Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, G. Mukherjee, A. A. Sonzogni	NDS 111,2555 (2010)	30-Jun-2009

Q(β^-)=−5116 *11*; S(n)=8944 *10*; S(p)=6588 *11*; Q(α)=−3673 *12* 2012Wa38
Note: Current evaluation has used the following Q record −5112 12 *8947* 11 *6586* 12 −3673 16 2009AuZZ.
S(2n)=22383 *12*, S(2p)=11226 *12* (2009AuZZ).
α: Additional information 1.

^{95}Ru Levels

Cross Reference (XREF) Flags

A ^{95}Rh ε decay (5.02 min)
B ^{95}Rh ε decay (1.96 min)
C ^{92}Mo(α,nγ),(^{6}Li,p2nγ)
D ^{94}Mo(α,3nγ)
E ^{64}Zn(^{35}Cl,3pnγ)
F ^{96}Ru(p,d)

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	XREF	Comments
0.0[&]	5/2$^+$	1.643 h *13*	ABCDEF	%ε+%β^+=100 μ=(−)0.861 (1991Hi17) J$^\pi$: 3/2$^+$,5/2$^+$ from L(p,d)=2; log *ft*=5.2 to 7/2$^+$. $T_{1/2}$: weighted av of 1.650 h *17* (1968Pi03. Ge(Li)) and 1.632 h *21* (1970Bo22. $\beta\gamma$-coin; NaI). μ: NMR.
787.7 *4*	1/2$^+$		B F	XREF: F(779). J$^\pi$: From angular momentum transfer in (p,d).
890? *5*			F	
941.79 *15*	7/2$^{(+)}$		A CDEF	XREF: F(940). J$^\pi$: 7/2 from $\gamma(\theta)$ in (^{6}Li,p2nγ). (7/2$^+$,9/2$^+$) from L(p,d)=(4).
1141 *5*	3/2$^+$,5/2$^+$		F	
1352.08[&] *14*	9/2$^+$		A CDEF	XREF: F(1342). J$^\pi$: 7/2$^+$,9/2$^+$ from L(p,d)=4; 9/2 from $\gamma(\theta)$ in (^{6}Li,p2nγ).
1494.68 *23*	(7/2,9/2)		A	J$^\pi$: (7/2,9/2,11/2) from log *ft*=6.0 to 6.4 from (9/2)$^+$ and γ to 5/2$^+$.
1524.0? *3*	(7/2,9/2)		A	J$^\pi$: (7/2,9/2,11/2) from log *ft*=6.0 to 6.4 from (9/2)$^+$ and γ to 5/2$^+$.
1925.29? *24*	(7/2,9/2)		A	J$^\pi$: (7/2,9/2,11/2) from log *ft*=6.0 to 6.4 from (9/2)$^+$ and γ to 5/2$^+$.
2029.62[&] *18*	13/2$^+$		A CDE	
2067.5? *3*	(11/2$^+$)		C	J$^\pi$: from $\gamma(\theta)$, comparison to shell-model calculations, and systematics of other odd-a Ru isotopes in (^{6}Li,p2nγ).
2117.0 *4*	9/2$^+$		A F	XREF: F(2108). J$^\pi$: from L=4 transfer in (p,d).
2155.70? *24*	(7/2,9/2)		A	J$^\pi$: (7/2,9/2,11/2) from log *ft*=6.0 to 6.4 from (9/2)$^+$ and γ to 5/2$^+$.
2246.92[a] *19*	11/2$^+$	240[#] ps *21*	A CDE	J$^\pi$: 11/2 from $\gamma(\theta)$ in (α,3nγ) and M of decay γ's; (7/2,9/2,11/2)$^+$ from log *ft*=5.5 from 9/2$^+$.
2258.84 *20*	(9/2,11/2)$^+$		A	J$^\pi$: (7/2,9/2,11/2)$^+$ from log *ft*=4.5 to 5.3 from (9/2)$^+$ and γ to 13/2$^{(+)}$.
2268.2? *3*	(7/2,9/2)		A	J$^\pi$: (7/2,9/2,11/2) from log *ft*=6.0 to 6.4 from (9/2)$^+$ and γ to 5/2$^+$.
2284.0[&] *3*	17/2$^+$	3.05 ns *28*	CDE	J$^\pi$: From $\gamma(\theta)$ in (α,3nγ) and E2 cascade to 13/2$^+$. $T_{1/2}$: From γ(t) in (^{6}Li,p2nγ). μ: +7.01 *14* (1978LeZA,1976Le30. DPAD) not adopted since the assignment to 2285 was based on the assumption of only one 255γ. Coincidence data in (^{6}Li,p2nγ) indicate that intensity of 255γ is distributed between two transitions of identical energy.
2294 *5*	9/2$^+$		F	J$^\pi$: from L=4 transfer in (p,d).
2431.11 *22*	(9/2,11/2)$^+$		A	J$^\pi$: (7/2,9/2,11/2)$^+$ from log *ft*=4.5 to 5.3 from (9/2)$^+$ and γ to 13/2$^{(+)}$.
2450.2 *3*	(11/2$^-$)		C E	J$^\pi$: from $\gamma(\theta)$, comparison to shell-model calculations, and systematics

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Adopted Levels, Gammas (continued)

