Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

Q(β^-)=−2050 *10*; S(n)=8627 *14*; S(p)=4419 *9*; Q(α)=−1429 *10* 2012Wa38
Note: Current evaluation has used the following Q record −2075 198627 154420 11-1429 11 2003Au03.

^{108}In Levels

Cross Reference (XREF) Flags

A	^{108}Sn ε decay	D	^{108}Cd(p,nγ)
B	^{92}Mo(^{19}F,2pnγ)	E	^{93}Nb(^{19}F,p3nγ)
C	^{98}Mo(^{14}N,4nγ),^{108}Cd(^{3}He,2npγ)	F	^{76}Ge(^{37}Cl,5nγ)

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	XREF	Comments
0.0	7^+	58.0 min *12*	ABCD F	%ε+%β^+=100 J$^\pi$: J=7 from NMR (1986Va27), π from log *ft*=5.0 to 6^+. $T_{1/2}$: from 1975Fl01. Others: 59 min *5* (1963Ka18), 58 min *2* (1962Ka23), 55 min (1956Me94).
29.75 *5*	2^+	39.6 min *7*	A D	%ε+%β^+=100 Q=+0.467 *14* (1987Eb02,1989Ra17); μ=+4.935 *5* J$^\pi$: J=2 from collinear LASER spectroscopy (1986Eb01). π from M1,E2 γ from 1^+. $T_{1/2}$: from 1975Fl01. Others: 39 min *2* (1963Ka18), 40 min *2* (1962Ka23), 40 min *2* (1956Me94). E(level): from 1989Kr07 in (p,nγ).
96.91 *6*	(6,7,8)		D	J$^\pi$: J>5 from Hauser-Feshbach analysis, γ transition to 7^+ is probably not pure Q since its presence in $\gamma\gamma$ spectrum with resolving time ≈6 ns implies B(E2)(W.u.)>130.
150.80[c] *7*	7^+		F	
198.36 *6*	3^+		A D	J$^\pi$: M1 γ to 2^+ Hauser-Feshbach analysis gives J=3.
230.70 *7*	$(4)^+$		D	J$^\pi$: γ to 3^+, no γ's to 2^+,7^+. M1,E2 transition from $J^\pi=5^+$, $(6)^+$.
247.67 *4*	6^+,$(7)^+$		D	J$^\pi$: M1,E2 γ to 7^+ state, Hauser-Feshbach analysis.
266.02 *6*	3^+		A D	J$^\pi$: M1(+E2) γ to 3^+. $\gamma(\theta)$ in (p,nγ).
288.87 *5*	$(5)^+$		D	J$^\pi$: γ rays to $J^\pi=(4)^+$ and 6^+,$(7)^+$ levels, Hauser-Feshbach analysis.
302.49 *6*	2^+		A D	J$^\pi$: γ's from this level have dominant M1 mult. $\gamma(\theta)$ rules out J=3.
481.55 *6*	4^+		D	J$^\pi$: M1 and M1,E2 transitions to $J^\pi=3^+$, $\gamma(\theta)$ rules out J=2 or J=3.
598.42 *5*	5^+,$(6)^+$		D	J$^\pi$: M1,E2 γ to 6^+,(7^+) level, γ to 4^+ state, Hauser-Feshbach analysis.
632.93 *6*	4^+,5^+		D	J$^\pi$: M1,E2 γ's to $J^\pi=3^+$ state, $\gamma(\theta)$ and Hauser-Feshbach.
681.62 *5*	5^+,$(6)^+$		D	J$^\pi$: M1,E2 γ's to $J^\pi=6^+$, $(7)^+$ and $(4)^+$, Hauser-Feshbach rules out 4^+.
698.85 *6*	1^+		A D	J$^\pi$: log *ft*=3.5 from 0^+.
764.25 *6*	2^-		D	J$^\pi$: E1 γ's to $J^\pi=3^+$ states, $\gamma(\theta)$ and Hauser-Feshbach.
807.76[c] *9*	8^+		F	
867.95 *6*	3^-,2^-		A D	J$^\pi$: γ's to $J^\pi=3^+$, E1 γ to 2^+ states.
904.42 *11*	(7^-)		F	
957.1 *9*	(8^+)		E	
982.34 *9*	(5,6)		D	J$^\pi$: γ to 4^+ state, Hauser-Feshbach analysis.
1010.09 *6*	$(2,3)^+$		D	J$^\pi$: M1, E2 γ's to $J^\pi=2^+$ and 3^+ states, γ's to $J^\pi=4^+$ and 4^+,5^+, $\gamma(\theta)$ and Hauser-Feshbach analysis.
1028.24 *7*	(4,3)		D	J$^\pi$: γ's to $J^\pi=3^+$ and 4^+ levels, Hauser-Feshbach analysis.
1037.42 *6*	4,5,6		D	J$^\pi$: γ's to $J^\pi=4^+$ and 6^+,$(7)^+$ levels, Hauser-Feshbach analysis.
1070.41 *7*	(4,3)		D	J$^\pi$: γ's to $J^\pi=3^+$, 2^+ and 2^- levels, Hauser-Feshbach analysis.
1086.14 *13*	$\geq 4^+$		D	J$^\pi$: M1,E2 γ to π=+, Hauser−Feshbach analysis.
1094.77 *6*	1,2,3		D	J$^\pi$: γ rays to $J^\pi=1^+$, 3^+.
1109.82 *6*	2,3,4		D	J$^\pi$: γ rays to $J^\pi=2^+$, 4^+.

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Adopted Levels, Gammas (continued)

^{108}In Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
1113.82 *7*	1,2,3	D	Jπ: γ rays to $J^\pi=1^+, 3^+$.
1114.38 *9*		D	
1119.49[#] *9*	8^-	BC EF	Jπ: E1 γ to 7^+. γ(θ).
1158.70 *8*	2,3,4	D	Jπ: γ rays to $J^\pi=2^+, 4^+$.
1166.94 *7*		D	
1178.46 *9*		D	
1183.44 *7*		D	
1191.44 *6*	1^+	A D	Jπ: log *ft*=4.4 from 0^+.
1212.68 *9*		D	
1260.71 *7*		D	
1266.46 *9*		D	
1270.52 *9*		D	
1294.00 *12*		D	
1309.74 *7*		D	
1314.94 *8*		D	
1332.79[#] *10*	$(9)^-$	BC EF	Jπ: M1 γ to 8^-. σ(1332 level)/σ(1119 level) much smaller in (^{3}He,2npγ) than in (^{14}n,4nγ). γ(θ).
1358.10 *8*		D	
1396.59[e] *8*	(9^+)	EF	Jπ: J=(8^+) in 1998Ch35.
1401.45 *7*		D	
1410.85 *13*		D	
1415.74 *9*		D	
1422.56 *12*		D	
1456.76 *11*		D	
1469.33 *10*		D	
1486.31 *11*		D	
1497.90 *16*		D	
1532.07 *12*		D	
1542.93 *7*		D	
1555.63 *11*		D	
1557.16[c] *10*	9^+	F	
1562.88 *8*		D	
1590.29 *16*		D	
1612.07 *10*		D	
1629.60 *9*		D	
1633.63[e] *10*	(11^+)	C EF	
1707.3 *10*	(9^+)	E	
1861.90[a] *11*	(10^-)	BC EF	Jπ: M1(+E2) γ to $(9)^-$. γ(θ). 529γ(excit).
2077.84 *11*	$9^{(-)}$	F	
2085.2 *4*	(11^-)	B	
2253.53 *14*		F	
2364.4 *9*	9^-	E	
2368.17 *9*	10^-	F	
2407.4 *5*	(12^-)	B	
2431.2 *6*		F	
2439.46[a] *10*	$10^{(-)}$	F	
2466.54[#] *13*	$(11)^-$	BC EF	Jπ: M1(+E2) γ to $(10)^-$. γ(θ). γ(pol). γ(excit).
2515.01[@] *11*	10^-	BC E	Jπ: γ(θ), γ(pol), γ(E).
2617.14 *13*			
2620.58[e] *14*	(12^+)	EF	
2662.04[@] *10*	11^-	BC E	Jπ: M1(+E2) γ to $(10)^-$. γ(θ). γ(pol). γ(excit).
2695.9 *10*	(11^-)	E	
2761.0 *4*			No decay γ's known.
2815.45[@] *14*	12^-	BC EF	Jπ: M1(+E2) γ to $(11)^-$. γ(θ). γ(pol). γ(excit).

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Adopted Levels, Gammas (continued)

^{108}In Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$	XREF	Comments
2820.9 *6*	(13$^-$)		B	
2879.44[d] *11*	11$^-$		EF	J$^{\pi}$: J=10$^+$ in E.
3008.45[#] *21*	12$^-$		BC EF	J$^{\pi}$: $\gamma(\theta)$. γ(pol). γ(excit).
3010.16 *14*			F	
3046.26[@] *16*	13$^-$		BC EF	J$^{\pi}$: M1(+E2) γ to (12)$^-$. $\gamma(\theta)$. γ(pol). γ(excit).
3064.38[e] *17*	(13$^+$)		EF	J$^{\pi}$: J=11$^+$ in E.
3102.91[d] *12*	12$^-$		EF	J$^{\pi}$: J=11$^+$ in E.
3274.18[a] *13*	(12$^-$)		EF	
3382.20[@] *19*	14$^-$	1.13 ps *4*	BC E	J$^{\pi}$: M1+E2 γ to (13)$^-$. $\gamma(\theta)$. γ(pol). γ(excit).
3403.8 *4*	(14$^-$)		B	
3425.17[d] *15*	(13$^-$)		EF	J$^{\pi}$: J=12$^+$ in E.
3446.36 *23*	(13$^-$)		F	
3548.14[b] *13*	11$^{(-)}$		F	J$^{\pi}$: M1+E2 γ to 10$^{(-)}$.
3643.96[#] *23*	13$^-$		F	
3676.4 *4*	(15$^-$)		B	J$^{\pi}$: D+Q γ to (14$^-$).
3828.29 *19*	15$^-$		EF	
3838.87[d] *18*	(14$^-$)		EF	
3877.0 *5*	(15$^-$)		B	
3910.24[@] *18*	15$^-$	0.42 ps *+7–17*	BC E	$T_{1/2}$: from (^{14}N,4pγ).
3972.26 *19*	14$^{(-)}$		F	
4051.2 *10*	(15$^-$)		E	
4101.22[b] *14*	13		F	J$^{\pi}$: M1+E2 γ to (12$^-$).
4135.5[d] *6*			F	
4265.66[a] *15*	14$^{(-)}$		F	
4330.75 *16*	13$^+$		EF	
4349.9 *11*	(14$^+$)		E	
4382.86 *22*	15$^{(-)}$		F	
4408.09[e] *20*	(15$^+$)		F	
4441.9 *6*	(16$^-$)		B	
4464.9 *11*	(14$^+$)		E	
4471.37[d] *21*	(15$^-$)		F	
4485.74 *21*	(16$^-$)		F	
4495.3 *4*			B	
4516.94[&] *17*	14$^+$		EF	
4571.45[@] *20*	16$^-$	0.308 ps *+17–33*	B EF	
4698.4 *7*	(17$^-$)		B	
4773.01[&] *18*	15$^+$		EF	
4879.05[b] *16*	15		F	
5077.01[f] *21*	(16$^-$)		F	
5130.27[&] *20*	16$^+$	0.299 ps *+27–24*	EF	
5156.85[@] *20*	17$^-$		EF	
5186.15 *19*			F	
5492.50[f] *23*	(17$^-$)		F	
5537.81 *21*			F	
5603.73[&] *22*	17$^+$	0.155 ps *+12–10*	EF	
5707.40[b] *18*	17		F	
5807.20 *18*	17		F	
5892.8 *3*	18$^-$		EF	
5954.5[f] *3*	(18$^-$)		F	

