

$^{176}\text{Lu}(n,\gamma) \text{E=thermal}$ [1971Ma45](#),[1975Ge11](#),[1996Pe05](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 159, 1 (2019)	30-Aug-2019

[1996Pe05](#): Measured: E_γ , I_γ , $E(\text{ce})$, Ice, $\gamma\gamma$ coin, $\gamma\gamma(t)$. Bent crystal spectrometer. Double focusing magnetic spectrometer.

[1975Ge11](#): Measured: E_γ , I_γ . Gamma-ray band-filter spectrometer. Gamma-ray anti-Compton spectrometer.

[1971Ma45](#): Measured: E_γ , I_γ , $E(\text{ce})$, Ice, $\gamma\gamma$ coin. β spectrograph. Ge(Li) detectors.

Others (neutron-induced reaction data): [2017DeZZ](#), [2016De30](#), [2016Ro08](#), [2015BeZW](#), [2014Vi08](#), [2006Le11](#), [2006Wi02](#), [1998Kh05](#),

[1995Sh18](#), [1993Be39](#), [1988Ga05](#), [1987Be53](#), [1986Ok02](#), [1984Be34](#), [1981St28](#), [1980Be05](#), [1978A112](#), [1976Wi06](#), [1972Ma54](#),

[1972Mi16](#), [1972Ge20](#), [1972Fu12](#), [1972Be85](#), [1971Be40](#), [1971Mi01](#), [1970Fl09](#), [1970Be56](#), [1968Be70](#), [1965Ma18](#), [1965He06](#).

$J^\pi(^{176}\text{Lu})=7^-$.

 ^{177}Lu Levels

E(level) [†]	J^π [‡]	$T_{1/2}$ [‡]	Comments
0.0 [#]	7/2 ⁺	6.6443 d 9	
121.6287 [#] 9	9/2 ⁺	0.117 ns 4	
150.3988 [@] 10	9/2 ⁻	133.1 ns 24	
268.8018 [#] 11	11/2 ⁺		
289.0145 [@] 13	11/2 ⁻		
440.6697 [#] 11	13/2 ⁺		
451.5143 [@] 13	13/2 ⁻		
457.9642 ^{&} 16	5/2 ⁺	≤0.45 ns	$T_{1/2}$: From 1996Pe05 . Other: ≤0.8 ns (1971Ma45).
552.1046 ^{&} 15	7/2 ⁺		
569.6790 ^a 18	1/2 ⁺	155 μs 7	$T_{1/2}$: 150 μs 10 (1970Fl09) and 160 μs 10 (1965He06).
573.6301 ^a 21	3/2 ⁺	3.5 ns 10	$T_{1/2}$: From 115.665 $\gamma(t)$ in 1972Ma54 .
636.2424 [#] 14	15/2 ⁺		
637.1130 [@] 16	15/2 ⁻		
671.9500 ^{&} 15	9/2 ⁺		
709.4139 ^a 20	5/2 ⁺		
720.8056 ^a 20	7/2 ⁺		
761.62 ⁿ 3	(3/2 ⁺)		
761.7148 ^b 17	5/2 ⁻	33 ns 2	$T_{1/2}$: 35 ns 3 from 761.7 $\gamma(t)$ in 1972Ma54 and 35.0 ns 9 from 761.7 $\gamma(t)$ in 2016De30 .
795.228 ^b 4	(1/2 ⁻)		
811.4526 ^b 23	9/2 ⁻	1.0 ns 1	$T_{1/2}$: From 1996Pe05 .
816.7049 ^{&} 16	11/2 ⁺		
823.034 ⁿ 11	(5/2 ⁺)		
844.9114 [@] 17	17/2 ⁻		
854.3587 [#] 16	17/2 ⁺		
907.50 ⁿ 3	(7/2 ⁺)		
956.420 ^b 17	(3/2 ⁻)		
956.6752 ^a 21	9/2 ⁺		
957.3266 ^b 25	13/2 ⁻		
980.1950 ^a 23	11/2 ⁺		
985.3087 ^{&} 18	13/2 ⁺		
1020.96 ⁿ 3	(9/2 ⁺)		
1049.459 ^s 9	9/2 ⁻		
1073.6386 [@] 19	19/2 ⁻		
1088.625 ^b 6	7/2 ⁻		
1093.706 [#] 6	19/2 ⁺		

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$^{176}\text{Lu}(n,\gamma)$ E=thermal 1971Ma45,1975Ge11,1996Pe05 (continued) ^{177}Lu Levels (continued)

E(level) [†]	J π [‡]	T _{1/2} [‡]	Comments
1151.83 ⁿ 3	(11/2 ⁺)		
1165.605 ^{l3}	9/2 ⁻ ,11/2		
1176.8114 ^{&} 21	15/2 ⁺		
1184.2 ^{l1}			
1187.742 ^s 9	(11/2 ⁻)		
1201.658 ^b 3	17/2 ⁻		
1230.607 ^k 18	11/2 ⁺	60 ps 15	
1241.1 ⁹	7/2 ⁺	25 ps 8	
1286.944 ^b 4	11/2 ⁻		
1303.0682 ^a 23	13/2 ⁺		
1305.930 ^g 20	11/2 ⁺		
1319.70 ⁿ 3	(13/2 ⁺)		
1322.1 ^c 4	(3/2 ⁻)		
1322.184 [@] 3	21/2 ⁻		
1328 ⁵	(11/2 ⁻)		E(level): From Adopted Levels.
1336.85 ^l 4	7/2 ⁺		
1344.39 ^m 5	(11/2 ⁺)		
1344.808 ^a 3	15/2 ⁺		
1348.6 ^s 3	(13/2 ⁻)		
1356.887 ^f 7	15/2 ⁺	10.8 ns 5	T _{1/2} : Other: 11 ns 2 (1996Pe05) and 10.8 ns 5 from $\gamma(t)$ in 2016De30.
1389.0 ^k 8	(13/2 ⁺)		
1389.672 ^{&} 3	17/2 ⁺		
1394.62 ^c 8	(5/2 ⁻)		
1429.2 ^{l1}			
1443.73 ^l 15	9/2 ⁺		
1454.420 ⁱ 7	(13/2 ⁺)		
1465.0 ^{l1}			
1471.116 ^g 18	13/2 ⁺		
1480.6 ^{l1}			
1488.17 ³	(11/2 ⁺)		
1502.696 ^e 8	(13/2 ⁺)		
1505.96 ^m 11	(13/2 ⁺)		
1544.340 ^f 8	(17/2 ⁺)	0.8 ns +2-1	T _{1/2} : From 1996Pe05.
1564.112 ^b 4	15/2 ⁻		
1566.22 ^k 12	(15/2 ⁺)		
1573.47 ^c 5	(7/2 ⁻)		
1573.7 ^l 6	(11/2 ⁺)		
1591.0 ^{l1}			
1607.404 ⁱ 23	(15/2 ⁺)		
1621.0 ^o 5	(9/2 ⁺)		
1623.253 ^{&} 4	19/2 ⁺		
1628.27 ^c 4	(9/2 ⁻)		
1632.785 ^j 9	(15/2 ⁺)		
1635.726 ^h 19	13/2 ⁺		
1640.17 ^d 6	(3/2 ⁻)		
1650.5 ^{l1}			
1661.424 ^g 24	15/2 ⁺		
1677.205 ^e 8	(15/2 ⁺)		
1693.033 ^m 24	(15/2 ⁺)		
1706.0 ^{l1}			

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$^{176}\text{Lu}(n,\gamma)$ E=thermal 1971Ma45,1975Ge11,1996Pe05 (continued) ^{177}Lu Levels (continued)

E(level) [†]	J ^π [‡]	Comments
1711.9 ^p 10	(7/2 ⁺)	
1728.911 ^q 5	13/2 ⁺	
1739.2?		
1745.527 ^a 12	(17/2 ⁺)	
1746.580 ^f 8	(19/2 ⁺)	
1748.9 11		
1754.7 ^o 5	(11/2 ⁺)	
1756.71 ^d 4	(7/2 ⁻)	
1786.42 ⁱ 4	(17/2 ⁺)	
1804.8 11	(19/2 ⁺)	
1812.387 ^j 22	(17/2 ⁺)	
1820.74 ^h 3	(15/2 ⁺)	
1821.8 ^p 10	(9/2 ⁺)	
1827.69 ^d 6	(5/2 ⁻)	
1829.260 ^a 6	(19/2 ⁺)	
1842.3 11		
1852.4 11		
1859.6 11	(11/2 ⁻)	
1862.5 11		
1873.60 ^e 3	(17/2 ⁺)	
1881.62 ^r 20	(11/2 ⁺)	
1894.4 11		
1902.0 11		
1910.2 ^o 5	(13/2 ⁺)	
1918.8 11		
1925.417 ^q 16	15/2 ⁺	
1942.6		
1948.0 11		
1954.6 ^p 10	(11/2 ⁺)	
1957.176 ^c 22	(11/2 ⁻)	
1960.1 11		
1966.9?		
1982.5 11		
1990.8 11		
1997.4 11		
2006.0?		
2012.8?		
2019.5 11		
2033.2 11		
2049.3 11		
2052.83 ^r 20	(13/2 ⁺)	
2056.4? 5		
2087.9 ^o 5	(15/2 ⁺)	
2107.1? ^p 11	(13/2 ⁺)	
2116.7 11		
2134.2 10		
2155.02 ^q 4	17/2 ⁺	
2205.9 7		
2246.99 ^r 17	(15/2 ⁺)	
7072.80 16	13/2 ⁻ , 15/2 ⁻	E(level): From 2017Wa10 .

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$^{176}\text{Lu}(n,\gamma)$ E=thermal 1971Ma45,1975Ge11,1996Pe05 (continued) ^{177}Lu Levels (continued)

- † From a least-squares fit to $E\gamma$.
- ‡ From Adopted Levels, unless otherwise stated.
- # Band(A): $K^\pi=7/2^+$, $\pi 7/2[404]$.
- @ Band(B): $K^\pi=9/2^-$, $\pi 9/2[514]$.
- & Band(C): $K^\pi=5/2^+$, $\pi 5/2[402]$.
- ^a Band(D): $K^\pi=1/2^+$, $\pi 1/2[411]$.
- ^b Band(E): $K^\pi=1/2^-$, $\pi 1/2[541]$.
- ^c Band(F): $K^\pi=3/2^-$, $\pi 3/2[532]?$
- ^d Band(G): $K^\pi=1/2^-$, $\pi 1/2[530]?$
- ^e Band(H): $K^\pi=13/2^+:\pi 7/2[404]\otimes v^2(7/2[514],1/2[510])$.
- ^f Band(I): $K^\pi=15/2^+:\pi 7/2[404]\otimes v^2(7/2[514],1/2[510])$.
- ^g Band(J): $K^\pi=11/2^+:50\% \pi 7/2[404] + K=2 \gamma$ vibration phonon and $50\% \pi 7/2[404]\otimes v^2(7/2[514],3/2[512])$.
- ^h Band(K): $K^\pi=11/2^+$ band. The assignment is tentative.
- ⁱ Band(L): $K^\pi=13/2^+:\pi 7/2[404]\otimes v^2(7/2[514],1/2[521])$.
- ^j Band(M): $K^\pi=15/2^+:\pi 7/2[404]\otimes v^2(7/2[514],1/2[521])$.
- ^k Band(N): $K^\pi=11/2^+:\pi 9/2[514]\otimes v^2(7/2[514],9/2[624])$.
- ^l Band(O): $K^\pi=7/2^+:\pi 9/2[514]\otimes v^2(7/2[514],9/2[624])$.
- ^m Band(P): $K^\pi=11/2$ band. The assignment is tentative.
- ⁿ Band(Q): $K^\pi=3/2^+:\pi 7/2[404] - K=2 \gamma$ vibration phonon. The assignment is tentative.
- ^o Band(R): $K^\pi=9/2^+:\pi 1/2[411]\otimes v^2(7/2[514],1/2[510])$. The assignment is tentative.
- ^p Band(S): $K^\pi=7/2^+:\pi 1/2[411]\otimes v^2(7/2[514],1/2[510])$. The assignment is tentative.
- ^q Band(T): $K^\pi=13/2^+:\pi 5/2[402]\otimes v^2(7/2[514],1/2[510])$. The assignment is tentative.
- ^r Band(U): $K^\pi=11/2^+:\pi 5/2[402]\otimes v^2(7/2[514],1/2[510])$. The assignment is tentative.
- ^s Band(V): $K^\pi=9/2^-:\pi 7/2[404]\otimes v^2(7/2[514],9/2[624])$.

¹⁷⁶Lu(n, γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

		$\gamma(^{177}\text{Lu})$						
E_γ †	I_γ †	E_i (level)	J_i^π	E_f	J_f^π	Mult. ‡	Comments	
^x 42.218 ^d 2 49.740 4	0.119 ^d 24 0.35 12	811.4526	9/2 ⁻	761.7148	5/2 ⁻	E2	Mult.: $\alpha(\text{L2})\text{exp}=35.8$ and $\alpha(\text{L3})\text{exp}=38.8$ (1996Pe05). Other: $\alpha(\text{L2})\text{exp}=35.12$, $\alpha(\text{L3})\text{exp}=39.05$, $\alpha(\text{M})\text{exp}=32.14$ and $\alpha(\text{N})\text{exp}=16.7$ (1971Ma45).	
^x 49.750 2 52.1 ^{di} 5	0.58 12 0.12 ^d 2	761.7148	5/2 ⁻	709.4139	5/2 ⁺			
^x 71.640 ^d 2	0.48 ^d 7							
^x 73.390 ^d 3	0.036 ^d 11							
^x 79.119 ^d 2	0.19 ^d 4							
^x 80.647 ^d 2	0.071 ^d 18							
^x 81.458 9	3.6 4					M1(+E2)	Mult.: $\alpha(\text{L1})\text{exp}=0.51$ and $\alpha(\text{M})\text{exp}=0.24$ (1971Ma45).	
^x 82.742 ^d 15	0.017 ^d							
84.7 ^{di} 5	0.019 ^d	907.50	(7/2 ⁺)	823.034	(5/2 ⁺)			
^x 88.858 &	0.21 &					M1(+E2)	Mult.: $\alpha(\text{L1})\text{exp}=1.4$ (1971Ma45).	
90.647 6	0.04 2	811.4526	9/2 ⁻	720.8056	7/2 ⁺			
^x 90.98 ^d 3	0.012 ^d 4							
^x 91.660 ^d 3	0.048 ^d 10							
^x 93.179 ^d 3 94.140 4	0.57 ^d 11 8.5 9	552.1046	7/2 ⁺	457.9642	5/2 ⁺	M1	E_γ : Possibly contaminated with the 2 ⁺ to 0 ⁺ transition in ¹⁷⁸ Hf. Mult.: $\alpha(\text{K})\text{exp}=6.721$, $\alpha(\text{L1})\text{exp}=1.24$, $\alpha(\text{M1})\text{exp}=0.258$, and $\alpha(\text{M2})\text{exp}=0.03014$ (1996Pe05). Other: $\alpha(\text{L1})\text{exp}=0.41$, $\alpha(\text{M})\text{exp}=0.23$ and $\alpha(\text{N})\text{exp}=0.12$ (1971Ma45).	
^x 94.377 ^d 3 97.534 4	0.19 ^d 13 0.39 8	1454.420	(13/2 ⁺)	1356.887	15/2 ⁺			
^x 98.69 ^d 2	0.017 ^d							
^x 98.71 ^d 2	0.012 ^d							
^x 99.809 ^d 3	0.083 ^d 17							
^x 101.87 ^d 1	0.014 ^d							
^x 103.38 ^d 1	0.060 ^d 24							
^x 105.20 ^d 1	0.010 ^d							
^x 106.188 ^d 3	0.064 ^d 17							
^x 106.528 ^d 5	0.071 ^d 18							
^x 106.744 ^d 12	0.024 ^d							
^x 107.303 ^d 5 109.82 ^d 2	0.071 ^d 14 0.095 ^d	1821.8	(9/2 ⁺)	1711.9	(7/2 ⁺)			
^x 110.03 ^d 2	0.0071 ^d							
^x 110.33 ^d 2	0.0095 ^d							

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¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>δ[#]</u>	<u>Comments</u>
^x 110.966 ^d 4 111.715 1	0.091 ^d 14 11.1 11	569.6790	1/2 ⁺	457.9642	5/2 ⁺	E2		Mult.: α(K)exp=1.0 4, α(L1)exp=0.39 15, α(L2)exp=0.7 3, α(L3)exp=0.8 3, and α(M3)exp=0.15 6 (1996Pe05). Other: α(K)exp=0.96, α(L1)exp=0.1, α(L2)exp=0.75, α(L3)exp=0.67, α(M)exp=0.42 and α(N)exp=0.13 (1971Ma45).
^x 112.028 ^d 4	0.18 ^d 4							
^x 113.86 ^d 2	0.021 ^d							
^x 113.97 ^d 2	0.024 ^d 10							
^x 115.338 2 115.665 2	1.03 12 1.53 16	573.6301	3/2 ⁺	457.9642	5/2 ⁺	M1 M1(+E2)		Mult.: α(K)exp=2.2 (1971Ma45). Mult.: α(K)exp=4.5 13 (1996Pe05). Other: α(K)exp=2.5 and α(L1)exp=0.5 (1971Ma45).
^x 115.949 ^d 5	0.055 ^d 14							
^x 116.583 ^d 15	0.021 ^d							
^x 119.085 ^d 15 119.845 1	0.017 ^d 10.3 11	671.9500	9/2 ⁺	552.1046	7/2 ⁺	M1+E2	0.34 22	Mult.: α(K)exp=2.6 10, α(L1)exp=0.38 15, α(L2)exp=0.18 7, α(L3)exp=0.25 10, α(M1)exp=0.08 3, and α(M2)exp=0.017 7 (1996Pe05). Other: α(K)exp=1.6, α(L1)exp=0.24, α(L2)exp=0.027, α(M)exp=0.11 and α(N)exp=0.028 (1971Ma45).
^x 121.23 ^d 2 121.629 1	0.048 ^d 19 50.0 52	121.6287	9/2 ⁺	0.0	7/2 ⁺	M1+E2	+0.51 5	Mult.: α(K)exp=2.2 8, α(L1)exp=0.31 11, α(L2)exp=0.16 6, α(L3)exp=0.11 4, α(M2)exp=0.041 15 and α(M3)exp=0.024 9 (1996Pe05). Other: α(K)exp=1.43, α(L1)exp+α(L2)exp=0.31, α(L3)exp=0.086, α(M)exp=0.11 and α(N)exp=0.026 (1971Ma45).
^x 122.11 ^d 2	0.038 ^d							
^x 123.248 ^d 3	0.16 ^d 3							
^x 123.85 ^{&}	0.05 ^{&}							
^x 124.438 2	1.07 12							
^x 124.963 ^d 5	0.119 ^d 24							
^x 125.36 ^d 2	0.014 ^d							
^x 126.22 ^d 2	0.031 ^d							
^x 126.58 ^d 2	0.026 ^d							
^x 127.094 4 128.436 4	0.19 2 0.21 4	1756.71	(7/2 ⁻)	1628.27	(9/2 ⁻)			
^x 129.13 ^d 2	0.036 ^d							
^x 129.58 ^d 2 130.089 4	0.031 ^d 0.23 4	1632.785	(15/2 ⁺)	1502.696	(13/2 ⁺)			

