Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 112,1875 (2011)	30-Nov-2010

Q(β^-)=−4812.36 *10*; S(n)=13057.95 *12*; S(p)=8271.17 *11*; Q(α)=−10091.8 *1* 2012Wa38

Note: Current evaluation has used the following Q record −4812.36 1013057.91128271.13 *11*−10091.8 *1* 2011AuZZ,2003Au03.

2008Ra27: ^{24}Mg(^{6}Li,2pn) − Identified 1014γ of ^{27}Al.

2007Be19: Measured elastic scattering cross-section of ^{6}He+^{27}Al system.

2004Va22: Measured γ-transition cross-section from 1.1 GeV protons spallation on ^{28}Si; 11.3(15), 11(8), and 6.7(14) mb for 841.5(1), 1015.0(4), and 2214.1(20) γ-transitions, respectively.

1999Ta27: Measured photofission cross-section of ^{27}Al to be 160(55) μb with a quasi-monoenergetic photon beam of 108 MeV Compton-edge energy.

1991Ho09: ^{26}Mg(^{3}He,d), ^{26}Mg(α,t): yield ratios have been measured for levels close above the proton threshold as an aid to L value determination.

^{27}Al Levels

Cross Reference (XREF) Flags

A	^{27}Mg β^- decay	E	^{24}Mg(α,pγ)	I	^{27}Al(γ,γ')
B	^{27}Si ε decay	F	^{26}Mg(p,γ)	J	^{27}Al(e,e$'$)
C	^{28}P β^+p decay	G	^{26}Mg(d,nγ),^{26}Mg(d,n)	K	^{27}Al(p,p$'$)
D	^{12}C(^{16}O,pγ)	H	^{26}Mg(^{3}He,d)	L	^{27}Al(α,α')

E(level)†	Jπ@	$T_{1/2}$#	XREF	Comments
0.0	5/2$^+$	stable	ABC EFGHIJKL	μ=+3.6415069 *7*; Q=+0.1466 *10* Jπ: Measured by non-nuclear methods: Atomic and Molecular Beams, Nuclear Magnetic Resonance, Electron Scattering (1975St01), etc. L=2 (^{3}He,d). μ,Q: From 2005St24.
843.76‡ *9*	1/2$^+$	35 ps *1*	AB EFGH JK	Jπ: L=0 and 843γ E2 to 5/2$^+$.
1014.56‡ *9*	3/2$^+$	1.49 ps *7*	AB DEFG JK	Jπ: L=2 (d,n) and 170.8γ M1+E2 to 1/2$^+$.
2212.01 *10*	(7/2$^+$)	26.6 fs *6*	B DEFG IJK	E(level): From (γ,γ'). Jπ: 2211γ M1+E2 to 5/2$^+$.
2734.9 *7*	5/2$^+$	8.9 fs *12*	B DEFG IJK	Jπ: L=2 (d,n) and 1720γ M1+E2 to 3/2$^+$.
2982.00 *5*	3/2$^+$	3.90 fs *9*	B EFGHIJK	E(level): From (p,γ). Jπ: L=2 (d,n), (^{3}He,d). 2138γ to 1/2$^+$, 2982γ D+Q to 5/2$^+$. $T_{1/2}$: From (γ,γ').
3004.2 *8*	(9/2$^+$)	59 fs *3*	B DEF IJK	Jπ: 3004γ E2 to 5/2$^+$, 793γ D+Q to (7/2$^+$).
3680.4 *9*	1/2$^+$	5.4 fs *12*	EFG JK	Jπ: L=0 (d,n).
3956.8 *4*	3/2$^+$	2.5 fs *2*	EFG IJK	Jπ: L=2 (d,n), 3956γ to 5/2$^+$, 3112.8γ to 1/2$^+$, (p,γ) resonance level γ-feeding (1978Ma24).
4054.6 *5*	1/2$^-$	7.3 fs *12*	DEFG JK	Jπ: L=1 (1969Al02) and from (p,γ) resonance level γ-feeding (1978Ma24).
4410.2 *4*	5/2$^+$	1.2 fs *1*	EFG IJK	Jπ: L=2 (d,n), 4409.8γ M1+E2 to 5/2$^+$, 3395.5γ M1+E2 to 3/2$^+$.
4510.3 *5*	(11/2$^+$)	222 fs *14*	DEFG JK	Jπ: 2299γ to (7/2$^+$), 1506γ M1+E2 to (9/2$^+$).
4580.0 *8*	(7/2$^+$)	5.3 fs *6*	DEFG IJK	Jπ: M1+E2 γ-transitions to 5/2$^+$ and (7/2$^+$).
4811.6 *5*	5/2$^+$	1.5 fs *2*	EFG IJ	Jπ: M1+E2 γ-transitions to 5/2$^+$, 3/2$^+$, (7/2$^+$) and (p,γ) resonance level γ-feeding strength (1982Sm04).
5155.6 *8*	3/2$^-$	2.4 fs *3*	EFG IJ	Jπ: From (e,e$'$) measurement (1980Hi03) of 1p-shell proton hole strength. L=1 (1970Lu07).
5248.0 *6*	5/2$^+$	<4 fs	EFG J	Jπ: L=2 (^{3}He,d)−1970Lu07; 4233γ D+Q to 3/2$^+$ and (p,γ) resonance level γ-feeding strength (1978Ma24).
5419.9 *9*	(9/2$^+$)	<14 fs	EF JK	Jπ: From resonance level γ-transition feeding to this level (1988Li31 − (α,pγ)).

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Adopted Levels, Gammas (continued)

^{27}Al Levels (continued)

E(level)[†]	Jπ[@]	$T_{1/2}$[#]	XREF	Comments
5432.8 *10*	7/2[&]	7 fs *2*	EFG IJK	
5438.4 *8*	5/2$^-$	6 fs *4*	EF IJK	Jπ: From (p,γ) resonance level transition strength (1982Sm04) to this level.
5499.8 *8*	11/2$^+$[&]	<7 fs	EFG JK	
5550.9 *5*	5/2	2.6 fs *5*	EFG IJK	Jπ: From resonance level transition strength calculation (1982Sm04−(p,γ)).
5667.3 *12*	9/2$^+$	11 fs *3*	EFG JK	Jπ: From angular distribution measurement of primary γ-transitions (1971De24−(α,pγ)).
5751.6 *10*	1/2$^+$	<10 fs	EFG K	Jπ: L=0 (d,n).
5827.0 *8*	3/2$^-$	<21 fs	EFG JK	Jπ: From resonance level transition strength calculation (1982Sm04−(p,γ)).
5960.3 *7*	(7/2)	1.7 fs *12*	EFG IJK	Jπ: γ-transitions to 5/2$^+$, (7/2$^+$).
6080.8 *9*	3/2	3.3 fs *8*	EFG I K	Jπ: From resonance level transition strength calculation (1982Sm04−(p,γ)).
6115.8 *6*	5/2[&]		EFG K	
6158.4 *7*	3/2$^-$	<14 fs	EFG JKL	Jπ: L=1 (d,n), and anisotrophy of 5314γ excludes 1/2$^-$ (1978Ma24).
6284.7 *15*	(7/2$^+$)	4.9 fs *21*	EFG I K	Jπ: D+Q transitions to 5/2$^+$,(7/2$^+$); γ-transitions to 9/2$^+$.
6462.8 *13*	5/2[a]	0.78 fs *8*	EF I K	
6477.3 *9*	(7/2)$^-$	1.8 fs *3*	EFG IJKL	Jπ: L=3 (d,n), and (E1+M2) transitions to 5/2$^+$, (7/2$^+$).
6512.2 *11*	9/2[&]	9.7 fs *21*	EF JK	
6533 *1*	7/2$^+$[a]	2.1 fs *15*	EFG IJK	
6605.1 *9*	3/2$^-$	<10 fs	EFG JK	Jπ: L=1 (d,n), and from feeding γ-transition strength from resonance level (1982Sm04).
6651.3 *7*	5/2$^-$	0.55 fs *3*	EFG IJKL	Jπ: L=3 (^{3}He,d) (1970Lu07), and 6650γ (E1+M2) to 5/2$^+$.
6713 *1*	9/2$^+$[a]	<7 fs	EFG JK	
6765 *1*	5/2	<14 fs	EF K	Jπ: From feeding γ(θ) and depopulating γ-transitions (1988Li31).
6776.3 *11*	(3/2)	<10 fs	EFG K	Jπ: γ-transitions to 5/2$^+$, 1/2$^+$, 3/2$^+$.
6813.8 *7*	1/2$^+$	<10 fs	FG K	T=3/2 Jπ: L=0 (d,n).
6820.7 *13*	(3/2$^+$,7/2$^+$)		EF K	Jπ: γ to 5/2$^+$ and feeding from resonance level 7/2.
6947.9 *19*	11/2$^+$[&]	<14 fs	E JK	
6992.9 *9*	(5/2 to 9/2)		EF JK	Jπ: Assignment from 1988Li31. γ-rays to 5/2$^+$, (7/2$^+$). 1982Sm04 assigns (3/2$^+$,5/2$^+$).
6996 *2*	(1/2,3/2)$^-$		EFG	Jπ: L=1 (d,n).
7071.3 *14*	1/2$^+$		EFG K	Jπ: L=0 (d,n).
7173.6 *13*	9/2$^+$	<7 fs	EFG I K	Jπ: From γ(θ) of primary γ-ray feeding (1971De24 − (α,γ)).
7227.2 *8*	9/2$^-$	<14 fs	EFG JKL	Jπ: From resonance level feeding strength analysis (1978Ma24 − (p,γ)); D+Q transitions to (7/2$^+$) and 9/2$^+$.
7280.0 *16*	(1/2$^+$ to 5/2$^+$)		EFG K	Jπ: γ-transition to 5/2$^+$.
7289 *2*	(9/2,11/2,13/2)$^+$	<14 fs	E K	Jπ: γ-transition to (11/2$^+$).
7400 *1*	11/2$^+$[&]	24 fs *10*	E K	
7413 *1*	7/2$^+$[a]	0.50 fs *4*	E G JK	
7443.0 *13*	(9/2$^+$,13/2$^+$)	<7 fs	E G K	Jπ: γ-transitions to (9/2$^+$), 5/2, (11/2$^+$).
7477.1 *9*	7/2$^-$	0.68 fs *9*	EFG IJKL	Jπ: L=3 quoted in 1988Li31 from Julich Annual Report 1979, p. 9. 7475.9γ (E1+M2) to 5/2$^+$.
7550 *2*	(3/2$^+$,5/2$^+$)		EFG K	Jπ: γ-transition to 5/2$^+$ and primary γ-transition feeding strength (1982Sm04).
7578 *2*	5/2$^+$[&]	0.35 fs *6*	EFGHIJK	Jπ: L=(3) (^{3}He,d).
7660 *2*	(7/2$^+$ to 11/2$^+$)	13 fs *4*	E K	Jπ: γ-transitions to (7/2$^+$), (9/2$^+$), (11/2$^+$).
7676.5 *15*	(3/2$^+$,5/2$^+$)		E GH K	Jπ: γ-transitions to 3/2$^+$, 5/2$^+$; L=2 (1989Wa19 reported for 7679 keV level − ^{26}Mg(^{3}He,d)).

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Adopted Levels, Gammas (continued)

^{27}Al Levels (continued)

E(level)†	Jπ@	$T_{1/2}$#	XREF	Comments
7679 *1*	(7/2,9/2$^+$)		EF	Jπ: γ-transitions to 5/2$^+$, (7/2$^+$), (9/2$^+$).
7721 *1*	5/2[a]		E GH K	Jπ: L=(2) (^{3}He,d).
7798 *2*	(3/2,5/2,7/2)		E K	Jπ: γ-transitions to 5/2$^+$, 5/2$^-$.
7806 *2*	(7/2$^+$,9/2$^+$)	18 fs *4*	E K	Jπ: γ-transitions to (7/2$^+$), (11/2$^+$). 1971De24 assigns 9/2$^{(+)}$, 1988Li31 states 7/2$^+$ also possible.
7858 *2*	3/2$^+$		FGH K	T=3/2 Jπ: L=2 (^{3}He,d), and feeding strength from resonance level (1982Sm04).
7900 *1*	(5/2$^-$,7/2$^-$)		E GH K	Jπ: L=3 (^{3}He,d).
7935 *3*			KL	
7948 *2*	(9/2$^+$,11/2$^+$)		E G KL	Jπ: γ-transitions to (9/2$^+$), (11/2$^+$), 5/2.
7997 *1*	9/2[&]		E K	
8037 *1*	7/2[a]	0.43 fs *3*	EF I K	
8043 *2*	(5/2$^+$ to 9/2$^+$)		E K	Jπ: γ-transitions to 5/2$^+$, (9/2$^+$), 7/2.
8065 *2*	(3/2$^+$,5/2$^+$)	20 as *6*	EFGH K	Jπ: L=2 (^{3}He,d).
8097 *1*	5/2[a]		E H K	Jπ: L=(3) (^{3}He,d).
8130 *3*	1/2$^+$		GH K	Jπ: L=0 (^{3}He,d).
8136 *1*	5/2[a]		E K	
8182.1 *13*	3/2$^-$		EFGH K	Jπ: L=1 (^{3}He,d).
8287 *1*	(5/2,9/2)		E K	
8324 *1*	(3/2,5/2)$^+$		E H K	Jπ: L=2 (^{3}He,d).
8361 *3*			H K	
8376 *1*	(3/2,5/2)$^+$		E H K	Jπ: L=2 (^{3}He,d).
8396 *1*	(11/2)		E K	
8408 *3*			K	
8420.7 *10*	(3/2,5/2)$^+$		F H K	Jπ: L=2 (^{3}He,d).
8442 *1*	(7/2)	0.50 fs *10*	EF I K	
8490.3 *12*	5/2$^+$		EFGH K	Jπ: L=2 (^{3}He,d).
8521 *2*	(1/2,3/2,5/2,7/2$^+$)		E K	
8537 *1*	(5/2)		EF H K	Jπ: L=(2,3) (^{3}He,d), and γ-transition to 5/2$^+$.
8553.0 *3*	(3/2)		F K	
8586 *1*	(7/2)		E K	
8597.6 *3*	(1/2,3/2)$^-$	0.56 eV *4*	FGH K	XREF: G(8604). Jπ: L=1 (^{3}He,d).
8675 *1*	(7/2,9/2$^+$)		E I K	
8693 *2*	(9/2,11/2,13/2)		E K	
8708.7 *3*		7.6 eV *6*	F	
8716.6 *6*	1/2$^+$		FGH K	Jπ: L=0 (^{3}He,d).
8732.2 *5*	(5/2,7/2)$^-$	0.19 eV *3*	F HI K	Jπ: L=3 (^{3}He,d).
8753.6 *6*	(5/2)	1.05 eV *13*	F I K	
8774.2 *6*	(5/2$^+$)	3.7 eV *3*	F I K	
8804 *1*			E K	
8825 *3*			K	
8861 *3*			K	
8897.2 *5*	(5/2$^+$)	0.86 eV *17*	F I K	
8905.0 *8*			F K	
8909.2 *5*	(1/2,3/2)$^-$		FGH	Jπ: L=1 (^{3}He,d).
8952 *1*	(5/2,9/2$^+$)		E K	
8963.4 *3*	(3/2$^-$)		FG K	Jπ: L=1 (1975Uz01−(d,n)); 3/2$^-$ in 1978Ma24 (p,γ).
9001 *3*			K	
9050.9 *3*	(7/2$^-$)		EF K	
9051.6 *3*	(5/2$^+$)		FG I	XREF: G(9058). Jπ: L=2 (d,n).
9058 *1*			E K	

