

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 103,1 (2004)	31-Jul-2004

Q(β^-)=2058.9 3; S(n)=6891.540 10; S(p)=6536.5 24; Q(α)=-2380 4 [2012Wa38](#)

Note: Current evaluation has used the following Q record 2058.7 4 6891.540106536.5 24-2384 3 [2003Au03](#).

¹³⁴Cs Levels

Multiplets: as proposed by [1987Bo24](#).

Cross Reference (XREF) Flags

A	¹³⁴ Cs IT decay (2.912 h)	E	¹³³ Cs(d,p)
B	¹³³ Cs(n, γ) E=thermal	F	¹³⁵ Ba(t, α)
C	¹³³ Cs(n, γ) E=th: primary γ 's	G	¹³⁰ Te(⁷ Li,3n γ)
D	¹³³ Cs(n, γ) E=res: primary γ 's		

E(level)	J $^\pi$	T _{1/2}	XREF	Comments
0.0	4 ⁺	2.0652 y 4	ABCDEF G	$\% \beta^-$ =99.9997 1; $\% \epsilon$ =0.0003 1 Q=+0.389 3; μ =+2.9937 9 Configuration=((π g _{7/2})(ν d _{3/2}))4 ⁺ $\% \beta^-$ and $\% \epsilon$ from 604.7 γ , 847.0 γ and 1167.9 γ relative intensities in 1975Va12 . J $^\pi$: atomic beam (1976Fu06); L=2 in (d,p). T _{1/2} : weighted average of 753.88 d 15 (2002Un02), 754.5 d 2 (1997Ma75), 753.88 d 15 (1992Un01), 753.78 d 30 (1980RuZY) and 754.50 d 7 (1980Ho17) Other: 2.0619 y 19 (1973Di01), 2.058 y 4 (1972La14). μ : Atomic beam magnetic resonance (1989Ra17). μ =+2.99 2 from LASER spectroscopy (1981Th06,1989Ra17). Q: Optical spectroscopy (1978LeZA). Q=+0.38 4 from LASER spectroscopy (1981Th06,1989Ra17).
11.2442 18	5 ⁺	46.6 ns 6	ABC EFG	μ =+3.35 7 (1989Ra17); Configuration=((π g _{7/2})(ν d _{3/2}))5 ⁺ J $^\pi$: M1 γ to 4 ⁺ , E3 γ from 8 ⁻ . T _{1/2} : from ¹³⁴ Cs IT decay (2.912 h). μ : DPAC.
60.0297 13	(3) ⁺		BCDEF	Configuration=((π g _{7/2})(ν d _{3/2}))3 ⁺ J $^\pi$: M1+E2 γ to 4 ⁺ , no γ to 5 ⁺ .
138.7441 26	8 ⁻	2.912 h 2	AB E G	$\%IT$ =100 Q=+0.98 8; μ =+1.0978 2 Configuration=((π g _{7/2})(ν h _{11/2}))8 ⁻ J $^\pi$: atomic beam (1976Fu06); L=5 in (d,p). T _{1/2} : from ¹³⁴ Cs IT decay (2.912 h). μ : Atomic beam magnetic resonance (1989Ra17). μ =+1.111 6 from LASER spectroscopy (1981Th06,1989Ra17). Q: LASER spectroscopy (1989Ra17).
173.7942 16	(2,3) ⁺		BCDEF	Configuration=((π g _{7/2})(ν d _{3/2}))2 ⁺ J $^\pi$: M1+E2 γ to (3) ⁺ , M1(+E2) γ from (2) ⁺ .
176.4044 16	3 ⁻ ,4 ⁻	49.7 ns 8	BCD	Configuration=((π g _{7/2})(ν h _{11/2}))3 ⁻ J $^\pi$: E1 γ to 4 ⁺ , γ from 3 ⁺ res. T _{1/2} : from $\gamma\gamma$ (t) (1975Al21).
176.6400 26	(1) ⁺		B	Configuration=((π d _{5/2})(ν d _{3/2}))1 ⁺ J $^\pi$: E2 γ to (3) ⁺ , no γ to 4 ⁺ .
190.2614 18	(3) ⁺		BC EF	Configuration=((π d _{5/2})(ν d _{3/2}))3 ⁺ J $^\pi$: L=0 in (d,p); γ from (2) ⁻ .

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Adopted Levels, Gammas (continued)

^{134}Cs Levels (continued)				
E(level)	J^π	$T_{1/2}$	XREF	Comments
193.6162 20	4^-		BCDE	Configuration= $((\pi g_{7/2})(\nu h_{11/2}))4^-$ J^π : E2 γ from 6^- , γ from 3^+ res.
197.7817 17	$(2)^+$		BCD	Configuration= $((\pi d_{5/2})(\nu d_{3/2}))2^+$ J^π : M1 γ 's to $(1)^+$ and $(3)^+$.
209.5458 18	$(4,5)^+$		BC EF	Configuration= $((\pi d_{5/2})(\nu d_{3/2}))4^+$ J^π : M1+E2 γ to 5^+ , M1,E2 γ to $(3)^+$.
234.3341 18	$(3)^+$		BC EF	Configuration= $((\pi g_{7/2})(\nu s_{1/2}))3^+$ J^π : L=0 in (d,p); γ from $(2)^-$.
257.1075 26	6^-	12.3 ns 11	B E	Configuration= $((\pi g_{7/2})(\nu h_{11/2}))6^-$ J^π : E2 γ to 8^- , E1 γ to 5^+ . $T_{1/2}$: from $\gamma\gamma(t)$ (1975Al21).
267.6618 25	$4^-, 5^-$		BC E	Configuration= $((\pi g_{7/2})(\nu h_{11/2}))5^-$ J^π : M1+E2 γ to 4^- , γ from 6^- .
271.3489 16	$(2,3)^+$		BCD	Configuration= $((\pi d_{5/2})(\nu s_{1/2}))3^+$ J^π : M1 γ 's to $(2)^+$, $(3)^+$.
290.9669 21	$(2)^+$		BC F	Configuration= $((\pi d_{5/2})(\nu s_{1/2}))2^+$ J^π : M1(+E2) γ to $(1)^+$, γ from $(4)^+$.
344.3594 25	7^-		B EF	Configuration= $((\pi g_{7/2})(\nu h_{11/2}))7^-$ J^π : M1+E2 γ 's to 6^- , 8^- .
377.1021 20	4^+		BCDE	Configuration= $((\pi g_{7/2})(\nu s_{1/2}))4^+$ J^π : L=0 in (d,p); γ from 5^- .
382.9834 24	6^-		B	Configuration= $((\pi d_{5/2})(\nu h_{11/2}))6^-$ J^π : M1+E2 γ to 7^- , E1 γ to 5^+ .
434.1746 † 30	$6^-, 7^-$		B E G	Configuration= $((\pi d_{5/2})(\nu h_{11/2}))7^-$ J^π : M1,E2 γ to 8^- , M1,E2 γ from 5^- .
450.2381 23	5^-		B	Configuration= $((\pi d_{5/2})(\nu h_{11/2}))5^-$ J^π : M1+E2 γ to 6^- , E1 γ to 4^+ .
451.4250 18	$(3)^+{}^{\dagger}$		BCD	J^π : γ 's to $(1)^+$, 4^- .
454.0876 24	$3^+, 4^+$		BCDEF	J^π : L=0 in (d,p).
483.6574 30	$(3,4)^-{}^{\dagger}$		BCDE	J^π : γ 's from $(4)^+$, 3^+ res.
502.8411 30	$(3,4)^+$		BC E	J^π : M1,E2 γ to $(2)^+$, γ to 5^+ .
519.3217 26	$(3,4)^+{}^{\dagger}$		BCDEF	J^π : γ to 5^+ , γ from 3^+ res.
539.657 6	$(3,4,5)^+$		BC E	J^π : M1,E2 γ to 5^+ , γ to $(3)^+$.
570.8266 27	4^-		BCD	Configuration= $((\pi d_{5/2})(\nu h_{11/2}))4^-$ J^π : M1+E2 γ to 5^- , γ from 3^+ res.
579.131 4	$(2,3)^+{}^{\dagger}$		BC E	J^π : γ 's to $(1)^+$, 4^+ .
584.1804 26	$(2,3)^+$		BCDEF	J^π : M1(+E2) to $(3)^+$, γ to $(1)^+$.
613.021 5	$(4,5)^-{}^{\dagger}$		BC	J^π : γ 's to 4^+ , 5^+ .
621.997 5	$(2,3,4,5)^+$		BC E	J^π : M1,E2 γ to $(3)^+$, γ to 4^+ .
624.0074 29	$(5)^-{}^{\dagger}$		BC E	J^π : γ to 7^- , γ from $(4)^+$.
640.7 † 11			G	
643.9642 28	$4^-{}^{\dagger}$		BCDE	J^π : γ to 6^- , γ from 3^+ res.
653.3 15			E	
665.0 15			E	
676 3			E	
680.7 14			G	
684.504 5	$(2,3)^-{}^{\dagger}$		BC	J^π : γ to $(2)^+$, γ from $3^+, 4^+$ n-capture state.
688.626 4	$(4)^+{}^{\dagger}$		BCDE	J^π : γ 's to $(2)^+$, 5^- .
693.838 5	$(2,3,4)^+$		BC E	J^π : γ to $(2)^+$, γ from $3^+, 4^+$ n-capture state.
701.9999 28	$3^-, 4^-$		BCDE	J^π : M1(+E2) γ to 4^- , γ from 3^+ res.
715.823 4	$(2,3)^-{}^{\dagger}$		BCDE	Configuration= $((\pi g_{7/2})(\nu h_{11/2}))2^-$ J^π : γ to $(2)^+$, γ from 3^+ res.
720.4 4	$+$		CDE	L=2 in (d,p).

