

$^{205}\text{Tl}(\text{n},\gamma)$ E=th **2025Ci01**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 201,346 (2025)	21-Jan-2025

2025Ci01: Neutrons from the ILL facility, Grenoble. Measured E_γ , I_γ , $\gamma\gamma$ coin, $\gamma\gamma(\theta)$ using the FIPPS (Fission Product Prompt gamma Spectrometer) consisting of 8 HPGe clover detectors (32 HPGe crystals). Others (same authors): [2020Ci01](#), [2018CiZZ](#) and [2018Ci02](#).

Others: [1967We04](#), [1969WeZY](#) and [1970BaZU](#), as quoted in [1972Se27](#), [1969Ra10](#), [1974Co21](#), and [2007ChZX](#).

 ^{206}Tl Levels

E(level) [†]	J^π [‡]	$T_{1/2}$ [‡]	Comments
0.0	0 ⁻	4.202 min 14	Dominant configuration= $\pi(s_{1/2}^{-1})\otimes\nu(p_{1/2}^{-1})$.
265.86 6	2 ⁻		Dominant configuration= $\pi(d_{3/2}^{-1})\otimes\nu(p_{1/2}^{-1})$.
304.88 5	1 ⁻		Dominant configuration= $\pi(s_{1/2}^{-1})\otimes\nu(p_{1/2}^{-1})$.
635.06 6	2 ⁻		Dominant configuration= $\pi(s_{1/2}^{-1})\otimes\nu(p_{3/2}^{-1})$.
649.44 5	1 ⁻		Dominant configuration= $\pi(d_{3/2}^{-1})\otimes\nu(p_{1/2}^{-1})$.
801.37 7	3 ⁻		Dominant configuration= $\pi(s_{1/2}^{-1})\otimes\nu(f_{5/2}^{-1})$.
998.23 6	2 ⁻		Dominant configurations= $\pi(d_{3/2}^{-1})\otimes\nu(p_{1/2}^{-1}) + \pi(s_{1/2}^{-1})\otimes\nu(f_{5/2}^{-1})$.
1079.6 7	(1 ⁻ ,2)		
1116.85 6	1 ⁻		Dominant configuration= $\pi(d_{3/2}^{-1})\otimes\nu(f_{5/2}^{-1})$.
1331.85 6	1 ⁻		Dominant configuration= $\pi(s_{1/2}^{-1})\otimes\nu(p_{3/2}^{-1})$.
1360.16 8	0 ⁻		Dominant configuration= $\pi(d_{3/2}^{-1})\otimes\nu(p_{3/2}^{-1})$.
1399.54 14	2 ⁻		Dominant configuration= $\pi(d_{3/2}^{-1})\otimes\nu(f_{5/2}^{-1})$.
1486.54 7	(1 ⁻)		Dominant configuration= $\pi(d_{3/2}^{-1})\otimes\nu(p_{3/2}^{-1})$.
1647.86 8	(2 ⁻)		Dominant configuration= $\pi(d_{3/2}^{-1})\otimes\nu(p_{3/2}^{-1})$.
1843.43 6	2 ⁻		Dominant configuration= $\pi(d_{5/2}^{-1})\otimes\nu(p_{1/2}^{-1})$.
2189.7 3	(2 ⁻)		Dominant configurations= $\pi(d_{5/2}^{-1})\otimes\nu(f_{5/2}^{-1}) + \pi(d_{3/2}^{-1})\otimes\nu(f_{7/2}^{-1})$.
2241.26 16	(1 ⁻)		Dominant configurations= $\pi(d_{5/2}^{-1})\otimes\nu(f_{5/2}^{-1}) + \pi(h_{11/2}^{-1})\otimes\nu(i_{13/2}^{-1})$.
2380.64 8	(0 ⁻)		Dominant configuration= $\pi(d_{5/2}^{-1})\otimes\nu(f_{5/2}^{-1})$.
2494.72 17	(1 ⁻)		Dominant configurations= $\pi(d_{5/2}^{-1})\otimes\nu(f_{5/2}^{-1}) + \pi(h_{11/2}^{-1})\otimes\nu(i_{13/2}^{-1})$.
2803.77 9	(2 ⁻)		Dominant configuration= $\pi(d_{5/2}^{-1})\otimes\nu(f_{5/2}^{-1})$.
3002.8 5	(2 ⁻)		Dominant configuration= $\pi(d_{5/2}^{-1})\otimes\nu(p_{1/2}^{-1})$.
3041.07 20	(1 ⁻)		Dominant configuration= $\pi(d_{5/2}^{-1})\otimes\nu(p_{3/2}^{-1})$.
4416.3 4	(1 ⁻)		Dominant configuration= $\pi(g_{7/2}^{-1})\otimes\nu(f_{5/2}^{-1})$.
6502.91 14	0 ⁺ ,1 ⁺		J^π : assignment assumes s-wave capture on ^{205}Tl with $J^\pi=1/2^+$.

[†] From a least-squares fit to E_γ .

[‡] From Adopted Levels.

$\gamma(^{206}\text{Tl})$

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	α^a	Comments
126.0 ^b 10	0.18 10	1486.54	(1 ⁻)	1360.16	0 ⁻	[M1]	4.44 12	$\alpha(\text{K})=3.63$ 10; $\alpha(\text{L})=0.622$ 17; $\alpha(\text{M})=0.145$ 4 $\alpha(\text{N})=0.0367$ 10; $\alpha(\text{O})=0.00713$ 19; $\alpha(\text{P})=0.000673$ 18 $\alpha(\text{K})=0.6$ 4; $\alpha(\text{L})=0.184$ 9; $\alpha(\text{M})=0.045$ 5 $\alpha(\text{N})=0.0114$ 11; $\alpha(\text{O})=0.00209$ 9; $\alpha(\text{P})=1.4\times 10^{-4}$ 5
196.8 1	1.74 37	998.23	2 ⁻	801.37	3 ⁻	[M1+E2]	0.8 4	$\alpha(\text{K})=0.571$ 8; $\alpha(\text{L})=0.0968$ 14; $\alpha(\text{M})=0.02260$ 32 $\alpha(\text{N})=0.00571$ 8; $\alpha(\text{O})=0.001108$ 16; $\alpha(\text{P})=0.0001048$ 15
243.3 1	0.40 9	1360.16	0 ⁻	1116.85	1 ⁻	[M1]	0.697 10	$\alpha(\text{K})=0.0855$ 12; $\alpha(\text{L})=0.0561$ 8; $\alpha(\text{M})=0.01441$ 20 $\alpha(\text{N})=0.00361$ 5; $\alpha(\text{O})=0.000639$ 9; $\alpha(\text{P})=3.09\times 10^{-5}$ 4 E_γ : Others: 265.86 keV 9 (2007ChZX), 266.1 keV 6 (1967We04, 1969WeZY), 266.1 keV 5 (1969Ra10).
265.8 1	88.1 90	265.86	2 ⁻	0.0	0 ⁻	E2	0.1603 23	I_γ : Others: 93.3 31 (2007ChZX), 142 107 (1967We04, 1969WeZY), 13.0 26 (1969Ra10).
278.2 [#] 7	14 [#] 9	1079.6	(1 ⁻ ,2)	801.37	3 ⁻	M1	0.375 5	$\alpha(\text{K})=0.308$ 4; $\alpha(\text{L})=0.0519$ 7; $\alpha(\text{M})=0.01211$ 17 $\alpha(\text{N})=0.00306$ 4; $\alpha(\text{O})=0.000594$ 8; $\alpha(\text{P})=5.62\times 10^{-5}$ 8 E_γ : Others: 304.86 keV 9 (2007ChZX), 304.9 keV 4 (1967We04, 1969WeZY), 304.6 keV 5 (1969Ra10).
304.9 1	100 10	304.88	1 ⁻	0.0	0 ⁻			I_γ : Others: 100.0 53 (2007ChZX), 158 53 (1967We04, 1969WeZY), 7.8 16 (1969Ra10).
330.2 1	30.5 31	635.06	2 ⁻	304.88	1 ⁻	M1	0.302 4	$\alpha(\text{K})=0.2477$ 35; $\alpha(\text{L})=0.0417$ 6; $\alpha(\text{M})=0.00973$ 14 $\alpha(\text{N})=0.002456$ 34; $\alpha(\text{O})=0.000477$ 7; $\alpha(\text{P})=4.52\times 10^{-5}$ 6 E_γ : Others: 330.09 keV 9 (2007ChZX), 330.2 keV 4 (1967We04, 1969WeZY).
344.5 1	10.8 19	649.44	1 ⁻	304.88	1 ⁻	M1	0.269 4	I_γ : Others: 118.7 44 (2007ChZX), 82 18 (1967We04, 1969WeZY). $\alpha(\text{K})=0.2208$ 31; $\alpha(\text{L})=0.0371$ 5; $\alpha(\text{M})=0.00866$ 12 $\alpha(\text{N})=0.002188$ 31; $\alpha(\text{O})=0.000425$ 6; $\alpha(\text{P})=4.02\times 10^{-5}$ 6 E_γ : Other: 344.13 keV 25 (2007ChZX).
348.8 1	3.43 70	998.23	2 ⁻	649.44	1 ⁻	[M1+E2]	0.17 9	I_γ : Other: 11.1 4 (2007ChZX). $\alpha(\text{K})=0.13$ 8; $\alpha(\text{L})=0.028$ 8; $\alpha(\text{M})=0.0067$ 16 $\alpha(\text{N})=0.0017$ 4; $\alpha(\text{O})=3.2\times 10^{-4}$ 9; $\alpha(\text{P})=2.6\times 10^{-5}$ 13
369.2 1	29.0 42	635.06	2 ⁻	265.86	2 ⁻	M1	0.2234 31	$\alpha(\text{K})=0.1833$ 26; $\alpha(\text{L})=0.0308$ 4; $\alpha(\text{M})=0.00718$ 10 $\alpha(\text{N})=0.001812$ 25; $\alpha(\text{O})=0.000352$ 5; $\alpha(\text{P})=3.33\times 10^{-5}$ 5 E_γ : Other: 369.3 keV 4 (1967We04, 1969WeZY).
370.4 10	<3.86	1486.54	(1 ⁻)	1116.85	1 ⁻	[M1+E2]	0.14 8	I_γ : Other: 50 11 (1967We04, 1969WeZY). $\alpha(\text{K})=0.11$ 7; $\alpha(\text{L})=0.023$ 7; $\alpha(\text{M})=0.0056$ 15 $\alpha(\text{N})=0.0014$ 4; $\alpha(\text{O})=2.7\times 10^{-4}$ 8; $\alpha(\text{P})=2.2\times 10^{-5}$ 11
^x 384.6 [#] 16	5.3 [#] 36	1116.85	1 ⁻	649.44	1 ⁻	[M1+E2]	0.08 4	$\alpha(\text{K})=0.06$ 4; $\alpha(\text{L})=0.012$ 4; $\alpha(\text{M})=0.0028$ 10
467.4 1	0.85 14							$\alpha(\text{N})=7.1\times 10^{-4}$ 25; $\alpha(\text{O})=1.4\times 10^{-4}$ 5; $\alpha(\text{P})=1.2\times 10^{-5}$ 6