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Adopted Levels, Gammas (continued)

^{27}Al Levels (continued)

E(level)[†]	Jπ[@]	$T_{1/2}$[#]	XREF	Comments
9080.4 *3*	1/2+	240 eV *25*	FG K	XREF: G(9093). Jπ: L=0 (d,n).
9190.2 *3*	(3/2)		FG K	
9216.3 *3*	(3/2−)		F K	
9236.0 *8*	(1/2+)	13 eV *11*	Fg K	
9239.5 *8*	(5/2)		Fg	
9271.6 *8*	(1/2+,3/2)		F K	T=3/2
9274.3 *8*	(5/2−,7/2)		F	T=7/2
9276.9 *8*	(3/2−)	100 eV *30*	FG	
9299 *3*			K	
9308.2 *9*	(5/2+)		F K	
9322 *3*			K	
9359.3 *10*			FG K	
9371 *3*			K	
9390.0 *9*	(3/2+)		Fg K	
9400.8 *9*	(1/2+)	110 eV *50*	Fg K	
9427 *3*			G K	
9474.4 *8*	(7/2)		F K	
9488 *3*			G K	
9501.7 *10*			F I K	
9511.5 *9*	(5/2)		F K	
9530 *3*			G K	
9552 *3*			K	
9598.8 *14*		2.5 keV *2*	F	
9600.7 *9*	(3/2−)	12 eV *2*	Fg I K	Jπ: L=1 (d,n).
9619 *3*			g K	
9628.5 *9*	(1/2−)	2.76 keV *14*	FG	Jπ: L=1 (d,n).
9634.5 *9*	(5/2+)	18 eV *5*	F K	
9658 *2*			I K	
9664.7 *8*	(5/2+)	24 eV *8*	F K	
9664.8 *20*	(1/2−)	5.82 keV *10*	FG	XREF: G(9674). Jπ: L=1 (d,n).
9692 *3*			K	
9715.9 *8*	(3/2+)		FG K	
9742 *3*			K	
9762.8 *8*	(5/2+)	18 eV	F K	
9796.3 *9*	(7/2+)	4 eV *3*	F I K	
9821.6 *9*	(3/2+)	18 eV	F K	
9834.4 *10*	(1/2−)	3.0 keV	Fg K	Jπ: From ^{26}Mg(p,p) (1978We06).
9839.7 *10*	(5/2)	1.0 eV *2*	Fg	
9846.6 *10*	(1/2+)	210 eV	Fg	
9867 *3*			K	
9883 *3*			K	
9893 *2*			K	
9921.9 *9*	(3/2−)	1.8 keV	F K	
9930.4 *9*	(1/2−)	1.35 keV	F K	
9941.3 *9*	(7/2)		F K	
9953.0 *16*			F	
9955.5 *10*	(3/2)		F	
9960.3 *9*	(5/2−)	8 eV	F	
9962.8 *9*	(5/2+)	12 eV	F K	
9976.8 *9*	(5/2,7/2)+		F K	
9990.8 *9*	(7/2−)	10 eV	F K	
9999.9 *10*	(5/2)		F	
10008 *3*			K	
10024.3 *9*	(5/2+)	35 eV	F K	

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Adopted Levels, Gammas (continued)

^{27}Al Levels (continued)

E(level)[†]	Jπ[@]	$T_{1/2}$[#]	XREF		Comments
10075 *3*				K	
10089.6 *9*	(3/2$^-$)	2.7 keV	F		
10092.9 *9*	(3/2$^+$,5/2$^+$)	0.47 keV	F	K	
10112.0 *9*	(5/2$^-$,7/2$^-$)	15 eV	F	K	
10112.5 *9*	(1/2$^-$)	40 eV	F		
10121.2 *10*	(7/2$^+$)		F	K	
10135.1 *11*	(3/2$^-$,5/2)		F	K	
10148 *3*				K	
10164.8 *9*	(5/2$^+$)	14 eV	F	K	
10209 *3*				K	
10218 *3*	(3/2$^-$)	40.9 keV	F		T=3/2
10243.9 *9*	(3/2$^+$)	0.13 keV	F		
10244 *3*	(1/2$^+$)	70.4 keV	F		
10244.8 *9*	(7/2$^-$)	75 eV	F	K	T=3/2
10258.5 *10*	(5/2)		F	K	
10281 *3*				K	
10287 *2*	(3/2)		F	K	
10307 *2*	(7/2)		F	K	
10318 *2*	(1/2$^+$)		F	K	
10333 *2*	(3/2$^+$)	1.1 keV	F	K	
10334 *2*	(1/2$^-$)	5.6 keV	F		
10338 *2*	(1/2$^+$)	1.3 keV	F	K	
10340 *2*			F		
10348 *2*	(3/2)		F		
10360 *3*				K	
10365 *2*	(9/2$^+$)		F		
10370 *2*	(5/2$^+$)	45 eV	F	K	
10372 *2*	(3/2$^+$)	450 eV	F		
10409 *2*	(5/2$^+$)	37 eV	F	K	
10422 *2*			F	K	
10448 *3*				K	
10459 *2*	(1/2$^-$)	0.070 keV	F	K	
10478 *3*			F	K	
10480 *3*	(7/2$^-$)	0.65 keV	F		T=1/2,3/2
10509 *2*	(7/2$^-$)	0.12 keV	F	K	T=1/2,3/2
10519 *2*			F	K	
10528 *2*	(3/2$^-$)	0.3 keV	F	K	
10555 *2*	(5/2)		F	K	
10558 *2*	(1/2$^-$)	30 keV	F		
10566 *2*	(3/2$^+$)	0.14 keV	F	K	T=1/2,3/2
10588 *2*	(3/2$^+$)	1.4 keV	F	K	T= 1/2,3/2
10593 *2*	(5/2$^-$,7/2$^-$)	10 eV	F		
10599 *3*	(3/2$^+$)	0.49 keV	F	K	T= 1/2,3/2
10612 *3*	(1/2$^-$)	10.2 keV	F		
10626 *2*	(7/2$^-$)	65 eV	F	K	
10630 *3*			F		
10634 *3*	(1/2$^+$)	0.90 keV	F		
10648 *2*	(3/2$^+$)	135 eV	F	K	
10675 *2*	(5/2$^+$)	0.11 keV	F	K	
10676 *2*			F		
10692 *2*	(5/2$^-$,7/2$^-$)	15 eV	F	K	
10716 *2*	(3/2$^+$)	0.18 keV	F	K	
10723 *2*		0.070 keV	F	K	
10737 *2*	(3/2$^-$)	2.1 keV	F	K	
10751 *2*	(9/2)		F	K	
10768 *3*			F		

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Adopted Levels, Gammas (continued)

^{27}Al Levels (continued)

E(level)[†]	Jπ[@]	$T_{1/2}$[#]	XREF	Comments
10778 *3*			F	
10781 *3*			F	
10783 *3*			F	
10791 *3*			F	
10804 *2*	$(1/2^+)$	0.8 keV	F	
10833 *2*	$(3/2^+,5/2^+)$	0.34 keV	F	
10835 *3*	$(3/2^+,5/2^+)$	0.8 keV	F	
10836 *3*	$(5/2^-,7/2^-)$	0.6 keV	F	
10838 *3*	$(3/2^-)$	8.0 keV	F	
10864 *2*	$(5/2^-,7/2^-)$	40 eV	F	
10871 *3*			F	
10900 *3*			F	
10911 *3*	$(1/2^-)$	2.9 keV	F	
10922 *3*	$(3/2^+,5/2^+)$	0.016 keV	F	
10922 *3*		2.8 keV *10*	F	
10931 *3*	$(5/2^+)$	1.2 keV *8*	F	
10939 *3*			F	
10970 *3*			F	
10973 *2*	$(5/2^+)$	0.33 keV	F	
10994 *3*			F	
11003 *2*	$(5/2^-,7/2^-)$	0.008 keV	F	
11012 *3*		0.035 keV	F	
11072 *3*	$(3/2^+,5/2^+)$	0.26 keV	F	
11075 *3*			F	
11077 *3*			F	
11096 *3*	$(5/2^-)$	1.4 keV	F	
11101 *4*	$(3/2^-)$	5.5 keV	F	
11126 *3*	$(3/2^+,5/2^+)$	0.015 keV	F	
11138 *3*			F	
11188			F	E(level): 54 additional levels between 11188 and 12118 keV are from (p,γ) and/or (p,p) reported in 1980Is04.
11702			F	E(level): 64 additional levels between 11702 and 12875 keV are from (α,γ) and/or (α,p) (1964Ku10,1971De23).

[†] Up to 10751 keV, weighted averages are taken of values from different reactions. Above 10751 keV, level energies are from (p,γ), except otherwise noted.

[‡] From ^{27}Mg β^- decay.

[#] From 1967Af03, 1968Ro14, 1968Sm02, 1971De24, 1977Si02, 1972Sh07, 1971Ra13, 1986Ti02, 1982An11, 1982Sm04, 1982El04, 1987Vo01, 1987Ra26. Weighted average or individual precise values are adopted. Resonance width Γ from (p,γ) dataset.

[@] J^π assignments for the 8287 keV level and above are from γ-transition angular distribution, feeding, and γ-ray multipolarity (1988Li31,1978Ma24). Additional arguments are given in the comment section.

[&] From (p,γ) angular correlation and secondary γ-ray angular distribution (1988Li31−(α,pγ)).

[a] From γ(θ) (1988Li31).