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Adopted Levels, Gammas (continued) ^{134}Cs Levels (continued)

E(level)	J^π	XREF	Comments
741.277 4	(3 ⁺ ,4)	BCDE	J^π : γ to 5 ⁺ , γ from 3 ⁺ res.
748.7 9		G	
752.7029 30	4 ⁻ †	BCDEF	J^π : γ to 6 ⁻ , γ from 3 ⁺ res. Configuration=((π g _{7/2}) (ν h _{11/2}))9 ⁻ J^π : L=5 in (d,p); no primary γ 's from n-capture states, statistical analysis. J^π : γ 's to (2) ⁺ , (3) ⁺ .
783.8 5	($\geq 6^-$)	E	
801.253 6	(1 ⁺ ,2,3,4 ⁺)	BC EF	
802.8 4		CD	J^π : γ to (2) ⁺ , (3) ⁺ , γ from 3 ⁻ ,4 ⁻ . J^π : M1 γ to 4 ⁻ , γ to 6 ⁻ . J^π : γ 's to (3) ⁺ , 4 ⁺ . Configuration=((π d _{5/2}) (ν h _{11/2}))3 ⁻ J^π : γ to 4 ⁻ , γ from 3 ⁺ res.
819.2 3		E	
820.7 [#] 10		G	
821.605 8	(2,3,4 ⁺)	BCD	
831.684 4	4 ⁻ ,5 ⁻	BC EF	J^π : γ 's to (2) ⁺ , 5 ⁺ . J^π : L=0 in (d,p). J^π : γ to 5 ⁻ , γ from 3 ⁺ res.
835.714 5	(2 ⁺ ,3,4,5 ⁺)	BC E	
839.813 4	3 ⁻ ,4 ⁻ †	BCD	
841.9 5		C	
845.4 9		D	J^π : γ to 6 ⁻ , γ from 3 ⁺ ,4 ⁺ n-capture state.
850.8 4		E	
862		F	
880.349 4	(3 ⁺ ,4 ⁺)	BC E	
912.608 4	3 ⁺ ,4 ⁺	BCDEF	J^π : γ 's to (3) ⁺ , (5) ⁻ . J^π : γ 's to (1) ⁺ , (3) ⁺ . J^π : M1,E2 γ to 4 ⁻ , γ to (2) ⁺ .
916.175 4	3 ⁻ ,4 ⁻ †	BCD	
932.41 13		C	
937.630 5	(4) ⁻ †	BC EF	
941.343 15	(4 ⁻)	BCD	J^π : γ from 3 ⁺ res.
948.138 5	2 ⁻ ,3 ⁻ ,4 ⁻	BCD	
976.310 4	3 ⁻ ,4 ⁻	BCD	
982.1 4		CD	
991.882 5	4 ⁻ ,5 ⁻ †	BC	J^π : γ 's to (2) ⁺ , 5 ⁻ .
1003.61 27		C	
1014.54 14		C	
1028.7 17		G	
1032.71 10		CD	J^π : γ 's to (3) ⁺ , (5) ⁻ . J^π : γ 's to (1) ⁺ , (3) ⁺ . J^π : M1,E2 γ to 4 ⁻ , γ to (2) ⁺ .
1043.523 8	(4) ⁺ †	BC	
1067.6 3		C	
1088.423 5	(3,4) ⁻ †	BCD	
1094.553 4	(2) ⁻ †	BC	J^π : γ from 3 ⁺ res.
1100.334 5	(2,3) ⁻	BCD	
1114.8 8		C	
1120.0 3		C	
1133.05 20		C	J^π : γ to 5 ⁻ , γ from 3 ⁺ res.
1142.861 5	(2,3,4) ⁻ †	BCD	
1157.54 25		C	
1162.508 5	(3 ⁻ ,4)	BCD	
1171.36 10		CD	J^π : γ 's to 4 ⁺ , 4 ⁻ , 7 ⁻ .
1181.6 7		C	
1188.3 3		C	
1210.24 20		C	
1215.1 5		C	J^π : γ 's from 3 ⁺ res, 4 ⁺ res.
1218.85 16		C	
1232.83 17		C	
1238.872 7	5 ⁻	BC F	
1250.75 11		CD	J^π : γ 's from 3 ⁺ res, 4 ⁺ res.
1254.198 5	3 ⁻ ,4 ⁻ †	BCD	
1263.2 8		C	

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Adopted Levels, Gammas (continued) ^{134}Cs Levels (continued)

E(level)	J^π	XREF	Comments
1266.168 6	(3 ⁻ ,4)	BCD	J^π : γ to 5 ⁻ , γ from 3 ⁺ res.
1271.52 22		C	
1276.05 13		C	
1279.60 12		C	
1288.2 6		C	
1294.4 9		C	
1312.9 4		C F	
1319.31 8		CD	
1323.41 8		CD	
1325.59 9		CD	
1338.5 3		C	
1360.7 [#] 12		C G	
1371.3 3		C	
1381.62 13		C	
1385.80 8		CD	
1393.7 [‡] 10		C G	
1397.93 8		CD	
1403.9 4		C	
1406.9 3		C	
1418.0 6		C	
1456.7 17		G	
1551.7 [‡] 13		G	
1970.7 [‡] 14		G	
2098.7 [‡] 14		G	
2253.7 [‡] 17		G	

