

Adopted Levels, Gammas

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Balraj Singh	ENSDF	31-Aug-2012

Q(β^-)=1.592×10⁴ 17; S(n)=3.52×10³ 19; S(p)=1.71×10⁴ 7; Q(α)=-1.72×10⁴ 3 [2012Wa38](#)

Note: Current evaluation has used the following Q record 15.92E3 17 3.52E3 19 17.11E371-17.24E326 [2011AuZZ](#).

Q(β^- n)=7889 160, S(2n)=9348 211, S(2p)=38830 817 (syst) ([2011AuZZ](#)).

⁴⁶Cl observed from interaction of a ⁴⁸Ca beam of 55 MeV/u with a tantalum target, and a ⁴⁸Ca beam of 60 MeV/u with a ⁶⁴Ni target using magnetic separation and identification through time-of-flight and ΔE -E measurements ([1989Gu03](#),[1993So06](#)) at GANIL facility.

[2004Gr20](#) (also [2003Gr22](#)): production in Be(⁴⁸Ca,X) reaction at GANIL, measured half-life.

Precise mass measurements: [2007Ju03](#), [2000Sa21](#) (also [2001Sa72](#)).

Nuclear structure calculations: [2010Ga15](#).

⁴⁶Cl Levels

Cross Reference (XREF) Flags

A ⁹Be(⁴⁸K,X γ)

E(level) [†]	J ^{π}	T _{1/2}	XREF	Comments
0.0	(2 ⁻)	232 ms 2	A	% β^- =100; % β^- n=60 9 (1993So06 , 1995So03) J ^{π} : from shell-model calculations (2012St12 , 2010Ga15). T _{1/2} : from β (implant) correlations (2004Gr20 , 2003Gr22). Other: 223 ms 37 (1993So06 , 1995So03 , β -fragment correlations).
118 3			A	
151 3			A	
402 [‡] 4			A	
1024 [‡] 5			A	

[†] From E γ data ([2012St12](#)).

[‡] From g.s. transition. Possible unresolved multiplet, since the energy fits of cascading γ rays are marginal.

γ (⁴⁶Cl)

E _i (level)	E γ	I γ	E _f	J _f ^{π}	Comments
118	118 3	100	0.0	(2 ⁻)	
151	151 3	100	0.0	(2 ⁻)	
402	256 4	22 4	151		E γ : 251 5 from level-energy difference.
	293 4	16 4	118		E γ : 284 5 from level-energy difference.
	402 4	100 8	0.0	(2 ⁻)	
1024	636 5	100 14	402		E γ : poor fit, E γ =622 6 from level-energy difference.
	1024 5	38 14	0.0	(2 ⁻)	

Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level

