Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, John Cameron and Balraj Singh	NDS 113,1 (2012)	31-Dec-2011

Q(β^-)=709.52 *5*; S(n)=8580; S(p)=7964.77 *3*; Q(α)=−7642.06 *5* 2012Wa38

Note: Current evaluation has used the following Q record 709.547 46 *8579.79 1* 7964.78 *3*−7642.03 *5* 2011AuZZ.

S(2n)=21224.60 *7*, S(2p)=19551.2 *8* (2011AuZZ).

Values in 2003Au03 are nearly the same as in 2011AuZZ: Q(β^-)=709.68 *8*, S(n)=8579.63 *6*, S(p)=7964.47 *11*, Q(α)=−7641.55 *20*, S(2n)=21224.72 *19*, S(2p)=19542 *5*.

^{36}Cl identified in irradiation of chlorine compounds at Berkeley 37-inch cyclotron by D.C. Grahame and H.W. Walker: Phys. Rev. 60, 909 (1941), measured emission of positrons from decay.

The ^{35}Cl(n,γ) E=thermal dataset is abbreviated as ^{35}Cl(n,γ); the ^{35}Cl(n,γ),(n,n),(n,p):res dataset is abbreviated as ^{35}Cl(n,γ):res.

^{36}Cl Levels

Cross Reference (XREF) Flags

A	^{2}H(^{35}Cl,pγ)	H	^{35}Cl(n,γ),(n,n):res	O	^{37}Cl(^{3}He,α)
B	^{3}H(^{35}Cl,dγ)	I	^{35}Cl(d,p)	P	^{37}Cl(^{3}He,$\alpha\gamma$)
C	^{27}Al(^{14}N,p$\alpha\gamma$)	J	^{35}Cl(d,pγ)	Q	^{38}Ar(p,^{3}He)
D	^{33}S(α,pγ)	K	^{36}Ar(n,p)	R	^{38}Ar(pol d,α)
E	^{34}S(^{3}He,pγ)	L	^{37}Cl(γ,n)	S	^{39}K(n,$\alpha\gamma$)
F	^{34}S(α,d)	M	^{37}Cl(p,d)	T	^{40}Ca(μ^-,$\nu\alpha\gamma$)
G	^{35}Cl(n,γ) E=thermal	N	^{37}Cl(d,t),(pol d,t)		

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	2$^+$	3.013×10^5 y *15*	ABCDE G IJKLMNOPQRST	%β^-=98.1 *1*; %ε+%β^+=1.9 *1* (1955Dr35) μ=+1.28547 *5* (1955So10,1989Ra17,2011StZZ) Q=−0.0180 *4* (1972St38,1989Ra17,2011StZZ) J$^\pi$: spin from microwave spectroscopy (1949To10,1951Jo21,1952Gi04, 1955Aa23); parity from $\sigma(\theta)$ and vector analyzing power in (pol d,α). μ: measured by magnetic nuclear resonance (1955So10). Q: measured by microwave absorption in gases (1972St38). T$_{1/2}$: 3.071×10^5 *15* y weighted average of partial T$_{1/2}$'s of β^- decay: 3.08×10^5 *3* y (1955Ba93), 3.10×10^5 *4* y (1966Go07), 3.06E5 2 y (1966Go07), the first two by 4$\pi\beta$ proportional gas counting method, the third by liquid scintillator method. Additional information 1.
788.4328 *4*	3$^+$‡	14.7 ps *10*	ABCD FG IJKLMNOP RST	J$^\pi$: also: 2,3 from 7790γ-778γ angular correlation (1966Va05); 3$^+$ from 778γ linear polarization (1971Ho30) in ^{35}Cl(n,γ). T$_{1/2}$: adopted mean lifetime τ in ps: 21.2 *15*, weighted average of 19.9 *17* (1977He12), 23 *2* (1976Co02) in ^{2}H(^{35}Cl,pγ); others: 32.3 *25* (1976Me03) in ^{27}Al(^{14}N,p$\alpha\gamma$), 30 *2* (1973No03) in ^{33}S(α,pγ), 3.0 *12* (1973Yo01) in ^{35}Cl(d,pγ), >5 (1973Wa10) in ^{2}H(^{35}Cl,pγ).
1164.8799 *9*	1$^+$‡	6.9 ps *4*	ABCDE G IJKLMNOPQRST	J$^\pi$: also: 1,2 from 7414γ-1165γ angular correlation (1966Va05); 1$^+$ from 778γ linear polarization (1971Ho30) in ^{35}Cl(n,γ). T$_{1/2}$: adopted mean lifetime τ in ps: 9.9 *6*, weighted

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Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)[†]	J$^{\pi}$	T$_{1/2}$	XREF	Comments
				average of 9.2 *6* (1977He12), 10.4 *5* (1976Co02) in ^{2}H(^{35}Cl,pγ); others: 7.1 *5* (1973No03) in ^{33}S(α,pγ), 9.2 *6* (1977He12), 10.4 *5* (1976Co02) in ^{2}H(^{35}Cl,pγ), 3.0 *12* (1973Yo01) in ^{35}Cl(d,pγ), 13 *4* (1976Co11) in ^{3}H(^{35}Cl,dγ).
1601.1034 *14*	1^{+}[‡]	0.64 ps *4*	A DE G IJKLMNOPQRST	J$^{\pi}$: also: 1,2 from 6978γ-1601γ angular correlation (1966Va05) in ^{35}Cl(n,γ); π=+ from L=0 in ^{35}Cl(d,p). T$_{1/2}$: from DSAM. Mean lifetime τ=927 fs *60* from weighted average of τ=940 fs *60* (1977He12) in ^{2}H(^{35}Cl,pγ); 1100 fs *300* (1991Ul02) in ^{35}Cl(n,γ); 800 fs *150* (1973Yo01) in ^{35}Cl(d,pγ).
1951.1853 *7*	2^{-}	1.87 ps *21*	ABCD G IJ Q ST	J$^{\pi}$: from 6111γ-517γ angular correlation (1966Va05) in ^{35}Cl(n,γ); π=− from L=1+3 in ^{35}Cl(d,p). T$_{1/2}$: adopted mean lifetime τ in ps: 2.7 *3*, weighted average of 2.3 *2* (1976No03) in ^{33}S(α,pγ) and 2.95 *14* (1976Co02) in ^{2}H(^{35}Cl,pγ); others: 1800 *500* (1991Ul02) in ^{35}Cl(n,γ), 1800 *+1000−500* (1973Yo01) in ^{35}Cl(d,pγ).
1959.3940 *13*	2^{+}	43.6 fs *14*	A D G IJ LMNOP R T	J$^{\pi}$: from 6620γ-1959γ angular correlation (1966Va05) in ^{35}Cl(n,γ); π=+ from L=0 in ^{35}Cl(d,p). T$_{1/2}$: adopted mean lifetime τ in ps: 62.9 *20*, weighted average of 63 *2* (1992Ku17, 1991Ul02) in ^{35}Cl(n,γ) and 60 *15* (1973Yo01) in ^{35}Cl(d,pγ).
2468.2590 *8*	3^{-}	0.97 ps *10*	ABCD G IJK M	J$^{\pi}$: 3 from 6111γ-517γ angular correlation (1966Va05); π=− from 6111γ circular polarization (1969Ko05) in ^{35}Cl(n,γ), or L=1 in ^{37}Cl(p,d). T$_{1/2}$: adopted mean lifetime τ in ps: 1.40 *15*, weighted average of 1.20 *25* (1991Ul02) in ^{35}Cl(n,γ) and 1.50 *18* (1973Wa10) in ^{2}H(^{35}Cl,pγ); others: 0.470 *50* (1973Yo01) in ^{35}Cl(d,pγ); <1 (1976No03) in ^{33}S(α,pγ).
2492.3035 *22*	2^{+}	40 fs *9*	A D G IJ LMNOPQ S	J$^{\pi}$: ΔJ=0 M1+E2 γ from 2^{+}, 8580 (1976Sp06) in ^{35}Cl(n,γ). T$_{1/2}$: adopted mean lifetime τ in fs: 57 *13* weighted average of 48 *26* (1992Ku17, 1991Ul02) in ^{35}Cl(n,γ) and 60 *15* (1973Yo01) in ^{35}Cl(d,pγ).
2518.396 *3*	5^{-}	1.61 ns *8*	ABCD FG IJ LM P	J$^{\pi}$: E3 γ to 2^{+}, g.s. and M2+E3 γ to 3^{+}, 788. T$_{1/2}$: adopted mean lifetime τ in ns: 2.33 *11*, weighted average of 2.30 *16* (1976Ke02) in ^{27}Al(^{14}N,p$\alpha\gamma$) and 2.36 *16* (1973No03) in ^{33}S(α,pγ); others: ≈2.4 (1976Co02) in ^{2}H(^{35}Cl,pγ).
2676.440 *7*	1^{+},(2^{+})	21 fs *3*	D G IJ LMNOP	J$^{\pi}$: M1+E2 γ to 2^{+}, g.s., as given in ^{33}S(α,pγ) T$_{1/2}$; mean lifetime τ in fs: 31 *5* (1992Ku17, 1991Ul02); other <10 (1973Yo01) in ^{35}Cl(d,pγ).
2810.5731 *21*	4^{-}	2.36 ps *21*	A CD G IJ LM P	J$^{\pi}$: E2 γ to 2^{-}, 1951 and M1(+E2) γ to 5^{-}, 2518. T$_{1/2}$: adopted mean lifetime τ in ps: 3.4 *3*, weighted average of 3.3 *3* (1976No03) in ^{33}S(α,pγ), 4.9 *10* (1976Co02) in ^{2}H(^{35}Cl,pγ), 2.7 *10* (1973Yo01) in ^{35}Cl(d,pγ).
2863.9305 *22*	(3)$^{+}$	14.6 fs *7*	G IJ LMNOP T	J$^{\pi}$: (1,2,3)$^{+}$ from ΔJ=(0,1), M1+E2 γ from 2^{+}, 8580 (1976Sp06); (3)$^{+}$ γ from (4)$^{-}$, 3101. T$_{1/2}$: mean lifetime τ in fs: 21 *1* (1992Ku17, 1991Ul02) in ^{35}Cl(n,γ); other: <15 (1973Yo01) in ^{35}Cl(d,pγ).

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Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
				Jπ: (1,2,3)+ from ΔJ=(0,1), M1+E2 γ from 2+, 8580 (1976Sp06); (3)+ γ from (4)−, 3101. $T_{1/2}$: mean lifetime τ in fs: 21 *1* (1992Ku17, 1991Ul02) in ^{35}Cl(n,γ); other: <15 (1973Yo01) in ^{35}Cl(d,pγ).
2896.3213 *15*	(2,3)−	596 fs *55*	A G IJ LM	Jπ: (2−,3) from γ′s to 4−, 2811; 2+, 1959; and 2−, 1951, respectively; π=− from L=1+3 in ^{35}Cl(d,p); $T_{1/2}$: mean lifetime τ in fs: 860 *80* (1973Yo01) in ^{35}Cl(d,pγ).
2994.674 *3*	(1,2,3)−	62 fs *8*	G IJ LM O	Jπ: (1,2,3) from γ′s to 2+, g.s., and 2−, 2995; π=− from L=1 in ^{35}Cl(d,p). $T_{1/2}$: mean lifetime τ in fs: 90 *12* (1973Yo01) in ^{35}Cl(d,pγ).
3100.7000 *13*	(4)−	149 fs *+49−28*	A CD G IJ	Jπ: 2−,3−,4− from M1+E2 γ to 3−, 2468; (4)− from no γ to 2+, g.s. $T_{1/2}$: mean lifetime τ in fs: 215 *+70−40* (1973Yo01).
3.12×10^3? *10*	0+		Q	E(level): estimated in ^{38}Ar(p,^{3}He) based on analogy with ^{36}Ar. Jπ: 0+, based on L=0 and T=1 analog state (^{38}Ar(p,^{3}He)).
3207.35 *15*	(0 to 3)−	97 fs *14*	IJ M	Jπ: L=1 in ^{35}Cl(d,p) and γ′s to 1+, 1165 and 2−, 1951. $T_{1/2}$: mean lifetime τ in fs: 140 *20* (1973Yo01) in ^{35}Cl(d,pγ).
3332.2902 *15*	(2)−	73 fs *7*	G IJ M O	Jπ: (1,2,3)− from ΔJ=(0,1), E1 γ from 2+, 8580 (1976Sp06); (2,3+) from γ′s to 3+, 788; 3−, 1959; and 1+, 1601, respectively. $T_{1/2}$: mean lifetime τ in fs: 105 *10* (1973Yo01) in ^{35}Cl(d,pγ).
3470.016 *9*	1+,(2)+	<24 fs	G IJ LMNOPQ	Jπ: L=0+2 in ^{37}Cl(p,d) from 3/2+ target. 369γ to (4)−, 1601 level is presumed to be erroneous placement in (n,γ) (1990En08). $T_{1/2}$: mean lifetime τ in fs: <35 (1973Yo01).
3566 *4*	+		M O	Jπ: π=+ from L=0+2 in ^{37}Cl(p,d).
3599.5240 *19*	(3)−	40.9 fs *21*	G IJ M	Jπ: 1−,3− from ΔJ=1, E1 γ from 2+, 8580; (3)− γ to 3−, 2468. $T_{1/2}$: mean lifetime τ in fs: 59 *3* (1992Ku17, 1991Ul02) in ^{35}Cl(n,γ); other: 60 *20* (1973Yo01) in ^{35}Cl(d,pγ).
3634.992 *5*	(1)−	21 fs *10*	G IJ L	Jπ: 1−,3− from ΔJ=1, E1 γ from 2+, 8580; (1)− from γ to 1+, 1165. $T_{1/2}$: mean lifetime τ in fs: 30 *15* (1973Yo01) in ^{35}Cl(d,pγ).
3660.335 *14*	(1−,2)	<55 fs	G IJ	Jπ: γ′s to 2+, g.s.; 2−, 1951; 1+, 1165; (1,2,3)−, 2997. $T_{1/2}$: mean lifetime τ in fs: <80 (1973Yo01) in ^{35}Cl(d,pγ).
3660.6? *15*			G M	
3723.4 *4*	4−	49 fs *10*	D IJ OP	Jπ: ΔJ=0, M1+E2 γ to 4−, 2810. $T_{1/2}$: mean lifetime τ in fs: 70 *15* (1973Yo01) in ^{35}Cl(d,pγ).
3772 *4*	−		M	Jπ: π=− from L=3 in ^{37}Cl(p,d).
3825.88 *20*			IJ	

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Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
3941.324 *16*	(1⁺,2,3⁺,4⁺)		G	Jπ: γ's to 3⁺, 788 and 1⁺,(2⁺), 2676.
3962.900 *7*	(2)⁻	<21 fs	G IJ M	Jπ: (1,2,)- from ΔJ=(0,1), E1 γ from 2⁺, 8580 (1976Sp06); (1)⁻ less likely from γ from (3)⁺, 4997.2. $T_{1/2}$: mean lifetime τ in fs: <30 (1973Yo01) in ^{35}Cl(d,pγ).
3992.06 *8*	(1,2,3)⁻	21 fs *7*	IJ M O	Jπ: (0⁺,1,2,3,4⁺) from γ to 2⁺, 1959; π=− from L=1 in ^{35}Cl(d,p). $T_{1/2}$: mean lifetime τ in fs: 30 *10* (1973Yo01) in ^{35}Cl(d,pγ).
4031.901 *16*	(0,1,2)⁻		G I LM	Jπ: (0,1,2,3⁺) from γ to 1⁺, 1165; π=− from L=1 in ^{35}Cl(d,p).
4061.478 *8*	(1,2,3)⁻		G I	Jπ: (1,2,3) from γ to 2⁺, g.s. and γ to 2⁻, 1951; π=− from L=1 in ^{35}Cl(d,p).
4138.978 *7*	(2)⁻		G I	Jπ: (0,1,2) from γ's to 1⁺, 1601 and (1)⁻, 3635; (2,3,4) from γ's to 3⁺, 788 and (3)⁻, 3599; π=− from L=1 in ^{35}Cl(d,p).
4205.648 *24*	(0 to 3)⁺		G M O	Jπ: (0⁺,1,2,3⁺) from γ's to 2⁺, g.s. and 1⁺, 1165; π=+ from L=0+2 in.
4262.0 *18*			I	
4294.52 *10*	6⁻	5.2 ps *48*	CD	Jπ: M1+E2 γ to 5⁻, 2518; E2 γ to 4⁻, 2810. $T_{1/2}$: adopted mean lifetime τ in ps: 5.2 *48*, from >0.4 (1977No09) in ^{33}S(α,pγ) and <10 (1976Wa11) in ^{27}Al(^{14}N,pαγ); other: <20 (1976Ke02) in ^{27}Al(^{14}N,pαγ).
4299.667 *14*	(0)⁺		E G I LMNOPQ	Jπ: isobar analog L=0 state in ^{38}Ar(p,^{3}He).
4315.61 *4*	(1,2)⁻		G I M	Jπ: (1⁻,2,3⁺) from γ's to 1⁺, 1601 and 3⁻, 2468; π=− from L=1 in ^{35}Cl(d,p).
4410.064 *12*	(1⁺,2,3⁺)		G I	Jπ: (1⁺,2,3⁺) from γ's to 3⁺, 788 and 1⁺, 1601.
4496.752 *17*	(2)⁻		G I	Jπ: (1,2)⁻ from ΔJ=(0,1), E1 γ from 2⁺, 8580; (1)⁻ less likely from γ to 3⁺, 788.
4525.179 *8*	(⁻)		G M P	Jπ: π=(−) from L=(1+3) in ^{37}Cl(p,d).
4551.43 *4*	(0 to 3)⁺		G I M OP	Jπ: (0⁺,1,2,3⁺) from γ's to 2⁺, g.s. and 1⁺, 1165; π=+ from L=0+2 in ^{37}Cl(p,d).
4598.426 *18*	3⁻		G I O	Jπ: ΔJ=1, E1 γ from 2⁺, 8580; 1⁻ less likely from γ's to 3⁺, 788 and (3)⁻, 3599.
4724.1 *15*	⁻		I M O	Jπ: from L=3 in ^{35}Cl(d,p).
4738 *5*			M	
4754.35 *4*	(1,2)⁻		G I	Jπ: (0⁺,1,2 *3*+) from γ's to 2⁺, g.s. and 1⁺, 1165; π=− from L=1+3 in ^{35}Cl(d,p).
4757.983 *7*	3⁻		G	Jπ: ΔJ=1, E1 γ from 2⁺, 8580; 1⁻ less likely from γ to (4)⁻, 3101.
4823.7 *15*			M	
4829.54 *3*	(2⁻,3⁻)		G M	Jπ: (1⁺,2,3,4⁺) from γ's to 2⁺, g.s. and 3⁺, 788; π=(−) from L=(1+3) in ^{37}Cl(p,d).
4846.7 *15*	⁻		I M	Jπ: π=− from L=1+3 in ^{37}Cl(p,d).
4876.7 *15*			I	
4884.0 *7*	(1,2,3)⁺		I M OP	E(level): from ^{35}Cl(d,p). Jπ: (1⁺,2,3⁺) from γ to 1⁺, 1165 and (3)⁺, 2864; π=+ from L=.
4916 *20*			O	
4956.5 *3*	⁻		I M	Jπ: π=− from L=1 in ^{35}Cl(d,p).
4997.195 *21*	(3)⁺		FG	Jπ: 3⁺,4⁺,5⁺ from L=4 in ^{34}S(α,d); (1⁺,2,3⁺) from γ's to 1⁺, 1165 and (3)⁺, 2864.