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Adopted Levels, Gammas (continued)

^{108}In Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$	XREF	E(level)†	Jπ‡	XREF
6168.59& *21*	18^+	0.110 ps *8*	EF	7614.06*b* *21*	21	F
6447.8*f* *3*	(19^-)		F	7747.6 *5*		F
6587.73 *25*	18^+		F	7831.0& *3*	(21^+)	F
6611.65*b* *19*	19		F	8015.6 *4*	(21^+)	F
6710.96& *22*	19^+	0.038 ps *+7−12*	EF	8558.1 *5*	(22^+)	F
7212.64 *24*	(19^+)		F	8571.3& *4*	(22^+)	F
7234.96& *24*	(20^+)		F	8793.06*b* *23*	(23)	F
7286.96 *24*	(20^+)		F			

† From a least-squares adjustment to the adopted Eγ. The relative placement of the 58-min and 39.6-min levels is now known.
‡ J^π without comments are based on γ mult derived from DCO measurements.
# Band(A): Magnetic-rotational band #1. Configuration=$\pi(g_{9/2}^{-1})\nu h_{11/2}$.
@ Band(B): Magnetic-rotational band #2. Configuration=$\pi(g_{9/2}^{-1})\nu(((g_{7/2}/d_{5/2})^2)(h_{11/2}))$.
& Band(C): Magnetic-rotational band #3. Configuration=$\pi(g_{9/2}^{-1})\nu((g_{7/2}/d_{5/2})(h_{11/2}^2))$ below the alignment, and $\pi(g_{9/2}^{-1})\nu(((g_{7/2}/d_{5/2})^{\ 2})(h_{11/2}^2))$ above the alignment.
a Band(D): Anti-magnetic rotational band #1. Configuration=$\pi((g_{9/2}^{-2})(d_{5/2}))\nu h_{11/2}$ below the alignment, and $\pi((g_{9/2}^{-2})(d_{5/2})\nu(h_{11/2}^3)$ above the alignment.
b Band(E): $\pi((g_{9/2}^{-2})(g_{7/2}))\nu h_{11/2}$ below the alignment and $\pi((g_{9/2}^{-2})(g_{7/2})\nu(h_{11/2}^3)$ above the alignment.
c Band(F): $\pi(g_{9/2}^{-1})\nu g_{7/2}$ below the alignment and $\pi(g_{9/2}^{-1})\nu((g_{7/2}/d_{5/2})^3)$ above the alignment.
d Band(G): $\pi(g_{9/2}^{-1})\nu(((g_{7/2}/d_{5/2})^2)(h_{11/2}))$(ABF).
e Band(H): Band based on 9^+.
f Band(I): Band based on (16^-).

γ(^{108}In)

E_i(level)	J_i^π	E_γ†	I_γ&	E_f	J_f^π	Mult.#	δ@	Comments
96.91	(6,7,8)	96.91 *6*	100	0.0	7^+			
150.80	7^+	150.4 *1*	100	0.0	7^+	M1+E2		
198.36	3^+	168.62 *3*	100	29.75	2^+	M1		
230.70	$(4)^+$	32.31 *15*	100	198.36	3^+			
247.67	6^+,$(7)^+$	150.76 *10*	9.7 *13*	96.91	(6,7,8)			
		247.68 *4*	100 *5*	0.0	7^+	M1,E2		
266.02	3^+	236.25 *3*	100	29.75	2^+	M1		
288.87	$(5)^+$	41.17 *5*	24 *15*	247.67	6^+,$(7)^+$			
		58.18 *3*	100 *11*	230.70	$(4)^+$			
302.49	2^+	36.52 *8*	1.01 *18*	266.02	3^+	M1+(E2)	<0.45	
		104.15 *3*	30.7 *4*	198.36	3^+	M1+(E2)	−0.06 *10*	
		272.75 *3*	100.0 *7*	29.75	2^+	M1+(E2)	+0.14 *14*	
481.55	4^+	215.57 *4*	100 *9*	266.02	3^+	M1		
		283.20 *4*	45 *5*	198.36	3^+	M1+(E2)	+0.09 *9*	
598.42	5^+,$(6)^+$	116.90 *6*	17.7 *25*	481.55	4^+			
		350.75 *5*	100 *6*	247.67	6^+,$(7)^+$	M1,E2		
632.93	4^+,5^+	344.08 *10*	53 *5*	288.87	$(5)^+$	M1,E2		
		366.94 *6*	100 *6*	266.02	3^+	M1,E2		
		434.56 *5*	15.4 *9*	198.36	3^+	M1,E2		
681.62	5^+,$(6)^+$	433.99 *5*	52 *3*	247.67	6^+,$(7)^+$	M1,E2		
		450.89 *4*	100 *6*	230.70	$(4)^+$	M1,E2		
698.85	1^+	396.43 *3*	100.0 *9*	302.49	2^+	M1+(E2)	+0.4 *+11−6*	Mult.: from ε decay.
		500.4 *3*	1.36 *13*	198.36	3^+			
		669.11 *8*	33.8 *6*	29.75	2^+	M1,E2		

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Adopted Levels, Gammas (continued)

$\gamma(^{108}In)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[#]	Comments
764.25	2^-	498.29 *5*	100 *6*	266.02	3^+	E1	
		565.88 *5*	23.0 *15*	198.36	3^+	E1	
		734.46 *7*	20.6 *25*	29.75	2^+		
807.76	8^+	656.5 *1*	100	150.80	7^+	M1+E2	
867.95	$3^-,2^-$	565.44 *5*	100 *8*	302.49	2^+	E1	
		601.85 *9*	6.1 *6*	266.02	3^+		
		669.64 *5*	38 *3*	198.36	3^+		
904.42	(7^-)	753.4 *1*	1.4 *2*	150.80	7^+	E1	
		905.3 *2*	0.5 *1*	0.0	7^+	E1	
957.1	(8^+)	957 *1*		0.0	7^+		
982.34	(5,6)	500.78 *6*	100	481.55	4^+		
1010.09	$(2,3)^+$	377.17 *10*	3.0 *3*	632.93	$4^+,5^+$		
		528.56 *10*	5.4 *4*	481.55	4^+		
		744.09 *5*	27.4 *16*	266.02	3^+	M1,E2	
		980.32 *5*	100 *5*	29.75	2^+	M1+(E2)	Mult.: δ=+0.16 to +4.0.
1028.24	(4,3)	546.72 *5*	61 *7*	481.55	4^+		
		762.20 *5*	100 *6*	266.02	3^+		
		829.77 *12*	10.3 *11*	198.36	3^+		
1037.42	4,5,6	555.82 *12*	57 *5*	481.55	4^+		
		789.76 *6*	100 *7*	247.67	$6^+,(7)^+$		
1070.41	(4,3)	306.07 *19*	25 *3*	764.25	2^-		
		767.87 *8*	64 *4*	302.49	2^+		
		804.39 *5*	100 *16*	266.02	3^+		
		872.15 *13*	10.4 *8*	198.36	3^+		
1086.14	$\geq 4^+$	838.47 *12*	100	247.67	$6^+,(7)^+$	M1,E2	
1094.77	1,2,3	396.06 *16*	85 *5*	698.85	1^+		
		792.19 *5*	70 *4*	302.49	2^+		
		828.69 *5*	44 *3*	266.02	3^+		
		896.64 *7*	13.6 *12*	198.36	3^+		
		1065.01 *10*	100 *15*	29.75	2^+		
1109.82	2,3,4	477.08 *23*	4.8 *7*	632.93	$4^+,5^+$		
		628.31 *6*	52 *4*	481.55	4^+		
		807.43 *14*	90 *7*	302.49	2^+		
		843.82 *5*	100 *7*	266.02	3^+		
		911.36 *10*	25.2 *17*	198.36	3^+		
		1079.97 *10*	40 *3*	29.75	2^+		
1113.82	1,2,3	245.91 *10*	3.7 *5*	867.95	$3^-,2^-$		
		414.90 *10*	14.8 *8*	698.85	1^+		
		811.30 *5*	100 *4*	302.49	2^+		
		847.90 *10*	33.3 *24*	266.02	3^+		
1114.38		916.03 *7*	87 *8*	198.36	3^+		
		1084.5 *3*	100 *21*	29.75	2^+		
1119.49	8^-	311.6 *1*	1.8 *1*	807.76	8^+	E1	
		968.7 *1*	7.4 *1*	150.80	7^+		
		1119.3 *2*	100	0.0	7^+	E1	
1158.70	2,3,4	677.09 *25*	26 *3*	481.55	4^+		
		856.17 *9*	85 *6*	302.49	2^+		
		892.72 *7*	70 *5*	266.02	3^+		
		960.19 *17*	65 *7*	198.36	3^+		
1166.94		402.69 *4*	100	764.25	2^-		
1178.46		414.21 *6*	100 *6*	764.25	2^-		
		980.0 *3*	2.3 *5*	198.36	3^+		
1183.44		484.56 *5*	43 *3*	698.85	1^+		
		881.03 *10*	100 *6*	302.49	2^+		
		985.3 *3*	4.4 *6*	198.36	3^+		