Adopted Levels, Gammas (continued)

γ(^{27}Al)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[@]	δ[&]	Comments
843.76	1/2$^+$	843.76[‡] *10*	100[‡]	0.0	5/2$^+$	E2		B(E2)(W.u.)=7.86 *23* Mult.: From α=0.000046 *3* (1970Ro11 − (p,p′γ)).
1014.56	3/2$^+$	170.82[‡] *10*	3.05[‡] *7*	843.76	1/2$^+$	M1+(E2)	+0.05 *6*	B(M1)(W.u.)=0.09 *4*; B(E2)(W.u.)=4.E+1 *+10−4*
		1014.52[‡] *10*	100.0[‡] *3*	0.0	5/2$^+$	M1+E2	−0.351 *12*	B(M1)(W.u.)=0.0122 *8*; B(E2)(W.u.)=7.8 *7*
2212.01	(7/2$^+$)	2212.01 *10*	100	0.0	5/2$^+$	M1+E2	+0.468 *9*	B(M1)(W.u.)=0.0627 *15*; B(E2)(W.u.)=15.0 *6*
2734.9	5/2$^+$	523.7 *10*	0.53 *19*	2212.01	(7/2$^+$)			
		1720.3 *8*	100 *3*	1014.56	3/2$^+$	M1+E2	+0.115 *8*	B(M1)(W.u.)=0.36 *6*; B(E2)(W.u.)=8.7 *18*
		1891.0 *8*	2.38 *19*	843.76	1/2$^+$			
		2734.7 *8*	29.2 *14*	0.0	5/2$^+$	D+Q	+0.19 *3*	
2982.00	3/2$^+$	770.8 *7*	<0.21	2212.01	(7/2$^+$)			
		1967.47 *6*	1.6 *5*	1014.56	3/2$^+$			
		2138.14 *6*	1.0 *3*	843.76	1/2$^+$			
		2982.00 *5*	100 *3*	0.0	5/2$^+$	D+(Q)	−0.01 *1*	E_γ: From (p,γ).
3004.2	(9/2$^+$)	793.0 *11*	13.6 *23*	2212.01	(7/2$^+$)	D+(Q)	−0.01 *2*	
		1989.6 *9*	<4.5	1014.56	3/2$^+$			
		2160.3 *9*	<0.9	843.76	1/2$^+$			
		3004.0 *9*	100 *2*	0.0	5/2$^+$	E2		B(E2)(W.u.)=7.1 *4*
3680.4	1/2$^+$	676.1 *13*	<0.6	3004.2	(9/2$^+$)			
		698.3 *10*	<3.2	2982.00	3/2$^+$			
		945.4 *12*	<0.5	2734.9	5/2$^+$			
		1469.2 *11*	<0.5	2212.01	(7/2$^+$)			
		2665.8 *10*	60 *3*	1014.56	3/2$^+$			
		2836.4 *10*	100 *3*	843.76	1/2$^+$			
		3680.1 *10*	1.9 *6*	0.0	5/2$^+$			
3956.8	3/2$^+$	276.3 *10*	<2.3	3680.4	1/2$^+$			
		952.5 *9*	<0.7	3004.2	(9/2$^+$)			
		974.7 *5*	<1.0	2982.00	3/2$^+$			
		1221.8 *9*	6.6 *17*	2734.9	5/2$^+$			
		1745.6 *8*	<0.6	2212.01	(7/2$^+$)			
		2942.1 *5*	4.3 *14*	1014.56	3/2$^+$			
		3112.8 *5*	5.3 *17*	843.76	1/2$^+$			
		3956.4 *5*	100.0 *23*	0.0	5/2$^+$			
4054.6	1/2$^-$	374.1 *11*	<0.6	3680.4	1/2$^+$			
		1050.3 *10*	<0.3	3004.2	(9/2$^+$)			
		1072.5 *6*	<0.8	2982.00	3/2$^+$			
		1319.6 *9*	<0.3	2734.9	5/2$^+$			
		1843.4 *8*	<2.3	2212.01	(7/2$^+$)			
		3039.9 *6*	16.3 *23*	1014.56	3/2$^+$			
		3210.6 *6*	100.0 *23*	843.76	1/2$^+$			
		4054.2 *6*	<2.3	0.0	5/2$^+$			
4410.2	5/2$^+$	453.3 *6*	<1.7	3956.8	3/2$^+$			

From ENSDF

$^{27}_{13}Al_{14}$-7

Adopted Levels, Gammas (continued)

γ(^{27}Al) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ	E_f	J_f^π	Mult. [@]	δ [&]	Comments
4410.2	5/2$^+$	729.7 *10*	<1.6	3680.4	1/2$^+$			
		1405.9 *9*	<0.7	3004.2	(9/2$^+$)			
		1428.1 *5*	<0.5	2982.00	3/2$^+$			
		1675.2 *9*	5.3 *18*	2734.9	5/2$^+$			
		2199.0 *8*	8.8 *18*	2212.01	(7/2$^+$)			
		3395.5 *5*	61 *5*	1014.56	3/2$^+$	M1+(E2)	−0.01 *3*	B(M1)(W.u.)=0.160 *18*; B(E2)(W.u.)=0.01 *+5−8*
		3566.1 *5*	<1.9	843.76	1/2$^+$			
		4409.8 *5*	100 *5*	0.0	5/2$^+$	M1+E2	−0.04 *2*	B(M1)(W.u.)=0.122 *12*; B(E2)(W.u.)=0.05 *+5−5*
4510.3	(11/2$^+$)	553.4 *7*	<5.1	3956.8	3/2$^+$			
		829.8 *11*	<7.8	3680.4	1/2$^+$			
		1506.0 *10*	30 *3*	3004.2	(9/2$^+$)	M1+E2	+0.59 *2*	B(M1)(W.u.)=0.0044 *7*; B(E2)(W.u.)=3.6 *6*
		1528.2 *6*	<5.2	2982.00	3/2$^+$			
		1775.3 *9*	<7.8	2734.9	5/2$^+$			
		2299.0 *8*	100 *3*	2212.01	(7/2$^+$)	(E2)		B(E2)(W.u.)=5.6 *7*
		3495.6 *6*	<5.2	1014.56	3/2$^+$			
		3666.2 *6*	<5.2	843.76	1/2$^+$			
		4509.8 *6*	<1.0	0.0	5/2$^+$			
4580.0	(7/2$^+$)	623.1 *9*	<5.6	3956.8	3/2$^+$			
		899.5 *13*	<1	3680.4	1/2$^+$			
		1575.7 *12*	<5.6	3004.2	(9/2$^+$)			
		1597.9 *9*	<2.8	2982.00	3/2$^+$			
		1845.0 *11*	10.6 *21*	2734.9	5/2$^+$	M1+E2	−0.003	B(M1)(W.u.)=0.053 *8*; B(E2)(W.u.)=0.00075 *12*
		2368.7 *11*	24 *3*	2212.01	(7/2$^+$)	M1+E2	−0.08 *6*	B(M1)(W.u.)=0.050 *9*; B(E2)(W.u.)=0.3 *+5−3*
		3565.2 *9*	6.3 *21*	1014.56	3/2$^+$			
		3735.9 *9*	<1.5	843.76	1/2$^+$			B(E2)(W.u.)=1.7 *6* I_γ: From 1969Ca04: ^{24}Mg(α,pγ).
		4579.5 *9*	100 *4*	0.0	5/2$^+$	M1+E2	+0.21 *2*	B(M1)(W.u.)=0.028 *4*; B(E2)(W.u.)=0.31 *7*
4811.6	5/2$^+$	854.7 *7*	<1.1	3956.8	3/2$^+$			
		1131.1 *11*	<1.1	3680.4	1/2$^+$			
		1807.3 *10*	<4.4	3004.2	(9/2$^+$)			
		1829.5 *6*	13 *5*	2982.00	3/2$^+$	M1+E2	−0.06 *3*	B(M1)(W.u.)=0.14 *6*
		2076.6 *9*	<2.2	2734.9	5/2$^+$			
		2600.3 *8*	38 *5*	2212.01	(7/2$^+$)	M1+E2	+0.19 *6*	B(M1)(W.u.)=0.13 *3*; B(E2)(W.u.)=3.8 *25*
		3796.8 *6*	100 *5*	1014.56	3/2$^+$	M1+E2	−0.08 *4*	B(M1)(W.u.)=0.117 *18*; B(E2)(W.u.)=0.3 *3*
		3967.5 *6*	<4.4	843.76	1/2$^+$			
		4811.1 *6*	71 *5*	0.0	5/2$^+$	M1+E2	−0.47 *6*	B(M1)(W.u.)=0.034 *6*; B(E2)(W.u.)=1.7 *5*
5155.6	3/2$^-$	1198.7 *9*	<1.2	3956.8	3/2$^+$			
		1475.1 *13*	<2.5	3680.4	1/2$^+$			
		2151.3 *12*	<2.5	3004.2	(9/2$^+$)			
		2173.5 *9*	<3.8	2982.00	3/2$^+$			
		2420.5 *11*	<2.5	2734.9	5/2$^+$			
		2944.3 *11*	<6.2	2212.01	(7/2$^+$)			

From ENSDF

$^{27}_{13}Al_{14}$-8

Adopted Levels, Gammas (continued)

γ(^{27}Al) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ	E_f	J_f^π	Mult.[@]	δ[&]	Comments
5155.6	3/2$^-$	4140.8 *9*	25 *4*	1014.56	3/2$^+$			
		4311.4 *9*	<6.3	843.76	1/2$^+$			
		5155.0 *9*	100 *4*	0.0	5/2$^+$			
5248.0	5/2$^+$	1291.1 *8*	4.7 *14*	3956.8	3/2$^+$			
		1567.5 *11*	<2.8	3680.4	1/2$^+$			
		2243.7 *11*	<1.4	3004.2	(9/2$^+$)			
		2265.8 *7*	2.5 *4*	2982.00	3/2$^+$			
		2512.9 *10*	5.6 *14*	2734.9	5/2$^+$			
		3036.7 *9*	22 *3*	2212.01	(7/2$^+$)			
		4233.1 *7*	100 *4*	1014.56	3/2$^+$	D+Q	+0.03 *1*	
		4403.8 *7*	<1.7	843.76	1/2$^+$			
		5247.4 *7*	1.9 *6*	0.0	5/2$^+$			
5419.9	(9/2$^+$)	1739.4 *13*	<2.3	3680.4	1/2$^+$			
		2415.5 *13*	<4.6	3004.2	(9/2$^+$)			
		2437.7 *10*	<3.5	2982.00	3/2$^+$			
		2684.8 *12*	9.2 *11*	2734.9	5/2$^+$			
		3208.5 *11*	100 *3*	2212.01	(7/2$^+$)	M1+E2	+0.29 *4*	B(M1)(W.u.)>0.035; B(E2)(W.u.)>1.2
		5419.3 *10*	6.9 *23*	0.0	5/2$^+$			
5432.8	7/2	2428.4 *13*	69 *13*	3004.2	(9/2$^+$)	D+Q	+0.06 *4*	
		2697.7 *13*	<13	2734.9	5/2$^+$			
		3221.4 *12*	48 *13*	2212.01	(7/2$^+$)			
		5432.2 *11*	100 *13*	0.0	5/2$^+$			
5438.4	5/2$^-$	2434.0 *12*	<1.2	3004.2	(9/2$^+$)			
		2456.2 *9*	4.8 *12*	2982.00	3/2$^+$			
		2703.3 *11*	15.7 *24*	2734.9	5/2$^+$			
		3227.0 *11*	<2.4	2212.01	(7/2$^+$)			
		4423.5 *9*	<1.2	1014.56	3/2$^+$			
		4594.2 *9*	<3.6	843.76	1/2$^+$			
		5437.8 *9*	100.0 *24*	0.0	5/2$^+$			
5499.8	11/2$^+$	989.4 *10*	5.3 *14*	4510.3	(11/2$^+$)			
		1542.9 *9*	<2.6	3956.8	3/2$^+$			
		1819.3 *13*	<2.6	3680.4	1/2$^+$			
		2495.4 *12*	100 *3*	3004.2	(9/2$^+$)	M1+E2	+0.29 *2*	B(M1)(W.u.)>0.13; B(E2)(W.u.)>8.2
		2517.6 *9*	<2.6	2982.00	3/2$^+$			
		2764.7 *11*	<6.5	2734.9	5/2$^+$			
		3288.4 *11*	26 *3*	2212.01	(7/2$^+$)			
		4484.9 *9*	<2.6	1014.56	3/2$^+$			
		4655.6 *9*	<3.9	843.76	1/2$^+$			
		5499.1 *9*	<2.6	0.0	5/2$^+$			
5550.9	5/2	1594.0 *7*	<4	3956.8	3/2$^+$			
		1870.4 *11*	<4.6	3680.4	1/2$^+$			
		2546.5 *10*	<9.3	3004.2	(9/2$^+$)			

From ENSDF

$^{27}_{13}Al_{14}$-9

Adopted Levels, Gammas (continued)

γ(^{27}Al) (continued)

E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π	Mult. @	δ &	Comments
5550.9	5/2	2568.7 *6*	7.3 *7*	2982.00	$3/2^+$			
		2815.8 *9*	4.5 *7*	2734.9	$5/2^+$			
		3339.5 *8*	8.1 *7*	2212.01	$(7/2^+)$			
		4536.0 *6*	13.2 *7*	1014.56	$3/2^+$			
		4706.6 *6*	<4	843.76	$1/2^+$			
		5550.2 *6*	100.0 *20*	0.0	$5/2^+$			
5667.3	$9/2^+$	1156.9 *14*	20 *8*	4510.3	$(11/2^+)$	(M1)		B(M1)(W.u.)=0.14 *7*
		2662.9 *15*	100 *13*	3004.2	$(9/2^+)$	(M1+E2)	−0.17 *5*	B(M1)(W.u.)=0.057 *19*; B(E2)(W.u.)=1.2 *8*
		5666.6 *13*	62 *13*	0.0	$5/2^+$	(E2)		B(E2)(W.u.)=0.56 *20*
5751.6	$1/2^+$	1794.7 *11*	17 *6*	3956.8	$3/2^+$			
		2071.1 *14*	37 *6*	3680.4	$1/2^+$			
		2747.2 *13*	<11.4	3004.2	$(9/2^+)$			
		2769.4 *11*	83 *6*	2982.00	$3/2^+$			
		3016.5 *13*	<2.8	2734.9	$5/2^+$			
		3540.2 *12*	<2.8	2212.01	$(7/2^+)$			
		4736.7 *11*	49 *6*	1014.56	$3/2^+$			
		4907.3 *11*	100 *6*	843.76	$1/2^+$			
		5750.9 *11*	<14.3	0.0	$5/2^+$			
5827.0	$3/2^-$	1870.1 *9*	2.7 *8*	3956.8	$3/2^+$			
		2146.5 *13*	11 *3*	3680.4	$1/2^+$			
		2822.6 *12*	<2.7	3004.2	$(9/2^+)$			
		2844.8 *9*	<1.3	2982.00	$3/2^+$			
		3091.9 *11*	<1.0	2734.9	$5/2^+$			
		3615.6 *11*	<2.7	2212.01	$(7/2^+)$			
		4812.0 *9*	100 *3*	1014.56	$3/2^+$			
		4982.7 *9*	<4	843.76	$1/2^+$			
		5826.3 *9*	20 *3*	0.0	$5/2^+$			
5960.3	(7/2)	1148.6 *9*	8 *3*	4811.6	$5/2^+$			
		1550.0 *9*	5 *3*	4410.2	$5/2^+$			
		2978.1 *8*	13 *6*	2982.00	$3/2^+$			
		3225.1 *10*	79 *8*	2734.9	$5/2^+$			
		3748.9 *10*	100 *11*	2212.01	$(7/2^+)$	M1+(E2)	−0.09 *10*	
		5959.5 *8*	49 *8*	0.0	$5/2^+$	M1+E2	+0.16 *2*	
6080.8	3/2	2123.9 *10*	9 *3*	3956.8	$3/2^+$			
		2400.2 *13*	<7.1	3680.4	$1/2^+$			
		3076.4 *13*	<5.7	3004.2	$(9/2^+)$			
		3098.6 *10*	<5.7	2982.00	$3/2^+$			
		5065.8 *10*	34 *3*	1014.56	$3/2^+$			
		5236.4 *10*	<5.7	843.76	$1/2^+$			
		6080.0 *10*	100 *5*	0.0	$5/2^+$			
6115.8	5/2	960.1 *11*	10 *5*	5155.6	$3/2^-$			
		2158.9 *8*	<6.6	3956.8	$3/2^+$			