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Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
4997.6 *7*	(3)⁻		G I	Jπ: (3⁻,4⁺) from γ's to 2⁺, g.s. and 5⁻, 2518; π=− from L=1+3 in ^{35}Cl(d,p).
5018.078 *12*			G	
5079.161 *24*	(1,2,3)⁻		G I	Jπ: (0⁺,1,2,3,4⁺) from γ to 2⁺, g.s.; π=− from L=1 in ^{35}Cl(d,p).
5150.629 *10*	(1,2)⁻		G I M	(1⁻,2) from γ's to 3⁻, 2468; 1⁺,(2⁺) 2676; (1)⁻, 3635; π=− from L=1 in ^{35}Cl(d,p).
5204.606 *20*	(2)⁻		G I O	Jπ: (2⁻,3⁺) from γ's to 1⁺,(2⁺), 2676 and (4)⁻, 3101; π=− from L=1 in ^{35}Cl(d,p).
5246.587 *16*	(1⁺,2⁺,3⁺)		G M	Jπ: (1⁺,2,3⁺) from γ's to 2⁺, g.s.; 3⁺, 1601; 2⁻, 1951; π=(+) from L=(1+3) in ^{37}Cl(p,d).
5263.09 *5*	(1,2)⁻		G I	Jπ: (1,2⁻) from γ's to 2⁺, g.s.; 2⁻, 1951; (0,1,2)⁻, 4032; π=− from L=1 in ^{35}Cl(d,p).
5308.12 *11*	⁻		I	Jπ: π=− from L=1 in ^{35}Cl(d,p).
5313.55 *13*	7⁺	19.7 ps *15*	CD F	Jπ: E1+M2 γ to 6⁻, 4295; M2(+E3) γ to 5⁻, 2518. $T_{1/2}$: mean lifetime τ in ps: 32 *3* (1976Wa11), 27.2 *17* (1976Ke02) in ^{27}Al(^{14}N,pαγ); weighted average: 28.4 *21*.
5329.160 *21*	(2⁻,3⁺)		G I	Jπ: (2⁻,3⁺) from γ's to 1⁺, 1165 and 4⁻, 2811.
5369.8? *15*			I	
5463.530 *9*	(2)⁻		G I	Jπ: (1⁺,2) from γ's to 1⁺, 1165; 2⁺, 1959; 1⁻, 3635; (3)⁺, 4997; π=− from L=1 in ^{35}Cl(d,p).
5473.712 *18*	(3)		G	Jπ: γ's to 1⁺, 1165 and 5⁻, 2518.
5517.650 *6*	(2)⁻		G I M	Jπ: (1⁺,2) from γ's to 3⁺, 788; 1⁺, 1601; (1,2)⁻, 4316; π=− from L=1+3 in ^{37}Cl(p,d).
5545.0 *15*			I	
5563.550 *8*	(2⁻,3⁻)		G	Jπ: (2⁻,3⁻) from γ's to 4⁻, 2811 and (1,2)⁻, 4316.
5578.46 *4*	(1,2)⁻		G I	Jπ: (1,2,3⁺) from γ's to 2⁻, 1951 and 1⁺,(2⁺), 2518; π=− from L=1+3 in ^{35}Cl(d,p).
5578.498 *17*	(2⁻)		G	Jπ: (2⁻) from γ's to 1⁺, 1165; (4)⁻, 3101; (1,2)⁻, 5151.
5604.295 *12*	(2,3⁺)		G	Jπ: (2,3⁺) from γ's to 3⁺,788; 1⁺, 1601; 3⁻, 2469.
5604.32 *7*			G	
5605 *5*	⁺		M	E(level): can Be either of 5604.296 or 5604.32. Jπ: π=+ from L=0+2 in ^{37}Cl(p,d).
5619.23 *9*	⁻		I	Jπ: π=− from L=1 in ^{35}Cl(d,p).
5660 *30*			Q	
5694.42 *21*	⁻		I	Jπ: π=− from L=1 in ^{35}Cl(d,p).
5703.059 *13*	(1,2,3)⁻		G I M P	Jπ: (0⁺,1,2,3,4⁺) from γ to 2⁺, g.s.; π=− from L=1 in ^{35}Cl(d,p).
5734.041 *6*	(2)⁻		G I LM OP	Jπ: (2) from γ'$T_{1/2}$ to 3⁺, 788; 3⁻, 4758; 1⁺, 1601; (1,2)⁻, 4754; π=− from L=1 in ^{35}Cl(d,p).
5766 *8*	⁻		I	Jπ: π=− from L=1 in ^{35}Cl(d,p).
5778.455 *18*	(2⁻,3)		G	Jπ: (2⁻,3) from γ's to 2⁺, g.s.; 2⁻, 1951; 4⁻, 2811.
5778.58 *9*	(2,3,4)		C G	Jπ: (2,3,4) from γ's to 3⁻, 2468 and (3)⁺, 2864.
5780.12? *20*	(8)		C	Jπ: 6,8 from D γ 7⁺, 5314; (8) since spin usually increase with increasing E(level) for this type of reactions. $T_{1/2}$: mean lifetime τ in ps: 0.5 to 1000 (1976Wa11) in ^{27}Al(^{14}N,pαγ).
5831.9 *4*	⁻		I O	Jπ: π=− from L=1 in ^{35}Cl(d,p).
5866.6 *15*			I	
5898.48 *10*	⁻		I O	Jπ: π=− from L=1 in ^{35}Cl(d,p).
5912.01 *11*			I M	Jπ: π=− from L=1 in ^{35}Cl(d,p) but π=+ from L=0+2 in ^{37}Cl(p,d).

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Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)†	Jπ	XREF	Comments
5947.6 *15*	−	I	Jπ: π=− from L=1 in ^{35}Cl(d,p).
5956.677 *11*	(0 to 4)+	G I M O	Jπ: (0+,1,2,3+) from γ's to 2+, g.s. and 1+, 1165; π=+ from L=0+2 in ^{37}Cl(p,d).
5959.5 *25*	(1+,2,3+)	G I	Jπ: (1+,2,3+) from γ's to 1+, 1601 and (3)+, 2864.
5986 *5*	(−)	M o	XREF: o(6000). Jπ: π=(−) from L=(1+3) in ^{37}Cl(p,d).
6027 *8*		I o	XREF: o(6000).
6042.316 *11*	(2−,3−)	G	Jπ: (2−,3−) from γ's to (4)−, 3101 and (1)−, 6042.
6051.1 *3*	−	I	Jπ: π=− from L=1 in ^{35}Cl(d,p).
6084.84 *8*	−	I	Jπ: π=− from L=1+3 in ^{35}Cl(d,p).
6089.872 *16*	(1+,2)	G M OP	Jπ: (1+,2) from γ's to 3+, 788; (1)−, 3635; (1+,2+,3+), 3941.
6095.6 *10*	+	M OP	Jπ: π=+ from L=0+2 in ^{37}Cl(p,d).
6146.6 *10*	+	M P	Jπ: π=+ from L=0+2 in ^{37}Cl(p,d).
6154 *7*	−	I O	E(level): weighted average of 6150 *8* (^{35}Cl(d,p)) and 6166 *13* (^{37}Cl(^{3}He,α)). Jπ: π=− from L=1 in ^{35}Cl(d,p).
6184.96 *4*	+	G M OP	Jπ: π=+ from L=0+2 in ^{35}Cl(d,p).
6236.4 *5*	−	I	Jπ: π=− from L=1+3 in ^{35}Cl(d,p).
6253.551 *18*	(1,2)−	G I O	Jπ: (1,2,3+) from γ's to 2+, g.s. and 1+, 1165; π=− from L=1+3 in ^{35}Cl(d,p).
6268.184 *9*	(2−,3+)	G I	Jπ: (2−,3+) from γ's to 4−, 2811 and (1+,2,3+), 4410.
6339.90 *3*	(1,2,3)−	G I	Jπ: (0+,1,2,3,4+) from γ to 2+, g.s.; π=− from L=1 in ^{35}Cl(d,p).
6344.417 *25*	(1−,2,3−)	G	Jπ: (1−,2,3−) from γ's to 2+, g.s. and (1,2,3)−, 4061.
6354.882 *19*	(2,3)+	G M	Jπ: (2,3+) from γ's to 1+, 1601; (3)+, 2864; (2,3)−, 2896; π=+ from L=0+2 in ^{37}Cl(p,d).
6379.480 *10*	(4)+	G LM OP	Jπ: (3−,4+) from γ's to 2+, g.s. and 5−, 2518; π=+ from L=0+2 in ^{37}Cl(p,d).
6423.382 *9*	(2,3)−	G M	Jπ: (2,3) from γ's to 2+, g.s.; 3+, 788; (2,3)−, 2896; π=− from L=1+3 in ^{37}Cl(p,d).
6441 *7*	−	I O	E(level): weighted average of 6440 *8* (^{35}Cl(d,p)) and 6444 *20* (^{37}Cl(^{3}He,α)). Jπ: π=− from L=1 in ^{35}Cl(d,p).
6469 *8*		I	
6487.746 *24*	(1,2,3)−	G LM O	Jπ: (1,2,3−) from γ's to 2+, g.s. and (1,2)−, 3963; π=− from L=1+3 in ^{37}Cl(p,d).
6487.82 *15*	(1+,2,3,4−)	G	Jπ: (1+,2,3,4−) from γ's to 2−, 1951 and (3)+, 2864.
6504.6 *5*	−	I	Jπ: π=− from L=1+3 in ^{35}Cl(d,p).
6528.4 *5*		I o	XREF: o(6534).
6538.202 *14*	(2,3+)	G I o	XREF: o(6534). Jπ: (2,3+) from γ's to 1+, 6538; (3)+, 3470; (2−,3−), 6042.
6544.966 *8*	(1,2,3)+	G M	Jπ: (1,2,3) from 2+, g.s. and 2−, 1951; π=+ from L=0+2 in ^{37}Cl(p,d).
6576.7 *5*	−	I	Jπ: π=− from L=1 in ^{35}Cl(d,p).
6595.2 *8*	(−)	I M	Jπ: π=(−) from L=(1+3) in ^{37}Cl(p,d).
6604.325 *16*	(2)	G I	Jπ: (1,2,3) from γ's to 2+, 2492 and (2)−, 3332; (2) with extra γ's to (1+,2+,3+), 3941 and (1,2,3)−, 5079.
6618 *5*	+	M O	E(level): weighted average of 6618 *5* (^{37}Cl(p,d)) and 6621 *15* (^{37}Cl(^{3}He,α)). Jπ: π=+ from L=2 in ^{37}Cl(p,d).
6642.649 *12*	(1−,2+)	G	Jπ: (1−,2+) from γ's to 2+, g.s.; 3−, 2468; (0)+, 4300.
6673.13 *15*	−	I M O	Jπ: π=− from L=1+3 in ^{35}Cl(d,p).
6750 *6*	+	M o	XREF: o(6765). Jπ: π=+ from L=0+2 in ^{37}Cl(p,d).

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Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)[†]	J^π	XREF	Comments
6771.0 *10*		oP	XREF: o(6765).
6773.22 *4*	+	G LM	J^π: π=+ from L=2 in ^{37}Cl(p,d).
6774 *6*	+	M	J^π: π=+ from L=2 in ^{37}Cl(p,d).
6826 *6*	+	LM	J^π: π=+ from L=2 in ^{37}Cl(p,d).
6836.490 *17*		G O	
6894 *6*	+	M O	E(level): weighted average of 6893 *7* (^{37}Cl(p,d)) and 6897 *13* (^{37}Cl(^{3}He,α)). J^π: π=+ from L=0+2 in ^{37}Cl(p,d).
6950.0 *7*		I	
6952.625 *22*	(1,2,3)	G	J^π: (1,2,3) from γ's to 2^+, g.s. and 2^-, 1951.
6997.14 *21*	−	I M O	J^π: π=− from L=1 in ^{35}Cl(d,p).
7082.649 *20*	(2)	G L o	XREF: o(7084). J^π: (2) from γ's to $(1,2,3)^-$, 2995 and $(1,2,3)^+$, 6545.
7085.0 *10*	+	M oP	XREF: o(7084). J^π: π=+ from L=2 in ^{37}Cl(p,d).
7165 *6*		M O	E(level): weighted average of 7165 *7* (^{37}Cl(p,d)) and 7166 *16* (^{37}Cl(^{3}He,α)).
7339 *15*		O	
7512 *6*	+	M	J^π: π=+ from L=0+2 in ^{37}Cl(p,d).
7559.167 *24*	$(1,2,3)^+$	G LM	J^π: $(1^+,2,3)$ from γ's to 2^+, g.s. and $(2^-,3^+)$, 5329; π=+ from L=0+2 in ^{37}Cl(p,d).
7564.7 *6*	$(0^+,1,2,3^+)$	OP	J^π: $(0^+,1,2,3^+)$ from γ's to 1^+, 1601 and 2^+, 1959.
7663 *6*	+	M O	E(level): weighted average of 7652 *16* (^{37}Cl(^{3}He,α)) and 7665 *6* (^{37}Cl(p,d)). J^π: π=+ from L=0+2 in ^{37}Cl(p,d).
7755 *6*	(−)	M	J^π: π=(−) from L=(1+3) in ^{37}Cl(p,d).
7870 *6*	+	M	J^π: π=+ from L=0+2 in ^{37}Cl(p,d).
8184 *6*	(+)	M	J^π: π=(+) from L=(0+3) in ^{37}Cl(p,d).
(8579.795 *5*)	2^+	G	Additional information 2. E(level): from 2006De21. Other: 8579.79 *1* (2011AuZZ) in ^{35}Cl(n,γ). J^π: from ^{35}Cl(n,γ): 1^+,2^+ based on selection rules; 1^+ ruled out by positive A_4 angular correlation coefficients for all possible M1+E2 mixings for primary-secondary γ cascades (see A_4 values at 7790γ for 7790γ-778γ, and at 6111γ for 6111γ-517γ). 2^+ also sustained by 1966Va05 and 1956Br99 who show that the capture state is dominated by a single negative-energy resonance close to the n-capture state, which thus has a definite spin. 1976Sp06 argue that a small 0.6% admixture of 1^+ is possible.
8580.18 *1*	$2^{-\#}$	H	
8583.92 *1*	$1^{-\#}$	H	
8585.13 *1*	$(1^-)^\#$	H	
8594.18 *1*	$2^{+\#}$	H	
8595.69 *1*	$(3^-)^\#$	H	
8596.44 *1*	$3^{-\#}$	H	
8601.56 *1*	$(0^-)^\#$	H	
8605.66 *1*	$2^{+\#}$	H	
8606.37 *1*	$(2^-)^\#$	H	
8616.50 *1*	$(1^-)^\#$	H	
8618.93 *1*	$(3^-)^\#$	H	
8622.72 *1*	$(1^-)^\#$	H	

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Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)†	Jπ	XREF	E(level)†	Jπ	XREF
8629.95 *1*	$(3^-)^{\#}$	H	8790.80 *2*	$2^{(-)\#}$	H
8631.28 *1*	$(2^-)^{\#}$	H	8793.61 *8*	$(1^-)^{\#}$	H
8633.18 *1*	$1^{+\#}$	H	8794.97 *3*	$(2^-)^{\#}$	H
8635.98 *1*	$(2^-)^{\#}$	H	8797.62 *2*	$1^{(-)\#}$	H
8640.81 *1*	$1^{-\#}$	H	8798.62 *2*	$(1^-)^{\#}$	H
8646.11 *1*	$1^{+\#}$	H	8802.26 *8*	$(1^-)^{\#}$	H
8653.17 *1*	$(2^+)^{\#}$	H	8803.41 *4*	$(0^-)^{\#}$	H
8667.67 *1*	$(2^-)^{\#}$	H	8812.81 *2*	$(1^+)^{\#}$	H
8667.78 *1*	$(2^-)^{\#}$	H	8815.59 *2*	$2^{+\#}$	H
8672.33 *1*	$(3^-)^{\#}$	H	8816.19 *5*	$(0^-)^{\#}$	H
8673.69 *1*	$(0^-)^{\#}$	H	8818.39 *9*	$(0^-)^{\#}$	H
8676.44 *1*	$(3^-)^{\#}$	H	8818.75 *6*	$(2^-)^{\#}$	H
8680.41 *2*	$1^{-\#}$	H	8822.98 *2*	$2^{(-)\#}$	H
8688.70 *2*	$(3^-)^{\#}$	H	8834.01 *3*	$1^{(-)\#}$	H
8690.01 *2*	$(2^-)^{\#}$	H	8851.07 *3*	$1^{(-)\#}$	H
8690.21 *2*	$(2^-)^{\#}$	H	8855.58 *2*	$(2^-)^{\#}$	H
8691.66 *2*	$(1^+)^{\#}$	H	8856.31 *9*	$(1^-)^{\#}$	H
8706.57 *2*	$(2^+)^{\#}$	H	8856.47 *3*	$(2^+)^{\#}$	H
8710.02 *2*	$(1^-)^{\#}$	H	8857.39 *3*	$(2^-)^{\#}$	H
8711.12 *2*	$1^{(-)\#}$	H	8858.75 *9*	$(2^-)^{\#}$	H P
8715.95 *2*	$(3^-)^{\#}$	H	8861.74 *2*	$(2^-)^{\#}$	H
8716.67 *2*	$(2^-)^{\#}$	H	8864.94 *6*	$(3^-)^{\#}$	H
8717.46 *2*	$(3^-)^{\#}$	H	8866.47 *2*	$(2^-)^{\#}$	H
8718.80 *2*	$(2^-)^{\#}$	H	8872.79 *10*	$(2^-)^{\#}$	H
8725.42 *2*	$(2^-)^{\#}$	H	8874 *11*		0
8728.42 *4*	$(3^-)^{\#}$	H	8875.11 *2*	$2^{-\#}$	H
8737.79 *4*	$(1^-)^{\#}$	H	8877.24 *12*	$(1^-)^{\#}$	H
8740.63 *2*	$(1^-)^{\#}$	H	8878.58 *3*	$1^{(-)\#}$	H
8757.19 *4*	$1^{+\#}$	H	8884.74 *3*	$2^{+\#}$	H
8758.18 *2*	$(3^-)^{\#}$	H	8901.58 *9*	$(2^+)^{\#}$	H
8759.88 *3*	$(3^-)^{\#}$	H	8905.52 *16*	$(1^+)^{\#}$	H
8762.67 *2*	$3^{(-)\#}$	H	8907.11 *3*	$(3^-)^{\#}$	H
8764.64 *2*	$(3^-)^{\#}$	H	8909.27 *3*	$2^{+\#}$	H
8767.07 *3*	$(2^-)^{\#}$	H	8910.94 *19*	$1^{-\#}$	H
8767.32 *3*	$(3^-)^{\#}$	H	8911.6 *7*	$(0^-)^{\#}$	H
8773.38 *5*	$(3^-)^{\#}$	H	8915.65 *8*	$(2^-)^{\#}$	H
8775.24 *2*	$(2^-)^{\#}$	H	8924.23 *14*	$(2^-)^{\#}$	H
8779.99 *5*	$(2^-)^{\#}$	H	8942.24 *5*	$1^{(-)\#}$	H
8780.62 *6*	$(2^-)^{\#}$	H	8949.39 *6*	$(2)^{+\#}$	H
8785 *15*		0	8950 *16*		0
8788.32 *4*	$(2^-)^{\#}$	H	8951.05 *13*	$(1^-)^{\#}$	H
8788.68 *2*	$2^{+\#}$	H	8953.48 *10*	$(2^-)^{\#}$	H
8789.10 *5*	$(2^-)^{\#}$	H	8955.38 *4*	$2^{+\#}$	H