$\gamma(^{206}\text{Tl})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\delta^\S$	α^A	Comments
481.8 1	3.22 44	1116.85	1 ⁻	635.06	2 ⁻	[M1+E2]		0.07 4	$\alpha(\text{K})=0.056$ 34; $\alpha(\text{L})=0.011$ 4; $\alpha(\text{M})=0.0026$ 9 $\alpha(\text{N})=6.5\times 10^{-4}$ 23; $\alpha(\text{O})=1.2\times 10^{-4}$ 5; $\alpha(\text{P})=1.1\times 10^{-5}$ 6 $\alpha(\text{K})=0.054$ 33; $\alpha(\text{L})=0.011$ 4; $\alpha(\text{M})=0.0025$ 9 $\alpha(\text{N})=6.3\times 10^{-4}$ 22; $\alpha(\text{O})=1.2\times 10^{-4}$ 5; $\alpha(\text{P})=1.0\times 10^{-5}$ 5 $\alpha(\text{K})=0.0681$ 10; $\alpha(\text{L})=0.01133$ 16; $\alpha(\text{M})=0.00264$ 4 $\alpha(\text{N})=0.000666$ 9; $\alpha(\text{O})=0.0001294$ 18; $\alpha(\text{P})=1.227\times 10^{-5}$ 17 E_γ : Other: 535.5 keV 16 (1967We04, 1969WeZY). I_γ : Other: 14 7 (1967We04, 1969WeZY). Mult., δ : From $\gamma\gamma(\theta)$ in 2025Ci01: 598 γ -536 $\gamma(\theta)$ with $A_2=0.20$ 2, $A_4=-0.06$ 2; 1042 γ -536 $\gamma(\theta)$ with $A_2=0.09$ 4, $A_4=-0.03$ 4; 5504 γ -536 $\gamma(\theta)$ with $A_2=0.10$ 2, $A_4=-0.02$ 3.
^x 540.9# 16	10.7# 71								
598.2 2	0.72 13	1399.54	2 ⁻	801.37	3 ⁻	M1+E2	0.17 3	0.0609 10	$\alpha(\text{K})=0.0500$ 8; $\alpha(\text{L})=0.00832$ 13; $\alpha(\text{M})=0.001937$ 29 $\alpha(\text{N})=0.000489$ 7; $\alpha(\text{O})=9.50\times 10^{-5}$ 15; $\alpha(\text{P})=8.99\times 10^{-6}$ 14 Mult., δ : From 598 γ -536 $\gamma(\theta)$ in 2025Ci01 with $A_2=0.20$ 2, $A_4=-0.06$ 2.
649.5 1	45.7 88	649.44	1 ⁻	0.0	0 ⁻	M1		0.0501 7	$\alpha(\text{K})=0.0412$ 6; $\alpha(\text{L})=0.00681$ 10; $\alpha(\text{M})=0.001584$ 22 $\alpha(\text{N})=0.000400$ 6; $\alpha(\text{O})=7.77\times 10^{-5}$ 11; $\alpha(\text{P})=7.38\times 10^{-6}$ 10 E_γ : Others: 649.30 keV 15 (2007ChZX), 649.4 keV 2 (1967We04, 1969WeZY). I_γ : Others: 47.1 44 (2007ChZX), 66 9 (1967We04, 1969WeZY). Mult.: From $\gamma\gamma(\theta)$ in 2025Ci01: 682 γ -650 $\gamma(\theta)$ with $A_2=-0.21$ 2, $A_4=0.01$ 3; 711 γ -650 $\gamma(\theta)$ with $A_2=0.49$ 1, $A_4=-0.01$ 1; 837 γ -650 $\gamma(\theta)$ with $A_2=-0.30$ 1, $A_4=0.00$ 1; 1194 γ -650 $\gamma(\theta)$ with $A_2=0.06$ 1, $A_4=-0.01$ 2; 1592 γ -650 $\gamma(\theta)$ with $A_2=-0.19$ 5, $A_4=-0.07$ 7; 5853 γ -650 $\gamma(\theta)$ with $A_2=0.48$ 1, $A_4=-0.01$ 1.
682.4 1	0.53 8	1331.85	1 ⁻	649.44	1 ⁻	M1+E2	0.03 2	0.0440 6	$\alpha(\text{K})=0.0362$ 5; $\alpha(\text{L})=0.00598$ 8; $\alpha(\text{M})=0.001390$ 20 $\alpha(\text{N})=0.000351$ 5; $\alpha(\text{O})=6.82\times 10^{-5}$ 10; $\alpha(\text{P})=6.48\times 10^{-6}$ 9 Mult., δ : From 682 γ -650 $\gamma(\theta)$ in 2025Ci01 with $A_2=-0.21$ 2, $A_4=0.01$ 3.
696.8 1	0.27 4	1331.85	1 ⁻	635.06	2 ⁻	[M1+E2]		0.027 14	$\alpha(\text{K})=0.022$ 12; $\alpha(\text{L})=0.0040$ 17; $\alpha(\text{M})=9$ $\alpha(\text{N})=2.4\times 10^{-4}$ 9; $\alpha(\text{O})=4.6\times 10^{-5}$ 19; $\alpha(\text{P})=4.1\times 10^{-6}$ 20 $\alpha(\text{K})=0.0326$ 5; $\alpha(\text{L})=0.00538$ 8; $\alpha(\text{M})=0.001250$ 18 $\alpha(\text{N})=0.000316$ 4; $\alpha(\text{O})=6.14\times 10^{-5}$ 9; $\alpha(\text{P})=5.83\times 10^{-6}$ 8 E_γ : Other: 711.0 keV 4 (1967We04, 1969WeZY). I_γ : Other: 12 7 (1967We04, 1969WeZY). Mult.: From $\gamma\gamma(\theta)$ in 2025Ci01: 711 γ -650 $\gamma(\theta)$ with $A_2=0.49$ 1, $A_4=-0.01$ 1; 5143 γ -711 $\gamma(\theta)$ with $A_2=-0.01$ 1, $A_4=-0.01$ 1.
710.7 1	13.1 19	1360.16	0 ⁻	649.44	1 ⁻	M1		0.0396 6	$\alpha(\text{K})=0.0295$ 5; $\alpha(\text{L})=0.00488$ 8; $\alpha(\text{M})=0.001135$ 17 $\alpha(\text{N})=0.000286$ 4; $\alpha(\text{O})=5.57\times 10^{-5}$ 9; $\alpha(\text{P})=5.28\times 10^{-6}$ 8
732.4 1	50.9 90	998.23	2 ⁻	265.86	2 ⁻	M1+E2	0.18 3	0.0359 6	