From ENSDF

$^{27}_{13}Al_{14}$-10

Adopted Levels, Gammas (continued)

γ(^{27}Al) (continued)

E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π	Mult. @	δ &	Comments
6115.8	5/2	3111.4 *11*	<4.9	3004.2	$(9/2^+)$			
		3133.6 *7*	18 *10*	2982.00	$3/2^+$			
		3380.6 *10*	<6.6	2734.9	$5/2^+$			
		3904.3 *9*	36 *14*	2212.01	$(7/2^+)$			
		5100.8 *7*	100 *17*	1014.56	$3/2^+$	D+(Q)	+0.03 *3*	
		5271.4 *7*	<3.3	843.76	$1/2^+$			
6158.4	$3/2^-$	2477.8 *12*	<0.7	3680.4	$1/2^+$			
		3154.0 *11*	<1	3004.2	$(9/2^+)$			
		3176.1 *8*	2.0 *7*	2982.00	$3/2^+$			
		3423.2 *10*	6.8 *14*	2734.9	$5/2^+$			
		3946.9 *10*	<5.4	2212.01	$(7/2^+)$			
		5143.4 *8*	15 *3*	1014.56	$3/2^+$			
		5314.0 *8*	100 *3*	843.76	$1/2^+$			
		6157.6 *8*	9.5 *14*	0.0	$5/2^+$			
6284.7	$(7/2^+)$	864.7 *18*	3.4 *17*	5419.9	$(9/2^+)$			
		1874.4 *16*	7 *4*	4410.2	$5/2^+$			
		3280.2 *18*	14 *9*	3004.2	$(9/2^+)$			
		4073.2 *17*	42 *7*	2212.01	$(7/2^+)$	D+Q	−0.40 *8*	
		6283.9 *16*	100 *9*	0.0	$5/2^+$	D+Q	+0.06 *3*	
6462.8	5/2	3480.5 *14*	7.1 *24*	2982.00	$3/2^+$			
		5447.7 *14*	12 *4*	1014.56	$3/2^+$			
		6461.9 *14*	100 *5*	0.0	$5/2^+$	D+(Q)	+0.03 *3*	
6477.3	$(7/2)^-$	2067.0 *10*	4.6 *16*	4410.2	$5/2^+$			
		3742.1 *12*	30.8 *16*	2734.9	$5/2^+$	(E1+(M2))	−0.035[a] *35*	B(E1)(W.u.)=0.0016 *3*; B(M2)(W.u.)=0.6 *+13−6*
		4265.8 *11*	18.5 *16*	2212.01	$(7/2^+)$	(E1+M2)	+0.07[a] *9*	B(E1)(W.u.)=0.00064 *13*; B(M2)(W.u.)=0.8 *+21−8*
		6476.4 *10*	100 *3*	0.0	$5/2^+$	(E1+M2)	+0.074[a] *15*	B(E1)(W.u.)=0.00099 *17*; B(M2)(W.u.)=0.6 *3*
6512.2	9/2	2001.8 *13*	100 *9*	4510.3	$(11/2^+)$	D+Q	+0.09 *4*	
		3507.7 *14*	66 *9*	3004.2	$(9/2^+)$	D+(Q)	−0.09 *13*	
		4300.7 *13*	47 *9*	2212.01	$(7/2^+)$			
6533	$7/2^+$	1100.1 *15*	9 *3*	5432.8	7/2			
		1952.9 *13*	40 *9*	4580.0	$(7/2^+)$	D+(Q)	−0.16 *15*	B(M1)(W.u.)=0.20 *15*; B(E2)(W.u.)=7 *+15−7*
		3528.5 *13*	43 *12*	3004.2	$(9/2^+)$			
		3797.8 *13*	43 *9*	2734.9	$5/2^+$			
		4321.5 *12*	100 *18*	2212.01	$(7/2^+)$	D+(Q)	−0.2 *2*	B(M1)(W.u.)=0.05 *4*; B(E2)(W.u.)=0.5 *+11−5*
		6532.1 *11*	51 *12*	0.0	$5/2^+$	D+Q	>10	
6605.1	$3/2^-$	2924.5 *13*	66 *14*	3680.4	$1/2^+$			
		3622.8 *10*	<6.8	2982.00	$3/2^+$			
		5760.6 *10*	100 *18*	843.76	$1/2^+$			
		6604.2 *10*	34 *16*	0.0	$5/2^+$			
6651.3	$5/2^-$	2970.7 *12*	<2.3	3680.4	$1/2^+$			E_γ,I_γ: From 1969Ca04: ^{24}Mg(α,pγ).
		3646.8 *11*	<3.4	3004.2	$(9/2^+)$			I_γ: From 1969Ca04: ^{24}Mg(α,pγ).

From ENSDF

$^{27}_{13}Al_{14}$-11

Adopted Levels, Gammas (continued)

γ(^{27}Al) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[@]	δ[&]	Comments
6651.3	5/2$^-$	3669.0 *8*	2.3 *8*	2982.00	3/2$^+$			
		3916.0 *10*	<2.3	2734.9	5/2$^+$			I_γ: From 1969Ca04: ^{24}Mg(α,pγ).
		4439.8 *10*	<2.3	2212.01	(7/2$^+$)			I_γ: From 1969Ca04: ^{24}Mg(α,pγ).
		5636.2 *8*	11 *3*	1014.56	3/2$^+$			
		5806.8 *8*	<2.3	843.76	1/2$^+$			I_γ: From 1969Ca04: ^{24}Mg(α,pγ).
		6650.4 *8*	100 *3*	0.0	5/2$^+$	(E1+(M2))	+0.04 *4*	B(E1)(W.u.)=0.0038 *3*; B(M2)(W.u.)=0.6 *+13−6* δ: From 1978Ma24 (^{26}Mg(p,γ)).
6713	9/2$^+$	2132.9 *13*	14.1 *14*	4580.0	(7/2$^+$)			
		3708.5 *13*	100 *5*	3004.2	(9/2$^+$)	D+(Q)	−0.06 *7*	
		3977.7 *13*	7.0 *14*	2734.9	5/2$^+$	(E2)		B(E2)(W.u.)>0.84
		4501.4 *12*	19.7 *14*	2212.01	(7/2$^+$)	D		
6765	5/2	2184.9 *13*	25 *3*	4580.0	(7/2$^+$)			
		2808.0 *11*	25 *3*	3956.8	3/2$^+$			
		3760.5 *13*	<6	3004.2	(9/2$^+$)			
		3782.7 *11*	100 *8*	2982.00	3/2$^+$			
		4029.7 *13*	61 *6*	2734.9	5/2$^+$			
		5749.8 *11*	53 *3*	1014.56	3/2$^+$			
		5920.5 *11*	<6	843.76	1/2$^+$			
		6764.0 *11*	19 *6*	0.0	5/2$^+$			
6776.3	(3/2)	2365.9 *12*	19 *8*	4410.2	5/2$^+$			
		3095.7 *15*	34 *11*	3680.4	1/2$^+$			
		3794.0 *12*	46 *11*	2982.00	3/2$^+$			
		5931.8 *12*	100 *11*	843.76	1/2$^+$			
		6775.3 *12*	32 *11*	0.0	5/2$^+$			
6813.8	1/2$^+$	3133.2 *12*	11.1 *4*	3680.4	1/2$^+$			
		3831.5 *8*	<4.2	2982.00	3/2$^+$			
		4078.5 *10*	<2.8	2734.9	5/2$^+$			
		4602.2 *10*	<2.8	2212.01	(7/2$^+$)			
		5798.6 *8*	100 *4*	1014.56	3/2$^+$			
		5969.3 *8*	28 *4*	843.76	1/2$^+$			
6820.7	(3/2$^+$,7/2$^+$)	6819.7 *14*	100	0.0	5/2$^+$			
6947.9	11/2$^+$	1448 *3*	17 *3*	5499.8	11/2$^+$	D+Q	+0.43 *18*	
		1527 *3*	3.0 *16*	5419.9	(9/2$^+$)			
		3943 *3*	100 *3*	3004.2	(9/2$^+$)	D+Q	+0.06 *4*	
		4736 *2*	32 *3*	2212.01	(7/2$^+$)			
		6946.9 *20*	<3	0.0	5/2$^+$			
6992.9	(5/2 to 9/2)	4781.3 *11*	100 *24*	2212.01	(7/2$^+$)			
		6991.9 *10*	69 *24*	0.0	5/2$^+$			
6996	(1/2,3/2)$^-$	390 *3*	5 *3*	6605.1	3/2$^-$			
		1840 *3*	9 *5*	5155.6	3/2$^-$			
		3039 *3*	16 *9*	3956.8	3/2$^+$			

From ENSDF

$^{27}_{13}Al_{14}$-12

Adopted Levels, Gammas (continued)

γ(^{27}Al) (continued)

E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π	Mult. @	δ &	Comments
6996	$(1/2,3/2)^-$	6151 *3*	100 *14*	843.76	$1/2^+$			
7071.3	$1/2^+$	6056.1 *15*	100 *13*	1014.56	$3/2^+$			
		6226.7 *15*	25 *13*	843.76	$1/2^+$			
7173.6	$9/2^+$	1740.7 *17*	55 *26*	5432.8	7/2			
		2593.4 *16*	100 *42*	4580.0	$(7/2^+)$	D+Q	−0.17 *10*	
		2663.1 *14*	52 *26*	4510.3	$(11/2^+)$			
		4169.0 *16*	90 *48*	3004.2	$(9/2^+)$	D+(Q)	−0.05 *11*	
		4962.0 *15*	29 *10*	2212.01	$(7/2^+)$			
7227.2	$9/2^-$	1807.2 *13*	2.8 *14*	5419.9	$(9/2^+)$			
		2647.0 *12*	6.9 *14*	4580.0	$(7/2^+)$			
		4222.6 *12*	27 *3*	3004.2	$(9/2^+)$	D+(Q)	+0.06[b] *15*	
		5015.6 *11*	100 *4*	2212.01	$(7/2^+)$	D+Q	−0.05[b] *3*	
		7226.1 *9*	<4.1	0.0	$5/2^+$			
7280.0	$(1/2^+$ to $5/2^+)$	7278.9 *17*	100	0.0	$5/2^+$			
7289	$(9/2,11/2,13/2)^+$	2778 *3*	100	4510.3	$(11/2^+)$			
7400	$11/2^+$	686.9 *15*	14 *3*	6713	$9/2^+$	M1+E2	−0.06 *3*	B(M1)(W.u.)=0.14 *7*; B(E2)(W.u.)=6 *+7−6*
		1900.1 *13*	36 *6*	5499.8	$11/2^+$	M1+E2	−0.19 *6*	B(M1)(W.u.)=0.017 *8*; B(E2)(W.u.)=0.9 *7*
		2819.8 *13*	97 *12*	4580.0	$(7/2^+)$	E2		B(E2)(W.u.)=10 *5*
		2889.5 *12*	31 *6*	4510.3	$(11/2^+)$	M1+E2	−0.39 *8*	B(M1)(W.u.)=0.0037 *18*; B(E2)(W.u.)=0.36 *21*
		4395.4 *13*	100 *12*	3004.2	$(9/2^+)$	M1+E2	+0.67 *7*	B(M1)(W.u.)=0.0027 *12*; B(E2)(W.u.)=0.33 *16*
7413	$7/2^+$	5201.3 *12*	32 *4*	2212.01	$(7/2^+)$	M1+(E2)	−0.03 *14*	B(M1)(W.u.)=0.088 *15*; B(E2)(W.u.)=0.02 *+15−16*
		7411.9 *11*	100 *4*	0.0	$5/2^+$	M1+E2	+0.09 *4*	B(M1)(W.u.)=0.095 *11*; B(E2)(W.u.)=0.07 *7*
7443.0	$(9/2^+,13/2^+)$	1943.1 *16*	39 *5*	5499.8	$11/2^+$			
		2932.5 *14*	12 *3*	4510.3	$(11/2^+)$			
		4438.4 *16*	100 *6*	3004.2	$(9/2^+)$			
		4460.6 *14*	<7.6	2982.00	$3/2^+$			
		5231.3 *15*	<3	2212.01	$(7/2^+)$			
		7441.8 *14*	<3	0.0	$5/2^+$			
7477.1	$7/2^-$	4472.5 *13*	18 *10*	3004.2	$(9/2^+)$			
		5265.4 *11*	82 *14*	2212.01	$(7/2^+)$			
		7475.9 *10*	100 *14*	0.0	$5/2^+$	(E1+(M2))	+0.06 *11*	B(E1)(W.u.)=0.0013 *3*; B(M2)(W.u.)=0.4 *+15−4* δ: From 1978Ma24 (^{26}Mg(p,γ)).
7550	$(3/2^+,5/2^+)$	7548 *3*	100	0.0	$5/2^+$			
7578	$5/2^+$	1750 *3*	15 *7*	5827.0	$3/2^-$			
		3167 *3*	9 *5*	4410.2	$5/2^+$			
		4595 *3*	43 *9*	2982.00	$3/2^+$			
		6562 *3*	50 *9*	1014.56	$3/2^+$			
		7576 *3*	100 *13*	0.0	$5/2^+$	M1+E2	+0.09 *4*	B(M1)(W.u.)=0.066 *16*; B(E2)(W.u.)=0.05 *5*
7660	$(7/2^+$ to $11/2^+)$	2160 *3*	17 *11*	5499.8	$11/2^+$			
		3079 *3*	52 *14*	4580.0	$(7/2^+)$			
		3149 *3*	79 *18*	4510.3	$(11/2^+)$			