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)†	Jπ	XREF
8956.81 *12*	$(1^-)^{\#}$	H
8967.75 *6*	$(1)^{+\#}$	H
8970.44 *6*	$(1^-)^{\#}$	H
8972.92 *6*	$(1^-)^{\#}$	H
8976.18 *5*	$2^{(-)\#}$	H
8983.81 *21*	$(1^+)^{\#}$	H
8990.06 *7*	$(1^-)^{\#}$	H
9006.14 *4*	$2^{(-)\#}$	H
9011.81 *10*	$(2^-)^{\#}$	H
9017.79 *10*	$(1^+)^{\#}$	H
9018.52 *14*	$(2^-)^{\#}$	H
9019.73 *12*	$(1^-)^{\#}$	H
9024.84 *15*	$(2^-)^{\#}$	H
9026.27 *17*	$(2^+)^{\#}$	H
9032.08 *15*	$(1^-)^{\#}$	H
9032.24 *10*	$2^{(-)\#}$	H
9035.74 *14*	$(2^-)^{\#}$	H
9041.76 *6*	$3^{(-)\#}$	H
9043.61 *17*	$(2^-)^{\#}$	H
9047.6 *4*	$(0^-)^{\#}$	H
9049.92 *21*	$(1^-)^{\#}$	H
9051.64 *10*	$(2^-)^{\#}$	H
9054.72 *8*	$(2^+)^{\#}$	H
9065.6 *3*	$(1^+)^{\#}$	H
9070.50 *15*	$(0^-)^{\#}$	H
9075.26 *6*	$(3^-)^{\#}$	H
9079.77 *11*	$2^{+\#}$	H
9092.93 *8*	$(2)^{+\#}$	H
9094.83 *6*	$(3^-)^{\#}$	H
9100.03 *7*	$(3^-)^{\#}$	H
9106.81 *8*	$(1^+)^{\#}$	H
9108.32 *7*	$(2^-)^{\#}$	H
9112.28 *16*	$(0^-)^{\#}$	H
9116.93 *14*	$(1^-)^{\#}$	H
9123.15 *13*	$(2)^{+\#}$	H
9123.36 *22*	$(1^-)^{\#}$	H
9128.54 *7*	$(2^-)^{\#}$	H
9137.58 *8*	$(2^-)^{\#}$	H
9144.68 *19*	$(1^-)^{\#}$	H
9153.60 *12*	$(2^-)^{\#}$	H
9154.04 *13*	$(2)^{+\#}$	H
9154.6 *3*	$(1^-)^{\#}$	H
9163.78 *8*	$(1^-)^{\#}$	H
9170.80 *7*	$(3^-)^{\#}$	H
9176.83 *10*	$(1^-)^{\#}$	H
9180.56 *7*	$(2^-)^{\#}$	H
9184.04 *14*	$(2^+)^{\#}$	H
9191.7 *3*	$(1^-)^{\#}$	H
9193.14 *11*	$2^{+\#}$	H
9195.14 *23*	$(2^-)^{\#}$	H
9202.63 *7*	$2^{+\#}$	H
9204.51 *10*	$(2^-)^{\#}$	H
9215.66 *12*	$(1^+)^{\#}$	H
9219.16 *25*	$(2^+)^{\#}$	H
9220.7 *3*	$(1^-)^{\#}$	H
9226.43 *25*	$(1^+)^{\#}$	H
9226.92 *15*	$(3^-)^{\#}$	H
9233.30 *16*	$(1^+)^{\#}$	H
9234.9 *3*	$(3^-)^{\#}$	H
9238.8 *3*	$(1^+)^{\#}$	H
9241.76 *12*	$(2)^{+\#}$	H
9242.3 *3*	$(3^-)^{\#}$	H
9245.60 *24*	$(3^-)^{\#}$	H
9250.71 *10*	$(2)^{+\#}$	H
9255.25 *8*	$(1)^{+\#}$	H
9261.14 *10*	$(3^-)^{\#}$	H
9263.68 *15*	$(2^-)^{\#}$	H
9272.34 *9*	$2^{(-)\#}$	H
9278.03 *17*	$(1^-)^{\#}$	H
9281.54 *15*	$(1^-)^{\#}$	H
9284.6 *3*	$(1^+)^{\#}$	H
9288.92 *14*	$(2^-)^{\#}$	H
9292.13 *23*	$(1^-)^{\#}$	H
9294.19 *18*	$(2^-)^{\#}$	H
9298.86 *10*	$2^{(-)\#}$	H
9307.29 *19*	$(1^-)^{\#}$	H
9313.32 *19*	$(1)^{+\#}$	H
9316.01 *12*	$3^{(-)\#}$	H
9319.56 *13*	$3^{(-)\#}$	H
9323.74 *25*	$(1^-)^{\#}$	H
9328.48 *10*	$(2^-)^{\#}$	H
9333.03 *19*	$(3^-)^{\#}$	H
9337.89 *21*	$(2)^{+\#}$	H
9339.34 *23*	$(1^+)^{\#}$	H
9350.34 *17*	$(1^-)^{\#}$	H
9355.96 *18*	$(2^-)^{\#}$	H

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Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)†	Jπ	XREF	E(level)†	Jπ	XREF
9358.65 *21*	$(2^-)^{\#}$	H	9621.0 *3*	$(3^-)^{\#}$	H
9364.05 *12*	$(3^-)^{\#}$	H	9623.7 *4*	$(2^-)^{\#}$	H
9367.4 *3*	$(1^-)^{\#}$	H	9629.7 *4*	$(2^-)^{\#}$	H
9381.61 *13*	$2^{+\#}$	H	9634.8 *7*	$(3^-)^{\#}$	H
9384.0 *3*	$(2^-)^{\#}$	H	9638.0 *3*	$(2^-)^{\#}$	H
9388.1 *5*	$(1^+)^{\#}$	H	9641.2 *5*	$(1^-)^{\#}$	H
9388.7 *3*	$(2^-)^{\#}$	H	9652.5 *2*	$(3^-)^{\#}$	H
9392.2 *3*	$(2^-)^{\#}$	H	9657.9 *4*	$(1^+)^{\#}$	H
9395.22 *23*	$(3^-)^{\#}$	H	9664.2 *3*	$(2^-)^{\#}$	H
9401.2 *3*	$(1^-)^{\#}$	H	9664.5 *9*	$(2^-)^{\#}$	H
9404.41 *14*	$(2^-)^{\#}$	H	9669.3 *5*	$(3^-)^{\#}$	H
9408.38 *11*	$(2^-)^{\#}$	H	9675.1 *4*	$(3^-)^{\#}$	H
9416.61 *17*	$2^{+\#}$	H	9680.1 *3*	$(2^-)^{\#}$	H
9418.22 *14*	$(3^-)^{\#}$	H	9685.8 *3*	$(2^+)^{\#}$	H
9426.92 *13*	$(1^-)^{\#}$	H	9686.6 *6*	$(1^-)^{\#}$	H
9432.19 *14*	$(2^-)^{\#}$	H	9692.6 *3*	$(3^-)^{\#}$	H
9438.01 *15*	$(1)^{+\#}$	H	9702.7 *2*	$(3^-)^{\#}$	H
9441.51 *14*	$(3^-)^{\#}$	H	9712.4 *2*	$(2^-)^{\#}$	H
9449.77 *17*	$(2^-)^{\#}$	H	9719.0 *3*	$(2^-)^{\#}$	H
9460.25 *24*	$(3^-)^{\#}$	H	9723.8 *4*	$(1^-)^{\#}$	H
9465.15 *16*	$(3^-)^{\#}$	H	9736.1 *2*	$(3^-)^{\#}$	H
9469.77 *24*	$(2^-)^{\#}$	H	9744.7 *2*	$(2^-)^{\#}$	H
9476.45 *14*	$(2^-)^{\#}$	H	9751.7	$(1^+)^{\#}$	H
9486.77 *13*	$(2^-)^{\#}$	H	9754.9	$(3^-)^{\#}$	H
9490.19 *15*	$(1^-)^{\#}$	H	9763.7	$(2^-)^{\#}$	H
9497.28 *15*	$(1^-)^{\#}$	H	9770.7	$(1^-)^{\#}$	H
9499.37 *14*	$(2^-)^{\#}$	H	9782.3	$(3^-)^{\#}$	H
9503.61 *12*	$(3^-)^{\#}$	H	9788.4	$(2^-)^{\#}$	H
9506.41 *13*	$(2^-)^{\#}$	H	9802.2	$(2^+)^{\#}$	H
9527.2 *4*	$(1^-)^{\#}$	H	9812.8	$(3^-)^{\#}$	H
9533.3 *3*	$(2^-)^{\#}$	H	9821.7	$(3^-)^{\#}$	H
9536.7 *5*	$(1^-)^{\#}$	H	9827.6	$(2^-)^{\#}$	H
9543.53 *18*	$(2^-)^{\#}$	H	9854.8	$(2^-)^{\#}$	H
9551.60 *12*	$(2^-)^{\#}$	H	9858.0	$(3^-)^{\#}$	H
9558.1 *3*	$(2^-)^{\#}$	H	9879.4	$(2^-)^{\#}$	H
9561.9 *4*	$(3^-)^{\#}$	H	9895.4	$(1^-)^{\#}$	H
9567.8 *3*	$(2^-)^{\#}$	H	9895.9	$(2^-)^{\#}$	H
9579.5 *3*	$(2^-)^{\#}$	H	9907.6	$(2^-)^{\#}$	H
9584.5 *2*	$(3)^{-\#}$	H	9931.5	$(3^-)^{\#}$	H
9600.9 *2*	$(2^-)^{\#}$	H	9944.3	$(2^-)^{\#}$	H
9603.7 *4*	$2^{+\#}$	H	9965.2	$(3^-)^{\#}$	H
9605.7 *4*	$(2^-)^{\#}$	H	9973.9	$(2^-)^{\#}$	H
9612.1 *4*	$(3^-)^{\#}$	H	9975.0	$(1^-)^{\#}$	H

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Adopted Levels, Gammas (continued)

^{36}Cl Levels (continued)

E(level)[†]	J$^{\pi}$	XREF	
9980.8	$(2^-)^{\#}$	H	
10023.3	$(3^-)^{\#}$	H	
10099.1	$(2^+)^{\#}$	H	
11240 *25*			O
11440 *25*			O
12230 *25*			O

[†] From least-squares fit to Eγ data for the levels up to 8580 decaying by γ rays (or from the datasets with levels without gammas); above this level, data are from ^{35}Cl(n,γ):res (see dataset for E(n)(lab), partial neutron, γ, and selected proton widths).
[‡] From $\sigma(\theta)$, vector analyzing power in ^{38}Ar(pol d,α).
[#] From multilevel Reich-Moore R-matrix formalism.

Adopted Levels, Gammas (continued)

$\gamma(^{36}Cl)$

For unplaced gammas, see $^{35}Cl(n,\gamma)$.

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
788.4328	3^+	788.4236 *4*	100 *5*	0.0	2^+	M1+E2	+1.1 *4*	8.8×10^{-5} *10*	α(K)=8.1×10^{-5} *9*; α(L)=6.4×10^{-6} *7*; α(M)=5.9×10^{-7} *7* B(M1)(W.u.)=0.0014 *6*; B(E2)(W.u.)=10 *4* Mult.,δ: from 7790γ-778γ angular correlation (1966Va05) and 778γ linear polarization (1971Ho30) in $^{35}Cl(n,\gamma)$.
1164.8799	1^+	376.446 *5*	0.01	788.4328	3^+				
		1164.860 *5*	100.0 *5*	0.0	2^+	M1+E2	−0.32 *6*	3.49×10^{-5} *6*	α(K)=2.89×10^{-5} *5*; α(L)=2.30×10^{-6} *4*; α(M)=2.10×10^{-7} *4*; α(N+..)=3.44×10^{-6} *8* α(IPF)=3.44×10^{-6} *8* B(M1)(W.u.)=0.00183 *13*; B(E2)(W.u.)=0.50 *18* Mult.,δ: from 7414γ-1165γ angular correlation (1966Va05) and 1165γ linear polarization (1971Ho30) in $^{35}Cl(n,\gamma)$.
1601.1034	1^+	436.2200 *19*	25.52 *17*	1164.8799	1^+	M1,E2		0.00045 *23*	α(K)=0.00041 *21*; α(L)=3.3×10^{-5} *17*; α(M)=3.0×10^{-6} *15* Mult.: from $^{33}S(\alpha,p\gamma)$ by $\gamma(\theta)$ and pol(γ).
		812.660 *5*	1.8 *3*	788.4328	3^+				
		1601.065 *5*	100.0 *6*	0.0	2^+	M1,E2		0.000131 *19*	α(K)=1.72×10^{-5} *13*; α(L)=1.37×10^{-6} *11*; α(M)=1.25×10^{-7} *10*; α(N+..)=0.000113 *1* α(IPF)=0.000113 *18* Mult.: from $^{33}S(\alpha,p\gamma)$ by $\gamma(\theta)$ and pol(γ).
1951.1853	2^-	786.29643 *53*	54.01 *5*	1164.8799	1^+	E1,M2		0.00010 *6*	α(K)=9.E−5 *6*; α(L)=7.E−6 *5*; α(M)=7.E−7 *4* Mult.: from $^{33}S(\alpha,p\gamma)$ by $\gamma(\theta)$ and pol(γ).
		1162.734 *5*	12.0 *5*	788.4328	3^+	E1,M2		5.8×10^{-5} *5*	α(K)=3.7×10^{-5} *20*; α(L)=3.0×10^{-6} *16*; α(M)=2.7×10^{-7} *15*; α(N+..)=1.8×10^{-5} *18* α(IPF)=1.8×10^{-5} *18* Mult.: from $^{33}S(\alpha,p\gamma)$ by $\gamma(\theta)$ and pol(γ).
		1951.12647 *89*	100.0 *6*	0.0	2^+	E1,M2		0.00038 *24*	α(K)=1.3×10^{-5} *6*; α(L)=1.0×10^{-6} *5*; α(M)=1.0×10^{-7} *5*; α(N+..)=0.00036 *25* α(IPF)=0.00036 *25* Mult.: from $^{33}S(\alpha,p\gamma)$ by $\gamma(\theta)$ and pol(γ). Mult.,δ: if E1(+M2), δ=−0.10 *10* (1976Sp06) in $^{35}Cl(n,\gamma)$.
1959.3940	2^+	358.2891 *24*	1.80 *5*	1601.1034	1^+				
		1170.941 *5*	44 *3*	788.4328	3^+				
		1959.337 *5*	100.0 *7*	0.0	2^+				Mult.,δ: if M1+E2, δ=+0.20 *10* or +5 *3* (1976Sp06) in $^{35}Cl(n,\gamma)$.

$^{36}_{17}Cl_{19}$-12

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
2468.2590	3⁻	508.8635 *18*	1.42 *22*	1959.3940	2⁺				
		517.06962 *22*	100.0 *7*	1951.1853	2⁻	M1+E2	+0.03 *1*	0.0001543 *22*	α(K)=0.0001419 *20*; α(L)=1.133×10^{-5} *16*; α(M)=1.036×10^{-6} *15* B(M1)(W.u.)=0.158 *17*; B(E2)(W.u.)=1.9 *13* Mult.: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
		1679.786 *5*	0.90 *5*	788.4328	3⁺				
		2468.171 *5*	1.28 *11*	0.0	2⁺				
2492.3035	2⁺	532.904 *4*	10.2 *8*	1959.3940	2⁺	M1+E2	<−2.7	0.000333 *13*	α(K)=0.000306 *12*; α(L)=2.45×10^{-5} *10*; α(M)=2.23×10^{-6} *9* B(M1)(W.u.)>0.024; B(E2)(W.u.)<3.7×10^3 δ: or >+2.7 (^{33}S(α,pγ)). Mult.: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
		891.188 *4*	5.7 *17*	1601.1034	1⁺				
		1327.396 *4*	100.0 *6*	1164.8799	1⁺	M1+E2	−0.10 *7*	4.91×10^{-5} *8*	α(K)=2.22×10^{-5} *4*; α(L)=1.77×10^{-6} *3*; α(M)=1.617×10^{-7} *24*; α(N+..)=2.49×10^{-5} *4* α(IPF)=2.49×10^{-5} *4* B(M1)(W.u.)=0.16 *4*; B(E2)(W.u.)=3 *+5−3* Mult.: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
		2492.210 *6*	27 *10*	0.0	2⁺	M1,E2		0.00051 *5*	α(K)=8.0×10^{-6} *3*; α(L)=6.34×10^{-7} *24*; α(M)=5.80×10^{-8} *22*; α(N+..)=0.00050 *5* α(IPF)=0.00050 *5* Mult.: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
2518.396	5⁻	1729.919 *7*	0.107 *12*	788.4328	3⁺	M2+E3	−0.11 *1*	9.13×10^{-5} *13*	α(K)=2.41×10^{-5} *4*; α(L)=1.92×10^{-6} *3*; α(M)=1.755×10^{-7} *25*; α(N+..)=6.51×10^{-5} *10* α(IPF)=6.51×10^{-5} *10* B(M2)(W.u.)=0.000120 *16*; B(E3)(W.u.)=0.0027 *6* I_γ: from ^{33}S(α,pγ). Mult.: from γ(θ) and pol(γ) in ^{27}Al(^{14}N,pαγ) and ^{33}S(α,pγ). δ: weighted average of: −0.19 *10* (^{27}Al(^{14}N,pαγ)), −0.11 *1* (^{33}S(α,pγ)).
		2518.301 *4*	100 *5*	0.0	2⁺	E3		0.000374 *6*	α(K)=1.201×10^{-5} *17*; α(L)=9.55×10^{-7} *14*; α(M)=8.74×10^{-8} *13*; α(N+..)=0.000361 *5* α(IPF)=0.000361 *5* B(E3)(W.u.)=15.2 *14* E_γ: from ^{35}Cl(d,pγ). I_γ: from ^{33}S(α,pγ). Mult.: from γ(θ) and pol(γ) in ^{27}Al(^{14}N,pαγ) and ^{33}S(α,pγ).

