

⁷⁶Se(n,n'γ) 2019Mu04

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jun Chen and Ameenah R. Farhan		NDS 194,3 (2024)	8-Jan-2024

2019Mu04: E(n)=2.0, 2.4, 3.0, 3.5 and 3.7 MeV. Measured E_γ, I_γ, γ(θ), and level lifetimes by DSAM at the Van de Graaff accelerator of the University of Kentucky Accelerator Laboratory (UKAL). Deduced levels, J, π, multipole mixing ratios, bands, B(E2), B(M1), B(E1) and B(E3). Comparison with large-scale shell model, and interacting boson model calculations.

1977SiZT: E(n)=2.0-4.1 MeV. Measured E_γ, I_γ, γγ-coin, γ(θ), excitation functions. Anti-Compton spectrometer for γ-rays. Details of γγ-coin and γ(θ) from this work are not available.

Others: **1971Br18** (E=14 MeV), **1971Uh03** (E=2-15 MeV). Measured cross sections.

All data are from **2019Mu04**, unless otherwise stated.

⁷⁶Se Levels

Following levels and deexciting γ rays in **1995Si03** evaluation were confirmed by **2019Mu04**: 1881.2 level (665.0γ); 2346.9 level (466.5γ assigned to a 3282 level, and 1130γ seen only as a single line from 1689 level); 2363 level (575.3γ placed from a 1791 level and not seen as a doublet, 1030.6 and 1805 γ rays not observed by **2019Mu04**); 2630.8 level (942.3γ has a threshold of 3.2 MeV neutron energy in **2019Mu04**, 2071.3 and 2627.0 γ rays not seen by **2019Mu04**); 2911.0 level (548.0 γ ray has a threshold of 3.5 MeV neutron energy in **2019Mu04**, thus excluded in the level scheme).

E(level) [†]	J ^π @	T _{1/2} ^{&}	Comments
0.0	0 ⁺		
559.10 2	2 ⁺		
1122.27 3	0 ⁺		
1216.19 2	2 ⁺		
1330.89 3	4 ⁺		
1688.98 3	3 ⁺		
1787.64 3	2 ⁺	1.18 ps +42-24	Mean lifetime τ=1700 fs +600-350. This value differs from 9 ps +9-3 in 1995Si03 evaluation.
1791.46 4	0 ⁺		J ^π : from isotropic γ(θ) for 575.3γ and comparison of excitation function data with statistical model calculations using CINDY code.
2025.95 5	4 ⁺		A γ transition with E _γ =238.8 5, I _γ =18 reported only by 1977SiZT , not confirmed by 2019Mu04 or in any other study.
2127.25 5	2 ⁺		J ^π : from γ(θ) and comparison of excitation function data with statistical model calculations using CINDY code. A 796γ from this level in 1995Si03 now assigned from 2485 level.
2170.71 7	0 ⁺	1.5 ps +10-5	Mean lifetime τ=2100 fs +1500-600; T _{1/2} =1.46 ps +104-42.
2262.40 19	6 ⁺		
2429.13 3	3 ⁻		
2485.03 [‡] 5	4 ⁺	485 fs +76-62	Mean lifetime τ=700 fs +110-90. J ^π : from γ(θ) and comparison of excitation function data with statistical model calculations using CINDY code.
2489.36 5	5 ⁺		
2514.68 3	2 ⁺	1.18 ps +39-24	Mean lifetime τ=1700 fs +570-340.
2604.06 5	0 ⁺	1.08 ps +64-30	Mean lifetime τ=1560 fs +920-430. J ^π : from comparison of excitation function data with statistical model calculations using CINDY code.
2617.90 6	4 ⁺	402 fs +76-55	Mean lifetime τ=580 fs +110-80.
2655.41 3	1 ⁻	0.82 ps +22-15	Mean lifetime τ=1180 fs +320-210. J ^π : from γ(θ) data. Previous 484.8 and 1324 γ rays from this level in 1995Si03 were not observed by 2019Mu04 . 1977SiZT proposed two levels at 2654.0 and 2657.0 but only one level confirmed by 2019Mu04 .
2669.89 3	2 ⁻	0.89 ps +27-17	Mean lifetime τ=1280 fs +390-240.

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⁷⁶Se(n,n'γ) 2019Mu04 (continued)

⁷⁶Se Levels (continued)