From ENSDF

$^{27}_{13}Al_{14}$-13

Adopted Levels, Gammas (continued)

γ(^{27}Al) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[@]	δ[&]
7660	(7/2$^+$ to 11/2$^+$)	4655 *3*	97 *18*	3004.2	(9/2$^+$)		
		5448 *3*	100 *18*	2212.01	(7/2$^+$)		
7676.5	(3/2$^+$,5/2$^+$)	6661.1 *16*	21 *8*	1014.56	3/2$^+$		
		7675.3 *16*	100 *15*	0.0	5/2$^+$		
7679	(7/2,9/2$^+$)	4674.3 *13*	34 *7*	3004.2	(9/2$^+$)		
		4943.6 *13*	48 *9*	2734.9	5/2$^+$		
		5467.3 *12*	45 *12*	2212.01	(7/2$^+$)		
		7677.8 *11*	100 *16*	0.0	5/2$^+$		
7721	5/2	4738.5 *11*	100.0 *12*	2982.00	3/2$^+$		
		5509.2 *12*	12.4 *12*	2212.01	(7/2$^+$)		
7798	(3/2,5/2,7/2)	2359 *3*	100 *7*	5438.4	5/2$^-$		
		7796 *3*	28 *7*	0.0	5/2$^+$		
7806	(7/2$^+$,9/2$^+$)	3225 *3*	42 *9*	4580.0	(7/2$^+$)	D+Q	+0.16 *6*
		3295 *3*	25 *7*	4510.3	(11/2$^+$)		
		5594 *3*	100 *10*	2212.01	(7/2$^+$)	D	
7858	3/2$^+$	861 *3*	27 *9*	6992.9	(5/2 to 9/2)		
		2106 *3*	50 *14*	5751.6	1/2$^+$		
		3046 *3*	68 *23*	4811.6	5/2$^+$		
		4177 *3*	50 *14*	3680.4	1/2$^+$		
		4853 *3*	<31.8	3004.2	(9/2$^+$)		
		4875 *3*	<31.8	2982.00	3/2$^+$		
		5122 *3*	86 *23*	2734.9	5/2$^+$		
		5646 *3*	<22.7	2212.01	(7/2$^+$)		
		6842 *3*	<40.9	1014.56	3/2$^+$		
		7013 *3*	73 *19*	843.76	1/2$^+$		
		7856 *3*	100 *19*	0.0	5/2$^+$		
7900	(5/2$^-$,7/2$^-$)	5164.5 *13*	100 *16*	2734.9	5/2$^+$		
		7898.7 *11*	52 *16*	0.0	5/2$^+$		
7948	(9/2$^+$,11/2$^+$)	2448 *3*	6.7 *23*	5499.8	11/2$^+$		
		2527 *3*	18 *5*	5419.9	(9/2$^+$)		
		3437 *3*	100 *9*	4510.3	(11/2$^+$)		
		4943 *3*	98 *9*	3004.2	(9/2$^+$)		
7997	9/2	4992.3 *13*	59 *8*	3004.2	(9/2$^+$)	D+(Q)	+0.3 *3*
		5785.2 *12*	100 *8*	2212.01	(7/2$^+$)	D+Q	−0.09 *7*
8037	7/2	3456.7 *13*	9 *4*	4580.0	(7/2$^+$)		
		5825.2 *12*	15 *5*	2212.01	(7/2$^+$)		
		8035.7 *11*	100 *7*	0.0	5/2$^+$	D+Q	+0.09 *3*
8043	(5/2$^+$ to 9/2$^+$)	2610 *3*	62 *18*	5432.8	7/2		
		5038 *3*	95 *21*	3004.2	(9/2$^+$)		
		8041 *3*	100 *21*	0.0	5/2$^+$		
8065	(3/2$^+$,5/2$^+$)	8063 *3*	100	0.0	5/2$^+$		
8097	5/2	2345.2 *15*	13 *4*	5751.6	1/2$^+$		

From ENSDF

$^{27}_{13}Al_{14}$-14

Adopted Levels, Gammas (continued)

γ(^{27}Al) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[@]	δ[&]
8097	5/2	3516.7 *13*	23 *9*	4580.0	(7/2$^+$)		
		5114.4 *11*	100 *27*	2982.00	3/2$^+$		
		7081.5 *11*	43 *15*	1014.56	3/2$^+$		
8136	5/2	7122 *2*	75 *28*	1014.56	3/2$^+$		
		8136 *2*	100 *28*	0.0	5/2$^+$		
8182.1	3/2$^-$	7337.2[#] *14*	100[#] *19*	843.76	1/2$^+$		
		8180.7[#] *14*	67[#] *19*	0.0	5/2$^+$		
8287	(5/2,9/2)	2619.5[#] *16*	18[#] *6*	5667.3	9/2$^+$		
		2848.4[#] *13*	47[#] *6*	5438.4	5/2$^-$		
		2866.9[#] *14*	59[#] *9*	5419.9	(9/2$^+$)		
		5282.2[#] *13*	100[#] *12*	3004.2	(9/2$^+$)		
		6075.1[#] *12*	71[#] *9*	2212.01	(7/2$^+$)		
8324	(3/2,5/2)$^+$	7308.4[#] *11*	100[#]	1014.56	3/2$^+$		
8396	(11/2)	1883.7[#] *15*	14[#] *6*	6512.2	9/2		
		2896.0[#] *13*	25[#] *6*	5499.8	11/2$^+$	D+Q	+0.39 *9*
		3885.4[#] *12*	100[#] *11*	4510.3	(11/2$^+$)	D+(Q)	+0.1 *2*
		5391.2[#] *13*	39[#] *8*	3004.2	(9/2$^+$)	D+Q	+0.29 *4*
8442	(7/2)	5437.2[#] *13*	89[#] *17*	3004.2	(9/2$^+$)		
		8440.5[#] *11*	100[#] *17*	0.0	5/2$^+$	D+(Q)	+0.03 *6*
8521	(1/2,3/2,5/2,7/2$^+$)	7505[#] *3*	100[#]	1014.56	3/2$^+$		
8537	(5/2)	5801.4[#] *13*	100[#]	2734.9	5/2$^+$		
8586	(7/2)	6374.0[#] *12*	100[#] *8*	2212.01	(7/2$^+$)		
		8584.5[#] *11*	22[#] *8*	0.0	5/2$^+$		
8675	(7/2,9/2$^+$)	4094.6[#] *13*	34[#] *9*	4580.0	(7/2$^+$)		
		6463.0[#] *12*	100[#] *12*	2212.01	(7/2$^+$)		
		8673.5[#] *11*	30[#] *7*	0.0	5/2$^+$		
8693	(9/2,11/2,13/2)	1745[#] *3*	19[#] *6*	6947.9	11/2$^+$		
		4182[#] *3*	100[#] *6*	4510.3	(11/2$^+$)		
8952	(5/2,9/2$^+$)	8950.4 *11*	100	0.0	5/2$^+$		

[†] From (p,γ), except otherwise noted.
[‡] From ^{27}Mg β^- decay.
[#] From ^{24}Mg(α,pγ).

From ENSDF

$^{27}_{13}Al_{14}$-15

Adopted Levels, Gammas (continued)

$\gamma(^{27}Al)$ (continued)

@ From angular correlation coefficient measurements or resonance data analysis in (p,γ) and transition rate comparison of experimental and calculated data in 1988Li31 ((p,γ) and (α,pγ)), except otherwise noted.

& From 1988Li31, 1971Lu11, 1969Bi06, 1968Ha20, 1967Sh06, and 1961Mc08, except otherwise noted. Sign convention as of the ENSDF policy.

[a] From 1971Ro22 (^{26}Mg(p,γ)).

[b] From 1974Ro24 (^{26}Mg(p,γ) and ^{24}Mg(α,pγ)).