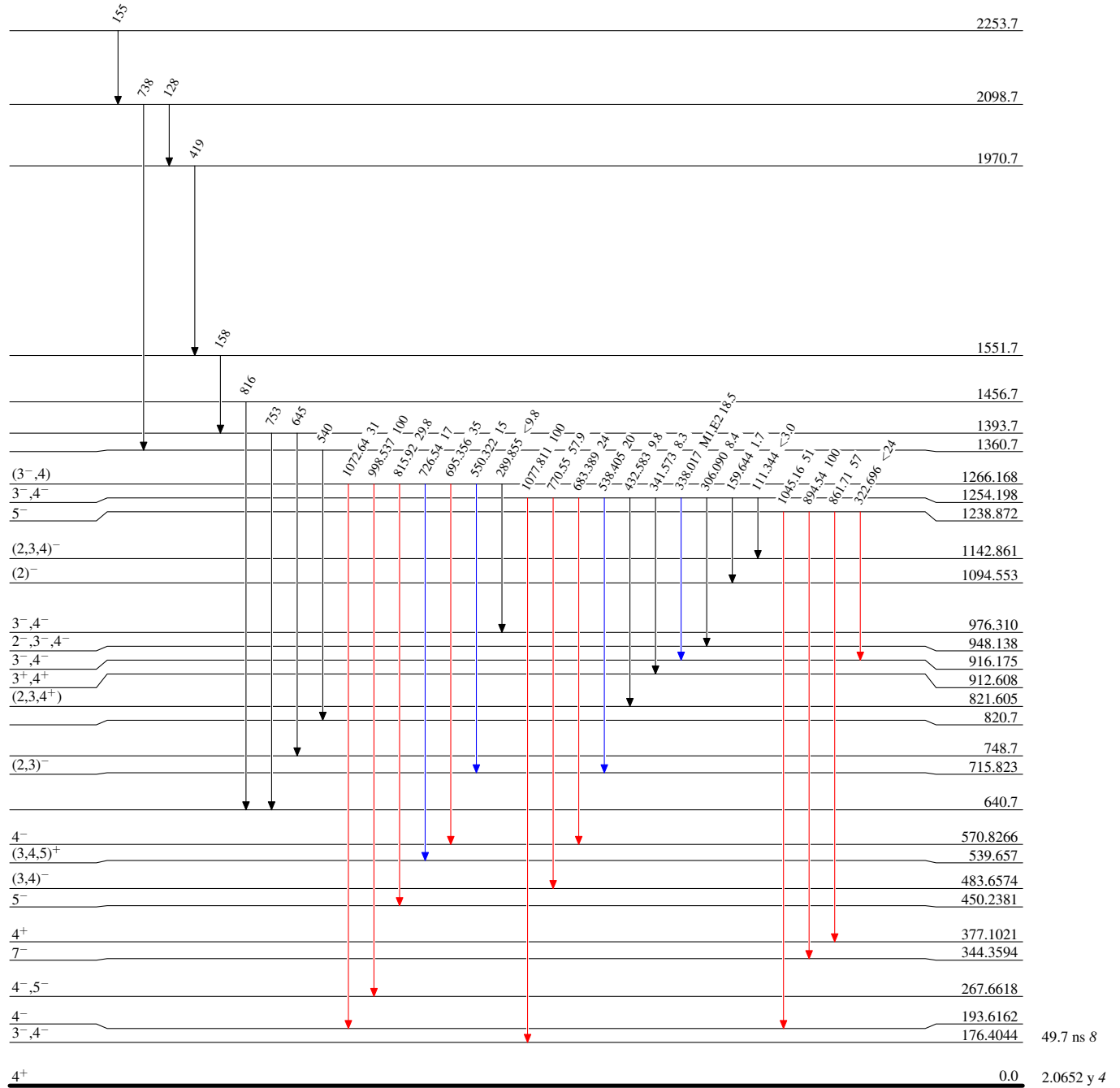
[†] π : from transition multiplicities.[‡] Band(A): γ cascade.[#] Band(B): γ cascade.

Adopted Levels, GammasLevel Scheme

Intensities: Type not specified

Legend

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



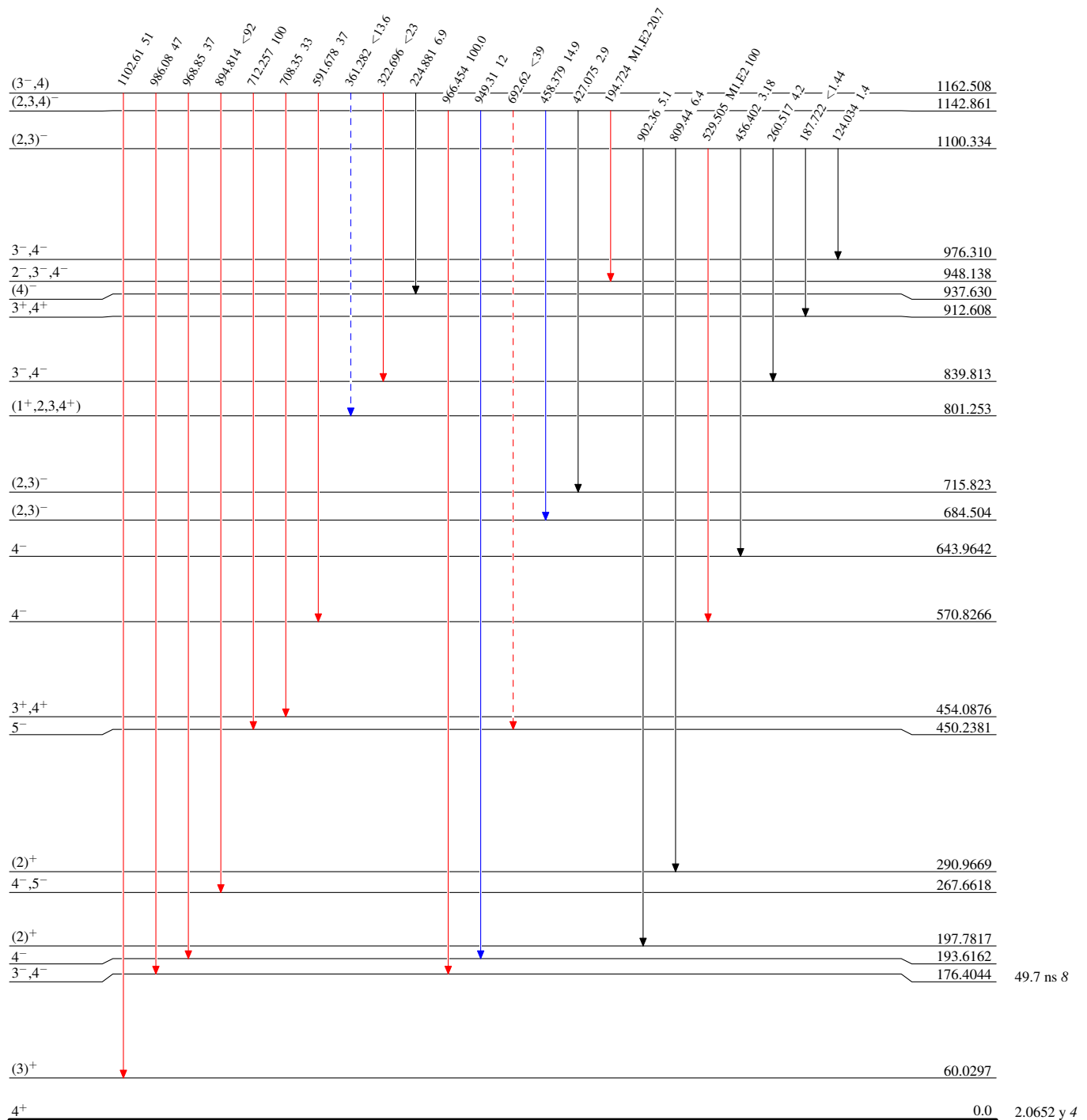
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Type not specified