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Adopted Levels, Gammas (continued)

$\gamma(^{108}In)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[#]	δ[@]	Comments
1183.44		1153.9 *2*	31 *15*	29.75	2^+			
1191.44	1^+	492.63 *5*	34[a] *2*	698.85	1^+	D+Q	−0.53 *8*	Mult.: from ε decay.
		888.99 *5*	100[a] *30*	302.49	2^+	D+Q	+1.3 *+17−8*	Mult.: from ε decay.
		925.24 *6*	6.8[a] *4*	266.02	3^+			
		992.9 *3*	0.65[a] *15*	198.36	3^+			
		1161.83 *12*	35.6[a] *22*	29.75	2^+	Q		
1212.68		946.81 *9*	31 *3*	266.02	3^+			
		1014.17 *9*	100 *7*	198.36	3^+			
1260.71		627.81 *10*	10.0 *10*	632.93	$4^+,5^+$			
		779.01 *17*	19.0 *19*	481.55	4^+			
		958.18 *11*	38 *3*	302.49	2^+			
		994.70 *5*	100 *6*	266.02	3^+			
1266.46		502.21 *9*	86 *6*	764.25	2^-			
		963.96 *12*	100 *6*	302.49	2^+			
1270.52		637.49 *12*	28 *4*	632.93	$4^+,5^+$			
		672.15 *7*	100 *11*	598.42	$5^+,(6)^+$			
		788.7 *3*	37 *5*	481.55	4^+			
1294.00		695.58 *11*	100	598.42	$5^+,(6)^+$			
1309.74		610.84 *9*	100 *8*	698.85	1^+			
		1007.30 *6*	65 *5*	302.49	2^+			
		1043.53 *14*	8.4 *7*	266.02	3^+			
		1111.34 *11*	37 *3*	198.36	3^+			
1314.94		550.70 *5*	100 *19*	764.25	2^-			
		1048.85 *12*	5.7 *6*	266.02	3^+			
1332.79	$(9)^-$	213.1 *1*	100	1119.49	8^-	M1		
1358.10		725.24 *9*	26 *3*	632.93	$4^+,5^+$			
		1055.66 *9*	100 *6*	302.49	2^+			
		1091.96 *8*	47 *3*	266.02	3^+			
1396.59	(9^+)	588.7 *1*	8.1 *6*	807.76	8^+	M1+E2		
		1245.9 *1*	10.8 *6*	150.80	7^+	E2		
		1396.8 *1*	100 *6*	0.0	7^+	E2		
1401.45		218.05 *6*	32 *5*	1183.44				
		291.74 *10*	100 *16*	1109.82	2,3,4			
		391.48 *10*	56 *11*	1010.09	$(2,3)^+$			
		1135.38 *9*	52 *4*	266.02	3^+			
		1203.00 *6*	90 *5*	198.36	3^+			
1410.85		1108.42 *16*	81 *8*	302.49	2^+			
		1144.77 *15*	100 *4*	266.02	3^+			
1415.74		651.44 *12*	100 *8*	764.25	2^-			
		1149.67 *10*	13.0 *12*	266.02	3^+			
		1217.61 *19*	10.3 *12*	198.36	3^+			
1422.56		941.0 *1*	100	481.55	4^+			
1456.76		758.1 *3*	100 *7*	698.85	1^+			
		1154.25 *10*	78 *6*	302.49	2^+			
		1258.3 *4*	13 *4*	198.36	3^+			
1469.33		601.34 *15*	38 *6*	867.95	$3^-,2^-$			
		1166.85 *9*	100 *7*	302.49	2^+			
1486.31		319.43 *10*	17.2 *23*	1166.94				
		1183.64 *17*	100 *7*	302.49	2^+			
1497.90		330.89 *20*	100 *10*	1166.94				
		733.71 *20*	93 *9*	764.25	2^-			
1532.07		1229.52 *12*	100 *13*	302.49	2^+			
		1266.25 *25*	<96	266.02	3^+			
1542.93		844.27 *6*	100 *6*	698.85	1^+			
		1240.27 *11*	34 *3*	302.49	2^+			

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{108}In) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[#]	δ[@]	Comments
1542.93		1276.74 *6*	94 *6*	266.02	3^+			
1555.63		1253.16 *10*	100 *7*	302.49	2^+			
		1289.46 *22*	19 *2*	266.02	3^+			
1557.16	9^+	749.2 *1*	100 *3*	807.76	8^+	M1+E2		
		1406.5 *1*	30.8 *11*	150.80	7^+	E2		
1562.88		864.15 *10*	10.0 *11*	698.85	1^+			
		1260.34 *6*	100 *6*	302.49	2^+			
1590.29		1287.79 *15*	100	302.49	2^+			
1612.07		847.85 *10*	100 *5*	764.25	2^-			
		1309.49 *14*	≈21	302.49	2^+			
1629.60		761.8 *3*	33 *9*	867.95	3^-,2^-			
		930.73 *7*	100 *8*	698.85	1^+			
1633.63	(11^+)	237.0 *1*	100	1396.59	(9^+)	E2		
1707.3	(9^+)	750 *1*		957.1	(8^+)			
1861.90	(10^-)	528.6 *2*	100	1332.79	$(9)^-$	M1+E2		
2077.84	$9^{(-)}$	744.9[b] *1*		1332.79	$(9)^-$			
		958.0 *3*	100	1119.49	8^-	M1+E2		
2085.2	(11^-)	223.3 *3*	100	1861.90	(10^-)	D(+Q)	−0.01 *3*	
2253.53		619.9 *4*		1633.63	(11^+)			
		856.9 *4*		1396.59	(9^+)			
2364.4	9^-	657 *1*		1707.3	(9^+)			
		1245 *1*		1119.49	8^-			
2368.17	10^-	290.3 *1*	58 *4*	2077.84	$9^{(-)}$			
		506.0 *1*	100 *8*	1861.90	(10^-)	M1+E2		
		971.7 *1*	69 *4*	1396.59	(9^+)	E1		
		1035.1 *1*	96 *8*	1332.79	$(9)^-$	M1+E2		
		1248.8 *2*	46 *4*	1119.49	8^-	E2		
2407.4	(12^-)	322.2 *3*	100	2085.2	(11^-)	D(+Q)	0.00 *2*	
2431.2		1098.4 *6*	100	1332.79	$(9)^-$			
2439.46	$10^{(-)}$	361.6 *1*	34.8 *22*	2077.84	$9^{(-)}$	M1+E2		
		577.3 *2*	28.3 *22*	1861.90	(10^-)	M1+E2		
		1043.0 *1*	100 *4*	1396.59	(9^+)	E1		
		1106.6 *1*	78 *4*	1332.79	$(9)^-$	M1+E2		
2466.54	$(11)^-$	604.3 *2*	100	1861.90	(10^-)	M1(+E2)	−0.02 *4*	
		1133.8 *1*	4.8 *3*	1332.79	$(9)^-$	E2		
2515.01	10^-	957.8 *1*	8.6 *3*	1557.16	9^+	E1		
		1182.0[‡] *3*	100	1332.79	$(9)^-$	M1+E2	−0.43 *10*	
		1395.9[‡] *3*	74	1119.49	8^-	Q+O	+0.02 *3*	
2620.58	(12^+)	987.0 *1*	100	1633.63	(11^+)	M1+E2		
2662.04	11^-	147.0 *1*	100 *3*	2515.01	10^-	M1+E2	+0.02 *3*	
		293.7 *1*	9.5 *4*	2364.4	9^-	M1+E2		
		800.3 *1*	5.75 *19*	1861.90	(10^-)	M1+E2		
		1028.2 *1*	4.08 *19*	1633.63	(11^+)	E1		
		1329.5 *1*	40.4 *13*	1332.79	$(9)^-$	E2		I_γ: Iγ/Iγ(147γ)=0.53 in (^{19}F,2pnγ).
2695.9	(11^-)	834	100	1861.90	(10^-)			
2815.45	12^-	153.4 *1*	100 *8*	2662.04	11^-	M1(+E2)	+0.02 *3*	
		349.1 *6*	18 *8*	2466.54	$(11)^-$			I_γ: Iγ/Iγ(153γ)−0.37 in (^{19}F,2pnγ).
2820.9	(13^-)	413.5[‡] *3*	100	2407.4	(12^-)			
2879.44	11^-	511.0 *1*	100 *5*	2368.17	10^-	M1+E2		
		625.9 *1*	28.7 *19*	2253.53				
		1017.9 *2*	10.2 *9*	1861.90	(10^-)	M1+E2		
3008.45	12^-	541.3 *4*	100	2466.54	$(11)^-$	D+Q	+0.04 *3*	
		1146.7 *2*	14 *2*	1861.90	(10^-)	E2		
3010.16		570.7 *1*	100	2439.46	$10^{(-)}$			

