

¹⁰³Rh(¹²C,3nγ), ⁹⁰Zr(³¹P,2αnγ) **1998La14,1982Ma29**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, F. G. Kondev		NDS 124, 157 (2015)	1-Aug-2014

1998La14: Facility: Stony Brook FN tandem/superconducting LINAC; Beam: E(¹²C)=60 MeV; Target: thick target of natural rhodium; Detectors: six Compton-suppressed HPGe detectors and multiplicity filter comprising 14 BGO detectors; Measured: γ-γ, γ-γ(t), Eγ, Iγ, γγ(θ); Deduced: DCO ratios, level scheme, band structures;

1998La14: Vivitron accelerator; Beam: E(³¹P)=150 MeV; Target: two stacked self-supporting foils each with thickness of 440 μg/cm² and enriched to 97 % in ⁹⁰Zr; Detectors: EUROGAM-II multidetector array; Measured: γ-γ-γ, Eγ, Iγ; Deduced: Doppler corrections, DCO ratios, linear polarization, level scheme, band structures.

Other: **1996Si15;** Facility: 15ud Pelletron Accelerator of the Nuclear Science Center, New Delhi; Beam: E(¹²C)=75 MeV; Target: self-supporting, ≈25 mg/cm²; Detectors: nine Compton suppressed HPGe and a multiplicity filter comprising 14 BGO crystals; Measured: γ-γ, γ(θ), Eγ, Iγ; Deduced: level scheme, DCO ratios.

Also from the same collaboration: **1998LaZT.**

1982Ma29: Facility: Stony Brook FN Tandem; Beam: E(¹²C)= 50 MeV, pulsed. Pulse width FWHM = 5 ns and 2 μs repetition time; Target: 0.8 mg/cm² Rh foil; Detectors: NaI(Tl); Measured: γ, γ(θ, t), Iγ, Eγ; Deduced: Q.

Other: **1983VaZM, 1983Se21.**

¹¹²Sb Levels

E(level) [†]	J ^π [‡]	T _{1/2}	Comments
0.0	3 ⁺		
103.90 25	4 ⁺		
133.5 3	5 ⁺		
167.1 3	4 ⁺		
236.4 4	3 ⁺		
370.1 4	6 ⁺		
502.1 3	5 ⁺		
826.7 4	8 ⁻	536 ns 22	T _{1/2} : from γ(t) in 1982Ma29 . μ: +2.19 4 (1976Ke07). Q: 0.071 7 from γ(θ,t) in 1982Ma29 (perturbed angular correlations technique). configuration: πd _{5/2} ⊗νh _{11/2} .
973.8 4	6 ⁺		
1043.5 4	(8 ⁻)		
1170.3 5			
1185.2 5	7 ⁽⁺⁾		
1268.8 4	7 ⁻		
1341.2 4			
1345.7 4	7 ⁺		
1389.5 4	6 ⁺		
1530.6 4	9 ⁻		
1675.1 4	7 ⁻		
1682.4 5	8 ⁺		
1691.4 5	7 ⁺		
1747.5 [#] 4	8 ⁻		
1885.2 4	10 ⁻		
1949.6 [#] 4	9 ⁻		
2075.8 4	(9 ⁻)		
2100.9 6	9 ⁽⁺⁾		
2162.4 6	8 ⁽⁺⁾		
2275.1 [#] 4	10 ⁻		
2320.9 5	11 ⁺		
2482.6 5	(12 ⁻)		
2492.9 5			
2548.7 5	(11 ⁻)		

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$^{103}\text{Rh}(^{12}\text{C},3n\gamma),^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ 1998La14,1982Ma29 (continued) ^{112}Sb Levels (continued)