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



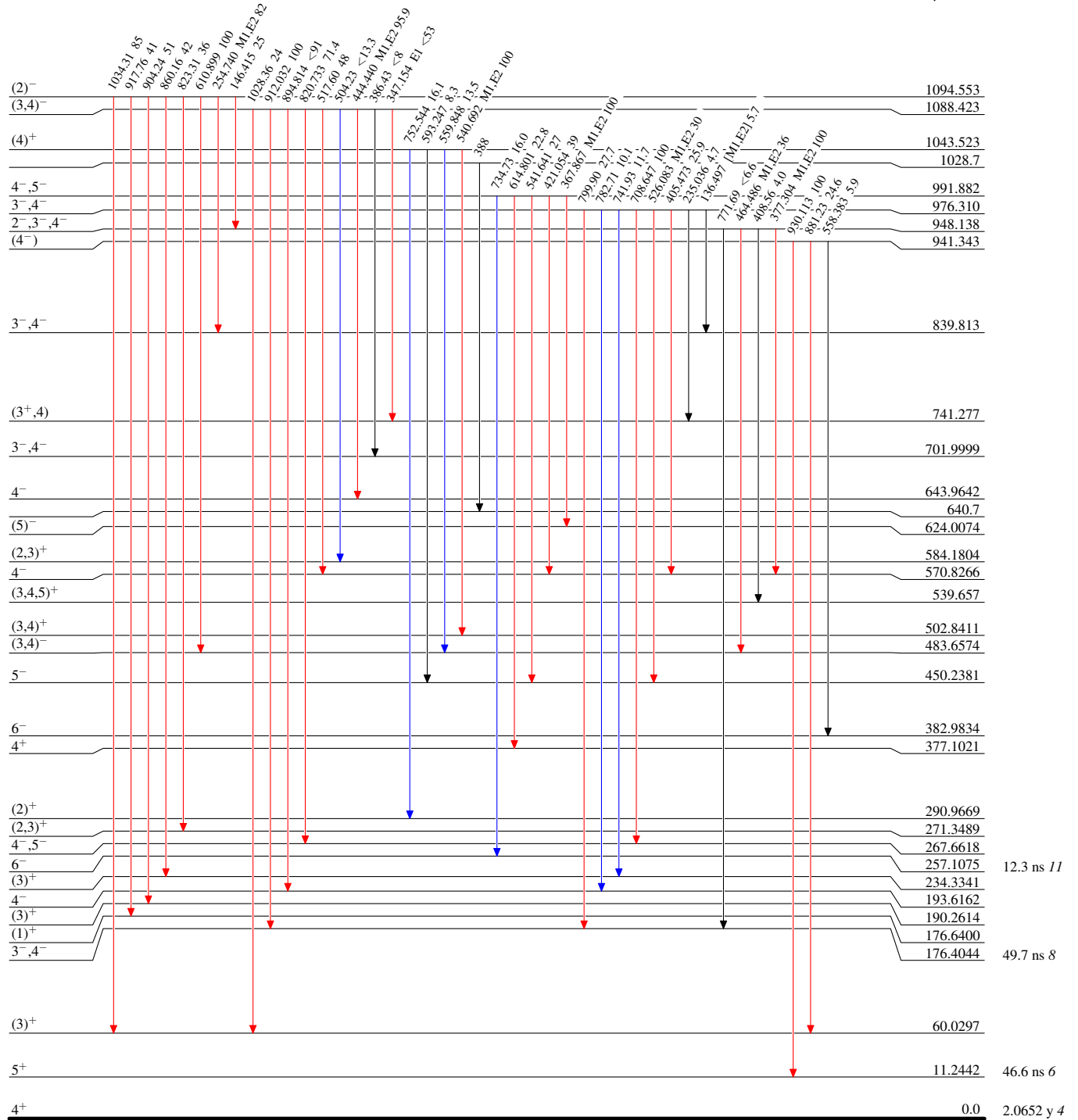
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

Legend

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



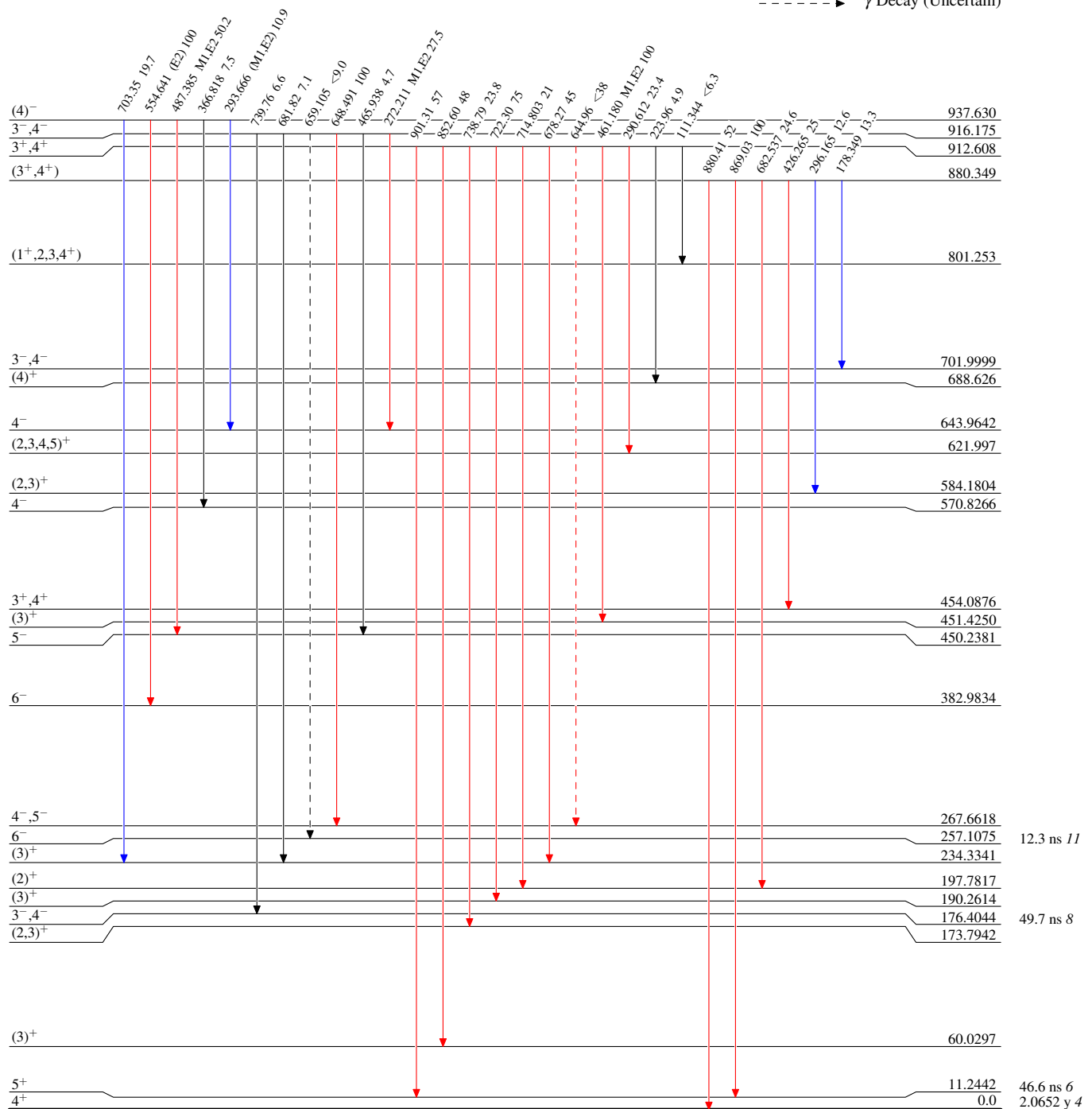
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Type not specified