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>δ[#]</u>	<u>Comments</u>
130.873 ^d 5	0.091 ^d 14	1151.83	(11/2 ⁺)	1020.96	(9/2 ⁺)			
132.816 ^d 6	0.052 ^d 14	1954.6	(11/2 ⁺)	1821.8	(9/2 ⁺)			
133.75 ^d 2	0.024 ^d 10	1754.7	(11/2 ⁺)	1621.0	(9/2 ⁺)			
135.8 ⁱ 5	3.3 4	709.4139	5/2 ⁺	573.6301	3/2 ⁺	M1(+E2)		Mult.: α(K)exp=1.2 3, α(L2)exp=0.043 12, α(L3)exp=0.034 10, and α(M1)exp=0.066 16 (1996Pe05). Other: α(K)exp=1.2 and α(L1)exp+α(L2)exp=0.19 (1971Ma45).
^x 136.250 2	0.41 6					M1(+E2)		Mult.: α(K)exp=0.6875 50 (1996Pe05).
^x 137.576 ^d 8	0.095 ^d 19							
138.616 1	58.3 62	289.0145	11/2 ⁻	150.3988	9/2 ⁻	M1+E2	+0.23 8	Mult.: α(K)exp=1.6 4, α(L1)exp=0.22 5, α(L2)exp=0.029 7, α(L3)exp=0.0097 23, and α(M1)exp=0.048 12 (1996Pe05). Other: α(K)exp=1.12, α(L1)exp+α(L2)exp=0.19, α(L3)exp=0.016, α(M)exp=0.06 and α(N)exp=0.025 (1971Ma45).
139.735 1	0.35 6	709.4139	5/2 ⁺	569.6790	1/2 ⁺			
^x 140.542 ^d 7	0.088 ^d 17							
^x 142.22 ^d 6	0.024 ^d 10							
^x 142.83 ^d 6	0.036 ^d							
^x 143.66 ^d 6	0.019 ^d							
144.755 1	9.5 10	816.7049	11/2 ⁺	671.9500	9/2 ⁺	M1(+E2)		Mult.: α(K)exp=1.3 3, α(L1)exp=0.15 4, α(L2)exp=0.018 6, and α(M1)exp=0.0038 9 (1996Pe05). Other: α(K)exp=0.95, α(L1)exp+α(L2)exp=0.26, α(L3)exp=0.03, α(M)exp=0.07 (1971Ma45).
145.874 1	27 ^h 3	907.50	(7/2 ⁺)	761.62	(3/2 ⁺)	E2		Mult.: α(K)exp=0.84 21, α(L1)exp=0.051 14, α(L2)exp=0.23 6, α(M2)exp=0.050 13, and α(M3)exp=0.036 9 (1996Pe05). Other: α(K)exp=0.75, α(L1)exp=0.06, α(L2)exp=0.11, α(L3)exp=0.021, and α(M)exp=0.09 (1971Ma45). Note, that values overlap with these for the 145.874γ depopulating the 957.327 keV level.
145.874 1	10.0 ^h 10	957.3266	13/2 ⁻	811.4526	9/2 ⁻	E2		Mult.: α(K)exp=0.84 21, α(L1)exp=0.051 14, α(L2)exp=0.23 6, α(M2)exp=0.050 13, and α(M3)exp=0.036 9 (1996Pe05). Other: α(K)exp=0.75, α(L1)exp=0.06, α(L2)exp=0.11, α(L3)exp=0.021, and α(M)exp=0.09 (1971Ma45). Note, that values overlaps with these for the 145.87γ depopulating the 907.7 keV level.
^x 146.024 2	1.12 12					M1(+E2)		Mult.: α(K)exp=0.8027 31 and α(L1)exp=0.0757 38 (1996Pe05).
147.175 1	36.8 ^h 37	268.8018	11/2 ⁺	121.6287	9/2 ⁺	M1+E2	+0.59 7	Mult.: α(K)exp=1.1 3, α(L1)exp=0.15 4, α(L2)exp=0.10 3, α(L3)exp=0.0051 10, α(M1)exp=0.032 9, α(M2)exp=0.014 3 and α(M3)exp=0.0014 5 (1996Pe05). Other: α(K)exp=0.66, α(L1)exp+α(L2)exp=0.12, α(L3)exp=0.015, α(M)exp=0.045 and α(N)exp=0.0097 (1971Ma45). Note, that the value overlaps with that for the 147γ depopulating the 720.81 keV level.
147.175 1	9.5 ^h 10	720.8056	7/2 ⁺	573.6301	3/2 ⁺	E2		Mult.: α(K)exp=1.1 3, α(L1)exp=0.15 4, α(L2)exp=0.10 3, α(L3)exp=0.0051 10, α(M1)exp=0.032 9, α(M2)exp=0.014 3 and

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>δ[#]</u>	<u>Comments</u>
^x 149.469 2 150.399 1	0.12 2 100 10	150.3988	9/2 ⁻	0.0	7/2 ⁺	E1		α(M3)exp=0.0014 5 (1996Pe05). Other: α(K)exp=0.66, α(L1)exp+α(L2)exp=0.12, α(L3)exp=0.015, α(M)exp=0.045 and α(N)exp=0.0097 (1971Ma45). Note, that the value overlaps with that for the 147γ depopulating the 268.801 keV level. Mult.: An anomalous E1 transition. See 1972Ag05 for details. α(K)exp=0.61 12, α(L1)exp=0.122 23, α(L2)exp=0.047 9, α(L3)exp=0.0051 10, α(M1)exp=0.028 5, α(M2)exp=0.014 3 and α(M3)exp=0.0014 5 (1996Pe05). Other: α(K)exp=0.32, α(L1)exp+α(L2)exp=0.09, α(L3)exp=0.004, α(M)exp=0.0029 and α(N)exp=0.0011 (1971Ma45).
^x 150.89 ^d 3 152.8	0.12 ^d 4	1607.404	(15/2 ⁺)	1454.420	(13/2 ⁺)			E _γ : From 1972Mi16.
^x 153.776 ^d 8 154.566 ^j 16 155.917 ^{&} 155.917 ^{&j} 157.317 18	0.086 ^d 12 0.02 2 0.15 ^{&h} 0.15 ^{&h} 0.02 2	1544.340 1910.2 2107.1? 709.4139	(17/2 ⁺) (13/2 ⁺) (13/2 ⁺) 5/2 ⁺	1389.672	17/2 ⁺ (11/2 ⁺) (11/2 ⁺) 7/2 ⁺			
^x 158.35 ^{&} 3 ^x 160.40 ^d 1 161.40 ^d 3 161.47	0.076 ^{&} 0.088 ^d 21 0.036 ^d 14	956.420 1632.785	(3/2) ⁻ (15/2 ⁺)	795.228 1471.116	(1/2) ⁻ 13/2 ⁺			E _γ : From 1975Ge11.
^x 162.291 ^f 7 162.500 1	0.06 2 43.2 44	451.5143	13/2 ⁻	289.0145	11/2 ⁻	M1+E2	0.33 13	Mult.: α(K)exp=1.18 19, α(L1)exp=0.16 3, α(L2)exp=0.018 3, α(M1)exp=0.024 4 and α(M2)exp=0.0053 12 (1996Pe05). Other: α(K)exp=0.74, α(L1)exp+α(L2)exp=0.128, α(L3)exp=0.0087, α(M)exp=0.0032 and α(N)exp=0.0012 (1971Ma45).
163.489 ^g 4 163.6 ^{di} 5 ^x 164.11 ^d 3 165.07 2 ^x 165.86 ^d 6 ^x 166.869 2 167.872 2 168.605 2	0.08 4 0.055 ^d 17 0.033 ^d 14 0.18 2 0.019 ^d 0.48 6 0.89 10 7.2 7	980.1950 1635.726 1471.116 1319.70 985.3087	11/2 ⁺ 13/2 ⁺ 13/2 ⁺ (13/2 ⁺) 13/2 ⁺	816.7049 1471.116 1305.930 1151.83 816.7049	11/2 ⁺ 13/2 ⁺ 11/2 ⁺ (11/2 ⁺) 11/2 ⁺	M1(+E2) M1(+E2)		Mult.: α(K)exp=1.2127 34 (1996Pe05). Mult.: α(K)exp=0.8427 13, α(L1)exp=0.12 2, α(L2)exp=0.024 5, and α(M1)exp=0.022 5 (1996Pe05). Other: α(K)exp=0.74, α(L1)exp+α(L2)exp=0.16, and α(M)exp=0.05 (1971Ma45).
168.714 8 ^x 169.52 ^d 3 171.212 ^d 11	0.17 6 0.024 ^d 0.17 ^d 3	720.8056 2052.83	7/2 ⁺ (13/2 ⁺)	552.1046 1881.62	7/2 ⁺ (11/2 ⁺)			

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>δ[#]</u>	<u>Comments</u>
171.868 1	14.0 14	440.6697	13/2 ⁺	268.8018	11/2 ⁺	M1+E2	+0.47 21	Mult.: α(K)exp=0.74 12, α(L1)exp=0.055 18, α(L2)exp=0.073 20, α(L3)exp=0.017 6, and α(M1)exp=0.013 3 (1996Pe05). Other: α(K)exp=0.55, α(L1)exp+α(L2)exp=0.10, α(L3)exp=0.02, and α(M)exp=0.0037 (1971Ma45).
174.509 2	0.58 6	1677.205	(15/2 ⁺)	1502.696	(13/2 ⁺)			
^x 175.32 ^d 3	0.043 ^d							
^x 176.36 ^d 3	0.048 ^d 19							
177.671 ^d 11	0.07 ^d 3	2087.9	(15/2 ⁺)	1910.2	(13/2 ⁺)			
178.85 ^d 6	0.07 ^d 3	1573.47	(7/2 ⁻)	1394.62	(5/2 ⁻)			
178.85 ^d 6	0.07 ^d 3	1786.42	(17/2 ⁺)	1607.404	(15/2 ⁺)			
180.10 ^d 16	0.036 ^d	1812.387	(17/2 ⁺)	1632.785	(15/2 ⁺)			
183.28 ^d 4	0.07 ^d 3	1756.71	(7/2 ⁻)	1573.47	(7/2 ⁻)			
^x 183.53 ^d 3	0.12 ^d 4							
^x 185.412 4	1.45 16							
185.599 1	25.8 26	637.1130	15/2 ⁻	451.5143	13/2 ⁻	M1(+E2)		Mult.: α(K)exp=0.66 10, α(L1)exp=0.065 10, α(L2)exp=0.0041 32, and α(M1)exp=0.016 3 (1996Pe05). Other: α(K)exp=0.51, α(L1)exp+α(L2)exp=0.082, α(L3)exp=0.0087, and α(M)exp=0.0052 (1971Ma45).
187.492 ^d 8	0.36 ^d 5	1544.340	(17/2 ⁺)	1356.887	15/2 ⁺			
187.505 2	0.33 4	1827.69	(5/2 ⁻)	1640.17	(3/2 ⁻)			
188.08 ⁱ 5	7.2 7	761.7148	5/2 ⁻	573.6301	3/2 ⁺	E1		Mult.: α(K)exp=0.060 13 (1996Pe05).
^x 190.095 2	0.52 6							
191.503 2	4.1 4	1176.8114	15/2 ⁺	985.3087	13/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.52 9, α(L1)exp=0.068 15, and α(L2)exp=0.028 7 (1996Pe05). Other: α(K)exp=0.38 and α(L1)exp+α(L2)exp=0.059 (1971Ma45).
^x 192.23 ^d 3	0.14 ^d 4							
^x 193.354 ^d 18	0.079 ^d 19							
194.6 ^{di} 2	0.52 ^{dh} 12	2246.99	(15/2 ⁺)	2052.83	(13/2 ⁺)			
194.612 [@] 20	0.052 [@] 13	956.420	(3/2 ⁻)	761.7148	5/2 ⁻			
195.573 1	5.31 54	636.2424	15/2 ⁺	440.6697	13/2 ⁺	M1+E2	+0.48 17	Mult.: α(K)exp=0.50 8, α(L1)exp=0.037 7, α(L2)exp=0.012 4, α(M1)exp=0.010 3, and α(M2)exp=0.010 5 (1996Pe05). Other: α(K)exp=0.53 and α(L1)exp+α(L2)exp=0.10 (1971Ma45).
196.41 ^d 3	0.157 ^{dh} 24	1873.60	(17/2 ⁺)	1677.205	(15/2 ⁺)			
196.41 ^d 3	0.157 ^{dh} 24	1925.417	15/2 ⁺	1728.911	13/2 ⁺			
^x 197.49 ^d 4	0.10 ^d 3							
^x 197.75 ^d 3	0.19 ^d 5							
198.09 ^{&} 4	0.10 ^{&}	1020.96	(9/2 ⁺)	823.034	(5/2 ⁺)			

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>δ[#]</u>	<u>Comments</u>
202.239 2	0.68 8	1746.580	(19/2 ⁺)	1544.340	(17/2 ⁺)			
^x 203.878 ^d 20	0.12 ^d 3							
^x 205.28 ^{&}	0.064 ^{&}							
206.002 ^g 8	0.04 2	1829.260	(19/2 ⁺)	1623.253	19/2 ⁺			
207.799 1	7.66 78	844.9114	17/2 ⁻	637.1130	15/2 ⁻	M1(+E2)		Mult.: α(K)exp=0.29 6, α(L1)exp=0.031 7, and α(L2)exp=0.0067 19 (1996Pe05). Other: α(K)exp=0.46 and α(L1)exp+α(L2)exp=0.07 (1971Ma45).
209.610 1	2.58 27	761.7148	5/2 ⁻	552.1046	7/2 ⁺			
212.861 2	1.20 14	1389.672	17/2 ⁺	1176.8114	15/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.26 4 and α(M3)exp=0.015 8 (1996Pe05). Other: α(K)exp=0.38 (1971Ma45).
^x 213.426 ^d 12	0.69 ^d 14							
213.986 3	1.28 16	671.9500	9/2 ⁺	457.9642	5/2 ⁺			
218.117 1	1.40 17	854.3587	17/2 ⁺	636.2424	15/2 ⁺	M1+E2	+0.52 5	Mult.: α(L1)exp=0.078 23 and α(M1)exp=0.023 7 (1996Pe05). Other: α(K)exp=0.56 and α(L1)exp+α(L2)exp=0.048 (1971Ma45).
^x 220.55 ^d 6	0.07 ^d 3							
221.600 3	0.17 4	795.228	(1/2 ⁻)	573.6301	3/2 ⁺			
^x 224.118 ^d 16	0.20 ^d 4							
225.53 4	0.06 2	795.228	(1/2 ⁻)	569.6790	1/2 ⁺			
228.728 1	1.34 14	1073.6386	19/2 ⁻	844.9114	17/2 ⁻	M1(+E2)		Mult.: α(K)exp=0.19 4, α(L1)exp=0.021 6, and α(L2)exp=0.027 13 (1996Pe05). Other: α(K)exp=0.37 (1971Ma45).
229.60 ^d 3	0.14 ^d 5	2155.02	17/2 ⁺	1925.417	15/2 ⁺			
231.262 13	0.06 2	671.9500	9/2 ⁺	440.6697	13/2 ⁺			
233.580 2	0.43 6	1623.253	19/2 ⁺	1389.672	17/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.35 (1971Ma45).
^x 235.408 2	0.50 6					M1,E2		Mult.: α(K)exp=0.29 9 and α(L1)exp=0.039 16 (1996Pe05).
235.869 1	4.2 4	956.6752	9/2 ⁺	720.8056	7/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.18 3, α(L1)exp=0.059 13, and α(L2)exp=0.042 7 (1996Pe05).
^x 236.143 2	1.45 16							
239.349 8	0.27 4	1093.706	19/2 ⁺	854.3587	17/2 ⁺			
^x 240.58 ^d 3	0.12 ^d 3							
^x 241.155 2	0.31 4							
242.74 ^d 5	0.19 ^d 6	1954.6	(11/2 ⁺)	1711.9	(7/2 ⁺)			
244.332 2	3.8 4	1151.83	(11/2 ⁺)	907.50	(7/2 ⁺)	E2		Mult.: α(K)exp=0.076 21, α(L1)exp=0.017 6, α(L2)exp=0.009 3, α(L3)exp=0.007 3, and α(M2)exp=0.0042 20 (1996Pe05). Other: α(K)exp=0.08 and α(M)exp=0.006 (1971Ma45). Note, that values overlap with that for the 244.332γ depopulating the 1201.649 keV level.
244.332 2	3.8 4	1201.658	17/2 ⁻	957.3266	13/2 ⁻	E2		Mult.: α(K)exp=0.076 21, α(L1)exp=0.017 6, α(L2)exp=0.009 3, α(L3)exp=0.007 3, and α(M2)exp=0.004 2 (1996Pe05). Other: α(K)exp=0.08 and α(M)exp=0.006 (1971Ma45). Note, that values overlap with these for the 244.31γ depopulating the 1151.6 keV level.

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>Comments</u>
247.262 2	2.00 19	956.6752	9/2 ⁺	709.4139	5/2 ⁺	E2	Mult.: α(K)exp=0.045 11, α(L1)exp=0.014 5, and α(L2)exp=0.020 6 (1996Pe05).
248.560 5	0.06 2	1322.184	21/2 ⁻	1073.6386	19/2 ⁻		
251.43 ^d 8	0.12 ^d 4	709.4139	5/2 ⁺	457.9642	5/2 ⁺		
^x 252.22 ^d 4	0.17 ^d 4						
^x 256.26 ^d 3	0.14 ^d 4						
259.390 2	14.6 15	980.1950	11/2 ⁺	720.8056	7/2 ⁺	E2	Mult.: α(K)exp=0.0650 10, α(L1)exp=0.0070 13, α(L2)exp=0.0113 18, α(M1)exp=0.0016 7, and α(M2)exp=0.0028 8 (1996Pe05). Other: α(K)exp=0.09, α(L1)exp+α(L2)exp=0.027, and α(M)exp=0.004 (1971Ma45).
^x 260.236 10	0.12 4						
262.844 9	0.06 2	720.8056	7/2 ⁺	457.9642	5/2 ⁺		
^x 263.13 ^d 10	0.095 ^d						
^x 263.51 ^d 10	0.14 ^d 6						
264.600 2	2.75 29	816.7049	11/2 ⁺	552.1046	7/2 ⁺	E2	Mult.: α(L2)exp=0.018 7 and α(L3)exp=0.008 3 (1996Pe05). Other: α(K)exp=0.076 and α(M)exp=0.0031 (1971Ma45).
268.801 2	30.1 32	268.8018	11/2 ⁺	0.0	7/2 ⁺	E2	Mult.: α(K)exp=0.0686 11, α(L1)exp=0.0070 12, α(L2)exp=0.0135 23, α(L3)exp=0.0151 26, and α(M2)exp=0.0032 6 (1996Pe05). Other: α(K)exp=0.09, α(L1)exp+α(L2)exp=0.02, α(L3)exp=0.006, α(M)exp=0.0049 and α(N)exp=0.0011 (1971Ma45).
^x 270.23 ^{&}	0.33 ^{&}					(E2)	Mult.: α(K)exp=0.1 (1971Ma45).
^x 272.253 2	1.01 12					M1(+E2)	Mult.: α(K)exp=0.16 (1971Ma45).
^x 274.802 2	0.87 10					M1(+E2)	Mult.: α(K)exp=0.16 (1971Ma45).
275.91 ^d 8	0.24 ^d 6	1632.785	(15/2 ⁺)	1356.887	15/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.16 for E _γ =274.79 keV (1971Ma45).
277.175 5	0.33 6	1088.625	7/2 ⁻	811.4526	9/2 ⁻	M1(+E2)	Mult.: α(K)exp=0.24 (1971Ma45).
277.175 5	0.33 ^h 6	1564.112	15/2 ⁻	1286.944	11/2 ⁻		
^x 279.26 ^d 4	0.26 ^d 7						E _γ , I _γ : Complex line.
^x 281.54 ^d 3	0.14 ^d 4						
^x 282.56 ^d 3	0.17 ^d 4						
283.33 ^g 3	0.02 2	552.1046	7/2 ⁺	268.8018	11/2 ⁺		
^x 283.827 ^f 15	0.04 2						
^x 284.090 4	0.27 4					M1(+E2)	Mult.: α(K)exp=0.27 (1971Ma45).
^x 288.021 2	0.78 8						
289.55 ^{&}	0.18 ^{&}	1910.2	(13/2 ⁺)	1621.0	(9/2 ⁺)		
^x 290.96 4	0.04 2						
^x 294.504 13	0.08 2						
^x 296.2 ^d 1	0.19 ^d						
^x 296.6 ^d 1	0.17 ^d						
299.0 ⁱ 5	0.14 2	1319.70	(13/2 ⁺)	1020.96	(9/2 ⁺)	(E2)	Mult.: α(K)exp=0.08 and α(M)exp=0.006 (1971Ma45).
301.115 1	4.98 15	451.5143	13/2 ⁻	150.3988	9/2 ⁻	E2	Mult.: α(K)exp=0.048 12, α(L1)exp=0.010 3, and α(L3)exp=0.0054 22

