# $^{200}$Tl IT decay 1963Di10,1963De38

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | F. G. Kondev | NDS 192,1 (2023) | 1-Aug-2023 |

Parent: $^{200}$Tl: E=753.62 *24*; $J^\pi=7^+$; $T_{1/2}$=34.0 ms *10*; %IT decay=100

1963Di10: 22 MeV $^4$He pulsed beam on $^{197}$Au traget at the LBNL Heavy Ion Linear Accelerator. Measured: ce.

1963De38: 22.3 MeV $^4$He pulsed beam on $^{197}$Au traget. Measured: $\gamma$ rays using NaI(Tl) detector.

Other: 1967Co20.

## $^{200}$Tl Levels

| E(level)† | Jπ‡ | $T_{1/2}$‡ | Comments |
|---|---|---|---|
| 0 | $2^-$ | 26.1 h *1* | |
| 323.70 *17* | $(3)^-$ | | |
| 540.90 *17* | $4^-$ | | |
| 753.6 *3* | $7^+$ | 34.0 ms *10* | $T_{1/2}$: Weighted average of 34.1 ms *10* (1963De38), 33 ms *2* (1967Co20) and 37 ms *4* (1963Di10). |

† From a least-squares fit to Eγ.

‡ From Adopted Levels, unless otherwise stated.

## γ($^{200}$Tl)

| $E_\gamma$† | $I_\gamma$‡@ | $E_i$(level) | $J_i^\pi$ | $E_f$ | $J_f^\pi$ | Mult.† | α# | Comments |
|---|---|---|---|---|---|---|---|---|
| 212.7 *2* | 26.53 *28* | 753.6 | $7^+$ | 540.90 | $4^-$ | E3 | 2.77 *4* | %Iγ=26.53 *28*<br>α(K)=0.390 *6*; α(L)=1.760 *26*; α(M)=0.479 *7*<br>α(N)=0.1209 *18*; α(O)=0.02103 *31*; α(P)=0.000851 *13*<br>Mult.: K/L=0.25 *5* in 1963Di10. |
| 217.2 *2* | 6.48 *6* | 540.90 | $4^-$ | 323.70 | $(3)^-$ | (M1) | 0.956 *14* | %Iγ=6.48 *6*<br>α(K)=0.782 *11*; α(L)=0.1328 *19*; α(M)=0.0310 *4*<br>α(N)=0.00783 *11*; α(O)=0.001521 *22*; α(P)=0.0001438 *20* |
| 323.7 *2* | 9.62 *12* | 323.70 | $(3)^-$ | 0 | $2^-$ | [M1] | 0.319 *4* | %Iγ=9.62 *12*<br>α(K)=0.261 *4*; α(L)=0.0440 *6*; α(M)=0.01027 *14*<br>α(N)=0.00259 *4*; α(O)=0.000504 *7*; α(P)=4.77×10$^{-5}$ *7* |
| 540.9 *2* | 85.33 *8* | 540.90 | $4^-$ | 0 | $2^-$ | E2 | 0.02333 *33* | %Iγ=85.33 *8*<br>α(K)=0.01703 *24*; α(L)=0.00477 *7*; α(M)=0.001173 *16*<br>α(N)=0.000295 *4*; α(O)=5.44×10$^{-5}$ *8*; α(P)=3.81×10$^{-6}$ *5*<br>Mult.: K/L=3.5 *4* in 1963Di10. |

† From adopted gammas, unless otherwise stated.

‡ From intensity balances.

# Additional information 1.

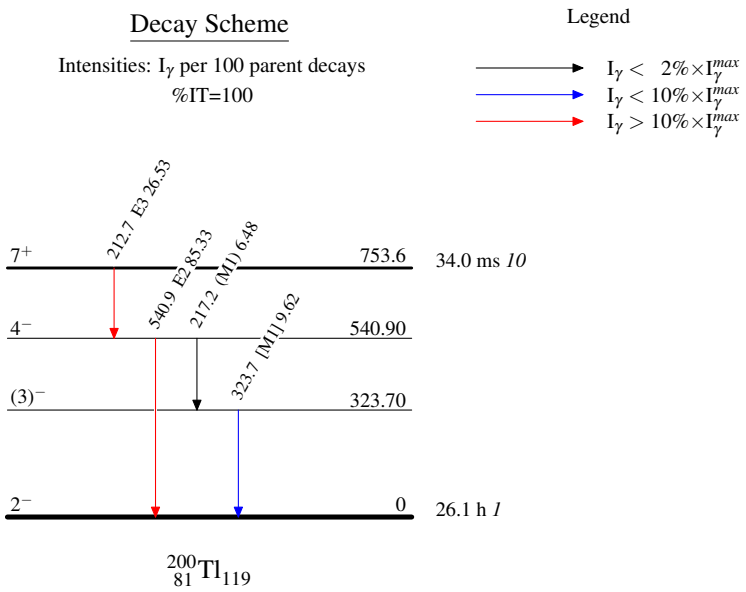
@ Absolute intensity per 100 decays.

## $^{200}$Tl IT decay 1963Di10,1963De38

Decay Scheme

Intensities: $I_\gamma$ per 100 parent decays

%IT=100




$^{200}_{81}Tl_{119}$