,2005St24).
1103.13 *12*	3/2$^+$		ABC F I	J$^\pi$: L=2 in (d,p),(α,^{3}He) dataset; J=3/2 in (pol d,p) (same dataset).
1264.35 *16*	7/2$^+$	102.8 ns *24*	ABC FG I	μ=1.37 *14*; Configuration=(ν g$_{7/2}$) J$^\pi$: L=4 in (d,p),(α,^{3}He); γ to 1/2$^+$ g.s. is not E4 (RUL), T$_{1/2}$: weighted average of 102 *3* ns (1985Be20), 104 *5* ns (1976SaYU), 106 *7* ns (1996Lh03), and 97 *16* ns (2006Hw01). μ: from g−factor=+0.39 *4* (time differential perturbed angular correlation) (1985Be20,1989Ra17).
1400.02 *12*	(3/2$^+$,5/2$^+$)		ABC F	J$^\pi$: L=2 in (d,p),(α,^{3}He) dataset; J=5/2$^+$ in (pol d,p) (same dataset). log *ft*=6.25 (log $f^{1u}t$=8.1) from (1/2$^-$) ^{97}Y β^- decay (3.75 s) rather sustains 3/2$^+$, in which case the intense 407γ decaying the 1807, (7/2$^-$) would Be a (M2) transition, which seems less likely. (3/2$^+$,5/2$^+$) adopted here is a compromise until elucidating new measurements will Be done or other extra arguments will Be found.
1806.91 *17*	(7/2$^-$)		ABC	J$^\pi$: (7/2,9/2,11/2) from log *ft*=6.2 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s); (7/2) from D γ from (5/2$^+$), 1996; (7/2$^-$) from (E2) γ from 2264.
1848 *5*	(7/2$^+$,9/2$^+$)		f	XREF: f(1848). J$^\pi$: L=(4) member of the 1848 doublet seen in (d,p),(α,^{3}He).
1859.14 *17*	(3/2$^+$,5/2$^+$)	<8.9[‡] ps	AB f I	XREF: f(1848). J$^\pi$: L=(2) member of the 1848 doublet seen in (d,p),(α,^{3}He) (also supported by log *ft*=6.8 (log $f^{1u}t$=8.6) from (1/2$^-$) ^{97}Y β^- decay (3.75 s)).
1996.41 *19*	(5/2$^+$)	<2[‡] ps	AB	J$^\pi$: (1/2,3/2) from log *ft*=6.3 (log $f^{1u}t$=8.1) from (1/2$^-$) ^{97}Y β^- decay

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Adopted Levels, Gammas (continued)