E(level) [†]	J ^π @	T _{1/2} &	Comments
2805.11 16	(4) ⁺	0.39 ps +10-7	Mean lifetime τ=560 fs +150-101. A γ transition with E _γ =1588.0 5, I _γ =40 in 1977SiZT is placed by 2019Mu04 as 1586.41γ from 2917 level.
2812.01 6	3 ⁺		
2817.16 5	(2)	98 fs 6	Mean lifetime τ=141 fs 8.
2824.76 5	5 ⁻		γ-branching ratios are not given by 2019Mu04 from this level as 562.3γ is a doublet, and a 335γ from this level in 1995Si03 evaluation is not observed by 2019Mu04.
2859.81 4	4 ⁻		
2869.16 7	2 ⁺	82 ps 6	Mean lifetime τ=118 fs 8.
2917.32 [‡] 9	5 ⁺	0.50 ps +58-19	Mean lifetime τ=720 fs +840-270.
2950.10 10	1 ⁺	104 fs 11	Mean lifetime τ=150 fs 16.
2969.49 7	4 ⁻		
2974.77 [‡] 13	3 ⁽⁺⁾		
3007.76 8	2 ⁺	27.0 fs 21	Mean lifetime τ=39 fs 3.
3031.59 [‡] 7	0 ⁺	98 fs 8	Mean lifetime τ=141 fs 11. J ^π : from isotropic γ(θ) for 1815 and 2472 γ rays and comparison of excitation function data with statistical model calculations using CINDY code.
3045.79 8	(5)	0.39 ps +28-12	Mean lifetime τ=570 fs +400-180.
3069.45 9	2 ⁺	457 fs +83-62	Mean lifetime τ=660 fs +120-90. J ^π : from 1853γ(θ). Previous 399.5, 897.0 and 3072.0 γ rays from this level were not observed by 2019Mu04.
3083.58 7	(2,3) ⁺	32.6 fs 21	Mean lifetime τ=47 fs 3.
3105.27 9	3 ⁽⁻⁾	202 fs 21	Mean lifetime τ=292 fs 31.
3159.80 8	(2)		
3160.84 [‡] 14	0 ⁺	0.38 ps +21-10	Mean lifetime τ=550 fs +300-150. J ^π : from isotropic γ(θ) for 2601γ.
3161.81 [‡] 5	3 ⁻	272 fs +63-43	Mean lifetime τ=392 fs +91-62.
3191.51 7	3 ⁺	112 fs 8	Mean lifetime τ=162 fs 11.
3212.91 8	2 ⁺	11.1 fs 14	Mean lifetime τ=16 fs 2.
3219.31 5	3 ⁽⁺⁾	56.1 fs 42	Mean lifetime τ=81 fs 6.
3230.41 [‡] 11	2 ⁺	0.7 ps +21-3	Mean lifetime τ=950 fs +3000-430; T _{1/2} =0.66 ps +208-30.
3238.73 9	(4 ⁺)		
3262.99 [‡] 9	(3 ⁻)	201 fs +97-55	Mean lifetime τ=290 fs +140-80.
3267.28 [‡] 7	(2,3)	395 fs +97-69	Mean lifetime τ=570 fs +140-100.
3282.16 [‡] 12	2 ⁺	101 fs 9	Mean lifetime τ=146 fs 13.
3295.28 7	(1)	69 fs 5	Mean lifetime τ=100 fs 7.
3331.51 [‡] 9	0 ⁺	229 fs +42-35	Mean lifetime τ=331 fs +61-51.
3346.23 [‡] 12	(4)		
3348.62 [‡] 13	1 ⁽⁺⁾	0.3 ps +15-2	Mean lifetime τ=500 fs +2200-300; T _{1/2} =0.35 ps +152-21.
3351.41 10	(1,2) ⁺	90 fs 9	Mean lifetime τ=130 fs 13.
3376.37 12	1,2 ⁺	77 fs +49-29	Mean lifetime τ=111 fs +71-42.
3403.78 [‡] 10	(5 ⁺)	32.6 fs 35	Mean lifetime τ=47 fs 5.
3407.93 6	(4)	0.52 ps +56-19	Mean lifetime τ=750 fs +810-270.
3436.09 [‡] 17	2 ⁺	63 fs 5	Mean lifetime τ=91 fs 7.
3441.27 22	(3 ⁻)		
3465.07 [#] 6			
3530.17 [#] 5			
3657.97 [#] 5			

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⁷⁶Se(n,n'γ) 2019Mu04 (continued)

⁷⁶Se Levels (continued)

† From a least-squares fit to E_γ data.

‡ New level in 2019Mu04.

From 1977SiZT only. Level is not confirmed by 2019Mu04, thus treated as questionable by the evaluators, and not included in the Adopted dataset.

@ As given by 2019Mu04, based on previous assignments for some of the levels, and new assignments based on their γ(θ) data and γ-decay pattern.

& From DSAM in 2019Mu04.

γ(⁷⁶Se)

2019Mu04 give B(E2), B(M1) and B(E1) values from their lifetime data, and assigned multiplicities and mixing ratios. See Adopted Levels, Gammas dataset for these values, obtained by the evaluators.

<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_γ</u>	<u>I_γ</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.&</u>	<u>δ</u>	<u>Comments</u>
559.10	2 ⁺	559.10 2	100	0.0	0 ⁺			Additional information 1.
1122.27	0 ⁺	563.19 3	100	559.10	2 ⁺			Additional information 2.
1216.19	2 ⁺	657.09 3	62.8 [†] 4	559.10	2 ⁺			Additional information 3.
		1216.12 4	37.2 [†] 4	0.0	0 ⁺			Additional information 4.
1330.89	4 ⁺	771.75 2	100	559.10	2 ⁺			Additional information 5.
1688.98	3 ⁺	358.25 17	2.9 2	1330.89	4 ⁺	(M1+E2)		δ: +1.8 +10-12 or +0.8 +20-3.
		472.87 15	32.5 3	1216.19	2 ⁺	(M1+E2)		δ: +0.41 5 or +5.4 9.
		1129.85 10	64.6 3	559.10	2 ⁺	(M1+E2)	+2.44 1	Additional information 6.
								Additional information 7.
1787.64	2 ⁺	456.98 12	1.8 [†] 1	1330.89	4 ⁺			Additional information 8.
		571.50 6	5.9 [†] 1	1216.19	2 ⁺	(M1+E2)	+0.48 +73-22	Additional information 9.
		665.65 [†] 14	19.0 [†] 1	1122.27	0 ⁺			Additional information 10.
		1228.51 6	58.8 [†] 2	559.10	2 ⁺	(M1+E2)	-0.52 +9-7	Additional information 11.
		1787.56 8	14.7 [†] 1	0.0	0 ⁺			Additional information 12.
1791.46	0 ⁺	575.30 4	86.1 6	1216.19	2 ⁺			
		1232.24 [#] 8	13.9 6	559.10	2 ⁺			
2025.95	4 ⁺	694.97 [†] 9	31.8 [†] 6	1330.89	4 ⁺	(M1+E2)		δ: +2.4 +10-6 or -0.36 15.
		809.83 6	64.9 [†] 6	1216.19	2 ⁺			Additional information 13.
		1466.79 10	3.2 [†] 2	559.10	2 ⁺			
2127.25	2 ⁺	335.94 20	3.5 2	1791.46	0 ⁺			
		339.60 10	10.6 2	1787.64	2 ⁺			
		438.50 15	24.3 4	1688.98	3 ⁺			
		911.03 10	2.5 2	1216.19	2 ⁺			
		1004.98 [#] 16	2.9 2	1122.27	0 ⁺			

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⁷⁶Se(n,n'γ) 2019Mu04 (continued)