$^{36}_{17}Cl_{19}$-13

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
2676.440	1$^+$,(2$^+$)	717.028 *16*	9.9 *20*	1959.3940	2$^+$				
		2676.323 *17*	100 *3*	0.0	2$^+$	M1+E2	−0.05 *9*	0.000540 *8*	α(K)=6.90×10^{-6} *10*; α(L)=5.48×10^{-7} *8*; α(M)=5.02×10^{-8} *7*; α(N+..)=0.000532 *8* α(IPF)=0.000532 *8* B(M1)(W.u.)=0.050 *8*; B(E2)(W.u.)=0.06 *+23−6* δ: or −2.7 *8*, both for decay from 1$^+$; −0.35 *18* for decay (^{33}S(α,pγ)) from (2$^+$). Mult.,δ: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
2810.5731	4$^-$	292.176 *4*	61.1 *6*	2518.396	5$^-$	M1(+E2)	+0.03 *3*	0.000549 *10*	α(K)=0.000505 *9*; α(L)=4.05×10^{-5} *8*; α(M)=3.70×10^{-6} *7* B(M1)(W.u.)=(0.123 *12*); B(E2)(W.u.)=(5 *+10−5*) Mult.,δ: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
		342.311 *4*	3.4 *6*	2468.2590	3$^-$				
		859.376 *4*	20.5 *19*	1951.1853	2$^-$	E2		8.46×10^{-5} *12*	α(K)=7.78×10^{-5} *11*; α(L)=6.20×10^{-6} *9*; α(M)=5.67×10^{-7} *8* B(E2)(W.u.)=8.0 *11* Mult.: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
		2022.081 *6*	100 *4*	788.4328	3$^+$	E1+M2	−0.14 *3*	0.000656 *11*	α(K)=7.34×10^{-6} *14*; α(L)=5.83×10^{-7} *11*; α(M)=5.33×10^{-8} *10*; α(N+..)=0.000648 *1* α(IPF)=0.000648 *11* B(E1)(W.u.)=1.69×10^{-5} *17*; B(M2)(W.u.)=0.37 *16* Mult.,δ: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
2863.9305	(3)$^+$	904.523 *6*	0.77 *22*	1959.3940	2$^+$				
		2075.432 *7*	13.9 *4*	788.4328	3$^+$				
		2863.807 *7*	100.0 *6*	0.0	2$^+$				
2896.3213	(2,3)$^-$	85.748 *4*	1.3 *3*	2810.5731	4$^-$				
		428.058 *3*	2.3 *4*	2468.2590	3$^-$				
		936.915 *3*	100.0 *8*	1959.3940	2$^+$				
		945.122 *3*	30 *4*	1951.1853	2$^-$				
		2896.197 *6*	85 *3*	0.0	2$^+$				
2994.674	(1,2,3)$^-$	502.365 *8*	2.0 *5*	2492.3035	2$^+$				
		1035.261 *7*	10.4 *25*	1959.3940	2$^+$				
		1043.468 *7*	13 *5*	1951.1853	2$^-$				
		2994.538 *8*	100.0 *3*	0.0	2$^+$				
3100.7000	(4)$^-$	204.379 *4*	3.3 *7*	2896.3213	(2,3)$^-$				
		236.772 *6*	1.6 *5*	2863.9305	(3)$^+$				
		582.300 *6*	2.9 *9*	2518.396	5$^-$				

$^{36}_{17}Cl_{19}$-14

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
3100.7000	(4)$^-$	632.4340 *19*	100.0 *14*	2468.2590	3$^-$	M1+E2	+0.07 *2*	0.0001015 *15*	α(K)=9.33×10^{-5} *14*; α(L)=7.45×10^{-6} *11*; α(M)=6.81×10^{-7} *10* B(M1)(W.u.)=0.36 *+7−12*; B(E2)(W.u.)=16 *+10−11* Mult.,δ: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
		2312.1876 *18*	54	788.4328	3$^+$	E1,M2		0.0006 *3*	α(K)=1.0×10^{-5} *4*; α(L)=8.E−7 *3*; α(M)=7.E−8 *3*; α(N+..)=0.0005 *4* α(IPF)=0.0005 *4* I_γ: from ^{33}S(α,pγ). Mult.: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
3207.35	(0 to 3)$^-$	1256.14 *20*	11	1951.1853	2$^-$				E_γ,I_γ: from ^{35}Cl(d,pγ).
		2042.41 *20*	100	1164.8799	1$^+$				E_γ,I_γ: from ^{35}Cl(d,pγ).
3332.2902	(2)$^-$	337.615 *5*	17 *6*	2994.674	(1,2,3)$^-$				
		435.964 *6*	49 *8*	2896.3213	(2,3)$^-$				
		468.356 *3*	26.1 *19*	2863.9305	(3)$^+$				
		655.852 *17*	2.4 *13*	2676.440	1$^+$,(2$^+$)				
		864.016 *5*	39.0 *3*	2468.2590	3$^-$				
		1372.866 *5*	100.0 *4*	1959.3940	2$^+$				
		1731.141 *6*	65 *9*	1601.1034	1$^+$				
		2543.7612 *21*	14	788.4328	3$^+$				E_γ,I_γ: from ^{35}Cl(d,pγ).
3470.016	1$^+$,(2)$^+$	369.30[@] *3*	40 *10*	3100.7000	(4)$^-$	[M2,E3]			E_γ: the placement in (n,γ) considered as erroneous (1990En08).
		659[@]		2810.5731	4$^-$	[M2,E3]			E_γ: only from ^{37}Cl(^{3}He,αγ).
		1510.57 *3*	100 *10*	1959.3940	2$^+$				
		1868.861 *12*	70	1601.1034	1$^+$				E_γ,I_γ: from ^{35}Cl(d,pγ).
		3469.82 *3*	69 *6*	0.0	2$^+$				
3599.5240	(3)$^-$	703.195 *4*	5.6 *3*	2896.3213	(2,3)$^-$				
		735.588 *7*	2.3 *4*	2863.9305	(3)$^+$				
		1131.244 *4*	100.0 *5*	2468.2590	3$^-$				
		1640.090 *4*	25 *3*	1959.3940	2$^+$				
		1648.297 *4*	37.8 *8*	1951.1853	2$^-$				
		2810.974 *6*	23.0 *11*	788.4328	3$^+$				
		3599.332 *6*	26.2 *10*	0.0	2$^+$				
3634.992	(1)$^-$	302.694 *17*	0.9 *5*	3332.2902	(2)$^-$				
		640.306 *17*	2.0 *4*	2994.674	(1,2,3)$^-$				
		958.541 *19*	7.5 *13*	2676.440	1$^+$,(2$^+$)				
		1683.754 *17*	35 *4*	1951.1853	2$^-$				
		2033.827 *6*	37	1601.1034	1$^+$				E_γ,I_γ: from ^{35}Cl(d,pγ).
		2470.013 *17*	100 *13*	1164.8799	1$^+$				
		3634.787 *17*	40.8 *25*	0.0	2$^+$				
3660.335	(1$^-$,2)	665.65 *4*	32 *7*	2994.674	(1,2,3)$^-$				

$^{36}_{17}Cl_{19}$-15

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
3660.335	(1⁻,2)	1709.10 *4*	100 *7*	1951.1853	2⁻				
		2495.36 *4*	95 *41*	1164.8799	1⁺				
		3660.13 *4*	96 *7*	0.0	2⁺				
3660.6?		665.9 *25*	24 *6*	2994.674	(1,2,3)⁻				
		850.0 *25*	100 *24*	2810.5731	4⁻				
3723.4	4⁻	912.8 *4*	100	2810.5731	4⁻	M1+E2	−0.06 *8*	4.86×10^{-5} *8*	α(K)=4.47×10^{-5} *8*; α(L)=3.56×10^{-6} *6*; α(M)=3.25×10^{-7} *6* B(M1)(W.u.)=0.59 *12*; B(E2)(W.u.)=9 *+25−9* Mult.,δ: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
3825.88		2224.7 *2*	100	1601.1034	1⁺				Eγ,Iγ: from ^{35}Cl(d,pγ).
3941.324	(1⁺,2,3⁺,4⁺)	1264.84 *4*	100 *24*	2676.440	1⁺,(2⁺)				
		3152.72 *4*	86 *14*	788.4328	3⁺				
3962.900	(2)⁻	630.602 *19*	2.8 *6*	3332.2902	(2)⁻				
		968.211 *20*	8.3 *18*	2994.674	(1,2,3)⁻				
		1066.558 *19*	20 *7*	2896.3213	(2,3)⁻				
		2003.443 *19*	56 *3*	1959.3940	2⁺				
		2011.650 *19*	29 *3*	1951.1853	2⁻				
		2797.900 *19*	81 *8*	1164.8799	1⁺				
		3962.663 *19*	100 *7*	0.0	2⁺				
3992.06	(1,2,3)⁻	2032.60 *8*	100	1959.3940	2⁺				
4031.901	(0,1,2)⁻	371.562 *20*	0.73 *16*	3660.335	(1⁻,2)				
		2430.70 *4*	38 *5*	1601.1034	1⁺				
		2866.88 *4*	100 *6*	1164.8799	1⁺				
4061.478	(1,2,3)⁻	729.173 *21*	2.9 *7*	3332.2902	(2)⁻				
		2110.215 *20*	81 *7*	1951.1853	2⁻				
		4061.223 *21*	100 *71*	0.0	2⁺				
4138.978	(2)⁻	478.64 *4*	23 *13*	3660.335	(1⁻,2)				
		503.983 *22*	4.1 *8*	3634.992	(1)⁻				
		539.442 *17*	9.5 *15*	3599.5240	(3)⁻				
		2179.506 *16*	100 *42*	1959.3940	2⁺				
		2537.772 *16*		1601.1034	1⁺				
		3350.371 *17*	61 *20*	788.4328	3⁺				
		4138.715 *17*	79 *8*	0.0	2⁺				
4205.648	(0 to 3)⁺	2246.17 *5*		1959.3940	2⁺				
		3040.62 *5*	37 *8*	1164.8799	1⁺				
		4205.38 *5*	100 *11*	0.0	2⁺				
4294.52	6⁻	1484.1 *5*	5.9 *6*	2810.5731	4⁻	E2		0.0001059 *15*	α(K)=2.16×10^{-5} *3*; α(L)=1.718×10^{-6} *24*; α(M)=1.571×10^{-7} *22*; α(N+..)=8.25×10^{-5} α(IPF)=8.25×10^{-5} *12* B(E2)(W.u.)=0.12 *11*

$^{36}_{17}Cl_{19}$-16

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
									E_γ: from ^{27}Al(^{14}N,pαγ).
									I_γ: from ^{33}S(α,pγ).
									Mult.: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
4294.52	6^-	1776.06 *10*	100.0 *6*	2518.396	5^-	M1+E2	+0.54 *8*	0.000184 *4*	α(K)=1.376×10^{-5} *22*; α(L)=1.094×10^{-6} *17*; α(M)=1.000×10^{-7} *16*; α(N+..)=0.000169
									α(IPF)=0.000169 *4*
									B(M1)(W.u.)=0.0006 *6*; B(E2)(W.u.)=0.19 *18*
									E_γ: from ^{27}Al(^{14}N,pαγ).
									I_γ: from ^{33}S(α,pγ).
									Mult.,δ: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
4299.667	$(0)^+$	1623.19 *4*	11 *5*	2676.440	$1^+,(2^+)$				I_γ: from ^{37}Cl(^{3}He,αγ).
		2698.44 *4*	100 *12*	1601.1034	1^+				I_γ: from ^{37}Cl(^{3}He,αγ).
		3134.641 *19*	43 *8*	1164.8799	1^+				I_γ: from ^{37}Cl(^{3}He,αγ).
4315.61	$(1,2)^-$	1847.29 *10*	100 *16*	2468.2590	3^-				
		2356.13 *10*	58 *37*	1959.3940	2^+				
		2364.34 *10*	29 *4*	1951.1853	2^-				
		2714.39 *10*	63 *21*	1601.1034	1^+				
4410.064	$(1^+,2,3^+)$	468.75 *3*		3941.324	$(1^+,2,3^+,4^+)$				
		2450.57 *3*	49 *10*	1959.3940	2^+				
		2808.83 *3*	100 *50*	1601.1034	1^+				
		3245.02 *3*	31 *3*	1164.8799	1^+				
		3621.43 *3*	35 *5*	788.4328	3^+				
4496.752	$(2)^-$	464.84 *5*	3.0 *22*	4031.901	$(0,1,2)^-$				
		2537.25 *3*	100 *10*	1959.3940	2^+				
		3708.10 *3*	40 *5*	788.4328	3^+				
4525.179	$(^-)$	225.51 *3*	1.08 *7*	4299.667	$(0)^+$				
		463.699 *16*	1.4 *11*	4061.478	$(1,2,3)^-$				
		2565.679 *20*	41 *20*	1959.3940	2^+				
		3360.123 *20*	22 *7*	1164.8799	1^+				
		3736.531 *20*	41 *20*	788.4328	3^+				
		4524.866 *20*	100 *5*	0.0	2^+				
4551.43	$(0\text{ to }3)^+$	2591.93 *7*	100 *27*	1959.3940	2^+				
		3386.37 *7*	17 *3*	1164.8799	1^+				
		4551.11 *7*	52 *7*	0.0	2^+				
4598.426	3^-	459.45 *5*	5.1 *17*	4138.978	$(2)^-$				
		998.88 *5*	6.2 *17*	3599.5240	$(3)^-$				
		1787.80 *5*	100 *3*	2810.5731	4^-				
		2638.92 *5*	27 *3*	1959.3940	2^+				
		2647.13 *5*	50 *3*	1951.1853	2^-				
		3809.78 *5*	17 *6*	788.4328	3^+				
		4598.11 *5*	8.4 *9*	0.0	2^+				

$^{36}_{17}Cl_{19}$-17

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Comments
4754.35	$(1,2)^-$	2794.71 *13*	20 *11*	1959.3940	2^+	
		3589.16 *13*	100 *28*	1164.8799	1^+	
		4753.90 *13*	22 *6*	0.0	2^+	
4757.983	3^-	619.001 *24*	1.8 *6*	4138.978	$(2)^-$	
		696.501 *19*	4.3 *10*	4061.478	$(1,2,3)^-$	
		1425.658 *21*	22 *3*	3332.2902	$(2)^-$	
		1657.235 *20*	73 *5*	3100.7000	$(4)^-$	
		2265.598 *20*	74 *10*	2492.3035	2^+	
		2289.637 *20*	100 *14*	2468.2590	3^-	
		4757.640 *20*	42 *5*	0.0	2^+	
4829.54	$(2^-,3^-)$	4040.85 *5*	44 *6*	788.4328	3^+	
		4829.17 *5*	100 *8*	0.0	2^+	
4884.0	$(1,2,3)^+$	2020.0 *9*		2863.9305	$(3)^+$	E_γ: from ΔE(level) (^{37}Cl(^{3}He,αγ)).
		3718.9 *9*		1164.8799	1^+	E_γ: from ΔE(level) (^{37}Cl(^{3}He,αγ)).
4997.195	$(3)^+$	1034.27 *22*	100 *16*	3962.900	$(2)^-$	
		2133.18 *22*	27 *5*	2863.9305	$(3)^+$	
		3832.08 *22*	33 *7*	1164.8799	1^+	
		4996.81 *22*	42 *13*	0.0	2^+	
4997.6	$(3)^-$	2479.1 *11*	41 *15*	2518.396	5^-	
		2529.2 *11*	100 *11*	2468.2590	3^-	
		4997.2 *11*	32 *8*	0.0	2^+	
5018.078		466.65 *7*	6 *3*	4551.43	$(0\text{ to }3)^+$	
		1076.75 *4*	6 *3*	3941.324	$(1^+,2,3^+,4^+)$	
		1357.71 *5*	12 *4*	3660.335	$(1^-,2)$	
		2525.67 *3*	39 *8*	2492.3035	2^+	
		2549.71 *3*	56 *9*	2468.2590	3^-	
		5017.69 *3*	100 *5*	0.0	2^+	
5079.161	$(1,2,3)^-$	5078.75 *4*	100	0.0	2^+	
5150.629	$(1,2)^-$	1089.14 *3*	13 *4*	4061.478	$(1,2,3)^-$	
		1515.60 *3*	61 *6*	3634.992	$(1)^-$	
		2254.220 *22*	95 *6*	2896.3213	$(2,3)^-$	
		2474.10 *3*	100 *38*	2676.440	$1^+,(2^+)$	
		2682.250 *22*	60 *6*	2468.2590	3^-	
		5150.223 *22*	94 *15*	0.0	2^+	
5204.606	$(2)^-$	2104 *5*	100 *7*	3100.7000	$(4)^-$	
		2528.07 *4*	75 *6*	2676.440	$1^+,(2^+)$	
		4415.86 *4*	36 *9*	788.4328	3^+	
		5204.19 *4*	62 *4*	0.0	2^+	
5246.587	$(1^+,2^+,3^+)$	2382.57 *4*	59 *6*	2863.9305	$(3)^+$	
		2570.06 *5*	29 *11*	2676.440	$1^+,(2^+)$	
		3295.23 *4*	34 *8*	1951.1853	2^-	

$^{36}_{17}Cl_{19}$-18

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
5246.587	(1$^+$,2$^+$,3$^+$)	3645.28 *4*	16 *3*	1601.1034	1$^+$				
		4457.85 *4*	41 *10*	788.4328	3$^+$				
		5246.17 *4*	100 *38*	0.0	2$^+$				
5263.09	(1,2)$^-$	1231.16 *10*	100 *8*	4031.901	(0,1,2)$^-$				
		3311.73 *9*	53 *11*	1951.1853	2$^-$				
		4097.95 *9*	100 *28*	1164.8799	1$^+$				
		5262.67 *9*	89 *17*	0.0	2$^+$				
5313.55	7$^+$	1019.01 *10*	100 *4*	4294.52	6$^-$	E1+M2	−0.082 *10*	2.46×10^{-5} *4*	α(K)=2.26×10^{-5} *4*; α(L)=1.80×10^{-6} *3*; α(M)=1.644×10^{-7} *24* B(E1)(W.u.)=1.79×10^{-5} *17*; B(M2)(W.u.)=0.53 *14* E_γ,I_γ: from ^{27}Al(^{14}N,pαγ). Mult.,δ: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
		2795.1 *3*	65 *4*	2518.396	5$^-$	M2(+E3)	−0.01 *3*	0.000399 *6*	α(K)=9.53×10^{-6} *14*; α(L)=7.58×10^{-7} *11*; α(M)=6.93×10^{-8} *10*; α(N+..)=0.000388 *6* α(IPF)=0.000388 *6* B(M2)(W.u.)=(0.33 *4*); B(E3)(W.u.)=(0.024 *+142−24*) E_γ,I_γ: from ^{27}Al(^{14}N,pαγ). Mult.,δ: from ^{33}S(α,pγ) by γ(θ) and pol(γ).
5329.160	(2$^-$,3$^+$)	2518.48 *5*	100 *21*	2810.5731	4$^-$				
		2836.72 *5*	79 *16*	2492.3035	2$^+$				
		3727.84 *5*		1601.1034	1$^+$				
		4164.01 *5*	58 *11*	1164.8799	1$^+$				
5463.530	(2)$^-$	466.35 *4*	4.1 *12*	4997.195	(3)$^+$				
		1828.488 *17*	91 *4*	3634.992	(1)$^-$				
		2131.165 *23*	38 *6*	3332.2902	(2)$^-$				
		3503.944 *23*		1959.3940	2$^+$				
		3512.150 *23*	20 *3*	1951.1853	2$^-$				
		4298.366 *23*	100 *8*	1164.8799	1$^+$				
5473.712	(3)	455.64 *5*	16 *8*	5018.078					
		2955.17 *5*	81 *11*	2518.396	5$^-$				
		4308.55 *5*	48 *22*	1164.8799	1$^+$				
		5473.26 *5*	100 *19*	0.0	2$^+$				
5517.650	(2)$^-$	1202.02 *10*	6.0 *4*	4315.61	(1,2)$^-$				
		2653.612 *18*	4.5 *5*	2863.9305	(3)$^+$				
		3025.207 *18*	3.2 *7*	2492.3035	2$^+$				
		3558.063 *17*	12.0 *14*	1959.3940	2$^+$				
		3566.269 *17*	17 *4*	1951.1853	2$^-$				
		3916.314 *18*	3.9 *5*	1601.1034	1$^+$				
		4728.879 *17*	39.8 *16*	788.4328	3$^+$				

$^{36}_{17}Cl_{19}$-19

Adopted Levels, Gammas (continued)

$\gamma(^{36}Cl)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f
5517.650	$(2)^-$	5517.192 *17*	100.0 *9*	0.0	2^+
5563.550	$(2^-,3^-)$	1247.9 *5*	17 *6*	4315.61	$(1,2)^-$
		2231.180 *21*	74 *4*	3332.2902	$(2)^-$
		2568.96 *17*	47 *11*	2994.674	$(1,2,3)^-$
		2752.855 *20*	63 *8*	2810.5731	4^-
		3095.138 *20*	30 *8*	2468.2590	3^-
		3603.955 *20*	100 *5*	1959.3940	2^+
		3612.161 *20*	28 *4*	1951.1853	2^-
5578.46	$(1,2)^-$	3059.92 *5*	100 *15*	2518.396	5^-
		3627.08 *5*	66 *8*	1951.1853	2^-
5578.498	(2^-)	427.89 *10*	9.8 *16*	5150.629	$(1,2)^-$
		2246.18 *11*	55 *16*	3332.2902	$(2)^-$
		2478 *5*	100 *20*	3100.7000	$(4)^-$
		3086.10 *11*	50 *30*	2492.3035	2^+
		3627.17 *11*	39 *5*	1951.1853	2^-
		3977.21 *11*	40 *4*	1601.1034	1^+
		4413.38 *11*	53 *10*	1164.8799	1^+
5604.295	$(2,3^+)$	2740.24 *3*	36 *4*	2863.9305	$(3)^+$
		2927.73 *3*	45 *9*	2676.440	$1^+,(2^+)$
		3135.88 *3*	33 *4*	2468.2590	3^-
		4002.95 *3*	33 *4*	1601.1034	1^+
		4815.51 *3*	43 *5*	788.4328	3^+
		5603.82 *3*	100 *27*	0.0	2^+
5604.32		3135.91 *7*	100	2468.2590	3^-
5703.059	$(1,2,3)^-$	3210.59 *3*	35 *8*	2492.3035	2^+
		3743.44 *3*	24 *24*	1959.3940	2^+
		5702.56 *3*	100 *8*	0.0	2^+
5734.041	$(2)^-$	976.037 *24*	2.7 *6*	4757.983	3^-
		979.68 *5*	5.2 *16*	4754.35	$(1,2)^-$
		1528.35 *5*	18 *7*	4205.648	$(0\text{ to }3)^+$
		3774.422 *15*	39 *5*	1959.3940	2^+
		4132.670 *15*	19 *5*	1601.1034	1^+
		4945.231 *15*	100 *9*	788.4328	3^+
		5733.538 *15*	83 *6*	0.0	2^+
5778.455	$(2^-,3)$	760.38 *4*	3.1 *8*	5018.078	
		2446.07 *5*	19 *3*	3332.2902	$(2)^-$
		2967.74 *5*	19 *4*	2810.5731	4^-
		3827.04 *5*	100 *7*	1951.1853	2^-
		4989.64 *5*	42 *25*	788.4328	3^+
		5777.95 *5*	25 *3*	0.0	2^+
5778.58	(2,3,4)	2914.53 *12*	100 *30*	2863.9305	$(3)^+$
		3310.16 *12*	100 *30*	2468.2590	3^-