^{97}Zr Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
				(3.75 s) and (7/2,9/2,11/2) from log *ft*=6.2 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s) are discrepant; (5/2$^+$) from E2 γ (D,E2 from RUL) to 1/2$^+$ g.s. is the best compromise.
2057.6 *3*	(5/2$^+$)		AB F	XREF: F(2070). Jπ: (3/2$^+$,5/2$^+$) from L=(2) in (d,p) and (7/2,9/2,11/2) from log *ft*=6.2 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s) are discrepant; (5/2$^+$) seems best compromise.
2234.36 *18*	(7/2)$^+$		B G I	Jπ: log *ft*=4.6 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s); γ to 3/2$^+$, 1103 level.
2263.63 *21*	(11/2$^-$)	1.7 ns *3*	BC FG	Jπ: (7/2,9/2,11/2) from log *ft*=5.9 from (9/2)$^+$ ^{97}Y (1.17 s) decay; (9/2$^-$,11/2) from no γ's to 3/2$^+$ and 5/2$^+$; 1996Lh03 suggest (11/2$^-$) previously assigned by 1993Ar09 to the close lying 2265 level populated in ^{96}Zr(d,p),(α,^{3}He) and ^{96}Zr(^{12}C,^{11}C) (from L=5 in (d,p),(α,^{3}He) and 11/2 from ^{96}Zr(^{3}He,d) IAS), which is adopted here. $T_{1/2}$: from 1996Lh03 (^{97}Y β^- decay (1.17 s)).
2338.00 *25*	(7/2,9/2)		B	Jπ: (7/2,9/2,11/2) from log *ft*=5.9 from (9/2)$^+$ ^{97}Y (1.17 s) decay; (7/2,9/2) from γ to 3/2$^+$,5/2$^+$, 1400.
2508.55 *21*	(7/2$^+$,9/2$^+$)		B	Jπ: (7/2,9/2,11/2) from log *ft*=5.3 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s); (7/2,9/2) from γ to 7/2$^+$, 1264, and γ to (7/2$^-$), 1807.
2592.8 *3*			B	
2624.9 *3*	#		BC	
2626.0 *4*	(7/2$^+$)		B	Jπ: (7/2,9/2,11/2) from log *ft*=6.1 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s); (7/2$^+$) from γ to 3/2$^+$, 1103.
2629 *20*			F	
2742.98 *24*	(1/2,3/2)		AB	Jπ: log *ft*=5.5 from (1/2$^-$) ^{97}Y β^- decay (3.75 s).
2813.7 *6*	(7/2,9/2,11/2)		B	Jπ: log *ft*=6.6 (log $f^{1u}t$=8.3) from (9/2)$^+$ ^{97}Y β^- decay (1.17 s).
2830	(1/2$^-$,3/2$^-$)		F	Jπ: L=(1) in (d,p) reaction.
2839.0 *4*	(7/2$^+$,9/2,11/2$^+$)		B	Jπ: log *ft*=6.0 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s), γ to 7/2$^+$, 1264, and γ to 3/2$^+$,5/2$^+$, 1400.
2870.0 *5*	(7/2,9/2,11/2$^+$)		B	Jπ: log *ft*=6.0 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s) and γ to 7/2$^+$, 1264.
3014 *10*			F	
3026.2?			B	
3081.6 *3*	@		C	
3135.4?			B	
3145.5 *3*			H	
3160	1/2$^-$,3/2$^-$		F	Jπ: L=1 in (d,p) reaction.
3161.24 *25*	(7/2$^+$,9/2$^+$)		B	Jπ: log *ft*=5.6 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s), γ to (3/2$^+$,5/2$^+$), 1859, and γ to 7/2$^+$, 1264.
3184.6?			B	
3287.64 *20*	(3/2$^-$)		AB	Jπ: (1/2$^-$,3/2$^-$) from log *ft*=4.6 from (1/2$^-$) ^{97}Y β^- decay (3.75 s); (3/2$^-$) from γ to (5/2$^+$), 1997.
3401.5 *4*	(3/2$^-$)	<6.2[‡] ps	A	Jπ: (1/2$^-$,3/2$^-$) from log *ft*=4.8 from (1/2$^-$) ^{97}Y β^- decay (3.75 s); (3/2$^-$) from E1 γ to (5/2$^+$), 2057.
3402.2 *8*			B	
3424.47 *23*	(7/2$^-$,9/2,11/2$^+$)		B	Jπ: (7/2,9/2,11/2) from log *ft*=5.4 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s); (7/2$^-$,9/2,11/2$^+$) from γ to 11/2$^-$, 2264, and γ to 7/2$^+$, 1264; (7/2$^-$,9/2) if 1617γ to (7/2$^-$), 1807 is confirmed.
3469.4?			B	
3549.6 *4*	(1/2,3/2)		A	Jπ: log *ft*=5.4 from (1/2$^-$) ^{97}Y β^- decay (3.75 s).
3652 *10*			F	Jπ: L=(2+3) in (d,p) reaction.
3731 *10*	9/2$^-$,11/2$^-$		FG	Jπ: L=5 in (d,p),(α,^{3}He) reaction.