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>Comments</u>
							(1996Pe05). Other: α(K)exp=0.073, α(L1)exp+α(L2)exp=0.019, and α(M)exp=0.004 (1971Ma45).
301.640 12	0.10 4	1286.944	11/2 ⁻	985.3087	13/2 ⁺		
303.75 ⁱ 5	0.14 4	761.7148	5/2 ⁻	457.9642	5/2 ⁺		
^x 306.576 ^f 13	0.10 2						
^x 308.990 7	0.16 2						
^x 309.275 4	0.19 4					M1(+E2)	Mult.: α(K)exp=0.27 (1971Ma45).
^x 310.7 ^d 1	0.19 ^d						
^x 311.321 13	0.14 2						
^x 312.896 4	0.19 4						
313.358 2	3.4 4	985.3087	13/2 ⁺	671.9500	9/2 ⁺	E2	Mult.: α(K)exp=0.051 11, α(L1)exp=0.0067 21, and α(L2)exp=0.0053 20 (1996Pe05). Other: α(K)exp=0.067 (1971Ma45).
^x 315.9							E _γ : From 1971Ma45.
317.768 8	0.12 2	1303.0682	13/2 ⁺	985.3087	13/2 ⁺		
319.040 1	30.9 31	440.6697	13/2 ⁺	121.6287	9/2 ⁺	E2	Mult.: α(K)exp=0.038 7, α(L1)exp=0.0042 8, α(L2)exp=0.0034 7, α(L3)exp=0.0041 10, α(M1)exp=0.0008 3, and α(M2)exp=0.0013 4 (1996Pe05). Other: α(K)exp=0.045, α(L1)exp+α(L2)exp=0.011, α(L3)exp=0.003, α(M)exp=0.002 and α(N)exp=0.0006 (1971Ma45).
^x 320.529 9	0.14 2						
321.077 6	0.16 2	957.3266	13/2 ⁻	636.2424	15/2 ⁺		
322.873 1	2.68 27	1303.0682	13/2 ⁺	980.1950	11/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.16 4 and α(L1)exp=0.013 4 (1996Pe05). Other: α(K)exp=0.16 and α(L1)exp+α(L2)exp=0.018 (1971Ma45).
325.884 ⁸ 8	0.23 2	1502.696	(13/2 ⁺)	1176.8114	15/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.12 (1971Ma45).
326.6		1632.785	(15/2 ⁺)	1305.930	11/2 ⁺		E _γ : From 1972Mi16.
326.890 13	0.10 2	1088.625	7/2 ⁻	761.7148	5/2 ⁻		
^x 327.615 ^f 9	0.08 2						
^x 328.486 4	0.19 2						
^x 328.854 4	0.25 4						
329.623 5	1.32 14	1286.944	11/2 ⁻	957.3266	13/2 ⁻	M1(+E2)	Mult.: α(K)exp=0.14 5 (1996Pe05). Other: α(K)exp=0.15 (1971Ma45).
^x 330.86 ^{&}	0.48 ^{&}					M1(+E2)	Mult.: α(K)exp=0.18 (1971Ma45).
^x 331.203 ^f 2	0.33 4						
333.148 4	0.17 2	2087.9	(15/2 ⁺)	1754.7	(11/2 ⁺)		
336.335 2	1.40 14	457.9642	5/2 ⁺	121.6287	9/2 ⁺	E2	Mult.: α(K)exp=0.032 11 and α(L2)exp=0.006 4 (1996Pe05). Note, that values overlap with these for the 336.33γ depopulating the state at 1488.7 keV.
336.335 2	1.40 14	1488.17	(11/2 ⁺)	1151.83	(11/2 ⁺)	(E2)	Mult.: α(K)exp=0.032 11 and α(L2)exp=0.006 4 (1996Pe05). Note, that values overlap with that for the 336.335γ depopulating the state at 457.964 keV.
341.1 ⁱ 5	0.17 2	1628.27	(9/2 ⁻)	1286.944	11/2 ⁻	M1(+E2)	Mult.: α(K)exp=0.089 (1971Ma45).
346.392 2	2.9 3	1303.0682	13/2 ⁺	956.6752	9/2 ⁺	E2	Mult.: α(K)exp=0.042 8 and α(L2)exp=0.010 3 (1996Pe05).
^x 347.899 ^f 9	0.37 4						
348.098 3	5.95 60	637.1130	15/2 ⁻	289.0145	11/2 ⁻	E2	Mult.: α(K)exp=0.023 5, α(L1)exp=0.0036 10, α(L2)exp=0.0030 9, α(L3)exp=0.0024 9 (1996Pe05). Other: α(K)exp=0.047, α(L1)exp+α(L2)exp=0.0069, and α(M)exp=0.0019 (1971Ma45).

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>Comments</u>
^x 349.658 ^f 7	0.16 2						
^x 350.028 ^f 16	0.04 2						
^x 350.627 11	0.10 2						
^x 355.375 28	0.06 2						
355.829 20	0.06 2	1745.527	(17/2 ⁺)	1389.672	17/2 ⁺		
^x 357.08 ^{&}	0.2 ^{&}					M1(+E2)	Mult.: α(K)exp=0.18 (1971Ma45).
^x 358.430 9	0.12 2						
360.104 3	2.37 25	1176.8114	15/2 ⁺	816.7049	11/2 ⁺	E2	Mult.: α(K)exp=0.036 (1971Ma45).
362.459 4	0.52 6	1564.112	15/2 ⁻	1201.658	17/2 ⁻	M1(+E2)	Mult.: α(K)exp=0.065 and α(L1)exp=0.024 (1971Ma45).
^x 363.44 6	0.04 2						
364.613 2	4.3 5	1344.808	15/2 ⁺	980.1950	11/2 ⁺	E2	Mult.: α(K)exp=0.026 5 (1996Pe05). Other: α(K)exp=0.025 and α(L1)exp+α(L2)exp=0.0061 (1971Ma45).
^x 365.347 13	0.27 4						
367.440 2	17.2 ^h 18	636.2424	15/2 ⁺	268.8018	11/2 ⁺	E2	Mult.: α(K)exp=0.028 7, α(L2)exp=0.0024 8, and α(L3)exp=0.0018 6 (1996Pe05). Other: α(K)exp=0.024, α(L1)exp+α(L2)exp=0.005, α(L3)exp=0.0013, α(M)exp=0.0013 and α(N)exp=0.0027 (1971Ma45). Note, that values overlap with these for the 367.440γ depopulating the state at 1544.277 keV.
367.44 ^j 2	46 ^h 5	1544.340	(17/2 ⁺)	1176.8114	15/2 ⁺		I _γ ,Mult.: α(K)exp=0.028 7, α(L2)exp=0.0024 8, and α(L3)exp=0.0018 6 (1996Pe05). Other: α(K)exp=0.024, α(L1)exp+α(L2)exp=0.005, α(L3)exp=0.0013, α(M)exp=0.0013 and α(N)exp=0.0027 (1971Ma45). Note, that values overlap with these for the 367.440γ depopulating the state at 636.242 keV.
^x 372.65 ^{&} 16	0.6 ^{&}					E2,E1	Mult.: α(K)exp=0.028 (1971Ma45).
^x 378.0							E _γ : From 1971Ma45.
^x 379.5							E _γ : From 1971Ma45.
382.939 7	0.10 4	671.9500	9/2 ⁺	289.0145	11/2 ⁻		
^x 385.857 4	0.16 2						
389.1 ^j		1746.580	(19/2 ⁺)	1356.887	15/2 ⁺		E _γ : From 1971Ma45.
^x 391.861 ^f 15	0.06 2						
393.395 2	2.95 31	844.9114	17/2 ⁻	451.5143	13/2 ⁻	E2	Mult.: α(K)exp=0.0391 17 (1996Pe05). Other: α(K)exp=0.022 and α(L1)exp+α(L2)exp=0.006 (1971Ma45).
^x 396.639 2	0.39 4					E2	Mult.: α(K)exp=0.022 (1971Ma45).
^x 397.714 4	0.14 2						
400.75 ⁸ 4	0.02 2	1745.527	(17/2 ⁺)	1344.808	15/2 ⁺		
^x 401.502 4	0.45 6						
401.721 9	0.16 4	552.1046	7/2 ⁺	150.3988	9/2 ⁻		
403.222 11	0.21 4	671.9500	9/2 ⁺	268.8018	11/2 ⁺		
404.361 4	0.97 12	1389.672	17/2 ⁺	985.3087	13/2 ⁺	E2	Mult.: α(K)exp=0.018 6 (1996Pe05). Other: α(K)exp=0.02 (1971Ma45).
^x 406.207 4	0.84 16					M1(+E2)	Mult.: α(K)exp=0.028 3 (1996Pe05).
^x 411.894 ^f 11	0.10 2						

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>δ[#]</u>	<u>Comments</u>
413.685 2	6.44 66	854.3587	17/2 ⁺	440.6697	13/2 ⁺	E2		Mult.: α(K)exp=0.028 8 (1996Pe05). Other: α(K)exp=0.025, α(L1)exp+α(L2)exp=0.006, and α(M)exp=0.0015 (1971Ma45).
426.1 ^d 2	0.36 ^d 9	2155.02	17/2 ⁺	1728.911	13/2 ⁺	(E2)		Mult.: α(K)exp=0.047 (1971Ma45).
430.473 3	0.52 8	552.1046	7/2 ⁺	121.6287	9/2 ⁺	M1(+E2)	≤1.1	Mult.,δ: α(K)exp=0.051 14 (1996Pe05). Other: α(K)exp=0.049 (1971Ma45).
^x 435.142 4	0.66 8					E1,E2		Mult.: α(K)exp=0.014 (1971Ma45).
^x 435.631 11	0.14 2							
436.522 3	0.78 10	1073.6386	19/2 ⁻	637.1130	15/2 ⁻	E2		Mult.: α(K)exp=0.025 10 (1996Pe05). Other: α(K)exp=0.014 (1971Ma45).
442.470 16	0.14 2	1745.527	(17/2 ⁺)	1303.0682	13/2 ⁺			
^x 447.857 9	0.66 8					E2		Mult.: α(K)exp=0.020 (1971Ma45).
^x 451.804 15	0.10 2							
^x 454.575 4	0.56 8							
^x 455.29 17	0.14 2							
^x 456.084 7	0.41 8							
457.461 8	1.18 14	1093.706	19/2 ⁺	636.2424	15/2 ⁺			
457.964 4	72.7 73	457.9642	5/2 ⁺	0.0	7/2 ⁺	M1(+E2)	≤0.6	Mult.: α(K)exp=0.070 23, α(L1)exp=0.009 3, and α(M1)exp=0.0018 6 (1996Pe05). Other: α(K)exp=0.063, α(L1)exp+α(L2)exp=0.009, α(M)exp=0.0002 and α(N)exp=0.00009 (1971Ma45).
^x 459.568 ^f 11	0.17 4							
^x 462.618 ^f 9	0.16 2							
^x 463.61 ^f 14	0.08 2							
^x 466.367 24	0.10 2							
475.491 5	3.0 3	1286.944	11/2 ⁻	811.4526	9/2 ⁻	M1(+E2)		Mult.: α(K)exp=0.037 14 and α(L1)exp=0.014 6 (1996Pe05). Other: α(K)exp=0.031 (1971Ma45).
477.267 ^g 3	0.10 4	1322.184	21/2 ⁻	844.9114	17/2 ⁻			
^x 481.9 ^{&}	0.6 ^{&}					M1,E2		Mult.: α(K)exp=0.028 (1971Ma45).
484.458 18	0.16 4	1829.260	(19/2 ⁺)	1344.808	15/2 ⁺			
^x 496.893 ^f 11	0.17 4							
^x 498.296 11	0.51 11							
^x 499.977 ^f 20	0.14 2					M1(+E2)		Mult.: α(K)exp=0.043 (1971Ma45).
502.54 6	0.06 4	1356.887	15/2 ⁺	854.3587	17/2 ⁺			
^x 503.969 ^f 20	0.14 2							
^x 506.6 ^d 4	0.36 ^d 12							
^x 509.7 ^d 4	0.45 ^d 14							
^x 510.287 ^f 13	0.37 4							
^x 514.721 11	0.58 8							
515.798 ^f 9	0.37 4	1187.742	(11/2 ⁻)	671.9500	9/2 ⁺			
516.665 14	0.64 8	957.3266	13/2 ⁻	440.6697	13/2 ⁺			
^x 517.850 11	0.29 4							
^x 520.917 7	1.49 16							Mult.: α(K)exp=0.014 4 for E _γ =520.8 keV (1971Ma45).

¹⁷⁶Lu(n,γ) E=thermal [1971Ma45](#),[1975Ge11](#),[1996Pe05](#) (continued)

γ(¹⁷⁷Lu) (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>δ[#]</u>	<u>Comments</u>
^x 521.621 <i>13</i>	0.27 <i>6</i>							
526.9 ^a <i>4</i>	0.47 ^a <i>23</i>	1322.1	(3/2 ⁻)	795.228	(1/2 ⁻)	M1(+E2)		Mult.: α(K)exp=0.023 for E _γ =525.3 keV (1971Ma45).
527.665 <i>20</i>	0.23 <i>4</i>	816.7049	11/2 ⁺	289.0145	11/2 ⁻			
^x 528.90 ^f <i>3</i>	0.10 <i>2</i>					E2		Mult.: α(K)exp=0.018 <i>8</i> (1971Ma45).
534.5 ^{&} <i>4</i>	0.6 ^{&} <i>4</i>	1925.417	15/2 ⁺	1389.672	17/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.030 (1971Ma45).
535.247 ^g <i>31</i>	0.16 <i>4</i>	1389.672	17/2 ⁺	854.3587	17/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.03 <i>2</i> for 534.5γ <i>4</i> (1971Ma45).
540.567 <i>9</i>	0.62 <i>12</i>	1176.8114	15/2 ⁺	636.2424	15/2 ⁺			
542.652 <i>5</i>	1.36 <i>14</i>	811.4526	9/2 ⁻	268.8018	11/2 ⁺			
^x 544.0 ^{&} <i>3</i>	2.12 ^{&} <i>24</i>							
544.640 <i>4</i>	1.61 <i>17</i>	985.3087	13/2 ⁺	440.6697	13/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.026 <i>6</i> (1971Ma45).
547.902 <i>7</i>	3.0 <i>3</i>	816.7049	11/2 ⁺	268.8018	11/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.015 <i>4</i> and α(L1)exp=0.0041 <i>18</i> (1996Pe05). Other: α(K)exp=0.029 <i>7</i> (1971Ma45).
550.318 <i>3</i>	4.9 <i>5</i>	671.9500	9/2 ⁺	121.6287	9/2 ⁺	M1+E2	1.3 <i>6</i>	Mult.,δ: α(K)exp=0.016 <i>5</i> and α(L1)exp=0.0033 <i>13</i> (1996Pe05). Other: α(K)exp=0.021 <i>5</i> (1971Ma45).
552.102 <i>4</i>	6.3 ^h <i>6</i>	552.1046	7/2 ⁺	0.0	7/2 ⁺	M1+E2	1.8 <i>5</i>	Mult.,δ: α(K)exp=0.015 <i>4</i> and α(L1)exp=0.0022 <i>9</i> (1996Pe05). Other: α(K)exp=0.028 <i>5</i> (1971Ma45). Note, that values overlap with these for the 552.1γ depopulating the 1728.4 keV level.
552.102 <i>4</i>	16.9 ^h <i>17</i>	1728.911	13/2 ⁺	1176.8114	15/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.015 <i>4</i> and α(L1)exp=0.0022 <i>9</i> (1996Pe05). Other: α(K)exp=0.028 (1971Ma45). Note, that values overlap with these for the 552.102γ depopulating the 552.104 keV level.
^x 554.7 ^{&} <i>3</i>	2.07 ^{&} <i>7</i>					E1		Mult.: α(K)exp=0.0034 <i>12</i> (1971Ma45).
^x 560.182 <i>15</i>	0.06 <i>2</i>							
^x 561.5 ^a <i>3</i>	0.58 ^a <i>16</i>							
^x 563.9 ^{&} <i>3</i>	0.357 ^{&} <i>24</i>					(E2)		Mult.: α(K)exp=0.033 <i>22</i> (1971Ma45).
^x 566.1 ^{&} <i>10</i>	0.52 ^{&} <i>5</i>							
569.680 ^g <i>9</i>	0.23 <i>6</i>	569.6790	1/2 ⁺	0.0	7/2 ⁺			
573.6 <i>5</i>		573.6301	3/2 ⁺	0.0	7/2 ⁺			E _γ : From 1971Ma45 .
^x 576.6 ^{af} <i>4</i>	0.70 ^a <i>23</i>							
^x 577.034 ^f <i>22</i>	0.25 <i>6</i>							
578.86 ^g <i>4</i>	0.10 <i>3</i>	1564.112	15/2 ⁻	985.3087	13/2 ⁺	E1		Mult.: α(K)exp=0.006 (1971Ma45).
^x 584.8 ^a <i>3</i>	0.23 ^a <i>4</i>							
^x 591.3 ^a <i>3</i>	0.19 ^a <i>4</i>							
^x 599.55 ^a <i>25</i>	0.23 ^a <i>4</i>							
^x 603.20 ^a <i>25</i>	0.27 ^a <i>4</i>							
606.774 <i>4</i>	1.90 <i>21</i>	1564.112	15/2 ⁻	957.3266	13/2 ⁻	M1(+E2)		Mult.: α(K)exp=0.0060 <i>22</i> (1996Pe05). Other: α(K)exp=0.012 (1971Ma45).
^x 611.18 ^a <i>24</i>	0.27 ^a <i>4</i>							
^x 614.0 ^{&} <i>8</i>	0.33 ^{&} <i>12</i>					E2		Mult.: α(K)exp=0.014 <i>5</i> (1971Ma45).
^x 615.23 ^a <i>13</i>	0.70 ^a <i>8</i>							

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (continued)

E _γ [†]	I _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	Mult. [‡]	δ [#]	Comments
^x 618.0& 8	0.24& 12					(E2)		Mult.: α(K)exp=0.02 1 (1971Ma45). E _γ : From 1971Ma45.
^x 620.9 6	0.7 4							
^x 625.0& 8	0.26& 12							
^x 626.9& 13	0.24& 12							
632.95 ^a 27	0.85 ^a 19	1394.62	(5/2 ⁻)	761.7148	5/2 ⁻	M1(+E2)		Mult.: α(K)exp=0.019 7 for E _γ =632.6 keV (1971Ma45).
^x 636.8& 5	0.83& 12							
^x 640.7& 7	0.95& 24							
^x 645.6& 11	0.36& 24							
^x 647.2 ^a 3	0.23 ^a 8							
652.0& 8	0.60& 24	1746.580	(19/2 ⁺)	1093.706	19/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.020 (1971Ma45).
652.451 8	0.64 8	1829.260	(19/2 ⁺)	1176.8114	15/2 ⁺			
^x 659.5& 5	0.43& 24					E2,E1		Mult.: α(K)exp=0.014 8 (1971Ma45).
^x 665.577 9	0.93 12							
^x 668.430 ^f 9	0.81 10							
671.944 8	1.69 17	671.9500	9/2 ⁺	0.0	7/2 ⁺	M1(+E2)	≤0.3	Mult.,δ: α(K)exp=0.020 2 (1971Ma45).
^x 680.763 ^f 18	0.31 6							
^x 687.40 4	0.43 8							
688.532 ^g 18	0.37 6	957.3266	13/2 ⁻	268.8018	11/2 ⁺			
689.7& 6	3.10& 12	1544.340	(17/2 ⁺)	854.3587	17/2 ⁺			
689.824 5	4.1 4	811.4526	9/2 ⁻	121.6287	9/2 ⁺	E1		Mult.: α(K)exp=0.0040 15 (1996Pe05). Other: α(K)exp=0.0031 1 (1971Ma45).
695.069 7	1.84 25	816.7049	11/2 ⁺	121.6287	9/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.0044 18 and α(L1)exp=0.0020 11 (1996Pe05). Other: α(K)exp=0.016 1 (1971Ma45).
^x 700.0& 10	0.43& 24							
^x 701.8 ^a 4	0.16 ^a 8							
^x 702.6& 8	0.48& 24					(E2,E1)		Mult.: α(K)exp<0.005 (1971Ma45).
^x 706.7& 10	0.24& 24							
709.745 ^g 17	0.66 10	1564.112	15/2 ⁻	854.3587	17/2 ⁺	(E1)		Mult.: α(K)exp≤0.004 (1971Ma45).
^x 712.50 21	0.06 2							
^x 713.98 ^a 10	1.55 ^a 16							
716.505 8	1.80 21	985.3087	13/2 ⁺	268.8018	11/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.0042 16 (1996Pe05). Other: α(K)exp=0.0056 7 (1971Ma45).
^x 719.54 ^a 16	0.89 ^a 12							
720.721 18	0.87 14	1356.887	15/2 ⁺	636.2424	15/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.010 3 for E _γ =721.0 keV (1971Ma45).
725.36 ^g 3	0.29 6	1176.8114	15/2 ⁺	451.5143	13/2 ⁻			
^x 727.5& 8	0.48& 24					M1,E2		Mult.: α(K)exp=0.010 5 (1971Ma45).
^x 730.8& 15	0.36& 24							
736.142 9	0.74 12	1176.8114	15/2 ⁺	440.6697	13/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.015 1 (1971Ma45).
743.4 ⁱ 5	0.56 12	1728.911	13/2 ⁺	985.3087	13/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.008 (1971Ma45).