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

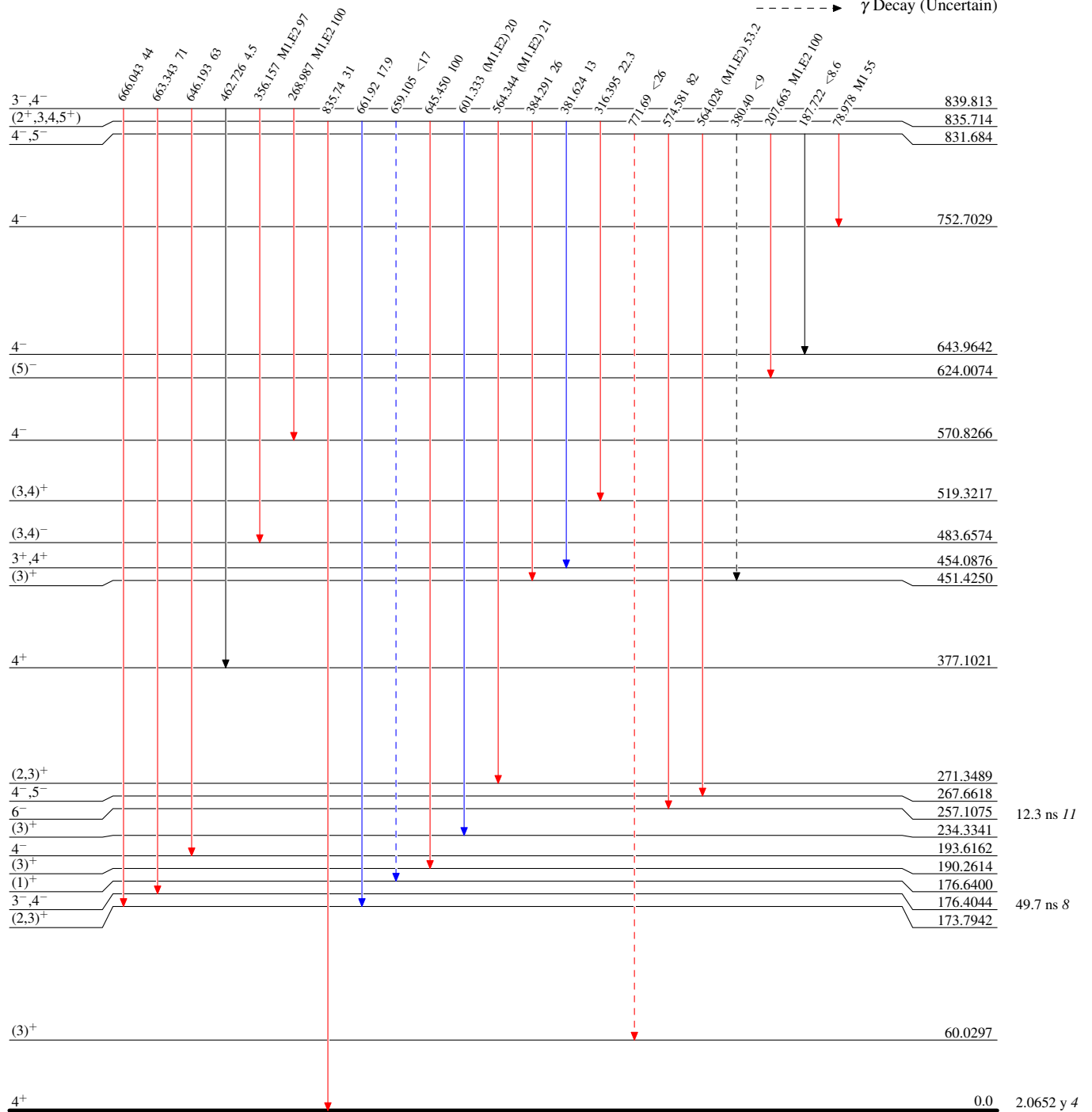


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Type not specified

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)

 $^{134}_{55}\text{Cs}_{79}$

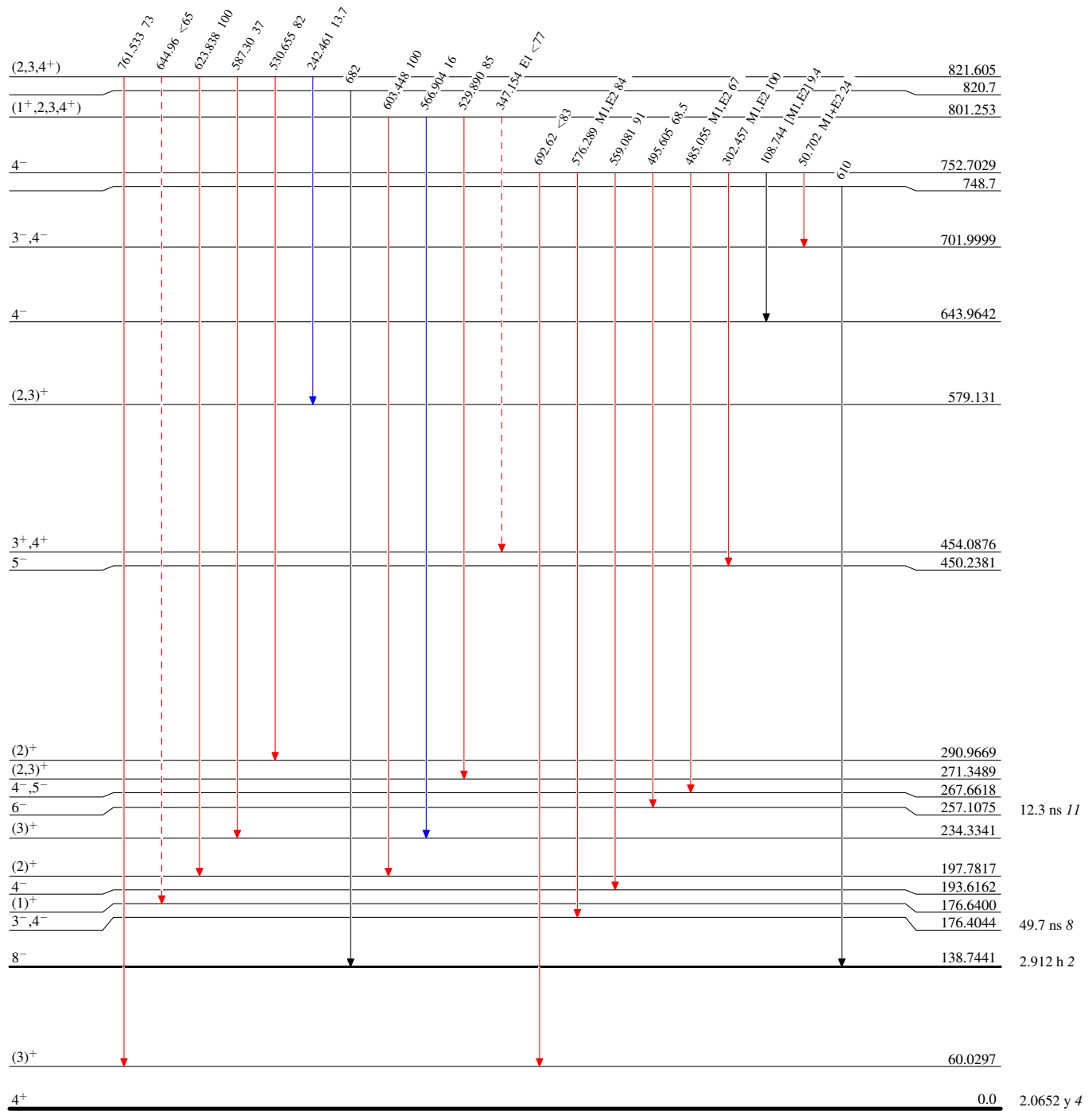
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Type not specified