$^{36}_{17}Cl_{19}$-20

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	Comments
5780.12?	(8)	466.57 *15*	100 *46*	5313.55	7^+	D	E_γ,Mult.: from ^{27}Al(^{14}N,p$\alpha\gamma$).
5956.677	(0 to 4)$^+$	3997.039 *25*	37 *8*	1959.3940	2^+		
		4355.286 *25*	78 *7*	1601.1034	1^+		
		4791.450 *25*	15 *2*	1164.8799	1^+		
		5956.143 *25*	100 *22*	0.0	2^+		
5959.5	(1^+,2,3^+)	1463 *6*	59 *26*	4496.752	$(2)^-$		
		2489 *6*	50 *13*	3470.016	1^+,$(2)^+$		
		2627 *6*	76 *13*	3332.2902	$(2)^-$		
		3096 *6*	76 *13*	2863.9305	$(3)^+$		
		4358 *6*	67 *13*	1601.1034	1^+		
		5959 *6*	100 *17*	0.0	2^+		
6042.316	(2^-,3^-)	1517.09 *3*	40 *8*	4525.179	$(^-)$		
		2407.23 *3*	100 *10*	3634.992	$(1)^-$		
		2941.47 *3*	67 *7*	3100.7000	$(4)^-$		
		4090.87 *3*	16 *3*	1951.1853	2^-		
		6041.77 *4*		0.0	2^+		
6089.872	(1^+,2)	616.16 *3*	24 *5*	5473.712	(3)		
		2148.45 *12*	50 *14*	3941.324	(1^+,2,3^+,4^+)		
		2429.45 *5*	45 *4*	3660.335	(1^-,2)		
		2454.79 *5*	41 *9*	3634.992	$(1)^-$		
		2757.46 *4*	43 *9*	3332.2902	$(2)^-$		
		4138.42 *4*	100 *15*	1951.1853	2^-		
		5301.01 *4*	29 *6*	788.4328	3^+		
6095.6	$^+$	6095		0.0	2^+		E_γ: from ^{37}Cl(^{3}He,$\alpha\gamma$).
6146.6	$^+$	6146		0.0	2^+		E_γ: from ^{37}Cl(^{3}He,$\alpha\gamma$).
6184.96	$^+$	6184.35 *5*	100	0.0	2^+		
6253.551	$(1,2)^-$	779.83 *6*	9 *9*	5473.712	(3)		
		4293.88 *4*	28 *6*	1959.3940	2^+		
		4652.11 *4*	20 *3*	1601.1034	1^+		
		5088.28 *4*	100 *40*	1164.8799	1^+		
		6252.96 *4*	49 *19*	0.0	2^+		
6268.184	(2^-,3^+)	225.87 *3*	0.9 *4*	6042.316	(2^-,3^-)		
		1858.07 *3*	68 *5*	4410.064	(1^+,2,3^+)		
		2798.05 *3*	63 *5*	3470.016	1^+,$(2)^+$		
		3371.680 *19*	25 *18*	2896.3213	$(2,3)^-$		
		3457.418 *19*	12.3 *23*	2810.5731	4^-		
		6267.585 *19*	100 *31*	0.0	2^+		
6339.90	$(1,2,3)^-$	6339.26 *4*	100	0.0	2^+		
6344.417	(1^-,2,3^-)	1265.24 *6*	55 *11*	5079.161	$(1,2,3)^-$		
		2282.85 *4*	91 *11*	4061.478	$(1,2,3)^-$		
		6343.79 *5*	100 *21*	0.0	2^+		

$^{36}_{17}Cl_{19}$-21

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Comments
6354.882	$(2,3)^+$	576.42 *5*	3.4 *8*	5778.455	$(2^-,3)$	
		3458.37 *4*	26 *8*	2896.3213	$(2,3)^-$	
		3490.76 *4*	9 *5*	2863.9305	$(3)^+$	
		4753.43 *4*	100 *29*	1601.1034	1^+	
6379.480	$(4)^+$	1382.26 *4*	20 *5*	4997.195	$(3)^+$	
		3860.846 *21*	52 *16*	2518.396	5^-	
		4419.780 *20*	18 *3*	1959.3940	2^+	
		6378.859 *20*	100 *11*	0.0	2^+	
6423.382	$(2,3)^-$	2953.23 *3*	26 *3*	3470.016	$1^+,(2)^+$	
		3526.862 *19*	27 *2*	2896.3213	$(2,3)^-$	
		5634.464 *19*	21 *6*	788.4328	3^+	
		6422.754 *19*	100 *9*	0.0	2^+	
6487.746	$(1,2,3)^-$	2524.74 *4*	81 *10*	3962.900	$(2)^-$	
		6487.10 *4*	100 *21*	0.0	2^+	
6487.82	$(1^+,2,3,4^-)$	3623.69 *21*	100 *26*	2863.9305	$(3)^+$	
		4536.33 *21*	85 *18*	1951.1853	2^-	
6538.202	$(2,3^+)$	495.882 *20*	3.3 *10*	6042.316	$(2^-,3^-)$	
		3068.04 *4*	57 *28*	3470.016	$1^+,(2)^+$	
		4586.68 *3*	100 *10*	1951.1853	2^-	
		5372.88 *3*	17.6 *18*	1164.8799	1^+	
6544.966	$(1,2,3)^+$	841.896 *22*	14 *3*	5703.059	$(1,2,3)^-$	
		1526.85 *4*	47 *9*	5018.078		
		2512.97 *5*	74 *11*	4031.901	$(0,1,2)^-$	
		4585.245 *18*	100 *15*	1959.3940	2^+	
		4593.451 *18*	41 *11*	1951.1853	2^-	
		6544.314 *18*	56 *8*	0.0	2^+	
6604.325	(2)	870.28 *4*	14 *3*	5734.041	$(2)^-$	
		1086.64 *3*	62 *12*	5517.650	$(2)^-$	
		1525.14 *5*	75 *15*	5079.161	$(1,2,3)^-$	
		2662.90 *5*	100 *74*	3941.324	$(1^+,2,3^+,4^+)$	
		3271.86 *4*	91 *50*	3332.2902	$(2)^-$	
		4111.76 *4*	91 *62*	2492.3035	2^+	
6642.649	$(1^-,2^+)$	2342.89 *4*	27 *5*	4299.667	$(0)^+$	
		4174.109 *22*	10 *3*	2468.2590	3^-	
		6641.972 *22*	100 *17*	0.0	2^+	
6771.0		5982		788.4328	3^+	From ^{37}Cl(^{3}He,$\alpha\gamma$).
6773.22	$^+$	2567.45 *6*		4205.648	$(0\text{ to }3)^+$	
		2711.60 *5*	100	4061.478	$(1,2,3)^-$	
6836.490		1257.99 *4*	31 *6*	5578.498	(2^-)	
		3504.00 *3*	100 *8*	3332.2902	$(2)^-$	
		4884.92 *3*	49 *10*	1951.1853	2^-	
6952.625	(1,2,3)	3292.12 *6*	49 *11*	3660.335	$(1^-,2)$	

$^{36}_{17}Cl_{19}$-22

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
6952.625	(1,2,3)	5001.05 *4*	25 *4*	1951.1853	2^-
		6951.89 *4*	100 *16*	0.0	2^+
7082.649	(2)	537.67 *4*	14 *5*	6544.966	$(1,2,3)^+$
		4087.71 *4*	100 *16*	2994.674	$(1,2,3)^-$
		5122.84 *4*	56 *7*	1959.3940	2^+
		7081.94 *7*		0.0	2^+
7085.0	$^+$	6296		788.4328	3^+
7559.167	$(1,2,3)^+$	2229.92 *4*	86 *11*	5329.160	$(2^-,3^+)$
		7558.29 *4*	100 *27*	0.0	2^+
7564.7	$(0^+,1,2,3^+)$	5073	43 *10*	2492.3035	2^+
		5604	95 *14*	1959.3940	2^+
		5963	100 *14*	1601.1034	1^+
(8579.795)	2^+	1020.57[‡] *4*	0.52 *5*	7559.167	$(1,2,3)^+$
		1497.07[‡] *4*	1.02 *8*	7082.649	(2)
		1627.09[‡] *4*	1.43 *8*	6952.625	(1,2,3)
		1743.22[‡] *3*	1.34 *6*	6836.490	
		1806.48[‡] *5*	0.85 *6*	6773.22	$^+$
		1937.049[‡] *20*	2.32 *14*	6642.649	$(1^-,2^+)$
		1975.37[‡] *4*	3.3 *3*	6604.325	(2)
		2034.728[‡] *16*	3.63 *8*	6544.966	$(1,2,3)^+$
		2041.49[‡] *3*	1.84 *8*	6538.202	$(2,3^+)$
		2091.95[‡] *4*	1.09 *8*	6487.746	$(1,2,3)^-$
		2156.308[‡] *17*	3.11 *11*	6423.382	$(2,3)^-$
		2200.205[‡] *18*	1.87 *8*	6379.480	$(4)^+$
		2224.80[‡] *4*	0.8 *3*	6354.882	$(2,3)^+$
		2235.26[‡] *5*	0.88 *6*	6344.417	$(1^-,2,3^-)$
		2239.78[‡] *4*	0.99 *6*	6339.90	$(1,2,3)^-$
		2311.493[‡] *17*	5.3 *15*	6268.184	$(2^-,3^+)$
		2326.13[‡] *4*	1.05 *8*	6253.551	$(1,2)^-$
		2394.70[‡] *5*	0.79 *6*	6184.96	$^+$
		2489.80[‡] *4*	2.14 *9*	6089.872	$(1^+,2)$
		2537.341[‡] *25*		6042.316	$(2^-,3^-)$
		2622.991[‡] *23*	2.70 *9*	5956.677	$(0\text{ to }4)^+$
		2801.19[‡] *5*	2.78 *11*	5778.455	$(2^-,3)$
		2845.594[‡] *12*	5.30 *5*	5734.041	$(2)^-$

$^{36}_{17}Cl_{19}$-23

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	α[#]	Comments
(8579.795)	2^+	2876.57[‡] *3*	2.49 *11*	5703.059	$(1,2,3)^-$			
		2975.33[‡] *3*	5.72 *6*	5604.295	$(2,3^+)$			
		3001.161[‡] *19*	3.28 *11*	5578.498	(2^-)			
		3016.075[‡] *18*	4.98 *5*	5563.550	$(2^-,3^-)$			
		3061.979[‡] *17*	17.10 *11*	5517.650	$(2)^-$			
		3105.90[‡] *5*	0.77 *6*	5473.712	(3)			
		3116.087[‡] *23*	4.51 *5*	5463.530	$(2)^-$			
		3250.44[‡] *5*	1.18 *9*	5329.160	$(2^-,3^+)$			
		3316.51[‡] *9*	1.24 *8*	5263.09	$(1,2)^-$			
		3333.01[‡] *4*	3.66 *11*	5246.587	$(1^+,2^+,3^+)$			
		3374.98[‡] *4*	2.72 *11*	5204.606	$(2)^-$			
		3428.956[‡] *21*	4.11 *5*	5150.629	$(1,2)^-$			
		3500.41[‡] *4*	1.52 *9*	5079.161	$(1,2,3)^-$			
		3561.49[‡] *3*	3.2 *6*	5018.078				
		3582.39[‡] *3*	0.67 *8*	4997.195	$(3)^+$			
		3750.01[‡] *5*	1.46 *8*	4829.54	$(2^-,3^-)$			
		3821.563[‡] *21*	4.86 *15*	4757.983	3^-	E1	0.001612 *23*	α(K)=3.09×10^{-6} *5*; α(L)=2.45×10^{-7} *4*; α(M)=2.24×10^{-8} *4*; α(N+..)=0.001609 *23* α(IPF)=0.001609 *23* Mult.: ΔJ=1, E1 γ from circular polarization (1976Sp06).
		3825.17[‡] *5*	3.79 *14*	4754.35	$(1,2)^-$			
		3981.11[‡] *5*	5.02 *11*	4598.426	3^-	E1	0.001676 *24*	α(K)=2.94×10^{-6} *5*; α(L)=2.33×10^{-7} *4*; α(M)=2.13×10^{-8} *3*; α(N+..)=0.001673 *24* α(IPF)=0.001673 *24* Mult.: ΔJ=1, E1 γ from circular polarization (1976Sp06).
		4028.09[‡] *7*	0.93 *9*	4551.43	$(0\text{ to }3)^+$			
		4054.339[‡] *21*	2.94 *12*	4525.179	$(^-)$			
		4082.76[‡] *3*	3.99 *8*	4496.752	$(2)^-$	E1	0.001713 *24*	α(K)=2.85×10^{-6} *4*; α(L)=2.26×10^{-7} *4*; α(M)=2.07×10^{-8} *3*; α(N+..)=0.001710 *24* α(IPF)=0.001710 *24* Mult.: ΔJ=(0,1), E1 γ from circular polarization (1976Sp06).
		4169.44[‡] *3*	0.27 *3*	4410.064	$(1^+,2,3^+)$			
		4263.88[‡] *10*	0.14 *2*	4315.61	$(1,2)^-$			
		4440.487[‡] *16*	5.72 *6*	4138.978	$(2)^-$			
		4517.976[‡] *21*	0.73 *8*	4061.478	$(1,2,3)^-$			

$^{36}_{17}Cl_{19}$-24

Adopted Levels, Gammas (continued)

γ(^{36}Cl) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α[#]	Comments
(8579.795)	2^+	4547.55[‡] *4*	2.22 *12*	4031.901	$(0,1,2)^-$				
		4616.549[‡] *20*	3.19 *15*	3962.900	$(2)^-$	E1		0.00190 *3*	α(K)=2.46×10^{-6} *4*; α(L)=1.95×10^{-7} *3*; α(M)=1.79×10^{-8} *3*; α(N+..)=0.00189 *3* α(IPF)=0.00189 *3* Mult.: ΔJ=(0,1), E1 γ from circular polarization (1976Sp06).
		4638.10[‡] *3*	0.64 *15*	3941.324	$(1^+,2,3^+,4^+)$				
		4918.7 *25*	0.30 *11*	3660.6?					
		4944.404[‡] *17*	5.75 *12*	3634.992	$(1)^-$	E1		0.00201 *3*	α(K)=2.27×10^{-6} *4*; α(L)=1.80×10^{-7} *3*; α(M)=1.649×10^{-8} *23*; α(N+..)=0.00200 *3* α(IPF)=0.00200 *3* Mult.: ΔJ=1, E1 γ from circular polarization (1976Sp06).
		4979.888[‡] *10*	18.69 *15*	3599.5240	$(3)^-$	E1		0.00202 *3*	α(K)=2.25×10^{-6} *4*; α(L)=1.79×10^{-7} *3*; α(M)=1.635×10^{-8} *23*; α(N+..)=0.00201 *3* α(IPF)=0.00201 *3* Mult.: ΔJ=1, E1 γ from circular polarization (1976Sp06).
		5109.35[‡] *3*	0.41 *8*	3470.016	$1^+,(2)^+$				
		5247.072[‡] *10*	2.96 *15*	3332.2902	$(2)^-$	E1		0.00210 *3*	α(K)=2.12×10^{-6} *3*; α(L)=1.682×10^{-7} *24*; α(M)=1.539×10^{-8} *22*; α(N+..)=0.00209 *3* α(IPF)=0.00209 *3* Mult.: ΔJ=(0,1), E1 γ from circular polarization (1976Sp06).
		5584.633[‡] *11*	2.40 *17*	2994.674	$(1,2,3)^-$				
		5715.356[‡] *10*	27.59 *24*	2863.9305	$(3)^+$	M1+E2		0.00160 *9*	α(K)=2.38×10^{-6} *5*; α(L)=1.88×10^{-7} *4*; α(M)=1.72×10^{-8} *3*; α(N+..)=0.00160 *9* α(IPF)=0.00160 *9* Mult.,δ: ΔJ=(0,1), M1+E2 γ from circular polarization (1976Sp06).
		5902.798[‡] *17*	5.64 *6*	2676.440	$1^+,(2^+)$				
		6086.921[‡] *10*	4.48 *23*	2492.3035	2^+	M1+E2	+0.43 *+16−26*		α(N+..)=0.00163 *3* α(IPF)=0.00163 *3* Mult.,δ: ΔJ=0, M1+E2 γ from circular polarization (1976Sp06, also δ=+2.3 *12*).
		6110.9802 *40*	100.0 *9*	2468.2590	3^-	E1			α(N+..)=0.00232 *4* α(IPF)=0.00232 *4* E_γ: from 2006De21. Mult.,δ: ΔJ=1, E1 γ from circular polarization

$^{36}_{17}Cl_{19}$-25

Adopted Levels, Gammas (continued)

$\gamma(^{36}Cl)$ (continued)

E_i(level)	E_γ †	I_γ †	E_f	J^π_f	Mult.	δ	Comments
							(1969Ko05); if E1(+M2), δ= +0.02 *2* (1976Sp06). A_2=+0.136 *11*, A_4=+0.016 *14* (1966Va05, 6111γ-517γ ang. correlation).
(8579.795)	6619.732‡ *9*	38.4 *4*	1959.3940	2^+			A_2=+0.158 *15*, A_4=+0.005 *17* (1966Va05, 6620γ-1959γ ang. correlation). Mult.,δ: if M1+E2, δ=+0.19 *6* or +5.2 *16* (1976Sp06).
	6627.945‡ *9*	22.25 *24*	1951.1853	2^-			
	6977.951‡ *10*	11.24 *15*	1601.1034	1^+			A_2=+0.099 *9*, A_4=−0.005 *12* (1966Va05, 6978γ-1601γ ang. correlation).
	7414.086‡ *9*	49.9 *8*	1164.8799	1^+	M1+E2	+0.47 *10*	α(N+..)=0.00190 *3* α(IPF)=0.00190 *3* Mult.,δ: from 7414γ-1165γ angular correlation (1966Va05) and 1165γ linear polarization (1971Ho30); also δ=+0.14 *3* (1976Sp06). A_2=+0.037 *2*, A_4=+0.001 *2* (1966Va05, 7414γ-1165γ ang. correlation).
	7790.454‡ *10*	40.4 *5*	788.4328	3^+	M1+E2	−0.210 *4*	α(N+..)=0.00194 *3* α(IPF)=0.00194 *3* Mult.,δ: from 7790γ-778γ angular correlation (1966Va05) and 778γ linear polarization (1971Ho30); also δ=−0.22 *2* (1976Sp06). A_2=+0.044 *4*, A_4=+0.016 *6* (1966Va05, 7790γ-778γ ang. correlation).
	8578.696‡ *10*	13.40 *20*	0.0	2^+	M1+E2	+0.12 *4*	Mult.,δ: or +8 *+2−4*, from circular polarization measurement (1976Sp06); also δ=−0.05 *13* (1970Ei03, same technique).

† From ^{35}Cl(n,γ), unless noted otherwise.

‡ Modified to account for four new very precisely-remeasured Eγ's (2006De21) − see ^{35}Cl(n,γ) dataset.

Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

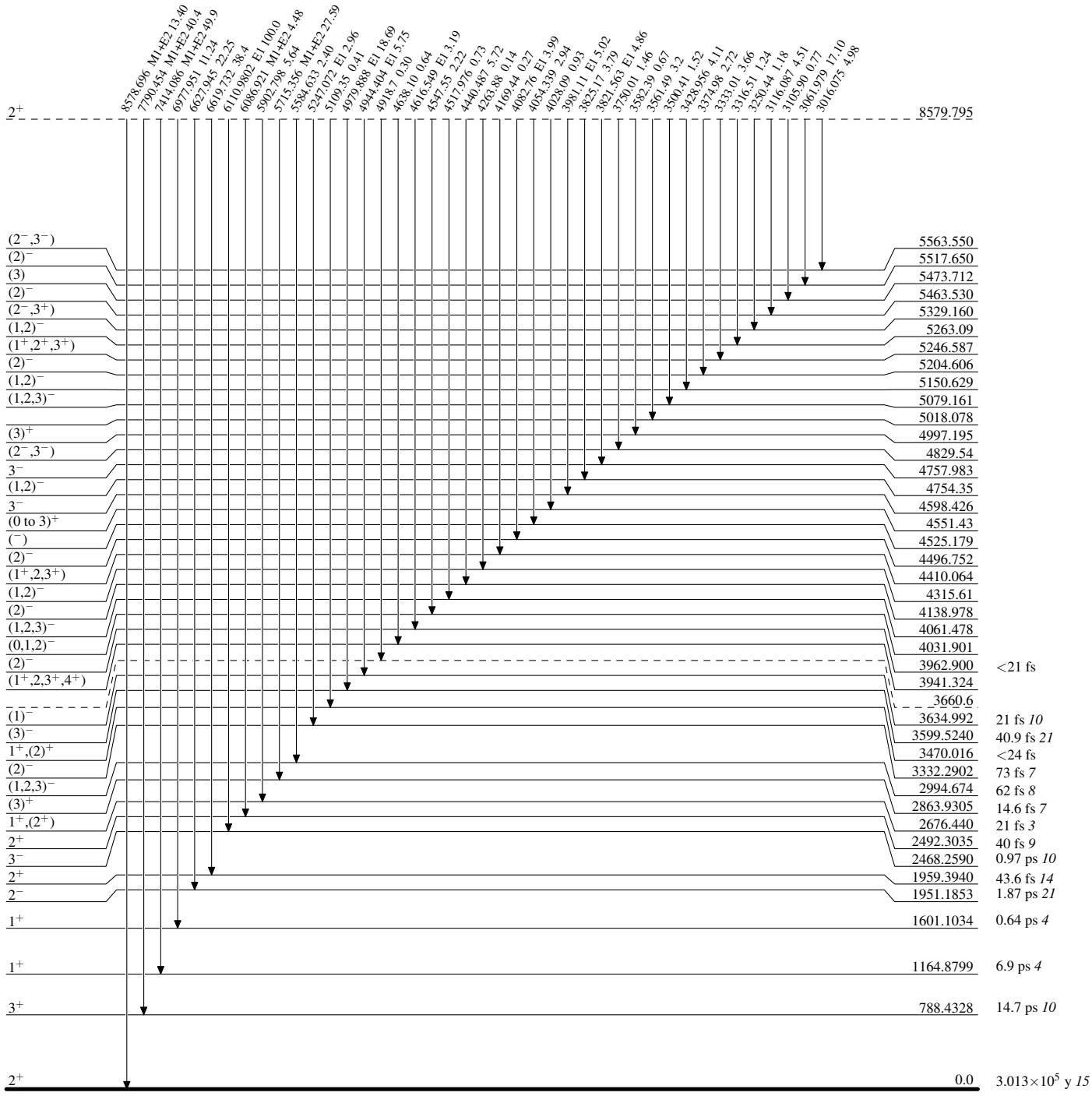
@ Placement of transition in the level scheme is uncertain.