$\gamma(^{206}\text{Tl})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\delta^\ddagger$	α^a	Comments
E_γ : Other: 732.3 keV 2 (1967We04 , 1969WeZY). I_γ : Other: 59 18 (1967We04 , 1969WeZY). Mult., δ : From 5504 γ -732 $\gamma(\theta)$ in 2025Ci01 with $A_2=-0.20$ 1, $A_4=-0.01$ 1.									
$^{x767.7\#}_{812.0} 10$	$^{10.7\#}_{1.12} 53$	1116.85	1 ⁻	304.88	1 ⁻	[M1+E2]		0.019 9	$\alpha(K)=0.015$ 8; $\alpha(L)=0.0027$ 11; $\alpha(M)=6.3\times 10^{-4}$ 25 $\alpha(N)=1.6\times 10^{-4}$ 6; $\alpha(O)=3.1\times 10^{-5}$ 13; $\alpha(P)=2.8\times 10^{-6}$ 13
837.1 1	5.06 97	1486.54	(1 ⁻)	649.44	1 ⁻	M1+E2	-0.03 1	0.0260 4	$\alpha(K)=0.02139$ 30; $\alpha(L)=0.00351$ 5; $\alpha(M)=0.000815$ 11 $\alpha(N)=0.0002057$ 29; $\alpha(O)=4.00\times 10^{-5}$ 6; $\alpha(P)=3.80\times 10^{-6}$ 5 Mult., δ : From 837 γ -650 $\gamma(\theta)$ in 2025Ci01 with $A_2=-0.30$ 1, $A_4=0.00$ 1.
$^{x840.4\#}_{841.8} 4$	$^{45\#}_{0.05} 7$	2241.26	(1 ⁻)	1399.54	2 ⁻	[M1+E2]		0.017 8	$\alpha(K)=0.014$ 7; $\alpha(L)=0.0025$ 10; $\alpha(M)=5.8\times 10^{-4}$ 23 $\alpha(N)=1.5\times 10^{-4}$ 6; $\alpha(O)=2.8\times 10^{-5}$ 11; $\alpha(P)=2.5\times 10^{-6}$ 12
850.4 3	0.29 4	1116.85	1 ⁻	265.86	2 ⁻	[M1+E2]		0.017 8	$\alpha(K)=0.014$ 7; $\alpha(L)=0.0024$ 10; $\alpha(M)=5.6\times 10^{-4}$ 22 $\alpha(N)=1.4\times 10^{-4}$ 6; $\alpha(O)=2.7\times 10^{-5}$ 11; $\alpha(P)=2.5\times 10^{-6}$ 12
851.5 1	34.7 66	1486.54	(1 ⁻)	635.06	2 ⁻	[M1+E2]		0.017 8	$\alpha(K)=0.014$ 7; $\alpha(L)=0.0024$ 10; $\alpha(M)=5.6\times 10^{-4}$ 22 $\alpha(N)=1.4\times 10^{-4}$ 6; $\alpha(O)=2.7\times 10^{-5}$ 11; $\alpha(P)=2.5\times 10^{-6}$ 12
881.1 ^b 5	0.05 1	2241.26	(1 ⁻)	1360.16	0 ⁻	[M1]		0.02277 32	E_γ : Other: 851.2 keV 4 (1967We04 , 1969WeZY). I_γ : Other: 46 7 (1967We04 , 1969WeZY). $\alpha(K)=0.01877$ 26; $\alpha(L)=0.00307$ 4; $\alpha(M)=0.000714$ 10 $\alpha(N)=0.0001801$ 25; $\alpha(O)=3.50\times 10^{-5}$ 5; $\alpha(P)=3.33\times 10^{-6}$ 5
909.4 3	0.09 2	2241.26	(1 ⁻)	1331.85	1 ⁻	[M1+E2]		0.014 7	$\alpha(K)=0.012$ 6; $\alpha(L)=0.0020$ 8; $\alpha(M)=4.7\times 10^{-4}$ 19 $\alpha(N)=1.2\times 10^{-4}$ 5; $\alpha(O)=2.3\times 10^{-5}$ 9; $\alpha(P)=2.1\times 10^{-6}$ 10
960.1 2	0.18 3	2803.77	(2 ⁻)	1843.43	2 ⁻	[M1+E2]		0.013 6	$\alpha(K)=0.010$ 5; $\alpha(L)=0.0018$ 7; $\alpha(M)=4.1\times 10^{-4}$ 16 $\alpha(N)=1.0\times 10^{-4}$ 4; $\alpha(O)=2.0\times 10^{-5}$ 8; $\alpha(P)=1.8\times 10^{-6}$ 8
$^{x961.5\#}_{998.2} 10$	$^{8.9\#}_{0.99} 53$	998.23	2 ⁻	0.0	0 ⁻	E2		0.00636 9	$\alpha(K)=0.00509$ 7; $\alpha(L)=0.000972$ 14; $\alpha(M)=0.0002303$ 32 $\alpha(N)=5.80\times 10^{-5}$ 8; $\alpha(O)=1.103\times 10^{-5}$ 15; $\alpha(P)=9.36\times 10^{-7}$ 13 Mult.: From 5504 γ -998 $\gamma(\theta)$ in 2025Ci01 with $A_2=-0.19$ 3, $A_4=0.00$ 3.
998.4 1	0.30 6	1647.86	(2 ⁻)	649.44	1 ⁻	[M1+E2]		0.011 5	$\alpha(K)=0.009$ 4; $\alpha(L)=0.0016$ 6; $\alpha(M)=3.7\times 10^{-4}$ 14 $\alpha(N)=9$; $\alpha(O)=1.8\times 10^{-5}$ 7; $\alpha(P)=1.7\times 10^{-6}$ 7
1027.0 1	0.96 14	1331.85	1 ⁻	304.88	1 ⁻	M1(+E2)	<0.07	0.01536 22	$\alpha(K)=0.01267$ 18; $\alpha(L)=0.002063$ 29; $\alpha(M)=0.000479$ 7 $\alpha(N)=0.0001209$ 17; $\alpha(O)=2.353\times 10^{-5}$ 33; $\alpha(P)=2.241\times 10^{-6}$ 32 Mult., δ : From 1049 γ -1027 $\gamma(\theta)$ in 2025Ci01 with $A_2=-0.30$ 6, $A_4=0.02$ 9.
1042.1 1	0.52 10	1843.43	2 ⁻	801.37	3 ⁻	M1(+E2)	-0.03 5	0.01481 21	$\alpha(K)=0.01222$ 18; $\alpha(L)=0.001989$ 28; $\alpha(M)=0.000462$ 7

$\gamma(^{206}\text{Tl})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\delta^\S$	α^A	Comments
									$\alpha(\text{N})=0.0001166$ 17; $\alpha(\text{O})=2.268\times 10^{-5}$ 33; $\alpha(\text{P})=2.160\times 10^{-6}$ 31 Mult., δ : From 1042γ - $536\gamma(\theta)$ in 2025Ci01 with $A_2=0.09$ 4, $A_4=-0.03$ 4.
1048.8 1	0.65 11	2380.64	(0 ⁻)	1331.85	1 ⁻	M1		0.01458 20	$\alpha(\text{K})=0.01203$ 17; $\alpha(\text{L})=0.001957$ 27; $\alpha(\text{M})=0.000455$ 6 $\alpha(\text{N})=0.0001147$ 16; $\alpha(\text{O})=2.232\times 10^{-5}$ 31; $\alpha(\text{P})=2.126\times 10^{-6}$ 30 Mult.: From $\gamma\gamma(\theta)$ in 2025Ci01 : 1049γ - $1332\gamma(\theta)$ with $A_2=0.52$ 4, $A_4=0.00$ 5; 1049γ - $1027\gamma(\theta)$ with $A_2=-0.30$ 6, $A_4=0.02$ 9; 4123γ - $1049\gamma(\theta)$ with $A_2=0.04$ 6, $A_4=-0.01$ 11.
1055.3 1	23.6 34	1360.16	0 ⁻	304.88	1 ⁻	M1		0.01435 20	$\alpha(\text{K})=0.01184$ 17; $\alpha(\text{L})=0.001926$ 27; $\alpha(\text{M})=0.000447$ 6 $\alpha(\text{N})=0.0001129$ 16; $\alpha(\text{O})=2.197\times 10^{-5}$ 31; $\alpha(\text{P})=2.093\times 10^{-6}$ 29 E_γ : Other: 1055.2 keV 4 (1967We04 , 1969WeZY). I_γ : Other: 20 5 (1967We04 , 1969WeZY). Mult.: From 5143γ - $1055\gamma(\theta)$ in 2025Ci01 with $A_2=-0.01$ 1, $A_4=-0.01$ 1.
1094.8 3	0.66 11	1399.54	2 ⁻	304.88	1 ⁻	[M1+E2]		0.009 4	$\alpha(\text{K})=0.0075$ 33; $\alpha(\text{L})=0.0013$ 5; $\alpha(\text{M})=3.0\times 10^{-4}$ 11 $\alpha(\text{N})=7.5\times 10^{-5}$ 28; $\alpha(\text{O})=1.4\times 10^{-5}$ 6; $\alpha(\text{P})=1.3\times 10^{-6}$ 6
1116.9 1	4.21 43	1116.85	1 ⁻	0.0	0 ⁻	M1		0.01242 17	$\alpha(\text{K})=0.01025$ 14; $\alpha(\text{L})=0.001665$ 23; $\alpha(\text{M})=0.000387$ 5 $\alpha(\text{N})=9.75\times 10^{-5}$ 14; $\alpha(\text{O})=1.898\times 10^{-5}$ 27; $\alpha(\text{P})=1.809\times 10^{-6}$ 25; $\alpha(\text{IPF})=5.53\times 10^{-7}$ 8 Mult.: From 1264γ - $1117\gamma(\theta)$ in 2025Ci01 with $A_2=0.52$ 4, $A_4=0.01$ 7.
1155.9 2	0.04 1	2803.77	(2 ⁻)	1647.86	(2 ⁻)	[M1+E2]		0.0081 33	$\alpha(\text{K})=0.0066$ 28; $\alpha(\text{L})=0.0011$ 4; $\alpha(\text{M})=2.6\times 10^{-4}$ 9 $\alpha(\text{N})=6.5\times 10^{-5}$ 24; $\alpha(\text{O})=1.3\times 10^{-5}$ 5; $\alpha(\text{P})=1.2\times 10^{-6}$ 5; $\alpha(\text{IPF})=1.7\times 10^{-6}$ 5
1181.6 1	21.5 41	1486.54	(1 ⁻)	304.88	1 ⁻	[M1+E2]		0.0077 31	$\alpha(\text{K})=0.0063$ 26; $\alpha(\text{L})=0.0011$ 4; $\alpha(\text{M})=2.5\times 10^{-4}$ 9 $\alpha(\text{N})=6.2\times 10^{-5}$ 22; $\alpha(\text{O})=1.2\times 10^{-5}$ 4; $\alpha(\text{P})=1.1\times 10^{-6}$ 5; $\alpha(\text{IPF})=3.5\times 10^{-6}$ 10 E_γ : Other: 1181.6 keV 4 (1967We04 , 1969WeZY). I_γ : Other: 23.1 53 (1967We04 , 1969WeZY).
1194.0 1	3.12 57	1843.43	2 ⁻	649.44	1 ⁻	M1(+E2)	-0.01 2	0.01048 15	$\alpha(\text{K})=0.00865$ 12; $\alpha(\text{L})=0.001402$ 20; $\alpha(\text{M})=0.000326$ 5 $\alpha(\text{N})=8.21\times 10^{-5}$ 12; $\alpha(\text{O})=1.599\times 10^{-5}$ 22; $\alpha(\text{P})=1.524\times 10^{-6}$ 21; $\alpha(\text{IPF})=6.02\times 10^{-6}$ 9 Mult., δ : From $\gamma\gamma(\theta)$ in 2025Ci01 : 4659γ - $1194\gamma(\theta)$ with $A_2=0.20$ 2, $A_4=-0.04$ 2; 1194γ - $650\gamma(\theta)$ with $A_2=0.06$ 1, $A_4=-0.01$ 2.
1208.3 1	0.08 2	1843.43	2 ⁻	635.06	2 ⁻	M1+E2	-0.19 7	0.00997 22	$\alpha(\text{K})=0.00822$ 18; $\alpha(\text{L})=0.001335$ 28; $\alpha(\text{M})=0.000310$ 6 $\alpha(\text{N})=7.82\times 10^{-5}$ 16; $\alpha(\text{O})=1.522\times 10^{-5}$ 32; $\alpha(\text{P})=1.449\times 10^{-6}$ 31; $\alpha(\text{IPF})=7.97\times 10^{-6}$ 15 Mult., δ : From 4659γ - $1208\gamma(\theta)$ in 2025Ci01 with $A_2=-0.07$ 4, $A_4=-0.02$ 4.