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



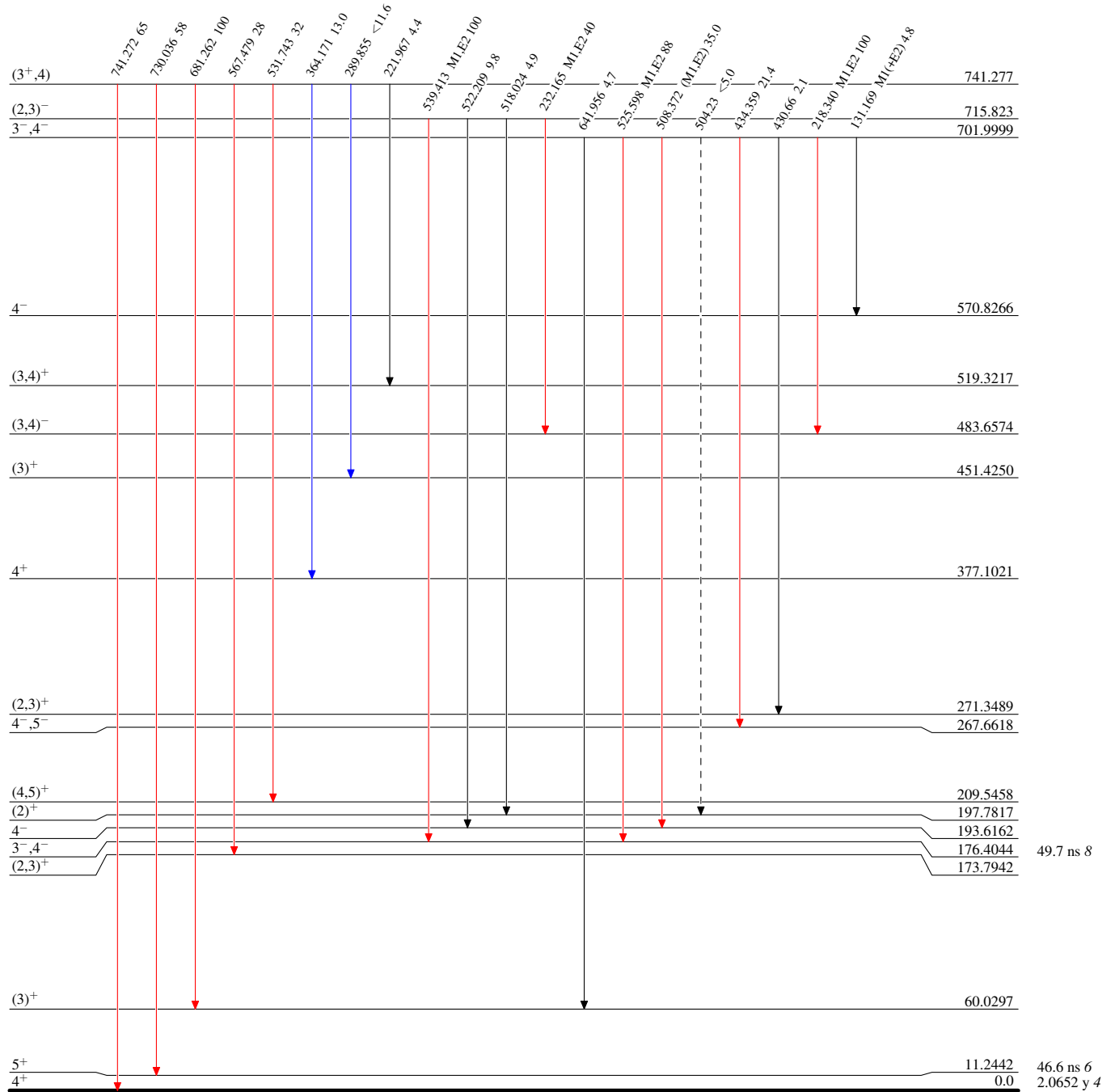
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Type not specified