<u>E(level)[†]</u>	<u>J^π[‡]</u>
2570.8 6	9(+)
2582.6 11	
2602.3 5	12 ⁻
2629.0 [#] 4	11 ⁻
2869.0 5	12 ⁻
2908.9 6	
2988.4 5	12 ⁻
3009.6 [#] 5	12 ⁻
3082.9 5	12 ⁻
3224.8 6	14 ⁻
3296.5 5	(12 ⁻)
3380.9 5	13 ⁺
3383.1 5	13 ⁻
3402.3 [#] 5	13 ⁻
3403.9 5	12 ⁺
3489.9 5	12 ⁺
3622.8 6	14 ⁻
3687.5 6	14 ⁽⁻⁾
3687.6 6	14 ⁻
3726.4 7	
3731.6 6	
3748.1 6	(13 ⁻)
3794.9 7	
3809.2 [#] 5	14 ⁻
3845.9 6	
4089.7 6	15 ⁺
4090.1 7	(15 ⁻)
4122.1 5	14 ⁺
4223.8 6	
4255.7 ^b 6	14 ⁻
4261.3 5	15 ⁻
4277.3 6	
4295.5 [#] 5	15 ⁻
4321.0 6	15 ⁺
4392.1 7	(16 ⁻)
4434.3 ^a 6	15 ⁺
4676.5 7	(16 ⁺)
4798.6 [#] 5	16 ⁻
4838.0 ^b 6	16 ⁻
4864.8 6	(16 ⁺)
5161.9 ^a 6	17 ⁺
5326.5 [#] 6	17 ⁻
5644.5 ^b 7	18 ⁻
5717.8 8	
5730.2 7	18 ⁺
6003.1 ^a 6	19 ⁺
6545.3 ^b 8	(20 ⁻)
6935.3 ^a 7	21 ⁺
7536.1 ^b 8	(22 ⁻)
7938.2 ^a 7	(23 ⁺)
8616.7 ^b 9	(24 ⁻)
8997.2 ^a 9	(25 ⁺)

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$^{103}\text{Rh}(^{12}\text{C},3n\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ 1998La14,1982Ma29 (continued) ^{112}Sb Levels (continued)

E(level) [†]	J ^π	Comments
9785.0 ^b 9	(26 ⁻)	
10114.0 ^a 9	(27 ⁺)	
11042.0 ^b 10	(28 ⁻)	
11297.2 ^a 9	(29 ⁺)	
12394.4 ^b 11	(30 ⁻)	
12596.0 ^a 10	(31 ⁺)	
13840.3 ^b 12	(32 ⁻)	
14089.6 ^a 10	(33 ⁺)	
15388.5 ^b 14	(34 ⁻)	
15785.1 ^a 10	(35 ⁺)	
17054.5 ^b 15	(36 ⁻)	
17656.5 ^a 12	(37 ⁺)	
18865.7 ^b 18	(38 ⁻)	
19703.2 ^a 15	(39 ⁺)	
x [@]	(11 ⁻)	Additional information 1.
x+561.0 [@] 3	(13 ⁻)	
x+1216.8 [@] 5	(15 ⁻)	
x+1960.5 [@] 6	(17 ⁻)	
x+2794.5 [@] 7	(19 ⁻)	
x+3718.4 [@] 8	(21 ⁻)	
x+4733.7 [@] 8	(23 ⁻)	
x+5842.6 [@] 8	(25 ⁻)	
x+7046.5 [@] 9	(27 ⁻)	
x+8346.3 [@] 10	(29 ⁻)	
x+9733.3 [@] 10	(31 ⁻)	
x+11202.0 [@] 10	(33 ⁻)	
x+12772.6 [@] 11	(35 ⁻)	
x+14480.6 [@] 12	(37 ⁻)	
x+16361.4 [@] 14	(39 ⁻)	
x+18439? [@] 17	(41 ⁻)	
y ^{&}	(10 ⁺)	Additional information 2.
y+378.09 ^{&} 24	(11 ⁺)	
y+709.4 11	(12 ⁺)	
y+750.72 ^{&} 24	(12 ⁺)	
y+1077.6 ^{&} 3	(13 ⁺)	
y+1095.4 5	(13 ⁺)	
y+1372.6 ^{&} 4	(14 ⁺)	
y+1690.5 ^{&} 5	(15 ⁺)	
y+2046.3 ^{&} 5	(16 ⁺)	
y+2438.0 ^{&} 6	(17 ⁺)	
y+2852.2 ^{&} 7	(18 ⁺)	
y+3217.2 7	(19 ⁺)	
y+3284.7 ^{&} 7	(19 ⁺)	

[†] From a least-squares fit to E_γ.