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{108}In) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult. #	δ @	Comments
3046.26	13^-	230.8 *1*	100	2815.45	12^-	M1(+E2)	+0.02 *2*	
3064.38	(13^+)	443.8 *1*	100	2620.58	(12^+)	M1+E2		
3102.91	12^-	223.3 *1*	100	2879.44	11^-	M1+E2		
		341.9 *3*	5.7 *14*	2761.0				
		1469.4 *1*	59	1633.63	(11^+)	E1		
3274.18	(12^-)	834.7 *1*	100	2439.46	$10^{(-)}$	E2		
3382.20	14^-	335.7 *3*	100	3046.26	13^-	M1+E2	+0.02 *1*	B(M1)(W.u.)=0.515 *19*; B(E2)(W.u.)=1.5 *15*
3403.8	(14^-)	357.5‡ *3*	100	3046.26	13^-	D(+Q)	+0.01 *4*	
3425.17	(13^-)	322.2 *1*	100 *4*	3102.91	12^-	M1+E2		
		804.8 *2*	8.3 *9*	2620.58	(12^+)	E1		
3446.36	(13^-)	437.9 *1*	100	3008.45	12^-	M1+E2		
3548.14	$11^{(-)}$	1108.7 *1*	100	2439.46	$10^{(-)}$	M1+E2		
3643.96	13^-	635.5 *1*	100	3008.45	12^-	M1+E2		
3676.4	(15^-)	294.2 *3*	100	3382.20	14^-	D+Q	+0.19 *6*	
3828.29	15^-	782.0 *1*	100	3046.26	13^-	E2		
3838.87	(14^-)	413.7 *1*	100	3425.17	(13^-)	M1+E2		
3877.0	(15^-)	473.2 *3*	100	3403.8	(14^-)	D+Q	+0.06 *4*	
3910.24	15^-	527.8 *1*	100 *3*	3382.20	14^-	M1+E2		E_γ: Doppler shift in (^{14}N,4nγ),(^{3}He,2npγ) corresponds to $T_{1/2}$=0.10 ps.
		864.2 *1*	6.3 *3*	3046.26	13^-	E2		B(E2)(W.u.)=5.4 *+23−10*
3972.26	$14^{(-)}$	926.0 *1*	100	3046.26	13^-	M1+E2		
4051.2	(15^-)	777 *1*	100	3274.18	(12^-)	E2		
4101.22	13	553.1 *1*	41.0 *20*	3548.14	$11^{(-)}$	E2		
		827.0 *1*	100 *4*	3274.18	(12^-)	M1+E2		
4135.5		1256.1 *5*	100	2879.44	11^-			
4265.66	$14^{(-)}$	991.5 *1*	100	3274.18	(12^-)	E2		
4330.75	13^+	1515.3 *1*	100	2815.45	12^-	E1		
4349.9	(14^+)	511 *1*	100	3838.87	(14^-)			
4382.86	$15^{(-)}$	410.6 *1*	100.0	3972.26	$14^{(-)}$	M1+E2		
4408.09	(15^+)	1343.7 *1*	100	3064.38	(13^+)	E2		
4441.9	(16^-)	564.9‡ *3*	100	3877.0	(15^-)	D+Q	−0.10 *6*	
4464.9	(14^+)	626 *1*	100	3838.87	(14^-)			
4471.37	(15^-)	632.5 *1*	100.0	3838.87	(14^-)	M1+E2		
4485.74	(16^-)	575.5 *1*	100.0	3910.24	15^-	M1+E2		
4495.3		585.1 *3*	100	3910.24	15^-			
4516.94	14^+	186.2 *1*	25.3 *10*	4330.75	13^+	M1+E2		
		1470.5 *1*	100 *3*	3046.26	13^-	E1		
4571.45	16^-	660.9‡ *1*	100	3910.24	15^-	M1+E2	−0.01 *4*	
4698.4	(17^-)	256.5 *3*	100	4441.9	(16^-)			
4773.01	15^+	255.9 *1*	100 *3*	4516.94	14^+	M1+E2		
		1391.0 *1*	75 *3*	3382.20	14^-	E1		
4879.05	15	613.4 *1*	18.1 *6*	4265.66	$14^{(-)}$	M1+E2		
		777.8 *1*	100 *3*	4101.22	13	E2		
5077.01	(16^-)	1694.8 *1*	100	3382.20	14^-	E2		
5130.27	16^+	357.3 *1*	100	4773.01	15^+	M1+E2		
		1219		3910.24	15^-			
5156.85	17^-	585.1 *1*	100	4571.45	16^-	M1+E2		
		1246.9 *1*		3910.24	15^-			
5186.15		307.1 *1*	100.0	4879.05	15			
5492.50	(17^-)	415.5 *1*	100 *6*	5077.01	(16^-)	M1+E2		
		1581.4 *10*	13 *6*	3910.24	15^-	E2		
5537.81		1709.5 *1*	100	3828.29	15^-			
5603.73	17^+	473.0 *1*	100	5130.27	16^+	M1+E2		
		1774.8 *2*	100	3828.29	15^-			

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Adopted Levels, Gammas (continued)

γ(^{108}In) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[#]	Comments
5707.40	17	828.3 *1*	100	4879.05	15	E2	
5807.20	17	928.2 *1*	100.0 *2*	4879.05	15	E2	
5892.8	18^-	735.9 *2*	100	5156.85	17^-		
5954.5	(18^-)	462.0 *1*	100.0	5492.50	(17^-)	M1+E2	
6168.59	18^+	564.4 *1*	100 *4*	5603.73	17^+	M1+E2	
		1038.8 *1*	16.0 *12*	5130.27	16^+	E2	B(E2)(W.u.)=19.2 *22*
6447.8	(19^-)	493.3 *1*	100.0 *1*	5954.5	(18^-)	M1+E2	
6587.73	18^+	984.5 *1*	100	5603.73	17^+		
6611.65	19	804.5 *1*	100	5807.20	17		
		904.2 *1*	100	5707.40	17		
6710.96	19^+	542.4 *1*	100 *5*	6168.59	18^+	M1+E2	
		1107.7 *1*	23.3 *23*	5603.73	17^+	E2	B(E2)(W.u.)=55 *+19−12*
7212.64	(19^+)	1608.9 *1*	100	5603.73	17^+	E2	
7234.96	(20^+)	524.0 *1*	100	6710.96	19^+	M1+E2	
7286.96	(20^+)	576.0 *1*	100	6710.96	19^+	M1+E2	
7614.06	21	1002.4 *1*	100	6611.65	19	E2	
7747.6		1159.9 *4*	100.0	6587.73	18^+		
7831.0	(21^+)	596.0 *1*	100	7234.96	(20^+)	M1+E2	
8015.6	(21^+)	728.6 *2*	100	7286.96	(20^+)	M1+E2	
8558.1	(22^+)	542.5 *3*	100	8015.6	(21^+)	M1+E2	
8571.3	(22^+)	740.3 *3*	100	7831.0	(21^+)	M1+E2	
8793.06	(23)	1179.0 *1*	100	7614.06	21	E2	

[†] Average of all gamma data.

[‡] From (^{19}F,2pnγ). No uncertainties were assigned by the authors. The evaluator has decreased the authors′ Eγ values by 0.4 keV in order to bring them into agreement with data from (^{14}N,4nγ), with known Eγ from background lines and with the authors′ ^{108}Sn data (1981An06). The evaluator has assigned uncertainties of 0.3 keV to the adjusted Eγ.

[#] From α(K)exp in ^{108}Sn ε decay for transitions between low-spin levels (J<5) and from α(K)exp, γ(θ) and γ(pol) in (^{14}n,4nγ),(^{3}He,2npγ) for the transitions between high-spin levels and α(K)exp in ^{108}Cd(p,nγ).

[@] From γ(θ) for adopted J^π values and DCO.

[&] Relative photon branchings from each level.

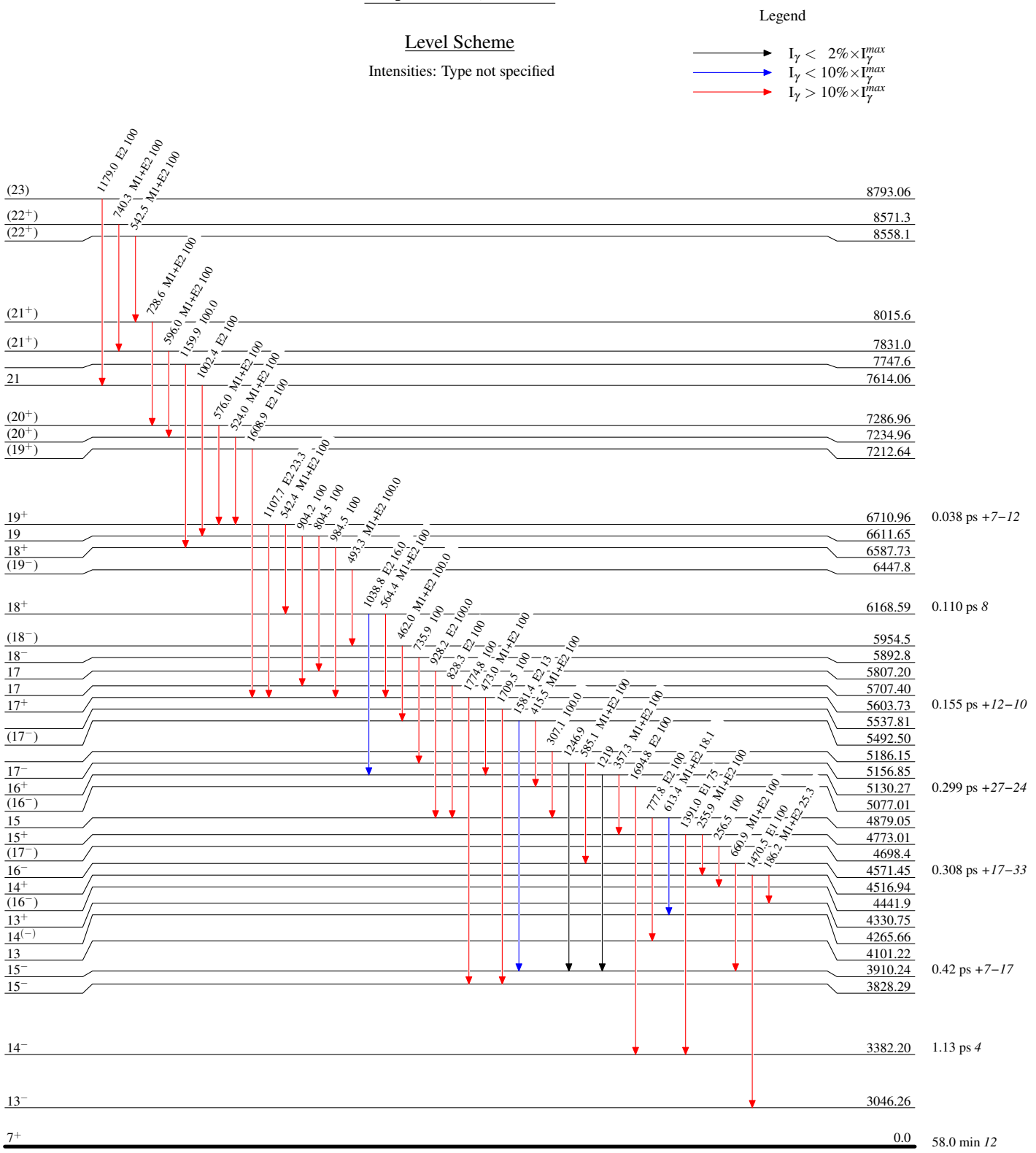
[a] The values from the available sources are grossly inconsistent. From ε decay one has 53 *10*:100 *17*:-: -: 103 *14* (1975Ad10); 31 *6*:100 *10*:-:-: 28 *8* (1978Hs01); 48 *10*:100 *13*:-: -:90 *13* (1981Bu20); and 54 *11*:100 *11*:-:-:54 *11* (1977Va14), and from (p,nγ) one has 70 *5*:100 *6*: 14.2 *9*: 1.4 *3*:74 *5* (1989Kr07), and 39 *8*:100 *14*:-:-:31 *8* (1978Hs01) for the 493, 889, 925, 993, and 1162γ′s, respectively.