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Adopted Levels, Gammas (continued)

^{97}Zr Levels (continued)

E(level)[†]	Jπ	XREF	Comments
3780.4 *4*	@	C	
3874.7 *4*		H	
3962.8 *5*	(7/2$^+$,9/2$^+$,11/2$^+$)	B	Jπ: log *ft*=5.5 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s) and γ to (7/2)$^+$, 2234.
4046.4 *6*	(7/2$^+$)	B	Jπ: log *ft*=5.3 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s) and γ to 3/2$^+$, 1103.
4117.8 *4*	(9/2$^+$,11/2$^+$)	B	Jπ: log *ft*=5.3 from (9/2)$^+$ ^{97}Y β^- decay (1.17 s) and γ to (11/2$^-$), 2264; (9/2$^+$) if 2311γ to (7/2$^-$), 1807 is confirmed.
4586 *10*		F	
4620.5 *4*	(23/2$^-$)@	C	
4689.6 *5*		H	
5570.1 *4*	(25/2$^-$)	C	Configuration=((π $g_{9/2}$)^2(ν $h_{11/2}$)) configuration: 25/2$^-$ doublet member of this configuration (^{97}Y β^- decay (142 ms)). Jπ: log *ft*=4.7 from (27/2$^-$) parent (^{97}Y β^- decay (142 ms)).
5606.6 *4*	(27/2$^-$)	C	Configuration=((π $g_{9/2}$)^2(ν $h_{11/2}$)) configuration: 27/2$^-$ doublet member of this configuration (^{97}Y β^- decay (142 ms)). Jπ: log *ft*=4.8 from (27/2$^-$) parent (^{97}Y β^- decay (142 ms)).
6596.9 *4*	(27/2$^+$)&	H	
6763.7 *5*	(29/2$^-$)&	H	
7128.5 *5*	(31/2$^+$)&	H	
7295.9 *5*	(33/2)&	H	

[†] From least squares fit to Eγ in ^{97}Y β^- decays, or from (d,p) reaction.
[‡] From ^{97}Y β^- decay (3.75 s) (1990Bu01).
[#] Postulated by 2009Ma40 (^{97}Y β^- decay (142 ms)) based on the spin difference ΔJ=2 between (15/2$^-$), 3082 and (11/2$^-$), 2264 covered by two γ's, whence ΔJ=1 (and Δπ=no) is most likely for each.
[@] Postulated by 2009Ma40 (^{97}Y β^- decay (142 ms)) based on the spin difference ΔJ=8 between (27/2$^-$), 5606 and (11/2$^-$), 2264 covered by four γ's, whence ΔJ=2 (and Δπ=no) is most likely for each.
[&] Postulated by 2009Ma40 (^{238}U(^{48}Ca,Fγ)) based solely on nuclear structure arguments.

Adopted Levels, Gammas (continued)

$\gamma(^{97}Zr)$

γ-ray data are from ^{97}Y β^- decay (1.17 s) unless otherwise noted.