$\gamma(^{206}\text{Tl})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	α^a	Comments
1220.7 1	1.17 21	1486.54	(1 ⁻)	265.86	2 ⁻	[M1+E2]	0.0071 28	$\alpha(\text{K})=0.0058$ 23; $\alpha(\text{L})=9.7\times 10^{-4}$ 35; $\alpha(\text{M})=2.3\times 10^{-4}$ 8 $\alpha(\text{N})=5.7\times 10^{-5}$ 20; $\alpha(\text{O})=1.1\times 10^{-5}$ 4; $\alpha(\text{P})=1.0\times 10^{-6}$ 4; $\alpha(\text{IPF})=8.0\times 10^{-6}$ 21 $\alpha(\text{K})=0.00749$ 10; $\alpha(\text{L})=0.001212$ 17; $\alpha(\text{M})=0.000281$ 4 $\alpha(\text{N})=7.10\times 10^{-5}$ 10; $\alpha(\text{O})=1.382\times 10^{-5}$ 19; $\alpha(\text{P})=1.318\times 10^{-6}$ 18; $\alpha(\text{IPF})=1.852\times 10^{-5}$ 26 Mult.: From $\gamma\gamma(\theta)$ in 2025Ci01 : 1264 γ -1117 $\gamma(\theta)$ with $A_2=0.52$ 4, $A_4=0.01$ 7; 4123 γ -1264 $\gamma(\theta)$ with $A_2=0.00$ 3, $A_4=-0.04$ 4.
1263.8 1	0.76 12	2380.64	(0 ⁻)	1116.85	1 ⁻	M1	0.00909 13	$\alpha(\text{K})=0.0049$ 18; $\alpha(\text{L})=8.1\times 10^{-4}$ 28; $\alpha(\text{M})=1.9\times 10^{-4}$ 6 $\alpha(\text{N})=4.8\times 10^{-5}$ 16; $\alpha(\text{O})=9.2\times 10^{-6}$ 32; $\alpha(\text{P})=8.6\times 10^{-7}$ 33; $\alpha(\text{IPF})=2.5\times 10^{-5}$ 7 $\alpha(\text{K})=0.00656$ 9; $\alpha(\text{L})=0.001060$ 15; $\alpha(\text{M})=0.0002459$ 34 $\alpha(\text{N})=6.21\times 10^{-5}$ 9; $\alpha(\text{O})=1.208\times 10^{-5}$ 17; $\alpha(\text{P})=1.152\times 10^{-6}$ 16; $\alpha(\text{IPF})=3.62\times 10^{-5}$ 5 Mult.: From 1049 γ -1332 $\gamma(\theta)$ in 2025Ci01 with $A_2=0.52$ 4, $A_4=0.00$ 5.
1317.3 2	0.18 3	2803.77	(2 ⁻)	1486.54	(1 ⁻)	[M1+E2]	0.0060 22	$\alpha(\text{K})=0.0047$ 17; $\alpha(\text{L})=7.7\times 10^{-4}$ 26; $\alpha(\text{M})=1.8\times 10^{-4}$ 6 $\alpha(\text{N})=4.5\times 10^{-5}$ 15; $\alpha(\text{O})=8.8\times 10^{-6}$ 30; $\alpha(\text{P})=8.2\times 10^{-7}$ 31; $\alpha(\text{IPF})=3.2\times 10^{-5}$ 8 $\alpha(\text{K})=0.0044$ 16; $\alpha(\text{L})=7.3\times 10^{-4}$ 24; $\alpha(\text{M})=1.7\times 10^{-4}$ 6 $\alpha(\text{N})=4.3\times 10^{-5}$ 14; $\alpha(\text{O})=8.3\times 10^{-6}$ 28; $\alpha(\text{P})=7.7\times 10^{-7}$ 28; $\alpha(\text{IPF})=4.2\times 10^{-5}$ 11 $\alpha(\text{K})=0.00279$ 4; $\alpha(\text{L})=0.000479$ 7; $\alpha(\text{M})=0.0001122$ 16 $\alpha(\text{N})=2.82\times 10^{-5}$ 4; $\alpha(\text{O})=5.43\times 10^{-6}$ 8; $\alpha(\text{P})=4.86\times 10^{-7}$ 7; $\alpha(\text{IPF})=3.21\times 10^{-5}$ 5 $\alpha(\text{K})=0.0043$ 15; $\alpha(\text{L})=7.1\times 10^{-4}$ 24; $\alpha(\text{M})=1.6\times 10^{-4}$ 5 $\alpha(\text{N})=4.2\times 10^{-5}$ 14; $\alpha(\text{O})=8.0\times 10^{-6}$ 27; $\alpha(\text{P})=7.5\times 10^{-7}$ 27; $\alpha(\text{IPF})=4.7\times 10^{-5}$ 12 $\alpha(\text{K})=0.0042$ 15; $\alpha(\text{L})=6.9\times 10^{-4}$ 23; $\alpha(\text{M})=1.6\times 10^{-4}$ 5 $\alpha(\text{N})=4.1\times 10^{-5}$ 13; $\alpha(\text{O})=7.9\times 10^{-6}$ 26; $\alpha(\text{P})=7.4\times 10^{-7}$ 27; $\alpha(\text{IPF})=5.0\times 10^{-5}$ 13 $\alpha(\text{K})=0.0037$ 12; $\alpha(\text{L})=6.0\times 10^{-4}$ 19; $\alpha(\text{M})=1.4\times 10^{-4}$ 4 $\alpha(\text{N})=3.5\times 10^{-5}$ 11; $\alpha(\text{O})=6.8\times 10^{-6}$ 22; $\alpha(\text{P})=6.4\times 10^{-7}$ 22; $\alpha(\text{IPF})=8.4\times 10^{-5}$ 21 $\alpha(\text{K})=0.0034$ 11; $\alpha(\text{L})=5.6\times 10^{-4}$ 17; $\alpha(\text{M})=1.3\times 10^{-4}$ 4 $\alpha(\text{N})=3.3\times 10^{-5}$ 10; $\alpha(\text{O})=6.4\times 10^{-6}$ 20; $\alpha(\text{P})=6.0\times 10^{-7}$ 20; $\alpha(\text{IPF})=0.000102$ 25 $\alpha(\text{K})=0.0034$ 11; $\alpha(\text{L})=5.6\times 10^{-4}$ 17; $\alpha(\text{M})=1.3\times 10^{-4}$ 4 $\alpha(\text{N})=3.3\times 10^{-5}$ 10; $\alpha(\text{O})=6.3\times 10^{-6}$ 20; $\alpha(\text{P})=5.9\times 10^{-7}$ 20; $\alpha(\text{IPF})=0.000103$ 26 $\alpha(\text{K})=0.0033$ 11; $\alpha(\text{L})=5.5\times 10^{-4}$ 17; $\alpha(\text{M})=1.3\times 10^{-4}$ 4 $\alpha(\text{N})=3.2\times 10^{-5}$ 10; $\alpha(\text{O})=6.2\times 10^{-6}$ 19; $\alpha(\text{P})=5.8\times 10^{-7}$ 20; $\alpha(\text{IPF})=0.000109$ 27
1331.8 1	1.79 27	1331.85	1 ⁻	0.0	0 ⁻	M1	0.00797 11	
1343.0 1	0.21 4	1647.86	(2 ⁻)	304.88	1 ⁻	[M1+E2]	0.0057 21	
1378.0 2	0.26 5	2494.72	(1 ⁻)	1116.85	1 ⁻	[M1+E2]	0.0054 19	
1382.3 ^b 3	0.05 1	2380.64	(0 ⁻)	998.23	2 ⁻	[E2]	0.00345 5	
1393.6 8	0.09 2	3041.07	(1 ⁻)	1647.86	(2 ⁻)	[M1+E2]	0.0053 19	
1404.3 2	0.22 4	2803.77	(2 ⁻)	1399.54	2 ⁻	[M1+E2]	0.0052 18	
1496.1 3	0.08 2	2494.72	(1 ⁻)	998.23	2 ⁻	[M1+E2]	0.0045 15	
1538.6 2	0.29 6	1843.43	2 ⁻	304.88	1 ⁻	[M1+E2]	0.0043 14	
1540.3 3	0.19 3	2189.7	(2 ⁻)	649.44	1 ⁻	[M1+E2]	0.0042 14	
1554.6 10	0.04 1	3041.07	(1 ⁻)	1486.54	(1 ⁻)	[M1+E2]	0.0042 13	