[b] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

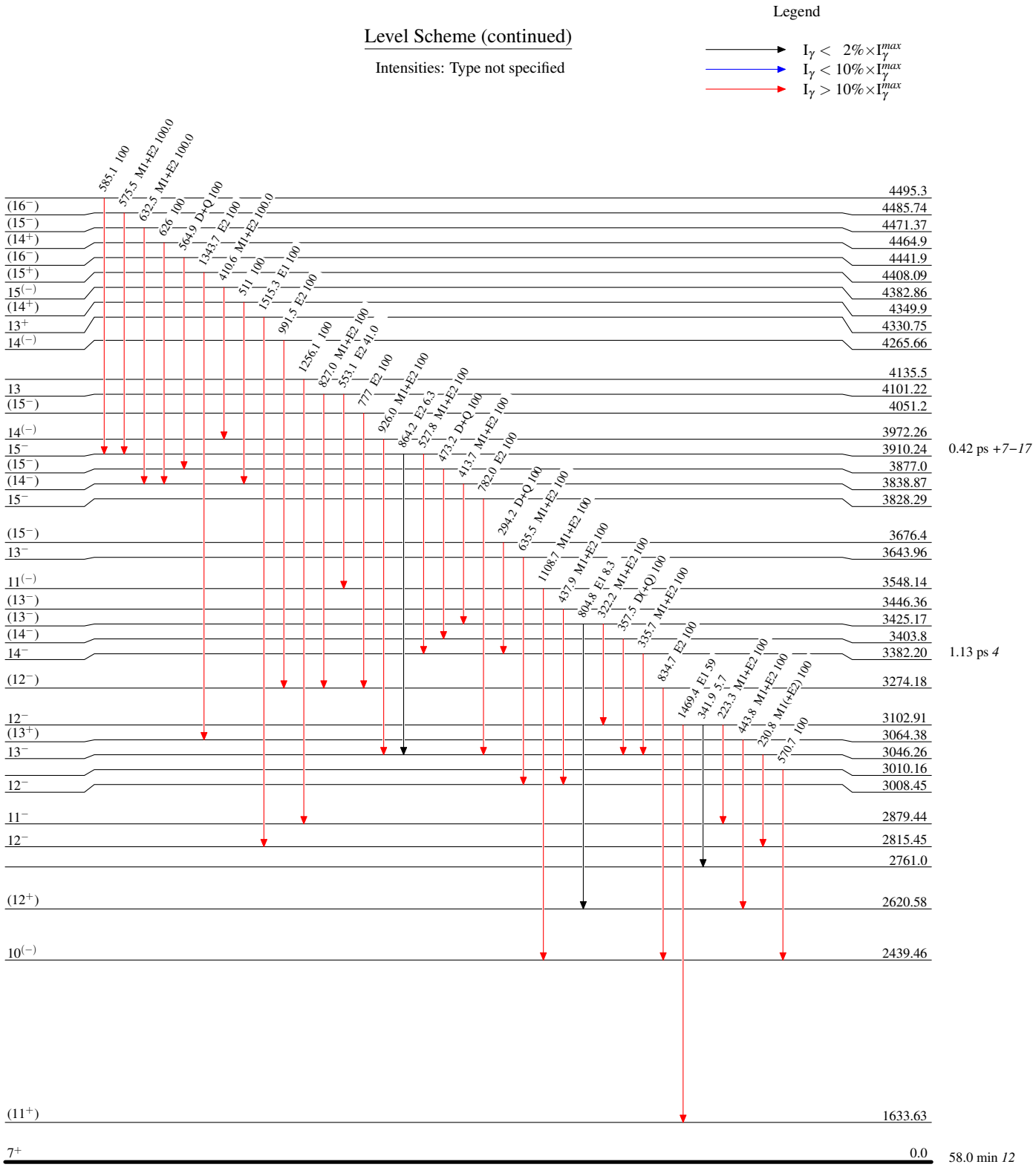


$^{108}_{49}In_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

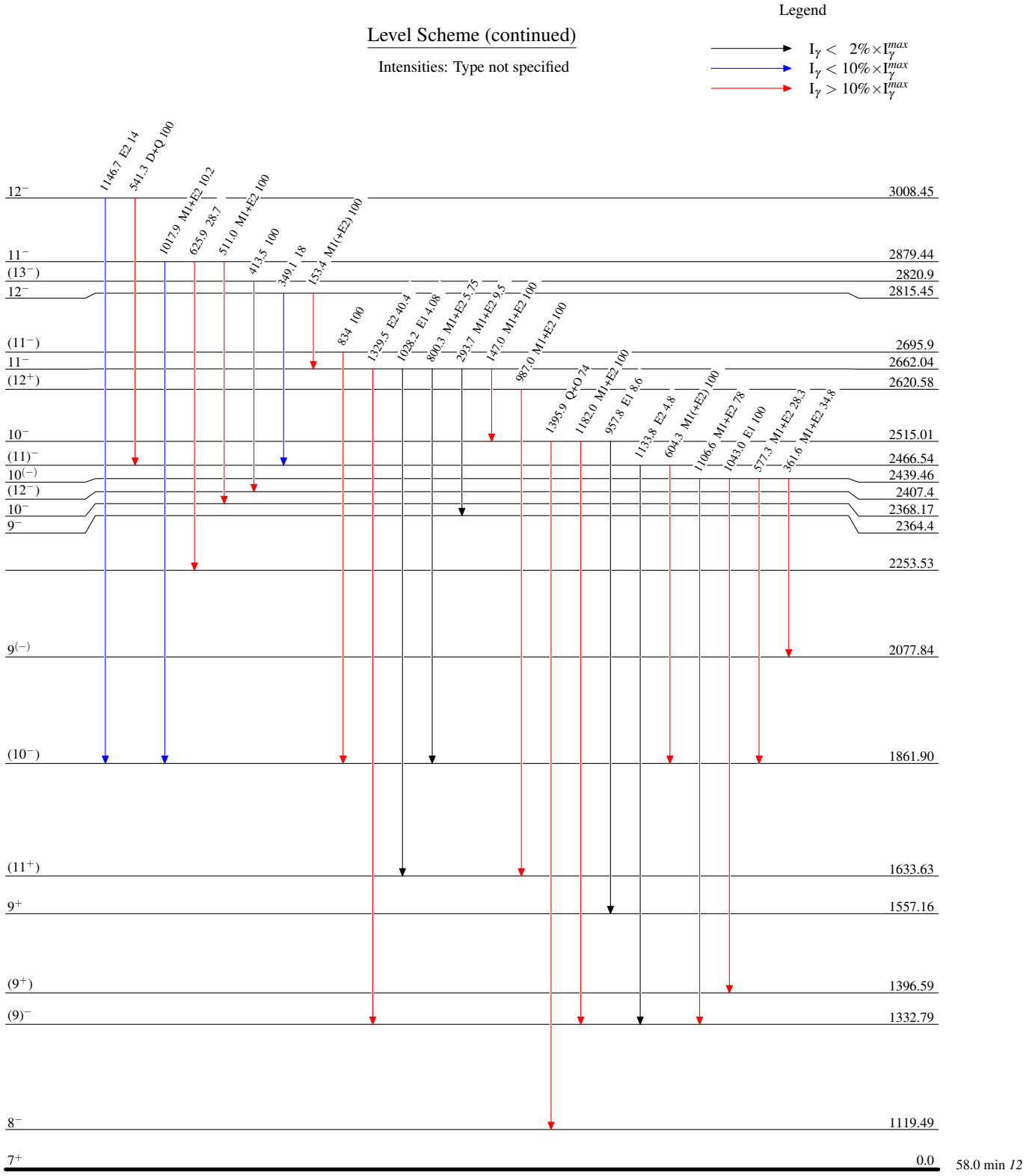


$^{108}_{49}In_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

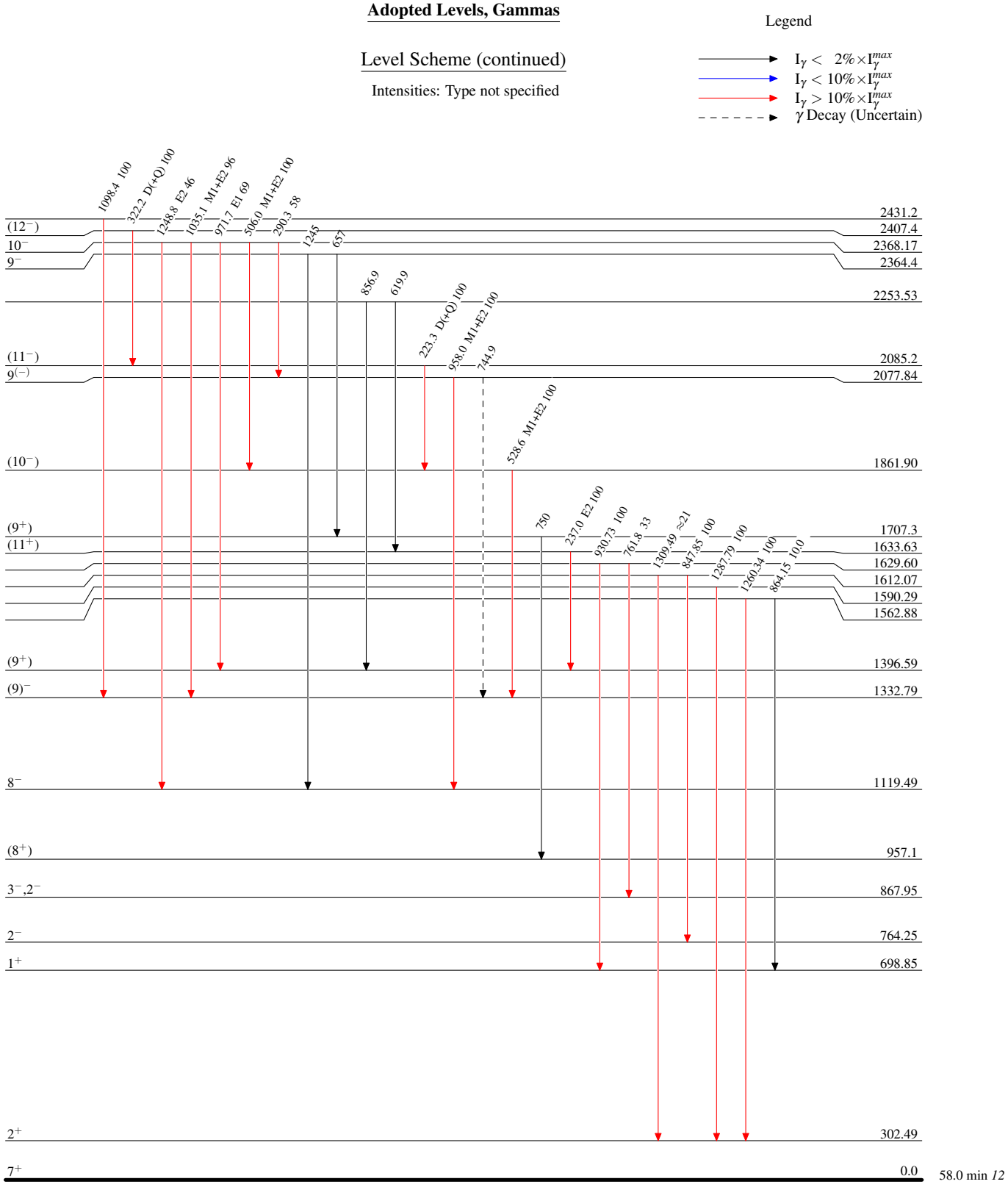


