^{170}Er(^{10}B,4nγ),^{173}Yb(^{7}Li,4nγ) 1978Bu16

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 107, 791 (2006)	15-Sep-2005

E(^{10}B)=54 MeV, E(^{7}Li)=36 MeV. Measured Eγ, Iγ, $\gamma\gamma$ coin, γ(t) (ns μs ranges). Detectors: Ge(Li).

^{176}Ta Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	Comments
0.0	(1)$^-$		
0.0+x[#]	7$^+$		Additional information 1.
186.8+x[@] *10*	8$^-$	<5 ns	
249.9+x[@] *15*	9$^-$		
384.6+x[@] *17*	10$^-$		
555.3+x[@] *17*	11$^-$		
754.3+x[@] *17*	12$^-$		
979.6+x[@] *18*	13$^-$		
1228.2+x[@] *19*	14$^-$		
1372.8+x[&] *19*	14$^-$	3.8 μs *4*	$T_{1/2}$: From 618.4 keV γ(t) measurements.
1498.6+x[@] *21*	15$^-$		

[†] From a least squares fit to the γ-ray energies assuming ΔE=1 keV for all γ-ray energies. 1978Bu16 did not observe the 63γ; consequently, it's quoted E(level) values above the 8$^-$ level are 63 keV lower than those presented here.
[‡] From Adopted Levels.
[#] Band(A): K$^\pi$=7$^+$ band, Configuration=((π 9/2(514))(ν 5/2(512))).
[@] Band(B): K$^\pi$=8$^-$ band, Configuration=((π 9/2(514))(ν 7/2(633))).
[&] Band(C): K$^\pi$=14$^-$ band, Possible configuration=π^3(5/2[402],7/2[404], 9/2[514])$\otimes\nu$(7/2[633]).

γ(^{176}Ta)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	Comments
63.1		249.9+x	9$^-$	186.8+x	8$^-$		E$_\gamma$: from adopted level.
134.3	33 *8*	384.6+x	10$^-$	249.9+x	9$^-$	M1(+E2)	I$_\gamma$: from coincidence data. Mult.: from α deduced from transition intensity balance at 384+x level.
170.6	48 *11*	555.3+x	11$^-$	384.6+x	10$^-$		I$_\gamma$: corrected for contribution from ^{175}Ta contaminant line.
186.8	100	186.8+x	8$^-$	0.0+x	7$^+$	(E1)	Mult.: from α deduced from transition intensity balance at 186.8+x level.
198.9	46 *10*	754.3+x	12$^-$	555.3+x	11$^-$		
225.1	17 *4*	979.6+x	13$^-$	754.3+x	12$^-$		
248.7		1228.2+x	14$^-$	979.6+x	13$^-$		
270.4		1498.6+x	15$^-$	1228.2+x	14$^-$		
305.8	25 *13*	555.3+x	11$^-$	249.9+x	9$^-$		
369.5	13 *8*	754.3+x	12$^-$	384.6+x	10$^-$		
393.3	19 *3*	1372.8+x	14$^-$	979.6+x	13$^-$		
424.6	11 *7*	979.6+x	13$^-$	555.3+x	11$^-$		
473.8		1228.2+x	14$^-$	754.3+x	12$^-$		
518.3[‡]		1498.6+x	15$^-$	979.6+x	13$^-$		
618.4	55 *5*	1372.8+x	14$^-$	754.3+x	12$^-$	E2	Mult.: from α(K)exp=0.009 *1*. B(E2)(W.u.)=3.1×10^{-5} is consistent with E2 ΔK=2 forbidden transition (1978Bu16).

Continued on next page (footnotes at end of table)

^{170}Er(^{10}B,4nγ),^{173}Yb(^{7}Li,4nγ) 1978Bu16 (continued)

γ(^{176}Ta) (continued)

† From the 3.8–μs isomer decay (off-beam measurement), except for 270.4γ and 518.2γ.
‡ Placement of transition in the level scheme is uncertain.