$^{103}\text{Rh}(^{12}\text{C},3n\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ **1998La14,1982Ma29** (continued) ^{112}Sb Levels (continued)

‡ From 1998La14.

Band(A): $\Delta J=1$ band, based on the 8-, 1747.5-keV level; configuration= $\pi g_{9/2}^{-1} \otimes \nu h_{11/2}$.@ Band(B): $\Delta J=2$ band, based on the (11^-) state.& Band(C): $\Delta J=1$ band, based on the (10^+) state.^a Band(D): $\Delta J=2$ band, based on the 15^+ state.^b Band(E): $\Delta J=2$ band, based on the 14^- state.

$\gamma(^{112}\text{Sb})$							
E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	Comments
(29.6)		133.5	5^+	103.90	4^+		E_γ : required from $\gamma\gamma$ data.
72.4 3	11.7 4	1747.5	8^-	1675.1	7^-	M1+E2	Mult.: DCO=0.97 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
103.9 3	45.2 18	103.90	4^+	0.0	3^+	M1+E2	Mult.: $A_2=-0.30$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.61 6 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
132.5 3	1.37 16	236.4	3^+	103.90	4^+	M1+E2 [#]	
133.5 3	1.68 7	133.5	5^+	0.0	3^+	E2	Mult.: $A_2=0.18$ 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=1.47 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
161.8 3	2.90 15	2482.6	(12^-)	2320.9	11^+	(E1)	Mult.: DCO=0.67 11 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
167.1 3	4.4 15	167.1	4^+	0.0	3^+	M1+E2	Mult.: $A_2=-0.29$ 4 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.98 9 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
196.5 3	1.18 11	1170.3		973.8	6^+		
199.3 3	2.22 13	2275.1	10^-	2075.8	(9^-)	(M1+E2)	Mult.: DCO=1.33 24 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
202.2 3	66 2	1949.6	9^-	1747.5	8^-	M1+E2	Mult.: $A_2=-0.15$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.86 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
216.8 3	4.4 7	1043.5	(8^-)	826.7	8^-	(M1+E2)	Mult.: DCO=1.52 12 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
236.9 3	48.7 16	370.1	6^+	133.5	5^+	M1+E2	Mult.: $A_2=-0.18$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.55 2 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
273.0 10	0.51 9	6003.1	19^+	5730.2	18^+	M1+E2	Mult.: DCO=0.50 16 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); Pol=-0.3 3.
277.2 3	3.04 16	y+1372.6	(14^+)	y+1095.4	(13^+)	M1+E2	Mult.: DCO=0.68 11 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
285.2 3	3.94 16	3687.5	$14^{(-)}$	3402.3	13^-	(M1+E2)	Mult.: DCO=0.86 7 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
294.9 3	16.1 5	y+1372.6	(14^+)	y+1077.6	(13^+)	M1+E2	Mult.: DCO=0.51 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
297.0 3	2.35 13	5161.9	17^+	4864.8	(16^+)	M1+E2	Mult.: DCO=0.57 8 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); Pol=-0.15 20.
302.0 3	1.28 18	4392.1	(16^-)	4090.1	(15^-)	(M1+E2)	Mult.: DCO=0.76 7 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
312.1 3	2.35 15	4434.3	15^+	4122.1	14^+	M1+E2	Mult.: DCO=0.33 6 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); Pol=0.5 2.
317.8 3	14.2 5	y+1690.5	(15^+)	y+1372.6	(14^+)	M1+E2	Mult.: $A_2=-0.10$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.43 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
325.5 3	85 3	2275.1	10^-	1949.6	9^-	M1+E2	Mult.: $A_2=-0.05$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.92 2 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
326.8 3	5.1 2	y+1077.6	(13^+)	y+750.72	(12^+)	M1+E2	Mult.: DCO=0.96 4 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
335.0 3	8.1 3	502.1	5^+	167.1	4^+	M1+E2	Mult.: DCO=0.76 4 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
353.9 3	71 2	2629.0	11^-	2275.1	10^-	M1+E2	Mult.: $A_2=-0.06$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.91 2 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
355.2 3	4.9 2	1885.2	10^-	1530.6	9^-	M1+E2	Mult.: $A_2=-0.03$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.40 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
355.8 3	12.7 4	y+2046.3	(16^+)	y+1690.5	(15^+)	M1+E2	Mult.: $A_2=-0.03$ 3 for 355.2+355.8+356.2 γ in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.90 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
356.2 3	4.0 4	3845.9		3489.9	12^+	(D)	Mult.: $A_2=-0.03$ 3 for 355.2 γ +355.8 γ +356.2 γ in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).

