Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 113,1735 (2012)	1-Mar-2012

Q(β^-)=−4705.1 *20*; S(n)=10378.6 *19*; S(p)=3525 *5*; Q(α)=−2486.7 *24* 2012Wa38
Note: Current evaluation has used the following Q record −4705.1 19 *10379.923 3526* 5 −2485.9 *24* 2011AuZZ.
S(2n)=23009 *26* , S(2p)=9748 *4* (2011AuZZ).
α: Additional information 1.

^{68}As Levels

Cross Reference (XREF) Flags

- A ^{68}Se ε decay
- B ^{54}Fe(^{16}O,pnγ),^{58}Ni(^{12}C,pnγ)
- C ^{40}Ca(^{32}S,3pnγ)
- D ^{12}C(^{58}Ni,pnγ)

E(level)†	J$^\pi$‡	$T_{1/2}$#	XREF	Comments
0.0	3$^+$	151.6 s *8*	ABCD	%ε+%β^+=100 J$^\pi$: 2,3,4 from log *ft*=5.9 to J=3; log *ft*′s to several 2$^+$ states and 4$^+$ states rule out 4 and 2,respectively. π=+ from 313γ(lin pol) in ^{54}Fe(^{16}O,npγ). $T_{1/2}$: weighted av of 151.5 s *9* (1977Pa13) and 151.8 s *18* (1972Tu07). Other: 159 s *4* (1971Pa32).
158.1 *1*	3$^+$	<5 ns	ABCD	J$^\pi$: ΔJ=0 M1+E2 158γ to 3$^+$.
160.7 *1*	(2$^+$)	<10 ns	AB	$T_{1/2}$: from delayed $\gamma\gamma$ coincidence in ^{68}Se ε decay. J$^\pi$: from $\gamma(\theta)$ in ^{54}Fe(^{16}O,pnγ).
214.1 *1*	4$^+$&	<5 ns	BCD	J$^\pi$: ΔJ=1 M1+E2 214γ to 3$^+$; ΔJ=0 d 335γ from 4$^+$.
313.2 *1*	3$^+$@	<5 ns	ABCD	J$^\pi$: E2 111γ from 1$^+$.
352.7 *3*	1$^+$		AB	J$^\pi$: J=1 from $\gamma(\theta)$ in ^{54}Fe(^{16}O,pnγ), π from 353γ to 3$^+$.
363.4 *3*	1$^+$		AB	J$^\pi$: J=1 from $\gamma(\theta)$ in ^{54}Fe(^{16}O,pnγ), π from 206γ to 3$^+$.
425.1 *2*	1$^+$	107 ns *+23−16*	AB	$T_{1/2}$: from delayed $\gamma\gamma$ coincidence in ^{68}Se ε decay. J$^\pi$: log *ft*=4.2 from 0$^+$ parent.
500.1 *1*	4$^+$	<5 ns	CD	ΔJ=1 M1+E2 500 γ to 3$^+$.
549.7 *1*	4$^+$&	<5 ns	BCD	J$^\pi$: ΔJ=1 M1+E2 γ′s to 3$^+$ states.
582.6 *2*			B	
733.4 *1*	5$^+$&	<5 ns	BCD	J$^\pi$: ΔJ=1 M1+E2 519γ to 4$^+$.
893.4 *1*	4$^{(-)}$	<5 ns	BCD	J$^\pi$: ΔJ=0 d 344γ to 4$^+$; ΔJ=1 d 735γ to 3$^+$.
964.8 *1*	5$^{(-)}$&	<5 ns	BCD	J$^\pi$: ΔJ=1 d 71γ to 4$^{(-)}$; ΔJ=0 d 232γ to 5$^+$; ΔJ=1 d 415γ to 4$^+$.
1214.3 *2*	6$^{(-)}$&	<5 ns	BCD	J$^\pi$: ΔJ=2 Q 321γ to 4$^{(-)}$.
1303.8 *2*	7$^{(-)}$&	<5 ns	BCD	J$^\pi$: ΔJ=2 E2 339γ to 5$^{(-)}$.
1322.9 *1*	6$^{(-)}$&	<5 ns	BCD	J$^\pi$: ΔJ=1 d 358γ to 5$^{(-)}$.
1427.6 *1*	6$^{(-)}$&	<5 ns	BCD	J$^\pi$: ΔJ=1 d 463γ to 5$^{(-)}$.
1571.2 *2*	(6$^-$)	19 ns *3*	D	J$^\pi$: ΔJ=0 d 248γ to 6$^{(-)}$.
1762.0 *5*			B	
1850.0 *2*	7$^{(-)}$		C	J$^\pi$: ΔJ=1 d 636γ to 6$^{(-)}$.
1859.2 *3*	(7$^-$)	<5 ns	CD	J$^\pi$: ΔJ=1 d 288γ to (6$^-$).
1955.4 *2*	7$^{(-)a}$	<5 ns	BCD	J$^\pi$: ΔJ=2 Q 990γ to 5$^{(-)}$; ΔJ=1 d 633γ to 6$^{(-)}$; ΔJ=0 d 652γ to 7$^{(-)}$.
2058.0 *4*		<5 ns	BC	
2093.9 *2*	8$^{(-)}$&	<5 ns	BCD	J$^\pi$: M1+E2 709γ to 7$^{(-)}$.
2157.8 *2*	9$^{(+)}$&	36 ns *2*	BCD	μ=2.07 *18* J$^\pi$: M2 854γ to 7$^{(-)}$. 944γ to 6$^{(-)}$ is inconsistent with J$^\pi$, see comment in Adopted Gammas.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{68}As Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	XREF	Comments
				T$_{1/2}$: Other: 37 ns (1986RaZU). μ: from g=0.23 *2* in TDPAD (1986RaZU,2011StZZ). conf=$\pi g_{9/2}\nu g_{9/2}$ from analysis of systematics in 1998So23.
2251.2 *2*	(7)	<5 ns	CD	J$^{\pi}$: ΔJ=1 d 928γ to 6$^{(-)}$.
2302.1 *2*	8$^{(-)}$	<5 ns	BCD	J$^{\pi}$: ΔJ=2 Q 979γ to 6$^{(-)}$.
2474.4 *2*	8	<5 ns	BCD	J$^{\pi}$: ΔJ=1 d 317γ to 9$^{(+)}$; 223γ to (7).
2659.2 *7*			C	
2829.8 *2*	9$^{(-)}$	<5 ns	CD	J$^{\pi}$: ΔJ=2 Q 1526γ to 7$^{(-)}$.
2933.1? *11*			B	
2938.8 *2*	9	<5 ns	BCD	J$^{\pi}$: ΔJ=1 M1+E2 464γ to 8.
2983.0 *2*	9$^{(-)}$		C	J$^{\pi}$: ΔJ=1 d 681γ to 8$^{(-)}$.
3126.6? *3*		<5 ns	D	
3170.2 *2*	10$^{(+)}$	<5 ns	BCD	J$^{\pi}$: ΔJ=1 M1+E2 1012γ to 9$^{(+)}$.
3183.2 *2*	11$^{(+)}$	<5 ns	BCD	J$^{\pi}$: ΔJ=2 Q 1025γ to 9$^{(+)}$.
3341.0? *3*		<5 ns	D	
3626.8 *5*	10$^{(-)}$		C	J$^{\pi}$: ΔJ=2 Q 1325γ to 8$^{(-)}$.
3719.1 *4*	10$^{(-)}$		C	J$^{\pi}$: ΔJ=2 Q 1417γ to 8$^{(-)}$.
3843.5 *7*			C	
4320.3 *5*	(11^{-})		C	J$^{\pi}$: ΔJ=2 Q 1491γ to (9^{-}).
4366.2 *3*		<5 ns	D	
4388.2 *2*	12$^{(+)}$	<5 ns	CD	J$^{\pi}$: ΔJ=1 M1+E2 1205γ to 11$^{(+)}$; ΔJ=2 Q 1218γ to 10$^{(+)}$.
4585.8 *3*		<5 ns	CD	
4897.3 *3*	12$^{(-)}$[b]	<5 ns	CD	J$^{\pi}$: ΔJ=1 d 1714γ to 11$^{(+)}$; 1179γ to 10$^{(-)}$.
5002.5? *12*			C	
5087.2 *2*	13$^{(+)}$	<5 ns	CD	J$^{\pi}$: ΔJ=1 d 699γ to 12$^{(+)}$.
5652.7 *3*	(13^{-})[b]	<5 ns	CD	J$^{\pi}$: 755γ to 12$^{(-)}$; 1333γ to (11^{-}).
6063.5 *3*	(15^{+})	<5 ns	CD	J$^{\pi}$: ΔJ=2 Q 976 γ to 13$^{(+)}$.
6803.7 *3*	(15^{-})		C	J$^{\pi}$: ΔJ=2 Q 1151 γ to (13^{-}).
7709.5 *10*			C	
8499.7 *10*			C	