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α[a]	Comments
1103.13	$3/2^+$	1103.0 *2*	100	0.0	$1/2^+$			
1264.35	$7/2^+$	161.2 *2*	100.0 *11*	1103.13	$3/2^+$	[E2]	0.195	α(K)=0.1669 *25*; α(L)=0.0238 *4*; α(M)=0.00415 *7*; α(N+..)=0.000589 *9* α(N)=0.000561 *9*; α(O)=2.86×10^{-5} *5* B(E2)(W.u.)=1.55 *5*
		1264.2 *5*	3.8 *14*	0.0	$1/2^+$	[M3]	1.72×10^{-3}	α(K)=0.001509 *22*; α(L)=0.0001724 *25*; α(M)=3.00×10^{-5} *5*; α(N+..)=5.54×10^{-6} *8* α(N)=4.26×10^{-6} *6*; α(O)=3.00×10^{-7} *5*; α(IPF)=9.78×10^{-7} *16* B(M3)(W.u.)=9 *4*
1400.02	$(3/2^+,5/2^+)$	136.4† *4*	0.8† *5*	1264.35	$7/2^+$			
		296.88† *3*	25 *7*	1103.13	$3/2^+$			
		1400.0 *2*	100 *23*	0.0	$1/2^+$			
1806.91	$(7/2^-)$	407.1 *2*	100 *5*	1400.02	$(3/2^+,5/2^+)$			
		542.5 *3*	17 *5*	1264.35	$7/2^+$			
1859.14	$(3/2^+,5/2^+)$	594.7 *2*	36 *12*	1264.35	$7/2^+$	D,E2@		
		756.1 *2*	100 *15*	1103.13	$3/2^+$	D,E2@		
1996.41	$(5/2^+)$	189.6 *3*	4.4 *22*	1806.91	$(7/2^-)$	D@		
		595.8 *4*	9 *6*	1400.02	$(3/2^+,5/2^+)$	D,E2@		
		1996.6 *3*	100 *44*	0.0	$1/2^+$	(E2)	4.68×10^{-4}	α(K)=0.0001442 *21*; α(L)=1.565×10^{-5} *22*; α(M)=2.71×10^{-6} *4*; α(N+..)=0.000306 *5* α(N)=3.86×10^{-7} *6*; α(O)=2.76×10^{-8} *4*; α(IPF)=0.000305 *5* B(E2)(W.u.)>0.30 Mult.: D,E2 from RUL; (E2) preferred for J^π assignment of parent level.
2057.6	$(5/2^+)$	954.4 *4*	75 *50*	1103.13	$3/2^+$			
		2057.7 *4*	100 *50*	0.0	$1/2^+$			
2234.36	$(7/2)^+$	375.2 *2*	9.5 *5*	1859.14	$(3/2^+,5/2^+)$			
		427.7 *4*	1.8 *5*	1806.91	$(7/2^-)$			
		833.8 *6*	0.8 *3*	1400.02	$(3/2^+,5/2^+)$			
		970.0 *2*	100 *5*	1264.35	$7/2^+$			
		1131.0 *4*	2.6 *8*	1103.13	$3/2^+$			
2263.63	$(11/2^-)$	456.7 *2*	65 *9*	1806.91	$(7/2^-)$	(E2)	0.00552	α(K)=0.00483 *7*; α(L)=0.000569 *8*; α(M)=9.88×10^{-5} *14*; α(N+..)=1.473×10^{-5} *21* α(N)=1.383×10^{-5} *20*; α(O)=9.01×10^{-7} *13* B(E2)(W.u.)=0.25 *6*

$^{97}_{40}Zr_{57}$-4

Adopted Levels, Gammas (continued)