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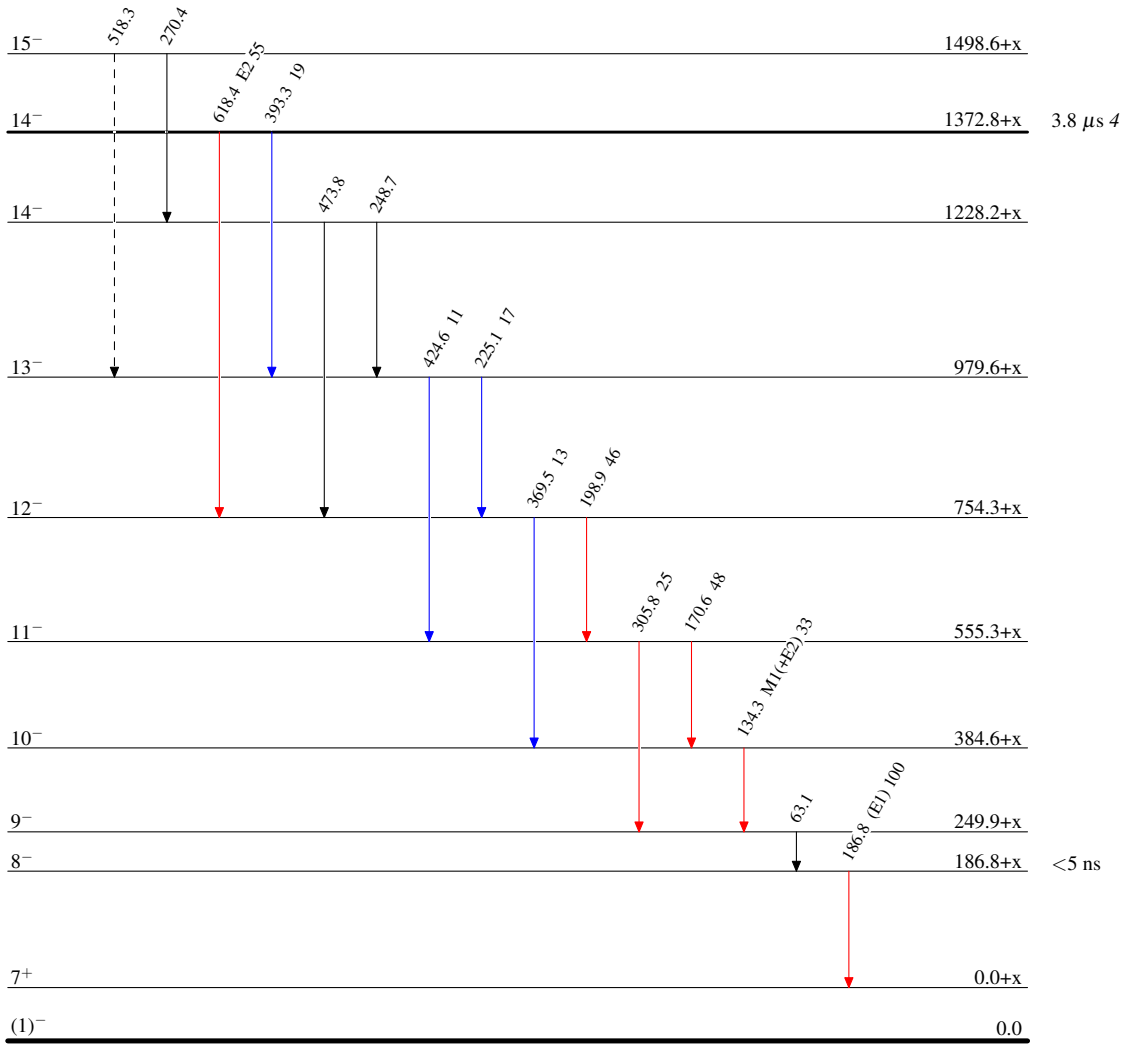
Level Scheme

Intensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)



$^{176}_{73}Ta_{103}$

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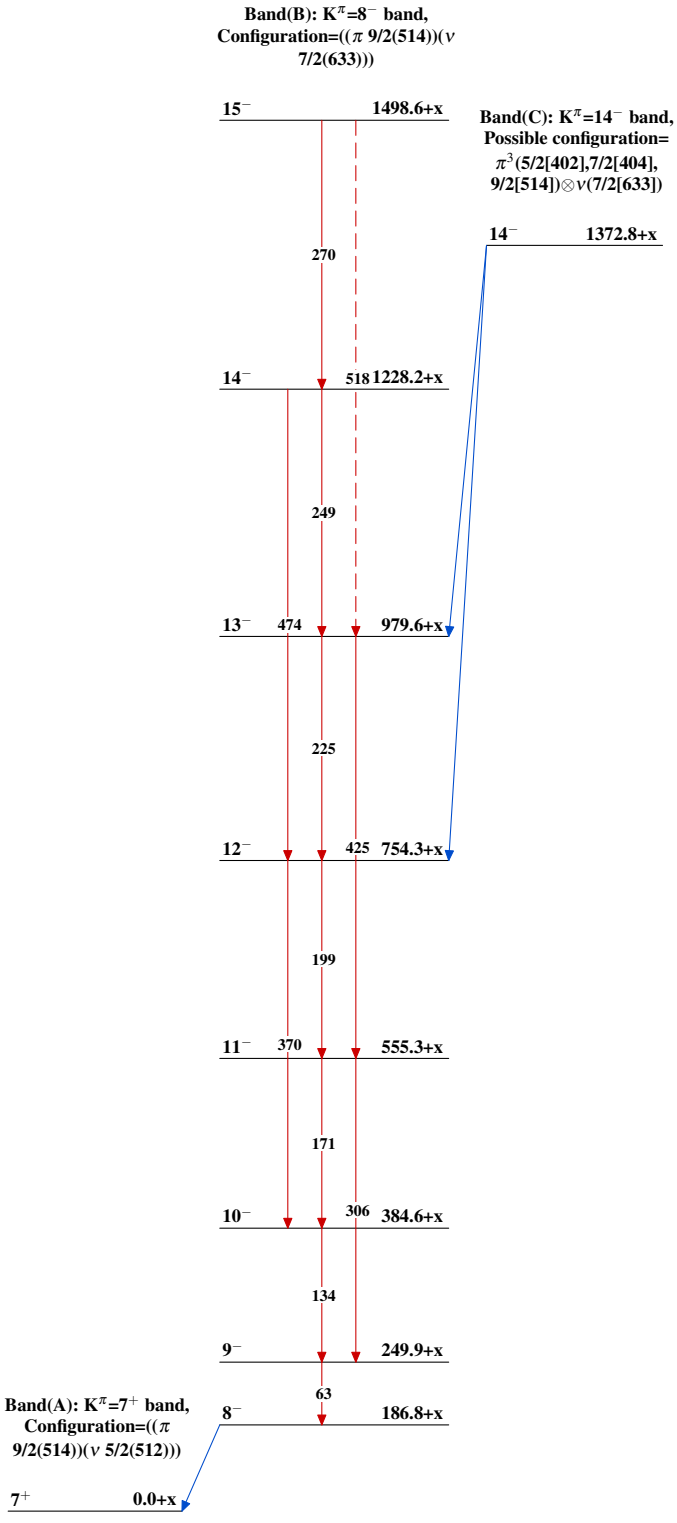

$^{176}_{73}Ta_{103}$