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$^{103}\text{Rh}(^{12}\text{C},3n\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ **1998La14,1982Ma29 (continued)** $\gamma(^{112}\text{Sb})$ (continued)

E_γ †	I_γ †	E_i (level)	J_i^π	E_f	J_f^π	Mult. ‡	Comments
358.9 3	10.6 4	2988.4	12 ⁻	2629.0	11 ⁻	M1+E2	Mult.: DCO=0.79 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
365.0 3	2.00 11	y+3217.2	(19 ⁺)	y+2852.2	(18 ⁺)	M1+E2	Mult.: DCO=1.10 12 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
368.2 10	0.66 5	y+1077.6	(13 ⁺)	y+709.4	(12 ⁺)	(M1+E2)	Mult.: DCO=1.26 25 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
372.6 3	5.5 2	y+750.72	(12 ⁺)	y+378.09	(11 ⁺)	M1+E2	Mult.: DCO=1.04 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
373.5 3	16.4 5	3383.1	13 ⁻	3009.6	12 ⁻	M1+E2	Mult.: DCO=0.89 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
378.2 3	6.0 3	y+378.09	(11 ⁺)	y	(10 ⁺)	M1+E2	Mult.: DCO=1.09 17 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
380.6 3	48.8 15	3009.6	12 ⁻	2629.0	11 ⁻	M1+E2	Mult.: $A_2=-0.13$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.95 14 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
391.6 3	6.8 3	y+2438.0	(17 ⁺)	y+2046.3	(16 ⁺)	M1+E2	Mult.: DCO=0.54 7 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
392.4 3	25.2 8	3402.3	13 ⁻	3009.6	12 ⁻	M1+E2	Mult.: DCO=0.86 2 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
394.4 3	7.5 3	3383.1	13 ⁻	2988.4	12 ⁻	M1+E2	Mult.: DCO=0.61 8 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
398.2 3	19.2 7	502.1	5 ⁺	103.90	4 ⁺	M1+E2	Mult.: DCO=0.70 9 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
402.0 3	2.91 13	1747.5	8 ⁻	1345.7	7 ⁺	E1	Mult.: DCO=0.87 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
402.5 3	3.6 2	4090.1	(15 ⁻)	3687.6	14 ⁻	(M1+E2)	Mult.: DCO=0.28 7 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
406.2 3	4.0 2	1675.1	7 ⁻	1268.8	7 ⁻	M1+E2	Mult.: DCO(406.2+406.9)=1.14 4 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
406.9 3	13.6 4	3809.2	14 ⁻	3402.3	13 ⁻	M1+E2	Mult.: DCO=1.14 4 for 406.2+406.9 γ in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
414.2 3	7.6 3	y+2852.2	(18 ⁺)	y+2438.0	(17 ⁺)	M1+E2	Mult.: DCO=0.91 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
416.0 3	3.9 2	2908.9		2492.9			
418.5 3	3.17 18	2100.9	9 ⁽⁺⁾	1682.4	8 ⁺	(M1+E2)	Mult.: DCO=0.91 6 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
425.9 3	8.8 3	3809.2	14 ⁻	3383.1	13 ⁻	M1+E2	Mult.: DCO=0.46 9 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