[†] From a least-squares fit to Eγ's; ΔEγ=1 keV assumed when not given.

[‡] There are several discrepancies in the J^{π}'s suggested in the heavy ion reaction experiments. The evaluator has favored those from ^{12}C(^{58}Ni,pnγ) and ^{40}Ca(^{32}S,3pnγ) as well as adopting the assumptions by 1998So23 that for states above 965 keV the γ's take the maximum possible angular momentum allowed by their multipolarities and that J's do not decrease with increasing excitation energy. States which decay primarily to negative (positive) parity states are tentatively assigned as negative (positive) parity.

[#] From delayed γ spectra in ^{12}C(^{58}Ni,pnγ), except as noted.

[@] Assigned as (4)$^{+}$ in ^{40}Ca(^{32}S,3pnγ) (2005St08).

[&] J^{π}(214)=(2,4^{-}), J^{π}(550)=3^{-}, J^{π}(733)=(3,5^{-}), J^{π}(965)=3^{-}, J(1214)=(4,5), J(1304)=(5), J^{π}(1428)=2^{-}, J(2094)=(6), and J(2158)=(6) from $\gamma(\theta)$, linear polarization, and excitation functions in ^{54}Fe(^{16}O,pnγ) are discrepant.

[a] Assigned as (8^{-}) in ^{12}C(^{58}Ni,pnγ) (1998So23). Decay by Q 990γ to 5$^{(-)}$ favors the 7$^{(-)}$ assignment.

[b] J^{π}(4897)=(12^{+}) and J^{π}(5652)=(14^{+}) from ^{12}C(^{58}Ni,pnγ) are discrepant.

