Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 109,2501 (2008)	1-Apr-2008

Q(β^-)=7103 *6*; S(n)=5202 *10*; S(p)=10508 *9*; Q(α)=−5994 *9* 2012Wa38
Note: Current evaluation has used the following Q record 7096 235211 2410519 24-6000 24 2003Au03.
The 9.6 s isomer has been observed as a fission product in reactors using LOHENGRIN (1978St02), JOSEF (1987St12), as well as U(p,f) in IGISOL (2007Ch07).
α: Additional information 1.

^{96}Y Levels

Cross Reference (XREF) Flags

A ^{96}Sr β^- decay

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0	0$^-$	5.34 s *5*	A	%β^-=100 J$^\pi$: 122.3γ is M1. $\gamma\gamma(\theta)$ of 809.4-122.3 cascade excludes J=1. $\gamma\gamma(\theta)$ is in conflict with δ from α(K)exp if 122.3γ is E1+M2. T$_{1/2}$: from 1990Ma03. Others: 5.4 s *1* (1988Ma01); also 6.3 s *2* (1979En02), 6.0 s *3* (1975Sa15), and 6.0 s *4* (1975Kh05). Δ<r^2>(^{96}Y,^{89}Y)=+0.82 *8* (syst uncertainty, 2007Ch07).
122.297 *3*	1$^-$	203 ps *6*	A	J$^\pi$: 809.4γ from 931.7, 1$^+$ level is E1. $\gamma\gamma(\theta)$ of 809.4-122.3 cascade excludes 1-2-1 sequence. T$_{1/2}$: from 1989Ma38. Other: 260 ps *40* (1987Oh05).
652.29 *6*	2$^-$	≤21 ps	A	T$_{1/2}$: from 1989Ma38. Other: ≤139 ps (1988Br08). J$^\pi$: 279.4γ from 931.7, 1$^+$ level is E1+M2. J=0 excluded by γ to 0$^-$ g.s. $\gamma\gamma(\theta)$ of the 279.4-530.0, 530.0-122.3, 279.4−(530.0)−122.3 cascades and α(K)exp(279.4) are internally consistent only if J=2 and not if J=1.
718.70 *8*	1$^+$,2$^+$		A	J$^\pi$: 213.0γ from 931.7 level is M1(+E2), J=0 is excluded by $\gamma\gamma(\theta)$.
931.70 *3*	1$^+$	≤21 ps	A	J$^\pi$: log *ft*=4.0 from 0$^+$ ^{96}Sr. T$_{1/2}$: from 1989Ma38. Other: ≤40 ps (1988Br08).
1140 *30*	8$^+$	9.6 s *2*		%β^-=100 Q=−0.98 *11*; μ=+6.57 *3* J$^\pi$: Atomic beam (2007Ch07) and log *ft*=4.7 to 8$^+$, no β to 6$^+$. T$_{1/2}$: average of 10.0 s *3* (1975Sa15), 9.6 s *3* (1975Kl11), 9.6 s *3* (1975Ba36), and 9.3 s *3* (1974GrZN). E(level): from end point beta minus energy difference between ground state and isomer as calculated by 2003Au02. Δ<r^2>(^{96}Y,^{96}Y(g.s.))=+0.102 *10* (syst uncertainty, 2007Ch07). μ,Q from laser spectroscopy (2007Ch07).
1287.89 *17*			A	
1983.58 *18*	1$^+$		A	J$^\pi$: log *ft*=4.9 from 0$^+$ ^{96}Sr.

† From least-squares fit to Eγ, unless otherwise noted.

Adopted Levels, Gammas (continued)

$\gamma(^{96}Y)$

E_i(level)	J_i^π	E_γ[@]	I_γ[@]	E_f	J_f^π	Mult.[#]	δ[#]	α	Comments
122.297	1^-	122.297 *3*	100	0	0^-	M1[†]		0.1043	α(K)=0.0917 *13*; α(L)=0.01053 *15*; α(M)=0.00180 *3*; α(N)=0.000242 *4*; α(O)=1.650×10^{-5} *23* α(N+..)=0.000258 *4* B(M1)(W.u.)=0.0537 *16*
652.29	2^-	530.0 *1*	100 *4*	122.297	1^-	M1+E2	−0.11 *+3−4*	0.00254 *4*	α(K)=0.00224 *4*; α(L)=0.000247 *4*; α(M)=4.22×10^{-5} *6*; α(N)=5.68×10^{-6} *9*; α(O)=3.98×10^{-7} *6* α(N+..)=6.08×10^{-6} *9* B(E2)(W.u.)>0.13; B(M1)(W.u.)>0.0066
		652.3 *1*	5.1 *17*	0	0^-	[E2]		0.00183 *3*	α(K)=0.001612 *23*; α(L)=0.000182 *3*; α(M)=3.10×10^{-5} *5*; α(N)=4.14×10^{-6} *6*; α(O)=2.78×10^{-7} *4* α(N+..)=4.42×10^{-6} *7* B(E2)(W.u.)>0.42
718.70	$1^+,2^+$	596.4 *1*	100	122.297	1^-				
931.70	1^+	213.0 *1*	1.06 *21*	718.70	$1^+,2^+$	M1+(E2)[‡]	0.0 *4*	0.024 *6*	α(K)=0.021 *6*; α(L)=0.0024 *8*; α(M)=0.00041 *13*; α(N)=5.5×10^{-5} *16*; α(O)=3.8×10^{-6} *8* α(N+..)=5.8×10^{-5} *17* B(M1)(W.u.)>0.00089 δ: from α(K)exp only.
		279.4 *1*	11.5 *5*	652.29	2^-	E1+M2	−0.05 *2*	0.00566 *15*	α(K)=0.00500 *13*; α(L)=0.000550 *15*; α(M)=9.4×10^{-5} *3*; α(N)=1.25×10^{-5} *4*; α(O)=8.45×10^{-7} *24* α(N+..)=1.34×10^{-5} *4*
		809.40 *3*	100 *3*	122.297	1^-	E1(+M2)	0.00 *1*	0.000409 *6*	α(K)=0.000362 *5*; α(L)=3.91×10^{-5} *6*; α(M)=6.67×10^{-6} *10*; α(N)=8.97×10^{-7} *13* α(O)=6.26×10^{-8} *9*; α(N+..)=9.60×10^{-7} *14* B(E1)(W.u.)>2.2×10^{-5}
		931.7 *1*	16.4 *11*	0	0^-				
1287.89		356.0 *2*	100 *14*	931.70	1^+				
		1166.0 *5*	14 *7*	122.297	1^-				
1983.58	1^+	695.4 *3*	18.0 *20*	1287.89					
		1052.6 *7*	20 *8*	931.70	1^+				
		1331.6 *4*	32 *8*	652.29	2^-				
		1861.3 *5*	8 *4*	122.297	1^-				
		1983.5 *3*	100 *12*	0	0^-				

