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^-)=11575 *10*; S(n)=3532 *21*; S(p)=12484 *19*; Q(α)=−7546 *8* 2012Wa38
Note: Current evaluation has used the following Q record 11571 113491 6 *12485* 19-7547 8 2007Ra23.
Q(β^-)=11571 *11*, from mass excess (^{96}Sr)=−72926 *10* (2006Ha03) and mass excess (^{96}Rb)=−61355 *4* (2007Ra23). Sn=3491 *6*, from mass excess (^{95}Rb)=−65935 *4* (2007Ra23). Q(β^-n)=5697 *11*, using mass excess (^{95}Sr)=−75123 *10* (2006Ha03). Q(α)=−7547 *8*, using mass excess (^{92}Br)=−56233 *7* (2007Ra23). S(p)=12485 *19*, using mass excess (^{95}Kr)=−56159 *19* (2006De36). The 2003Au03 values are Q(β^-)=11710 *30*, S(n)=3440 *30*, S(p)=12480 syst, Q(α)=−7070 *60*, Q(β^-n)=5821 *30*.
α: Additional information 1.

^{96}Rb Levels

Low-lying states are expected to result from coupling of $\pi f_{5/2}$ orbital with one of three possible neutron states $\nu s_{1/2}$,$\nu d_{3/2}$, and $\nu g_{7/2}$.

Cross Reference (XREF) Flags

A ^{96}Rb IT decay

E(level)†	J$^\pi$@	$T_{1/2}$	XREF	Comments
0.0	2$^{(-)}$	203 ms *3*	A	%β^-=100; %β^-n=13.3 *7* (2002Pf04) Q=+0.25 *6*; μ=+1.4658 *17* J$^\pi$: J=2 from atomic beams (1981Th04). $T_{1/2}$: weighted av of 0.22 s *1* (1981En05), 197 ms *5* (1979Ri09), 188 ms *2* (1979Pe01), 203 ms *4* (1978Wo09), 205 ms *4* (1977Re05), 203 ms *3* (1976Ru01), 199.0 ms *35* (1974Ro15), and 207 ms *3* (1971Tr02). μ,Q: abls. μ calculated by 1989Ra17 using hyperfine-structure ratio and μ(^{87}Rb). "Sternheimer" or other polarization correction applied to Q. Configuration=$\pi f_{5/2}\nu s_{1/2}$ (1999Ge01). $<r^2>^{1/2}$(charge)=4.36 *3* (2004An14).
59.31 *15*	(3$^-$)		A	possible member of $\pi f_{5/2}\nu s_{1/2}$ multiplet.
148.87 *25*	(4$^-$)		A	Configuration=[$\pi f_{5/2}\nu d_{3/2}]_{4-}$.
185.35 *15*			A	
187.7 *4*			A	
225.4 *3*			A	
461.61# *14*	(3$^-$)		A	
554.50‡ *15*	(4$^-$)		A	
671.40# *18*	(5$^-$)		A	
794.82‡ *22*	(6$^-$)		A	
972.5# *3*	(7$^-$)		A	
1094.6‡ *3*	(8$^-$)		A	
1134.6 *11*	(10$^-$)	2.00 μs *10*	A	$T_{1/2}$: From timing of 300 keV transition in ^{96}Rb IT decay (2005Pi13). Other: 1.65 μs *15* (1999Ge01). Configuration=[$\pi g_{9/2}\nu h_{11/2}]_{10-}$ (1999Ge01).

† From least-squares fit to Eγ's.
‡ Band(A): π3/2[431]⊗ν3/2[541], K$^\pi$=3$^-$, α=0.

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Adopted Levels, Gammas (continued)

^{96}Rb Levels (continued)

[#] Band(a): $\pi 3/2[431]\otimes\nu 3/2[541]$, $K^{\pi}=3^{-}$, $\alpha=1$.
[@] From Mγ, band patterns as well as comparisons with neighboring nuclides and shell model calculations, except as noted.