^{95}Ru Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
				of other odd-A Ru isotopes in (^{6}Li,p2nγ).
2493.12[b] *21*	13/2$^-$	0.60[@] ns *4*	C E	Jπ: From γ(θ), the mult. of the decay γ′s and comparison to shell-model calculations.
2538.0[&] *4*	21/2$^+$	10.05 ns *14*	CDE	μ=+9.17 *7* (1989Ra17,1988Gr34) Jπ: From γ(θ) in (α,3nγ) and E2 cascade to 13/2$^+$. $T_{1/2}$: From γ(t) in (^{6}Li,p2nγ) (1985Ch28). μ: DPAD. See also comment on μ(2284).
2575.1 *3*			E	
2690.99 *24*	(9/2,11/2)		A	Jπ: (7/2,9/2,11/2) from log *ft*=5.4 from (9/2)$^+$; γ to 13/2$^{(+)}$.
2695.6? *3*	(9/2)		A	Jπ: (7/2,9/2,11/2) from log *ft*=5.8 from (9/2)$^+$; γ′s to 5/2$^+$ and 13/2$^{(+)}$.
2713 *5*	1/2$^-$,3/2$^-$		F	Jπ: from L=1 transfer in (p,d).
2774.3[a] *3*	15/2$^-$	6.93[#] ps *6*	C E	Jπ: from γ(θ), (M1+E2) γ to 13/2$^-$,(E1) γ to 13/2$^+$ and membership in band.
2902.3? *3*	(7/2,9/2,11/2)$^+$		A	Jπ: log *ft*=4.8 to 5.5 from (9/2)$^+$.
2999.4 *4*			E	
3062.9 *3*	(7/2,9/2)$^+$		A	
3164.5? *7*	(7/2,9/2)$^+$		A	
3186.3 *8*	(3/2)$^-$		B F	XREF: F(3178). Jπ: 1/2$^-$,3/2$^-$ from L(p,d)=1. γ to 5/2$^+$.
3214 *5*	1/2$^-$,3/2$^-$		F	Jπ: From angular momentum transfer in (p,d).
3362.9 *3*	(19/2$^+$)		E	Jπ: E1 γ from (21/2$^-$).
3383 *5*	9/2$^+$,7/2$^+$		F	Jπ: From angular momentum transfer in (p,d).
3407.2 *5*	(3/2)$^-$		B F	Jπ: (1/2,3/2)$^-$ from log *ft*=4.8 from (1/2)$^-$; γ to 5/2$^+$.
3477.8[a] *3*	(17/2$^-$)	5.5[#] ps *6*	E	Jπ: membership in band.
3551.23 *25*	(7/2,9/2)$^+$		A	
3655.8? *7*	(7/2,9/2,11/2)$^+$		A	Jπ: log *ft*=4.8 to 5.5 from (9/2)$^+$.
3686.7? *8*	(7/2,9/2)$^+$		A	
3702.2[b] *3*	(19/2$^-$)	<2.1[@] ps	E	Jπ: membership in band.
3733.6 *3*	(7/2,9/2)$^+$		A	
3744.0? *12*	(9/2,11/2)$^+$		A	Jπ: (7/2,9/2,11/2)$^+$ from log *ft*=4.5 to 5.3 from (9/2)$^+$ and γ to 13/2$^{(+)}$.
3779.1 *3*	(9/2)$^+$		A	Jπ: (7/2,9/2,11/2)$^+$ from log *ft*=4.7 from (9/2)$^+$; γ′s to 5/2$^+$ and 13/2$^{(+)}$.
3824.5? *7*	(3/2)$^-$		B	Jπ: (1/2,3/2)$^-$ from log *ft*=4.7 from (1/2)$^-$; γ to 5/2$^+$.
3830.3[&] *4*	25/2$^{(+)}$	<1.5 ps	DE	Jπ: 25/2 from γ(θ) in (α,3nγ). π=+ from membership in band. $T_{1/2}$: Determined by recoil-distance Doppler shift (RDDS) method in 2004Ga08.
3975.8? *8*	(7/2,9/2,11/2)$^+$		A	Jπ: log *ft*=4.8 to 5.5 from (9/2)$^+$.
3983.6? *5*	(7/2,9/2)$^+$		A	
3985.7[a] *3*	(21/2$^-$)	8.9[#] ps *10*	E	Jπ: membership in band.
4177.7? *12*	(7/2,9/2)$^+$		A	
4192.8[a] *4*	(23/2$^-$)	5.68[#] ps *28*	E	Jπ: membership in band.
4502.9[b] *5*	(29/2$^+$)	11.0[@] ps *7*	E	Jπ: membership in band.
4505.8[a] *4*	(25/2$^-$)	3.19[#] ps *21*	E	Jπ: membership in band.
4744.5[a] *4*	(27/2$^-$)	2.91[#] ps *28*	E	Jπ: membership in band.
5616.6[a] *5*	(29/2$^-$)	1.59[#] ps *21*	E	Jπ: (E2) γ to (25/2$^-$) and (M1) γ to (27/2$^-$).
5774.5[b] *5*	31/2$^-$	2.63[@] ps *28*	E	Jπ: (E2) γ to (27/2$^-$).
6643.8[b] *6*	(31/2$^+$,33/2$^+$)	≤4.2[@] ps	E	Jπ: γ to (29/2$^+$) and comparison to RUL from the half life limit.
6777.6[b] *6*	(31/2$^+$,33/2$^+$)	≤6.9[@] ps	E	Jπ: γ to (29/2$^+$).
6824.8[b] *7*	(33/2$^+$,35/2$^+$)	≤4.9[@] ps	E	Jπ: membership in band and comparison to RUL from the half life

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Adopted Levels, Gammas (continued)

^{95}Ru Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$	XREF	Comments
				limit.
7063.9[b] *6*	(33/2$^-$,35/2$^-$)	≤1.4[@] ps	E	J$^{\pi}$: γ to (31/2$^-$) and comparison to RUL from the half life limit.
7527.4[b] *6*	(33/2$^-$,35/2$^-$)	≤7.6[@] ps	E	J$^{\pi}$: γ to (31/2$^-$) and comparison to RUL from the half life limit.
7529.7[b] *7*	(35/2$^+$,37/2$^+$)	≤4.9[@] ps	E	J$^{\pi}$: membership in band.
7681.7[b] *6*	(35/2$^-$)	≤2.8[@] ps	E	J$^{\pi}$: γ to (31/2$^-$) and comparison to RUL from the half life limit.
7762.3 *6*			E	
8103.8[b] *7*	(37/2$^+$,39/2$^+$)	≤5.5[@] ps	E	J$^{\pi}$: membership in band.
8137.2 *6*			E	
8308.5[b] *6*	(35/2$^-$)	≤1.4[@] ps	E	J$^{\pi}$: γ to (31/2$^-$) and comparison to RUL from the half life limit.
8702.6[b] *8*	(39/2$^+$,41/2$^+$)	≤6.2[@] ps	E	J$^{\pi}$: γ to (37/2$^+$,39/2$^+$) and comparison to RUL from the half life limit.
8735.3 *6*			E	
8849.3[b] *9*	(39/2$^+$,41/2$^+$)	≤5.5[@] ps	E	J$^{\pi}$: membership in band.
9341.5[b] *9*	(41/2$^+$,43/2$^+$)	≤6.9[@] ps	E	J$^{\pi}$: membership in band.
12160.9[b] *10*	(43/2$^+$,45/2$^+$)	≤3.5[@] ps	E	J$^{\pi}$: γ′s to (39/2$^+$,41/2$^+$) and comparison to RUL from the half life limit.

[†] Excitation energies are from a least-squares fit to Eγ′s for states connected by transitions with known ΔE_{γ}.
[‡] (7/2,9/2,11/2)$^+$ from log *ft*=4.5 to 5.3 from (9/2)$^+$ and γ to 5/2$^+$, except as noted.
[#] Determined by differential decay curve method (DDCM) in ^{64}Zn(^{35}Cl,3pnγ).
[@] Determined by recoil-distance Doppler shift (RDDS) method in ^{64}Zn(^{35}Cl,3pnγ).
[&] Band(A): γ sequence based on 5/2$^+$, g.s..
[a] Band(B): γ sequence based on 13/2$^-$.
[b] Band(C): γ sequence based on (31/2$^+$).

Adopted Levels, Gammas (continued)

γ(^{95}Ru)

See 5.02-min and 1.96-min ε decay and (α,3nγ) for unplaced gammas. See also 5.02-min ε decay for transitions looked for but not observed by 1981Gr20.