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (continued)

E _γ [†]	I _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	Mult. [‡]	δ [#]	Comments
747.3& 8	0.7& 4	1925.417	15/2 ⁺	1176.8114	15/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.005 (1971Ma45).
753.27 ^a 10	1.01 ^a 8	1607.404	(15/2 ⁺)	854.3587	17/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.011 (1971Ma45). Note, that value overlaps with that for the 753.447γ depopulating the 1389.671 keV level.
753.447 33	0.31 6	1389.672	17/2 ⁺	636.2424	15/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.011 6 (1971Ma45). Note, that value overlaps with that for the 753.27γ depopulating the 1607.4 keV level.
^x 759.27 6	0.56 12							
760.40 7	0.43 10	1049.459	9/2 ⁻	289.0145	11/2 ⁻	M1+E2	0.55 +111-4	
761.5& 5	18.5& 5	761.62	(3/2 ⁺)	0.0	7/2 ⁺	E2		Mult.: α(K)exp=0.0041 11 (1971Ma45).
761.708 5	26.0 29	761.7148	5/2 ⁻	0.0	7/2 ⁺	E1		Mult.: α(K)exp=0.0027 9 (1996Pe05).
768.7 ^e 10		1623.253	19/2 ⁺	854.3587	17/2 ⁺			E _γ : From 1971Ma45.
^x 772.8& 10	0.48& 24							
^x 774.83 ^a 20	0.35 ^a 4							
^x 778.0& 15	0.24& 24							
^x 783.63 3	0.39 8							
787.0& 6	0.60& 24	907.50	(7/2 ⁺)	121.6287	9/2 ⁺			
^x 787.274 11	0.97 16							
^x 793.001 18	0.21 8							
^x 800.039 ^f 20	0.33 10							
^x 804.120 18	0.48 12					M1,E2		Mult.: α(K)exp=0.011 3 (1971Ma45).
^x 806.097 11	1.07 16							
811.438 ^f 14	1.18 27	811.4526	9/2 ⁻	0.0	7/2 ⁺			
811.94 ^a 9	1.24 ^a 12	1573.47	(7/2 ⁻)	761.7148	5/2 ⁻			
^x 812.17 3	0.48 12							
817.01 ^a 11	0.74 ^a 12	1628.27	(9/2 ⁻)	811.4526	9/2 ⁻			
823.045 11	1.28 17	823.034	(5/2 ⁺)	0.0	7/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.010 6 (1971Ma45). Value overlaps with that for the 822.5γ depopulating the 1676.9 keV level.
823.1 ⁱ 5	1.28 17	1677.205	(15/2 ⁺)	854.3587	17/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.010 (1971Ma45). Value overlaps with that for the 822.5γ depopulating the 822.5 keV level.
^x 829.77 ^f 4	0.41 6							
^x 830.661 ^f 22	0.58 8							
^x 833.514 18	1.05 16					M1(+E2)		Mult.: α(K)exp=0.0094 29 (1996Pe05).
834.99 3	1.05 16	1471.116	13/2 ⁺	636.2424	15/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.018 for E _γ =834.1 keV (1971Ma45).
^x 835.421 28	0.60 14							
837.8& 15	0.7& 5	1693.033	(15/2 ⁺)	854.3587	17/2 ⁺			
^x 839.793 11	3.1 4					(E2)		Mult.: α(K)exp=0.023 11 (1971Ma45).
844.96 ^a 8	2.52 ^a 23	1640.17	(3/2 ⁻)	795.228	(1/2 ⁻)			
^x 845.266 11	1.65 21					E2,E1		Mult.: α(K)exp=0.0039 50 (1996Pe05).
^x 851.177 9	3.1 4					M1,E2		Mult.: α(K)exp=0.0056 39 (1996Pe05).
856.9 ⁱ 2	0.95 14	2246.99	(15/2 ⁺)	1389.672	17/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.0067 45 (1971Ma45).

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>Comments</u>
^x 858.49 3	0.47 10						
^x 861.03 ^a 25	0.43 ^a 8						
^x 864.02 ^f 3	0.48 10						
^x 864.727 18	0.87 14						
865.18 ^g 17	0.39 12	1305.930	11/2 ⁺	440.6697	13/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.009 3 for E _γ =864.6 keV (1971Ma45).
^x 872.59 3	0.78 12						
^x 874.89 ^f 26	0.58 10						
876.586 ^e 13	5.58 64	1165.605	9/2 ⁻ ,11/2	289.0145	11/2 ⁻		
876.6 ⁱ 5	5.6 6	2052.83	(13/2 ⁺)	1176.8114	15/2 ⁺		
^x 879.7 ^{&} 7	0.83 ^{&}						
^x 884.21 ^a 12	0.85 ^a 12						
891.3 ^{&} 10	1.0 ^{&} 4	1746.580	(19/2 ⁺)	854.3587	17/2 ⁺		α(K)exp<0.005 (1971Ma45).
^x 895.187 50	0.47 6						
896.0 8		1881.62	(11/2 ⁺)	985.3087	13/2 ⁺		E _γ : From 1971Ma45 .
^x 897.43 15	0.16 2						
898.8 6	3.7 ^h 4	1187.742	(11/2 ⁻)	289.0145	11/2 ⁻		E _γ : From 1971Ma45 .
899.060 9	10.1 ^h 12	1049.459	9/2 ⁻	150.3988	9/2 ⁻		
^x 901.597 18	1.18 16					E1	Mult.: α(K)exp=0.0014 1 (1971Ma45).
902.6 ^{&} 10	2.55 ^{&h} 24	1344.39	(11/2 ⁺)	440.6697	13/2 ⁺		
902.6 ^{&} 10	2.55 ^{&h} 24	1621.0	(9/2 ⁺)	720.8056	7/2 ⁺		
^x 903.542 24	1.28 17						
^x 903.95 ^f 5	0.60 10						
^x 904.21 ^a 12	1.94 ^a 19						
^x 905.125 22	1.03 14						
907.5 ^{&} 6	2.98 ^{&} 24	907.50	(7/2 ⁺)	0.0	7/2 ⁺		
907.9 ^c 3		1348.6	(13/2 ⁻)	440.6697	13/2 ⁺		
908.035 10	3.9 ^h 5	1176.8114	15/2 ⁺	268.8018	11/2 ⁺		
908.035 10	10.6 ^h 12	1544.340	(17/2 ⁺)	636.2424	15/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0096 (1971Ma45).
^x 910.781 13	2.00 23						
911.0 10		1728.911	13/2 ⁺	816.7049	11/2 ⁺		E _γ : From 1971Ma45 .
916.25 16	1.26 25	1356.887	15/2 ⁺	440.6697	13/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0043 3 for E _γ =915.7 keV (1971Ma45).
^x 916.43 13	3.2 4						
^x 919.467 24	1.11 16						
^x 920.24 ^a 12	0.93 ^a 12						
^x 923.2 ^{&} 10	0.53 ^{&} 24					E2,E1	Mult.: α(K)exp=0.0046 21 (1971Ma45).
^x 925.067 ^f 55	0.43 8						
927.66 9	0.29 8	1049.459	9/2 ⁻	121.6287	9/2 ⁺		
^x 933.6 ^{&} 15	0.50 ^{&} 24						
^x 936.45 7	0.39 6					M1,E2	Mult.: α(K)exp=0.0054 15 (1971Ma45).

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (continued)

E _γ [†]	I _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	Mult. [‡]	Comments
940.143 18	2.23 27	1925.417	15/2 ⁺	985.3087	13/2 ⁺	M1,E2	Mult.: α(K)exp=0.0060 (1971Ma45).
^x 941.625 18	1.51 19						
945.6 ⁱ 5	1.18 35	1756.71	(7/2 ⁻)	811.4526	9/2 ⁻	M1(+E2)	Mult.: α(K)exp=0.009 for E _γ =945.4 keV (1971Ma45).
^x 951.247 13	1.71 21					E2,E1	Mult.: α(K)exp=0.0036 7 (1971Ma45).
^x 954.74 4	0.54 10						
958.014 22	1.43 17	1812.387	(17/2 ⁺)	854.3587	17/2 ⁺		
^x 960.6 ^{&} 15	0.71 ^{&} 24						
^x 962.60 ^f 4	0.48 10						
^x 963.9 ^{&} 10	1.30 ^{&} 24						
^x 965.79 3	0.87 12						
966.47 3	3.1 4	1820.74	(15/2 ⁺)	854.3587	17/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0053 (1971Ma45).
^x 967.47 3	1.16 16						
^x 970.5 ^{&} 12	1.1 ^{&} 5					E1,E2	Mult.: α(K)exp=0.0022 10 (1971Ma45).
971.15 3	0.58 10	1607.404	(15/2 ⁺)	636.2424	15/2 ⁺		
^x 972.8 ^{&} 8	0.8 ^{&} 4						
977.4 ^{&} 6	1.79 ^{&} 24	2155.02	17/2 ⁺	1176.8114	15/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0053 (1971Ma45).
^x 978.414 13	1.67 21						
^x 980.38 ^f 7	0.23 4						
987.9 ^{ei} 5	0.33 4	1623.253	19/2 ⁺	636.2424	15/2 ⁺		
^x 991.12 ^f 8	0.19 4						
^x 993.76 ^f 10	0.25 4						
994.89 5	0.33 4	1756.71	(7/2 ⁻)	761.7148	5/2 ⁻		
996.57 4	0.66 10	1632.785	(15/2 ⁺)	636.2424	15/2 ⁺		
^x 997.81 7	0.41 10						
999.35 3	0.50 10	1635.726	13/2 ⁺	636.2424	15/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0045 (1971Ma45).
1000.495 22	0.70 12	1957.176	(11/2 ⁻)	956.6752	9/2 ⁺		
^x 1002.34 ^f 6	0.37 4						
^x 1005.07 ^f 9	0.19 4						
^x 1008.63 2	2.13 25						
^x 1009.88 4	1.05 14						
^x 1011.0 ^{&} 5	2.79 ^{&} 24						
^x 1012.80 7	0.78 14						
1013.731 13	3.6 4	1454.420	(13/2 ⁺)	440.6697	13/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0083 for E _γ =1013.6 keV (1971Ma45).
^x 1014.42 13	0.43 10						
1015.27 ^e 8	1.12 16	1165.605	9/2 ⁻ ,11/2	150.3988	9/2 ⁻		
1020.2 ^{&} 10	^{&} h	1020.96	(9/2 ⁺)	0.0	7/2 ⁺		
1020.2 ^{&} 10	^{&} h	1873.60	(17/2 ⁺)	854.3587	17/2 ⁺		
^x 1022.3 ^a 4	0.47 ^a 12						
^x 1023.4 ^{&} 10	1.1 ^{&} 5						

γ(¹⁷⁷Lu) (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>Comments</u>
1025.39 4	1.20 16	1661.424	15/2 ⁺	636.2424	15/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.005 for E _γ =1025.0 keV (1971Ma45).
1030.0 ⁱ 5	0.89 14	1471.116	13/2 ⁺	440.6697	13/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0092 (1971Ma45). Note, that the value overlaps with that for the 1030.0γ depopulating the 1151.6 keV level.
1030.02 4	0.89 14	1151.83	(11/2 ⁺)	121.6287	9/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0092 15 (1971Ma45). Note, that the value overlaps with that for the 1030.021γ depopulating the 1470.992 keV level.
^x 1030.79 3	3.2 4						
^x 1034.98 11	0.43 12						
1035.5 ⁱ 5	1.03 16	1305.930	11/2 ⁺	268.8018	11/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.015 10 (1971Ma45).
1036.3& 10	0.7& 5	1754.7	(11/2 ⁺)	720.8056	7/2 ⁺		
1039.39 24	0.41 12	1677.205	(15/2 ⁺)	636.2424	15/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0060 (1971Ma45).
^x 1045.17 4	0.78 12						
1047.68 16	0.87 14	1488.17	(11/2 ⁺)	440.6697	13/2 ⁺		
^x 1048.24 5	1.20 16						
1049.6 ⁱ 5	1.71 21	1319.70	(13/2 ⁺)	268.8018	11/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.003 1 (1971Ma45).
^x 1052.623 37	1.16 16						
^x 1055.226 81	0.66 10						
1056.790 24	1.67 ^h 25	1693.033	(15/2 ⁺)	636.2424	15/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0036 3 (1971Ma45). Note, that the value overlaps with that for the 1056.79γ depopulating the 1728.4 keV level.
1056.790 24	1.67 ^h 25	1728.911	13/2 ⁺	671.9500	9/2 ⁺	(E2)	Mult.: α(K)exp=0.0036 (1971Ma45). Note, that the value overlaps with that for the 1056.3γ depopulating the 1692.4 keV level.
^x 1060.28 9	0.66 10						
1061.99 6	3.7 6	1502.696	(13/2 ⁺)	440.6697	13/2 ⁺	(M1+E2)	Mult.: α(K)exp=0.008 (1971Ma45).
^x 1064.12 7	0.66 12						
1065.7& 8	4.2& 5	1505.96	(13/2 ⁺)	440.6697	13/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0023 (1971Ma45). Note, that the value overlaps with that for the 1065.7γ depopulating the 1881.9 keV level.
1065.7& 8	4.2& 5	1881.62	(11/2 ⁺)	816.7049	11/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0023 (1971Ma45). Note, that the value overlaps with that for the 1065.7γ depopulating the 1505.9 keV level.
1065.96 ^a 9	5.6 ^a 5	1827.69	(5/2 ⁻)	761.7148	5/2 ⁻		
1066.03 3	4.0 6	1187.742	(11/2 ⁻)	121.6287	9/2 ⁺		
^x 1068.0& 10	1.4& 7						
^x 1072.4 8							E _γ : From 1971Ma45 .
1076.0& 7	1.07& 24	1344.39	(11/2 ⁺)	268.8018	11/2 ⁺		
1080.204 18	6.2 9	1230.607	11/2 ⁺	150.3988	9/2 ⁻	(E1)	Mult.: α(K)exp=0.0023 1 (1971Ma45).
1080.21 ^c		1348.6	(13/2 ⁻)	268.8018	11/2 ⁺		
^x 1086.6& 6	1.67& 5						
1088.129 10	7.3 10	1356.887	15/2 ⁺	268.8018	11/2 ⁺	(E2)	Mult.: α(K)exp=0.0048 5 for E _γ =1088.0 keV (1971Ma45).
^x 1092.84 11	0.81 19						
^x 1093.26 ^a 14	1.2 ^a 4						
^x 1094.1 ^f 3	0.45 4						
^x 1098.77 4	0.68 12						
1099.0& 10	1.07& 24	1389.0	(13/2 ⁺)	289.0145	11/2 ⁻		

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>δ[#]</u>	<u>Comments</u>
1108.0 12		1230.607	11/2 ⁺	121.6287	9/2 ⁺	M1+E2	0.7 +6-2	E _γ : From 1971Ma45 .
1108.0 12		1746.580	(19/2 ⁺)	637.1130	15/2 ⁻			E _γ : From 1971Ma45 .
1108.0 12		1925.417	15/2 ⁺	816.7049	11/2 ⁺			E _γ : From 1971Ma45 .
^x 1113.14 4	0.87 14							
1120.0 12		1241.1	7/2 ⁺	121.6287	9/2 ⁺	M1+E2	-0.07 3	E _γ : From 1971Ma45 .
^x 1121.51 ^a 25	0.58 ^a 8							
^x 1122.38 6	0.70 17							
^x 1124.8 ^a 4	0.35 ^a 8							
1126.0 12		1566.22	(15/2 ⁺)	440.6697	13/2 ⁺			E _γ : From 1971Ma45 .
^x 1130.9 ^a 4	0.43 ^a 12							
1132.4 ^{&} 8	0.71 ^{&} 24	1573.7	(11/2 ⁺)	440.6697	13/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.010 (1971Ma45).
^x 1133.6 ^a 4	0.54 ^a 12							
1138.3 ^{&} 10	0.48 ^{&} 24	1711.9	(7/2 ⁺)	573.6301	3/2 ⁺			
^x 1140.0 ^{&} 8	1.07 ^{&} 24					M1,E2		Mult.: α(K)exp=0.0044 10 (1971Ma45).
1146.2 ^a 3	0.47 ^a 8	1957.176	(11/2 ⁻)	811.4526	9/2 ⁻	M1(+E2)		Mult.: α(K)exp=0.007 for E _γ =1146.3 keV (1971Ma45).
1150.24 4	1.11 17	1786.42	(17/2 ⁺)	636.2424	15/2 ⁺			α(K)exp=0.010 6 for E _γ =1149.7 keV (1971Ma45).
^x 1151.4 ^{&} 10	0.6 ^{&} 5							
^x 1156.2 3	0.60 17							
^x 1157.0 ^f 3	0.27 12							
^x 1161.7 ^{ag} 5	0.31 ^a 8							
1166.64 4	2.17 31	1607.404	(15/2 ⁺)	440.6697	13/2 ⁺			
1171.7 ^{&} 12	1.3 ^{&} 5	2155.02	17/2 ⁺	985.3087	13/2 ⁺	E2		Mult.: α(K)exp=0.0018 (1971Ma45).
1175.5 ^{&} 10	1.4 ^{&} 5	1443.73	9/2 ⁺	268.8018	11/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.0017 (1971Ma45).
1176.3 ^a 3	0.62 ^a 16	1812.387	(17/2 ⁺)	636.2424	15/2 ⁺			
^x 1183.8 ^a 4	0.43 ^a 19							
1184.14 6	1.12 21	1305.930	11/2 ⁺	121.6287	9/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.0084 (1971Ma45). Note, that the value overlaps with that for the 1184.6γ depopulating the 1820.8 keV level.
1184.14 6	1.12 21	1820.74	(15/2 ⁺)	636.2424	15/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.0084 (1971Ma45). Note, that the value overlaps with that for the 1184.142γ depopulating the 1305.706 keV level.
1185.10 ^a 25	3.2 ^a 4	1454.420	(13/2 ⁺)	268.8018	11/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.0084 for E _γ =1184.6 keV (1971Ma45).
^x 1190.31 7	0.85 16							
^x 1192.5 ^{&} 7	1.07 ^{&} 24							
^x 1194.7 ^a 3	0.85 ^a 16							
^x 1195.46 ^f 4	1.63 25							
^x 1196.90 ^a 15	1.79 ^a 23							
1197.2 ⁱ 5	2.15 31	1319.70	(13/2 ⁺)	121.6287	9/2 ⁺			
^x 1197.24 3	5.8 8							
1202.45 3	2.7 4	1471.116	13/2 ⁺	268.8018	11/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.0077 (1971Ma45). Note, that the value overlaps with that for the 1202.6γ depopulating the 1472.1 keV level.
1215.22 4	1.49 23	1336.85	7/2 ⁺	121.6287	9/2 ⁺	M1(+E2)		Mult.: α(K)exp=0.0050 (1971Ma45).