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

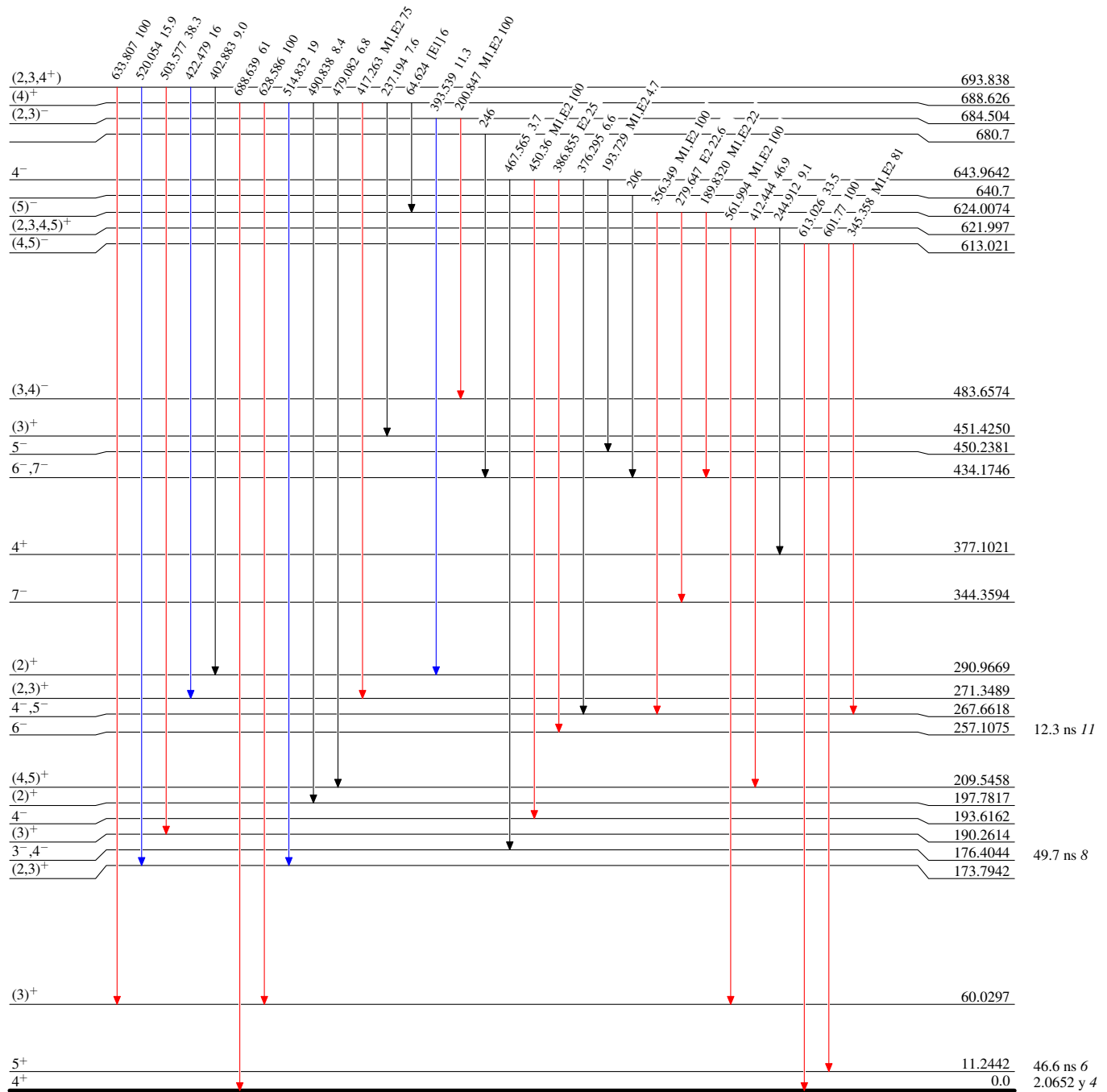


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Type not specified

Legend

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



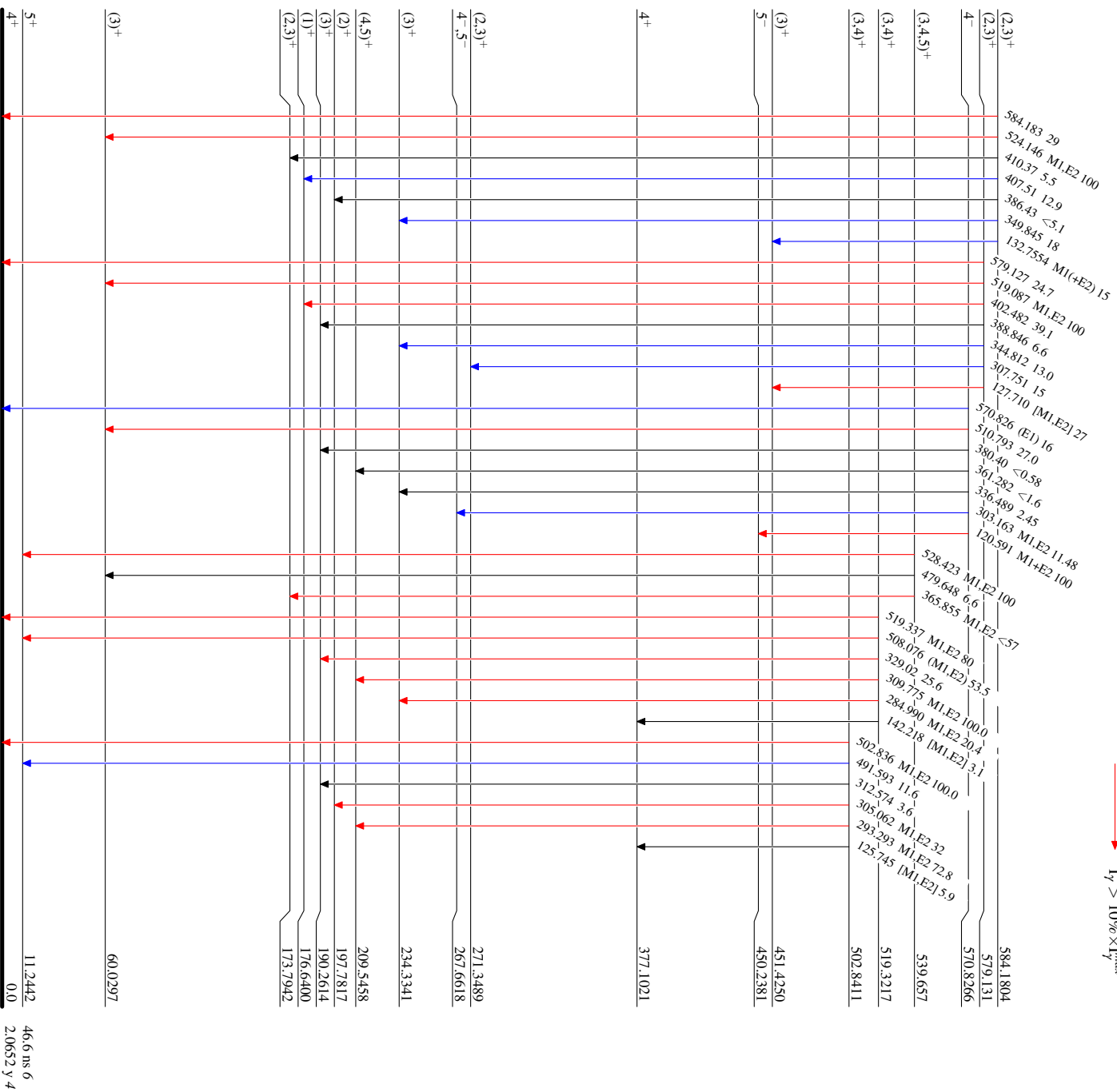
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