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
787.7	1/2$^+$	787.7 *4*	100	0.0	5/2$^+$			E_γ,I_γ: from 1.96-min ε decay.
941.79	7/2$^{(+)}$	941.9 *3*	100	0.0	5/2$^+$	D+Q		E_γ: weighted average of 941.6 *3* (^{95}Rh ε decay (5.02 min)), 942.2 *3* (^{64}Zn(^{35}Cl,3pnγ)).
1352.08	9/2$^+$	410.25 *21*	3.8 *9*	941.79	7/2$^{(+)}$	D+Q		E_γ: weighted average of 410.3 *3* (^{95}Rh ε decay (5.02 min)), 410.2 *3* (^{64}Zn(^{35}Cl,3pnγ)). I_γ: weighted average of 5.2 *5* (^{95}Rh ε decay (5.02 min)), 3.0 *10* (^{92}Mo(α,nγ),(^{6}Li,p2nγ)).
		1352.05 *21*	100 *3*	0.0	5/2$^+$	Q		E_γ: weighted average of 1352.0 *3* (^{95}Rh ε decay (5.02 min)), 1352.1 *3* (^{64}Zn(^{35}Cl,3pnγ)). I_γ: weighted average of 100 *3* (^{95}Rh ε decay (5.02 min)), 100 *10* (^{92}Mo(α,nγ),(^{6}Li,p2nγ)).
1494.68	(7/2,9/2)	553.1	≤2.9	941.79	7/2$^{(+)}$			
		1494.7 *3*	100 *57*	0.0	5/2$^+$			
1524.0?	(7/2,9/2)	1524.5[&] *5*	100	0.0	5/2$^+$			
1925.29?	(7/2,9/2)	401.2[@&] *3*	59[@] *11*	1524.0?	(7/2,9/2)			
		983.9	≤1.8	941.79	7/2$^{(+)}$			E_γ: observed only in ε decay.
		1925.3[&] *3*	100 *9*	0.0	5/2$^+$			
2029.62	13/2$^+$	677.45 *21*	100	1352.08	9/2$^+$	Q		E_γ: weighted average of 677.6 *3* (^{95}Rh ε decay (5.02 min)), 677.3 *3* (^{64}Zn(^{35}Cl,3pnγ)).
		2028.6	≤0.6	0.0	5/2$^+$			E_γ: observed only in ε decay.
2067.5?	(11/2$^+$)	715.4[&] *3*	100	1352.08	9/2$^+$	(D+Q)		E_γ,I_γ: from (α,nγ),(^{6}Li,p2nγ).
2117.0	9/2$^+$	622.5 *5*	100 *8*	1494.68	(7/2,9/2)			
		764.4 *7*	81 *14*	1352.08	9/2$^+$			
		1175.4 *7*	59 *11*	941.79	7/2$^{(+)}$			
2155.70?	(7/2,9/2)	661.0[@&] *3*	100[@] *7*	1494.68	(7/2,9/2)			
		2155.7[&] *3*	51 *12*	0.0	5/2$^+$			
2246.92	11/2$^+$	894.90 *21*	96 *8*	1352.08	9/2$^+$	(E2+M1)[#]	0.00118 *4*	α(K)=0.00104 *4*; α(L)=0.000119 *3*; α(M)=2.18×10^{-5} *6*; α(N)=3.53×10^{-6} *10*; α(O)=1.86×10^{-7} *9* α(N+..)=3.72×10^{-6} *11* E_γ: weighted average of 895.0 *3* (^{95}Rh ε decay (5.02 min)), 894.8 *3* (^{64}Zn(^{35}Cl,3pnγ)). I_γ: from ε decay.
		1305.15 *21*	100 *6*	941.79	7/2$^{(+)}$	(E2)[#]	0.000523 *8*	α(K)=0.000436 *7*; α(L)=4.97×10^{-5} *7*; α(M)=9.09×10^{-6} *13*;

$^{95}_{44}Ru_{51}$-4

Adopted Levels, Gammas (continued)

γ(^{95}Ru) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
								α(N)=1.471×10^{-6} *21* α(O)=7.78×10^{-8} *11*; α(N+..)=2.81×10^{-5} *4* B(E2)(W.u.)=0.0122 *15* I_γ: Iγ(1305γ)/Iγ(895γ)=0.50 *14* in (^{6}Li,p2nγ) and =0.13 *1* in ^{64}Zn(^{35}Cl,3pnγ). I_γ: weighted average of 100 *6* (^{95}Rh ε decay (5.02 min)), 16 *5* (^{64}Zn(^{35}Cl,3pnγ)). I_γ: from ε decay.
2246.92	11/2$^+$	2246.7	≤4.0	0.0	5/2$^+$			E_γ: observed only in ε decay.
2258.84	(9/2,11/2)$^+$	229.3 *3*	76 *5*	2029.62	13/2$^+$	[M1,E2]	0.050 *18*	α(K)=0.043 *15*; α(L)=0.0058 *25*; α(M)=0.0011 *5*; α(N)=0.00017 *7*; α(O)=7.3×10^{-6} *21* α(N+..)=0.00018 *7*
		906.9 *3*	20.2 *21*	1352.08	9/2$^+$			
		1317.0 *3*	100 *7*	941.79	7/2$^{(+)}$			
		2258.5	≤2.4	0.0	5/2$^+$			
2268.2?	(7/2,9/2)	1326.6[&] *3*	100 *9*	941.79	7/2$^{(+)}$			
		2267.0[&] *10*	54 *9*	0.0	5/2$^+$			
2284.0	17/2$^+$	254.7[@] *3*	100[@]	2029.62	13/2$^+$	E2	0.0468	α(K)=0.0400 *6*; α(L)=0.00557 *9*; α(M)=0.001029 *15*; α(N)=0.0001613 *24*; α(O)=6.61×10^{-6} *10* α(N+..)=0.0001679 *25* B(E2)(W.u.)=6.4 *6* Mult.: Q from γ(θ) in (^{6}Li,p2nγ); ≠M2 from comparison to RUL. E_γ,I_γ: weighted average of 255 *1* (^{92}Mo(α,nγ),(^{6}Li,p2nγ)), 254.7 *3* (^{64}Zn(^{35}Cl,3pnγ)).
2431.11	(9/2,11/2)$^+$	401.2[@] *3*	13.3[@] *25*	2029.62	13/2$^+$	[M1,E2]	0.0092 *13*	α(K)=0.0080 *11*; α(L)=0.00098 *18*; α(M)=0.00018 *4*; α(N)=2.9×10^{-5} *5*; α(O)=1.41×10^{-6} *15* α(N+..)=3.0×10^{-5} *5*
		1079.3 *3*	39 *3*	1352.08	9/2$^+$			
		1489.3 *3*	100 *6*	941.79	7/2$^{(+)}$			
		2431.1	≤2.1	0.0	5/2$^+$			
2450.2	(11/2$^-$)	383[&]		2067.5?	(11/2$^+$)			E_γ: observed only in (α,nγ),(^{6}Li,p2nγ).
		1098.1 *3*		1352.08	9/2$^+$			E_γ: from (^{35}Cl,3pnγ).
2493.12	13/2$^-$	43		2450.2	(11/2$^-$)			E_γ: observed only in (α,nγ),(^{6}Li,p2nγ).
		246.4 *3*	100 *7*	2246.92	11/2$^+$	(E1+M2)	0.040 *13*	α(K)=0.034 *11*; α(L)=0.0045 *18*; α(M)=0.0008 *4*; α(N)=0.00013 *5*; α(O)=5.9×10^{-6} *15* α(N+..)=0.00014 *5*
		463.9 *3*	25 *7*	2029.62	13/2$^+$	(E1+M2)	0.010 *9*	E_γ,I_γ: from (^{35}Cl,3pnγ); not observed in (α,nγ),(^{6}Li,p2nγ). α(K)=0.009 *8*; α(L)=0.0011 *10*; α(M)=0.00021 *17*; α(N)=3.E−5 *3*;

Adopted Levels, Gammas (continued)

