1 Half-life, Q-value and Decay mode

$T_{1/2}$	:	2.15	(2)	min
Q_α	:	6750.33	(46)	keV
Q_{β^-}	:	574	(5)	keV
α	:	99.724	(4)	%
β^-	:	0.276	(4)	%

2 β^- Transitions

	Energy keV	Probability × 100		Nature	log ft
$\beta^-_{0,0}$	574 (5)	0.276	(4)	1st forbidden	5.99

3 α Emissions

	Energy keV	Probability × 100
$\alpha_{0,1}$	6278.5 (9)	16.16 (23)
$\alpha_{0,0}$	6622.4 (6)	83.56 (23)

4 Electron Emissions

		Energy keV	Electrons per 100 disint.		Energy keV
e_{AL}	(Tl)	5.18 - 15.31	1.617 (21)		
e_{AK}	(Tl)		0.096 (11)		
	KLL	54.587 - 59.954	}		
	KLX	66.37 - 72.86	}		
	KXY	78.12 - 85.50	}		
$ec_{1,0}$ K	(Tl)	265.50 (4)	2.59 (5)		
$ec_{1,0}$ L	(Tl)	335.68 - 338.37	0.446 (9)		
$ec_{1,0}$ M	(Tl)	347.33 - 348.64	0.1044 (22)		
$ec_{1,0}$ N	(Tl)	350.18 - 350.91	0.0263 (5)		
$\beta^-_{0,0}$	max:	574 (5)	0.276 (4)	avg:	172.9 (18)

5 Photon Emissions

5.1 X-Ray Emissions

		Energy keV		Photons per 100 disint.	
XL	(Tl)	8.9531 — 14.7362		0.929 (19)	
$XK\alpha_2$	(Tl)	70.8325		0.726 (16)	} Kα
$XK\alpha_1$	(Tl)	72.8725		1.225 (27)	}
$XK\beta_3$	(Tl)	82.118	}		
$XK\beta_1$	(Tl)	82.577	}	0.417 (11)	$K\beta_1'$
$XK\beta_5''$	(Tl)	83.115	}		
$XK\beta_2$	(Tl)	84.838	}		
$XK\beta_4$	(Tl)	85.134	}	0.124 (4)	$K\beta_2'$
$XKO_{2,3}$	(Tl)	85.444	}		

5.2 Gamma Transitions and Emissions

	Energy keV	$P_{\gamma+ce}$ × 100	Multipolarity	α_T	P_γ × 100
$\gamma_{1,0}$(Tl)	351.03 (4)	16.16 (24)	M1+E2	0.243 (4)	13.00 (19)

6 References

M.Curie, A.Debierne, A.S.Eve, H.Geiger, O.Hahn, S.C.Lind, St.Meyer, E.Rutherford, E.Schweidler, Rev. Mod. Phys. 3 (1931) 427
(Half-life)

F.N.Spiess, Phys. Rev. 94 (1954) 1292
(Half-life)

R.J.Walen, V.Nedovesov, G.Bastin-Scoffier, Nucl. Phys. 35 (1962) 232
(Alpha emission probabilities)

M.Giannini, D.Prosperi, S.Sciuti, Nuovo Cim. 25 (1962) 1314
(Branching ratio of the alpha particles emission)

M.Nurmia, D.Giessing, W.Sievers, L.Varga, Ann. Acad. Sci. Fenn., Ser. A, VI 167 (1965)
(Half-life, Branching ratio of the alpha particles emission)

S.Gorodetzky, F.Beck, A.Knipper, Nucl. Phys. 82 (1966) 275
(Alpha emission probabilities, Multipolarities, Mixing ratio, K ICC)

W.F.Davidson, C.R.Cothern, R.D.Connor, Can. J. Phys. 45 (1967) 2295
(Branching ratio of the alpha particles emission)

Ch.Briançon, C.F.Leang, R.Walen, Compt. Rend. Acad. Sci. (Paris) Ser. B 266 (1968) 1533
(Gamma-ray energies)

V.H.Mundschenk, Radiochim. Acta 14 (1970) 72
(Half-life)

G.A.Korolev, A.A.Vorobyov, Y.K.Zalite, Nucl. Instrum. Methods 97 (1971) 323
(Half-life)

B.Grennberg, A.Rytz, Metrologia 7 (1971) 65
(Alpha emission energies)

D.F.Urquhart, Report AAEC TM 634 (1973)
(Gamma-ray energies)

V.M.Vakhtel, T.Vylov, V.M.Gorozhankin, N.A.Galovkov, B.S.Dzhelepov, R.B.Ivanov, M.A.Mikhailova, Yu.V.Norseev, V.G.Chumin, Conf. Dubna (1975) 149
(Gamma-ray energies)
K.Blaton-Albicka, B.Kotlinska-Filipek, M.Matul, K.Stryczniewicz, M.Nowicki, E.Ruchowska-Lukasiak, Nukleonika 21 (1976) 935
(Gamma-ray energies)
M.H.Momeni, Nucl. Instrum. Methods 193 (1982) 185
(Gamma-ray energies, Gamma-ray emission probabilities)
M.M.Hindi, E.G.Adelberger, S.E.Kellogg, T.Murakami, Phys. Rev. C38 (1988) 1370
(Gamma-ray energies)
J.T.Iturbe, Nucl. Instrum. Methods Phys. Res. A274 (1989) 404
(Alpha emission energies)
A.Rytz, At. Data Nucl. Data Tables 47 (1991) 205
(Alpha emission energies, Alpha emission probabilities)
P.Schuurmans, J.Wouters, P.de Moor, N.Severijns, W.Vanderpoorten, J.Vanhaverbeke, L.Vanneste, Hyperfine Interactions 75 (1992) 423
(Alpha emission energies)
M.J.Martin, Nucl. Data Sheets 70 (1993) 315
(Spin and Parity, Level energies)
G.Audi, A.H.Wapstra, C.Thibault, Nucl. Phys. A729 (2003) 337
(Q)
E.Browne, Nucl. Data Sheets 103 (2004) 183
(Spin and Parity, Level energies)
T.Kibédi, T.W.Burrows, M.B.Trzhaskovskaya, P.M.Davidson, C.W.Nestor, Nucl. Instrum. Methods Phys. Res. A589 (2008) 202
(Theoretical ICC)