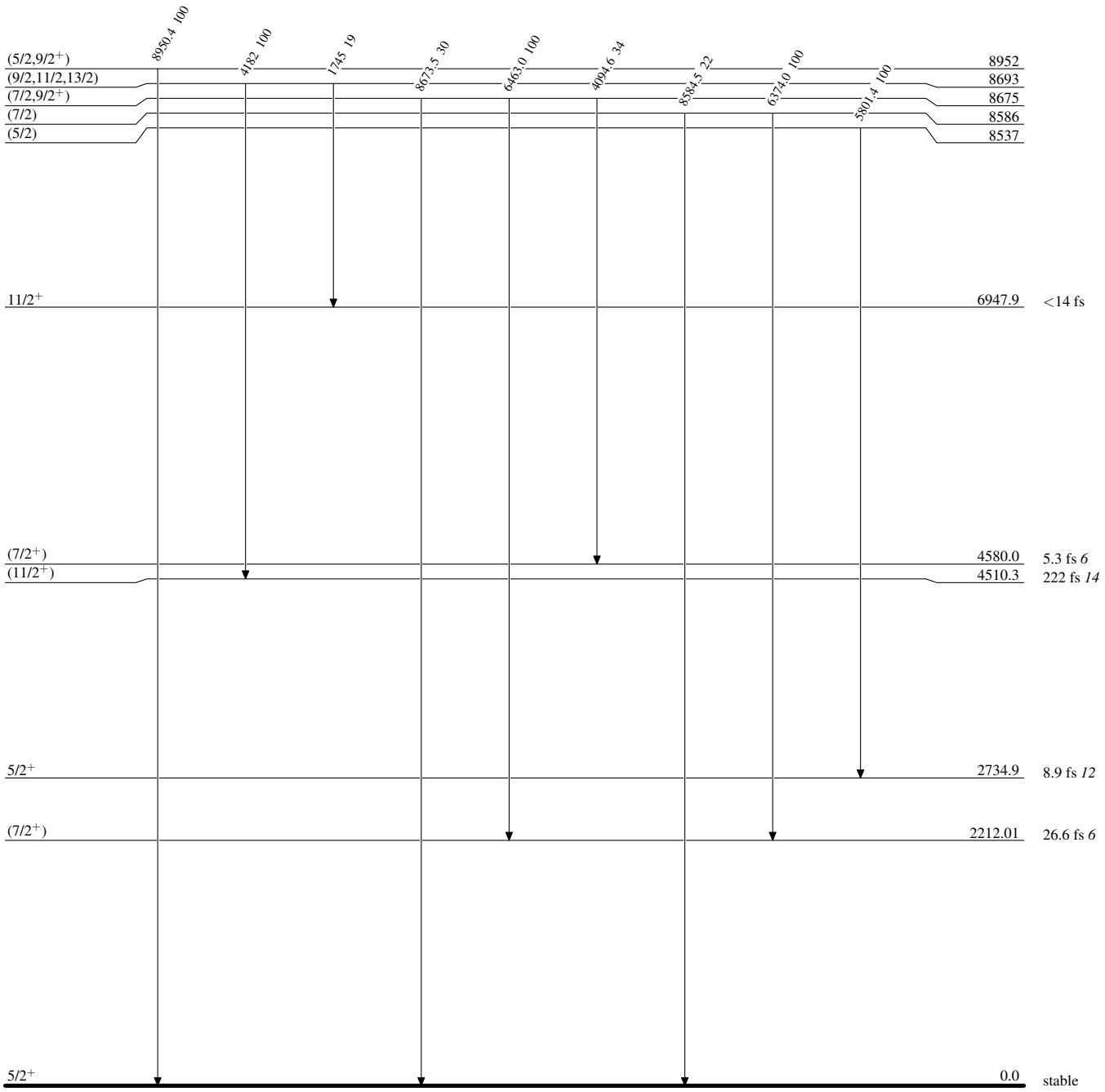
From ENSDF

$^{27}_{13}Al_{14}$-16

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

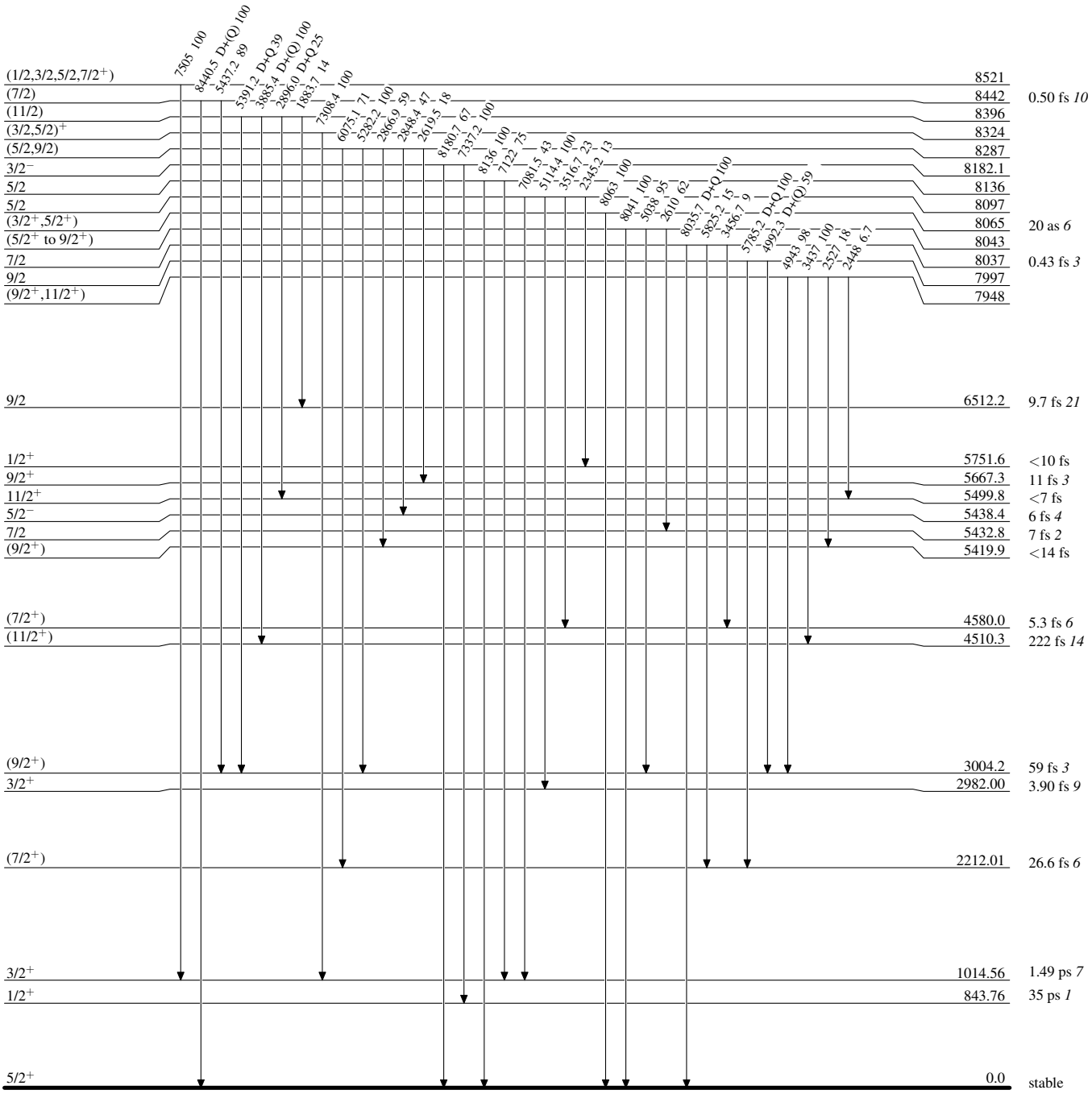


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

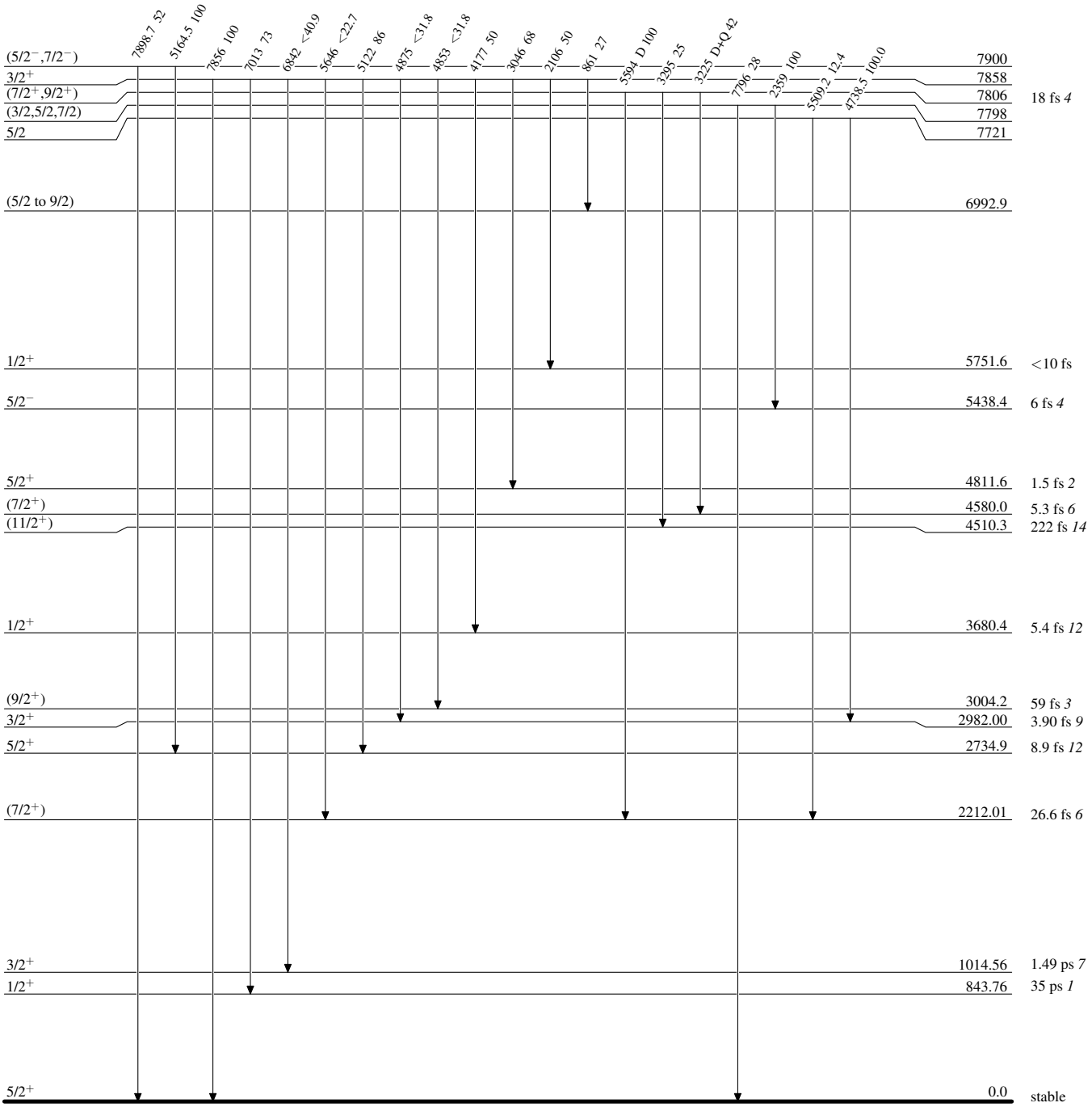


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

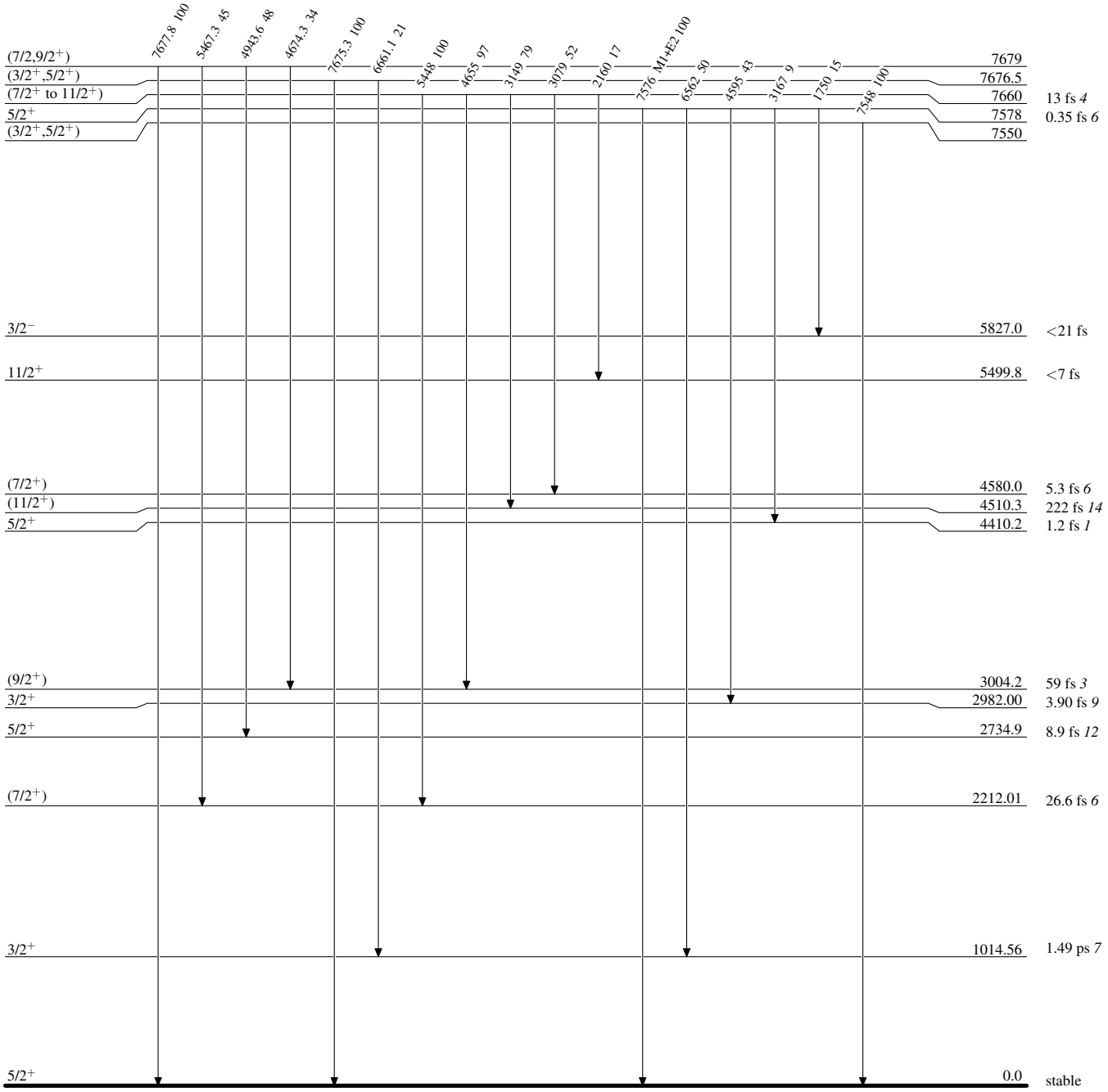


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