γ(^{95}Ru) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
								α(O)=1.7×10^{-6} *15* α(N+..)=4.E−5 *3* E_γ,I_γ: from (^{35}Cl,3pnγ).
2493.12	13/2$^-$	1140.8 *3*	95 *7*	1352.08	9/2$^+$	(M2)	0.001644 *23*	α(K)=0.001441 *21*; α(L)=0.0001674 *24*; α(M)=3.07×10^{-5} *5* α(O)=2.66×10^{-7} *4*; α(N+..)=5.50×10^{-6} B(M2)(W.u.)=0.54 *7* E_γ,I_γ: from (^{35}Cl,3pnγ); not observed in (α,nγ),(^{6}Li,p2nγ).
2538.0	21/2$^+$	255[@] *1*	100[@]	2284.0	17/2$^+$	E2	0.0466 *9*	α(K)=0.0399 *8*; α(L)=0.00555 *12*; α(M)=0.001024 *21*; α(N)=0.000161 *4*; α(O)=6.58×10^{-6} *13* α(N+..)=0.000167 *4* B(E2)(W.u.)=1.94 *5* Mult.: Q from γ(θ) in (^{6}Li,p2nγ); ≠M2 from comparison to RUL. E_γ,I_γ: from (α,nγ),(^{6}Li,p2nγ).
2575.1		291.3 *3*	100	2284.0	17/2$^+$			E_γ,I_γ: from (^{35}Cl,3pnγ).
2690.99	(9/2,11/2)	661.0[@] *3*	100[@] *7*	2029.62	13/2$^+$			
		1339.0 *5*	47 *9*	1352.08	9/2$^+$			
		1749.5[@] *3*	42[@] *5*	941.79	7/2$^{(+)}$			
		2691.0	≤4.7	0.0	5/2$^+$			E_γ: observed only in ε decay.
2695.6?	(9/2)	666.1[&] *3*	100 *13*	2029.62	13/2$^+$			
		1752.8	≤54.5	941.79	7/2$^{(+)}$			
		2694.6[&] *15*	71 *15*	0.0	5/2$^+$			
2774.3	15/2$^-$	281.3 *3*	100.0 *21*	2493.12	13/2$^-$	(M1+E2)	0.026 *7*	α(K)=0.023 *6*; α(L)=0.0029 *10*; α(M)=0.00054 *18*; α(N)=9.E−5 *3*; α(O)=3.9×10^{-6} *9* α(N+..)=9.E−5 *3* Mult.: from γ(θ) in (^{6}Li,p2nγ) and comparison to RUL from half life in ^{64}Zn(^{35}Cl,3pnγ). E_γ,I_γ: from (^{35}Cl,3pnγ).
		744.2 *3*	5.3 *21*	2029.62	13/2$^+$	(E1)	0.000685 *10*	α(K)=0.000603 *9*; α(L)=6.80×10^{-5} *10*; α(M)=1.242×10^{-5} *18* α(O)=1.061×10^{-7} *15*; α(N+..)=2.12×10^{-6} *3* B(E1)(W.u.)=5.6×10^{-6} *23* E_γ,I_γ: from (^{35}Cl,3pnγ).
2902.3?	(7/2,9/2,11/2)$^+$	1378.5[&] *3*	100 *10*	1524.0?	(7/2,9/2)			E_γ,I_γ: from ε decay.
		1549.9[&] *3*	78 *13*	1352.08	9/2$^+$			E_γ,I_γ: from ε decay.
		2902.5	≤13	0.0	5/2$^+$			E_γ: observed only in ε decay.
2999.4		715.4 *3*	100	2284.0	17/2$^+$			
3062.9	(7/2,9/2)$^+$	2121.0 *3*	100 *7*	941.79	7/2$^{(+)}$			
		3063.2 *5*	62 *7*	0.0	5/2$^+$			

$^{95}_{44}Ru_{51}$-6

Adopted Levels, Gammas (continued)

γ(^{95}Ru) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
3164.5?	$(7/2,9/2)^+$	2221.8[&] *10*	100 *15*	941.79	$7/2^{(+)}$			
		3162.3[&] *15*	23 *5*	0.0	$5/2^+$			
3186.3	$(3/2)^-$	3186.2 *8*	100	0.0	$5/2^+$			E_γ,I_γ: From 1.96-min ε decay.
3362.9	$(19/2^+)$	363.5 *3*	100 *4*	2999.4				
		787.9 *3*	38 *18*	2575.1				
		824.6 *3*	48 *8*	2538.0	$21/2^+$			
3407.2	$(3/2)^-$	3407.1 *5*	100	0.0	$5/2^+$			E_γ,I_γ: From 1.96-min ε decay.
3477.8	$(17/2^-)$	703.3 *3*	100 *5*	2774.3	$15/2^-$	(M1+E2)[#]	0.00209 *3*	α(K)=0.00183 *3*; α(L)=0.000213 *4*; α(M)=3.90×10^{-5} *8*; α(N)=6.30×10^{-6} *11*; α(O)=3.28×10^{-7} *9* α(N+..)=6.63×10^{-6} *11*
		985.0 *3*	69 *5*	2493.12	$13/2^-$	(E2)[#]	0.000915 *13*	α(K)=0.000802 *12*; α(L)=9.28×10^{-5} *13*; α(M)=1.700×10^{-5} *24* α(O)=1.427×10^{-7} *20*; α(N+..)=2.89×10^{-6} B(E2)(W.u.)=1.76 *25*
3551.23	$(7/2,9/2)^+$	1292.5 *3*	58 *7*	2258.84	$(9/2,11/2)^+$			
		2609.3 *3*	100 *11*	941.79	$7/2^{(+)}$			
		3551.1 *7*	53 *8*	0.0	$5/2^+$			
3655.8?	$(7/2,9/2,11/2)^+$	1388.7[&] *10*	100 *24*	2268.2?	(7/2,9/2)			
		2713.0[&] *15*	78 *17*	941.79	$7/2^{(+)}$			
		3655.1	≤5	0.0	$5/2^+$			
3686.7?	$(7/2,9/2)^+$	2334.7[&] *10*	100 *20*	1352.08	$9/2^+$			
		3686.5[&] *15*	36 *8*	0.0	$5/2^+$			
3702.2	$(19/2^-)$	224.2 *3*	27 *3*	3477.8	$(17/2^-)$			
		927.6 *3*	100 *3*	2774.3	$15/2^-$			
		1127.1 *3*	8 *3*	2575.1				
3733.6	$(7/2,9/2)^+$	2791.8 *3*	100 *6*	941.79	$7/2^{(+)}$			
		3733.5 *10*	14.7 *24*	0.0	$5/2^+$			
3744.0?	$(9/2,11/2)^+$	1588.7[&] *15*	84 *20*	2155.70?	(7/2,9/2)			
		1713.6[&] *20*	1.0×10^2 *4*	2029.62	$13/2^+$			
3779.1	$(9/2)^+$	1749.5[@] *3*	100[@] *11*	2029.62	$13/2^+$			
		2427.2 *10*	54 *11*	1352.08	$9/2^+$			
		3778.9 *10*	100 *17*	0.0	$5/2^+$			
3824.5?	$(3/2)^-$	3824.4[&] *7*	100	0.0	$5/2^+$			
3830.3	$25/2^{(+)}$	664[&]		3164.5?	$(7/2,9/2)^+$			E_γ: observed only in (α,3nγ).
		1292.3 *3*	100 *3*	2538.0	$21/2^+$	(E2)	0.000530 *8*	α(K)=0.000445 *7*; α(L)=5.07×10^{-5} *8*; α(M)=9.28×10^{-6} *13*; α(N)=1.502×10^{-6} *21* α(O)=7.94×10^{-8} *12*; α(N+..)=2.54×10^{-5} *4*