Adopted Levels, Gammas (continued)

γ(^{68}As)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.[†]	δ[‡]	α	Comments
158.1	3+	158.1[#] *1*	100[@]	0.0	3+	M1+E2	−1.3 *+5−16*	0.10 *3*	α(K)=0.09 *3*; α(L)=0.010 *4*; α(M)=0.0016 *5*; α(N+..)=0.00011 *4* α(exp)=0.10 *3* from intensity imbalance in ^{54}Fe(^{16}O,pnγ). δ: from α(exp) with sign from γ(θ). Other: −7.87 *28* from γ(θ) in ^{54}Fe(^{16}O,pnγ). Mult.: Other: ΔJ=0 highly mixed M1+E2 from R(DCO) in ^{12}C(^{58}Ni,pnγ) is consistent.
160.7	(2+)	160.8[&] *1*	100[&]	0.0	3+	(M1+E2)[c]	−1.49 *30*	0.100 *12*	α(K)=0.088 *10*; α(L)=0.0104 *12*; α(M)=0.00157 *19*; α(N+..)=0.000112 *13*
214.1	4+	56.1[#] *2*	6.4[@] *19*	158.1	3+	(M1)		0.450 *8*	α(K)=0.399 *7*; α(L)=0.0439 *8*; α(M)=0.00670 *12*; α(N+..)=0.000503 *9* I_γ: Other: 1.2 *5* in ^{54}Fe(^{16}O,pnγ). Mult.: D with δ<0.8 from comparison to RUL; Δπ=no from level scheme.
		214.1[#] *1*	100.0[@] *15*	0.0	3+	M1+E2	+0.21 *5*	0.0136 *8*	α(K)=0.0120 *7*; α(L)=0.00129 *8*; α(M)=0.000197 *12*; α(N+..)=1.48×10^{-5} *9*
313.2	3+	155.1 *1*	18 *3*	158.1	3+	(M1+E2)[c]	−0.07 *2*	0.0284 *6*	α(K)=0.0253 *5*; α(L)=0.00271 *6*; α(M)=0.000414 *9*; α(N+..)=3.13×10^{-5} *7* I_γ: weighted average of 23 *4* in ^{54}Fe(^{16}O,pnγ) and 16.7 *21* in ^{12}C(^{58}Ni,pnγ).
		313.1 *1*	100 *2*	0.0	3+	M1+E2	−0.067 *15*	0.00474 *7*	α(K)=0.00422 *6*; α(L)=0.000444 *7*; α(M)=6.77×10^{-5} *10*; α(N+..)=5.15×10^{-6} *8* Mult.: from γ(θ) and γ(lin pol) in ^{54}Fe(^{16}O,pnγ). Mult.: Other: ΔJ=1, M1 from R(DCO) in ^{40}Ca(^{32}S,3pnγ) is discrepant.
352.7	1+	192.2[d] *5*	100[d] *12*	160.7	(2+)	(M1+E2)[c]		0.04 *3*	α(K)=0.038 *24*; α(L)=0.004 *3*; α(M)=0.0006 *5*; α(N+..)=5.E−5 *3* δ: +0.5 or +4.5. E_γ: 193.8 *5* from ^{54}Fe(^{16}O,pnγ) is discrepant.
		352.6[d] *5*	66[d] *7*	0.0	3+	[E2]		0.00793 *12*	α(K)=0.00704 *11*; α(L)=0.000765 *12*; α(M)=0.0001163 *18*; α(N+..)=8.62×10^{-6}
363.4	1+	49.8[&] *5*	8[&] *5*	313.2	3+	[E2]		10.4 *5*	α(K)=8.4 *4*; α(L)=1.66 *8*; α(M)=0.250 *12*; α(N+..)=0.0150 *7* I_γ: Other: 107 *17* in ^{68}Se ε decay.
		202.6[&] *4*	100[&] *23*	160.7	(2+)	(M1+E2)[c]		0.035 *22*	α(K)=0.031 *19*; α(L)=0.0035 *23*; α(M)=0.0005 *4*; α(N+..)=3.9×10^{-5} *24* δ: +0.5 or +6.0.
		205.6[&] *4*	33[&] *5*	158.1	3+	[E2]		0.0539 *9*	α(K)=0.0476 *8*; α(L)=0.00543 *9*; α(M)=0.000824 *13*; α(N+..)=5.94×10^{-5} *10*

$^{68}_{33}As_{35}$-3

Adopted Levels, Gammas (continued)