$\gamma(^{206}\text{Tl})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\delta^\ddagger$	α^a	Comments
1577.5 1	2.93 53	1843.43	2 ⁻	265.86	2 ⁻	M1+E2	-0.06 3	0.00532 8	$\alpha(\text{K})=0.00427$ 6; $\alpha(\text{L})=0.000687$ 10; $\alpha(\text{M})=0.0001594$ 23 $\alpha(\text{N})=4.02\times 10^{-5}$ 6; $\alpha(\text{O})=7.83\times 10^{-6}$ 11; $\alpha(\text{P})=7.48\times 10^{-7}$ 11; $\alpha(\text{IPF})=0.0001488$ 21 Mult., δ : From 4659 γ -1578 $\gamma(\theta)$ in 2025Ci01 with $A_2=-0.15$ 2, $A_4=0.02$ 2.
1591.8 2	0.34 5	2241.26	(1 ⁻)	649.44	1 ⁻	M1+E2	0.04 3	0.00521 7	$\alpha(\text{K})=0.00418$ 6; $\alpha(\text{L})=0.000672$ 9; $\alpha(\text{M})=0.0001559$ 22 $\alpha(\text{N})=3.93\times 10^{-5}$ 6; $\alpha(\text{O})=7.66\times 10^{-6}$ 11; $\alpha(\text{P})=7.31\times 10^{-7}$ 10; $\alpha(\text{IPF})=0.0001571$ 22 Mult., δ : From 1592 γ -650 $\gamma(\theta)$ in 2025Ci01 with $A_2=-0.19$ 5, $A_4=-0.07$ 7.
1642.3 ^b 8	0.02 1	3002.8	(2 ⁻)	1360.16	0 ⁻	[E2]		0.00260 4	$\alpha(\text{K})=0.002045$ 29; $\alpha(\text{L})=0.000338$ 5; $\alpha(\text{M})=7.87\times 10^{-5}$ 11 $\alpha(\text{N})=1.982\times 10^{-5}$ 28; $\alpha(\text{O})=3.82\times 10^{-6}$ 5; $\alpha(\text{P})=3.49\times 10^{-7}$ 5; $\alpha(\text{IPF})=0.0001137$ 16
1680.9 5	0.10 3	3041.07	(1 ⁻)	1360.16	0 ⁻	[M1]		0.00462 6	$\alpha(\text{K})=0.00365$ 5; $\alpha(\text{L})=0.000585$ 8; $\alpha(\text{M})=0.0001358$ 19 $\alpha(\text{N})=3.43\times 10^{-5}$ 5; $\alpha(\text{O})=6.67\times 10^{-6}$ 9; $\alpha(\text{P})=6.37\times 10^{-7}$ 9; $\alpha(\text{IPF})=0.0002104$ 30
1687.0 5	0.14 3	2803.77	(2 ⁻)	1116.85	1 ⁻	[M1+E2]		0.0035 10	$\alpha(\text{K})=0.0028$ 8; $\alpha(\text{L})=4.5\times 10^{-4}$ 13; $\alpha(\text{M})=1.05\times 10^{-4}$ 30 $\alpha(\text{N})=2.6\times 10^{-5}$ 8; $\alpha(\text{O})=5.1\times 10^{-6}$ 15; $\alpha(\text{P})=4.8\times 10^{-7}$ 15; $\alpha(\text{IPF})=0.00017$ 4
1709.2 5	0.13 3	3041.07	(1 ⁻)	1331.85	1 ⁻	[M1+E2]		0.0035 10	$\alpha(\text{K})=0.0027$ 8; $\alpha(\text{L})=4.4\times 10^{-4}$ 12; $\alpha(\text{M})=1.01\times 10^{-4}$ 29 $\alpha(\text{N})=2.6\times 10^{-5}$ 7; $\alpha(\text{O})=5.0\times 10^{-6}$ 14; $\alpha(\text{P})=4.7\times 10^{-7}$ 14; $\alpha(\text{IPF})=0.00018$ 4
1731.2 3	0.08 2	2380.64	(0 ⁻)	649.44	1 ⁻	[M1]		0.00433 6	$\alpha(\text{K})=0.00338$ 5; $\alpha(\text{L})=0.000543$ 8; $\alpha(\text{M})=0.0001259$ 18 $\alpha(\text{N})=3.18\times 10^{-5}$ 4; $\alpha(\text{O})=6.19\times 10^{-6}$ 9; $\alpha(\text{P})=5.91\times 10^{-7}$ 8; $\alpha(\text{IPF})=0.0002421$ 34
1805.5 2	0.12 2	2803.77	(2 ⁻)	998.23	2 ⁻	[M1+E2]		0.0031 9	$\alpha(\text{K})=0.0024$ 7; $\alpha(\text{L})=3.8\times 10^{-4}$ 10; $\alpha(\text{M})=8.9\times 10^{-5}$ 24 $\alpha(\text{N})=2.2\times 10^{-5}$ 6; $\alpha(\text{O})=4.4\times 10^{-6}$ 12; $\alpha(\text{P})=4.1\times 10^{-7}$ 12; $\alpha(\text{IPF})=0.00024$ 6
1843.4 1	0.57 11	1843.43	2 ⁻	0.0	0 ⁻	(E2)		2.21×10^{-3} 3	$\alpha(\text{K})=0.001660$ 23; $\alpha(\text{L})=0.000269$ 4; $\alpha(\text{M})=6.24\times 10^{-5}$ 9 $\alpha(\text{N})=1.572\times 10^{-5}$ 22; $\alpha(\text{O})=3.04\times 10^{-6}$ 4; $\alpha(\text{P})=2.80\times 10^{-7}$ 4; $\alpha(\text{IPF})=0.0001956$ 27 Mult.: From 4659 γ -1843 $\gamma(\theta)$ in 2025Ci01 with $A_2=-0.22$ 4, $A_4=0.02$ 6.
1860.3 8	0.06 1	2494.72	(1 ⁻)	635.06	2 ⁻	[M1+E2]		0.0030 8	$\alpha(\text{K})=0.0022$ 6; $\alpha(\text{L})=3.6\times 10^{-4}$ 9; $\alpha(\text{M})=8.3\times 10^{-5}$ 22 $\alpha(\text{N})=2.1\times 10^{-5}$ 6; $\alpha(\text{O})=4.1\times 10^{-6}$ 11; $\alpha(\text{P})=3.8\times 10^{-7}$ 11; $\alpha(\text{IPF})=0.00027$ 6
1924.2 10	0.09 2	3041.07	(1 ⁻)	1116.85	1 ⁻	[M1+E2]		0.0028 7	$\alpha(\text{K})=0.0021$ 5; $\alpha(\text{L})=3.3\times 10^{-4}$ 8; $\alpha(\text{M})=7.7\times 10^{-5}$ 19 $\alpha(\text{N})=1.9\times 10^{-5}$ 5; $\alpha(\text{O})=3.8\times 10^{-6}$ 10; $\alpha(\text{P})=3.5\times 10^{-7}$ 10; $\alpha(\text{IPF})=0.00030$ 7
2002.4 2	0.12 2	2803.77	(2 ⁻)	801.37	3 ⁻	[M1+E2]		0.0026 6	$\alpha(\text{K})=0.0019$ 5; $\alpha(\text{L})=0.00030$ 7; $\alpha(\text{M})=7.0\times 10^{-5}$ 17

²⁰⁵Tl(n,γ) E=th **2025Ci01** (continued)γ(²⁰⁶Tl) (continued)