$^{36}_{17}Cl_{19}$-26

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

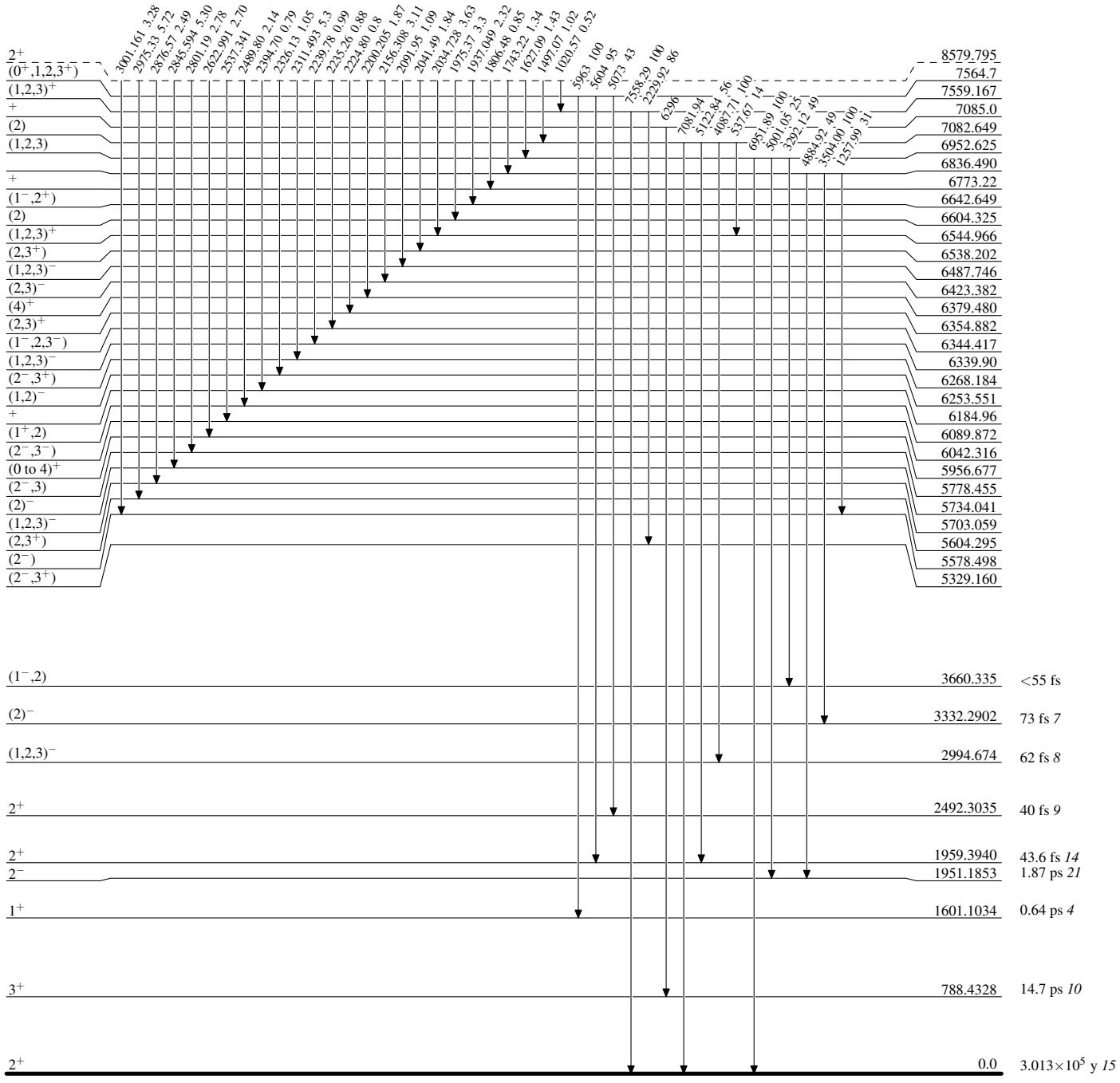


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

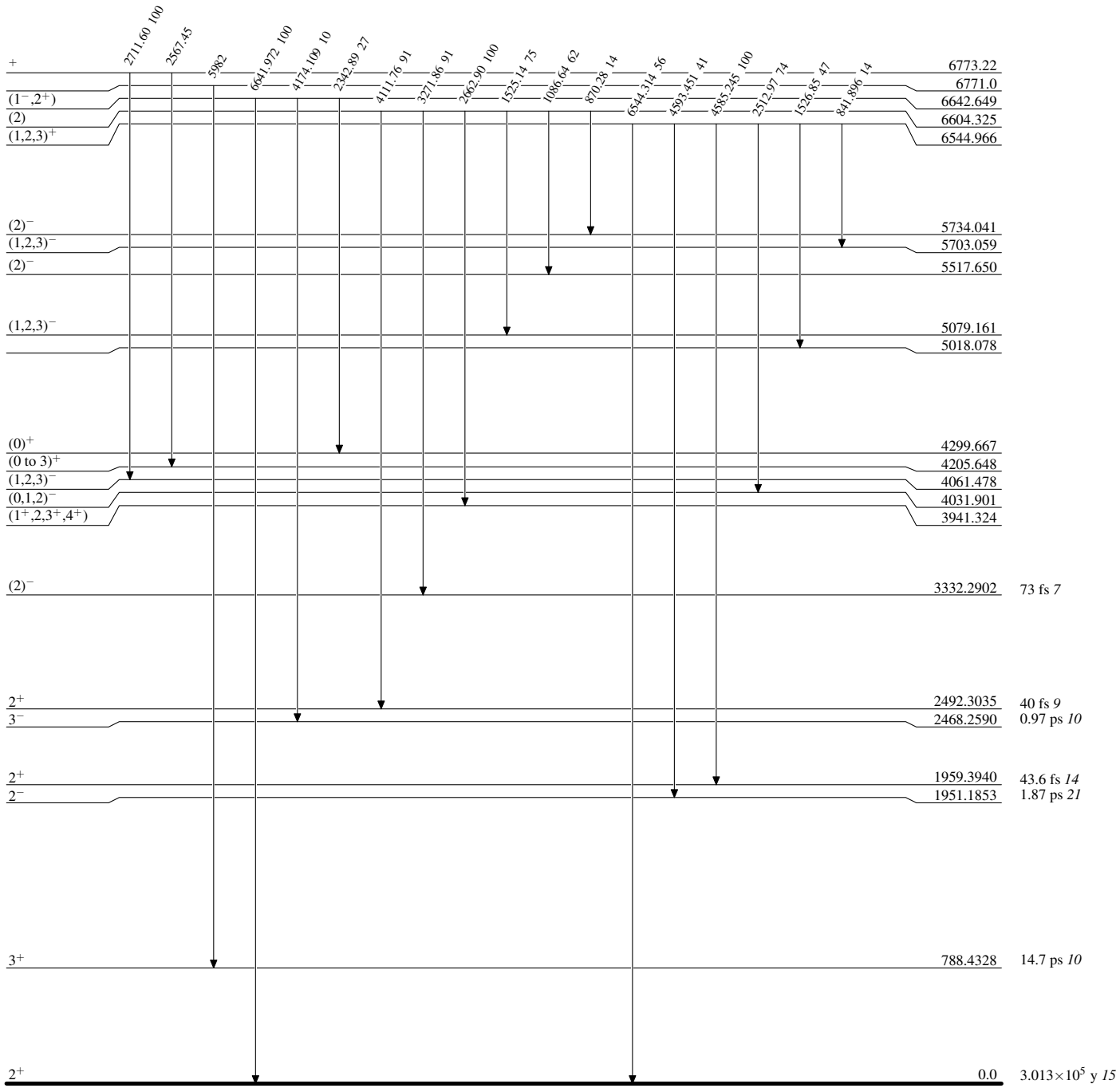


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

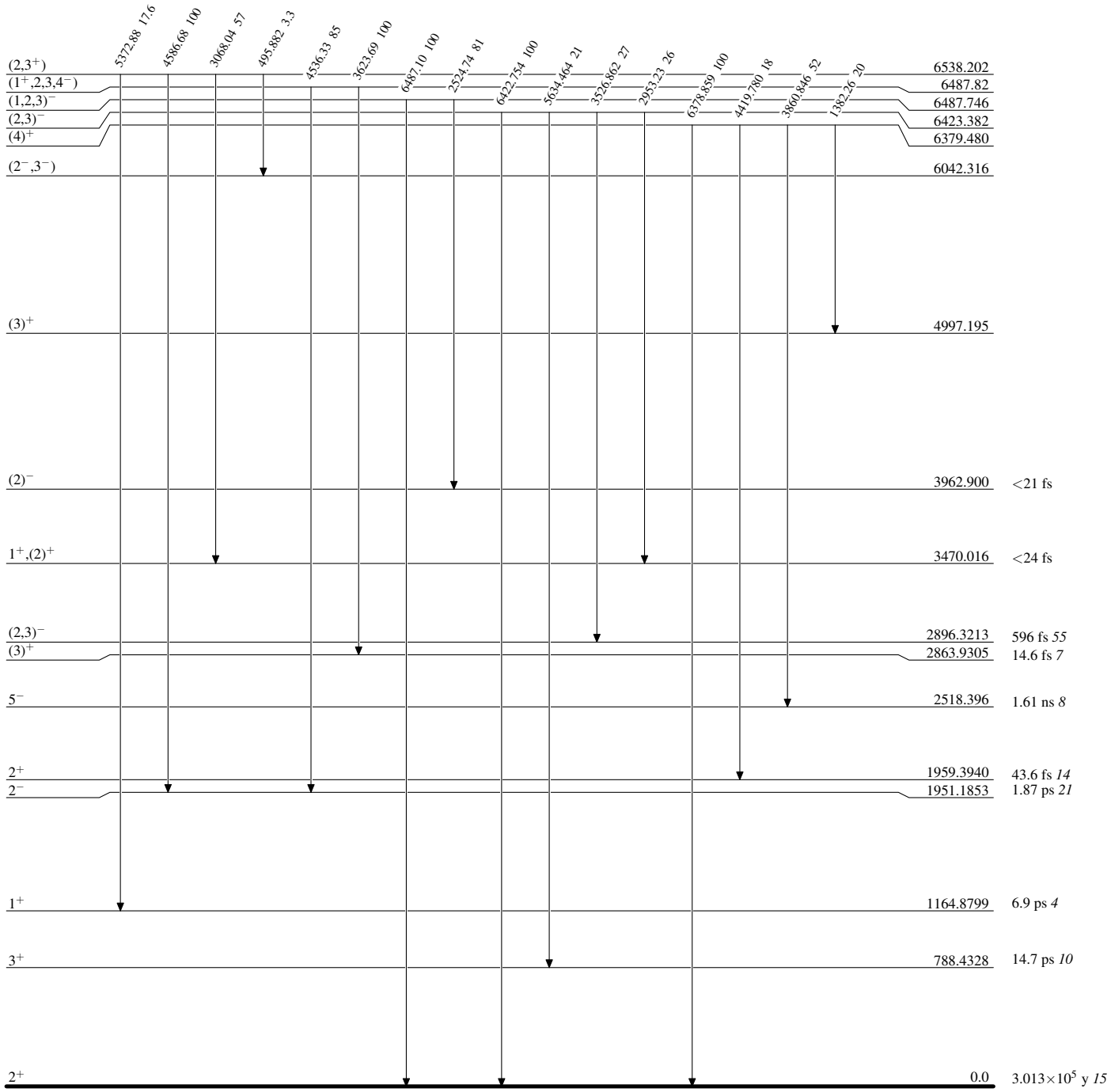


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

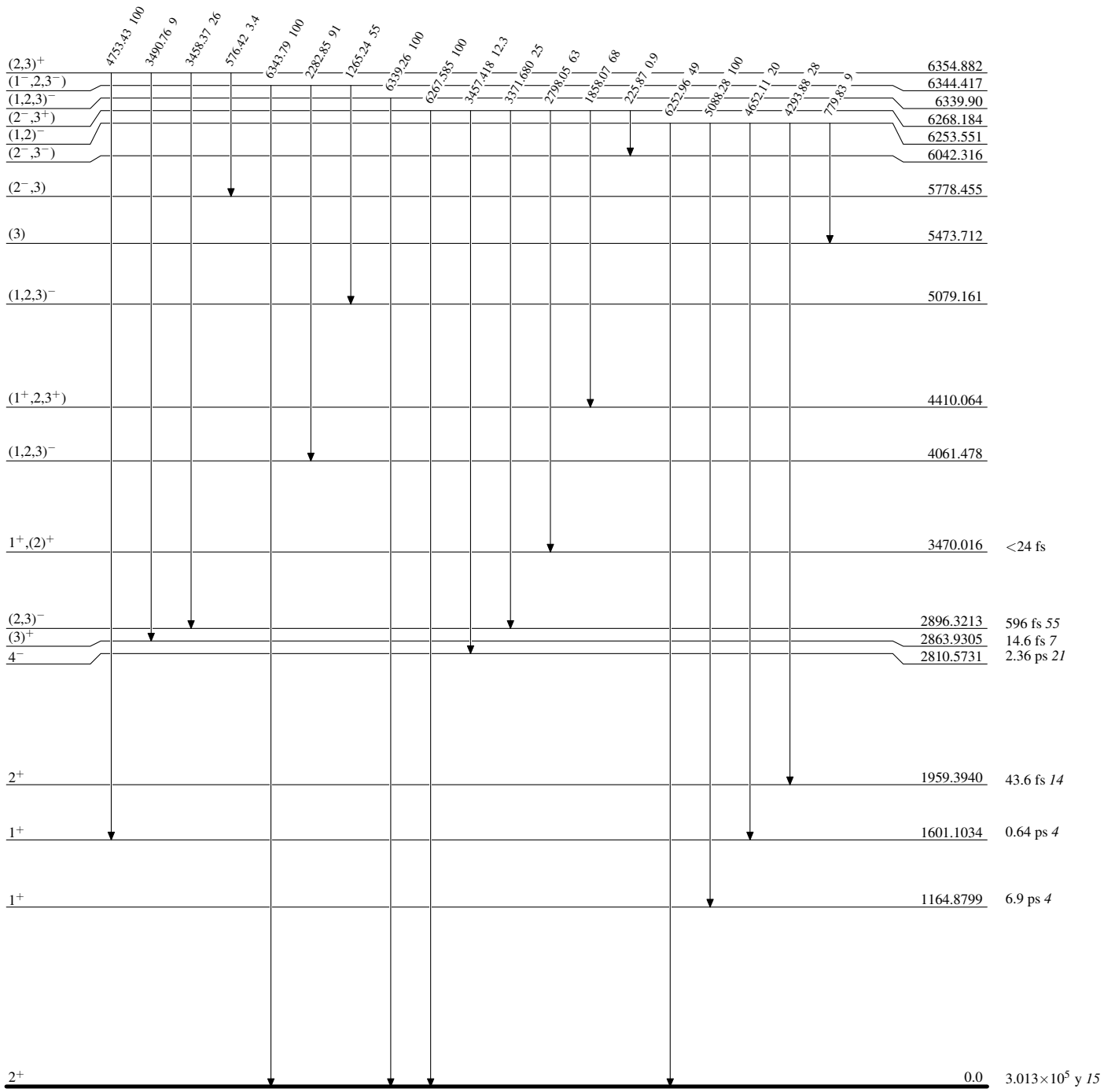


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

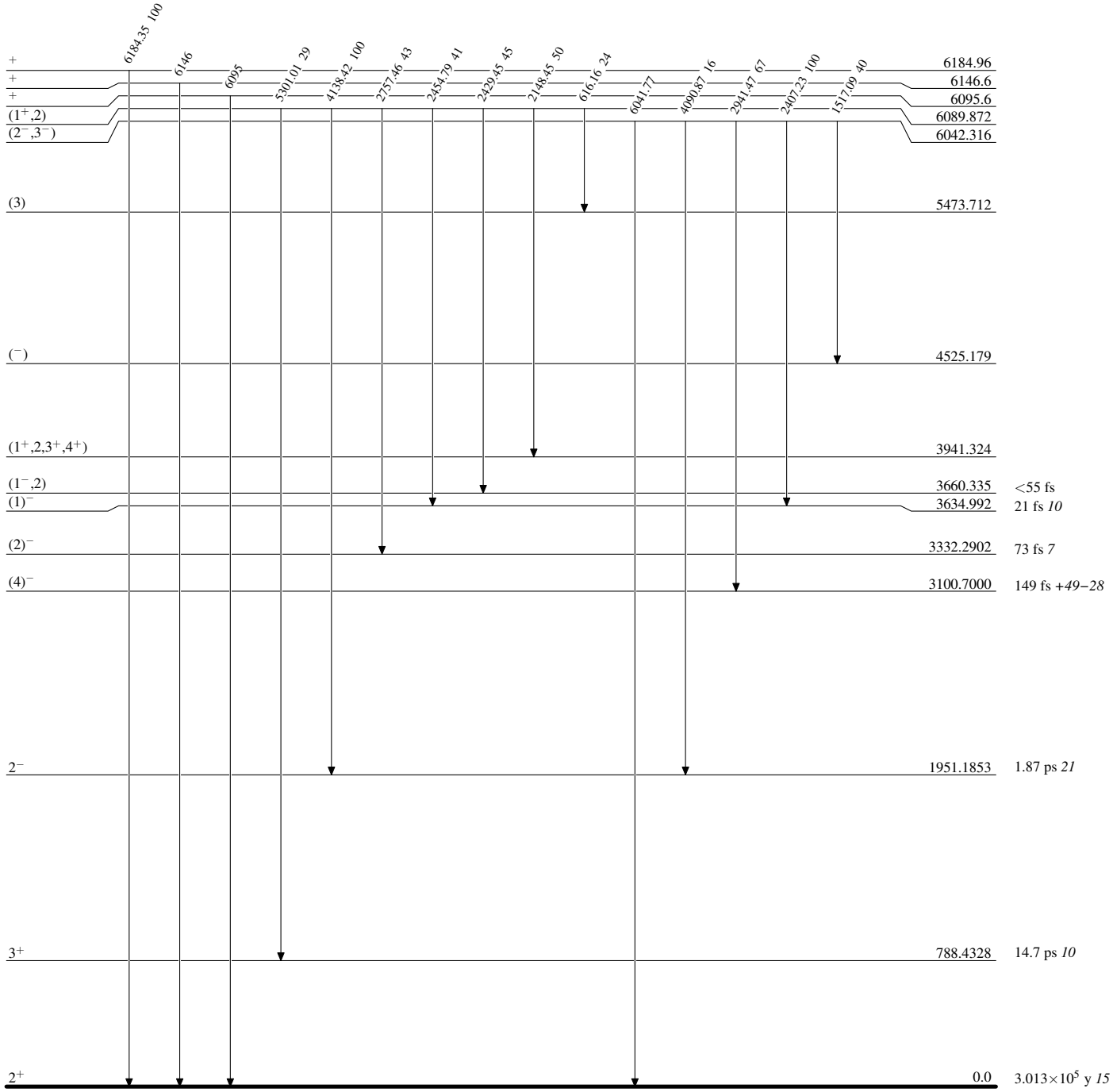


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

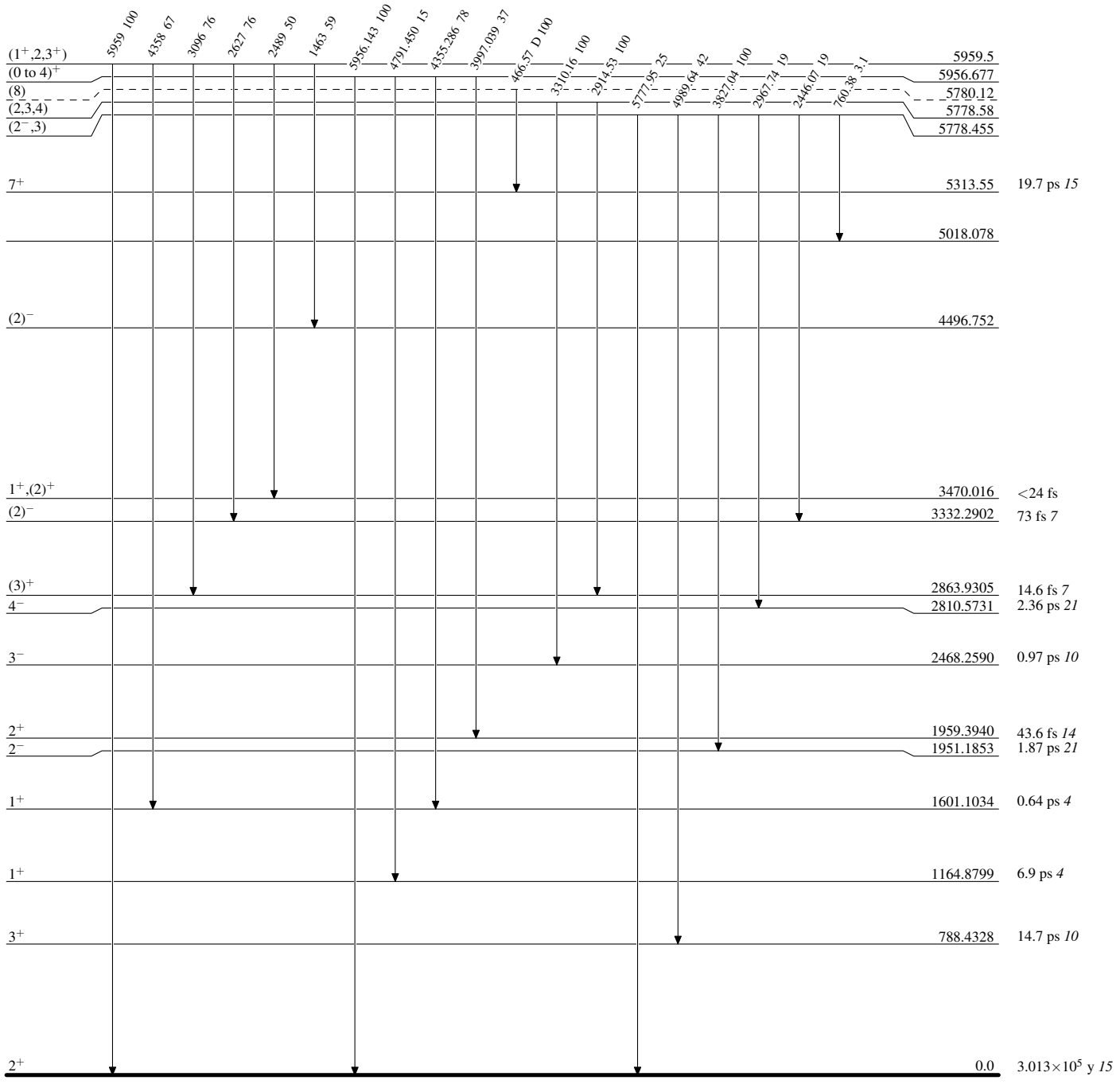


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

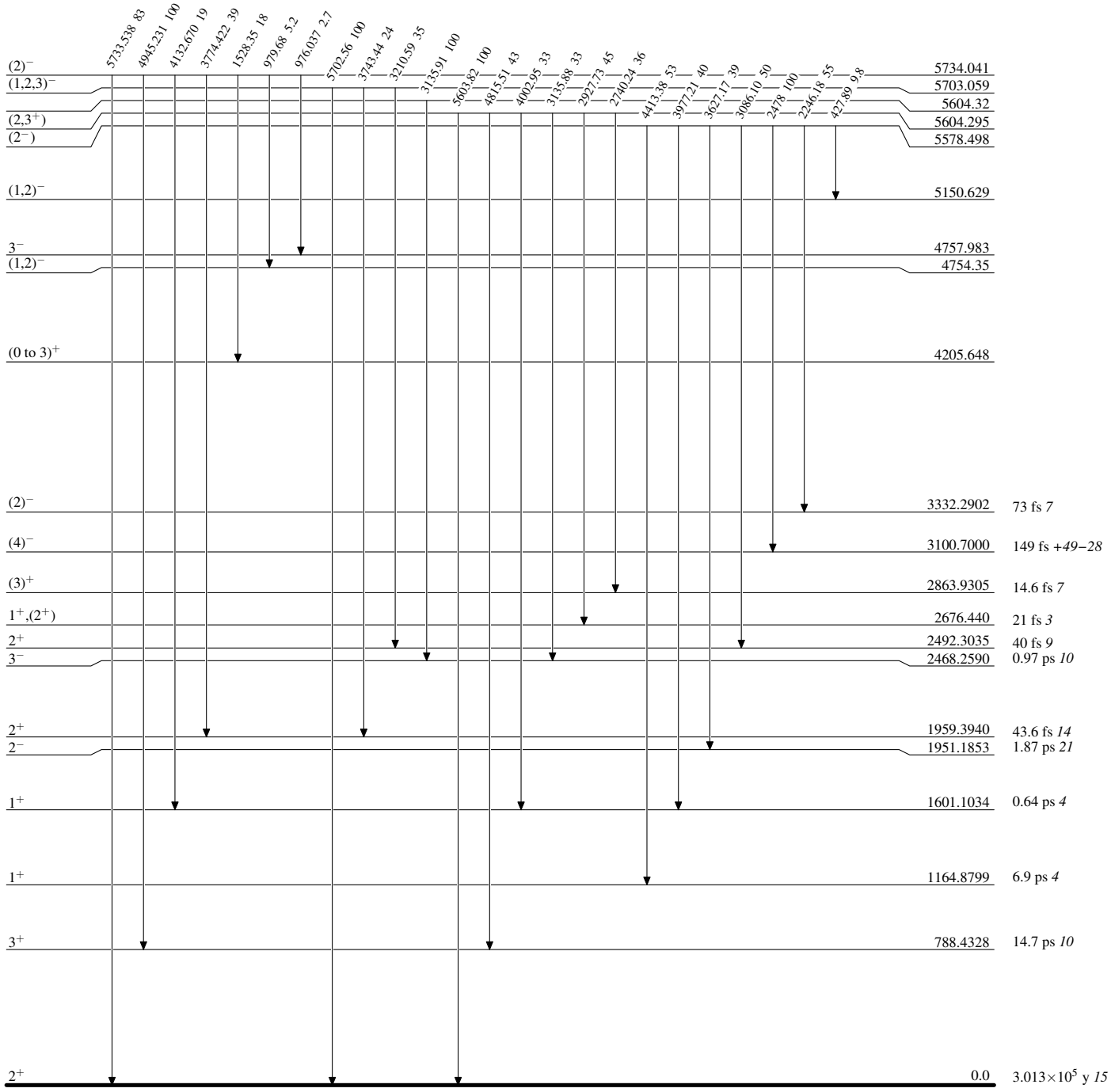


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

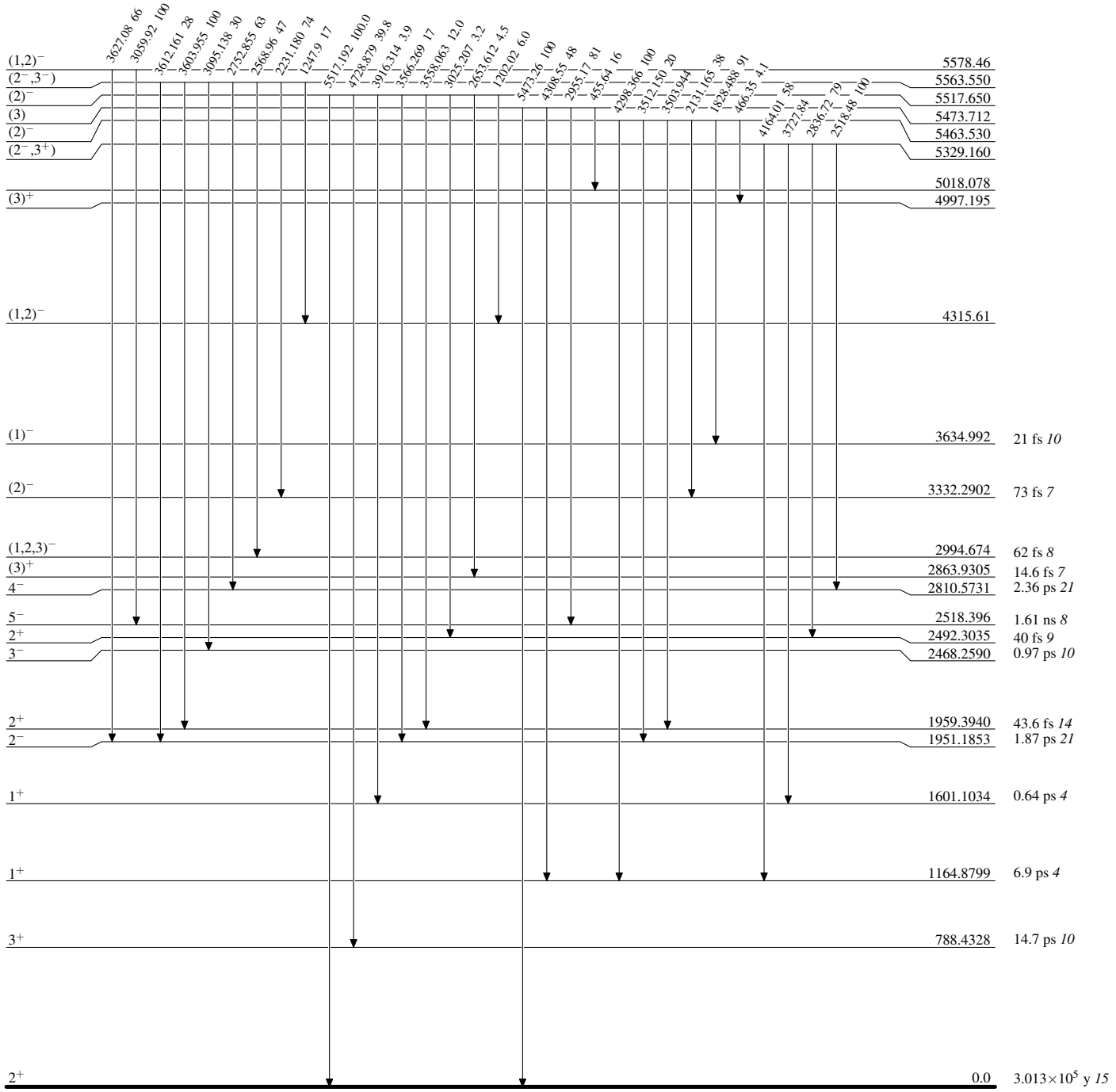