γ(^{68}As) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.[†]	δ[‡]	α	Comments
425.1	1$^+$	72.6[d] *5*	19[d] *3*	352.7	1$^+$	[M1,E2]		1.4 *12*	α(K)=1.2 *10*; α(L)=0.18 *16*; α(M)=0.027 *24*; α(N+..)=0.0018 *16*
		111.4[d] *2*	100[d]	313.2	3$^+$	E2		0.527 *9*	α(K)=0.458 *8*; α(L)=0.0592 *10*; α(M)=0.00894 *14*; α(N+..)=0.000611 *10* B(E2)(W.u.)=7.2 *+13−17* α(exp)=0.43 *10* in ^{68}Se ε decay. Mult.: from α(exp). δ: +0.86 *15* from γ(θ) in ^{54}Fe(^{16}O,pnγ), however RUL excludes such a large mixture of M3.
		265.0[d] *3*	47[d] *4*	160.7	(2$^+$)	[M1,E2]		0.014 *8*	α(K)=0.013 *7*; α(L)=0.0014 *8*; α(M)=0.00021 *11*; α(N)=1.6×10^{-5} *8*; α(N+..)=1.6×10^{-5} *8*
		426.1[d] *4*	13[d] *3*	0.0	3$^+$	E2		0.00423 *6*	α(K)=0.00376 *6*; α(L)=0.000404 *6*; α(M)=6.14×10^{-5} *9*; α(N+..)=4.58×10^{-6} *7* B(E2)(W.u.)=0.0011 *4* Mult.: D,Q from comparison to RUL; ΔJ=2, Δπ=no from level scheme.
500.1	4$^+$	187.6[@] *3*	6.0[@] *15*	313.2	3$^+$				
		285.9[@] *4*	6.0[@] *15*	214.1	4$^+$				
		500.1[@] *1*	100.0[@] *15*	0.0	3$^+$	M1+E2		0.0021 *5*	α(K)=0.0018 *5*; α(L)=0.00019 *5*; α(M)=2.9×10^{-5} *8*; α(N+..)=2.2×10^{-6} *6*
549.7	4$^+$	236.4[#] *1*	9.0[@] *7*	313.2	3$^+$	M1+E2		0.021 *12*	α(K)=0.019 *11*; α(L)=0.0021 *12*; α(M)=0.00031 *18*; α(N+..)=2.3×10^{-5} *13* I_γ: Other: 11.0 *17* in ^{54}Fe(^{16}O,pnγ). Mult.: Other: ΔJ=0, M1 from R(DCO) in ^{40}Ca(^{32}S,3pnγ) is discrepant, however, uncertainty in R(DCO) is large.
		335.5[#] *2*	36.0[@] *13*	214.1	4$^+$	D			I_γ: Other: 55.8 *17* in ^{54}Fe(^{16}O,pnγ).
		391.6[#] *1*	100.0[@] *3*	158.1	3$^+$	M1+E2		0.0042 *15*	α(K)=0.0037 *13*; α(L)=0.00040 *14*; α(M)=6.0×10^{-5} *22*; α(N+..)=4.5×10^{-6} *16*
		549.8[#] *1*	48.0[@] *20*	0.0	3$^+$	M1+E2		0.0016 *4*	α(K)=0.0014 *3*; α(L)=0.00015 *4*; α(M)=2.3×10^{-5} *5*; α(N+..)=1.7×10^{-6} *4* I_γ: Other: 38 *3* in ^{54}Fe(^{16}O,pnγ).
582.6		582.6[&] *2*	100[&]	0.0	3$^+$				
733.4	5$^+$	183.7[#] *2*	16.7[@] *22*	549.7	4$^+$				
		519.3[#] *1*	100[@] *6*	214.1	4$^+$	M1+E2	−1.49 *30*	0.00201 *10*	α(K)=0.00179 *9*; α(L)=0.000189 *9*; α(M)=2.88×10^{-5} *14*; α(N+..)=2.17×10^{-6} *10*
893.4	4$^{(-)}$	160.0[&]	1.1[&] *5*	733.4	5$^+$				
		343.6[#] *2*	85.2[@] *3*	549.7	4$^+$	D			I_γ: Other: 70.9 *12* in ^{54}Fe(^{16}O,pnγ). Mult.,δ: Others: M1+E2, δ=0.35 *15* from γ(θ) and γ(lin pol) in

$^{68}_{33}As_{35}$-4

Adopted Levels, Gammas (continued)

γ(^{68}As) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.[†]	α	Comments
								^{54}Fe(^{16}O,pnγ) is discrepant while ΔJ=0, D from R(DCO) in ^{40}Ca(^{32}S,3pnγ) is consistent.
893.4	4(−)	393.3[@] *2*	7.3[@] *3*	500.1	4+			
		580.0[@] *2*	2.3[@] *3*	313.2	3+	D[e]		
		679.4[#] *2*	3.2[@] *3*	214.1	4+			
		735.3[#] *1*	100.0[@] *3*	158.1	3+	D		Mult.,δ: Others: E1+M2, δ=−5.5 *3* from γ(θ) and γ(lin pol) in ^{54}Fe(^{16}O,pnγ) is discrepant.
964.8	5(−)	71.5[#] *2*	100[&] *3*	893.4	4(−)	D		α(exp)=0.24 *5* (1997Ba24) from intensity imbalance.
		231.6[#] *1*	4.0[&] *7*	733.4	5+	D		I_γ: Other: 7.9 *3* in ^{12}C(^{58}Ni,pnγ).
		415.1[#] *1*	7.1[&] *10*	549.7	4+	D		I_γ: Other: 9.3 *4* in ^{12}C(^{58}Ni,pnγ).
1214.3	6(−)	249.9[#] *3*	100[&] *36*	964.8	5(−)			
		320.9[a] *2*	84[&] *28*	893.4	4(−)	E2	0.01095	α(K)=0.00972 *14*; α(L)=0.001062 *15*; α(M)=0.0001615 *23*; α(N+..)=1.192×10^{-5} *17* I_γ: Other: 330 *20* in ^{12}C(^{58}Ni,pnγ). Mult.: Q from R(DCO) in ^{40}Ca(^{32}S,3pnγ); M2 excluded by comparison to RUL.
		480.5[&] *5*	72[&] *20*	733.4	5+			I_γ: not seen in ^{12}C(^{58}Ni,pnγ).
1303.8	7(−)	338.9[a] *1*	100[@]	964.8	5(−)	E2	0.00908 *13*	α(K)=0.00806 *12*; α(L)=0.000877 *13*; α(M)=0.0001334 *19*; α(N+..)=9.87×10^{-6} Mult.: Q from R(DCO) in ^{12}C(^{58}Ni,pnγ) and ^{40}Ca(^{32}S,3pnγ); M2 excluded by comparison to RUL.
1322.9	6(−)	358.1[a] *1*	100[@]	964.8	5(−)	D		
1427.6	6(−)	104.5[&] *5*	36[&] *9*	1322.9	6(−)			
		213.1[@] *4*	7.4[@] *19*	1214.3	6(−)			
		462.7[#] *1*	100[@] *6*	964.8	5(−)	D		
1571.2	(6−)	248.4[@] *2*	100[@] *7*	1322.9	6(−)	D		
		266.6[@] *5*	21[@] *7*	1303.8	7(−)			
1762.0		439.1[&] *5*	100[&]	1322.9	6(−)			
1850.0	7(−)	635.6[b] *2*	100[b]	1214.3	6(−)			
1859.2	(7−)	288.0[@] *2*	100[@]	1571.2	(6−)	D		
1955.4	7(−)	528[b]		1427.6	6(−)			
		633.0[a] *3*	100[@] *8*	1322.9	6(−)	D[e]		Mult.: Other: Q from R(DCO)=1.46 *36* in ^{12}C(^{58}Ni,pnγ), value is also consistent with ΔJ=1 M1+E2 transition.
		652.1[@] *3*	24[@] *8*	1303.8	7(−)	D[e]		
		741[b]		1214.3	6(−)			
		990.0[b] *2*		964.8	5(−)	Q[e]		