<u>γ(⁷⁶Se) (continued)</u>								
<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_γ</u>	<u>I_γ</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.&</u>	<u>δ</u>	<u>Comments</u>
2127.25	2 ⁺	1568.07 12	47.4 4	559.10	2 ⁺			Additional information 14.
		2127.21 8	8.7 2	0.0	0 ⁺			Additional information 15.
2170.71	0 ⁺	954.47 9	13.5 6	1216.19	2 ⁺			Additional information 16.
		1611.63 8	86.5 6	559.10	2 ⁺			Additional information 17.
2262.40	6 ⁺	931.50 20	100	1330.89	4 ⁺			
2429.13	3 ⁻	403.07 12	1.5 2	2025.95	4 ⁺			
		740.13 3	7.8 2	1688.98	3 ⁺			
		1212.92 5	85.4 4	1216.19	2 ⁺			
		1870.04 4	3.5 2	559.10	2 ⁺			
		2429.21 6	1.7 2	0.0	0 ⁺			
2485.03	4 ⁺	796.08 [@] 6	17.7 4	1688.98	3 ⁺	[E3] (M1+E2)	+0.20 +19-13	Threshold of 2.5 MeV neutron energy in 2019Mu04, thus placement revised.
		1154.09 9	60.0 6	1330.89	4 ⁺	(M1+E2)	-0.35 5	
		1268.81 9	22.3 5	1216.19	2 ⁺			
2489.36	5 ⁺	800.40 9	66.7 [†] 4	1688.98	3 ⁺			Additional information 18.
		1158.45 5	33.3 [†] 4	1330.89	4 ⁺			Additional information 19.
2514.68	2 ⁺	723.22 [#] 11	3.3 2	1791.46	0 ⁺			
		727.05 3	61.3 9	1787.64	2 ⁺	(M1+E2)	+0.24 5	Additional information 20.
		825.79 [#] 8	1.6 3	1688.98	3 ⁺	(M1+E2)		δ: -3 +18-3 or -1 +15-1.
		1392.34 11	1.2 3	1122.27	0 ⁺			
		1955.52 4	32.5 7	559.10	2 ⁺	(M1+E2)		δ: -0.57 7 or -9 +7-2. Additional information 21.
2604.06	0 ⁺	1387.86 [#] 6	23.5 7	1216.19	2 ⁺			
		2044.93 6	76.5 7	559.10	2 ⁺			Additional information 22.
2617.90	4 ⁺	830.41 [#] 11	16.7 4	1787.64	2 ⁺			
		928.82 14	9.7 3	1688.98	3 ⁺	(M1+E2)		δ: +8 +21-5 or +0.15 11. Additional information 23.
		1286.91 10	62.4 6	1330.89	4 ⁺	(M1+E2)	-0.22 4	Additional information 24.
2655.41	1 ⁻	1401.70 [#] 11	11.2 4	1216.19	2 ⁺			
		867.81 4	15.9 3	1787.64	2 ⁺			Additional information 25.
		1439.15 6	25.6 4	1216.19	2 ⁺			Additional information 26.
		1533.23 9	2.3 2	1122.27	0 ⁺			Additional information 27.
		2096.20 4	52.8 4	559.10	2 ⁺			Additional information 28.
		2655.45 7	3.3 2	0.0	0 ⁺			Additional information 29.
2669.89	2 ⁻	882.21 5	11.0 3	1787.64	2 ⁺			
		980.90 3	7.6 3	1688.98	3 ⁺			
		1453.75 8	22.4 6	1216.19	2 ⁺			Additional information 29.

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⁷⁶Se(n,n'γ) 2019Mu04 (continued)

γ(⁷⁶Se) (continued)

E _i (level)	J _i ^π	E _γ	I _γ	E _f	J _f ^π	Mult.&	δ	Comments
2669.89	2 ⁻	2110.76 4	59.0 4	559.10	2 ⁺			Additional information 30.
2805.11	(4) ⁺	1474.21 15	100	1330.89	4 ⁺			Additional information 31.
2812.01	3 ⁺	382.92 [@] 17	12.6 5	2429.13	3 ⁻			Previous placement from 2170 level revised by 2019Mu04 based on its threshold at 3.0 MeV neutron energy.
		1123.07 [@] 10	15.5 5	1688.98	3 ⁺	(M1+E2)		δ: -1.61 +30-21 or -0.045 12.
		1595.84 10	56.3 6	1216.19	2 ⁺	(M1(+E2))	+0.03 3	
		2252.92 [@] 12	15.5 6	559.10	2 ⁺	(M1+E2)		δ: -1.0 +14-2 or -4.8 +10-3.
2817.16	(2)	1600.92 6	61.0 6	1216.19	2 ⁺			Additional information 32.
		2258.03 8	39.0 6	559.10	2 ⁺			Additional information 33.
2824.76	5 ⁻	395.70 6		2429.13	3 ⁻			
		562.3 [†] 5		2262.40	6 ⁺			E _γ : doublet.
		798.84 8		2025.95	4 ⁺			
		1493.83 6		1330.89	4 ⁺			
2859.81	4 ⁻	430.67 4	36.4 6	2429.13	3 ⁻	(M1+E2)		δ: +1.9 +9-13 or +0.7 +22-2.
		1170.86 [#] 8	18.6 5	1688.98	3 ⁺			
		1528.86 9	45.0 6	1330.89	4 ⁺			
2869.16	2 ⁺	1652.95 10	29.5 6	1216.19	2 ⁺	(M1+E2)		δ: +0.38 +14-12 or +1.1 +3-8.
		2310.03 9	57.9 6	559.10	2 ⁺	(M1+E2)		Additional information 34.
								δ: -0.52 9 or -12 +52-6.
								Additional information 35.
		2869.09 [#] 15	12.5 4	0.0	0 ⁺			
2917.32	5 ⁺	1586.41 [#] 8	100	1330.89	4 ⁺	(M1+E2)	+0.34 4	
2950.10	1 ⁺	2390.73 14	36.7 8	559.10	2 ⁺	(M1+E2)		δ: -0.2 +43-1 or -2.0 +25-2.
		2950.20 12	63.3 8	0.0	0 ⁺			Additional information 36.
								Additional information 37.
2969.49	4 ⁻	540.40 [#] 8	32.5 9	2429.13	3 ⁻	(M1+E2)		δ: -0.44 12 or -1.7 4.
		1280.44 [#] 10	67.5 9	1688.98	3 ⁺			
2974.77	3 ⁽⁺⁾	2415.62 [#] 12	100	559.10	2 ⁺			
3007.76	2 ⁺	1791.52 [#] 12	8.9 5	1216.19	2 ⁺	(M1+E2)		δ: +5 +58-2 or -0.21 19.
		2448.74 12	86.8 7	559.10	2 ⁺	(M1+E2)	-0.16 5	Additional information 38.
		3007.40 [#] 20	4.3 7	0.0	0 ⁺			
3031.59	0 ⁺	1815.40 [#] 8	37.7 12	1216.19	2 ⁺			
		2472.39 [#] 12	62.3 12	559.10	2 ⁺			
3045.79	(5)	221.21 11	38.1 26	2824.76	5 ⁻			
		1714.72 10	61.9 26	1330.89	4 ⁺			
3069.45	2 ⁺	942.45 22	4.6 3	2127.25	2 ⁺	(M1+E2)		δ: -0.5 +47-3 or -12 +16-7.
		1380.34 16	16.2 4	1688.98	3 ⁺	(M1+E2)		δ: +0.04 9 or -7 +14-3.
		1853.07 14	69.2 6	1216.19	2 ⁺	(M1+E2)		δ: +2.3 3 or +0.003 +44-50.
		2510.49 15	9.9 5	559.10	2 ⁺	(M1+E2)		δ: +1.3 +11-13 or +0.3 +23-3.
3083.58	(2,3) ⁺	2524.43 6	100	559.10	2 ⁺			Additional information 39.
3105.27	3 ⁽⁻⁾	1774.35 [#] 18	20.5 6	1330.89	4 ⁺			