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>Comments</u>
1220.6 ⁱ 5	2.3 3	1488.17	(11/2 ⁺)	268.8018	11/2 ⁺	(E2)	Mult.: α(K)exp=0.0050 (1971Ma45). Note, that the value overlaps with that for the 1220.632γ depopulating the 1661.471 keV level.
1220.63 3	2.3 3	1661.424	15/2 ⁺	440.6697	13/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0050 (1971Ma45). Note, that the value overlaps with that for the 1220.3γ depopulating the 1488.7 keV level.
1222.2& 8	1.91& 24	1344.39	(11/2 ⁺)	121.6287	9/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0050 (1971Ma45).
^x 1224.9 ^{ag} 5	0.35 ^a 12						
^x 1228.53 7	1.20 19						
^x 1229.15 ^a 10	2.17 ^a 23						
1232.0& 10	1.8& 7	1230.607	11/2 ⁺	0.0	7/2 ⁺	E2	Mult.: α(K)exp=0.0020 8 (1971Ma45).
1233.88 8	1.65 23	1502.696	(13/2 ⁺)	268.8018	11/2 ⁺		
1237.15 11	1.16 ^h 19	1505.96	(13/2 ⁺)	268.8018	11/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0050 (1971Ma45). Value overlaps with that for the 1236.7γ depopulating the 1873.7 keV and 1676.9 keV levels.
1237.15 11	3.1 ^h 5	1677.205	(15/2 ⁺)	440.6697	13/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0050 (1971Ma45). Value overlaps with that for the 1236.7γ depopulating the 1873.7 keV and 1505.9 keV levels.
1237.15 11	3.1 ^h 5	1873.60	(17/2 ⁺)	636.2424	15/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0050 (1971Ma45). Value overlaps with that for the 1236.7γ depopulating the 1676.9 keV and 1505.9 keV levels.
1237.2 ⁱ 5	3.1 ^h 5	2052.83	(13/2 ⁺)	816.7049	11/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.005 (1971Ma45).
1240.5& 12	0.6& 5	1241.1	7/2 ⁺	0.0	7/2 ⁺	E2+M1	Mult.: α(K)exp=0.0040 32 (1971Ma45).
^x 1249.5& 7	0.36& 24						
1252.0& 10	0.8& 5	1693.033	(15/2 ⁺)	440.6697	13/2 ⁺		
^x 1256.17 3	1.92 29						
1262.2& 12	0.8& 5	2246.99	(15/2 ⁺)	985.3087	13/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0029 17 (1971Ma45).
^x 1267.4& 10	0.6& 5						
^x 1270.9 ^{ag} 3	0.78 ^a 19						
^x 1272.5& 10	0.8& 5						
^x 1274.4& 10	0.8& 5						
1277.7& 10	1.0& 5	1566.22	(15/2 ⁺)	289.0145	11/2 ⁻	(M2)	Mult.: α(K)exp=0.006 (1971Ma45).
^x 1279.0 ^{ag} 3	0.66 ^a 16						
^x 1281.1& 10	0.7& 5						
^x 1282.75 10	1.05 16						
^x 1283.4& 10	0.8& 5						
^x 1290.54 10	1.07 16						
1297.40 12	2.90 13	1566.22	(15/2 ⁺)	268.8018	11/2 ⁺	E2	E _γ : From 1971Ma45. Mult.: α(K)exp=0.0033 (1971Ma45).
^x 1300.37 9	0.93 17						
1305.3& 10	1.9& 7	1573.7	(11/2 ⁺)	268.8018	11/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0050 (1971Ma45). Note, that the value overlaps with that for the 1305.706γ depopulating the 1305.706 keV level.
1305.71 3	8.4 13	1305.930	11/2 ⁺	0.0	7/2 ⁺	(E2)	Mult.: α(K)exp=0.0050 (1971Ma45). Note, that the value overlaps with that for the 1305.3γ depopulating the 1573.9 keV level.

¹⁷⁶Lu(n,γ) E=thermal 1971Ma45,1975Ge11,1996Pe05 (continued)

γ(¹⁷⁷Lu) (continued)

E _γ [†]	I _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	Mult. [‡]	Comments
^x 1308.69 6	1.28 21						
^x 1316.2& 10	0.95& 24						
1322.07 15	1.12 21	1443.73	9/2 ⁺	121.6287	9/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.008 (1971Ma45).
1332.1 ⁱ 5	1.78 27	1454.420	(13/2 ⁺)	121.6287	9/2 ⁺	(E2)	Mult.: α(K)exp=0.006 for E _γ =1332.2 keV (1971Ma45).
1336.8& 10	0.82& 5	1336.85	7/2 ⁺	0.0	7/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0043 (1971Ma45).
^x 1341.5 ^a 4	0.74 ^a 19						
1344.39 5	1.82 27	1344.39	(11/2 ⁺)	0.0	7/2 ⁺		
^x 1347.0& 10	1.1& 5						
^x 1349.50 7	1.92 29						
1350.8& 10	1.3& 7	1471.116	13/2 ⁺	121.6287	9/2 ⁺		Mult.: α(K)exp=0.0045 (1971Ma45).
^x 1355.2 ^{ag} 3	0.85 ^a 23						
^x 1356.7& 10	0.8& 5						
^x 1361.90 9	0.99 17						
1367.004 24	4.1 ^h 6	1635.726	13/2 ⁺	268.8018	11/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0038 (1971Ma45).
1368.0& 10	2.9&h 5	1488.17	(11/2 ⁺)	121.6287	9/2 ⁺		
^x 1373.0 ^{ag} 4	0.62 ^a 23						
^x 1374.7& 12	1.2& 5						
^x 1376.9 ^{ag} 3	0.85 ^a 23						
^x 1377.7& 10	1.1& 5						
1381.07 5	3.6 5	1502.696	(13/2 ⁺)	121.6287	9/2 ⁺		
1382.0& 10	1.8& 5	2052.83	(13/2 ⁺)	671.9500	9/2 ⁺		
^x 1388.5& 12	0.7& 5						
^x 1395.1& 10	0.6& 5						
^x 1399.60 10	0.85 16						
^x 1400.66 ^a 13	2.3 ^a 4						
^x 1401.00 5	1.43 16						
1409.2 ⁱ 5	0.85 16	1677.205	(15/2 ⁺)	268.8018	11/2 ⁺	(E2)	Mult.: α(K)exp=0.0036 (1971Ma45).
^x 1412.8& 10	1.1& 5						
^x 1417.04 13	0.93 16						
^x 1418.0& 12	0.8& 5						
1423.5& 10	0.7& 5	1693.033	(15/2 ⁺)	268.8018	11/2 ⁺		
1429.0& 12	0.60& 24	2246.99	(15/2 ⁺)	816.7049	11/2 ⁺	(E2)	Mult.: α(K)exp<0.004 (1971Ma45).
1433.1 10		1873.60	(17/2 ⁺)	440.6697	13/2 ⁺		E _γ : From 1971Ma45.
1444.4& 10	0.83& 24	1443.73	9/2 ⁺	0.0	7/2 ⁺	M1(+E2)	Mult.: α(K)exp=0.0029 (1971Ma45).
^x 1446.9& 10	0.60& 24						
1452.8& 12	0.71& 24	1573.7	(11/2 ⁺)	121.6287	9/2 ⁺		
^x 1455.1& 10	1.1& 24						
^x 1464.6& 12	0.83& 24						

¹⁷⁶Lu(n,γ) E=thermal **1971Ma45,1975Ge11,1996Pe05** (continued)

γ(¹⁷⁷Lu) (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>Comments</u>
^x 1478.6 & 15	0.60 & 24					
^x 1494.3 20						E _γ : From 1971Ma45 .
^x 1500.3 12						E _γ : From 1971Ma45 .
^x 1508.25 7	1.67 25					
^x 1513.8 15		1635.726	13/2 ⁺	121.6287	9/2 ⁺	E _γ : From 1971Ma45 .
^x 1522.3 15						E _γ : From 1971Ma45 .
^x 1534.9 12						E _γ : From 1971Ma45 .
^x 1540.1 12						E _γ : From 1971Ma45 .
^x 1561.5 15						E _γ : From 1971Ma45 .
^x 1615.85 12	0.72 12					
^x 1629.2 12						E _γ : From 1971Ma45 .
^x 1638.52 12	10.62 12					
^x 1648.0 15						E _γ : From 1971Ma45 .
^x 1670.90 25	0.6 10					
^x 1688.0 15						E _γ : From 1971Ma45 .
^x 1704.7 12						E _γ : From 1971Ma45 .
^x 1725.7 12						E _γ : From 1971Ma45 .
^x 1737.2 12						E _γ : From 1971Ma45 .
^x 1755.6 12						E _γ : From 1971Ma45 .
^x 1780.2 11						E _γ : From 1971Ma45 .
^x 1791.3 15						E _γ : From 1971Ma45 .
^x 1803.7 12						E _γ : From 1971Ma45 .
^x 1861.0 15						E _γ : From 1971Ma45 .
^x 1870.0 15						E _γ : From 1971Ma45 .
^x 2009.4 15						E _γ : From 1971Ma45 .
^x 2082.0 15						E _γ : From 1971Ma45 .
4866.8 & 6	6.4 & 4	7072.80	13/2 ⁻ , 15/2 ⁻	2205.9		I _γ : Normalized to I _γ (5213.1 keV)=1.8 2 (1972Mi16).
4938.5 ^b 9	2.2 ^b 3	7072.80	13/2 ⁻ , 15/2 ⁻	2134.2		
4956.0 ^b	0.6 ^b 2	7072.80	13/2 ⁻ , 15/2 ⁻	2116.7		
4965.6 ^b	1.1 ^b 2	7072.80	13/2 ⁻ , 15/2 ⁻	2107.1?	(13/2 ⁺)	
4984.2 ^b	2.5 ^b 3	7072.80	13/2 ⁻ , 15/2 ⁻	2087.9	(15/2 ⁺)	
5016.4 ^b	5.4 ^b 5	7072.80	13/2 ⁻ , 15/2 ⁻	2052.83	(13/2 ⁺)	
5023.4 ^b	4.5 ^b 10	7072.80	13/2 ⁻ , 15/2 ⁻	2049.3		
5039.5 ^b	0.6 ^b 2	7072.80	13/2 ⁻ , 15/2 ⁻	2033.2		
5053.2 [@]	0.6 [@]	7072.80	13/2 ⁻ , 15/2 ⁻	2019.5		
5060.1 ^{bj}	0.5 ^b 2	7072.80	13/2 ⁻ , 15/2 ⁻	2012.8?		
5066.9 ^{bj}	0.5 ^b 2	7072.80	13/2 ⁻ , 15/2 ⁻	2006.0?		
5075.3 ^b	0.5 ^b 2	7072.80	13/2 ⁻ , 15/2 ⁻	1997.4		
5081.9 ^b	0.8 ^b 2	7072.80	13/2 ⁻ , 15/2 ⁻	1990.8		
5090.2 ^b	0.9 ^b 2	7072.80	13/2 ⁻ , 15/2 ⁻	1982.5		

$\gamma(^{177}\text{Lu})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π
5106.0 ^{<i>bj</i>}	0.4 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1966.9?	
5112.6 ^{<i>b</i>}	3.1 ^{<i>b</i>} 3	7072.80	13/2 ⁻ ,15/2 ⁻	1960.1	
5124.7 [@]	0.6 [@]	7072.80	13/2 ⁻ ,15/2 ⁻	1948.0	
5130.3 ^{<i>bj</i>}	0.3 ^{<i>b</i>} 1	7072.80	13/2 ⁻ ,15/2 ⁻	1942.6	
5144.8 ^{<i>b</i>}	0.5 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1925.417	15/2 ⁺
5153.9 ^{<i>b</i>}	0.9 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1918.8	
5165.2 ^{<i>b</i>}	2.8 ^{<i>b</i>} 3	7072.80	13/2 ⁻ ,15/2 ⁻	1910.2	(13/2 ⁺)
5170.7 ^{<i>b</i>}	2.1 ^{<i>b</i>} 3	7072.80	13/2 ⁻ ,15/2 ⁻	1902.0	
5178.3 ^{<i>b</i>}	0.5 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1894.4	
5192.2 ^{<i>b</i>}	3.4 ^{<i>b</i>} 3	7072.80	13/2 ⁻ ,15/2 ⁻	1881.62	(11/2 ⁺)
5210.2 [@]	1.9 [@] 4	7072.80	13/2 ⁻ ,15/2 ⁻	1862.5	
5213.1 ^{<i>b</i>}	1.8 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1859.6	(11/2 ⁻)
5220.3 ^{<i>b</i>}	0.5 ^{<i>b</i>} 1	7072.80	13/2 ⁻ ,15/2 ⁻	1852.4	
5230.4 ^{<i>b</i>}	0.3 ^{<i>b</i>} 1	7072.80	13/2 ⁻ ,15/2 ⁻	1842.3	
5246.0 ^{<i>b</i>}	0.6 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1829.260	(19/2 ⁺)
5258.2 ^{<i>b</i>}	0.5 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1812.387	(17/2 ⁺)
5267.9 ^{<i>b</i>}	2.2 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1804.8	(19/2 ⁺)
5286.1 ^{<i>c</i>}	≤0.2	7072.80	13/2 ⁻ ,15/2 ⁻	1786.42	(17/2 ⁺)
5319.4 ^{<i>b</i>}	4.2 ^{<i>b</i>} 5	7072.80	13/2 ⁻ ,15/2 ⁻	1754.7	(11/2 ⁺)
5323.8 ^{<i>b</i>}	3.0 ^{<i>b</i>} 4	7072.80	13/2 ⁻ ,15/2 ⁻	1748.9	
5333.7 ^{<i>bj</i>}	0.3 ^{<i>b</i>} 1	7072.80	13/2 ⁻ ,15/2 ⁻	1739.2?	
5343.9 ^{<i>b</i>}	6.3 ^{<i>b</i>} 5	7072.80	13/2 ⁻ ,15/2 ⁻	1728.911	13/2 ⁺
5366.7 ^{<i>b</i>}	2.0 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1706.0	
5382.8 ^{<i>b</i>}	1.0 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1693.033	(15/2 ⁺)
5395.7 ^{<i>b</i>}	2.8 ^{<i>b</i>} 3	7072.80	13/2 ⁻ ,15/2 ⁻	1677.205	(15/2 ⁺)
5422.2 ^{<i>b</i>}	0.5 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1650.5	
5439.2 ^{<i>b</i>}	1.5 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1632.785	(15/2 ⁺)
5453.0 [@]	0.6 [@]	7072.80	13/2 ⁻ ,15/2 ⁻	1621.0	(9/2 ⁺)
5465.6 ^{<i>b</i>}	5.6 ^{<i>b</i>} 5	7072.80	13/2 ⁻ ,15/2 ⁻	1607.404	(15/2 ⁺)
5481.7 ^{<i>b</i>}	0.4 ^{<i>b</i>} 1	7072.80	13/2 ⁻ ,15/2 ⁻	1591.0	
5501.4 ^{<i>bj</i>}	0.2 ^{<i>b</i>} 1	7072.80	13/2 ⁻ ,15/2 ⁻	1573.7	(11/2 ⁺)
5508.5 ^{<i>c</i>}	≤0.2	7072.80	13/2 ⁻ ,15/2 ⁻	1564.112	15/2 ⁻
5527.0 ^{<i>b</i>}	0.6 ^{<i>b</i>} 1	7072.80	13/2 ⁻ ,15/2 ⁻	1544.340	(17/2 ⁺)
5570.5 ^{<i>b</i>}	9.1 ^{<i>b</i>} 7	7072.80	13/2 ⁻ ,15/2 ⁻	1502.696	(13/2 ⁺)
5592.1 ^{<i>b</i>}	0.6 ^{<i>b</i>} 2	7072.80	13/2 ⁻ ,15/2 ⁻	1480.6	

γ(¹⁷⁷Lu) (continued)

E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments	
5601.8 ^b	8.0 ^b	6	7072.80	13/2 ⁻ ,15/2 ⁻	1471.116	13/2 ⁺	
5607.7 ^b	1.4 ^b	2	7072.80	13/2 ⁻ ,15/2 ⁻	1465.0		
5617.9 ^b	0.7 ^b	2	7072.80	13/2 ⁻ ,15/2 ⁻	1454.420	(13/2 ⁺)	
5643.5 ^{&}	1.5 ^{&}	4	7072.80	13/2 ⁻ ,15/2 ⁻	1429.2		
5682.8 ^c	≤0.2		7072.80	13/2 ⁻ ,15/2 ⁻	1389.0	(13/2 ⁺)	
5716.2 ^b	1.8 ^b	2	7072.80	13/2 ⁻ ,15/2 ⁻	1356.887	15/2 ⁺	
5724.2 ^b	1.0 ^b	2	7072.80	13/2 ⁻ ,15/2 ⁻	1348.6	(13/2 ⁻)	E _γ ,I _γ : Others: E _γ =5726.6 keV, I _γ < 0.2 (1995Sh18).
5730.1 ^b	5.5 ^b	5	7072.80	13/2 ⁻ ,15/2 ⁻	1344.808	15/2 ⁺	
5746.8 ^b	0.8 ^b	2	7072.80	13/2 ⁻ ,15/2 ⁻	1328	(11/2 ⁻)	
5766.0 [@]	1.0 [@]		7072.80	13/2 ⁻ ,15/2 ⁻	1305.930	11/2 ⁺	
5769.9 ^b	4.6 ^b	4	7072.80	13/2 ⁻ ,15/2 ⁻	1303.0682	13/2 ⁺	
5786.0 ^b	0.7 ^b	2	7072.80	13/2 ⁻ ,15/2 ⁻	1286.944	11/2 ⁻	
5841.9 ^b	1.0 ^b	1	7072.80	13/2 ⁻ ,15/2 ⁻	1230.607	11/2 ⁺	
5870.8 ^c	≤0.2		7072.80	13/2 ⁻ ,15/2 ⁻	1201.658	17/2 ⁻	
5884.0 ^b	0.4 ^b	1	7072.80	13/2 ⁻ ,15/2 ⁻	1187.742	(11/2 ⁻)	
5888.5 ^b	0.3 ^b	1	7072.80	13/2 ⁻ ,15/2 ⁻	1184.2		
5895.9 ^b	2.1 ^b	2	7072.80	13/2 ⁻ ,15/2 ⁻	1176.8114	15/2 ⁺	
5907.4 ^b	0.2 ^b	1	7072.80	13/2 ⁻ ,15/2 ⁻	1165.605	9/2 ⁻ ,11/2	
6086.4 ^b	0.5 ^b	1	7072.80	13/2 ⁻ ,15/2 ⁻	985.3087	13/2 ⁺	
6092.6 ^b	1.1 ^b	1	7072.80	13/2 ⁻ ,15/2 ⁻	980.1950	11/2 ⁺	
6112.0 ^{bj}	0.3 ^b	1	7072.80	13/2 ⁻ ,15/2 ⁻	957.3266	13/2 ⁻	
6218.1 ^c	≤0.2		7072.80	13/2 ⁻ ,15/2 ⁻	854.3587	17/2 ⁺	
6227.5 ^c	≤0.2		7072.80	13/2 ⁻ ,15/2 ⁻	844.9114	17/2 ⁻	
6256.3 [@]	1.9 [@]		7072.80	13/2 ⁻ ,15/2 ⁻	816.7049	11/2 ⁺	
6436.2 [@]	2.6 ^{@h}		7072.80	13/2 ⁻ ,15/2 ⁻	636.2424	15/2 ⁺	
6621.3 ^b	0.5 ^b	1	7072.80	13/2 ⁻ ,15/2 ⁻	451.5143	13/2 ⁻	
6631.8 ^c	≤0.2		7072.80	13/2 ⁻ ,15/2 ⁻	440.6697	13/2 ⁺	
6782.4 ^b	0.2 ^b	1	7072.80	13/2 ⁻ ,15/2 ⁻	289.0145	11/2 ⁻	
6803.9 [@]	10.7 [@]		7072.80	13/2 ⁻ ,15/2 ⁻	268.8018	11/2 ⁺	

† From 1996Pe05, unless otherwise stated. The primary γ-ray transitions from the capture state are normalized to I_γ(6803.6γ)=10.7 γ/10³ neutrons (1971Mi01).

‡ From the measured electron conversion coefficients and the observed band structure with both cascade (ΔJ=1) and crossover (ΔJ=2) transitions.

From adopted gammas, unless otherwise stated.

@ From 1971Mi01.