$^{68}_{33}As_{35}$-5

Adopted Levels, Gammas (continued)

γ(^{68}As) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.[†]	α	Comments
2058.0		630.0[&] *4*	100[&]	1427.6	6(−)			
		736[b]		1322.9	6(−)			
2093.9	8(−)	770.6[&f] *3*	73[&] *12*	1322.9	6(−)			E_γ,I_γ: from branching of 1997Ba24 in ^{54}Fe(^{16}O,pnγ) this transition should have been seen by 1998So23 in ^{12}C(^{58}Ni,pnγ). The placement of this transition is thus questionable.
		790.1[#] *1*	100[&] *11*	1303.8	7(−)	M1+E2	0.00063 *7*	α(K)=0.00056 *6*; α(L)=5.8×10^{-5} *7*; α(M)=8.9×10^{-6} *10*; α(N+..)=6.8×10^{-7} *7*
2157.8	9(+)	63.9[#] *1*	12.1[@] *19*	2093.9	8(−)			
		854.2[#] *3*	100.0[@] *4*	1303.8	7(−)	M2	0.001180 *17*	α(K)=0.001052 *15*; α(L)=0.0001105 *16*; α(M)=1.687×10^{-5} *24* α(N)=1.287×10^{-6} *18* B(M2)(W.u.)=0.087 *6* Mult.: from linear polarization in ^{40}Ca(^{31}P,2pnγ).
		943.6[&f] *5*	18[&] *4*	1214.3	6(−)			E_γ,I_γ: from branching of 1997Ba24 in ^{54}Fe(^{16}O,pnγ) this transition should have been seen by 1998So23 in ^{12}C(^{58}Ni,pnγ). The placement of this transition is thus questionable.
2251.2	(7)	824[b]		1427.6	6(−)			
		928.1[a] *3*	100[@]	1322.9	6(−)	D		
2302.1	8(−)	874[b]		1427.6	6(−)			
		979.3[a] *1*	100[@]	1322.9	6(−)	Q		
2474.4	8	223[b]		2251.2	(7)			
		316.6[#] *1*	100[@]	2157.8	9(+)	D		
2659.2		601[b]		2058.0				
		704[b]		1955.4	7(−)			
2829.8	9(−)	529[bf]		2302.1	8(−)			
		1526.0[@] *2*	100[@]	1303.8	7(−)	Q[e]		
2933.1?		875.0[&f]	100[&]	2058.0				
2938.8	9	464.4[@] *1*	100[@] *5*	2474.4	8	M1+E2	0.0025 *7*	α(K)=0.0023 *6*; α(L)=0.00024 *7*; α(M)=3.6×10^{-5} *11*; α(N+..)=2.7×10^{-6} *8*
		687.5[@] *3*	23[@] *5*	2251.2	(7)			
2983.0	9(−)	681.1[b] *2*		2302.1	8(−)	D[e]		
		889[b]		2093.9	8(−)			
		923[b]		2058.0				
		1027[b]		1955.4	7(−)			
		1132[b]		1850.0	7(−)			
3126.6?		968.8[f] *2*	100	2157.8	9(+)			

$^{68}_{33}As_{35}$-6

Adopted Levels, Gammas (continued)