<u>E_γ[†]</u>	<u>I_γ[†]</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[‡]</u>	<u>α^a</u>	<u>Comments</u>
2043.0 5	0.12 3	3041.07	(1 ⁻)	998.23	2 ⁻	[M1+E2]	0.0026 6	α(N)=1.8×10 ⁻⁵ 4; α(O)=3.4×10 ⁻⁶ 8; α(P)=3.2×10 ⁻⁷ 8; α(IPF)=0.00035 8
2075.7 3	0.33 5	2380.64	(0 ⁻)	304.88	1 ⁻	M1	0.00307 4	α(K)=0.0018 4; α(L)=0.00029 7; α(M)=6.7×10 ⁻⁵ 16 α(N)=1.7×10 ⁻⁵ 4; α(O)=3.3×10 ⁻⁶ 8; α(P)=3.1×10 ⁻⁷ 8; α(IPF)=0.00037 9
2086.7 8	11.5 45	6502.91	0 ⁺ ,1 ⁺	4416.3	(1 ⁻)	[E1]	1.28×10 ⁻³ 2	α(K)=0.002142 30; α(L)=0.000342 5; α(M)=7.93×10 ⁻⁵ 11 α(N)=2.001×10 ⁻⁵ 28; α(O)=3.90×10 ⁻⁶ 5; α(P)=3.73×10 ⁻⁷ 5; α(IPF)=0.000478 7 Mult.: From 4123γ-2076γ(θ) in 2025Ci01 with A ₂ =0.02 5, A ₄ =-0.08 8.
2154.4 5	0.20 3	2803.77	(2 ⁻)	649.44	1 ⁻	[M1+E2]	0.0024 5	α(K)=0.000575 8; α(L)=8.41×10 ⁻⁵ 12; α(M)=1.925×10 ⁻⁵ 27 α(N)=4.84×10 ⁻⁶ 7; α(O)=9.41×10 ⁻⁷ 13; α(P)=8.87×10 ⁻⁸ 12; α(IPF)=0.000593 8
2168.8 2	0.31 5	2803.77	(2 ⁻)	635.06	2 ⁻	[M1+E2]	0.0023 5	α(K)=0.00160 35; α(L)=0.00025 6; α(M)=5.9×10 ⁻⁵ 13 α(N)=1.49×10 ⁻⁵ 33; α(O)=2.9×10 ⁻⁶ 7; α(P)=2.7×10 ⁻⁷ 7; α(IPF)=0.00044 10
2353.3 5	0.20 3	3002.8	(2 ⁻)	649.44	1 ⁻	[M1+E2]	0.0021 4	α(K)=0.00158 34; α(L)=0.00025 6; α(M)=5.8×10 ⁻⁵ 13 α(N)=1.47×10 ⁻⁵ 32; α(O)=2.8×10 ⁻⁶ 6; α(P)=2.7×10 ⁻⁷ 6; α(IPF)=0.00044 10
^x 2378 [#] 1	12.5 [#] 36							α(K)=0.00132 25; α(L)=0.00021 4; α(M)=4.8×10 ⁻⁵ 9 α(N)=1.21×10 ⁻⁵ 24; α(O)=2.4×10 ⁻⁶ 5; α(P)=2.2×10 ⁻⁷ 5; α(IPF)=0.00055 12
2391.7 8	0.06 1	3041.07	(1 ⁻)	649.44	1 ⁻	[M1+E2]	0.0021 4	α(K)=0.00127 23; α(L)=0.00020 4; α(M)=4.6×10 ⁻⁵ 9 α(N)=1.17×10 ⁻⁵ 23; α(O)=2.3×10 ⁻⁶ 4; α(P)=2.2×10 ⁻⁷ 4; α(IPF)=0.00057 13
2406.0 5	0.12 3	3041.07	(1 ⁻)	635.06	2 ⁻	[M1+E2]	0.0021 4	α(K)=0.00125 23; α(L)=0.00020 4; α(M)=4.6×10 ⁻⁵ 9 α(N)=1.15×10 ⁻⁵ 22; α(O)=2.2×10 ⁻⁶ 4; α(P)=2.1×10 ⁻⁷ 4; α(IPF)=0.00058 13
2775.3 10	0.05 1	3041.07	(1 ⁻)	265.86	2 ⁻	[M1+E2]	0.00189 31	α(K)=0.00091 12; α(L)=0.000143 21; α(M)=3.3×10 ⁻⁵ 5 α(N)=8.3×10 ⁻⁶ 12; α(O)=1.62×10 ⁻⁶ 24; α(P)=1.55×10 ⁻⁷ 24; α(IPF)=0.00079 16
3041.1 8	0.07 2	3041.07	(1 ⁻)	0.0	0 ⁻	[M1]	2.10×10 ⁻³ 3	α(K)=0.000821 12; α(L)=0.0001299 18; α(M)=3.01×10 ⁻⁵ 4 α(N)=7.59×10 ⁻⁶ 11; α(O)=1.479×10 ⁻⁶ 21; α(P)=1.416×10 ⁻⁷ 20; α(IPF)=0.001111 16
^x 3206 ^{#b} 1	1.8 [#] 18							
^x 3221 [#] 1	7.1 [#] 18							
^x 3371 ^{#b} 3	1.8 [#] 18							

²⁰⁵Tl(n,γ) E=th **2025Ci01** (continued)

$\gamma(^{206}\text{Tl})$ (continued)								
E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	α^a	Comments
^x 3461 [#] 5 3462.2 5	1.8 [#] 18 1.01 31	6502.91	0 ⁺ ,1 ⁺	3041.07	(1 ⁻)	[E1]	1.69×10 ⁻³ 2	$\alpha(\text{K})=0.000259$ 4; $\alpha(\text{L})=3.74\times 10^{-5}$ 5; $\alpha(\text{M})=8.54\times 10^{-6}$ 12 $\alpha(\text{N})=2.150\times 10^{-6}$ 30; $\alpha(\text{O})=4.19\times 10^{-7}$ 6; $\alpha(\text{P})=3.98\times 10^{-8}$ 6; $\alpha(\text{IPF})=0.001379$ 19
3499.8 8	0.23 4	6502.91	0 ⁺ ,1 ⁺	3002.8	(2 ⁻)	[E1,M2]	1.71×10 ⁻³ 3	$\alpha(\text{K})=0.000267$ 12; $\alpha(\text{L})=3.87\times 10^{-5}$ 20; $\alpha(\text{M})=8.8\times 10^{-6}$ 5 $\alpha(\text{N})=2.23\times 10^{-6}$ 12; $\alpha(\text{O})=4.34\times 10^{-7}$ 23; $\alpha(\text{P})=4.13\times 10^{-8}$ 22; $\alpha(\text{IPF})=0.001393$ 20
^x 3534 [#] 4 ^x 3698 [#] 5 3699.2 5	1.8 [#] 18 1.8 [#] 18 1.37 7	6502.91	0 ⁺ ,1 ⁺	2803.77	(2 ⁻)	[E1,M2]	1.77×10 ⁻³ 3	$\alpha(\text{K})=0.000245$ 11; $\alpha(\text{L})=3.54\times 10^{-5}$ 17; $\alpha(\text{M})=8.1\times 10^{-6}$ 4 $\alpha(\text{N})=2.04\times 10^{-6}$ 10; $\alpha(\text{O})=3.97\times 10^{-7}$ 20; $\alpha(\text{P})=3.78\times 10^{-8}$ 19; $\alpha(\text{IPF})=0.001483$ 21
3781.2 5	2.91 79	4416.3	(1 ⁻)	635.06	2 ⁻	[M1+E2]	0.00183 25	$\alpha(\text{K})=0.000468$ 12; $\alpha(\text{L})=7.21\times 10^{-5}$ 33; $\alpha(\text{M})=1.66\times 10^{-5}$ 8 $\alpha(\text{N})=4.19\times 10^{-6}$ 21; $\alpha(\text{O})=8.2\times 10^{-7}$ 4; $\alpha(\text{P})=7.8\times 10^{-8}$ 4; $\alpha(\text{IPF})=0.00127$ 24
^x 3913 [#] 4 4008.2 5	1.8 [#] 18 0.34 3	6502.91	0 ⁺ ,1 ⁺	2494.72	(1 ⁻)	[E1]	1.87×10 ⁻³ 3	$\alpha(\text{K})=0.0002076$ 29; $\alpha(\text{L})=2.98\times 10^{-5}$ 4; $\alpha(\text{M})=6.82\times 10^{-6}$ 10 $\alpha(\text{N})=1.715\times 10^{-6}$ 24; $\alpha(\text{O})=3.34\times 10^{-7}$ 5; $\alpha(\text{P})=3.18\times 10^{-8}$ 4; $\alpha(\text{IPF})=0.001623$ 23
^x 4012 [@] 2 4110.7 10	2.9 [@] 29 4.0 10	4416.3	(1 ⁻)	304.88	1 ⁻	[M1+E2]	0.00188 25	$\alpha(\text{K})=0.000392$ 6; $\alpha(\text{L})=6.01\times 10^{-5}$ 13; $\alpha(\text{M})=1.385\times 10^{-5}$ 33 $\alpha(\text{N})=3.49\times 10^{-6}$ 9; $\alpha(\text{O})=6.81\times 10^{-7}$ 17; $\alpha(\text{P})=6.51\times 10^{-8}$ 17; $\alpha(\text{IPF})=0.00141$ 25
4122.5 5	1.53 27	6502.91	0 ⁺ ,1 ⁺	2380.64	(0 ⁻)	(E1)	1.91×10 ⁻³ 3	$\alpha(\text{K})=0.0001991$ 28; $\alpha(\text{L})=2.86\times 10^{-5}$ 4; $\alpha(\text{M})=6.53\times 10^{-6}$ 9 $\alpha(\text{N})=1.643\times 10^{-6}$ 23; $\alpha(\text{O})=3.20\times 10^{-7}$ 4; $\alpha(\text{P})=3.05\times 10^{-8}$ 4; $\alpha(\text{IPF})=0.001669$ 23 Mult.: From $\gamma\gamma(\theta)$ in 2025Ci01 : 4123γ-1049γ(θ) with A ₂ =0.04 6, A ₄ =-0.01 11; 4123γ-1264γ(θ) with A ₂ =0.00 3, A ₄ =-0.04 4; 4123γ-2076γ(θ) with A ₂ =0.02 5, A ₄ =-0.08 8.
4150.8 8	1.64 31	4416.3	(1 ⁻)	265.86	2 ⁻	[M1+E2]	0.00188 25	$\alpha(\text{K})=0.000384$ 6; $\alpha(\text{L})=5.88\times 10^{-5}$ 11; $\alpha(\text{M})=1.357\times 10^{-5}$ 29 $\alpha(\text{N})=3.42\times 10^{-6}$ 8; $\alpha(\text{O})=6.66\times 10^{-7}$ 15; $\alpha(\text{P})=6.37\times 10^{-8}$ 15; $\alpha(\text{IPF})=0.00142$ 25
4261.6 7	0.46 14	6502.91	0 ⁺ ,1 ⁺	2241.26	(1 ⁻)	[E1]	1.95×10 ⁻³ 3	$\alpha(\text{K})=0.0001894$ 27; $\alpha(\text{L})=2.72\times 10^{-5}$ 4; $\alpha(\text{M})=6.21\times 10^{-6}$ 9 $\alpha(\text{N})=1.563\times 10^{-6}$ 22; $\alpha(\text{O})=3.04\times 10^{-7}$ 4; $\alpha(\text{P})=2.90\times 10^{-8}$ 4; $\alpha(\text{IPF})=0.001720$ 24
4313.2 8	0.13 3	6502.91	0 ⁺ ,1 ⁺	2189.7	(2 ⁻)	[E1,M2]	1.96×10 ⁻³ 3	$\alpha(\text{K})=0.000193$ 7; $\alpha(\text{L})=2.78\times 10^{-5}$ 12; $\alpha(\text{M})=6.36\times 10^{-6}$ 28 $\alpha(\text{N})=1.60\times 10^{-6}$ 7; $\alpha(\text{O})=3.12\times 10^{-7}$ 14; $\alpha(\text{P})=2.97\times 10^{-8}$ 13; $\alpha(\text{IPF})=0.001733$ 25