γ(^{97}Zr) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α[a]	Comments
								Mult.: D,E2 from RUL; (E2) preferred for π assignment of parent level.
2263.63	(11/2$^-$)	999.4 *3*	100 *9*	1264.35	7/2$^+$	[M2]	1.60×10^{-3}	α(K)=0.001406 *20*; α(L)=0.0001580 *23*; α(M)=2.75×10^{-5} *4*; α(N+..)=4.18×10^{-6} *6* α(N)=3.90×10^{-6} *6*; α(O)=2.77×10^{-7} *4* B(M2)(W.u.)=0.52 *12*
2338.00	(7/2,9/2)	938.2 *4*	100 *21*	1400.02	(3/2$^+$,5/2$^+$)			
		1073.3 *3*	50 *14*	1264.35	7/2$^+$			
2508.55	(7/2$^+$,9/2$^+$)	274.3 *4*	1.3	2234.36	(7/2)$^+$			
		701.9 *3*	5.2 *13*	1806.91	(7/2$^-$)			
		1244.1 *2*	100 *4*	1264.35	7/2$^+$			
2592.8		254.6 *3*	10 *5*	2338.00	(7/2,9/2)			
		1193.0 *3*	100 *50*	1400.02	(3/2$^+$,5/2$^+$)			
2624.9		361.3 *2*	100	2263.63	(11/2$^-$)			
2626.0	(7/2$^+$)	766.9 *4*	22 *11*	1859.14	(3/2$^+$,5/2$^+$)			
		1522.9 *5*	100 *22*	1103.13	3/2$^+$			
2742.98	(1/2,3/2)	1639.8[†] *3*	12.8[†] *22*	1103.13	3/2$^+$			
		2743.1[†] *4*	100[†] *8*	0.0	1/2$^+$			
2813.7	(7/2,9/2,11/2)	1549.3 *5*	100	1264.35	7/2$^+$			
2839.0	(7/2$^+$,9/2,11/2$^+$)	979.7 *4*	40 *20*	1859.14	(3/2$^+$,5/2$^+$)			
		1438.9 *6*	100 *40*	1400.02	(3/2$^+$,5/2$^+$)			
		1575.1 *6*	80 *40*	1264.35	7/2$^+$			
2870.0	(7/2,9/2,11/2$^+$)	1605.6 *4*	100	1264.35	7/2$^+$			
3026.2?		1219.2[b] *5*	100	1806.91	(7/2$^-$)			
3081.6		456.8[‡] *2*	64[‡] *7*	2624.9				
		817.9[‡] *2*	100[‡] *7*	2263.63	(11/2$^-$)			
3135.4?		1328.4[b] *4*	100	1806.91	(7/2$^-$)			
3145.5		881.9[#] *2*	100[#]	2263.63	(11/2$^-$)			
3161.24	(7/2$^+$,9/2$^+$)	652.9 *4*	14	2508.55	(7/2$^+$,9/2$^+$)			
		1302.1 *3*	86 *29*	1859.14	(3/2$^+$,5/2$^+$)			
		1354.2 *4*	57 *14*	1806.91	(7/2$^-$)			
		1896.3 *9*	100 *29*	1264.35	7/2$^+$			
3184.6?		920.9[b] *4*	100	2263.63	(11/2$^-$)			
3287.64	(3/2$^-$)	544.8[†] *5*	5[†] *2*	2742.98	(1/2,3/2)			
		1291.2[†] *3*	32[†] *3*	1996.41	(5/2$^+$)			
		1428.9[†] *5*	4[†] *2*	1859.14	(3/2$^+$,5/2$^+$)			
		1887.4[†] *3*	10.3[†] *9*	1400.02	(3/2$^+$,5/2$^+$)			