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⁷⁶Se(n,n'γ) 2019Mu04 (continued)

γ(⁷⁶Se) (continued)

<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_γ</u>	<u>I_γ</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.&</u>	<u>δ</u>	<u>Comments</u>
3105.27	3 ⁽⁻⁾	1888.70 [#] 22 2546.20 10	22.5 5 57.0 7	1216.19 559.10	2 ⁺ 2 ⁺			Additional information 40.
3159.80	(2)	489.68 28 504.67 38 730.58 25 1032.52 10 1372.33 22 1470.87 23	7.3 7 6.8 6 10.2 8 10.5 5 13.6 5 51.6 9	2669.89 2655.41 2429.13 2127.25 1787.64 1688.98	2 ⁻ 1 ⁻ 3 ⁻ 2 ⁺ 2 ⁺ 3 ⁺			
3160.84	0 ⁺	2601.69 [#] 13	100	559.10	2 ⁺			
3161.81	3 ⁻	732.77 [#] 6 1830.79 [#] 8 1945.48 [#] 10	22.8 15 29.0 10 48.2 14	2429.13 1330.89 1216.19	3 ⁻ 4 ⁺ 2 ⁺	(M1+E2)	+0.2 +14-1	
3191.51	3 ⁺	1502.54 [#] 11 1860.65 [#] 10 1975.09 [#] 14 2632.39 [#] 13	63.5 20 14.7 26 11.2 6 10.6 6	1688.98 1330.89 1216.19 559.10	3 ⁺ 4 ⁺ 2 ⁺ 2 ⁺	(M1+E2) (M1+E2) (M1+E2) (M1+E2)	-0.2 +88-1	δ: +1.93 +28-34 or -0.14 5. δ: -0.02 9 or -4.6 +33-14. δ: +0.26 10 or +14 +50-8. δ: +3.2 +7-4 or -0.10 5.
3212.91	2 ⁺	2653.80 10 3212.78 11	92.1 4 7.9 4	559.10 0.0	2 ⁺ 0 ⁺	(M1+E2)		
3219.31	3 ⁽⁺⁾	790.12 [#] 4 2660.36 8	33.2 8 66.8 8	2429.13 559.10	3 ⁻ 2 ⁺			
3230.41	2 ⁺	1059.69 [#] 8	100	2170.71	0 ⁺			
3238.73	(4 ⁺)	413.97 8	100	2824.76	5 ⁻			
3262.99	(3 ⁻)	1135.73 [#] 8	100	2127.25	2 ⁺			
3267.28	(2,3)	1578.24 [#] 19 1936.30 [#] 11 2050.83 [#] 12 2708.34 [#] 10	3.0 5 41.8 9 20.0 8 35.2 9	1688.98 1330.89 1216.19 559.10	3 ⁺ 4 ⁺ 2 ⁺ 2 ⁺			
3282.16	2 ⁺	464.67 [#] 20 2160.00 [#] 13	33.6 9 66.4 9	2817.16 1122.27	(2) 0 ⁺			
3295.28	(1)	1507.52 [#] 14 2173.06 [#] 18 2736.21 10 3295.07 [#] 14	12.4 7 5.5 8 59.0 11 23.1 8	1787.64 1122.27 559.10 0.0	2 ⁺ 0 ⁺ 2 ⁺ 0 ⁺			Additional information 41.
3331.51	0 ⁺	2772.35 [#] 8	100	559.10	2 ⁺			
3346.23	(4)	1320.57 [#] 18 2015.13 14	57.7 20 42.3 20	2025.95 1330.89	4 ⁺ 4 ⁺			
3348.62	1 ⁽⁺⁾	1177.90 [#] 11	100	2170.71	0 ⁺			
3351.41	(1,2) ⁺	681.44 32 2135.40 20 2792.20 11	6.0 3 13.7 1 80.3 4	2669.89 1216.19 559.10	2 ⁻ 2 ⁺ 2 ⁺			Additional information 42.
3376.37	1,2 ⁺	3376.29 [#] 12	100	0.0	0 ⁺			
3403.78	(5 ⁺)	592.02 [#] 14 2072.68 [#] 12	45.3 19 56.7 19	2812.01 1330.89	3 ⁺ 4 ⁺			
3407.93	(4)	548.12 [#] 4	79.4 19	2859.81	4 ⁻			

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$^{76}\text{Se}(n,n'\gamma)$ 2019Mu04 (continued) $\gamma(^{76}\text{Se})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult. &	δ
3407.93	(4)	1718.93 [#] 10	20.6 19	1688.98	3 ⁺		
3436.09	2 ⁺	2876.40 [#] 28	78.1 11	559.10	2 ⁺	(M1+E2)	+0.64 +28-20
		3436.28 [#] 20	21.9 11	0.0	0 ⁺		
3441.27	(3 ⁻)	2882.11 [#] 22	100	559.10	2 ⁺		
3465.0?		2905.6 ^{‡a} 5	100	559.10	2 ⁺		
3530.1?		3530.0 ^{‡a} 5	100	0.0	0 ⁺		
3657.9?		3098.3 ^{‡a} 5	100	559.10	2 ⁺		
		3657.8 5		0.0	0 ⁺		

[†] 2019Mu04 take value from 1995Si03 evaluation in Nuclear Data Sheets.

