Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 113, 157 (2012)	31-Dec-2010

Q(β^-)=−9145 (syst) *299*; S(n)=11344 (syst) *197*; S(p)=−374 *9*; Q(α)=5681 *6* 2017Wa10
Q(ε)=8.41×10^3 *3*; S(2n)=2.099×10$^{4(syst)}$ *197*; S(2p)=2577 *9*; Q(εp)=5484 *17* 2017Wa10
Additional information 1.
Additional information 2.

^{159}Ta Levels

Cross Reference (XREF) Flags

A ^{106}Cd(^{58}Ni,3p2nγ)
B ^{163}Re α decay (214 ms)
C ^{163}Re α decay (390 ms)

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0	1/2$^+$	0.83 s *18*	BC	%α=34 *5*; %ε+%β^+=66 *5* T$_{1/2}$: From ^{159}Ta α decay (1997Da07). %α: From 1997Da07. J$^\pi$: Fed by a (favored) α transition from ^{163}Re (J^π=1/2$^+$). configuration=πs$_{1/2}$.
64† *5*	11/2$^-$	0.56 s *6*	AB	%α=55 *1*; %ε+%β^+=45 *1* E(level): From 1997Da07, based on α-energy differences in the ^{167}Ir to ^{151}Tm α-decay chain. J$^\pi$: Fed by a (favored) α transition from ^{163}Re (J^π=11/2$^-$). configuration=πh$_{11/2}$. T$_{1/2}$: Measured values include: 500 ms *11* (1997Da07); 544 ms *16* (1996Pa01); 570 ms *180* (1979Ho10); and 620 ms *50* (2002Ro17), all from ^{159}Ta α decay. The weighted average of these is 518 ms *23*. However, these values exhibit a large variance. The evaluator has thus chosen to adopt an average of the values of 1997Da07 and 2002Ro17, with an uncertainty large enough to include both of them. %α: from 1997Da07; others: 73 *14* (1996Pa01) and 80 *5* (1979Ho10). %ε+%β^+: Evaluator assumes that the IT-decay branching is small.
637.7† *1*	15/2$^-$		A	
1278.2† *2*	19/2$^-$		A	
1911.6† *2*	23/2$^-$		A	

† Band(A): level sequence based on πh$_{11/2}$.

γ(^{159}Ta)

Unplaced γ's are not included here; see the ^{106}Cd(^{58}Ni,3p2nγ) data set.

E$_i$(level)	J$_i^\pi$	E$_\gamma$	I$_\gamma$	E$_f$	J$_f^\pi$	Mult.
637.7	15/2$^-$	573.7 *1*	100	64	11/2$^-$	Q
1278.2	19/2$^-$	640.5 *1*	100	637.7	15/2$^-$	Q
1911.6	23/2$^-$	633.4 *1*	100	1278.2	19/2$^-$	Q

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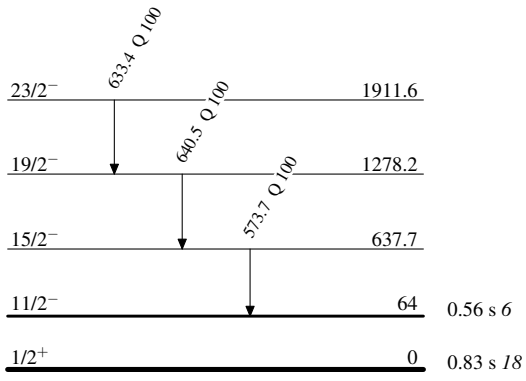
Level Scheme

Intensities: Relative photon branching from each level



$^{159}_{73}Ta_{86}$

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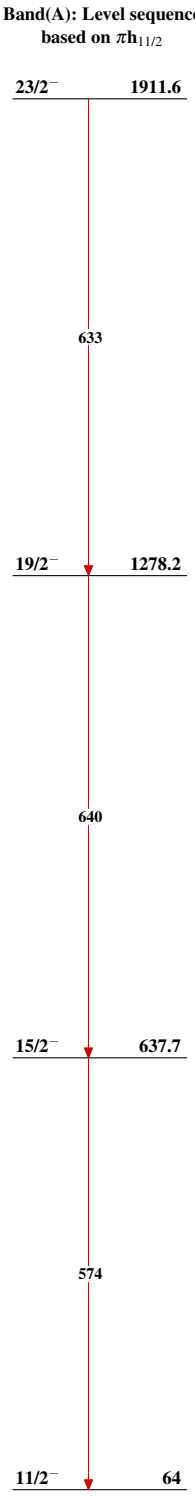

$^{159}_{73}Ta_{86}$