$\gamma(^{96}Rb)$

E_i(level)	J_i^{π}	E_γ[†]	I_γ[†]	E_f	J_f^{π}	Mult.[†]	α	Comments
59.31	(3$^-$)	59.3 *2*	100	0.0	2$^{(-)}$	M1	0.628 *11*	α(K)=0.553 *10*; α(L)=0.0633 *11*; α(M)=0.01048 *18*; α(N)=0.001179 *21*; α(O)=4.95×10^{-5} *9*; α(N+..)=0.001229 *21*
148.87	(4$^-$)	89.5 *15*	100 *13*	59.31	(3$^-$)	M1+E2	0.8 *7*	α(K)=0.7 *6*; α(L)=0.11 *10*; α(M)=0.018 *15*; α(N)=0.0019 *16*; α(O)=5.E−5 *4*; α(N+..)=0.0019 *16* E_γ: From table ii of 2005Pi13.
		148.8 *3*	88 *13*	0.0	2$^{(-)}$	(E2)	0.225	α(K)=0.194 *3*; α(L)=0.0260 *5*; α(M)=0.00429 *7*; α(N)=0.000456 *8*; α(O)=1.522×10^{-5} *24*; α(N+..)=0.000471 *8*
185.35		38.0[‡#] *5*	<75[‡]	148.87	(4$^-$)			
		126.0 *3*	58 *17*	59.31	(3$^-$)			
		185.4 *2*	100 *17*	0.0	2$^{(-)}$			
187.7		38.0[‡#] *5*	100[‡]	148.87	(4$^-$)			
225.4		166.1 *3*	100	59.31	(3$^-$)			
461.61	(3$^-$)	276.3 *3*	10.4 *21*	185.35				
		402.4 *4*	6.3 *21*	59.31	(3$^-$)			
		461.6 *2*	100 *6*	0.0	2$^{(-)}$			
554.50	(4$^-$)	92.8 *2*	100 *5*	461.61	(3$^-$)	M1	0.178	α(K)=0.1569 *24*; α(L)=0.0178 *3*; α(M)=0.00294 *5*; α(N)=0.000332 *5*; α(O)=1.403×10^{-5} *22*; α(N+..)=0.000346 *6*
		329.0 *4*	19 *3*	225.4				
		366.8 *3*	27 *3*	187.7				
		369.2 *3*	35 *5*	185.35				
		405.5 *4*	11 *3*	148.87	(4$^-$)			
		495.2 *3*	14 *5*	59.31	(3$^-$)			
		554.5 *3*	14 *3*	0.0	2$^{(-)}$			
671.40	(5$^-$)	116.8 *2*	100 *8*	554.50	(4$^-$)	M1	0.0946	α(K)=0.0834 *13*; α(L)=0.00940 *14*; α(M)=0.001555 *23*; α(N)=0.000176 *3*; α(O)=7.45×10^{-6} *11*; α(N+..)=0.000183 *3*
		209.9 *2*	44 *6*	461.61	(3$^-$)			
794.82	(6$^-$)	123.5 *3*	86 *7*	671.40	(5$^-$)			
		240.3 *2*	100 *7*	554.50	(4$^-$)	E2	0.0395	α(K)=0.0345 *5*; α(L)=0.00418 *6*; α(M)=0.000688 *10*; α(N)=7.52×10^{-5} *11*; α(O)=2.82×10^{-6} *4*; α(N+..)=7.81×10^{-5} *12*
972.5	(7$^-$)	177.6 *2*	71 *6*	794.82	(6$^-$)			
		301.0 *4*	100 *18*	671.40	(5$^-$)			
1094.6	(8$^-$)	122.0 *3*	47 *4*	972.5	(7$^-$)			
		300.0 *3*	100 *7*	794.82	(6$^-$)			
1134.6	(10$^-$)	40 *1*	100	1094.6	(8$^-$)	E2	27 *3*	α(K)=19.0 *16*; α(L)=6.6 *8*; α(M)=1.09 *14*; α(N)=0.103 *13*; α(O)=0.00126 *11*; α(N+..)=0.104 *13*

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Adopted Levels, Gammas (continued)

$\gamma(^{96}Rb)$ (continued)

† From ^{96}Rb IT decay, unless otherwise noted.
‡ Multiply placed with undivided intensity.
# Placement of transition in the level scheme is uncertain.