[‡] From 1977SiZT only. This γ is not confirmed by 2019Mu04, thus treated as questionable by the evaluators, and not included in the Adopted dataset.

[#] New γ ray in 2019Mu04.

[@] Placement revised by 2019Mu04.

[&] As given in 2019Mu04. When considered in Adopted Gammas, M1 or E1 will be replaced with D and E2 with Q since supporting arguments for magnetic or electric natures are lacking.

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

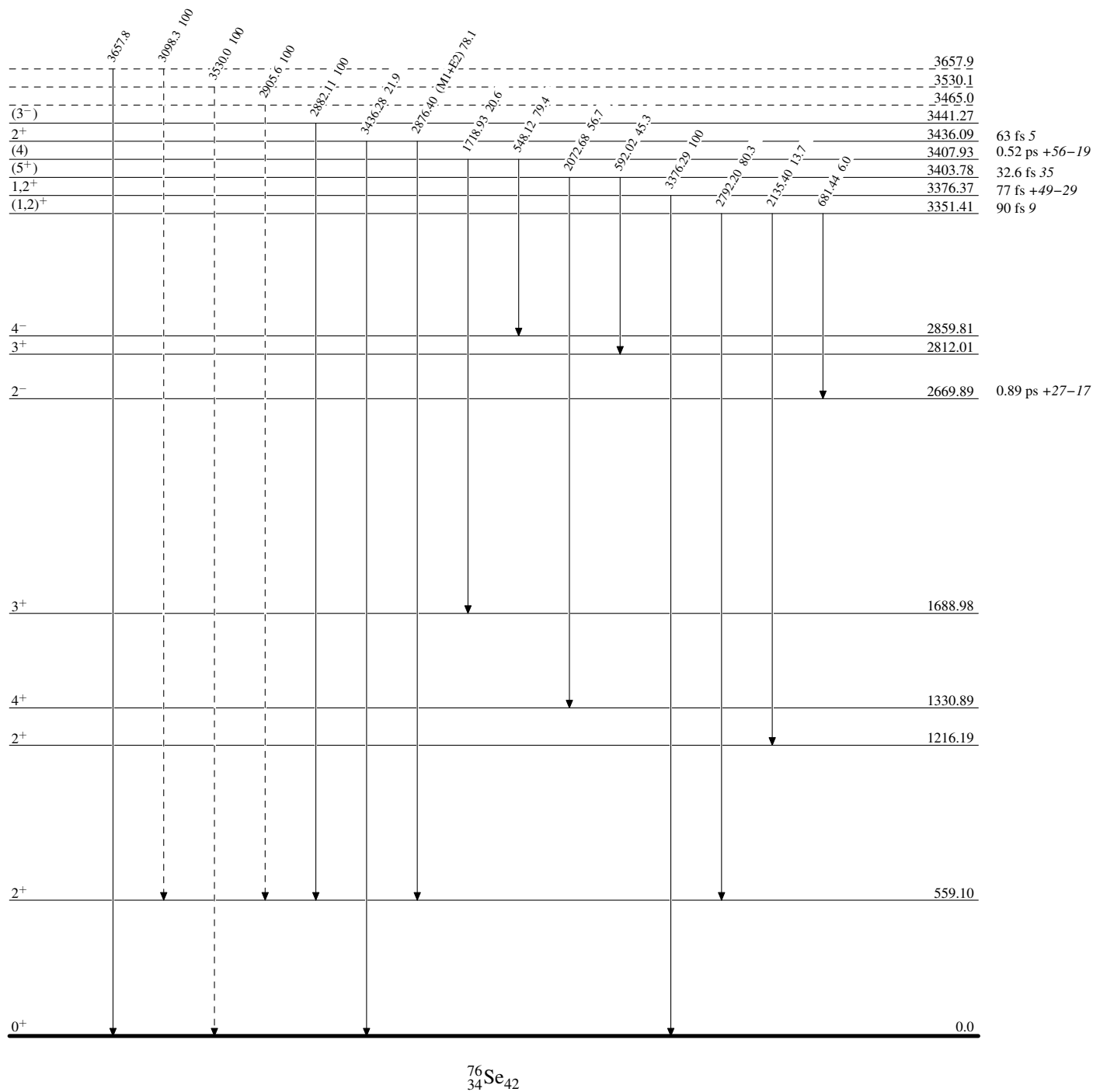
⁷⁶Se(n,n'γ) 2019Mu04

Legend

Level Scheme

Intensities: % photon branching from each level

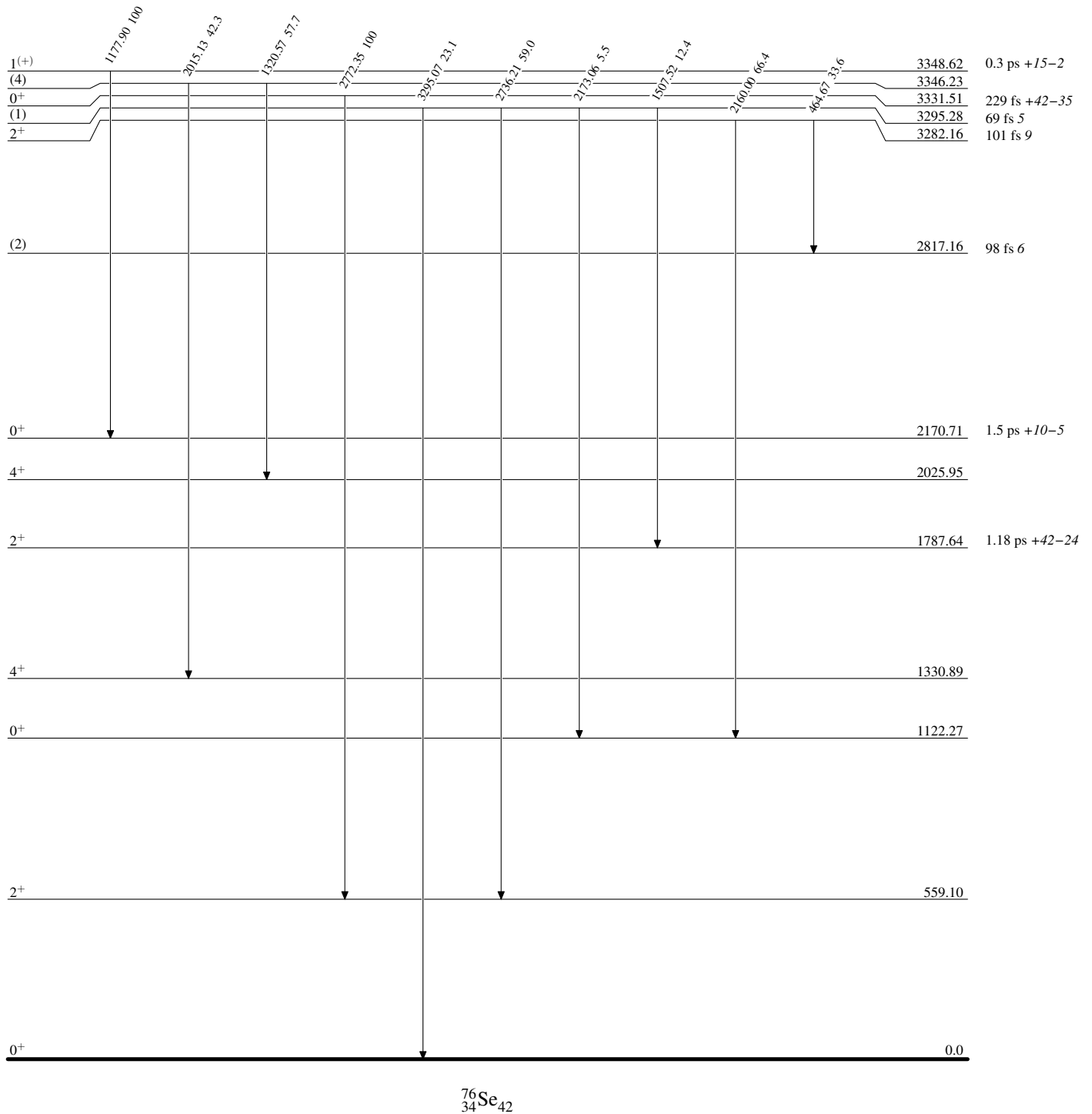
-----▶ γ Decay (Uncertain)



$^{76}\text{Se}(n,n'\gamma)$ 2019Mu04

Level Scheme (continued)

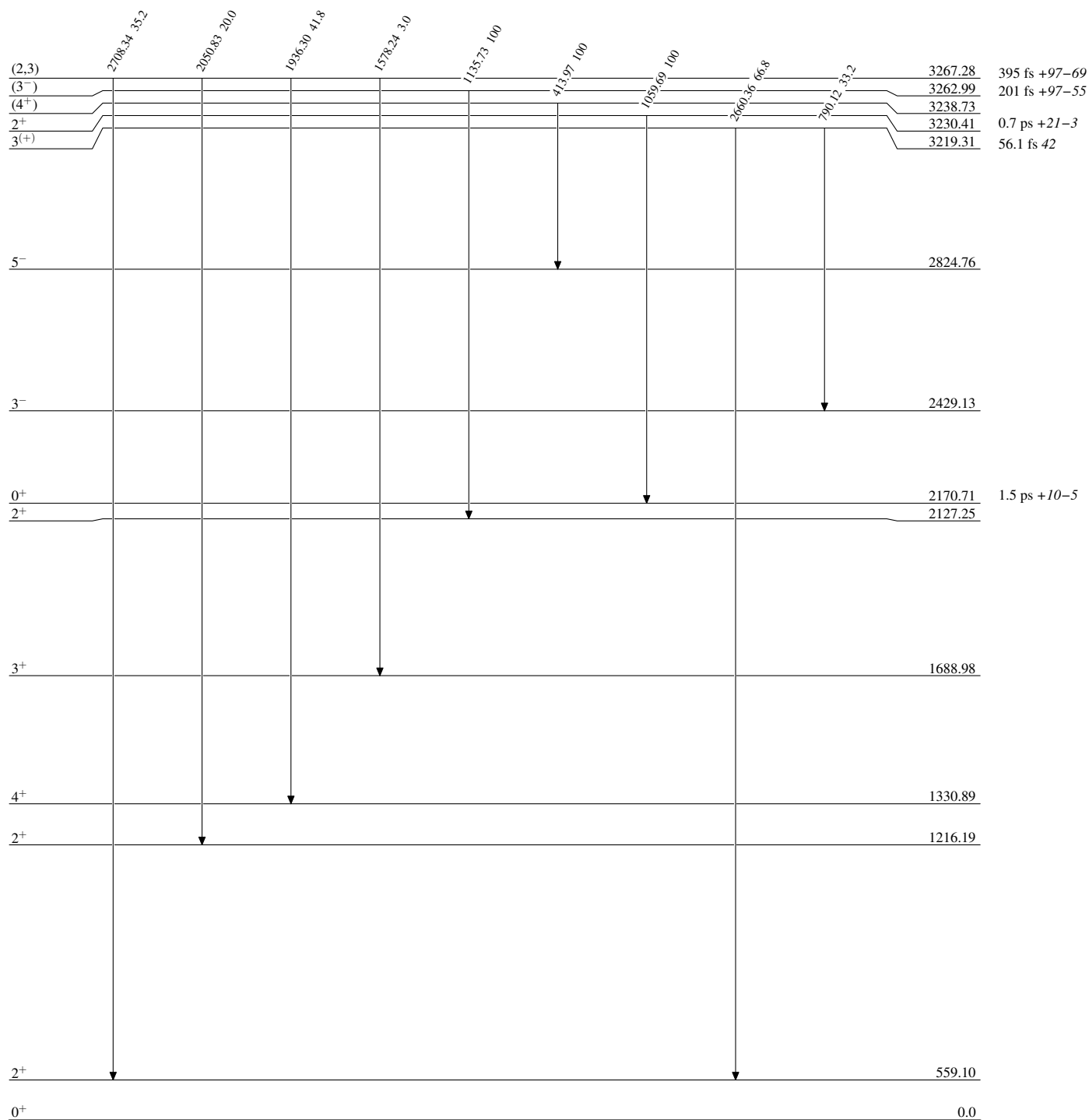
Intensities: % photon branching from each level