$^{108}_{49}In_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

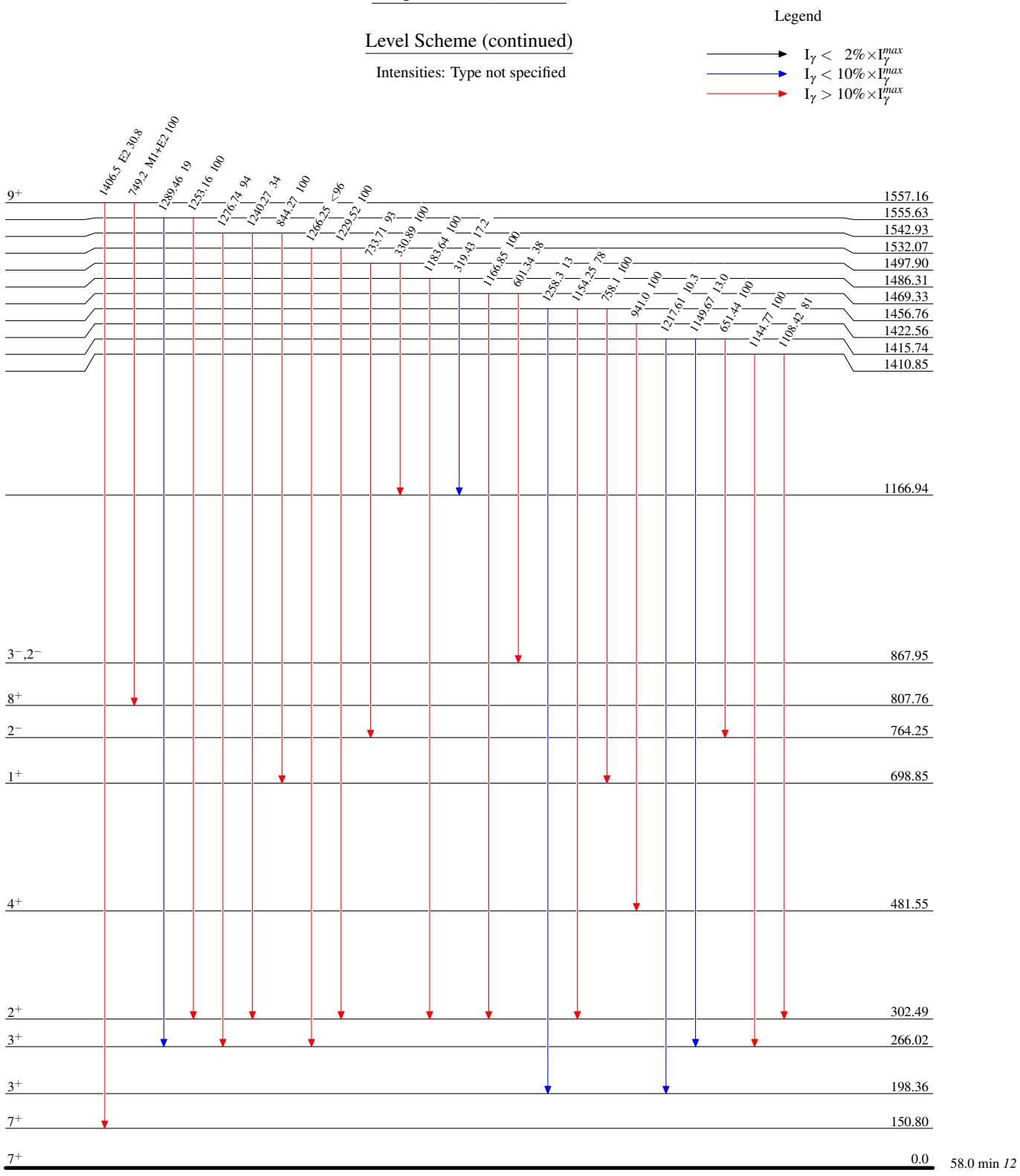


$^{108}_{49}In_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

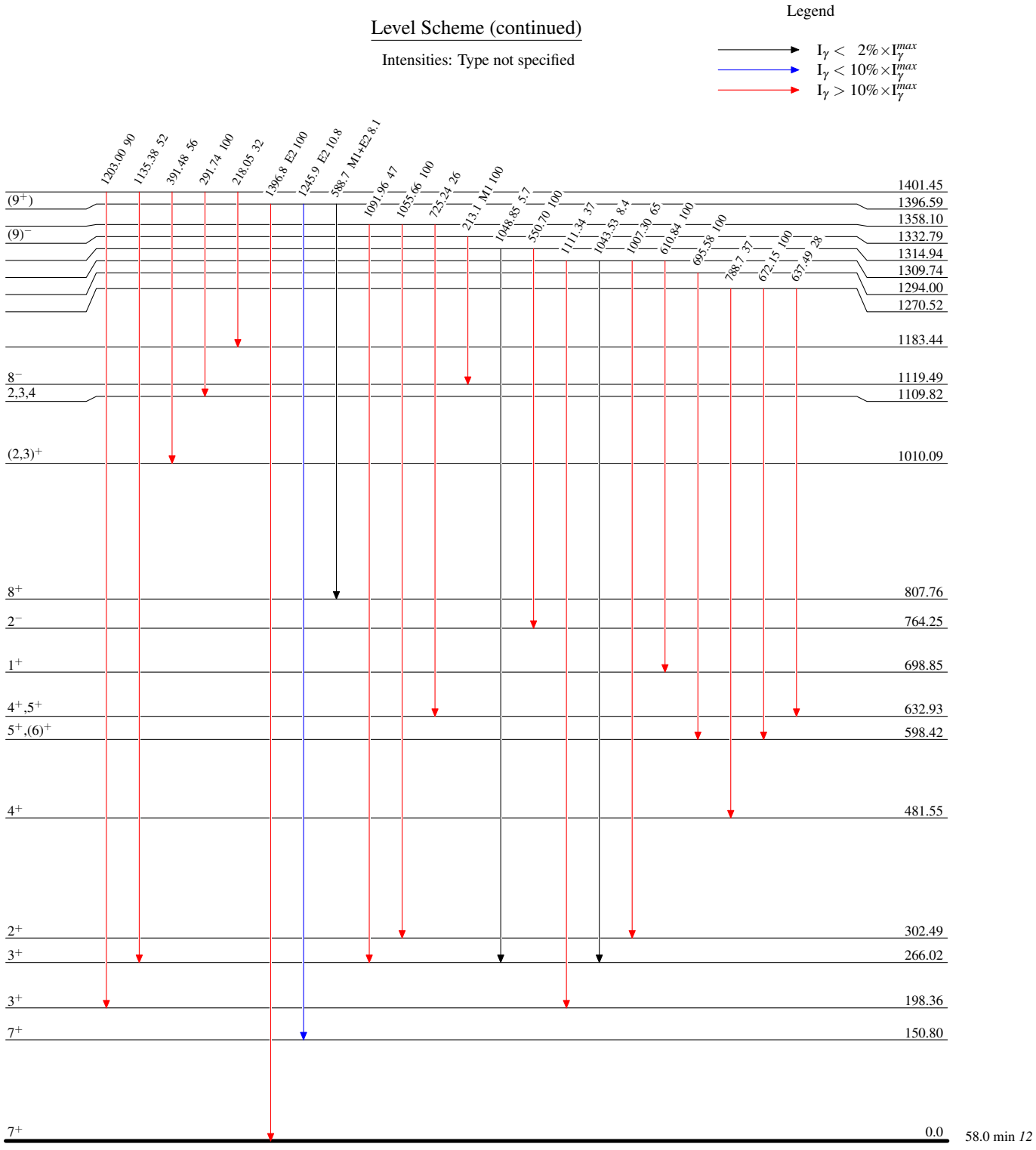


$^{108}_{49}In_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

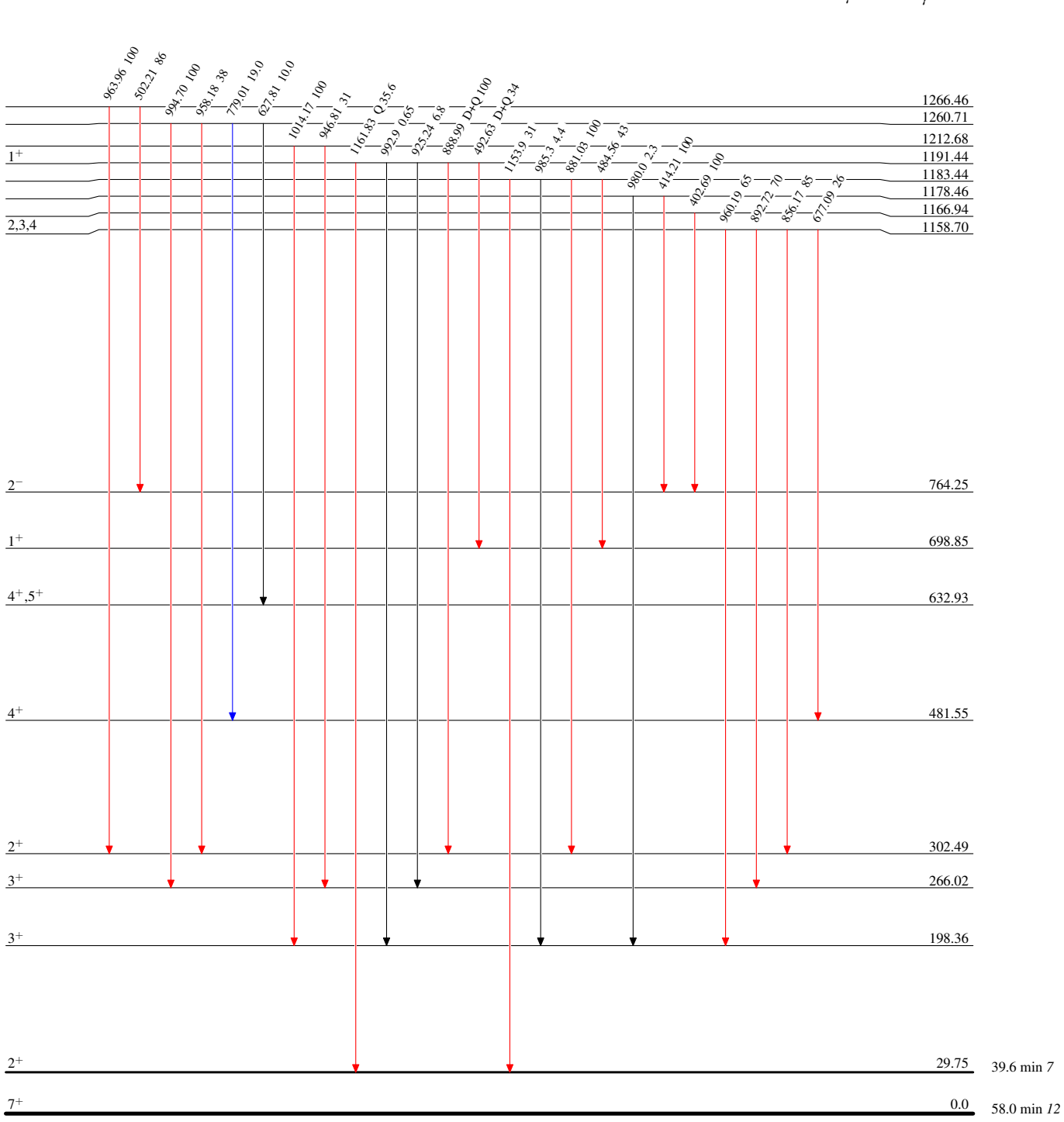


