

^{89}Y IT decay (15.663 s) [1967Yu01](#),[1991Hi04](#),[1996Oh03](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 114, 1 (2013)	20-Oct-2012

Parent: ^{89}Y : E=908.960 25; $J^\pi=9/2^+$; $T_{1/2}=15.663$ s 5; %IT decay=100.0

[1967Yu01](#): from $^{89}\text{Y}(n,n')$ E=14 MeV. Measured γ , $T_{1/2}$.

[1991Hi04](#), [1996Oh03](#), [1997Se12](#): NMR, nuclear orientation study. [1997Se12](#) observe impurity nucleus-nuclear magnetic interaction in hyperfine studies of ^{89}Y isomer in ^{58}Co host nuclei at low temperature (10-25° mK).

[1998Do17](#): measured half-life and production in $(n,n'\gamma)$ E=6.2-14.7 MeV.

$\gamma(\theta,t)$: [1988Sh43](#), [1988Fa11](#), [1983Er09](#).

Others: [1968Bo52](#), [1966Du07](#), [1965Br21](#), [1963Ve13](#), [1963Ka34](#), [1962Br42](#), [1960Ha26](#), [1955Sw92](#), [1953Sh48](#), [1951Sh24](#), [1951Go42](#), [1951Hy24](#).

Additional information 1.

Energy balance: total decay energy of 909.0 keV 4 deduced (using RADLIST code) from proposed decay scheme is in agreement with the expected value of 908.96 keV 3, indicating that the decay scheme is complete.

^{89}Y Levels

E(level)	J^π^\dagger	$T_{1/2}$	Comments
0	$1/2^-$	stable	
908.960 25	$9/2^+$	15.663 s 5	$g=+1.385$ 16 (1991Hi04 , 1996Oh03) $T_{1/2}$: from Itoh et al., Proceedings of Symposium on Nuclear Data, Tokai, JAERI, p185 (1994) as quoted in 2003Au02 compilation. Others: 15.28 s 17 (1998Do17), 16.06 s 4 (1967Yu01), 1968Bo52 , 1966Du07 , 1962Br42 , 1955Sw92 , 1951Go42 . g factor from 1991Hi04 , sign from 1996Oh03 .

† From Adopted Levels.

$\gamma(^{89}\text{Y})$

I γ normalization: Ti(909.0 γ)=100.

E_γ	I γ †	E_i (level)	J_i^π	E_f	J_f^π	Mult.	δ	α^\ddagger	Comments
908.960 25	100	908.960	$9/2^+$	0	$1/2^-$	M4+E5	0.00041 4	0.00851	$\alpha(\text{K})=0.00743$ 11; $\alpha(\text{L})=0.000906$ 13; $\alpha(\text{M})=0.0001561$ 22; $\alpha(\text{N}+..)=2.22\times 10^{-5}$ 4 $\alpha(\text{N})=2.09\times 10^{-5}$ 3; $\alpha(\text{O})=1.395\times 10^{-6}$ 20 E_γ, δ : from Adopted Gammas. Mult.: $\alpha(\text{exp})=0.01$ (1951Go42). Others: 1951Sh24 , 1953Sh48 .

† For absolute intensity per 100 decays, multiply by 0.9916 3.

‡ 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.

 ^{89}Y IT decay (15.663 s) 1967Yu01,1991Hi04,1996Oh03**Decay Scheme**

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