γ(¹⁷⁷Lu) (continued)

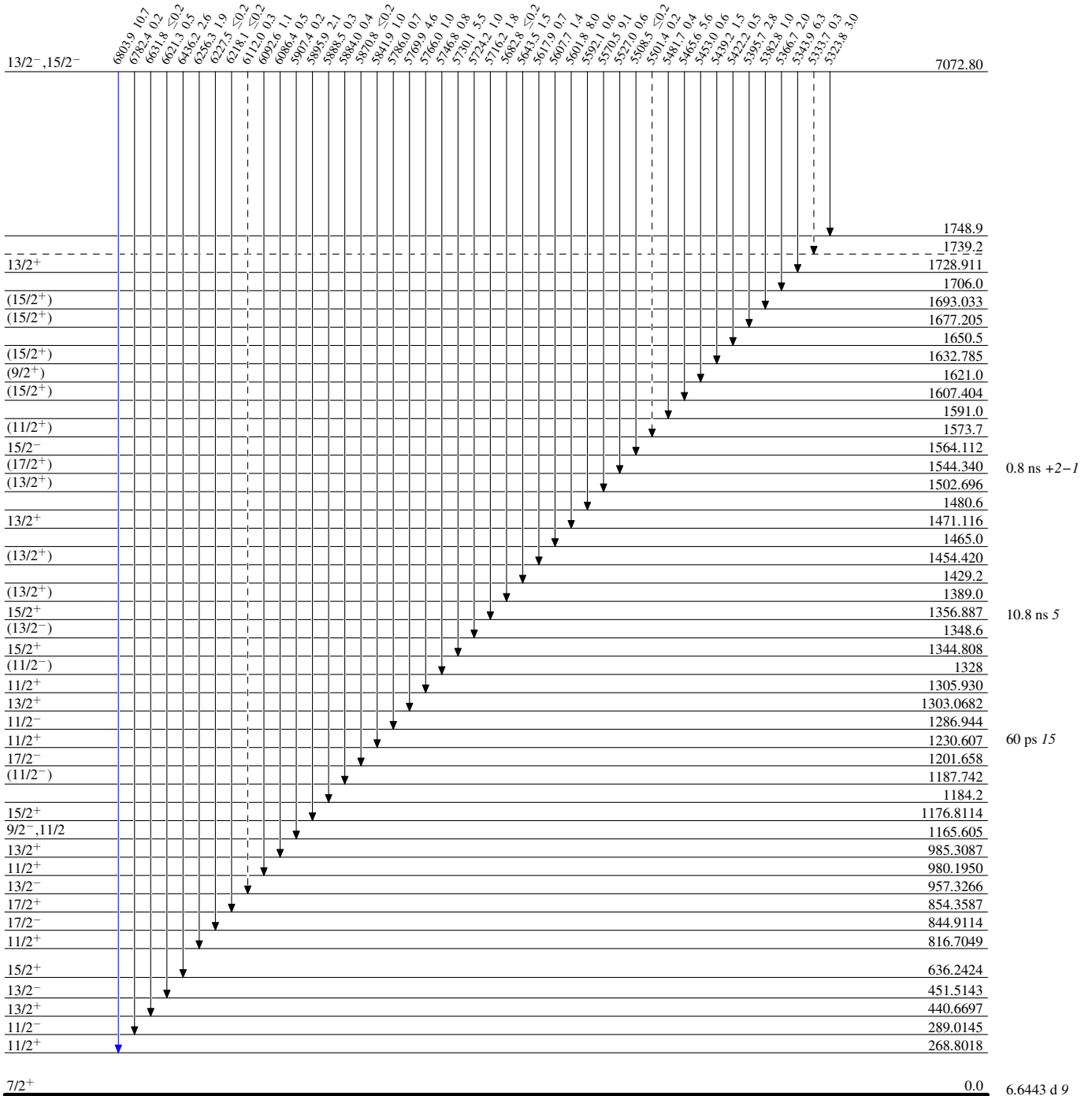
- & From 1971Ma45, normalized to Iγ(150.4γ)=100.
- ^a From 1975Ge11, normalized to Iγ(761.7γ)=26.
- ^b From 1972Mi16, normalized to Iγ(150.4γ)=100 (only for secondary γ's).
- ^c From 1995Sh18.
- ^d From 1965Ma18, normalized to Iγ(150.4γ)=100.
- ^e Placed in the level scheme by the evaluator.
- ^f Questionable assignment to ¹⁷⁷Lu.
- ^g Tentative assignment.
- ^h Doublet, but intensity has not been corrected.
- ⁱ Inconsistency between Eγ and level energy differences. ΔEγ assigned by the evaluator.
- ^j Placement of transition in the level scheme is uncertain.
- ^x γ ray not placed in level scheme.

¹⁷⁶Lu(n,γ) E=thermal 1971Ma45,1975Ge11,1996Pe05

Legend

Level Scheme
Intensities: Relative I_γ

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}
- - - - - → γ Decay (Uncertain)



¹⁷⁷Lu₁₀₆

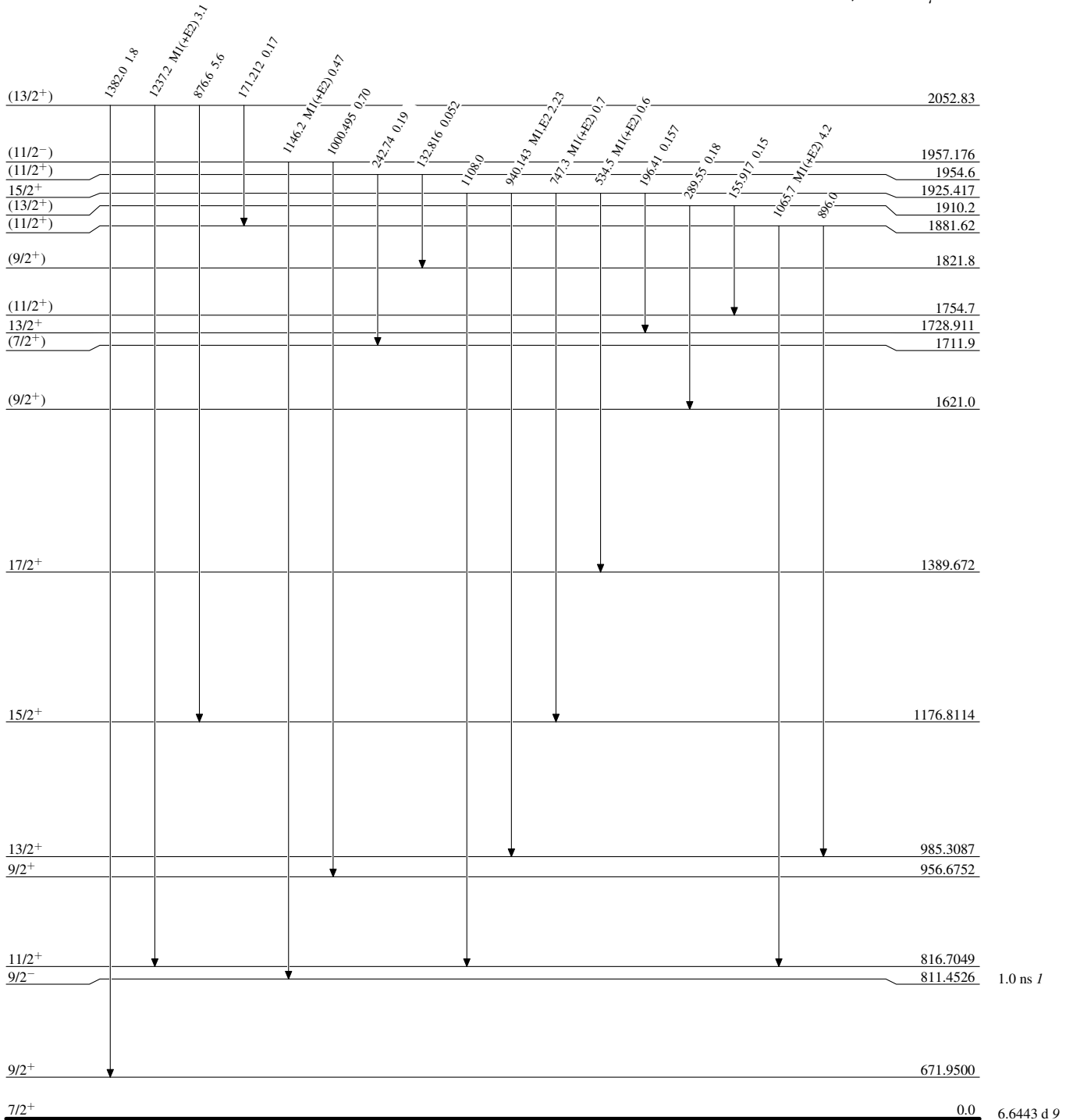
¹⁷⁶Lu(n,γ) E=thermal 1971Ma45,1975Ge11,1996Pe05

Level Scheme (continued)

Intensities: Relative I_γ

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}



¹⁷⁷Lu₁₀₆

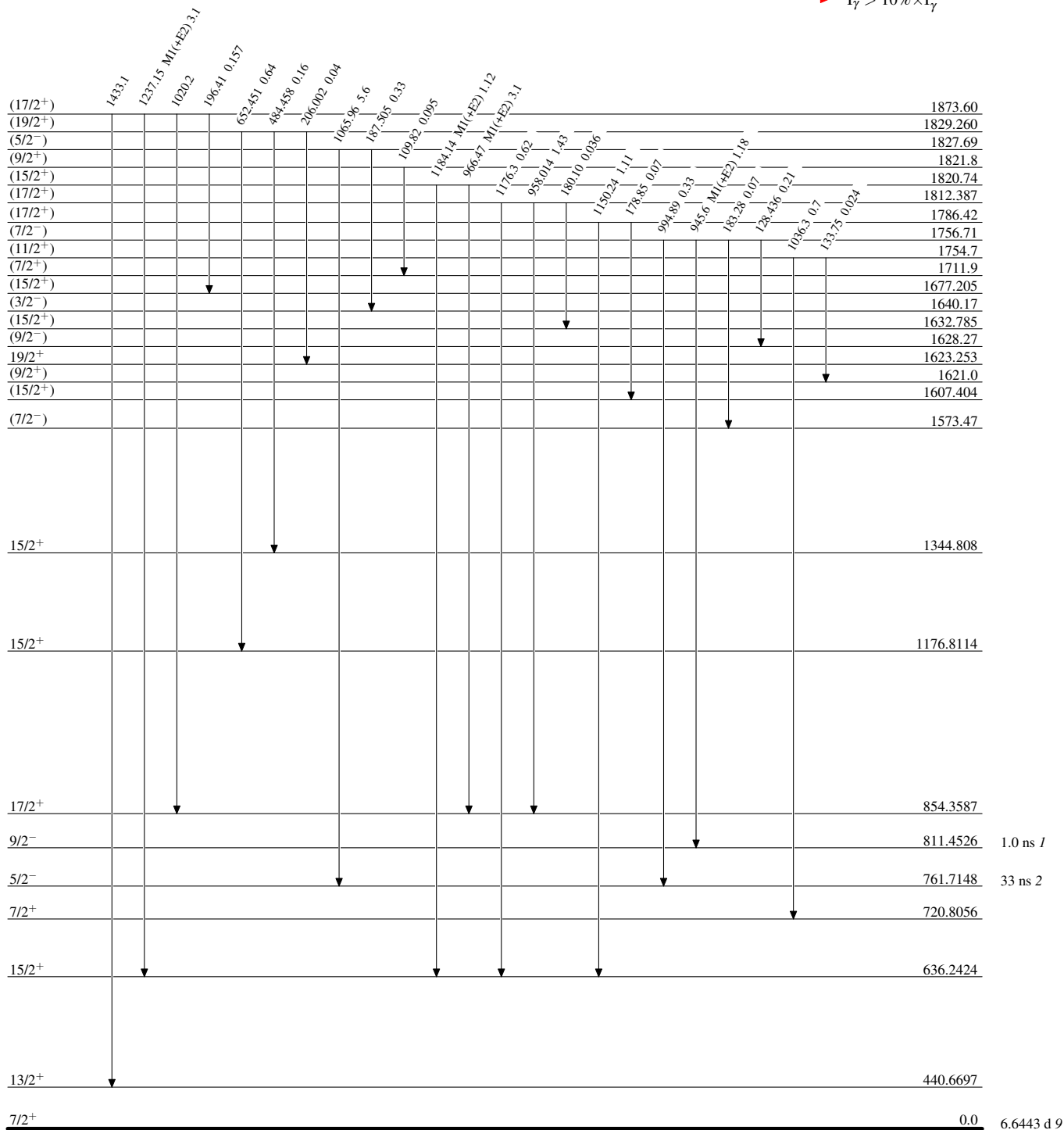
$^{176}\text{Lu}(n,\gamma) E=\text{thermal}$ 1971Ma45,1975Ge11,1996Pe05

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



$^{177}_{71}\text{Lu}_{106}$

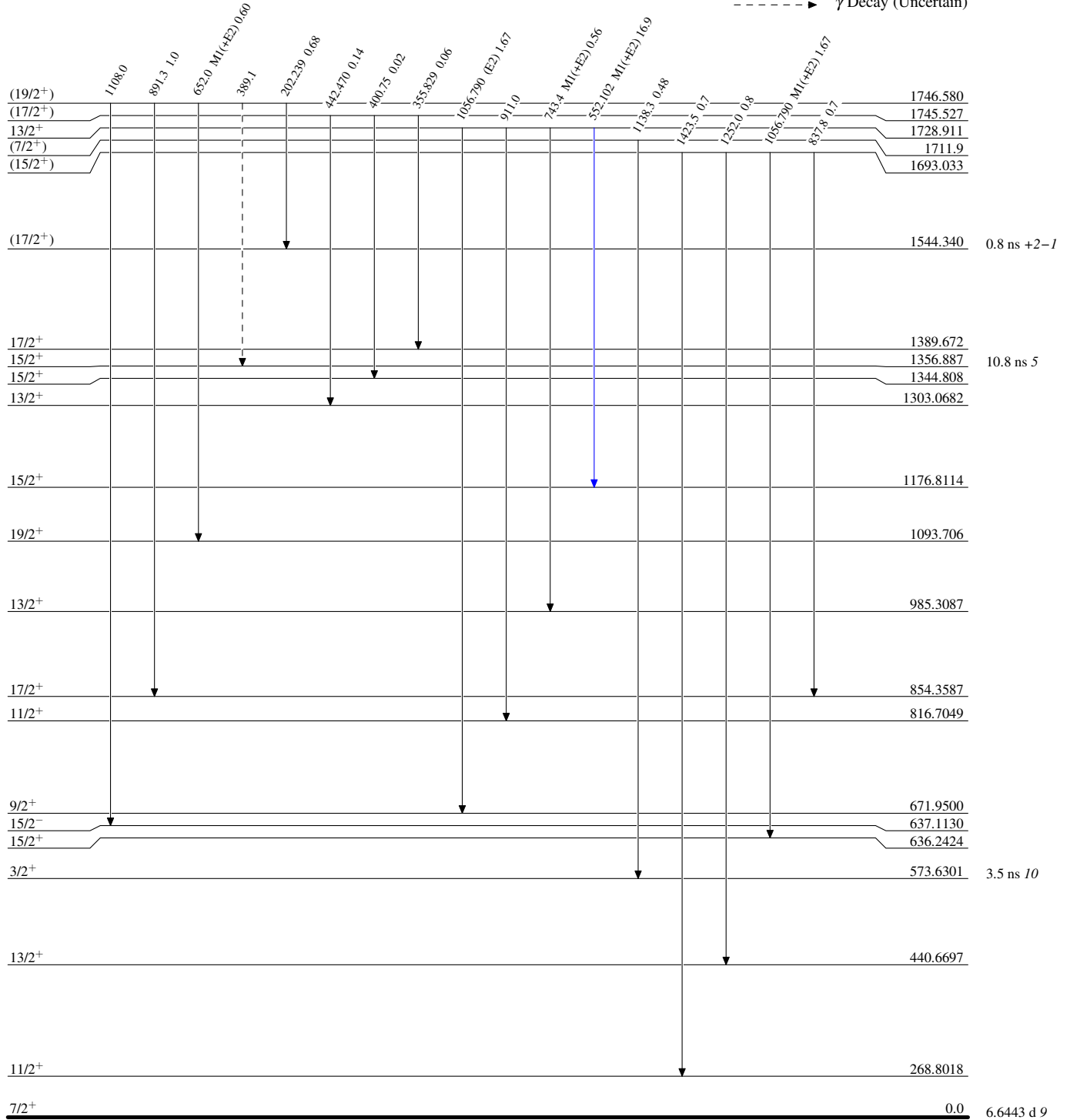
$^{176}\text{Lu}(n,\gamma) \text{E=thermal}$ 1971Ma45,1975Ge11,1996Pe05

Level Scheme (continued)

Intensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - - γ Decay (Uncertain)



$^{177}_{71}\text{Lu}_{106}$

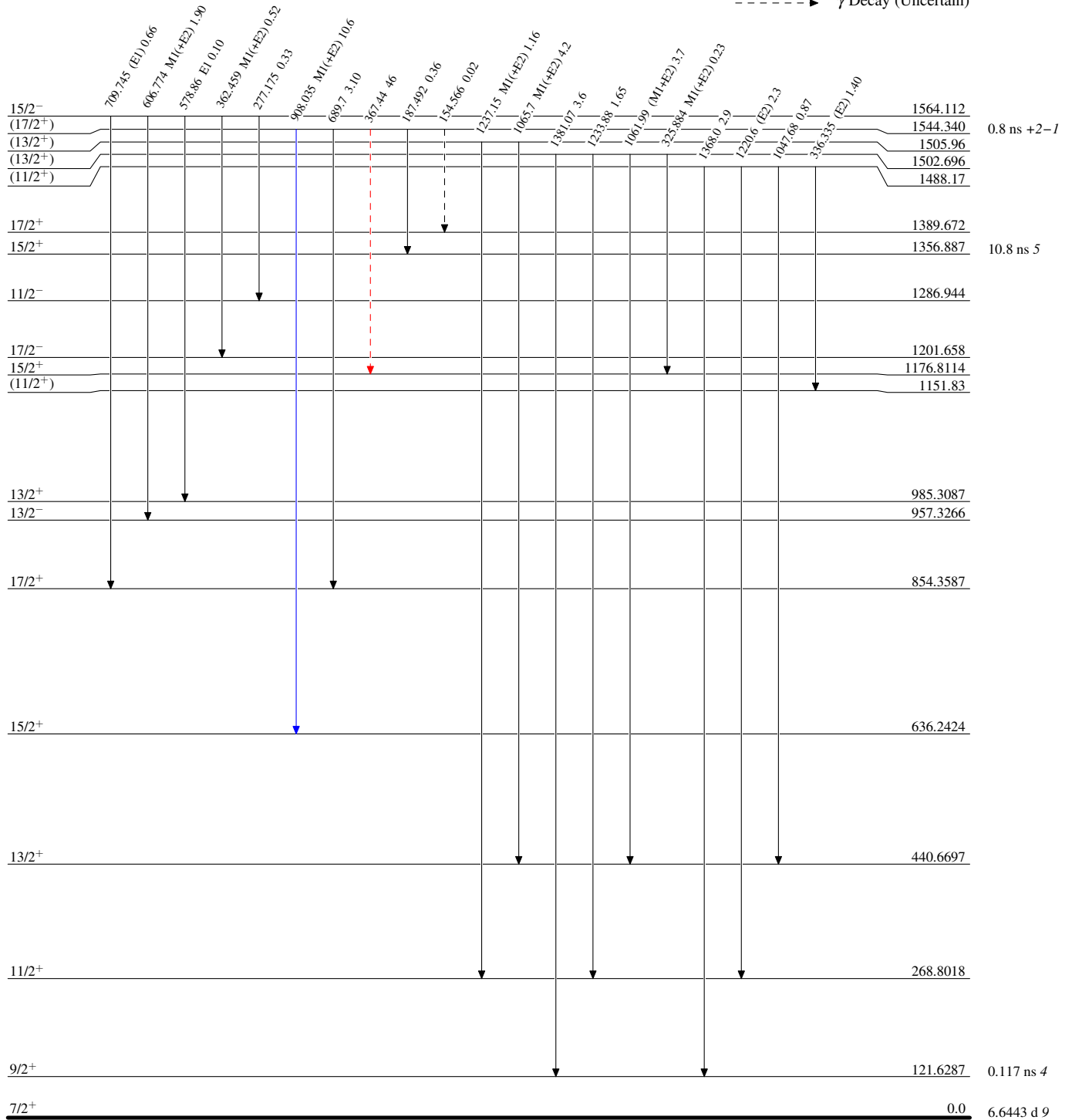
$^{176}\text{Lu}(n,\gamma) \text{E=thermal}$ 1971Ma45,1975Ge11,1996Pe05

Legend

Level Scheme (continued)

Intensities: Relative I_γ

- ▶ $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- ▶ $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- ▶ $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- - -▶ γ Decay (Uncertain)