γ(^{68}As) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.[†]	α	Comments
3170.2	$10^{(+)}$	1012.4[@] *1*	100[@]	2157.8	$9^{(+)}$	M1+E2	0.000355 *21*	α(K)=0.000317 *19*; α(L)=3.27×10^{-5} *20*; α(M)=5.0×10^{-6} *3*; α(N+..)=3.81×10^{-7} *22*
3183.2	$11^{(+)}$	1025.4[@] *1*	100[@]	2157.8	$9^{(+)}$	Q		
3341.0?		1183.2[@ f] *2*	100[@]	2157.8	$9^{(+)}$			
3626.8	$10^{(-)}$	1325.0[b] *7*		2302.1	$8^{(-)}$	Q[e]		
		1533[b]		2093.9	$8^{(-)}$			
3719.1	$10^{(-)}$	1417.3[b] *5*		2302.1	$8^{(-)}$	Q[e]		
		1625[b]		2093.9	$8^{(-)}$			
3843.5		661[b]		3183.2	$11^{(+)}$			
		904[b]		2938.8	9			
4320.3	(11^-)	1338[b]		2983.0	$9^{(-)}$			
		1490.5[b] *7*		2829.8	$9^{(-)}$	Q[e]		
4366.2		1196.0[@] *2*	100[@]	3170.2	$10^{(+)}$			
4388.2	$12^{(+)}$	1204.9[@] *1*	68[@] *3*	3183.2	$11^{(+)}$	M1+E2	0.000252 *11*	α(K)=0.000218 *9*; α(L)=2.24×10^{-5} *9*; α(M)=3.42×10^{-6} *14*; α(N+..)=8.3×10^{-6} *13*
		1218.0[@] *1*	100[@] *5*	3170.2	$10^{(+)}$	Q		
4585.8		1402.6[@] *3*	100[@]	3183.2	$11^{(+)}$			
4897.3	$12^{(-)}$	577[b]		4320.3	(11^-)			
		1179[b]		3719.1	$10^{(-)}$			
		1271[b]		3626.8	$10^{(-)}$			
		1713.9[@] *2*	100[@]	3183.2	$11^{(+)}$	D		
5002.5?		1159[b f]		3843.5		*c*		
5087.2	$13^{(+)}$	699.0[@] *1*	100[@]	4388.2	$12^{(+)}$	D		
5652.7	(13^-)	755.4[@] *1*	100[@] *7*	4897.3	$12^{(-)}$	Q		Mult.: Other: (D) from R(DCO) in ^{40}Ca(^{32}S,3pnγ), although Q cannot be excluded based on large uncertainties.
		1067.1[@] *6*	12[@] *5*	4585.8				
		1333[b f]		4320.3	(11^-)			
6063.5	(15^+)	976.3[@] *1*	100[@]	5087.2	$13^{(+)}$	Q		
6803.7	(15^-)	1151.0[b] *1*	100	5652.7	(13^-)	Q		
7709.5		1646[b]	100[b]	6063.5	(15^+)			
8499.7		1696[b]	100[b]	6803.7	(15^-)			

$^{68}_{33}As_{35}$-7

Adopted Levels, Gammas (continued)

$\gamma(^{68}As)$ (continued)

† From R(DCO) in $^{12}C(^{58}Ni,pn\gamma)$, except where noted.
‡ From $\gamma(\theta)$ in $^{54}Fe(^{16}O,pn\gamma)$, except where noted. See dataset for additional δ values which have not been adopted.
# Weighted average of $^{54}Fe(^{16}O,pn\gamma)$ (1997Ba24) and $^{12}C(^{58}Ni,pn\gamma)$ (1998So23).
@ From $^{12}C(^{58}Ni,pn\gamma)$ (1998So23).
& From $^{54}Fe(^{16}O,pn\gamma)$ (1997Ba24).
[a] Weighted average of $^{54}Fe(^{16}O,pn\gamma)$ (1997Ba24), $^{12}C(^{58}Ni,pn\gamma)$ (1998So23) and $^{40}Ca(^{32}S,3pn\gamma)$ (2005St08).
[b] From $^{40}Ca(^{32}S,3pn\gamma)$ (2005St08).
[c] D+Q from $\gamma(\theta)$ in $^{54}Fe(^{16}O,pn\gamma)$. $\Delta\pi$=no from level scheme.
[d] From ^{68}Se β^+ decay (35.5 s).
[e] From R(DCO) in $^{40}Ca(^{32}S,3pn\gamma)$.
[f] Placement of transition in the level scheme is uncertain.