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

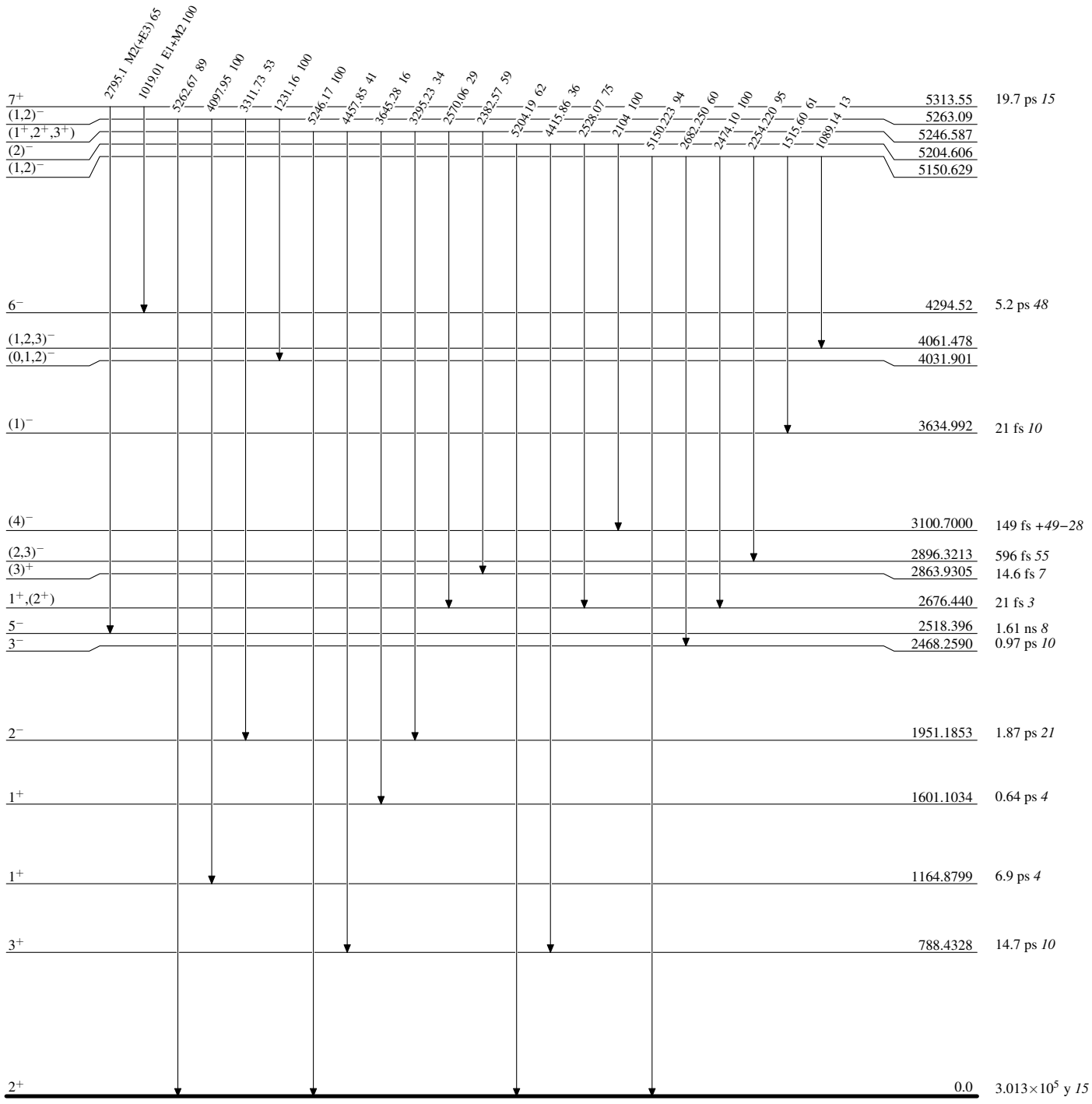


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

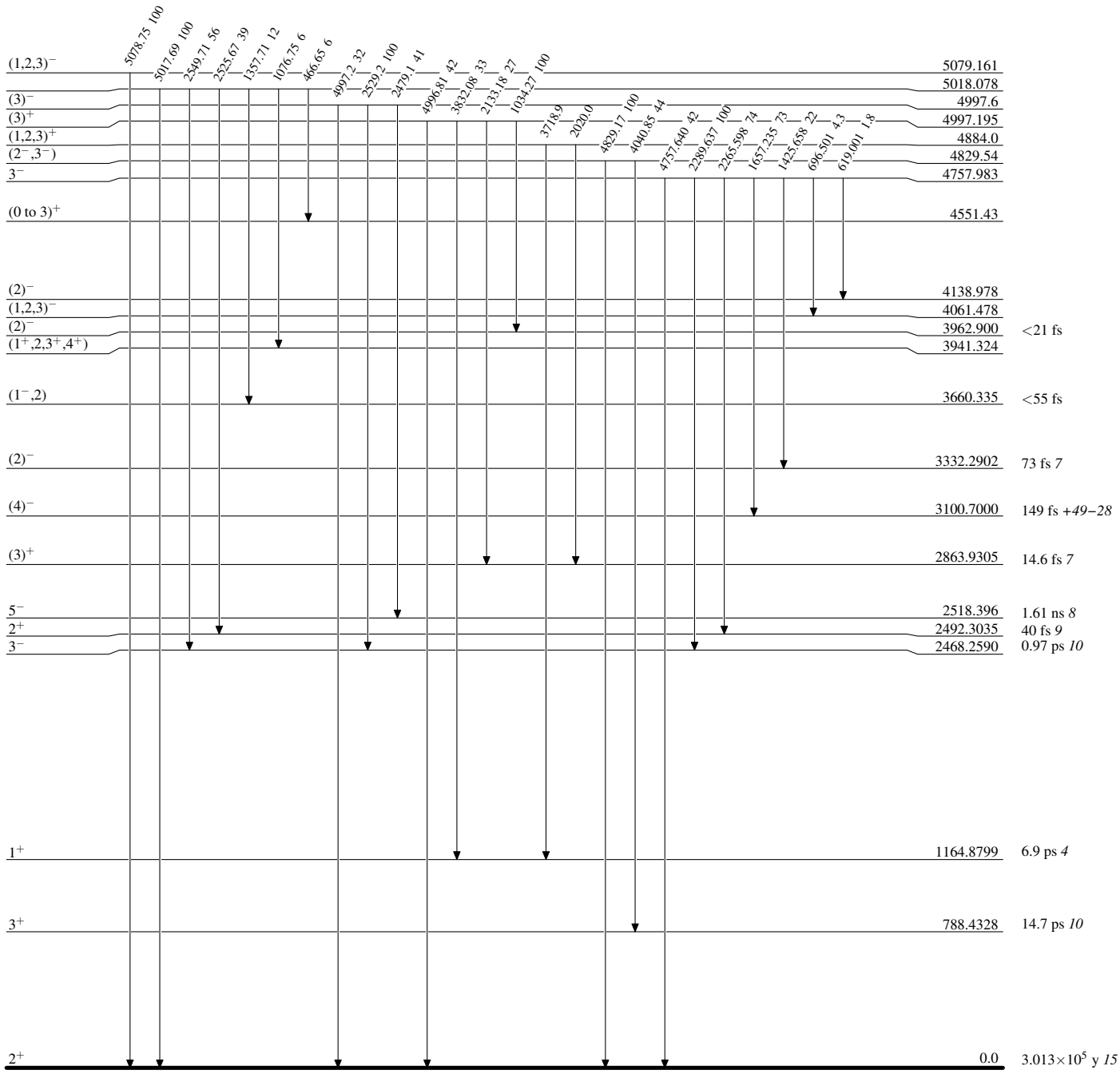


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

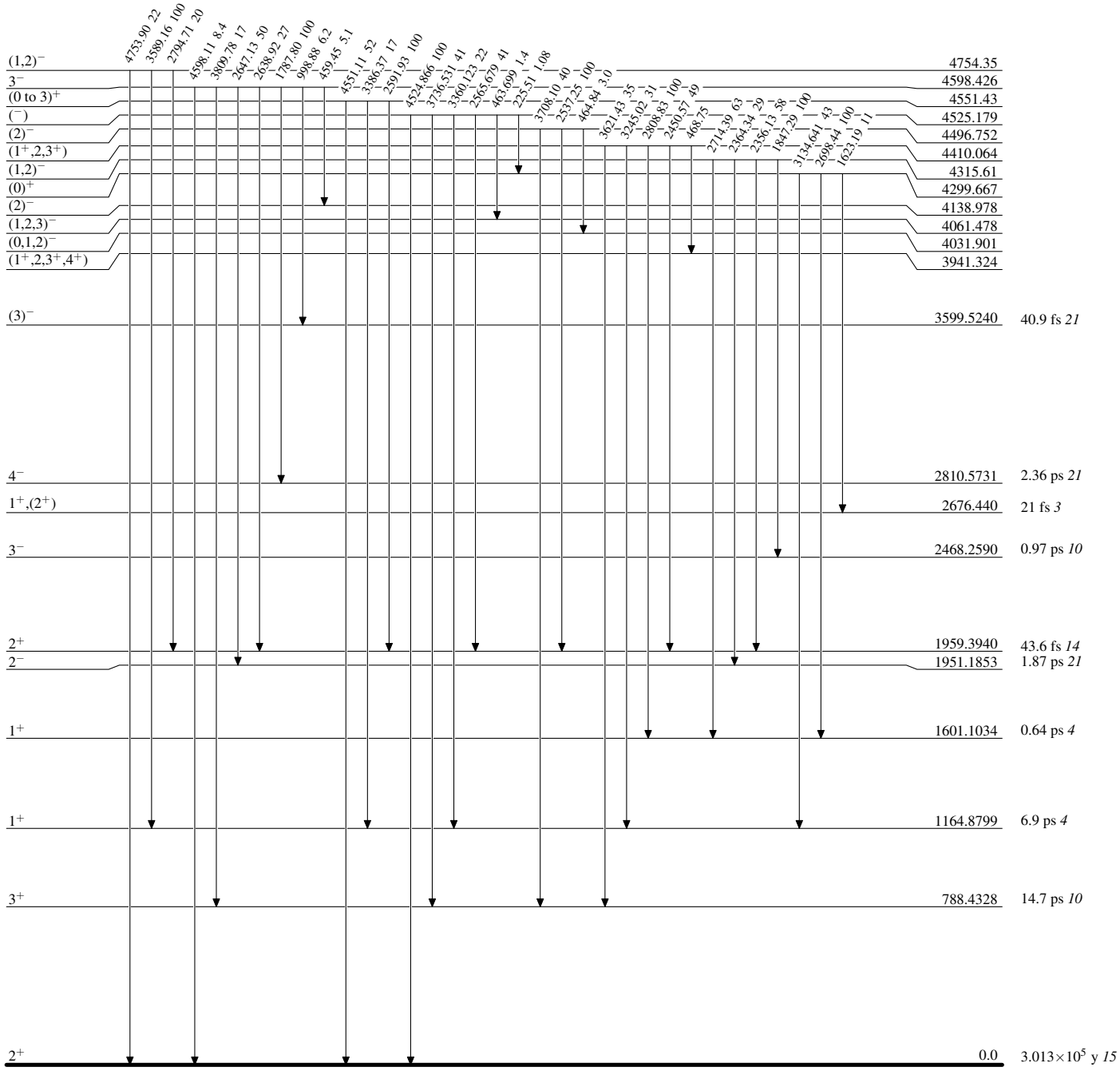


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

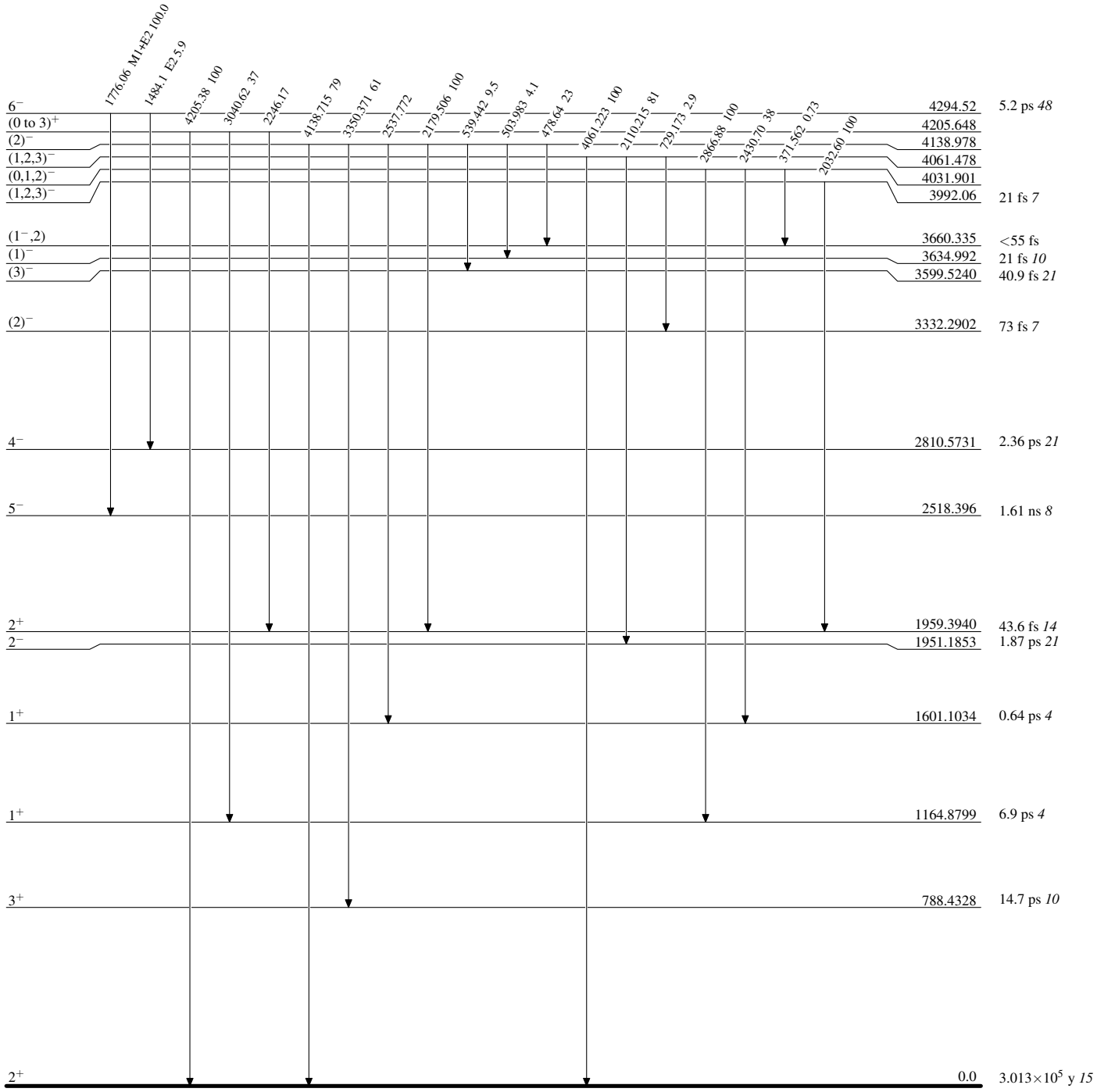


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

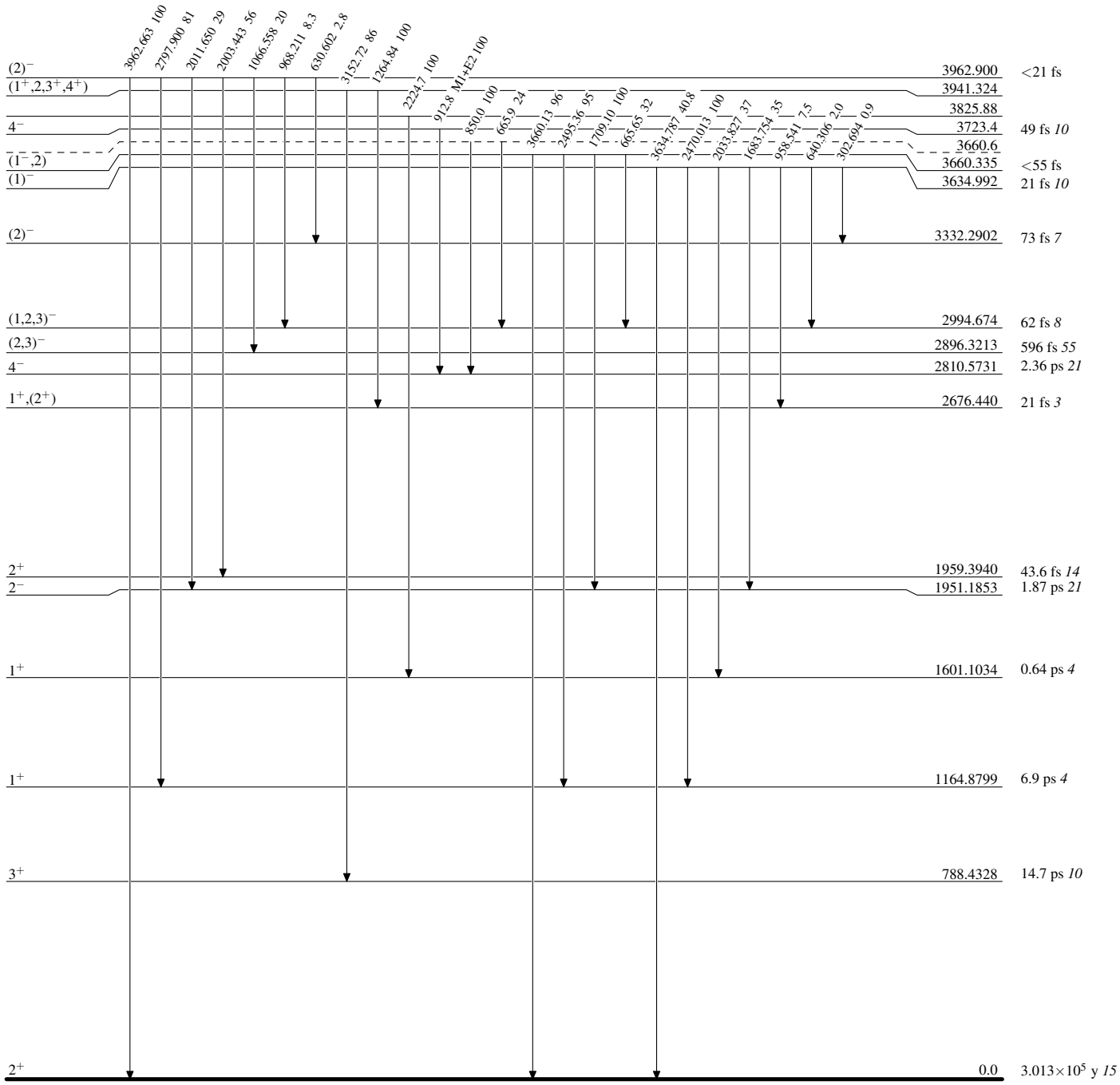


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{36}_{17}Cl_{19}$

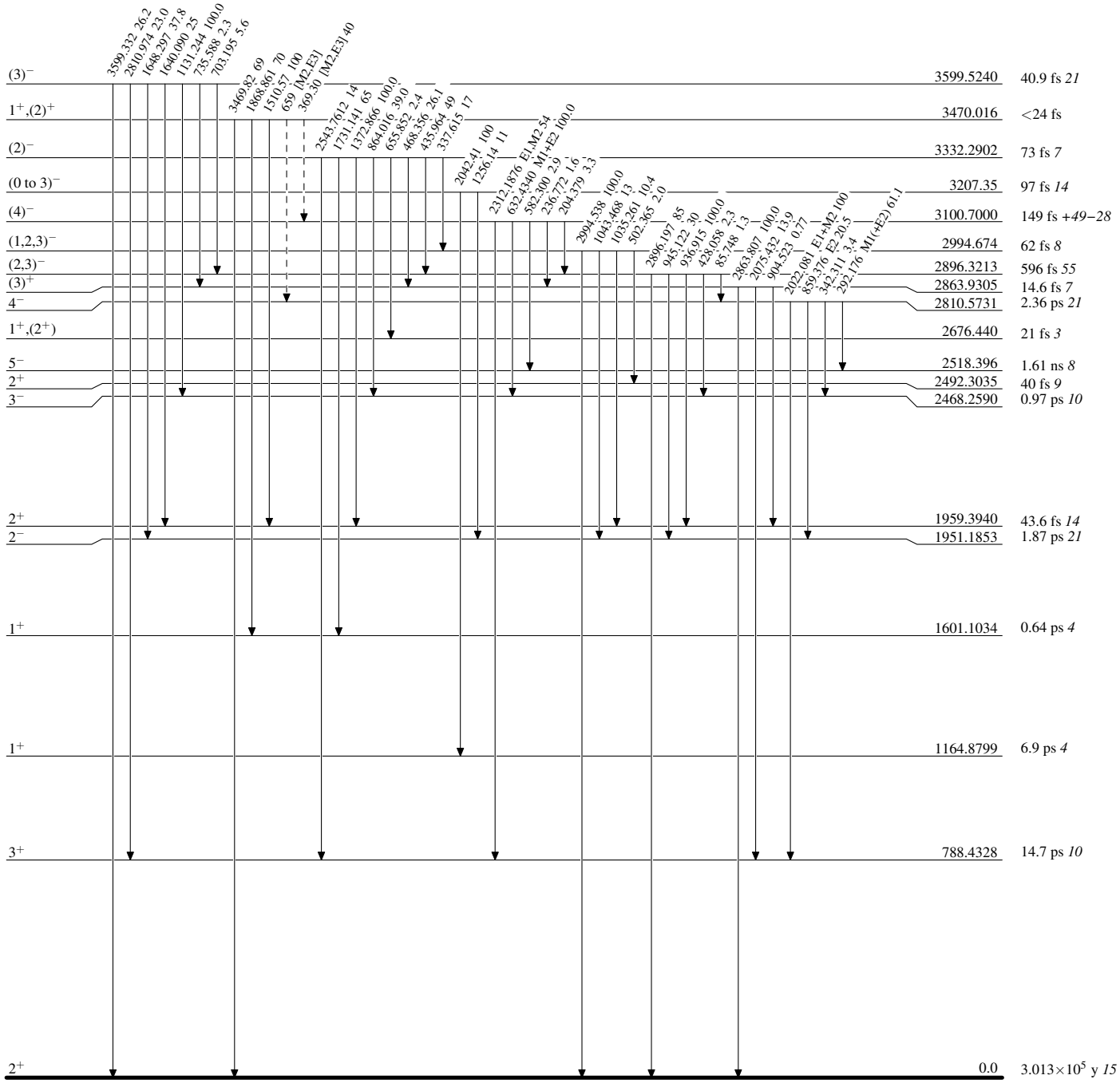
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)

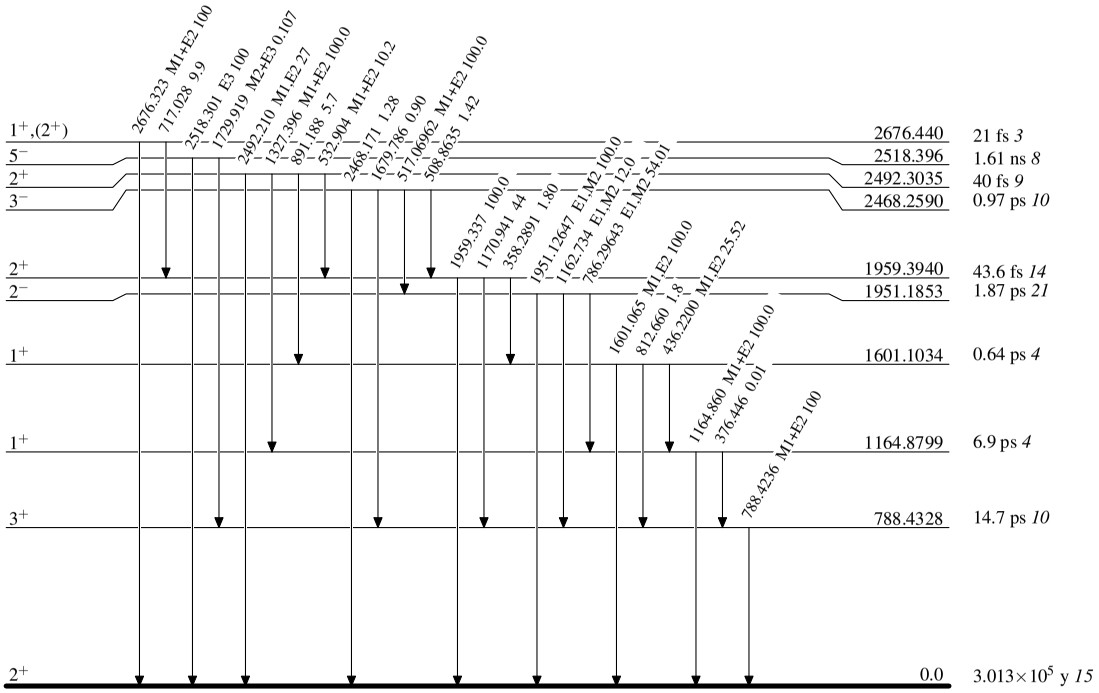


$^{36}_{17}Cl_{19}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{36}_{17}Cl_{19}$