		3287.6[†] *4*	100[†] *3*	0.0	1/2$^+$	[E1]	1.41×10^{-3}	α(K)=3.86×10^{-5} *6*; α(L)=4.13×10^{-6} *6*; α(M)=7.14×10^{-7} *10*;

Adopted Levels, Gammas (continued)

γ(^{97}Zr) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α[a]	Comments
								α(N+..)=0.001364 *20* α(N)=1.017×10^{-7} *15*; α(O)=7.32×10^{-9} *11*; α(IPF)=0.001364 *20*
3401.5	(3/2$^-$)	1344.0† *5*	6.4† *25*	2057.6	(5/2$^+$)	(E1)&	3.04×10^{-4}	α(K)=0.0001490 *21*; α(L)=1.611×10^{-5} *23*; α(M)=2.79×10^{-6} *4*; α(N+..)=0.0001358 *20* α(N)=3.96×10^{-7} *6*; α(O)=2.83×10^{-8} *4*; α(IPF)=0.0001353 *20* B(E1)(W.u.)>1.3×10^{-6}
		3401.3† *4*	100† *5*	0.0	1/2$^+$	[E1]	1.46×10^{-3}	α(K)=3.69×10^{-5} *6*; α(L)=3.94×10^{-6} *6*; α(M)=6.82×10^{-7} *10*; α(N+..)=0.001421 *20* α(N)=9.72×10^{-8} *14*; α(O)=6.99×10^{-9} *10*; α(IPF)=0.001421 *20* B(E1)(W.u.)>1.2×10^{-6}
3402.2		2299.0 *8*	100	1103.13	3/2$^+$			
3424.47	(7/2$^-$,9/2,11/2$^+$)	1160.9 *3*	27 *7*	2263.63	(11/2$^-$)			
		1190.0 *2*	40 *13*	2234.36	(7/2)$^+$			
		1617.2[b] *7*	7	1806.91	(7/2$^-$)			
		2161.1 *7*	100 *33*	1264.35	7/2$^+$			
3469.4?		960.9[b] *4*	100 *38*	2508.55	(7/2$^+$,9/2$^+$)			
		1207.1[b] *6*	25 *13*	2263.63	(11/2$^-$)			
3549.6	(1/2,3/2)	3549.5† *4*	100†	0.0	1/2$^+$			
3780.4		698.8‡ *2*	100‡	3081.6				
3874.7		729.2# *2*	100#	3145.5				
3962.8	(7/2$^+$,9/2$^+$,11/2$^+$)	1337.6[b] *5*	29 *14*	2626.0	(7/2$^+$)			
		1369.7 *8*	29 *14*	2592.8				
		1728.5 *6*	100 *29*	2234.36	(7/2)$^+$			
4046.4	(7/2$^+$)	1538.3[b] *9*	8	2508.55	(7/2$^+$,9/2$^+$)			
		1708.0[b] *8*	25 *8*	2338.00	(7/2,9/2)			
		1811.9 *8*	17 *8*	2234.36	(7/2)$^+$			
		2943.3 *8*	100 *33*	1103.13	3/2$^+$			
4117.8	(9/2$^+$,11/2$^+$)	1493.0 *5*	25 *13*	2624.9				
		1524.9 *6*	38 *13*	2592.8				
		1854.0 *7*	100 *25*	2263.63	(11/2$^-$)			
		2311.1[b] *6*	50 *25*	1806.91	(7/2$^-$)			
4620.5	(23/2$^-$)	840.1‡ *1*	100‡	3780.4				
4689.6		814.9# *3*	100#	3874.7				
5570.1	(25/2$^-$)	949.6‡ *2*	100‡	4620.5	(23/2$^-$)			
5606.6	(27/2$^-$)	986.1‡ *2*	100‡	4620.5	(23/2$^-$)			