$^{177}_{71}\text{Lu}_{106}$

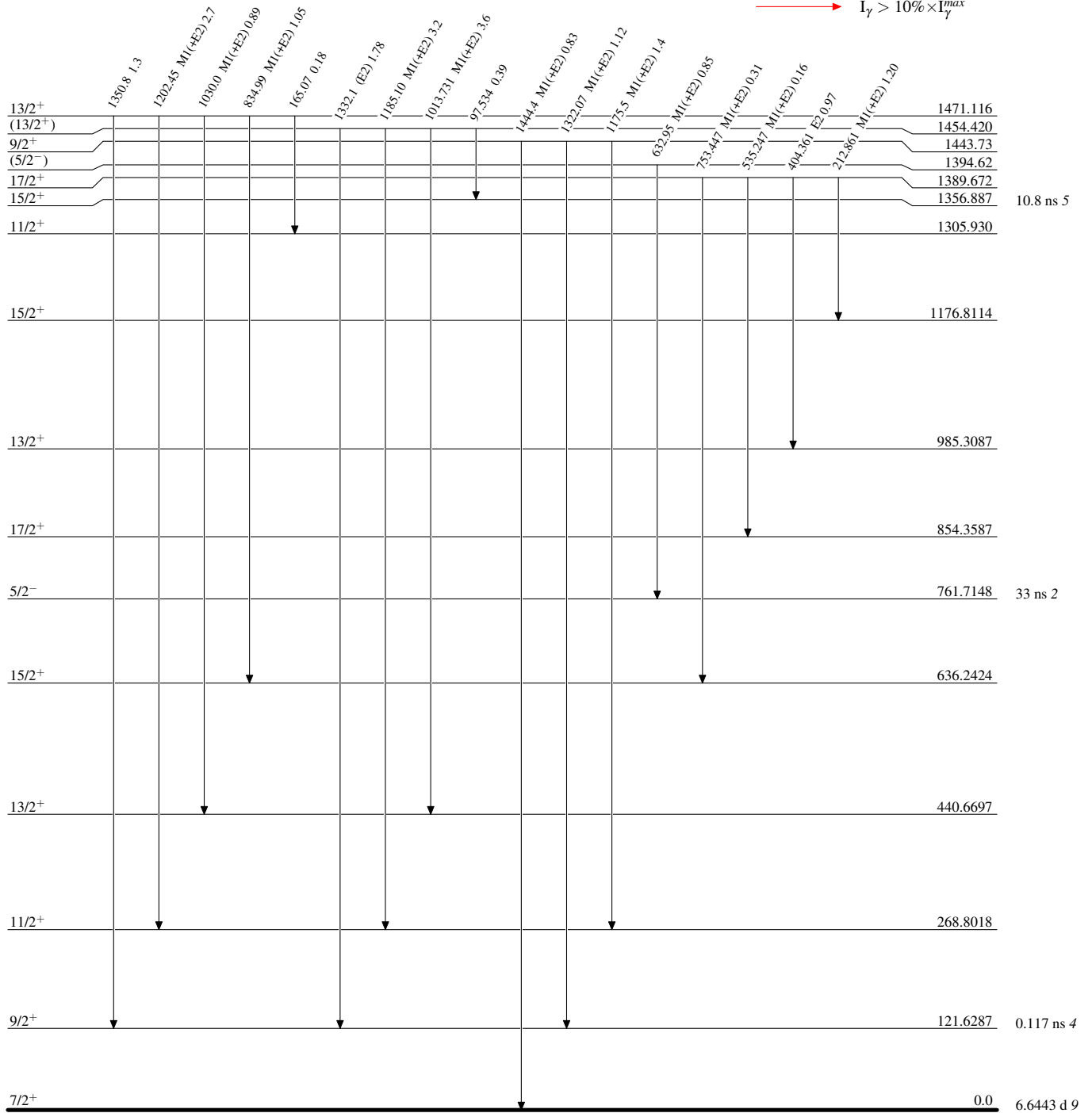
$^{176}\text{Lu}(n,\gamma)$ E=thermal 1971Ma45,1975Ge11,1996Pe05

Level Scheme (continued)

Legend

Intensities: Relative I_γ

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



$^{177}_{71}\text{Lu}_{106}$

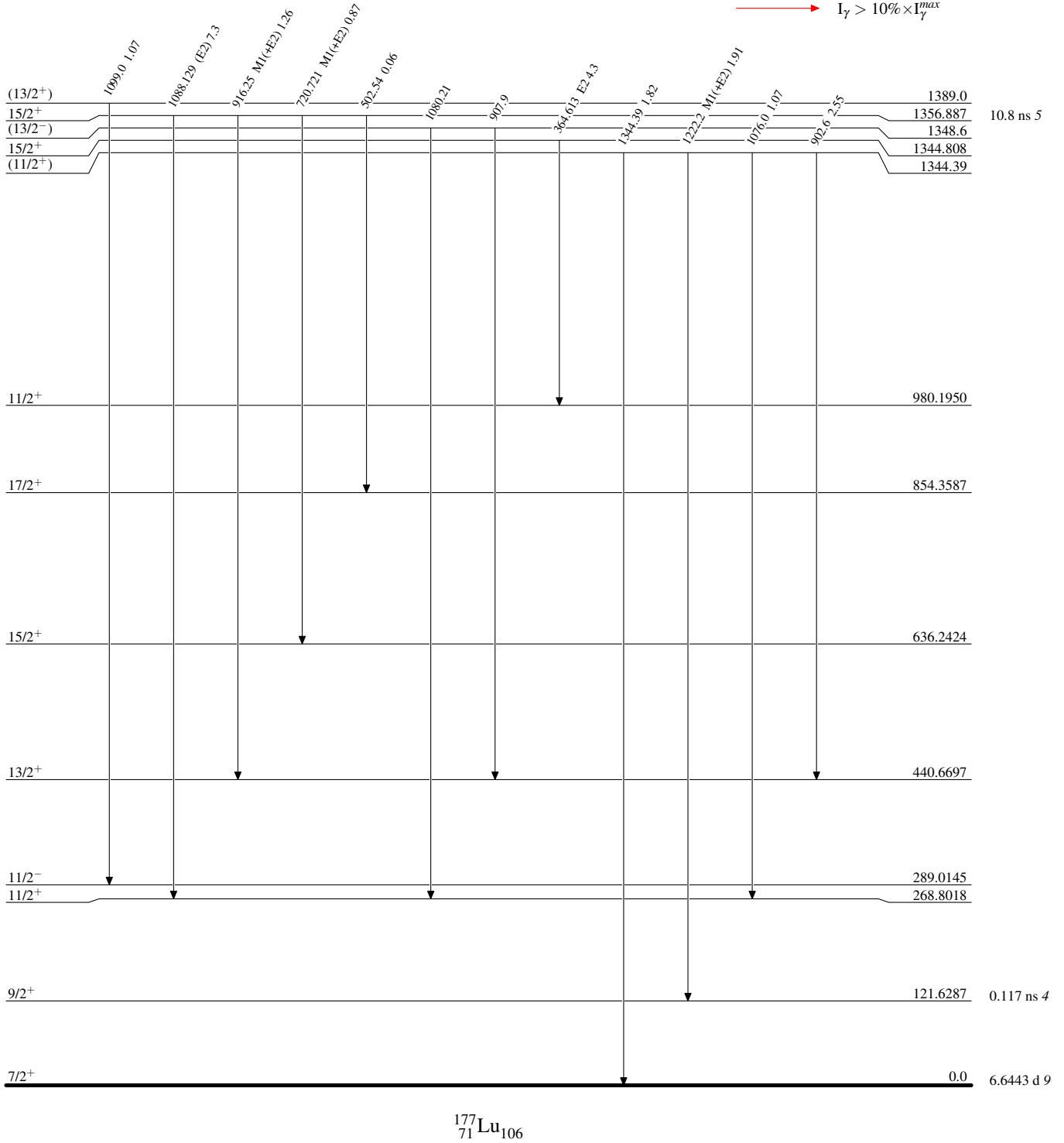
$^{176}\text{Lu}(n,\gamma)$ E=thermal 1971Ma45,1975Ge11,1996Pe05

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



$^{177}_{71}\text{Lu}_{106}$

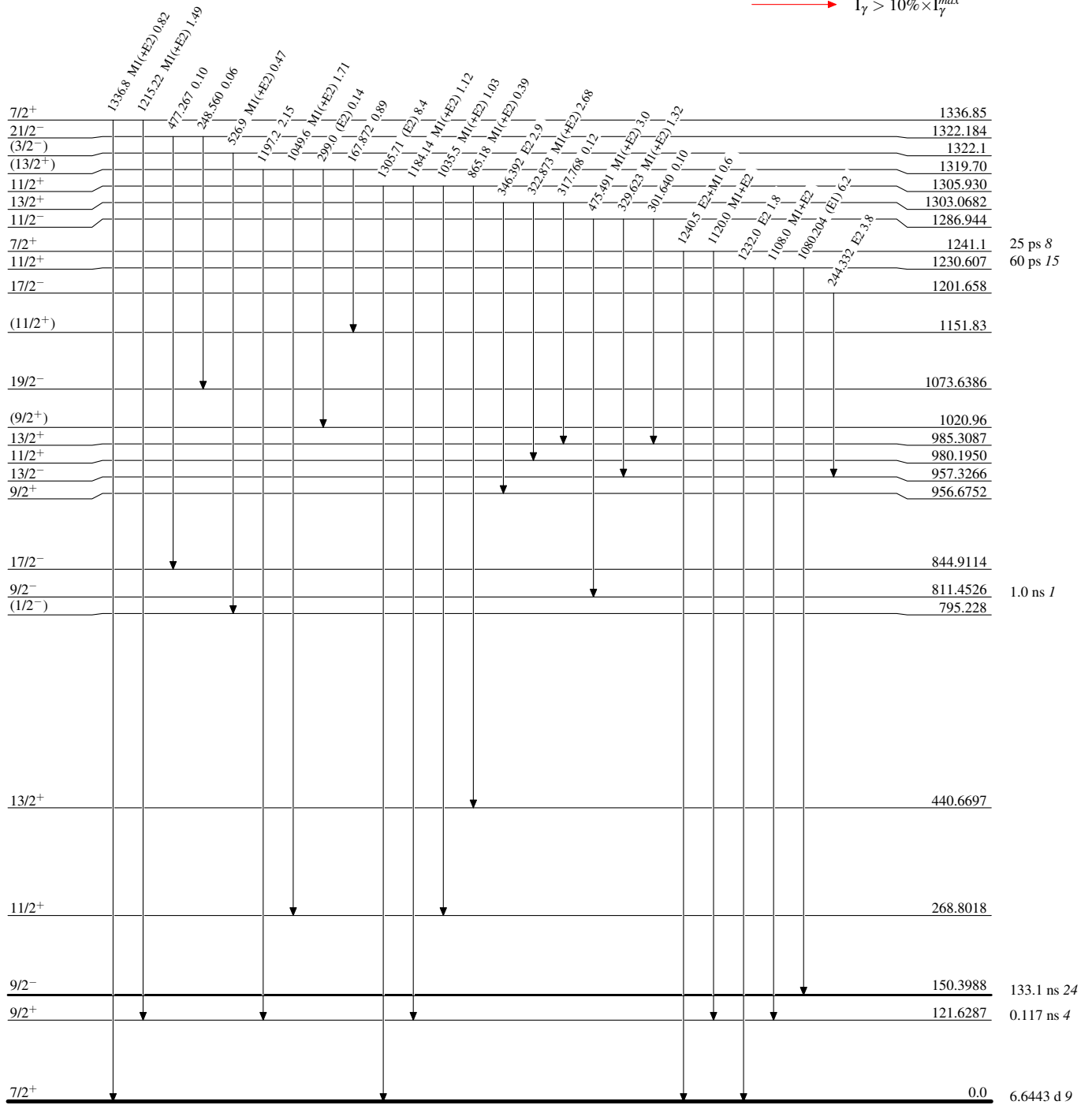
$^{176}\text{Lu}(n,\gamma) E=\text{thermal}$ 1971Ma45,1975Ge11,1996Pe05

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



$^{177}_{71}\text{Lu}_{106}$

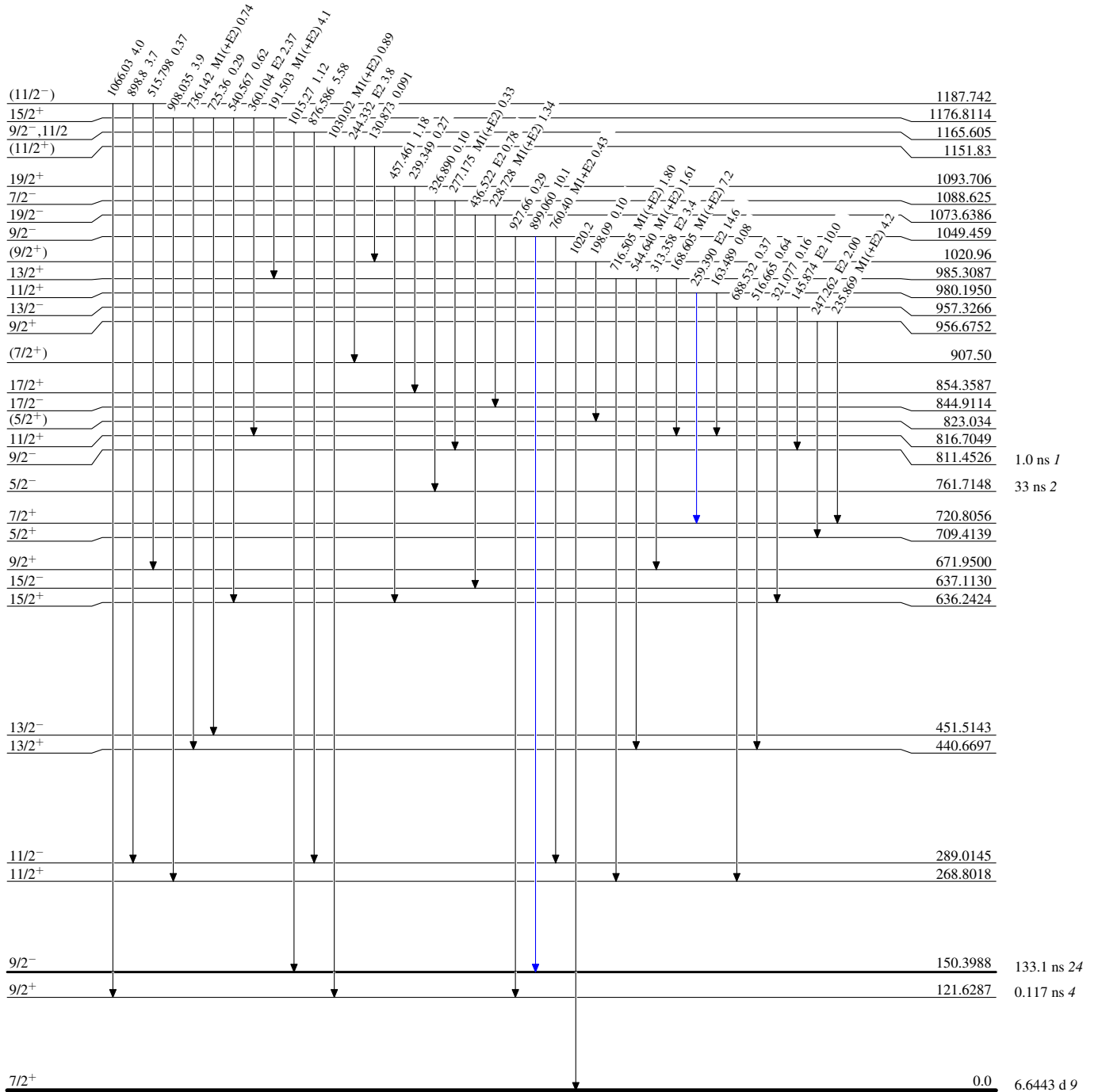
¹⁷⁶Lu(n,γ) E=thermal 1971Ma45,1975Ge11,1996Pe05

Level Scheme (continued)

Intensities: Relative I_γ

Legend

- I_γ < 2% × I_γ^{max}
- I_γ < 10% × I_γ^{max}
- I_γ > 10% × I_γ^{max}



¹⁷⁷Lu₁₀₆

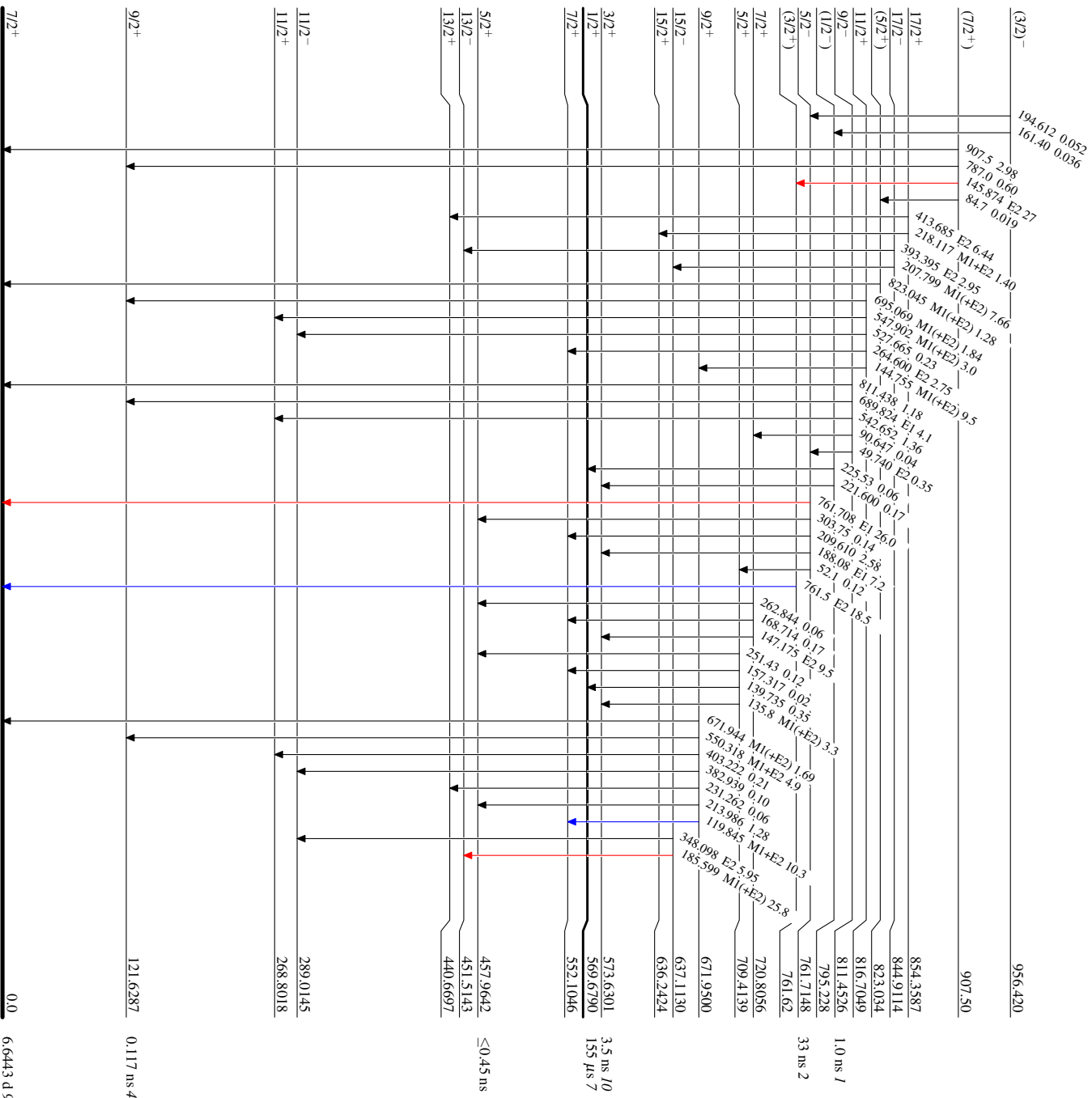
¹⁷⁶Lu(n,γ) E=thermal ¹⁷⁷LuMa45,1975Ge11,1996Pc05

Level Scheme (continued)

Intensities: Relative I_γ

Legend

- I_γ < 2% × I_{γmax}
- I_γ < 10% × I_{γmax}
- I_γ > 10% × I_{γmax}



¹⁷⁷Lu₁₀₆
⁷¹Lu₁₀₆

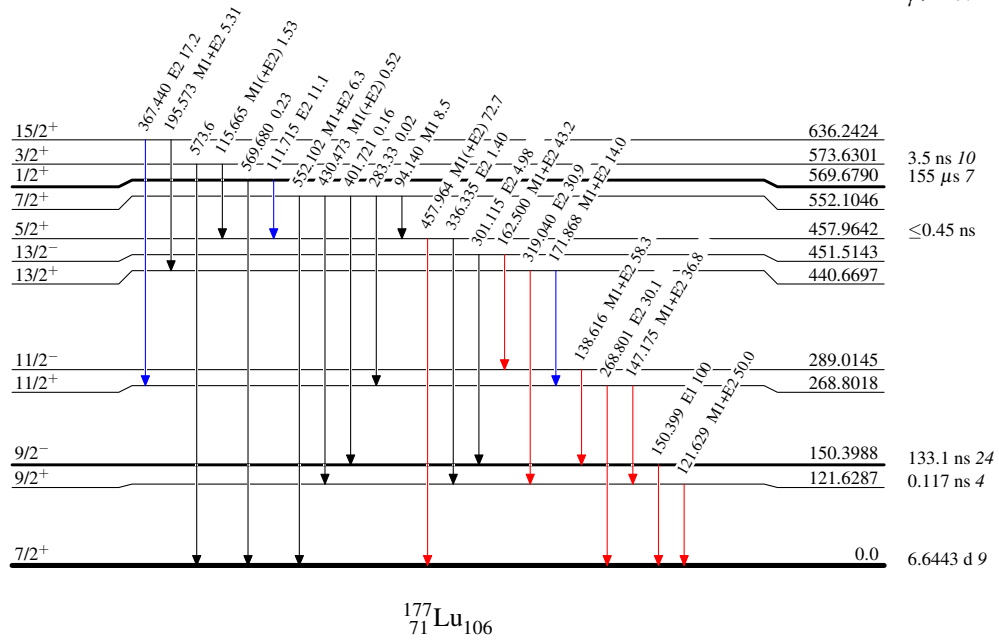
$^{176}\text{Lu}(n,\gamma) E=\text{thermal}$ 1971Ma45,1975Ge11,1996Pe05