$^{68}_{33}As_{35}$-8

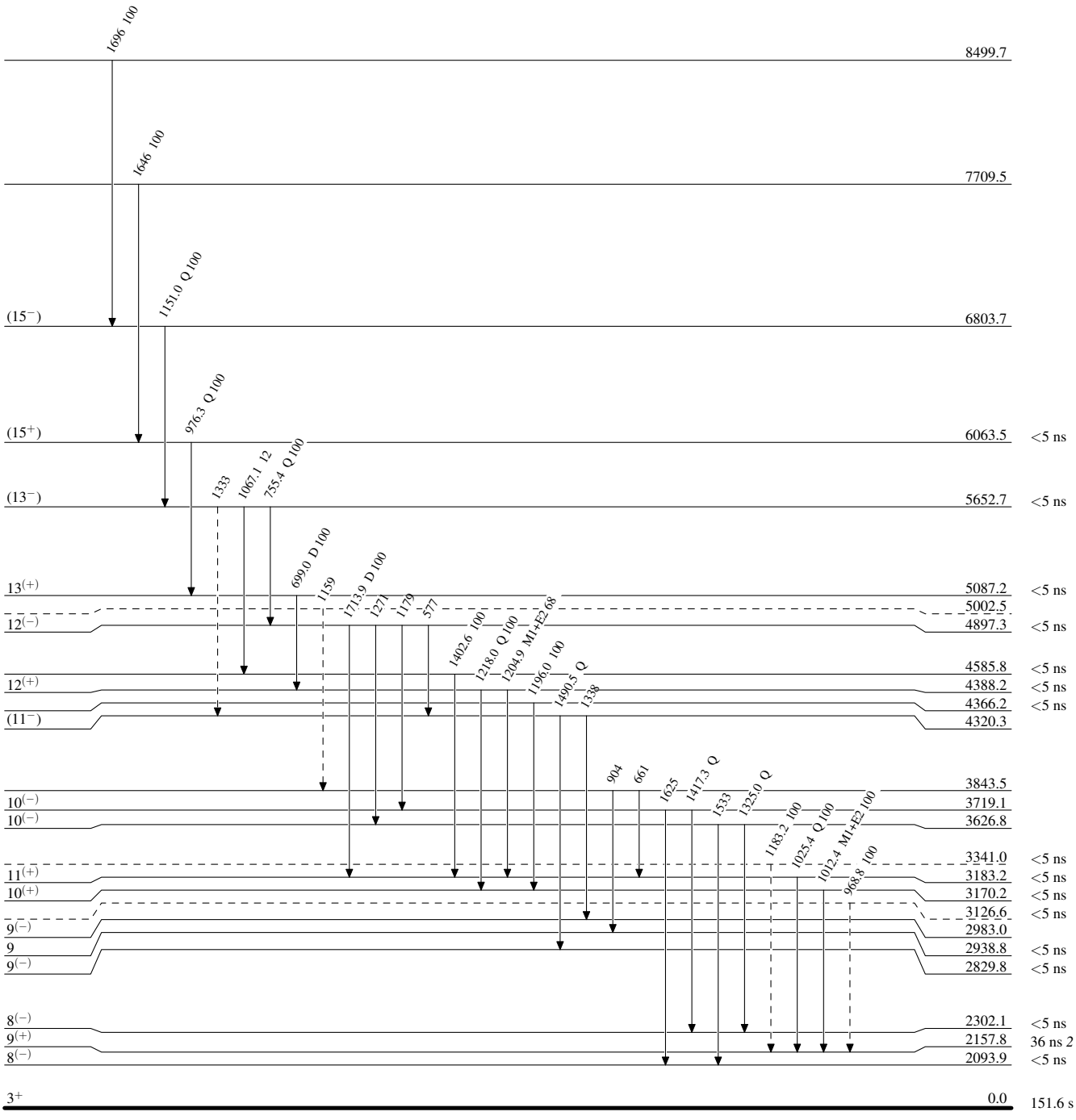
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{68}_{33}As_{35}$

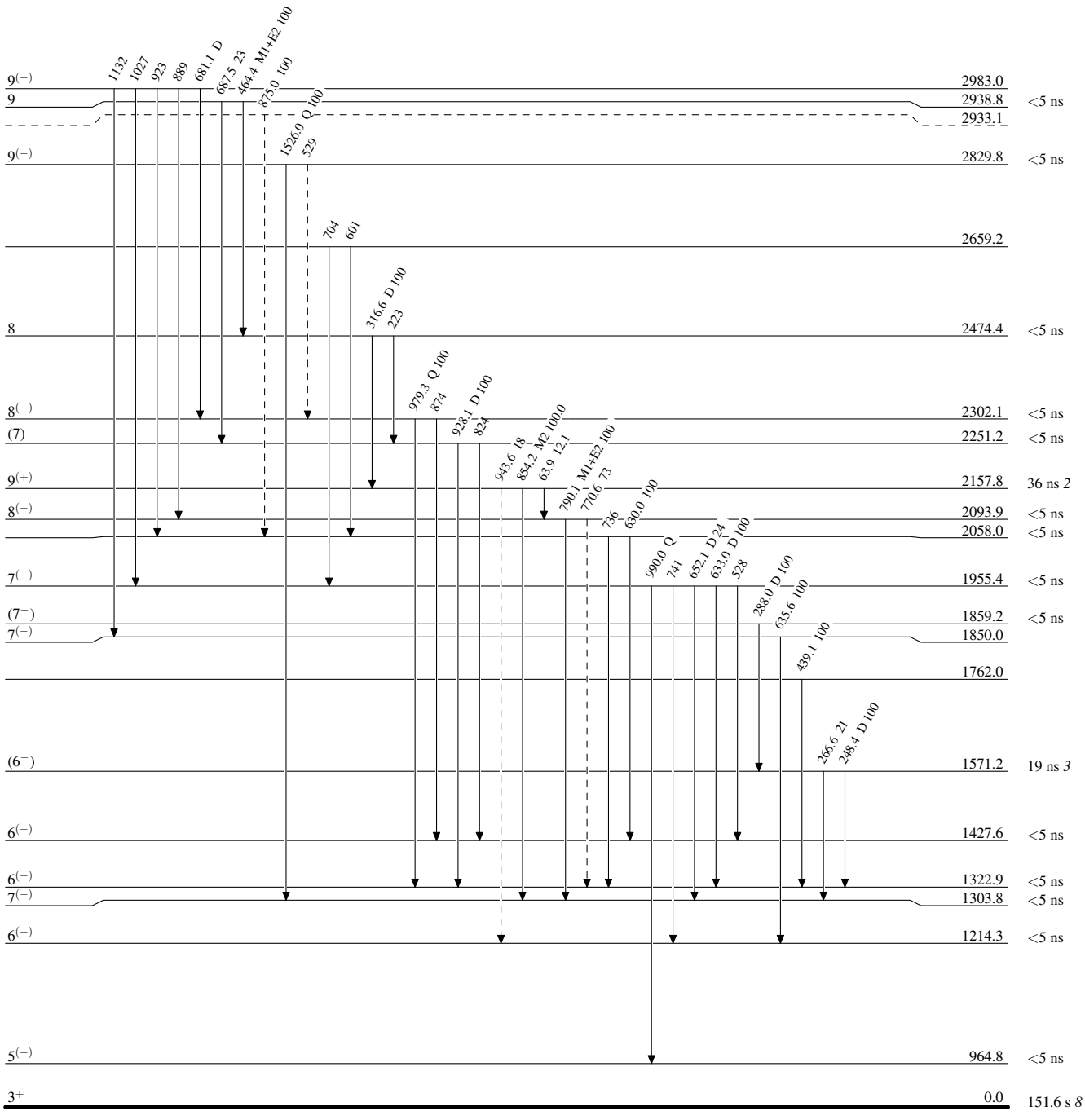
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