²⁰⁵Tl(n,γ) E=th **2025Ci01** (continued)

$\gamma(^{206}\text{Tl})$ (continued)									
E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]	α^a	Comments
4416.2 8	4.2 11	4416.3	(1 ⁻)	0.0	0 ⁻	[M1]		2.19×10 ⁻³ 3	$\alpha(\text{K})=0.000327$ 5; $\alpha(\text{L})=5.12\times 10^{-5}$ 7; $\alpha(\text{M})=1.183\times 10^{-5}$ 17 $\alpha(\text{N})=2.98\times 10^{-6}$ 4; $\alpha(\text{O})=5.82\times 10^{-7}$ 8; $\alpha(\text{P})=5.57\times 10^{-8}$ 8; $\alpha(\text{IPF})=0.001792$ 25 E_γ : Other: 4520 keV 3 (1970BaZU). E_γ : Other: 2.9 29 (1970BaZU).
^x 4512 [#] 3	3.6 [#] 18								
4659.4 5	5.7 11	6502.91	0 ⁺ ,1 ⁺	1843.43	2 ⁻	E1(+M2)	<0.03	2.06×10 ⁻³ 3	$\alpha(\text{K})=0.0001662$ 23; $\alpha(\text{L})=2.382\times 10^{-5}$ 34; $\alpha(\text{M})=5.44\times 10^{-6}$ 8 $\alpha(\text{N})=1.368\times 10^{-6}$ 19; $\alpha(\text{O})=2.67\times 10^{-7}$ 4; $\alpha(\text{P})=2.54\times 10^{-8}$ 4; $\alpha(\text{IPF})=0.001858$ 26 E_γ : Others: 4662.5 keV 4 (1974Co21), 4662 keV 3 (1967We04, 1969WeZY), 4659 keV 2 (1970BaZU), 4659.4 keV 10 (1969Ra10). I_γ : Others: 6.9 3 (1974Co21), 5.3 18 (1967We04, 1969WeZY), 3.7 16 (1970BaZU), 4.6 9 (1969Ra10). Mult., δ : From $\gamma\gamma(\theta)$ in 2025Ci01: 4659 γ -1194 $\gamma(\theta)$ with $A_2=0.20$ 2, $A_4=-0.04$ 2; 4659 γ -1208 $\gamma(\theta)$ with $A_2=-0.07$ 4, $A_4=-0.02$ 4; 4659 γ -1578 $\gamma(\theta)$ with $A_2=-0.15$ 2, $A_4=0.02$ 2; 4659 γ -1843 $\gamma(\theta)$ with $A_2=-0.22$ 4, $A_4=0.02$ 6.
4855.2 8	0.24 7	6502.91	0 ⁺ ,1 ⁺	1647.86	(2 ⁻)	[E1,M2]		2.11×10 ⁻³ 3	$\alpha(\text{K})=0.000161$ 6; $\alpha(\text{L})=2.32\times 10^{-5}$ 9; $\alpha(\text{M})=5.30\times 10^{-6}$ 21 $\alpha(\text{N})=1.33\times 10^{-6}$ 5; $\alpha(\text{O})=2.60\times 10^{-7}$ 10; $\alpha(\text{P})=2.48\times 10^{-8}$ 10; $\alpha(\text{IPF})=0.001922$ 27
^x 4873 [#] 3	3.6 [#] 18								
5016.2 5	53.4 34	6502.91	0 ⁺ ,1 ⁺	1486.54	(1 ⁻)	[E1]		2.16×10 ⁻³ 3	$\alpha(\text{K})=0.0001489$ 21; $\alpha(\text{L})=2.130\times 10^{-5}$ 30; $\alpha(\text{M})=4.86\times 10^{-6}$ 7 $\alpha(\text{N})=1.224\times 10^{-6}$ 17; $\alpha(\text{O})=2.384\times 10^{-7}$ 33; $\alpha(\text{P})=2.275\times 10^{-8}$ 32; $\alpha(\text{IPF})=0.001984$ 28 E_γ : Others: 5015.7 keV 4 (1974Co21), 5015 keV 3 (1967We04, 1969WeZY), 5015.0 keV 5 (1969Ra10). I_γ : Others: 53.4, used as a normalization in 1969Ra10, 1974Co21, 1967We04, 1969WeZY.
^x 5051 [#] 3	3.6 [#] 18								
5103.2 8	0.69 14	6502.91	0 ⁺ ,1 ⁺	1399.54	2 ⁻	[E1,M2]		2.18×10 ⁻³ 3	$\alpha(\text{K})=0.000150$ 5; $\alpha(\text{L})=2.15\times 10^{-5}$ 8; $\alpha(\text{M})=4.91\times 10^{-6}$ 18 $\alpha(\text{N})=1.24\times 10^{-6}$ 5; $\alpha(\text{O})=2.41\times 10^{-7}$ 9; $\alpha(\text{P})=2.30\times 10^{-8}$ 9; $\alpha(\text{IPF})=0.002005$ 29 E_γ : Other: 5104 keV 2 (1970BaZU). I_γ : Other: 2.9 29 (1970BaZU).
5142.5 5	27.9 18	6502.91	0 ⁺ ,1 ⁺	1360.16	0 ⁻	E1		2.19×10 ⁻³ 3	$\alpha(\text{K})=0.0001436$ 20; $\alpha(\text{L})=2.054\times 10^{-5}$ 29; $\alpha(\text{M})=4.69\times 10^{-6}$ 7 $\alpha(\text{N})=1.179\times 10^{-6}$ 17; $\alpha(\text{O})=2.298\times 10^{-7}$ 32; $\alpha(\text{P})=2.193\times 10^{-8}$ 31; $\alpha(\text{IPF})=0.002022$ 28 E_γ : Others: 5143.8 keV 7 (1974Co21), 5144 keV 2 (1967We04, 1969WeZY), 5142 keV 3 (1970BaZU).

$^{205}\text{Tl}(n,\gamma) \text{ E=th}$ **2025Ci01** (continued)

$\gamma(^{206}\text{Tl})$ (continued)									
E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	δ [‡]	α^a	Comments
									I_γ : Others: 24.9 53 (1967We04, 1969WeZY), 20.1 90 (1970BaZU), 4.3 3 (1974Co21). Mult.: From $\gamma\gamma(\theta)$ in 2025Ci01: 5143 γ -711 $\gamma(\theta)$ with $A_2=-0.01$ 1, $A_4=-0.01$ 1; 5143 γ -1055 $\gamma(\theta)$ with $A_2=-0.01$ 1, $A_4=-0.01$ 1. $\alpha(\text{K})=0.0001425$ 20; $\alpha(\text{L})=2.037\times 10^{-5}$ 29; $\alpha(\text{M})=4.65\times 10^{-6}$ 7 $\alpha(\text{N})=1.170\times 10^{-6}$ 16; $\alpha(\text{O})=2.280\times 10^{-7}$ 32; $\alpha(\text{P})=2.176\times 10^{-8}$ 30; $\alpha(\text{IPF})=0.002030$ 28 E_γ : Other: 5169 keV 4 (1970BaZU). I_γ : Other: 2.9 8 (1970BaZU).
^x 5299.5 ^{&} 7	4.1 ^{&} 3								E_γ : Others: 5299 keV 3 (1967We04, 1969WeZY), 5298 keV 2 (1970BaZU). I_γ : Others: 5.3 18 (1967We04, 1969WeZY), 11 11 (1970BaZU). $\alpha(\text{K})=0.0001343$ 19; $\alpha(\text{L})=1.919\times 10^{-5}$ 27; $\alpha(\text{M})=4.38\times 10^{-6}$ 6 $\alpha(\text{N})=1.102\times 10^{-6}$ 15; $\alpha(\text{O})=2.147\times 10^{-7}$ 30; $\alpha(\text{P})=2.050\times 10^{-8}$ 29; $\alpha(\text{IPF})=0.002095$ 29 E_γ : Other: 5387 keV 2 (1967We04, 1969WeZY), 5385 keV 2 (1970BaZU). I_γ : Other: 3.6 18 (1967We04, 1969WeZY), 9.0 62 (1970BaZU). E_γ, I_γ : From 1967We04, 1969WeZY. Other: $E_\gamma=5419$ keV 3, $I_\gamma=28.3$ 90 (1970BaZU). Not observed in 2025Ci01.
5385.9 5	5.54 37	6502.91	0 ⁺ ,1 ⁺	1116.85	1 ⁻	[E1]		2.25×10 ⁻³ 3	$\alpha(\text{K})=0.0001311$ 20; $\alpha(\text{L})=1.873\times 10^{-5}$ 30; $\alpha(\text{M})=4.28\times 10^{-6}$ 7 $\alpha(\text{N})=1.076\times 10^{-6}$ 17; $\alpha(\text{O})=2.097\times 10^{-7}$ 34; $\alpha(\text{P})=2.002\times 10^{-8}$ 32; $\alpha(\text{IPF})=0.002129$ 30 E_γ : Others: 5504.5 keV 3 (1974Co21), 5506 keV 2 (1967We04, 1969WeZY), 5504 keV 2 (1970BaZU), 5503.3 keV 10 (1969Ra10). I_γ : Others: 44.5 89 (1967We04, 1969WeZY), 57 16 (1970BaZU), 3.3 7 (1969Ra10), 10.1 5 (1974Co21). Mult., δ : From $\gamma\gamma(\theta)$ in 2025Ci01: 5504 γ -536 $\gamma(\theta)$ with $A_2=0.10$ 2, $A_4=-0.02$ 3; 5504 γ -998 $\gamma(\theta)$ with $A_2=-0.19$ 3, $A_4=0.00$ 3; 5504 γ -732 $\gamma(\theta)$ in 2025Ci01 with $A_2=-0.20$ 1, $A_4=-0.01$ 1.
5423 2	14.2 36	6502.91	0 ⁺ ,1 ⁺	1079.6	(1 ⁻ ,2)				E_γ : Other: 5562 keV 2 (1970BaZU). I_γ : 3.7 16 (1970BaZU). $\alpha(\text{K})=0.0001192$ 17; $\alpha(\text{L})=1.699\times 10^{-5}$ 24; $\alpha(\text{M})=3.88\times 10^{-6}$ 5 $\alpha(\text{N})=9.76\times 10^{-7}$ 14; $\alpha(\text{O})=1.902\times 10^{-7}$ 27; $\alpha(\text{P})=1.816\times 10^{-8}$ 25; $\alpha(\text{IPF})=0.002236$ 31 E_γ : Others: 5554.2 keV 7 (1974Co21), 5854 keV 2 (1967We04,
5504.4 5	51.5 35	6502.91	0 ⁺ ,1 ⁺	998.23	2 ⁻	E1+M2	-0.05 2	2.28×10 ⁻³ 3	
^x 5564 [#] 3	1.8 [#] 18								
5853.3 3	27.6 2	6502.91	0 ⁺ ,1 ⁺	649.44	1 ⁻	(E1)		2.38×10 ⁻³ 3	