$^{95}_{44}Ru_{51}$-7

Adopted Levels, Gammas (continued)

γ(^{95}Ru) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
								B(E2)(W.u.)>4.1 E_γ,I_γ: from (^{35}Cl,3pnγ).
3975.8?	(7/2,9/2,11/2)$^+$	1718.1[&] *20*	100 *25*	2258.84	(9/2,11/2)$^+$			
		3033.2[&] *15*	79 *15*	941.79	7/2$^{(+)}$			
		3975.7	≤6.3	0.0	5/2$^+$			
3983.6?	(7/2,9/2)$^+$	3041.7[&] *5*	96 *9*	941.79	7/2$^{(+)}$			
		3983.8[&] *20*	100 *22*	0.0	5/2$^+$			
3985.7	(21/2$^-$)	283.4 *3*	100 *3*	3702.2	(19/2$^-$)	(M1)[#]	0.0189	α(K)=0.01656 *24*; α(L)=0.00195 *3*; α(M)=0.000357 *5*; α(N)=5.78×10^{-5} *9*; α(O)=3.04×10^{-6} *5* α(N+..)=6.08×10^{-5} *9* B(M1)(W.u.)=0.070 *9*
		508.1 *3*	38 *3*	3477.8	(17/2$^-$)	(E2)[#]	0.00510 *8*	α(K)=0.00443 *7*; α(L)=0.000546 *8*; α(M)=0.0001002 *15*; α(N)=1.602×10^{-5} *23* α(O)=7.72×10^{-7} *11*; α(N+..)=1.679×10^{-5} *24* B(E2)(W.u.)=18 *3*
		622.6 *3*	15 *3*	3362.9	(19/2$^+$)	(E1)[#]	0.001011 *15*	α(K)=0.000889 *13*; α(L)=0.0001006 *15*; α(M)=1.84×10^{-5} *3* α(O)=1.560×10^{-7} *22*; α(N+..)=3.13×10^{-6} B(E1)(W.u.)=1.5×10^{-5} *4*
4177.7?	(7/2,9/2)$^+$	3237.0[&] *15*	100 *19*	941.79	7/2$^{(+)}$			
		4175.6[&] *20*	31 *10*	0.0	5/2$^+$			
4192.8	(23/2$^-$)	206.9 *3*	100 *4*	3985.7	(21/2$^-$)	(M1)[#]	0.0428	α(K)=0.0374 *6*; α(L)=0.00444 *7*; α(M)=0.000815 *12*; α(N)=0.0001318 *20*; α(O)=6.90×10^{-6} *10* α(N+..)=0.0001387 *21* B(M1)(W.u.)=0.31 *3*
		490 *1*	18 *4*	3702.2	(19/2$^-$)	(E2)[#]	0.00567 *9*	α(K)=0.00493 *8*; α(L)=0.000609 *10*; α(M)=0.0001120 *18*; α(N)=1.79×10^{-5} *3* α(O)=8.57×10^{-7} *13*; α(N+..)=1.87×10^{-5} *3* B(E2)(W.u.)=18 *4*
		1655.1 *3*	18 *4*	2538.0	21/2$^+$	(E1)[#]	0.000516 *8*	α(K)=0.0001375 *20*; α(L)=1.526×10^{-5} *22*; α(M)=2.79×10^{-6} *4* α(O)=2.43×10^{-8} *4*; α(N+..)=0.000360 B(E1)(W.u.)=1.6×10^{-6} *4*
4502.9	(29/2$^+$)	672.6 *3*	100	3830.3	25/2$^{(+)}$	(E2)[#]	0.00234 *4*	α(K)=0.00204 *3*; α(L)=0.000243 *4*; α(M)=4.47×10^{-5} *7*; α(N)=7.17×10^{-6} *10*; α(O)=3.60×10^{-7} *5* α(N+..)=7.53×10^{-6} *11* B(E2)(W.u.)=14.5 *10*
4505.8	(25/2$^-$)	312.9 *3*	100	4192.8	(23/2$^-$)	(M1)[#]	0.01472	α(K)=0.01289 *19*; α(L)=0.001509 *22*; α(M)=0.000277 *4*; α(N)=4.48×10^{-5} *7*; α(O)=2.37×10^{-6} *4*

$^{95}_{44}Ru_{51}$-8

Adopted Levels, Gammas (continued)

γ(^{95}Ru) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
								α(K)=0.01289 *19*; α(L)=0.001509 *22*; α(M)=0.000277 *4*; α(N)=4.48×10^{-5} *7*; α(O)=2.37×10^{-6} *4* α(N+..)=4.72×10^{-5} *7* B(M1)(W.u.)=0.222 *15*
4744.5	(27/2$^-$)	238.6 *3*	100 *8*	4505.8	(25/2$^-$)	(M1)[#]	0.0295	α(K)=0.0258 *4*; α(L)=0.00304 *5*; α(M)=0.000559 *8*; α(N)=9.04×10^{-5} *13*; α(O)=4.75×10^{-6} *7* α(N+..)=9.52×10^{-5} *14* B(M1)(W.u.)=0.48 *8*
		551.9 *3*	12 *8*	4192.8	(23/2$^-$)	(E2)[#]	0.00402 *6*	α(K)=0.00350 *5*; α(L)=0.000426 *6*; α(M)=7.83×10^{-5} *11*; α(N)=1.253×10^{-5} *18*; α(O)=6.12×10^{-7} *9* α(N+..)=1.314×10^{-5} *19* B(E2)(W.u.)=15 *11*
		913 *1*		3830.3	25/2$^{(+)}$			
5616.6	(29/2$^-$)	871.9 *3*	100 *9*	4744.5	(27/2$^-$)	(M1)[#]	0.001290 *18*	α(K)=0.001133 *16*; α(L)=0.0001289 *18*; α(M)=2.36×10^{-5} *4* α(O)=2.06×10^{-7} *3*; α(N+..)=4.03×10^{-6} B(M1)(W.u.)=0.014 *3*
		1110.9 *3*	47 *9*	4505.8	(25/2$^-$)	(E2)[#]	0.000700 *10*	α(K)=0.000614 *9*; α(L)=7.05×10^{-5} *10*; α(M)=1.291×10^{-5} *18* α(O)=1.094×10^{-7} *16*; α(N+..)=3.02×10^{-6} *5* B(E2)(W.u.)=2.6 *7*
5774.5	31/2$^-$	157.7 *3*	10 *3*	5616.6	(29/2$^-$)	(M1+E2)[#]	0.17 *9*	α(K)=0.14 *7*; α(L)=0.022 *13*; α(M)=0.0041 *24*; α(N)=0.0006 *4*; α(O)=2.4×10^{-5} *10* α(N+..)=0.0007 *4*
		1030.1 *3*	100 *3*	4744.5	(27/2$^-$)	(E2)[#]	0.000827 *12*	α(K)=0.000725 *11*; α(L)=8.37×10^{-5} *12*; α(M)=1.532×10^{-5} *22* α(O)=1.291×10^{-7} *18*; α(N+..)=2.60×10^{-6} B(E2)(W.u.)=6.5 *8*
6643.8	(31/2$^+$,33/2$^+$)	2140.9 *3*	100	4502.9	(29/2$^+$)			
6777.6	(31/2$^+$,33/2$^+$)	2274.7 *3*	100	4502.9	(29/2$^+$)			
6824.8	(33/2$^+$,35/2$^+$)	181.0 *3*	100	6643.8	(31/2$^+$,33/2$^+$)	(M1)[#]	0.0610	α(K)=0.0533 *8*; α(L)=0.00635 *10*; α(M)=0.001167 *18*; α(N)=0.000189 *3*; α(O)=9.85×10^{-6} *15* α(N+..)=0.000198 *3* B(M1)(W.u.)>0.71
7063.9	(33/2$^-$,35/2$^-$)	1289.4 *3*	100	5774.5	31/2$^-$	(E2,M1)[#]	0.000553 *22*	α(K)=0.000467 *21*; α(L)=5.29×10^{-5} *22*; α(M)=9.7×10^{-6} *4*; α(N)=1.57×10^{-6} *7* α(O)=8.4×10^{-8} *5*; α(N+..)=2.29×10^{-5} *20*
7527.4	(33/2$^-$,35/2$^-$)	1752.9 *3*	100	5774.5	31/2$^-$	(E2)[#]	0.000465 *7*	α(K)=0.000244 *4*; α(L)=2.74×10^{-5} *4*; α(M)=5.01×10^{-6} *7*; α(N)=8.12×10^{-7} *12* α(O)=4.35×10^{-8} *6*; α(N+..)=0.000189 *3* B(E2)(W.u.)>0.17