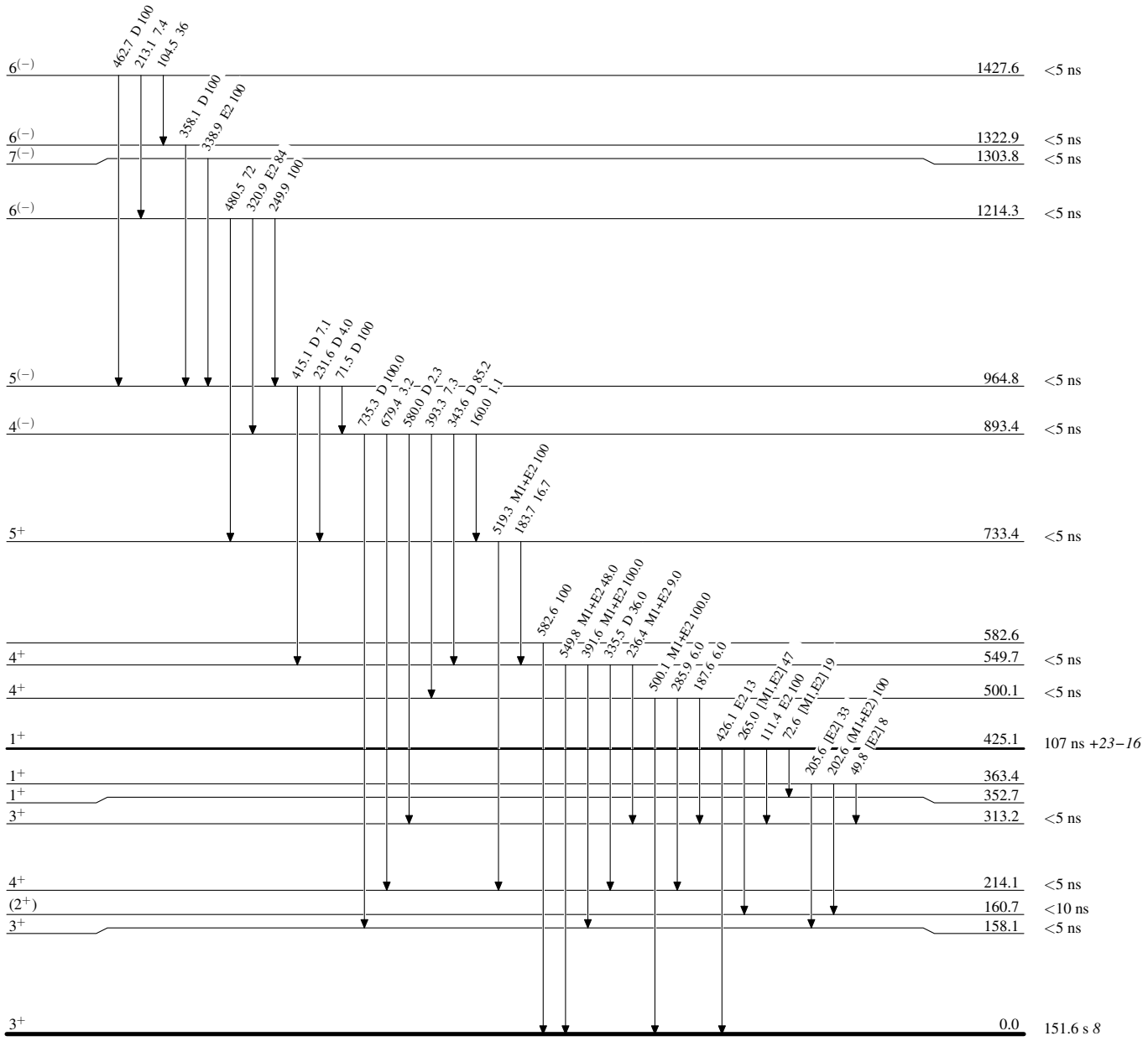


$^{68}_{33}As_{35}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

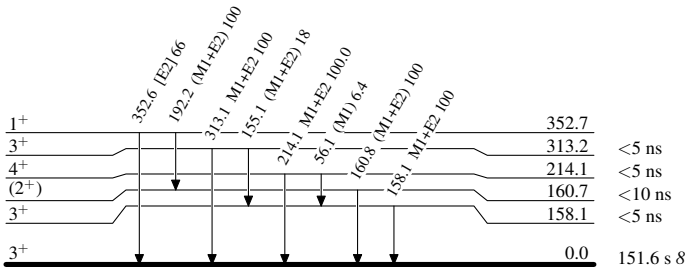


$^{68}_{33}As_{35}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{68}_{33}As_{35}$