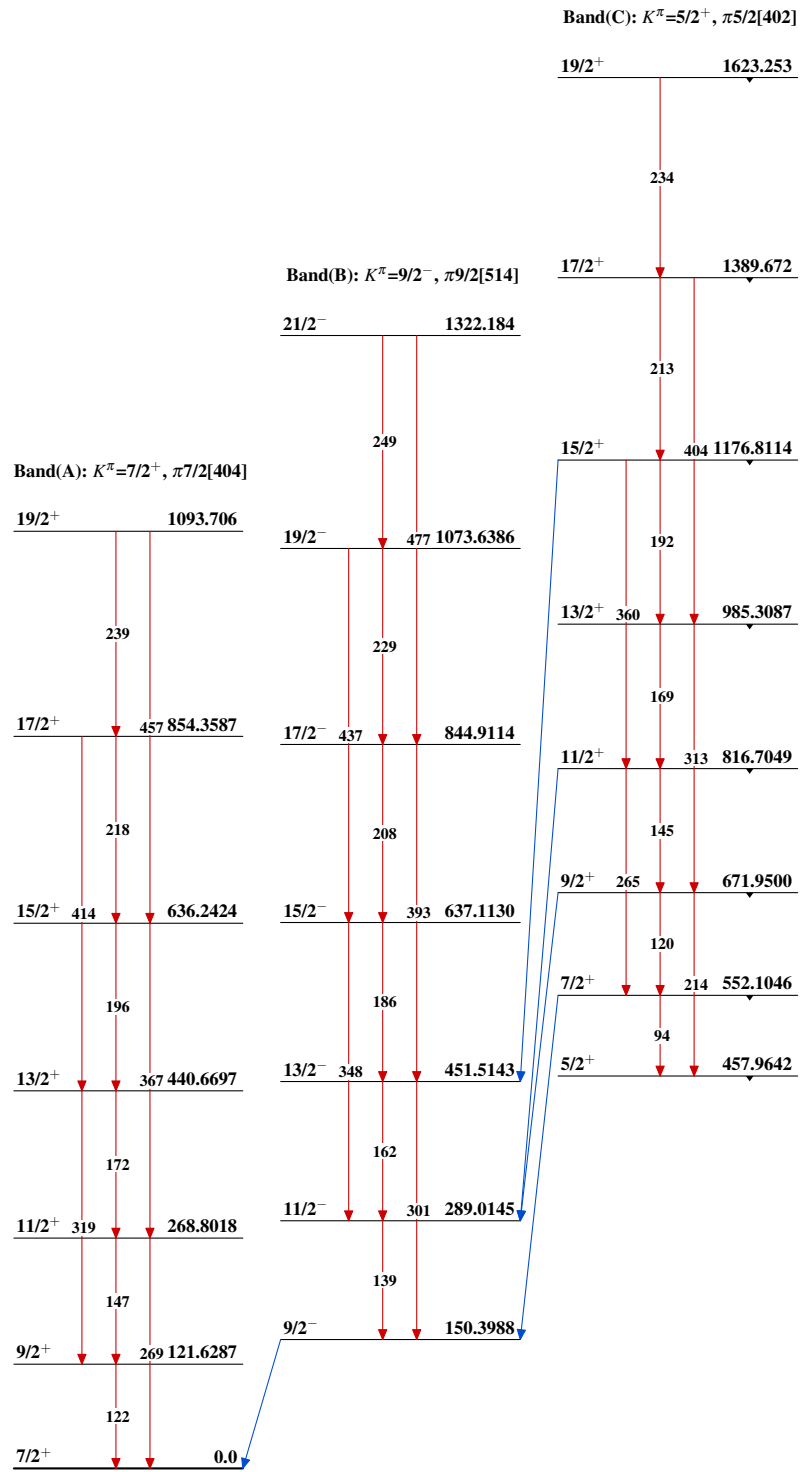
Legend

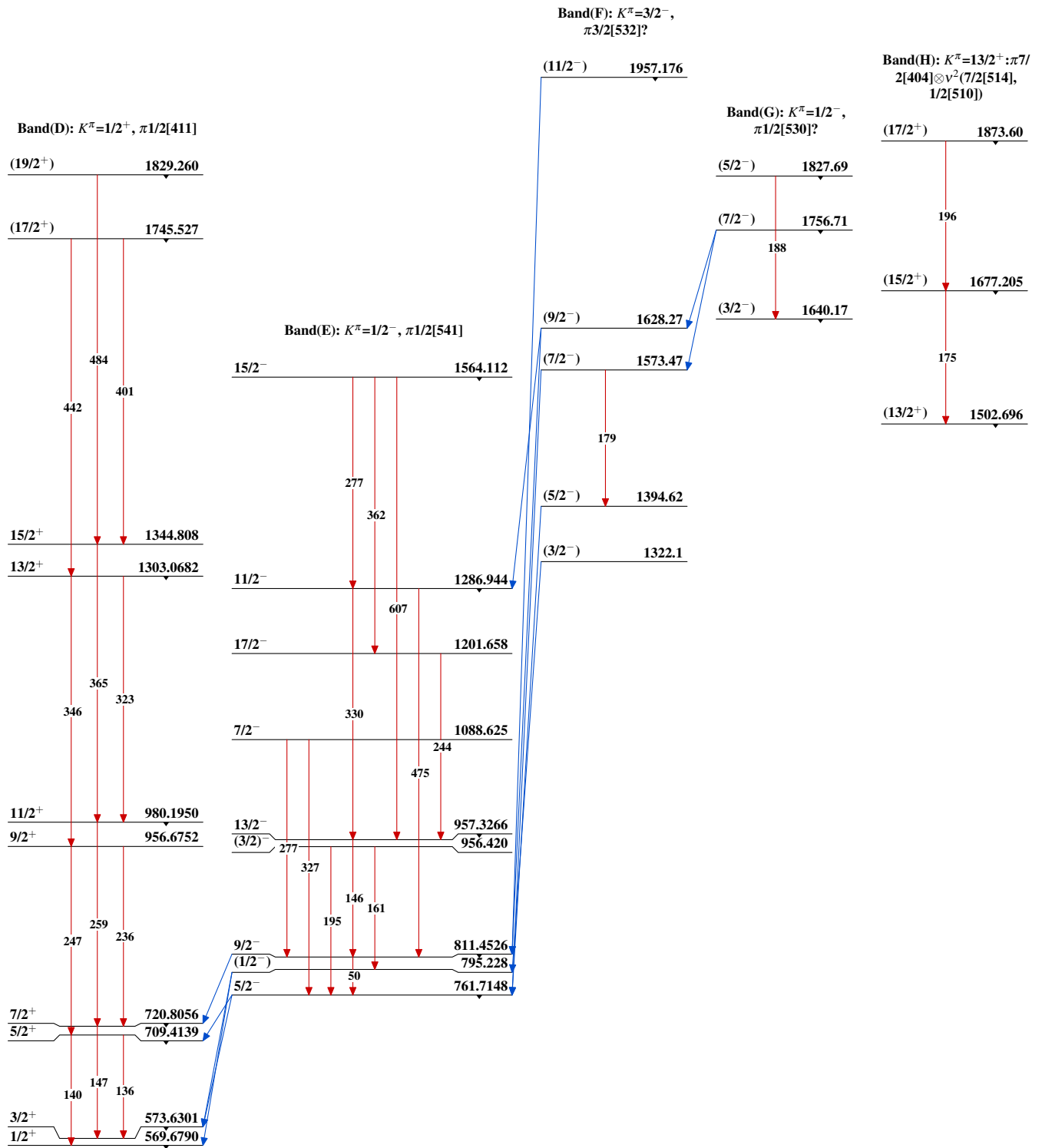
Level Scheme (continued)

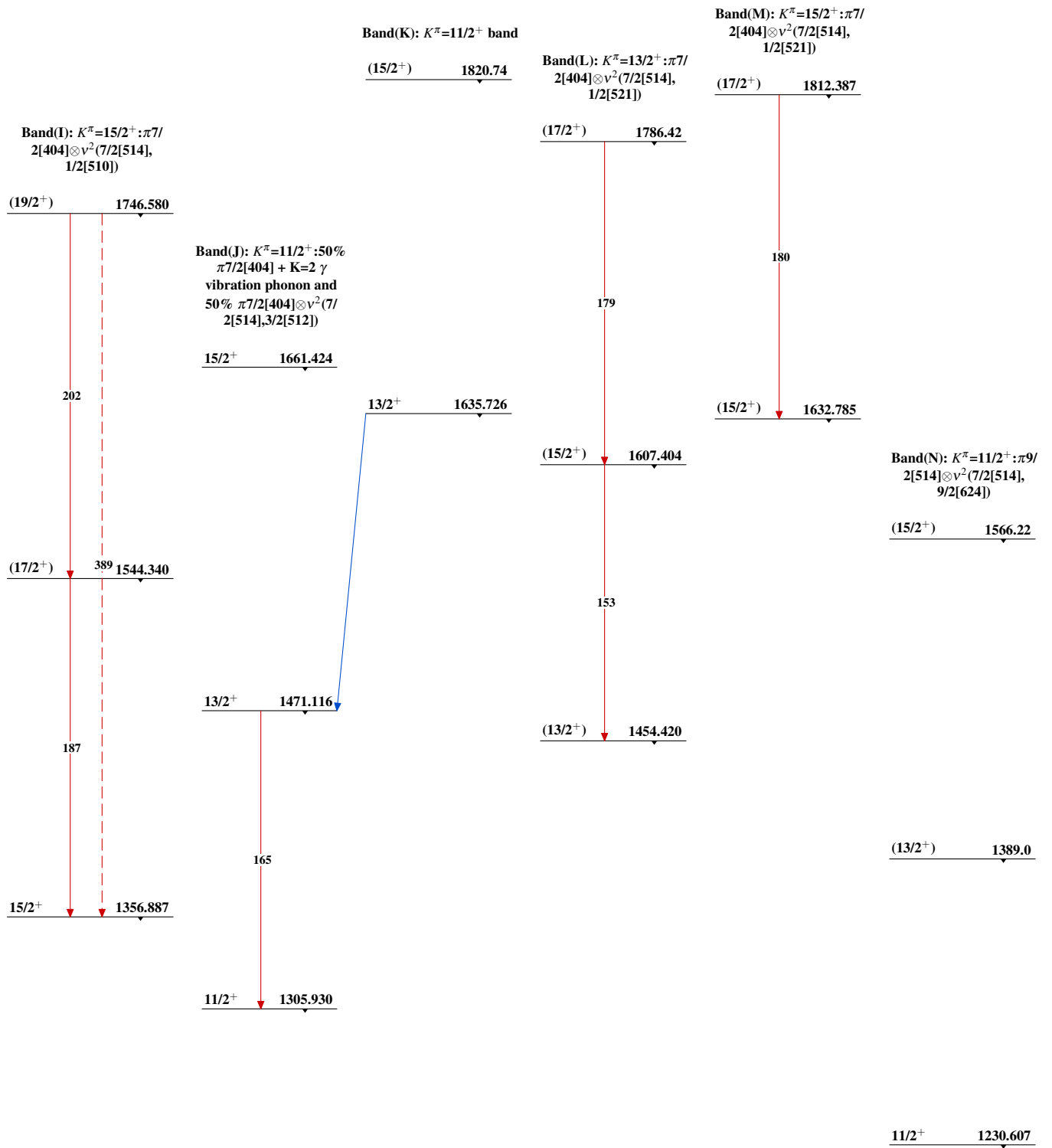
Intensities: Relative I_γ

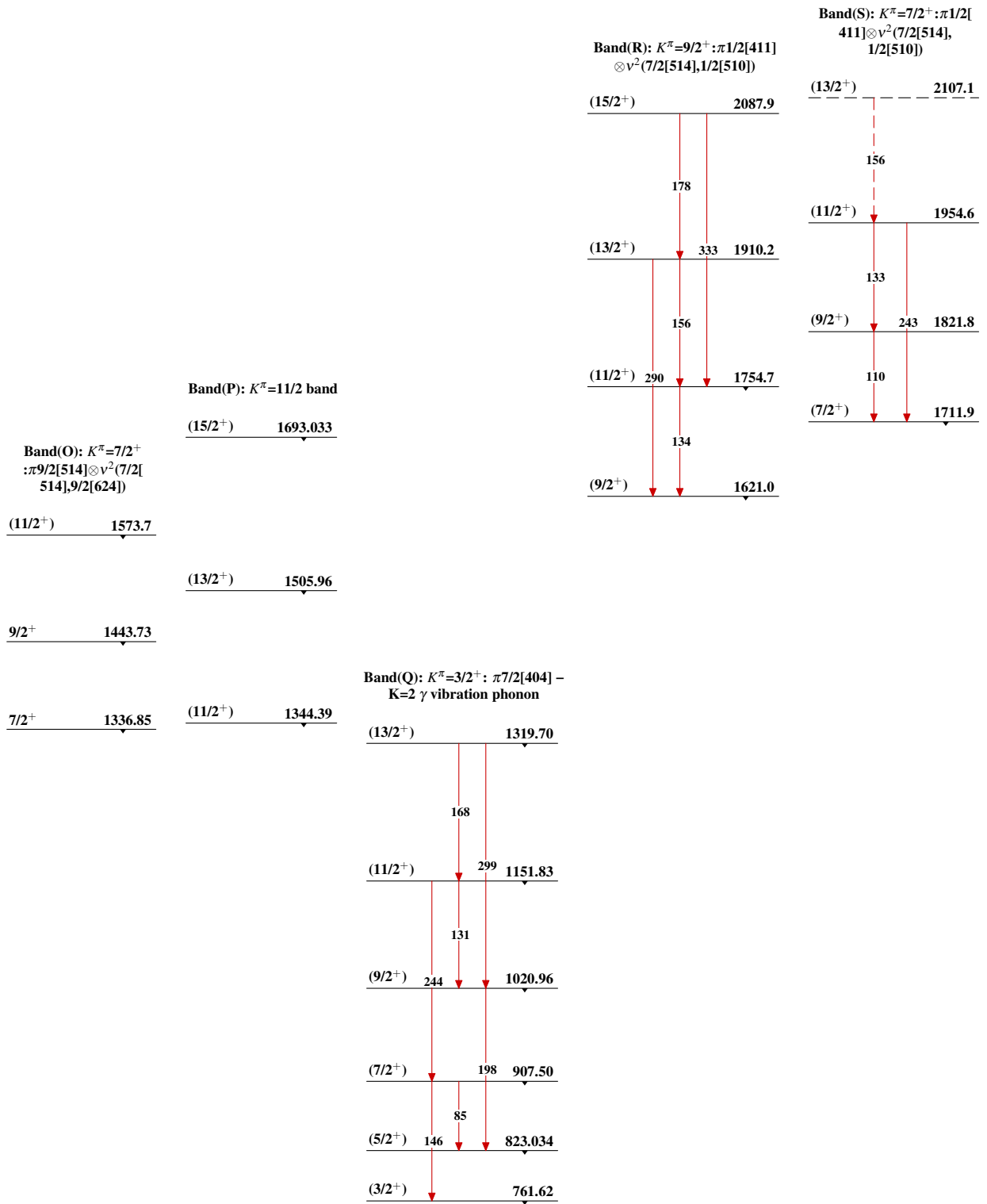
- \longrightarrow $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
 \longrightarrow $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
 \longrightarrow $I_\gamma > 10\% \times I_\gamma^{\text{max}}$

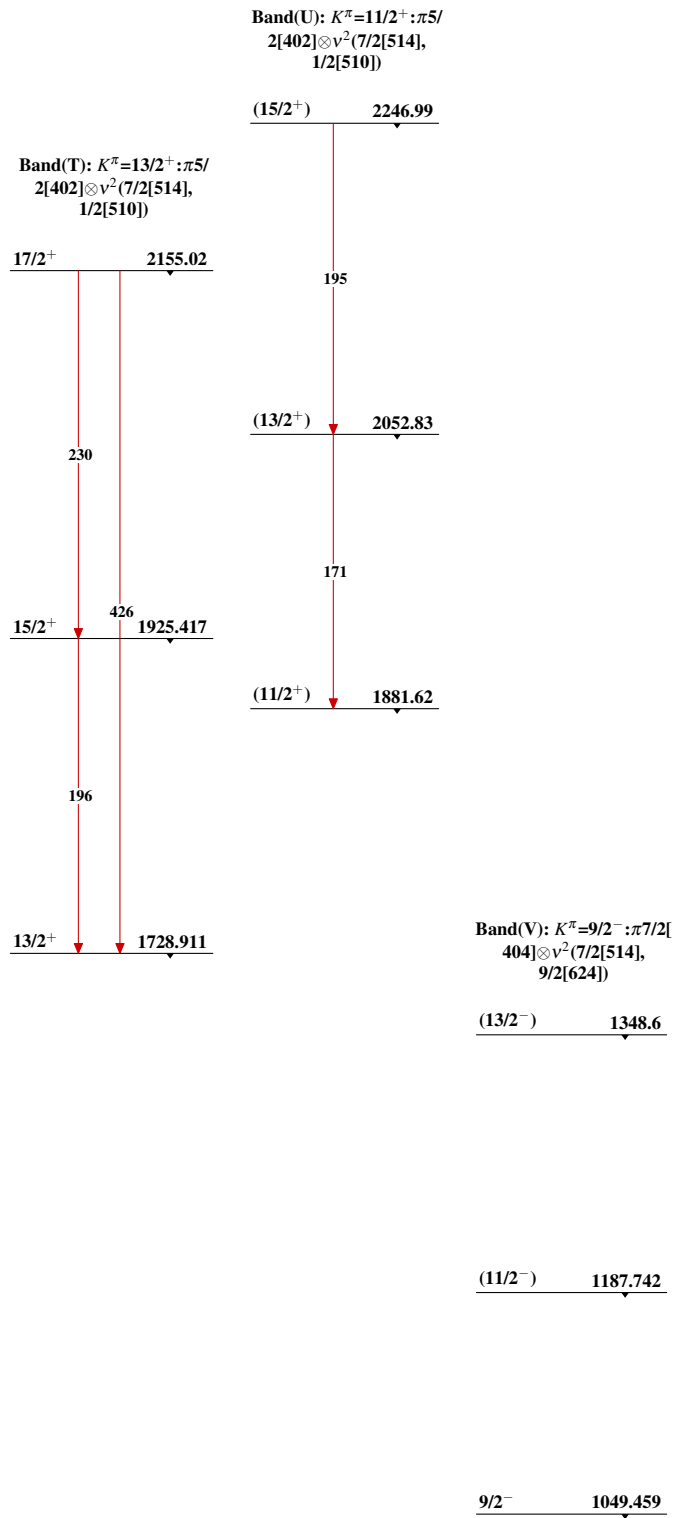


$^{176}\text{Lu}(n,\gamma) E=\text{thermal}$ 1971Ma45,1975Ge11,1996Pe05 $^{177}_{71}\text{Lu}_{106}$

$^{176}\text{Lu}(n,\gamma)$ E=thermal 1971Ma45,1975Ge11,1996Pe05 (continued) $^{177}_{71}\text{Lu}_{106}$

$^{176}\text{Lu}(n,\gamma)$ E=thermal 1971Ma45,1975Ge11,1996Pe05 (continued)

$^{176}\text{Lu}(n,\gamma)$ E=thermal 1971Ma45,1975Ge11,1996Pe05 (continued)

$^{176}\text{Lu}(n,\gamma)$ E=thermal 1971Ma45,1975Ge11,1996Pe05 (continued) $^{177}_{71}\text{Lu}_{106}$