$^{95}_{44}Ru_{51}$-9

Adopted Levels, Gammas (continued)

γ(^{95}Ru) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
7529.7	(35/2$^+$,37/2$^+$)	704.9 *3*	72 *10*	6824.8	(33/2$^+$,35/2$^+$)			
		885.9 *3*	100 *10*	6643.8	(31/2$^+$,33/2$^+$)			
7681.7	(35/2$^-$)	1907.2 *3*	100	5774.5	31/2$^-$	(E2)[#]	0.000496 *7*	α(K)=0.000208 *3*; α(L)=2.33×10^{-5} *4*; α(M)=4.27×10^{-6} *6*; α(N)=6.92×10^{-7} *10* α(O)=3.71×10^{-8} *6*; α(N+..)=0.000261 *4* B(E2)(W.u.)>0.31
7762.3		234.9 *3*	100	7527.4	(33/2$^-$,35/2$^-$)			
8103.8	(37/2$^+$,39/2$^+$)	573.9 *3*	100 *5*	7529.7	(35/2$^+$,37/2$^+$)			
		1280 *1*	8 *5*	6824.8	(33/2$^+$,35/2$^+$)			
8137.2		1073.3 *3*	100	7063.9	(33/2$^-$,35/2$^-$)			
8308.5	(35/2$^-$)	2534.0 *3*	100	5774.5	31/2$^-$			
8702.6	(39/2$^+$,41/2$^+$)	598.8 *3*	100	8103.8	(37/2$^+$,39/2$^+$)	(M1,E2)[#]	0.00312 *9*	α(K)=0.00273 *8*; α(L)=0.000321 *16*; α(M)=5.9×10^{-5} *3*; α(N)=9.5×10^{-6} *5*; α(O)=4.88×10^{-7} *7* α(N+..)=1.00×10^{-5} *5*
8735.3		1053.6 *3*	100	7681.7	(35/2$^-$)			
8849.3	(39/2$^+$,41/2$^+$)	745 *1*	100 *11*	8103.8	(37/2$^+$,39/2$^+$)	(M1,E2)[#]	0.00181 *4*	α(K)=0.00159 *4*; α(L)=0.000185 *3*; α(M)=3.39×10^{-5} *5*; α(N)=5.47×10^{-6} *8*; α(O)=2.85×10^{-7} *9* α(N+..)=5.75×10^{-6} *9*
		1320 *1*	82 *11*	7529.7	(35/2$^+$,37/2$^+$)	(E2)[#]	0.000515 *8*	α(K)=0.000426 *6*; α(L)=4.85×10^{-5} *7*; α(M)=8.87×10^{-6} *13*; α(N)=1.436×10^{-6} *21* α(O)=7.60×10^{-8} *11*; α(N+..)=3.14×10^{-5} *5* B(E2)(W.u.)>0.45
9341.5	(41/2$^+$,43/2$^+$)	492.2 *3*	100 *6*	8849.3	(39/2$^+$,41/2$^+$)	(M1,E2)[#]	0.0052 *4*	α(K)=0.0046 *4*; α(L)=0.00055 *6*; α(M)=0.000100 *11*; α(N)=1.61×10^{-5} *16*; α(O)=8.1×10^{-7} *4* α(N+..)=1.69×10^{-5} *16*
		1238 *1*	41 *6*	8103.8	(37/2$^+$,39/2$^+$)	(E2)[#]	0.000568 *8*	α(K)=0.000487 *7*; α(L)=5.56×10^{-5} *8*; α(M)=1.017×10^{-5} *15*; α(O)=8.68×10^{-8} *13* α(N+..)=1.51×10^{-5} *3* B(E2)(W.u.)>0.32
12160.9	(43/2$^+$,45/2$^+$)	2819	64 *8*	9341.5	(41/2$^+$,43/2$^+$)			
		3312	36 *8*	8849.3	(39/2$^+$,41/2$^+$)	(E2)[#]	0.000993 *14*	α(K)=7.96×10^{-5} *12*; α(L)=8.82×10^{-6} *13*; α(M)=1.611×10^{-6} *23* α(O)=1.419×10^{-8} *20*; α(N+..)=0.000903 B(E2)(W.u.)>0.0028
		3458	100 *8*	8702.6	(39/2$^+$,41/2$^+$)	(E2)[#]	0.001046 *15*	α(K)=7.41×10^{-5} *11*; α(L)=8.22×10^{-6} *12*; α(M)=1.500×10^{-6} *21* α(O)=1.322×10^{-8} *19*; α(N+..)=0.000962 B(E2)(W.u.)>0.0063

$^{95}_{44}Ru_{51}$-10

$\gamma(^{95}Ru)$ (continued)

† From 5.02-min ε decay, except as noted.
‡ From $\gamma(\theta)$ in (^{6}Li,p2nγ), except as noted.
# From a comparison of measured transition strength with the calculated ones (W.u.).
@ Multiply placed with undivided intensity.
& Placement of transition in the level scheme is uncertain.