²⁰⁵Tl(n,γ) E=th **2025Ci01 (continued)**

γ(²⁰⁶Tl) (continued)

<u>E_γ[†]</u>	<u>I_γ[†]</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.[‡]</u>	<u>α^a</u>	<u>Comments</u>
5867.8 8	36.6 27	6502.91	0 ⁺ ,1 ⁺	635.06	2 ⁻	[E1,M2]	2.38×10 ⁻³ 3	1969WeZY, 5853 keV 4 (1970BaZU), 5853.3 keV 10 (1969Ra10), 5852.5 keV 5 (2007ChZX). I _γ : Others: 28.5 53 (1967We04, 1969WeZY), 23.4 29 (1970BaZU), 3.3 7 (1969Ra10), 32.0 67 (2007ChZX), 4.7 3 (1974Co21). Mult.: From 5853γ-650γ(θ) in 2025Ci01 with A ₂ =0.48 1, A ₄ =-0.01 1. α(K)=0.0001219 35; α(L)=1.74×10 ⁻⁵ 6; α(M)=3.98×10 ⁻⁶ 13 α(N)=1.002×10 ⁻⁶ 33; α(O)=1.95×10 ⁻⁷ 6; α(P)=1.86×10 ⁻⁸ 6; α(IPF)=0.002235 32 E _γ : Others: 5868.4 keV 3 (1974Co21), 5869 keV 2 (1967We04, 1969WeZY), 5867 keV 3 (1970BaZU), 5867.0 keV 10 (1969Ra10), 5867.8 keV 4 (2007ChZX). I _γ : Others: 32.0 53 (1967We04, 1969WeZY), 27.1 16 (1970BaZU), 5.2 10 (1969Ra10), 40.4 76 (2007ChZX), 6.9 3 (1974Co21). E _γ : Others: 6198.7 keV 3 (1974Co21), 6199 keV 2 (1967We04, 1969WeZY), 6197 keV 2 (1970BaZU), 6199.4 keV 5 (1969Ra10), 6197.8 keV 4 (2007ChZX). I _γ : Others: 49.8 89 (1967We04, 1969WeZY), 36.1 37 (1970BaZU), 7.2 14 (1969Ra10), 48.4 76 (2007ChZX), 11.3 6 (1974Co21). E _γ : Others: 6237.1 keV 7 (1974Co21), 6238 keV 2 (1967We04, 1969WeZY), 6238 keV 2 (1970BaZU). I _γ : Others: 17.8 53 (1967We04, 1969WeZY), 5.3 8 (1970BaZU), 3.8 3 (1974Co21). E _γ : Others: 6504.3 keV 6 (2007ChZX) 6504 keV 3 (1967We04, 1969WeZY), 6504 keV 4 (1970BaZU). I _γ : Others: 17.8 44 (2007ChZX), 7.1 36 (1967We04, 1969WeZY), 3.7 8 (1970BaZU).
6197.9 8	46.4 35	6502.91	0 ⁺ ,1 ⁺	304.88	1 ⁻	[E1]		
6236.9 8	16.1 12	6502.91	0 ⁺ ,1 ⁺	265.86	2 ⁻	[E1,M2]		
6503.4 10	3.56 28	6502.91	0 ⁺ ,1 ⁺	0.0	0 ⁻	[E1]		

[†] From 2025Ci01, unless otherwise stated. I_γ in 1969Ra10, 1974Co21, 1967We04, 1969WeZY and 1970BaZU were normalized to I_γ(5015γ)=53.4, while data in 2007ChZX were normalized to I_γ(305γ)=100.

[‡] From adopted gammas, unless otherwise stated.

From 1967We04, 1969WeZY, as quoted in 1972Se27. I_γ were normalized to I_γ(5015γ)=53.4.

@ From 1970BaZU, as quoted in 1972Se27. I_γ were normalized to I_γ(5015γ)=53.4.

& From 1974Co21.

^a Additional information 1.

^b Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

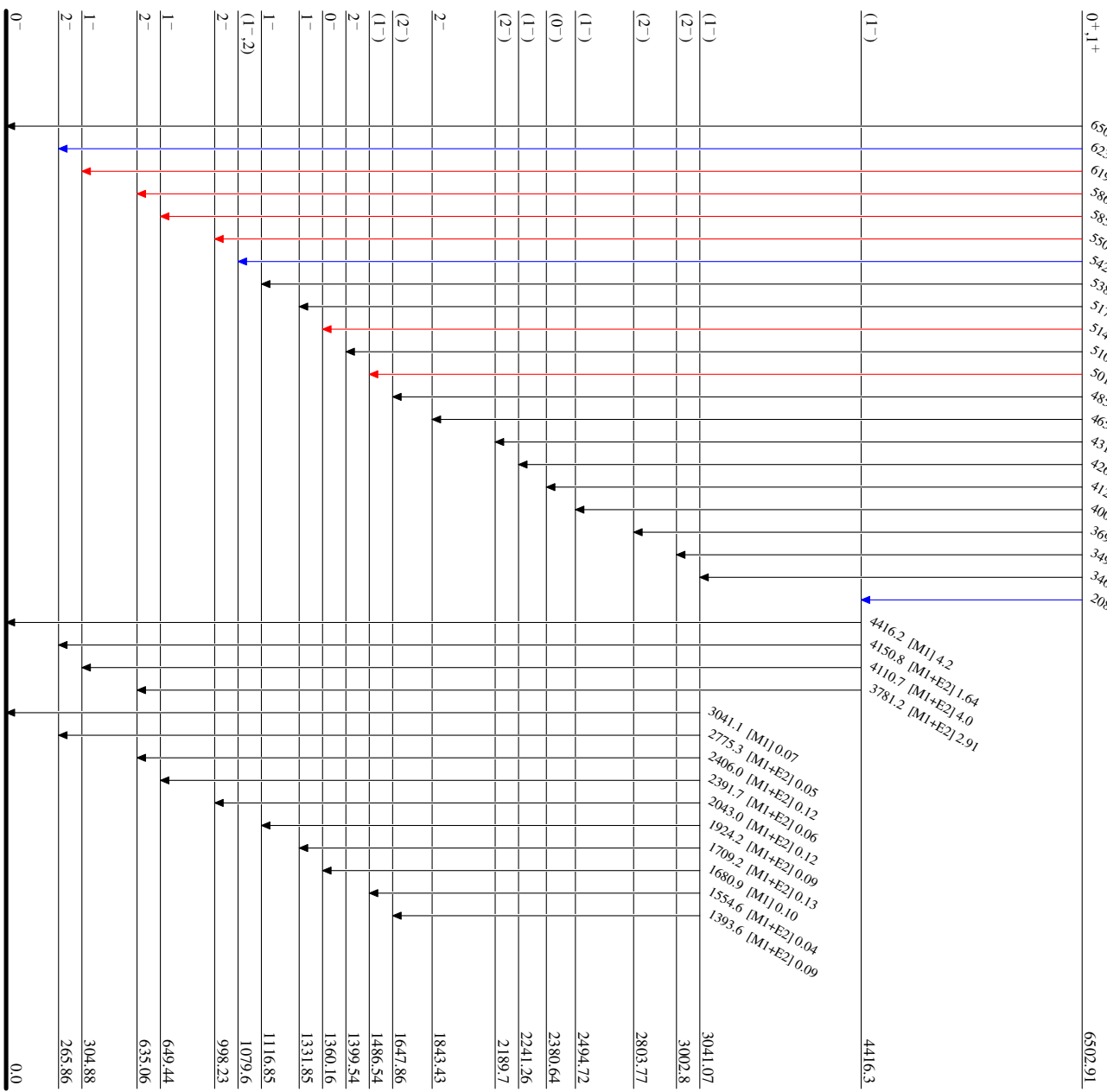
$^{205}\text{Tl}(n,\gamma)\text{E=th}$ 2025Cf01

Level Scheme

Intensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_{\gamma}^{\text{max}}$
- $I_\gamma < 10\% \times I_{\gamma}^{\text{max}}$
- $I_\gamma > 10\% \times I_{\gamma}^{\text{max}}$



$^{206}\text{Tl}_{125}$