 $^{76}_{34}\text{Se}_{42}$

$^{76}\text{Se}(n,n'\gamma)$ 2019Mu04

Level Scheme (continued)

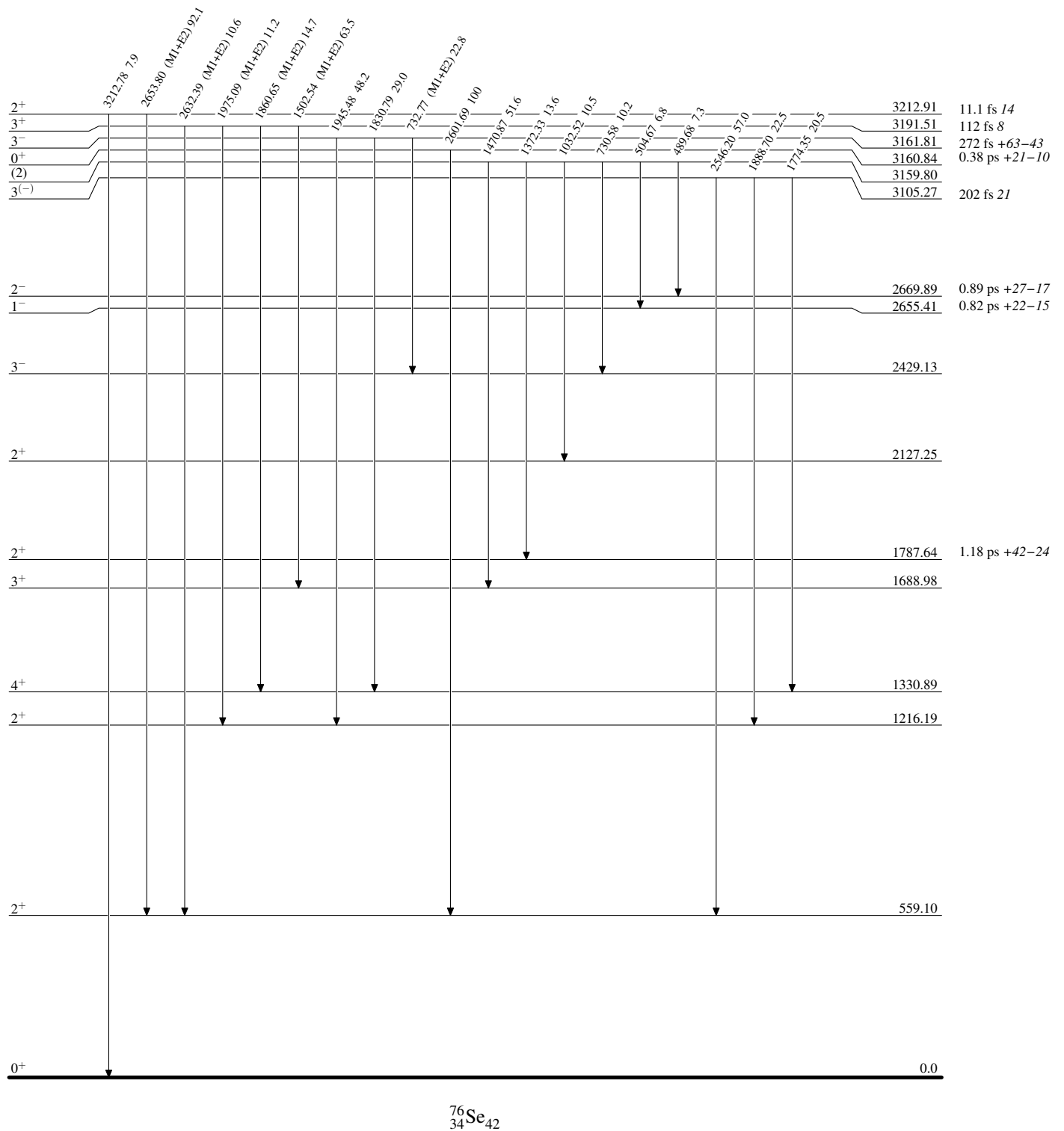
Intensities: % photon branching from each level

 $^{76}_{34}\text{Se}_{42}$

$^{76}\text{Se}(n,n'\gamma)$ 2019Mu04

Level Scheme (continued)