$^{95}_{44}Ru_{51}$-11

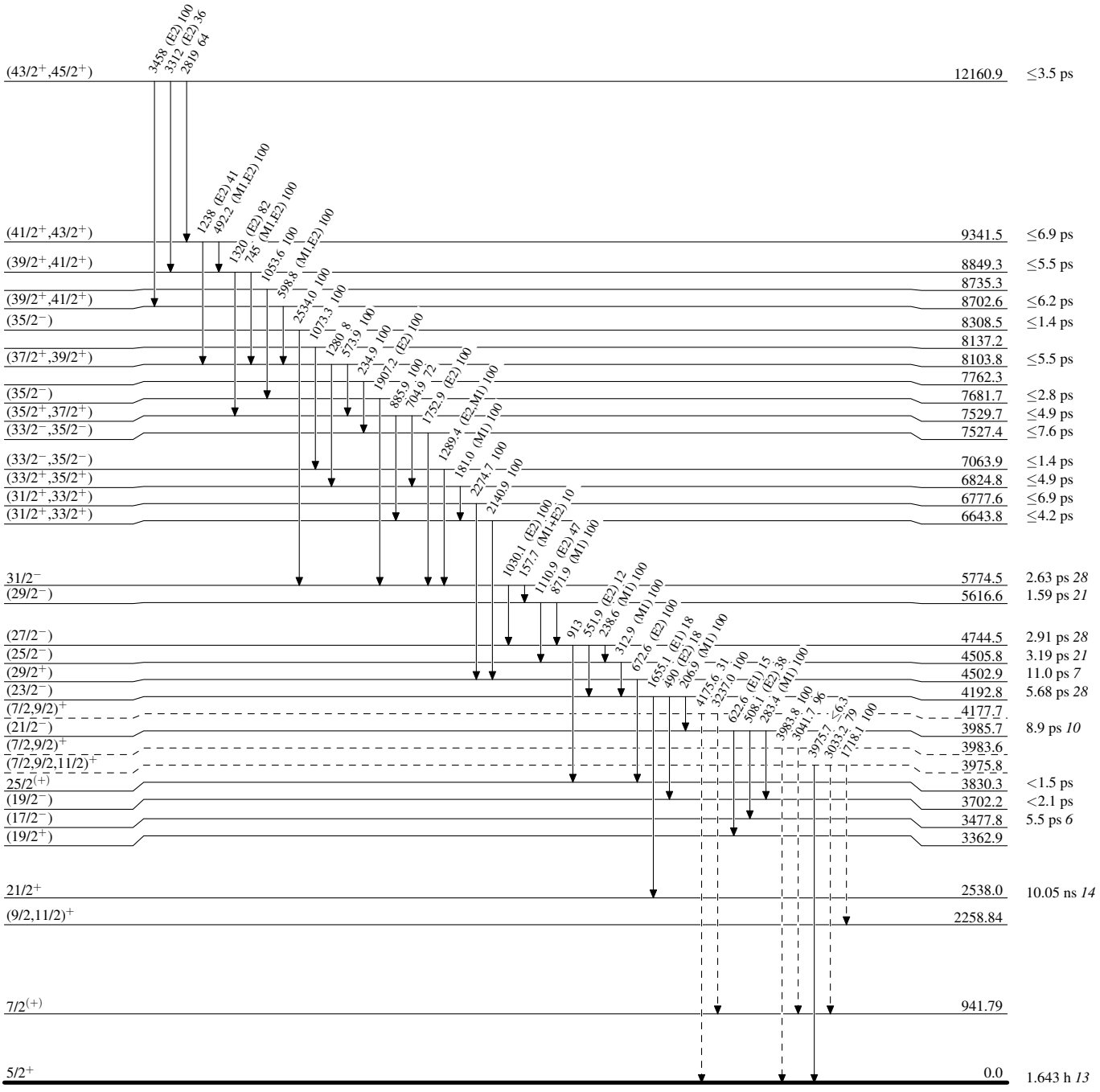
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{95}_{44}Ru_{51}$

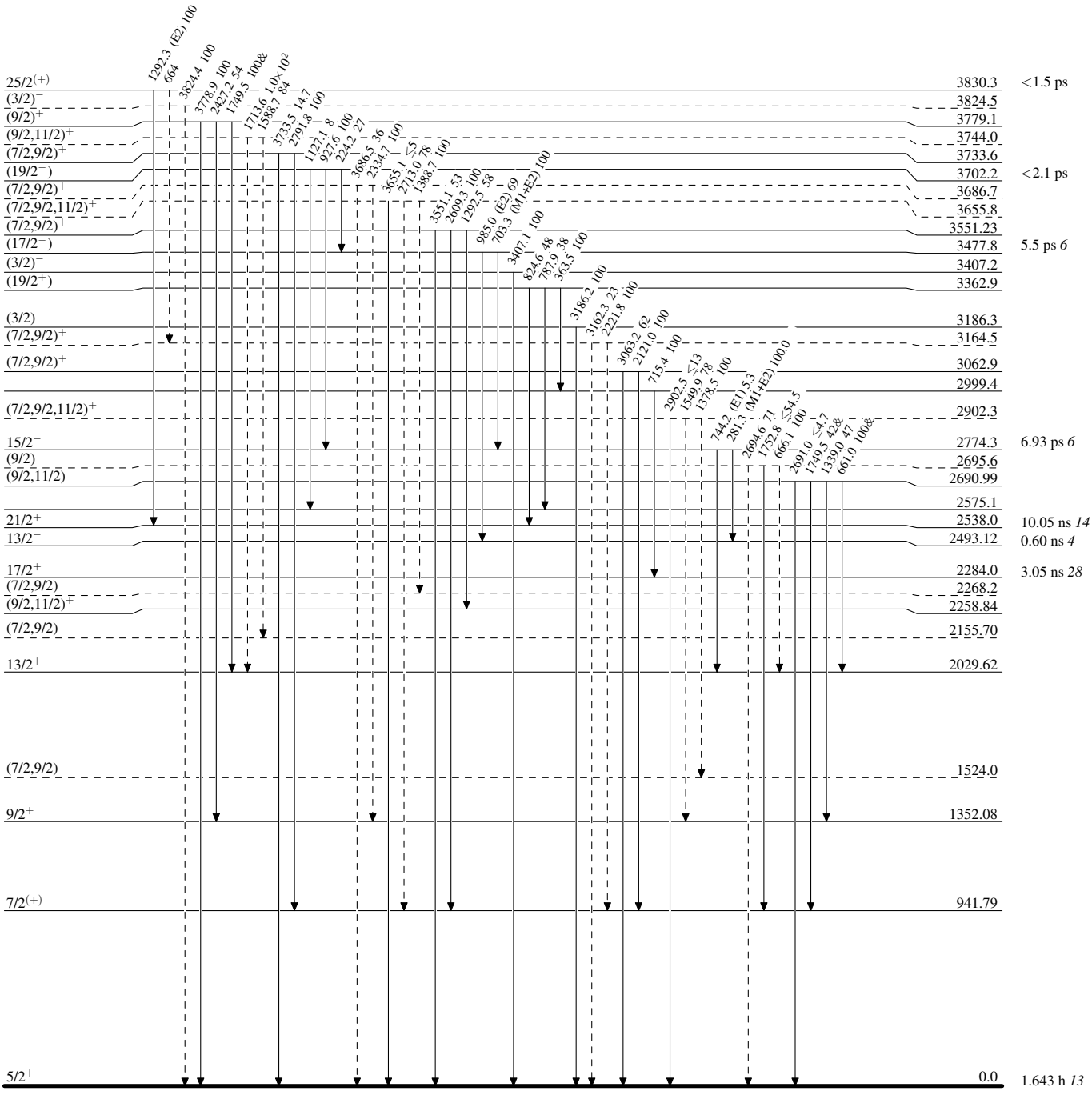
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