$^{97}_{40}Zr_{57}$-6

Adopted Levels, Gammas (continued)

$\gamma(^{97}Zr)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π
6596.9	(27/2$^+$)	990.2# *2*	67# *17*	5606.6	(27/2$^-$)
		1026.8# *2*	100# *17*	5570.1	(25/2$^-$)
6763.7	(29/2$^-$)	1157.0 *2*	100	5606.6	(27/2$^-$)
7128.5	(31/2$^+$)	364.8# *4*	100# *25*	6763.7	(29/2$^-$)
		531.7# *2*	75# *25*	6596.9	(27/2$^+$)
7295.9	(33/2)	167.4# *1*	100#	7128.5	(31/2$^+$)

† From ^{97}Y β^- decay (3.75 s).
‡ From ^{97}Y β^- decay (142 ms).
# From ^{238}U(^{48}Ca,Fγ).
@ Deduced from RUL.
& D,E2 from RUL, $\Delta\pi$=yes from level scheme.
[a] 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.
[b] Placement of transition in the level scheme is uncertain.

$^{97}_{40}Zr_{57}$-7

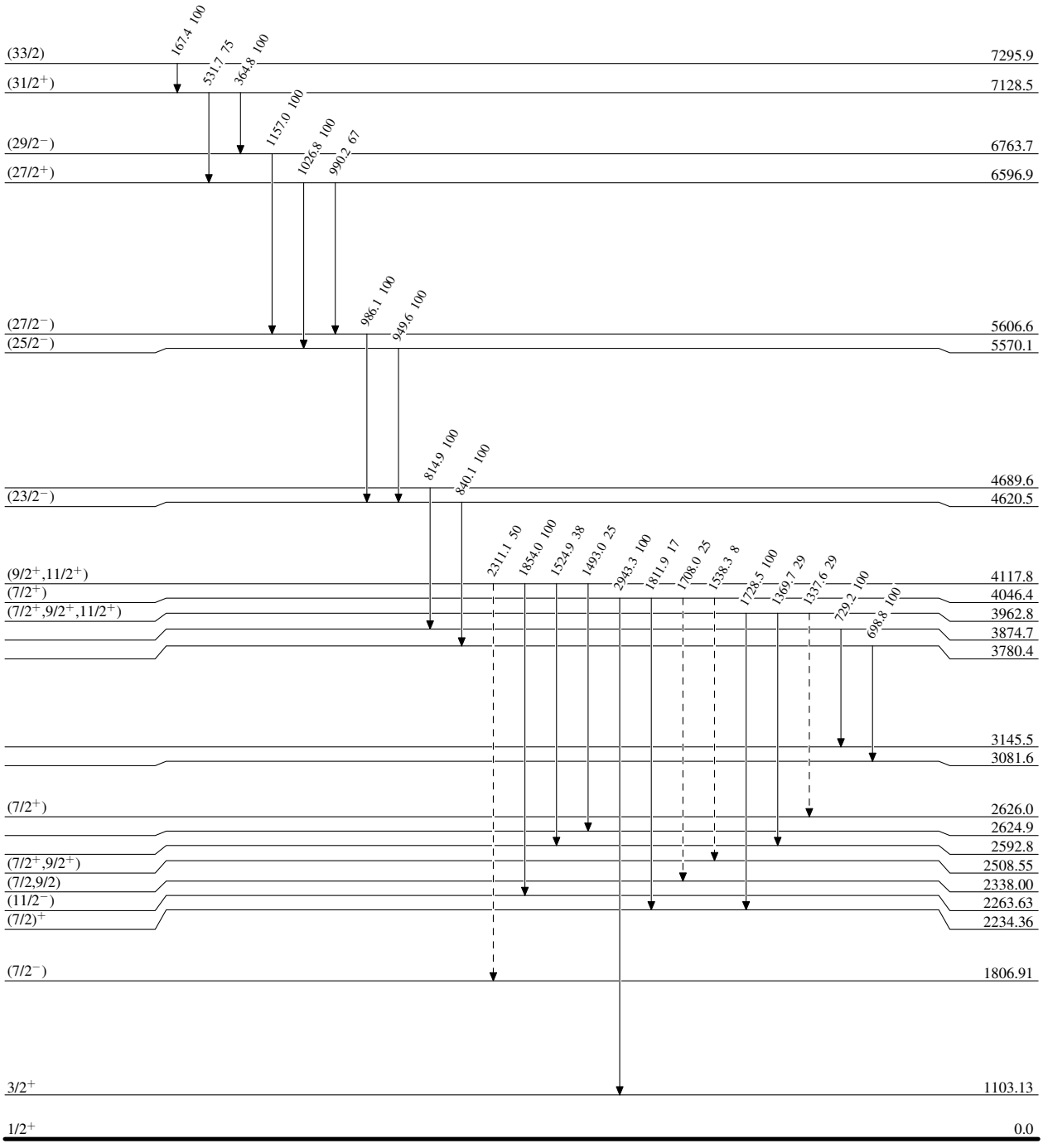
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{97}_{40}Zr_{57}$