Intensities: % photon branching from each level

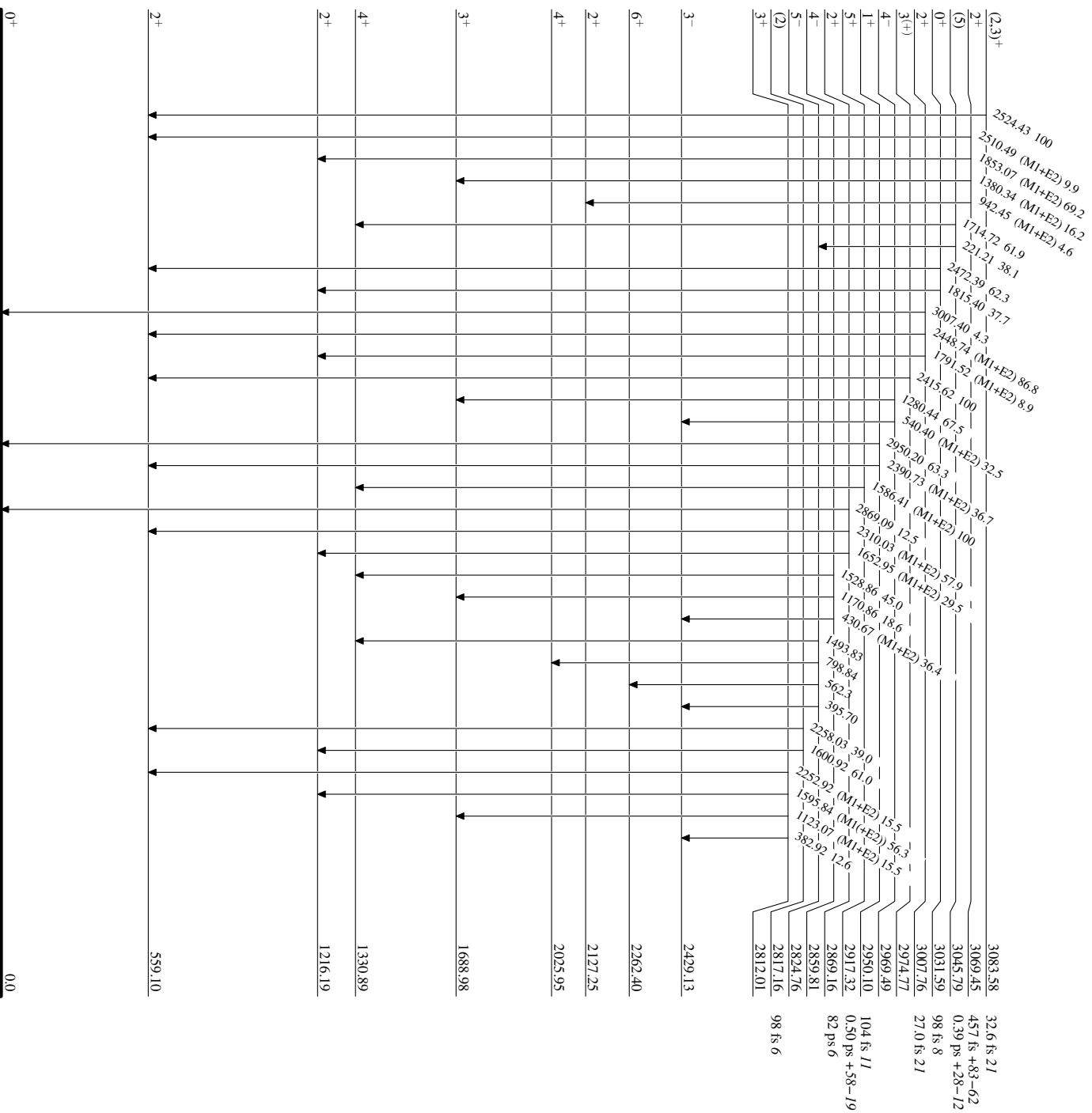


$^{76}_{34}\text{Se}_{42}$

⁷⁶Se(n,n' γ) 2019Mu04

Level Scheme (continued)

Intensities: % photon branching from each level

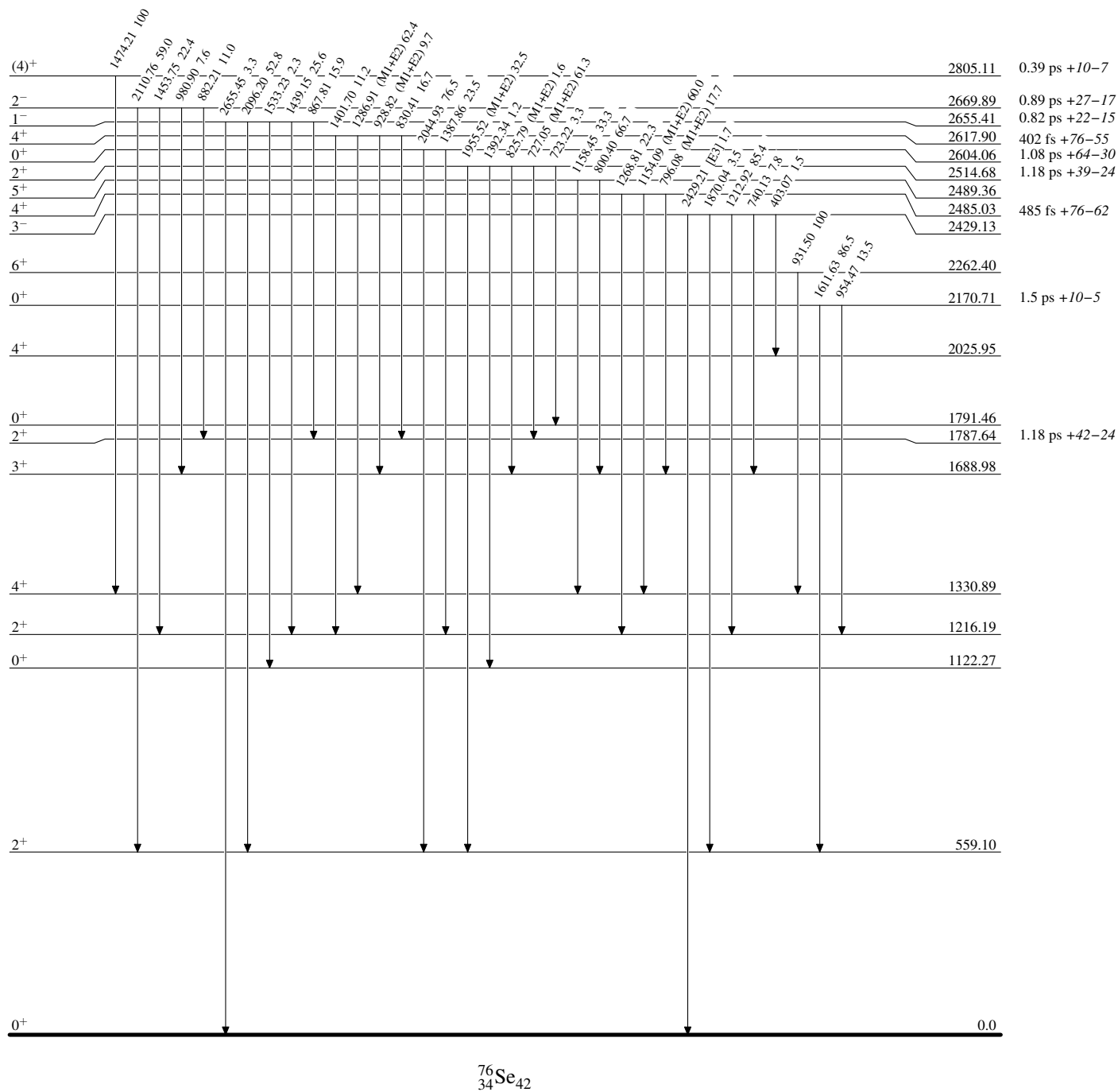


⁷⁶Se₄₂
³⁴Se₄₂

$^{76}\text{Se}(n,n'\gamma)$ 2019Mu04

Level Scheme (continued)

Intensities: % photon branching from each level



⁷⁶Se(n,n' γ) 2019Mu04

Level Scheme (continued)

Intensities: % photon branching from each level