$^{108}_{49}In_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

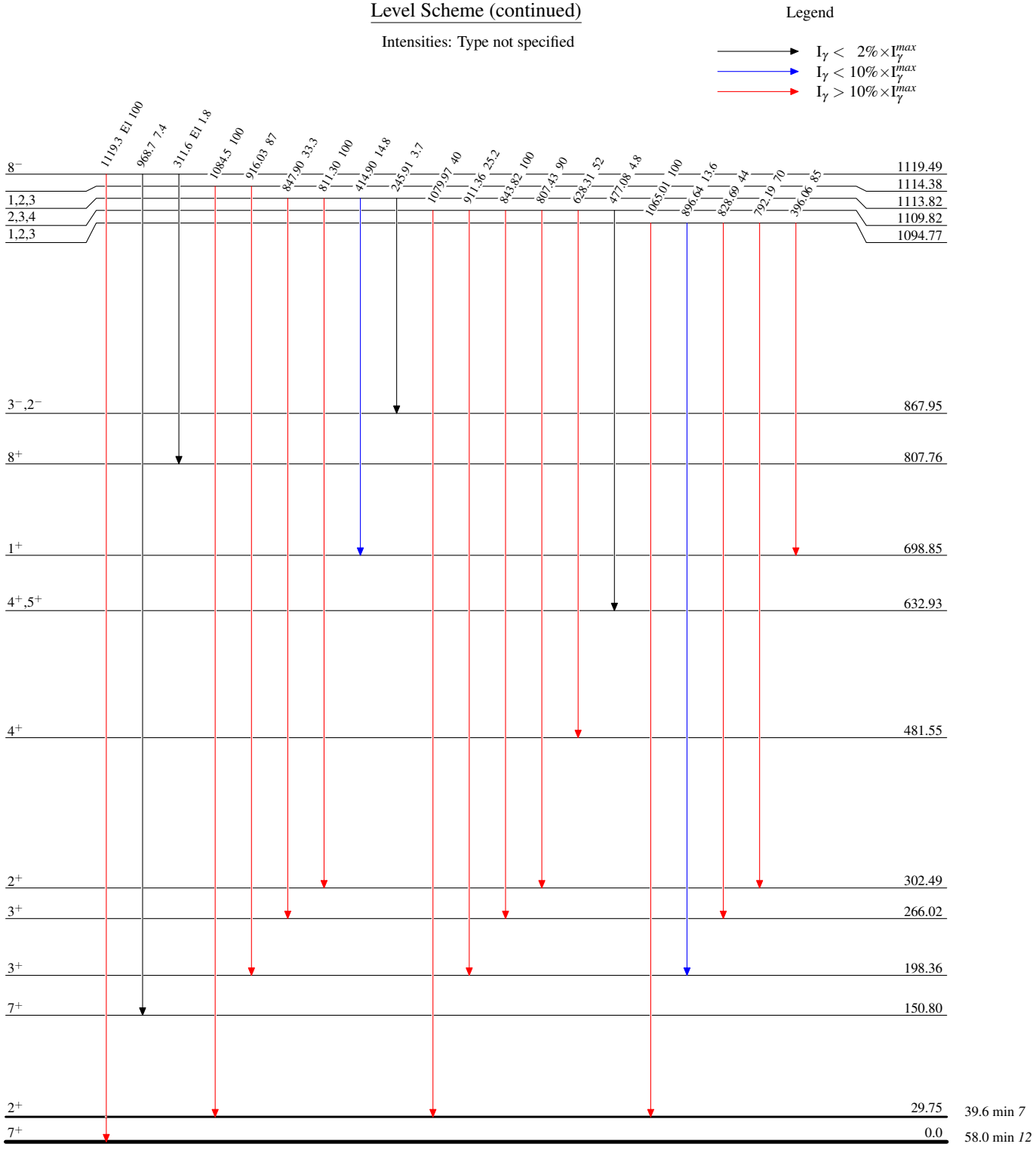


$^{108}_{49}In_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

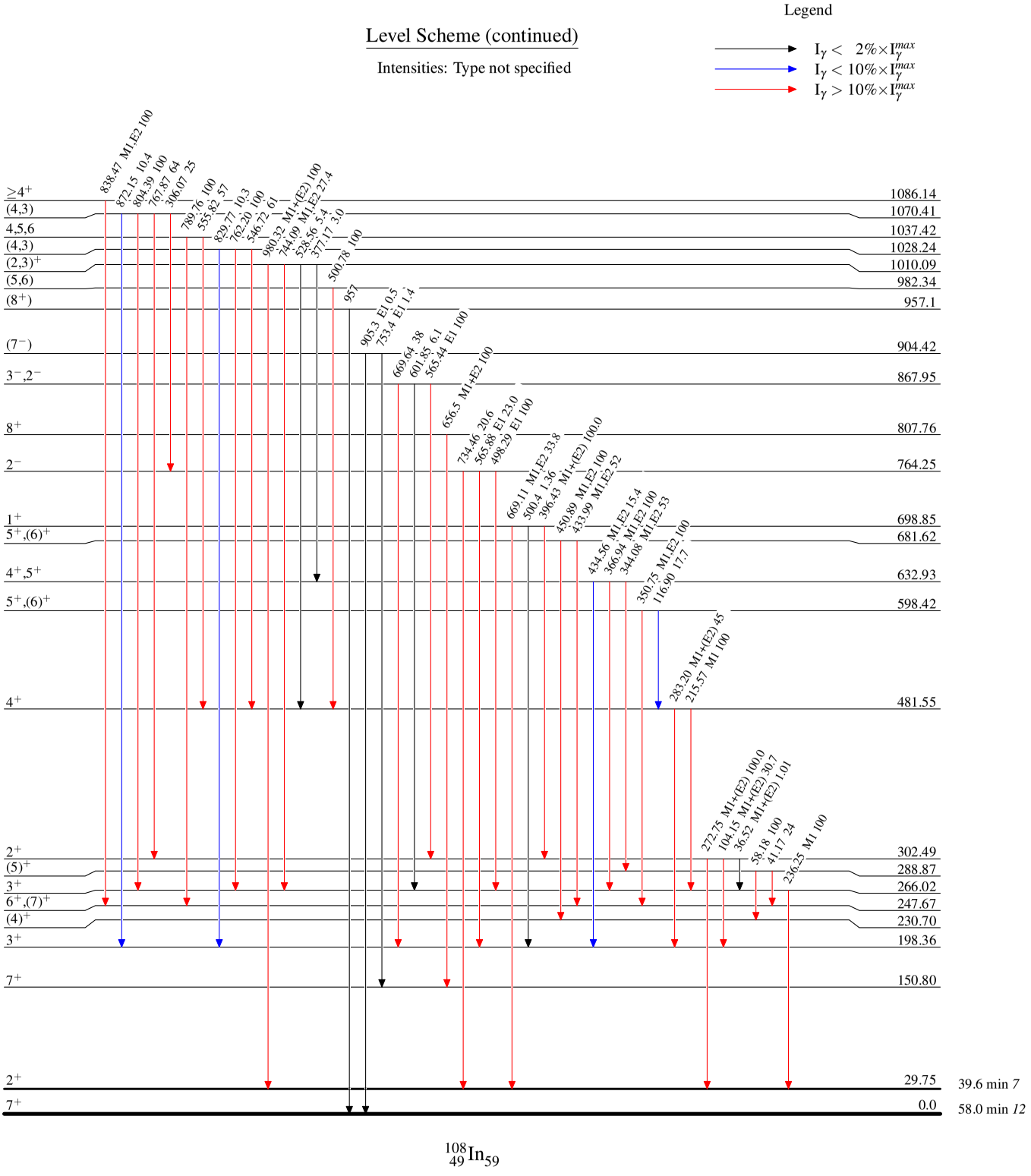


$^{108}_{49}In_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

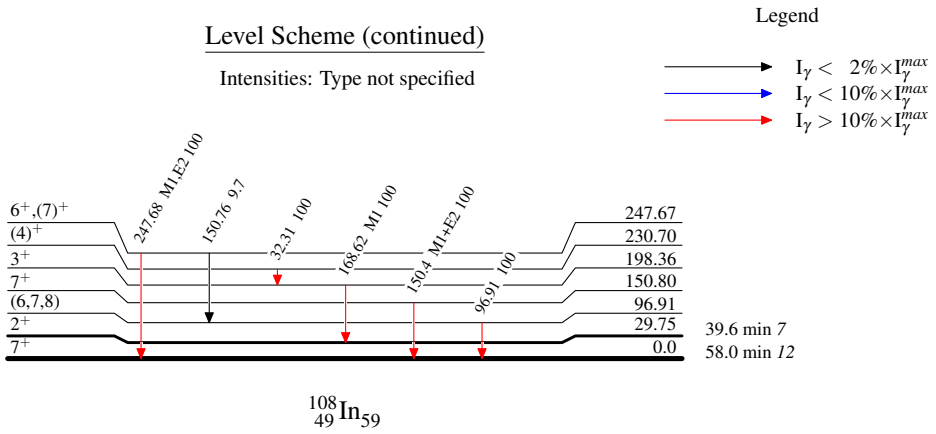