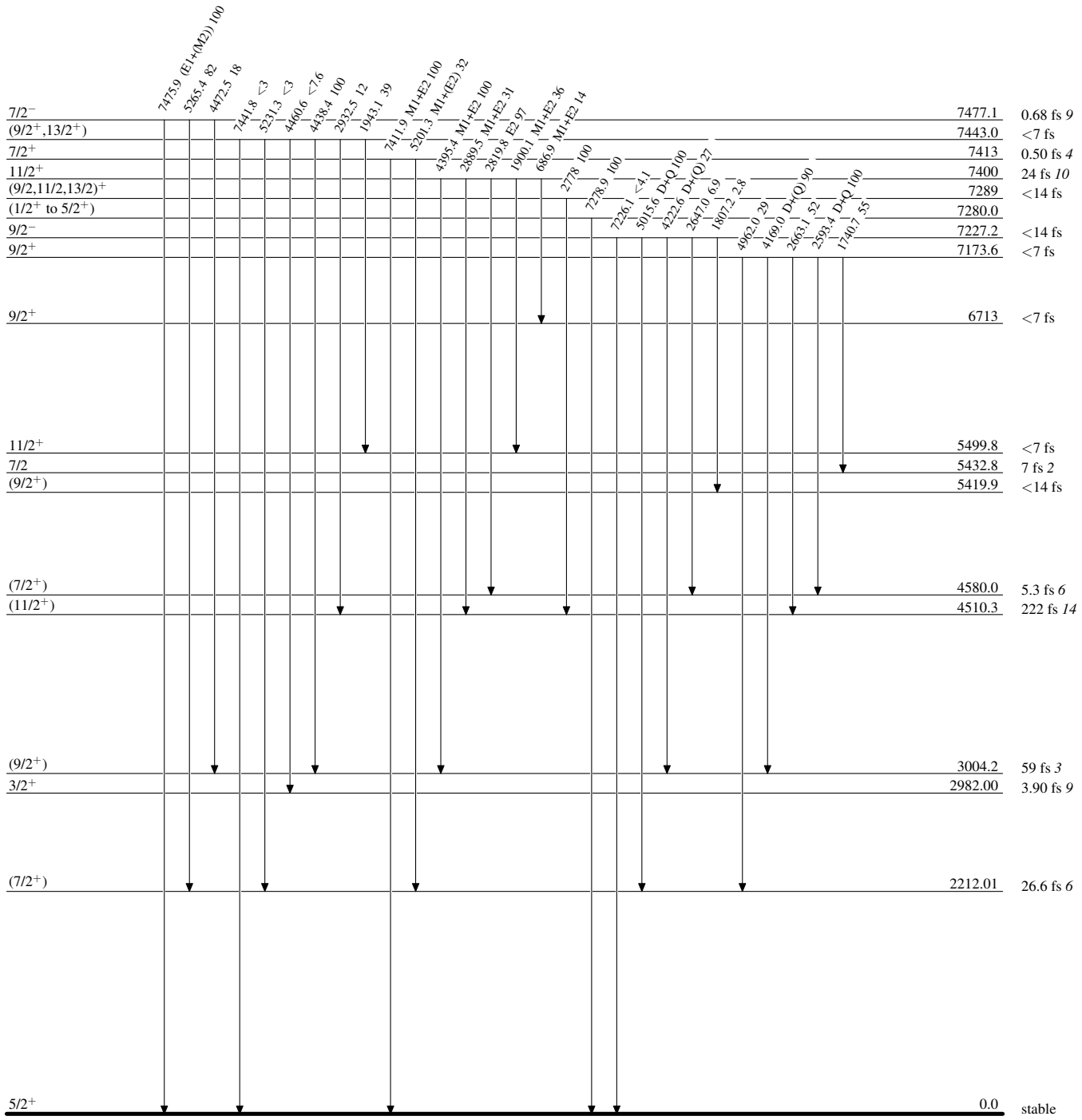


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

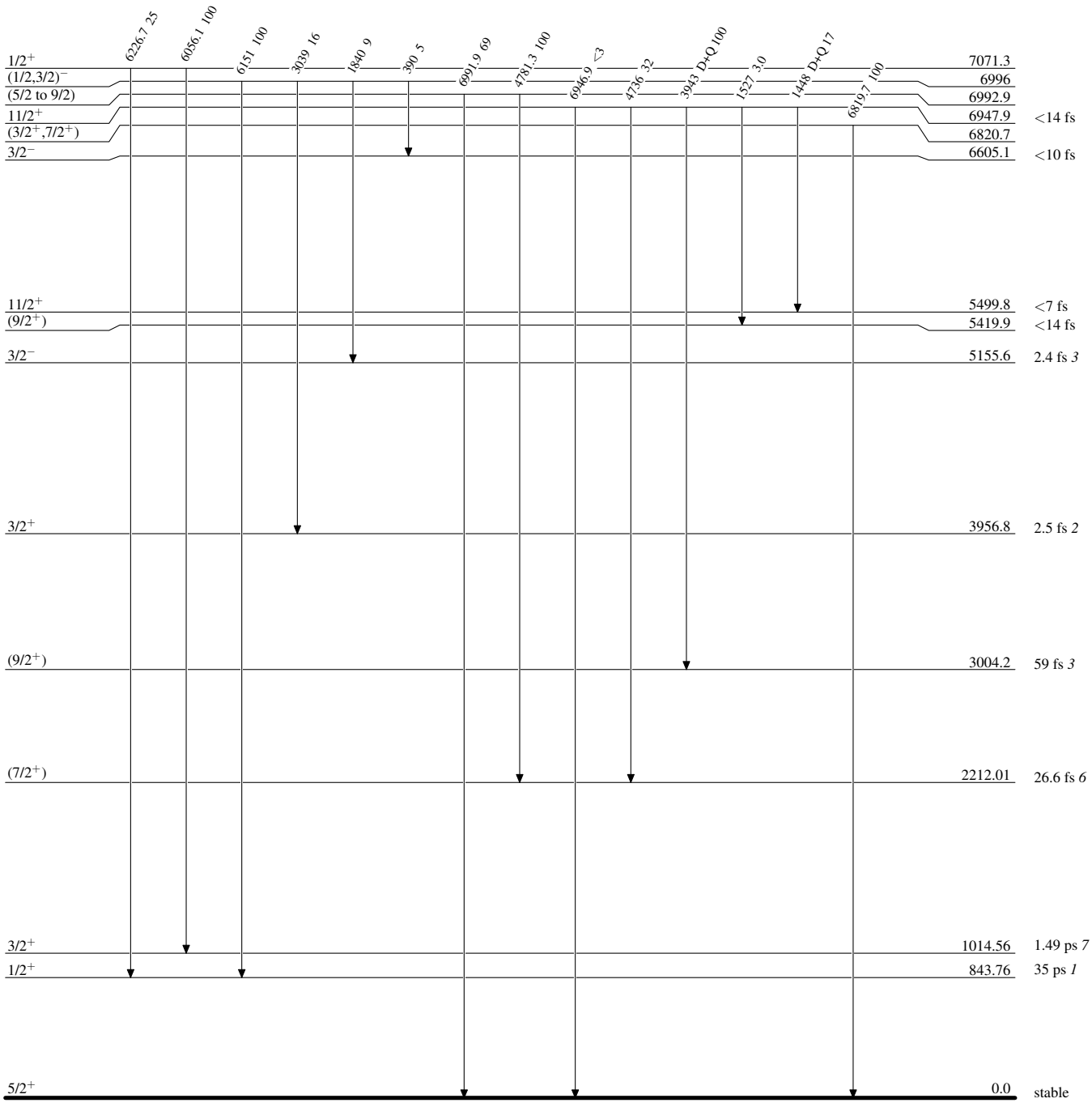


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

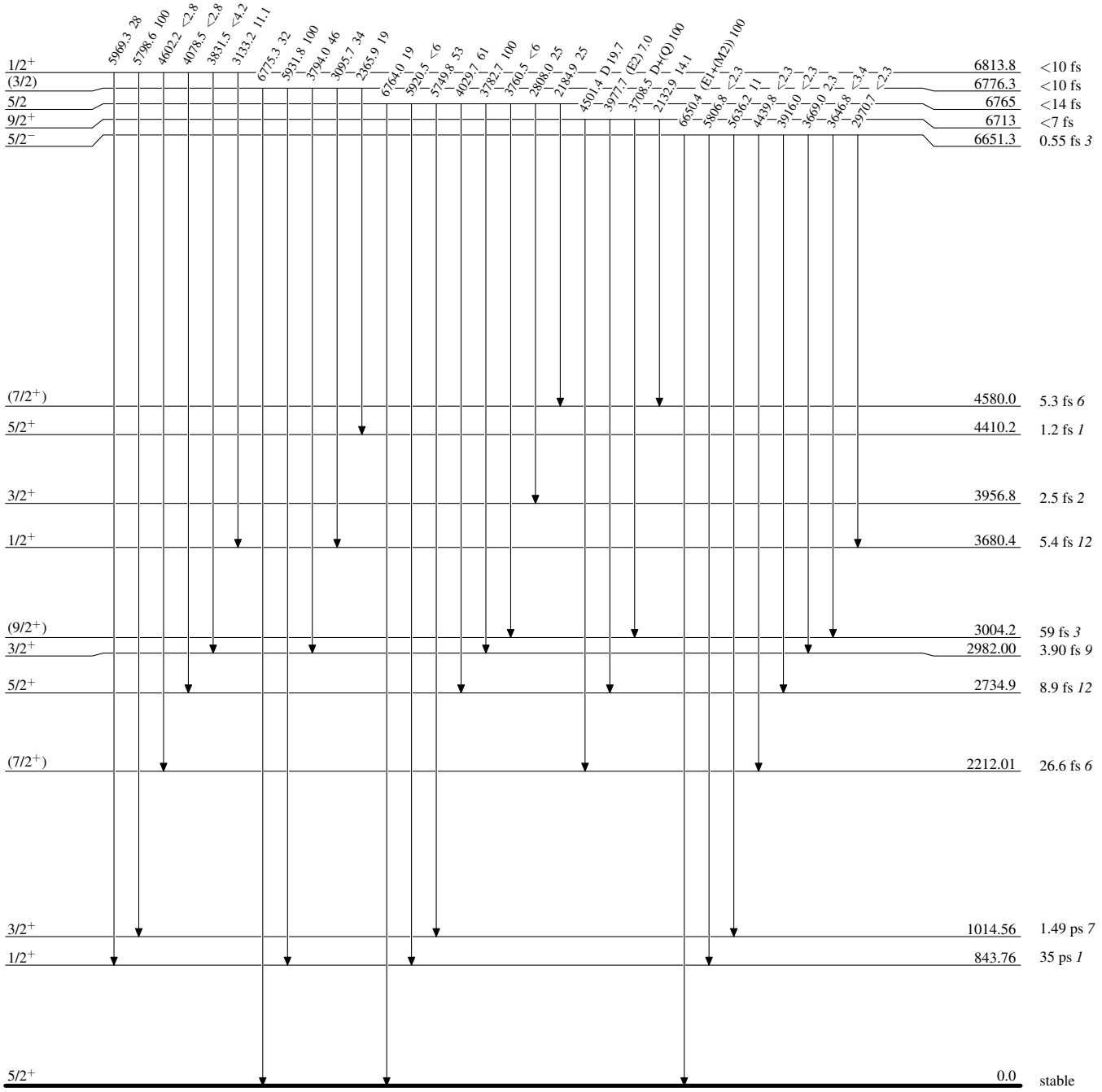


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

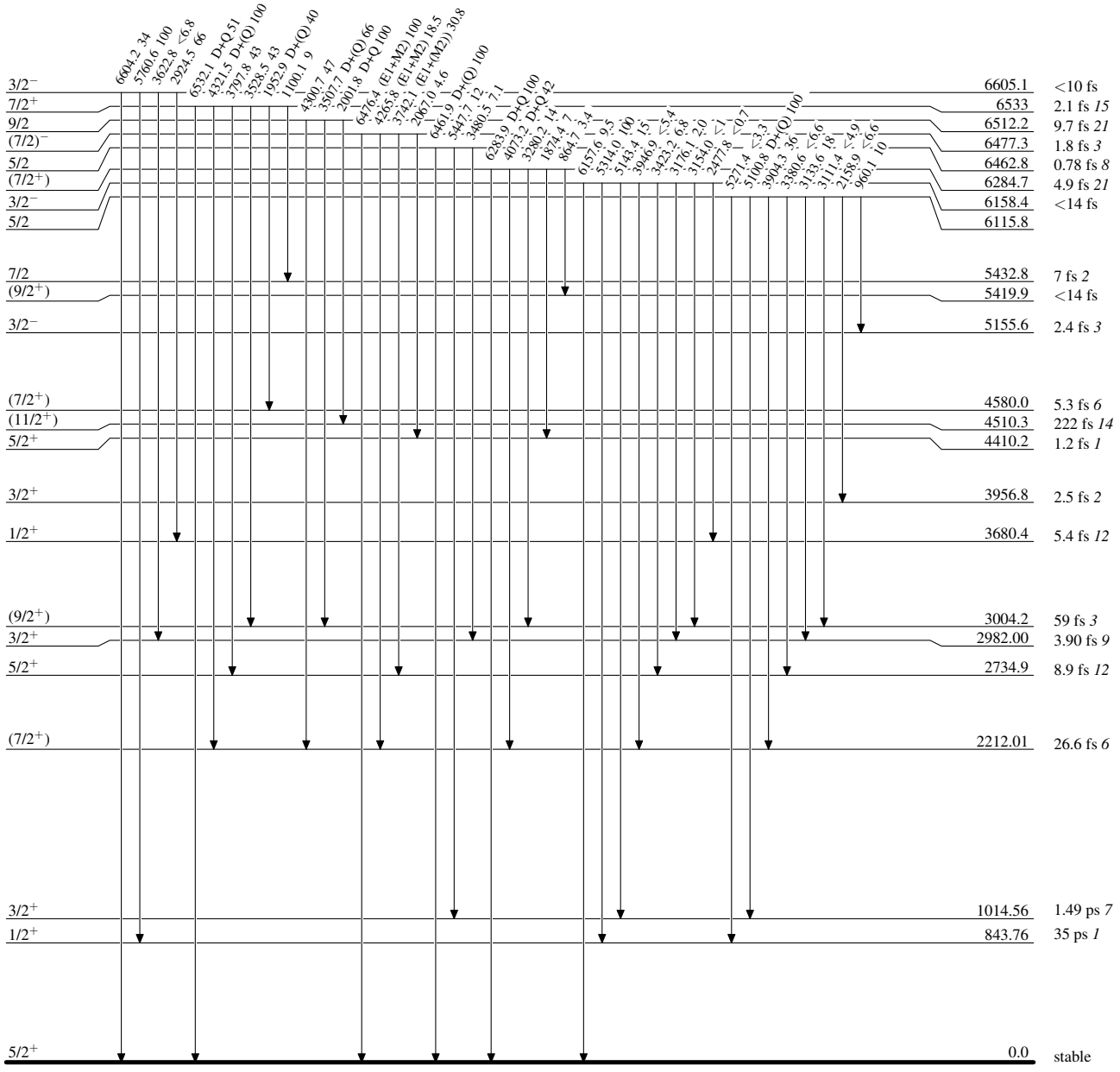


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

