

¹⁶⁶Yb ε decay 1973De22,1963Ja06,1959Gr06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109, 1103 (2008)	1-Mar-2008

Parent: ¹⁶⁶Yb: E=0; J^π=0⁺; T_{1/2}=56.7 h I; Q(ε)=305 I4; %ε decay=100.0

Others: 1959Br17, 1961Gr33, 1963Pa08, 1967Bu14, 1995Ma07.

¹⁶⁶Tm Levels

E(level) [†]	J ^π [‡]	T _{1/2}	Comments
0.0	2 ⁺	7.70 h 3	
82.29 2	1 ⁺	385 ps 40	T _{1/2} : from Adopted Levels. <3 ns (1973De22, K x ray-82γ delayed coin), <0.45 ns (1966Ja16).

[†] From E_γ.

[‡] From Adopted Levels.

ε radiations

E(decay)	E(level)	I _ε [†]	Log ft	Comments
(223 I4)	82.29	100	4.91 8	εK=0.748 9; εL=0.191 7; εM+=0.0612 23 εK(exp)/ε=0.73 +6-2 (1963Ja06).

[†] Absolute intensity per 100 decays.

γ(¹⁶⁶Tm)

No new γ rays attributable to ¹⁶⁶Yb decay found for 10-keV<E_γ<150-keV; authors deduce a limit of 0.3% for such gamma-rays (1973De22). No γ rays attributable to ¹⁶⁶Yb decay found for 20-keV<E_γ<65-keV; limit I_γ<0.05 I_γ(82.3γ) (1967Bu14). No γ rays attributable to ¹⁶⁶Yb decay found for 86-keV<E_γ<250-keV; limit I_γ<0.003 I_γ(82.3γ) (1967Bu14).

No transitions with 20≤E_γ≤500 were found in coincidence with 82.3γ (1995Ma07).

I_γ(Tm K x ray)/I_γ(82.3γ)=8.68 21 (1973De22); =8.17 23 (1963Ja06).

E _γ	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.	α [‡]	I _(γ+ce) [†]	Comments
82.29 2	82.29	1 ⁺	0.0	2 ⁺	M1	5.43	100	ce(K)/(γ+ce)=0.707 6; ce(L)/(γ+ce)=0.1075 19; ce(M)/(γ+ce)=0.0240 5; ce(N+)/(γ+ce)=0.00646 12 ce(N)/(γ+ce)=0.00561 11; ce(O)/(γ+ce)=0.000806 15; ce(P)/(γ+ce)=4.35×10 ⁻⁵ 8 Mult.: α(K)exp=4.2 +3-2 (1963Ja06); K:L=580 50:100 (1959Br17), K:L12:L3:M=630 200:100:1.1 2:14 2 (1959Gr06). E _γ : from 1973De22. Others: 82.3 I (1961Gr33); 82.0 I (1963Pa08).

[†] Absolute intensity per 100 decays.

[‡] 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.

^{166}Yb ϵ decay 1973De22,1963Ja06,1959Gr06

Decay Scheme

