

¹⁷⁶Yb IT decay (11.4 s) 1970Tu07,1967Bo33

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

Parent: ¹⁷⁶Yb: E=1050.3 5; J^π=(8⁻); T_{1/2}=11.4 s 3; %IT decay=100.0

Others: 1967Bo08, 1965Ve01, 1962Ka24.

¹⁷⁶Yb Levels

E(level) [†]	J ^π [‡]	T _{1/2}	Comments
0.0	0 ⁺	stable	
82.1 2	2 ⁺		
272.1 3	4 ⁺		
565.0 4	6 ⁺		
954.3 4	8 ⁺		
1050.3 5	8 ⁻	11.4 s 3	T _{1/2} : weighted average of 11.7 s 5 (1962Ka24), 11.0 s 5 (1965Ve01), and 12 s 1 (1967Bo08).

[†] Deduced by evaluator from a least-squares fit to γ -ray energies from 1970Tu07 and 1967Bo33.

[‡] From Adopted Levels.

$\gamma(^{176}\text{Yb})$

I γ normalization: from decay scheme, I(γ +ce)=107 2 (weighted average of 82 γ , 96 γ , 190 γ , 293 γ , and 390 γ – including 2% uncertainty in α).

E γ [†]	I γ ^{‡@}	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.#	α ^{&}	Comments
82.1 2	15 3	82.1	2 ⁺	0.0	0 ⁺	E2	7.07	$\alpha(K)= 1.49$; $\alpha(L)= 4.24$; $\alpha(M)= 1.04$; $\alpha(N+..)= 0.288$
96.0 2	79 8	1050.3	8 ⁻	954.3	8 ⁺	E1	0.38	Mult.: from $\alpha(\text{exp})=0.40$ 8 (1967Bo33), $\alpha(\text{exp})=0.42$ 9, $\alpha(K)\text{exp}=0.9$ 5 from K x ray γ coin is consistent with E1 multipolarity (1965Ve01). $\alpha=0.28$ 14, deduced by evaluator from a transition-intensity balance at 954 level.
190.1 2	88 6	272.1	4 ⁺	82.1	2 ⁺	E2	0.322	$\alpha(K)= 0.192$; $\alpha(L)= 0.0990$; $\alpha(M)= 0.0239$; $\alpha(N+..)= 0.00654$
292.9 3	100	565.0	6 ⁺	272.1	4 ⁺	E2	0.0801	$\alpha(K)= 0.0567$; $\alpha(L)= 0.0180$; $\alpha(M)= 0.00425$; $\alpha(N+..)= 0.00127$
389.3 2	98 5	954.3	8 ⁺	565.0	6 ⁺	E2	0.0349	$\alpha(K)= 0.0264$; $\alpha(L)= 0.00658$; $\alpha(M)= 0.00153$; $\alpha(N+..)= 0.000464$

[†] Weighted average of values from 1970Tu07 and 1967Bo33.

[‡] From 1970Tu07.

From adopted gammas, unless otherwise specified.

@ For absolute intensity per 100 decays, multiply by 0.93 2.

& Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 decays through this branch
 %IT=100.0

Legend

- \longrightarrow $I_{\gamma} < 2\% \times I_{\gamma}^{max}$
 \longrightarrow $I_{\gamma} < 10\% \times I_{\gamma}^{max}$
 \longrightarrow $I_{\gamma} > 10\% \times I_{\gamma}^{max}$