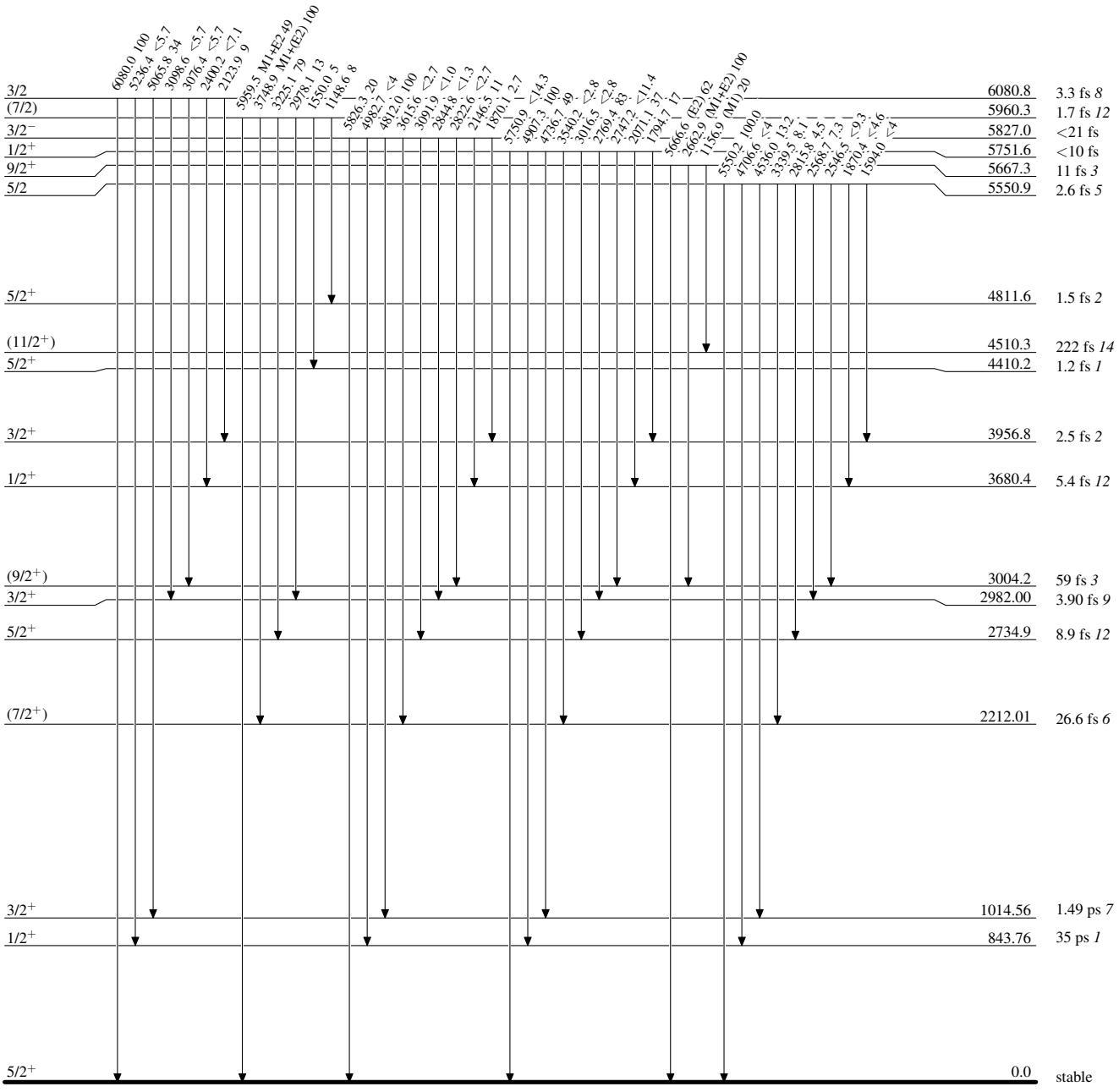


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

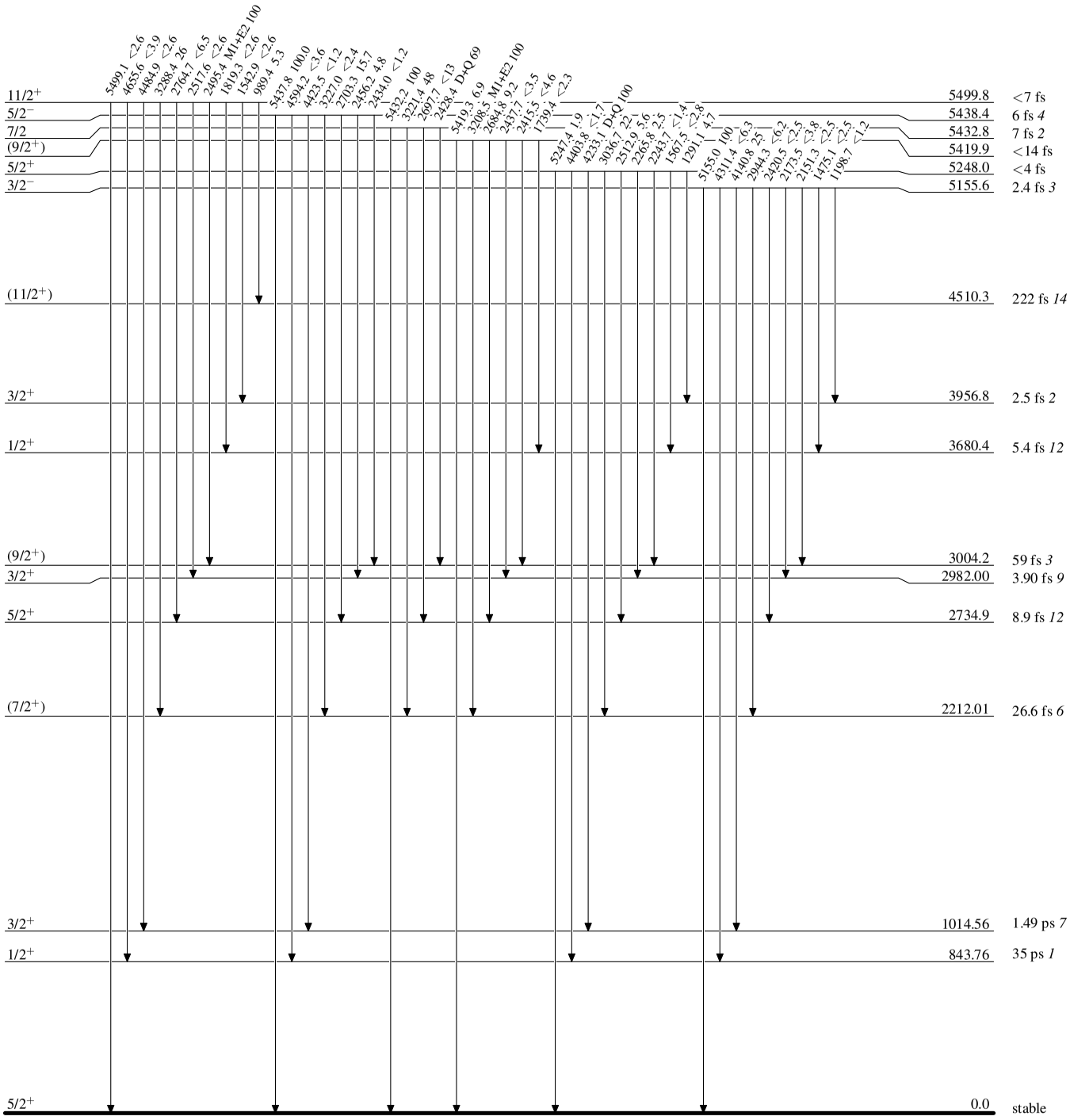


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

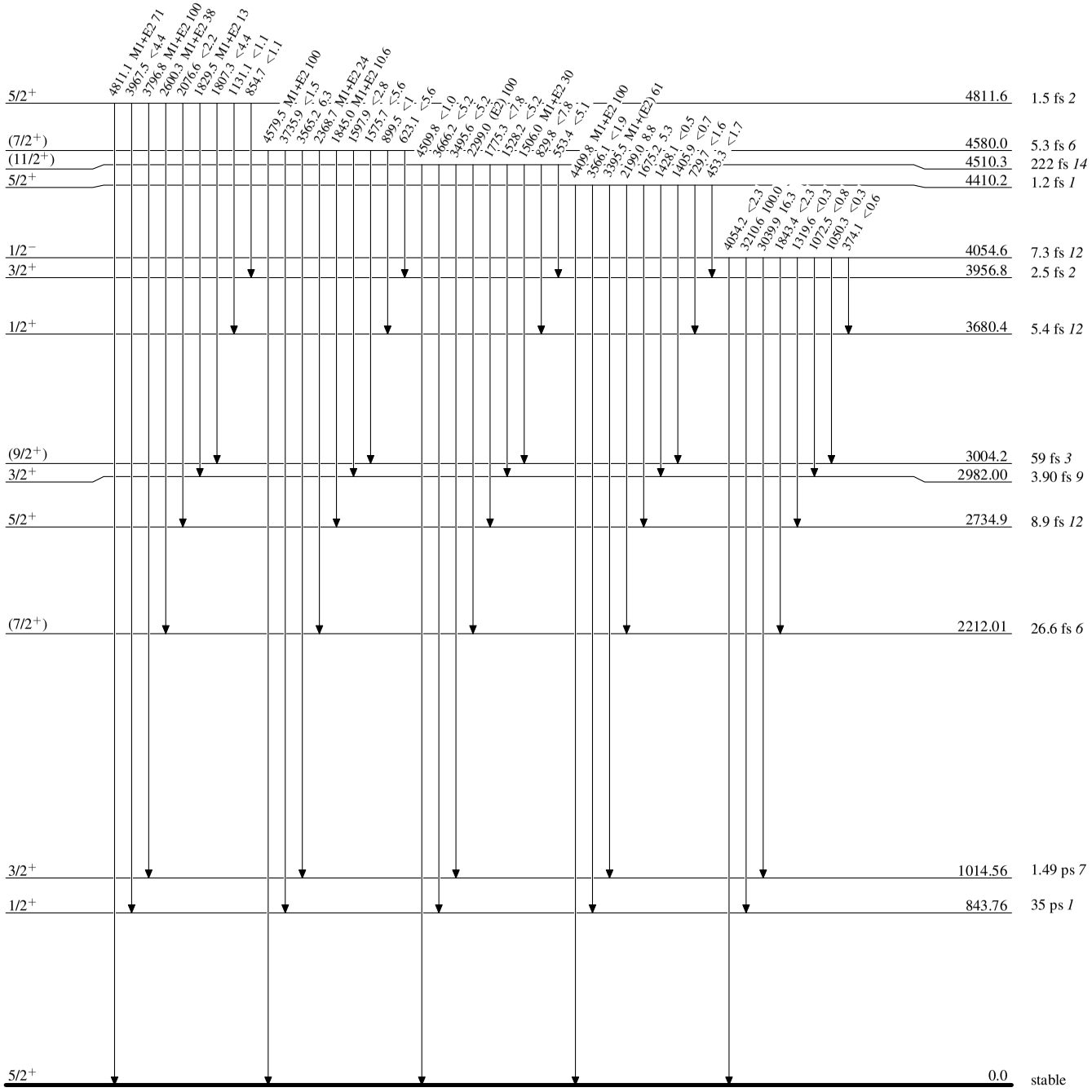


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

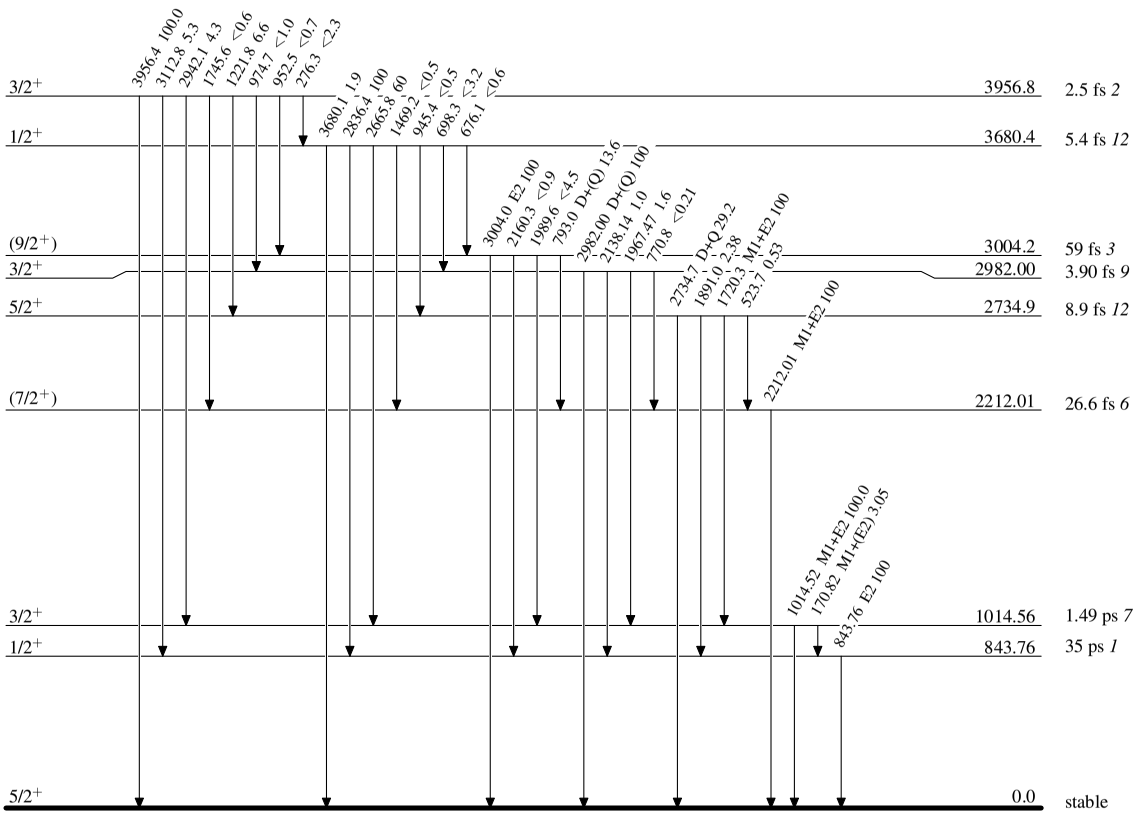


$^{27}_{13}Al_{14}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{27}_{13}Al_{14}$