Intensities: Type not specified



Adopted Levels, Gammas

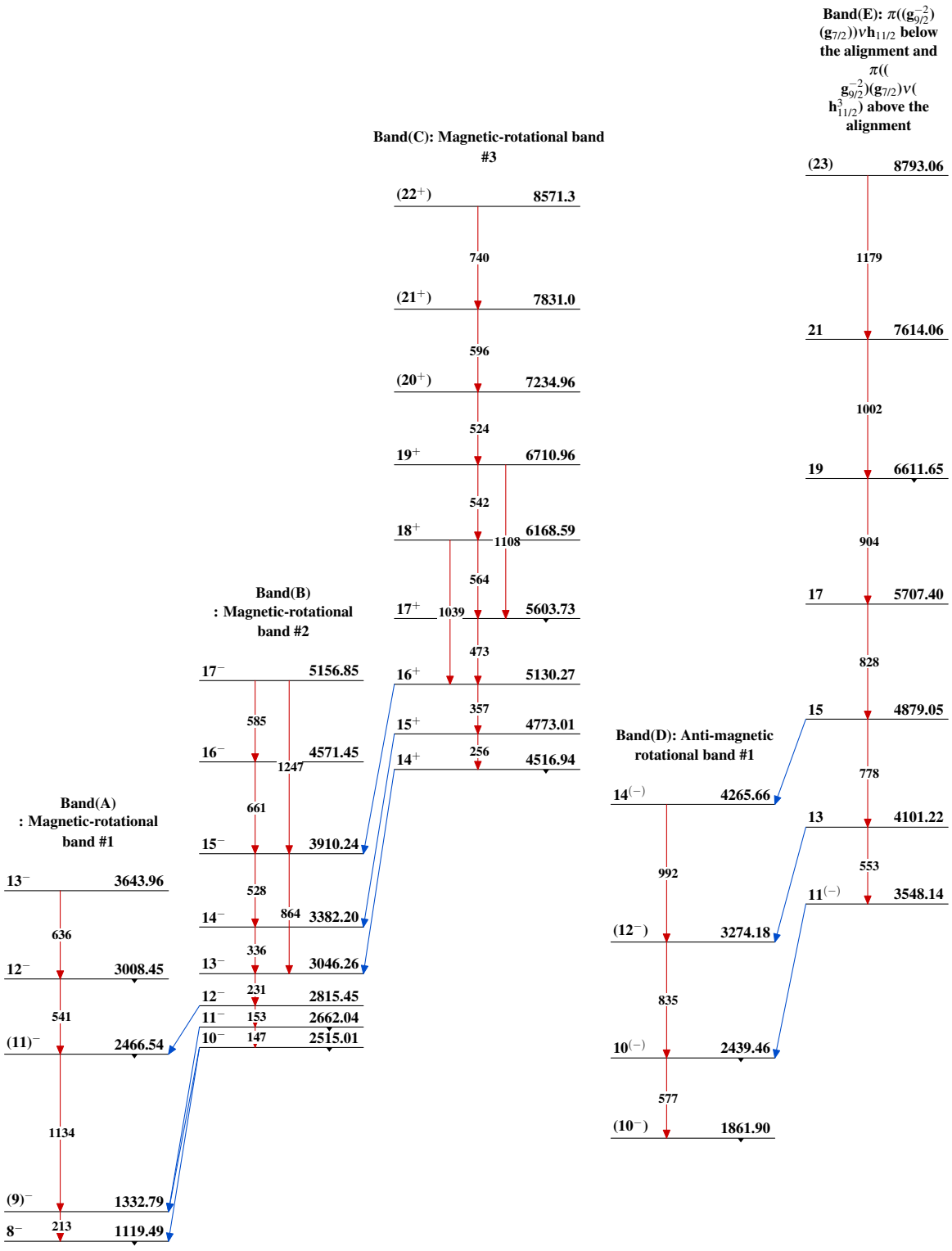
Level Scheme (continued)

Intensities: Type not specified



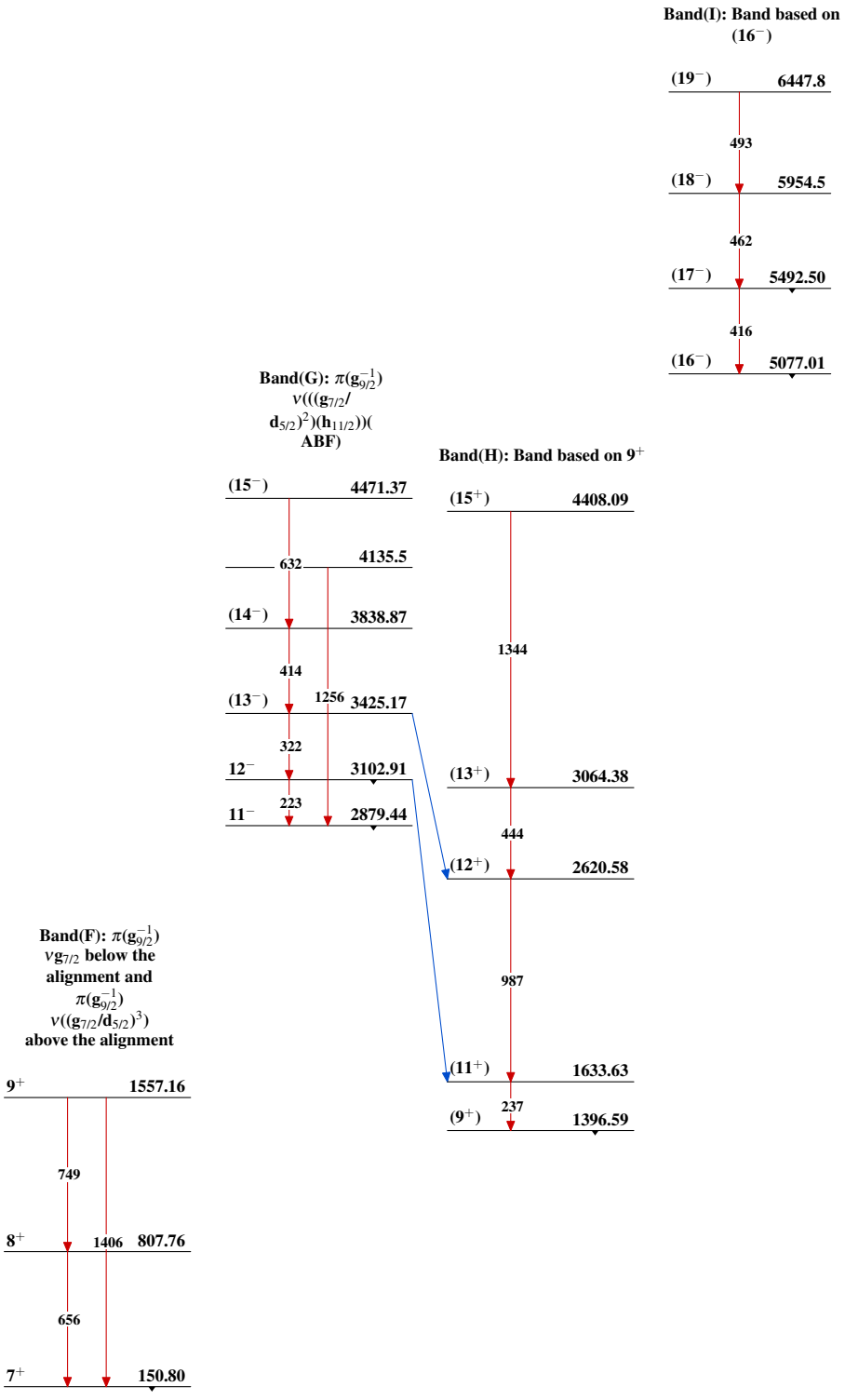
$^{108}_{49}In_{59}$

Adopted Levels, Gammas



$^{108}_{49}In_{59}$

Adopted Levels, Gammas (continued)



$^{108}_{49}In_{59}$