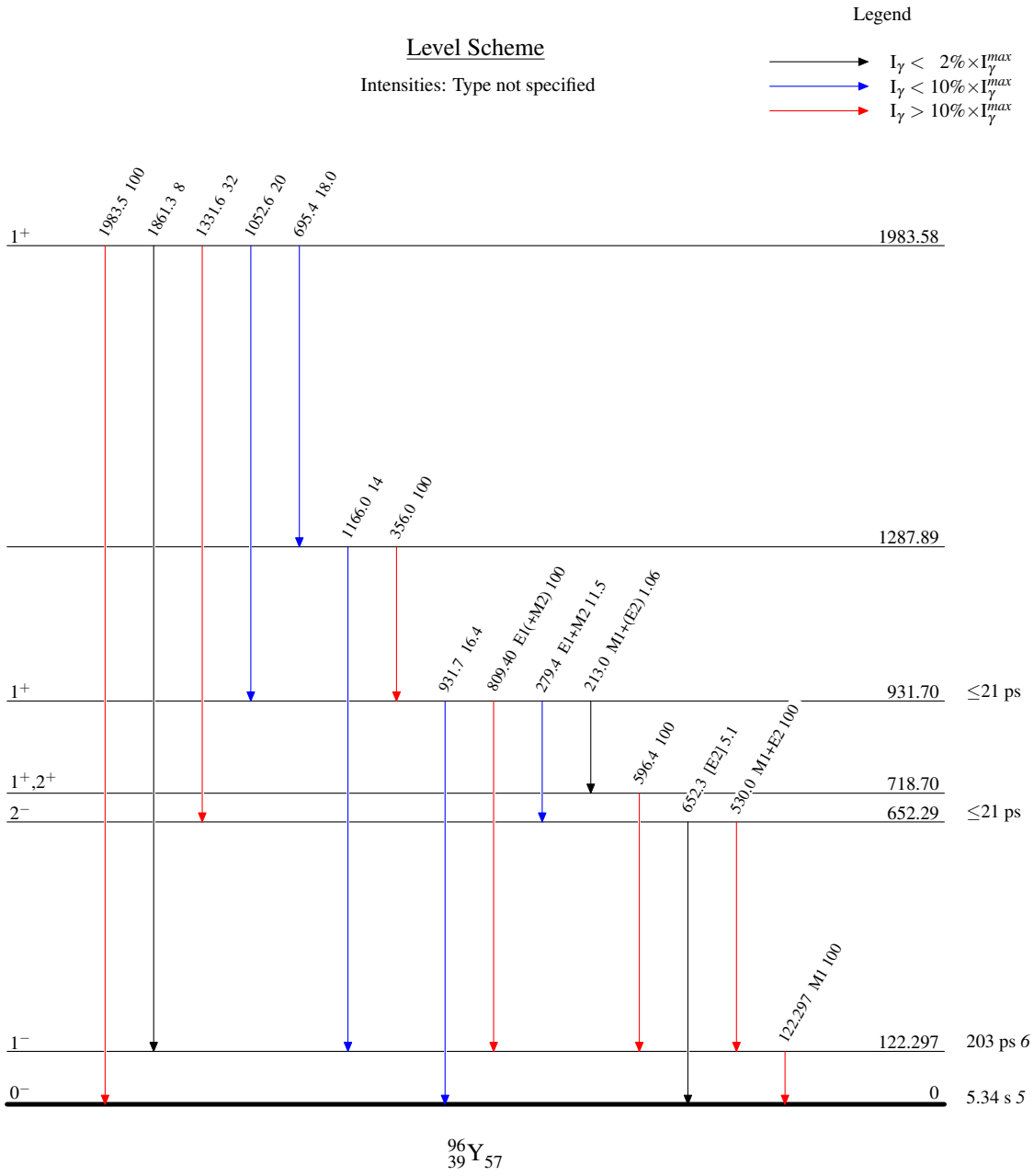
[†] From α(K)exp, $\gamma\gamma(\theta)$ and the observation that γ feeds the level with J=0.
[‡] From α(K)exp and RUL.
[#] From α(K)exp and $\gamma\gamma(\theta)$ in β^- decay, except where noted otherwise.
[@] From ^{96}Sr β^- decay.

$^{96}_{39}Y_{57}$-2

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified



$^{96}_{39}Y_{57}$