Legend

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

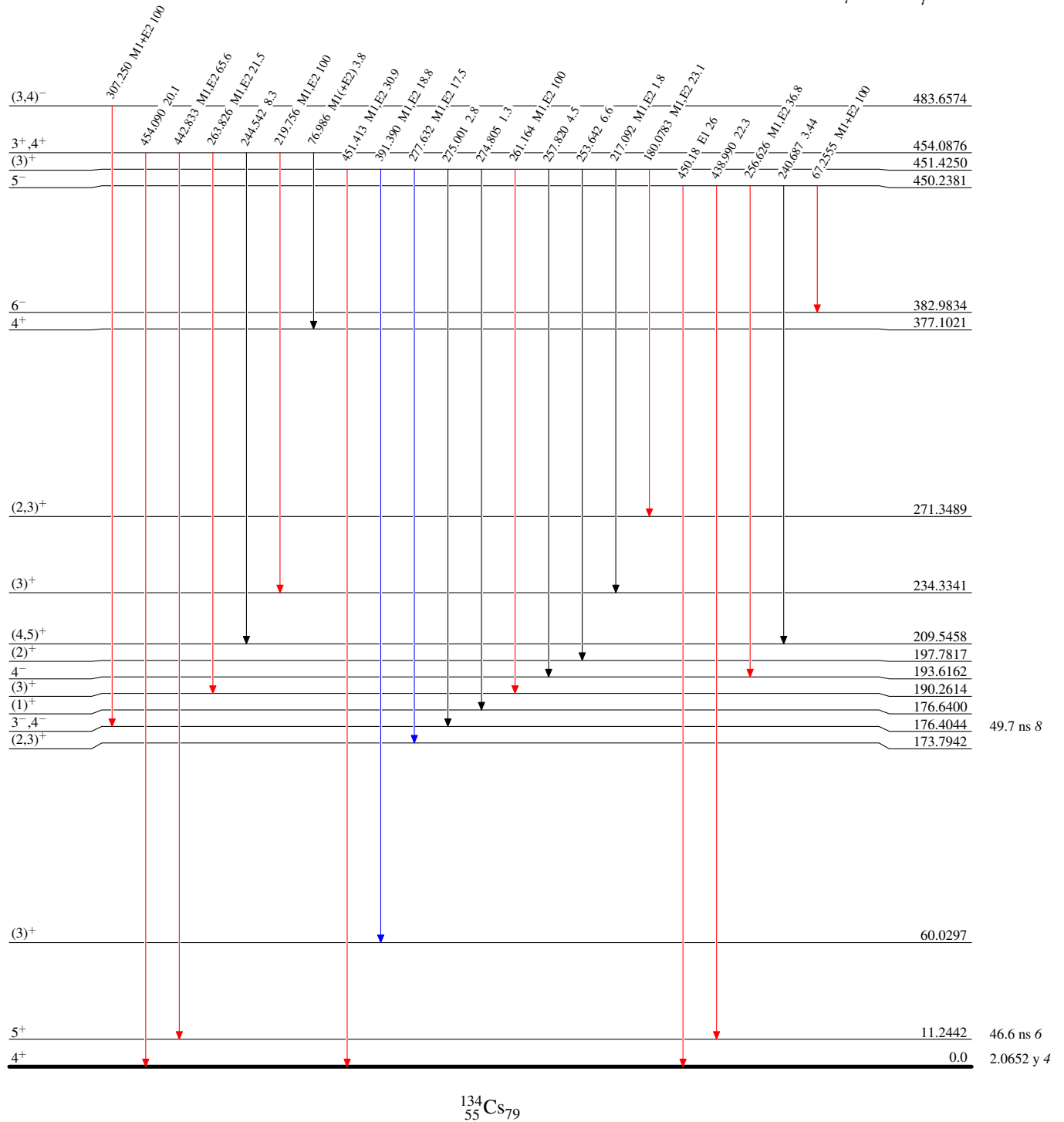


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Type not specified

Legend

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

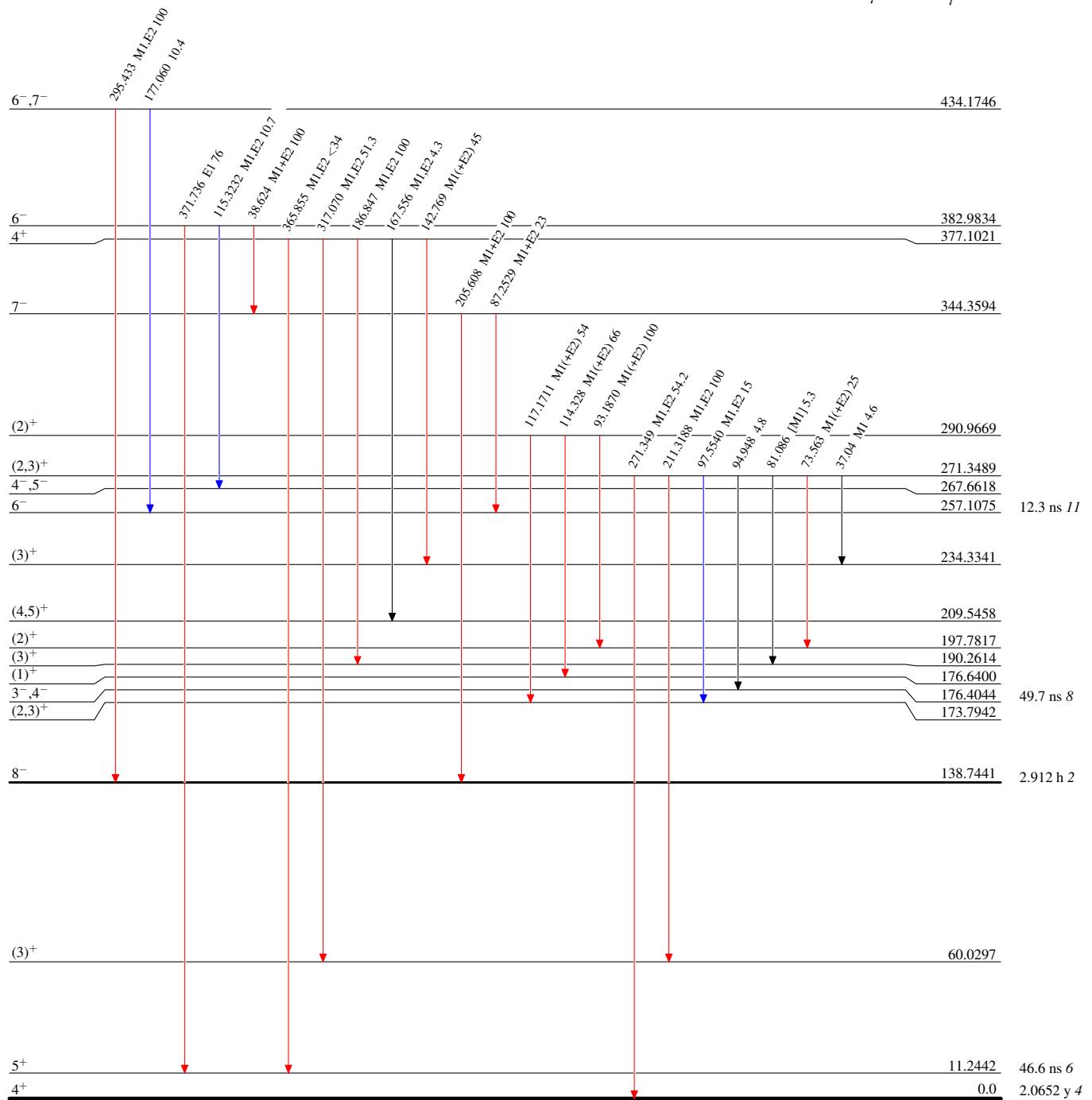


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Type not specified

Legend

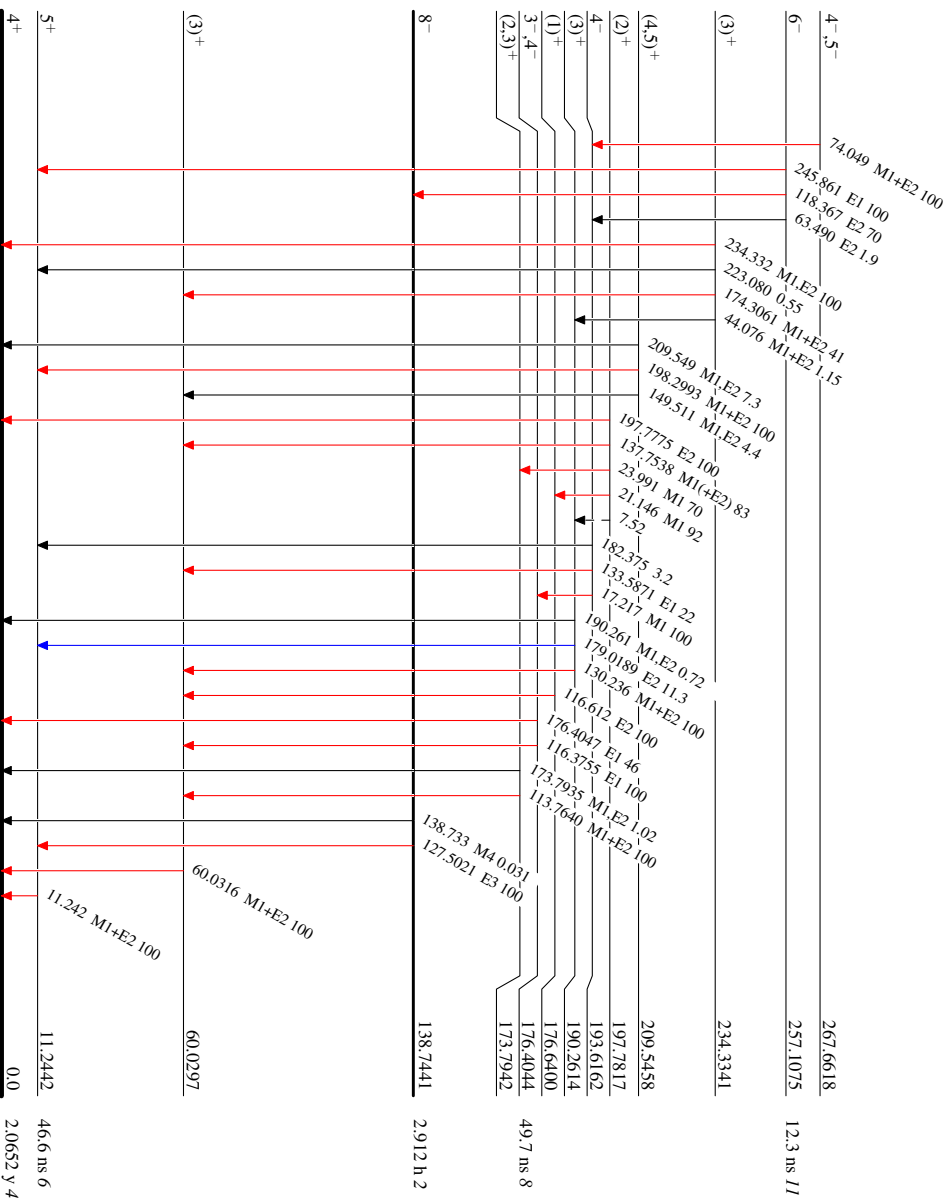
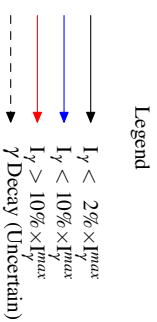
-  $I_\gamma < 2\% \times I_\gamma^{\max}$
 $I_\gamma < 10\% \times I_\gamma^{\max}$
 $I_\gamma > 10\% \times I_\gamma^{\max}$

 $^{134}_{55}\text{Cs}_{79}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



Adopted Levels, Gammas