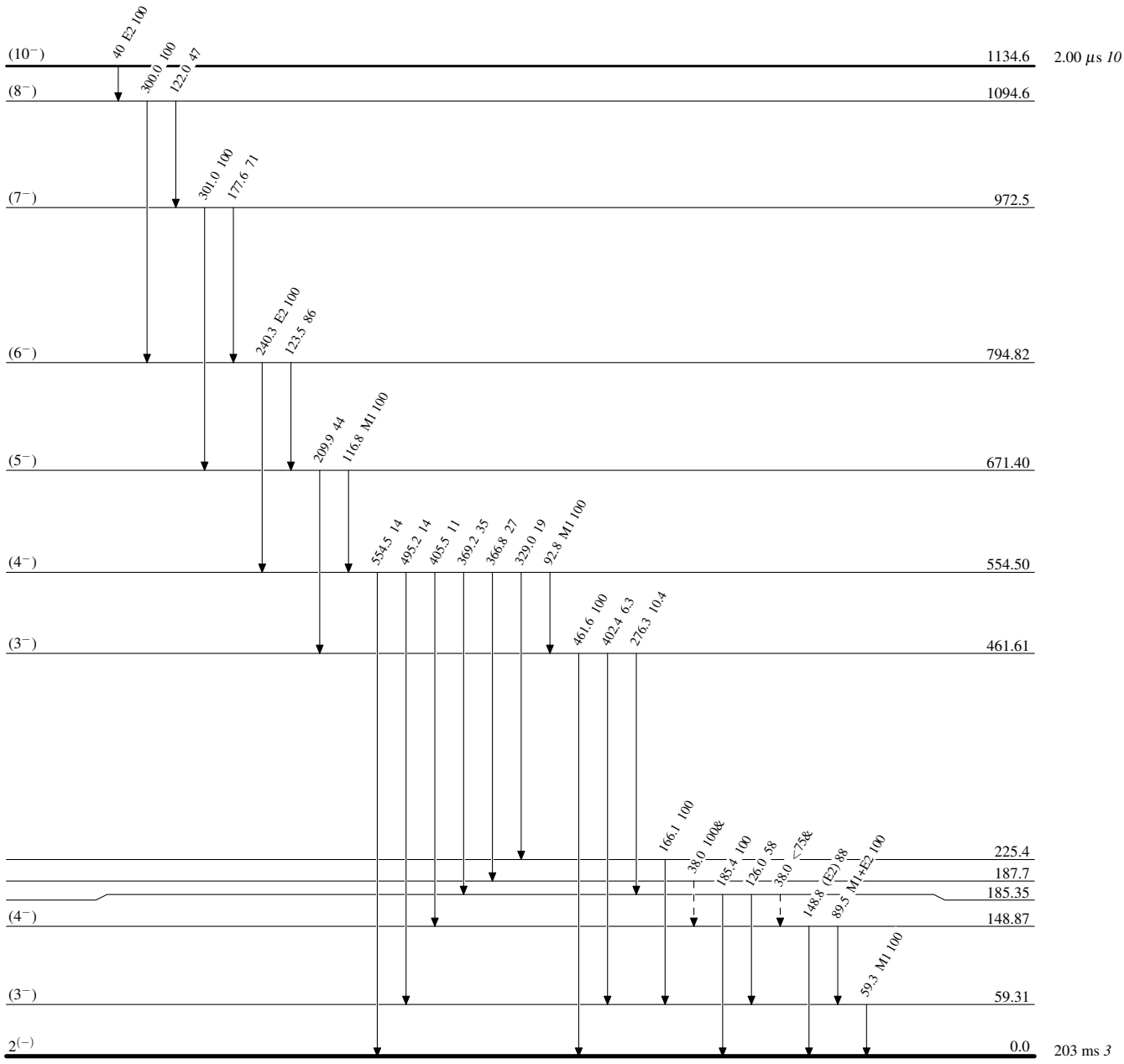
Adopted Levels, Gammas

Legend

Level Scheme

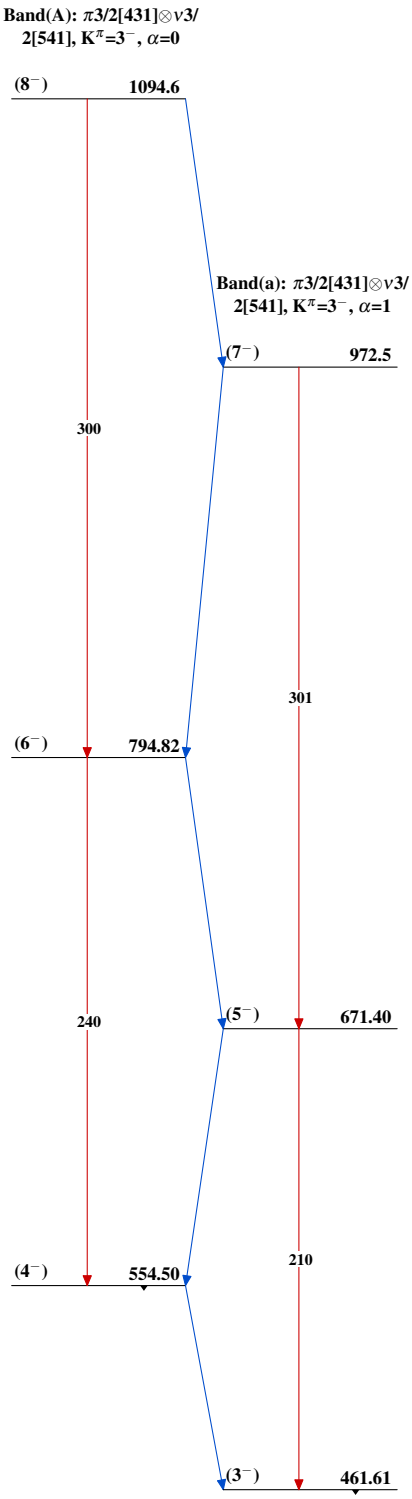
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



$^{96}_{37}Rb_{59}$

Adopted Levels, Gammas



$^{96}_{37}Rb_{59}$