$^{95}_{44}Ru_{51}$

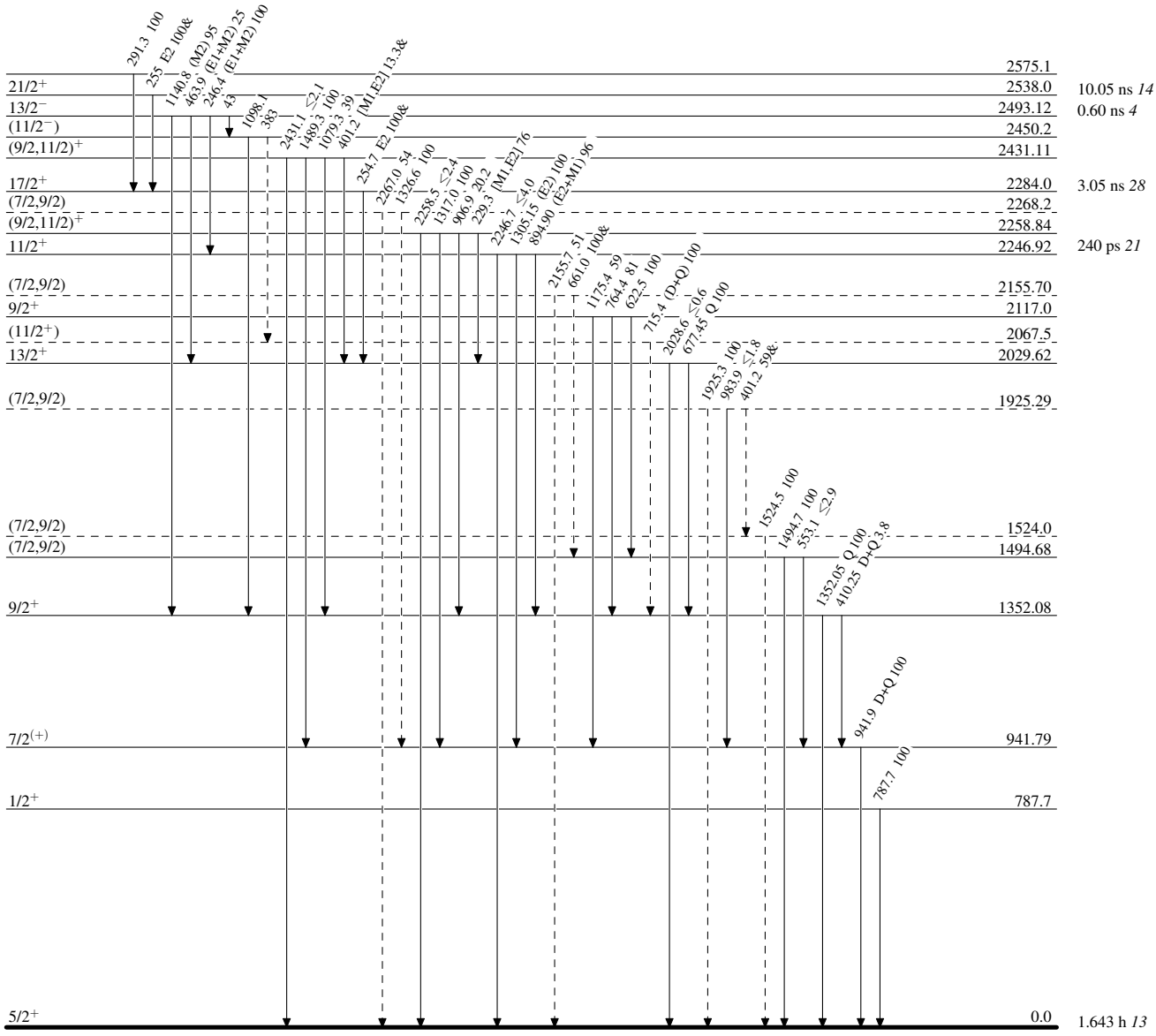
Adopted Levels, Gammas

Legend

Level Scheme (continued)

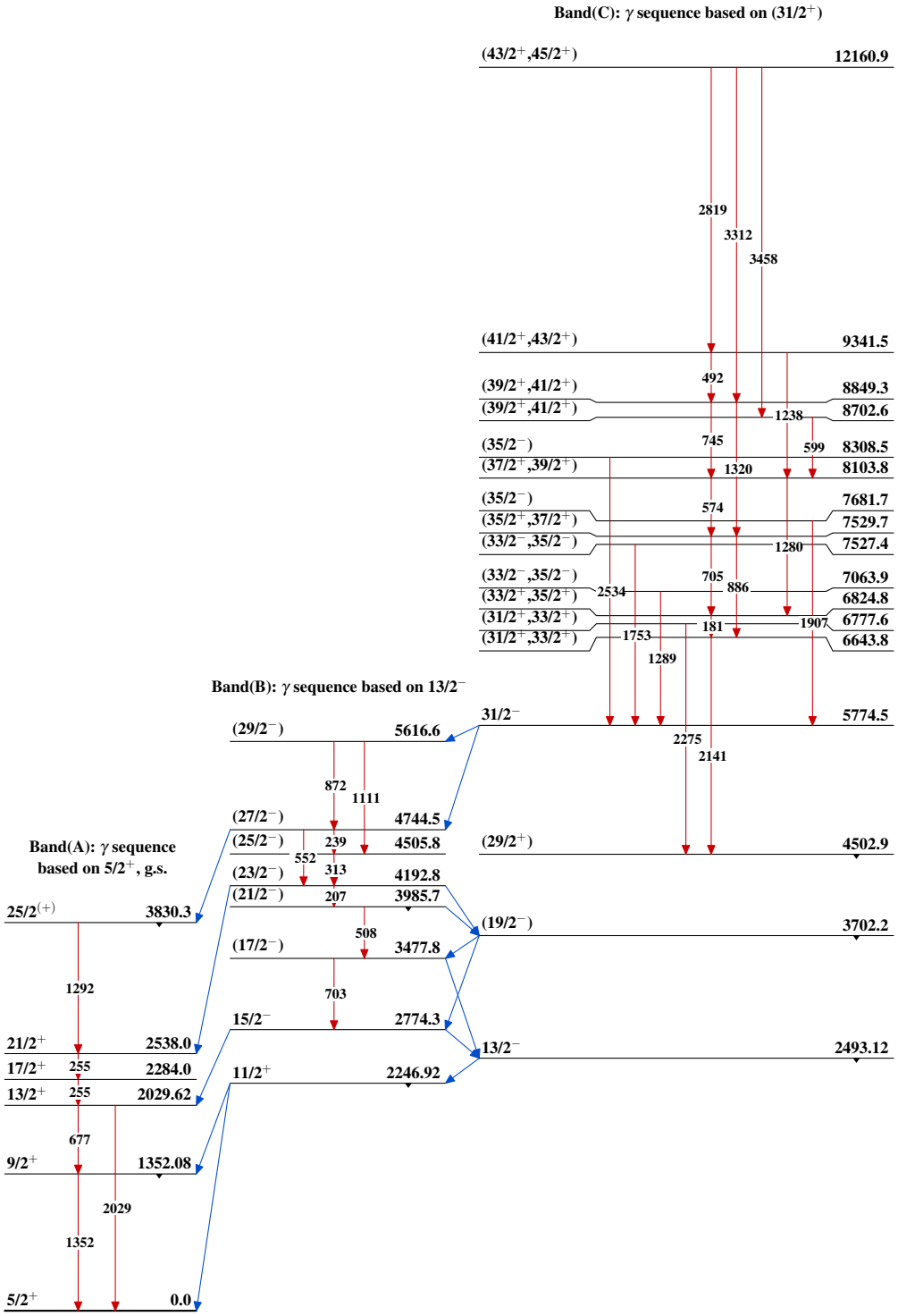
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



$^{95}_{44}Ru_{51}$

Adopted Levels, Gammas



$^{95}_{44}Ru_{51}$