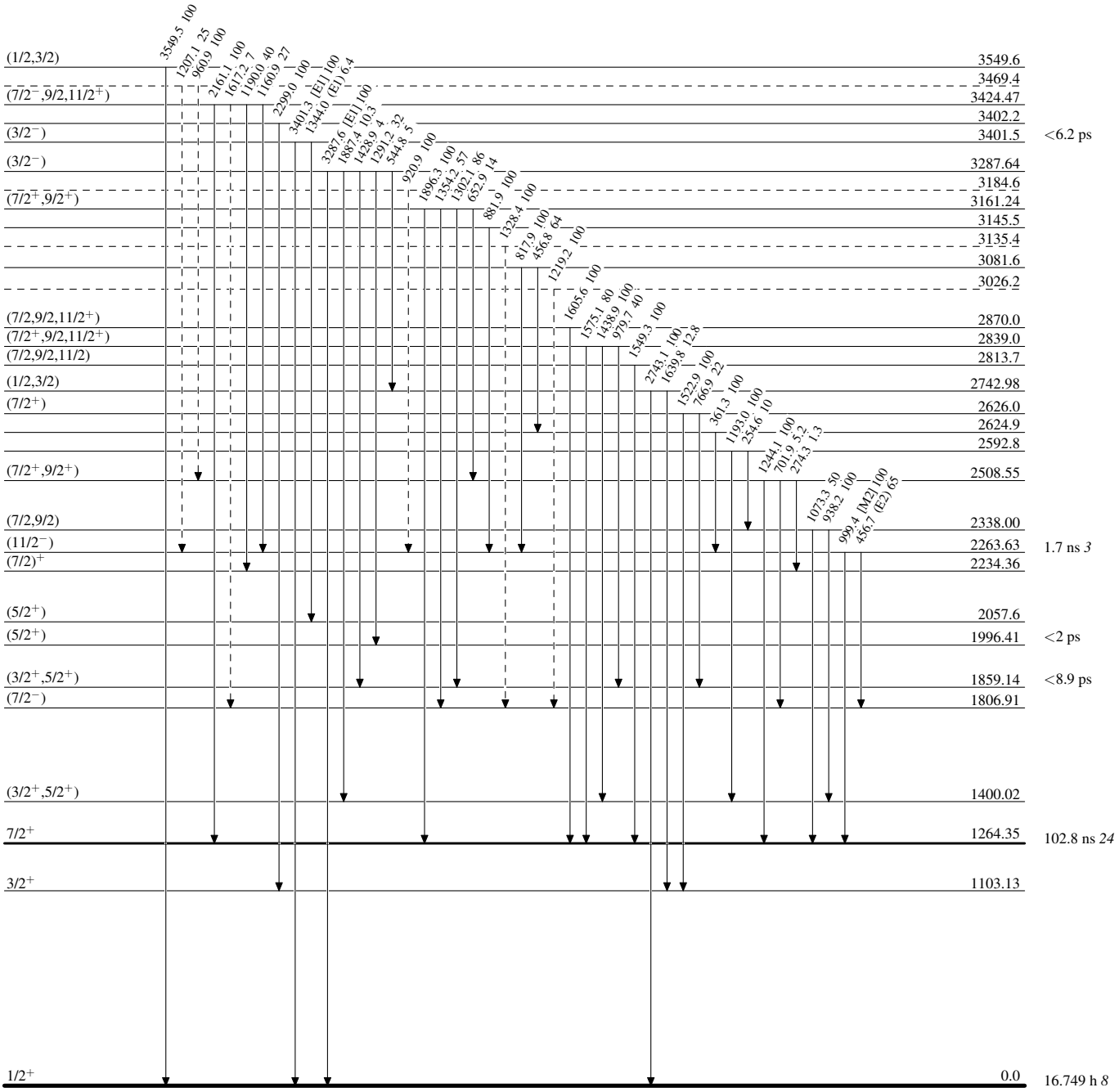
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

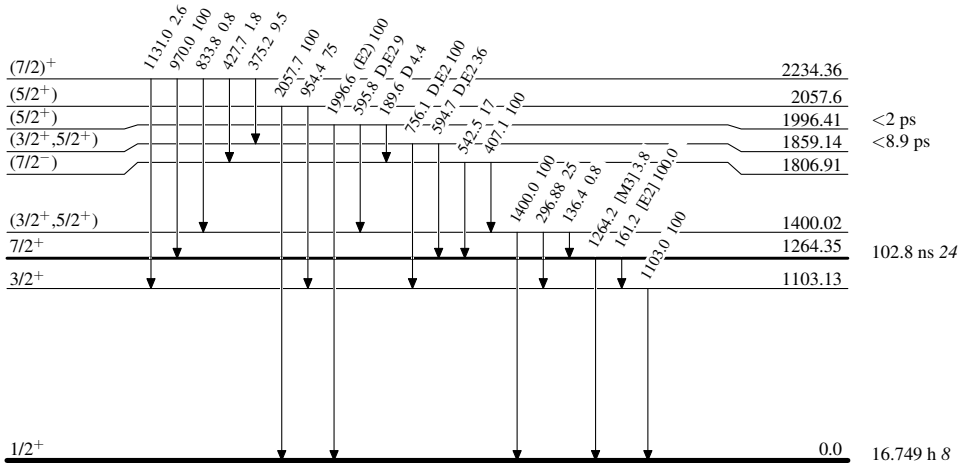


$^{97}_{40}Zr_{57}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{97}_{40}Zr_{57}$