432.5 3	3.15 13	y+3284.7	(19 ⁺)	y+2852.2	(18 ⁺)	M1+E2	Mult.: DCO=0.91 8 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
435.7 3	54.8 18	2320.9	11 ⁺	1885.2	10 ⁻	E1	Mult.: $A_2=-0.25$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.49 2 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); Pol=+0.19 7.
441.9 3	24.9 14	1268.8	7 ⁻	826.7	8 ⁻	M1+E2	Mult.: DCO=0.94 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
451.9 3	6.3 2	4261.3	15 ⁻	3809.2	14 ⁻	M1+E2	Mult.: DCO=0.32 6 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
456.4 3	32.7 10	826.7	8 ⁻	370.1	6 ⁺	M2	Mult.: $A_2=0.28$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.75 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
471.0 3	1.46 15	2162.4	8 ⁽⁺⁾	1691.4	7 ⁺	(M1+E2)	Mult.: DCO=0.84 7 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
471.7 3	25.0 8	973.8	6 ⁺	502.1	5 ⁺	M1+E2	Mult.: $A_2=-0.17$ 3 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.77 2 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
478.5 3	13.7 5	1747.5	8 ⁻	1268.8	7 ⁻	M1+E2	Mult.: $A_2=-0.45$ 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14); DCO=0.55 2 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
486.3 3	6.7 2	4295.5	15 ⁻	3809.2	14 ⁻	M1+E2	Mult.: DCO=0.78 5 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
501.6 3	3.17 16	3726.4		3224.8	14 ⁻		
503.0 3	4.74 18	4798.6	16 ⁻	4295.5	15 ⁻	M1+E2	Mult.: DCO=0.87 7 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
511.8 3	9.9 4	3380.9	13 ⁺	2869.0	12 ⁻	E1	
513.9 3	7.2 10	1341.2		826.7	8 ⁻		
527.7 3	2.9 3	2275.1	10 ⁻	1747.5	8 ⁻	E2 [#]	
527.9 3	3.37 18	5326.5	17 ⁻	4798.6	16 ⁻	M1+E2	Mult.: DCO=0.75 6 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
537.0 3	2.02 13	4798.6	16 ⁻	4261.3	15 ⁻	M1+E2	Mult.: DCO=0.86 8 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
561.0 3	1.04 13	x+561.0	(13 ⁻)	x	(11 ⁻)	(E2) [#]	
570.1 3	1.93 13	3794.9		3224.8	14 ⁻		
582.3 3	1.04 9	4838.0	16 ⁻	4255.7	14 ⁻	E2 [#]	
586.8 3	4.4 2	4676.5	(16 ⁺)	4089.7	15 ⁺	(M1+E2)	Mult.: DCO=0.16 8 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
588.5 3	1.88 13	4434.3	15 ⁺	3845.9			
597.5 3	10.2 6	2482.6	(12 ⁻)	1885.2	10 ⁻	(E2)	Mult.: DCO=1.24 14 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
607.7 3	4.3 5	2492.9		1885.2	10 ⁻		
607.9 3	1.48 18	1949.6	9 ⁻	1341.2			
613.0 10	0.13 11	y+1690.5	(15 ⁺)	y+1077.6	(13 ⁺)	E2 [#]	
613.2 3	1.9 2	3622.8	14 ⁻	3009.6	12 ⁻	E2	Mult.: DCO=1.51 14 in $^{103}\text{Rh}(^{12}\text{C},3n\gamma)$ (1998La14).
621.7 10	0.73 11	y+1372.6	(14 ⁺)	y+750.72	(12 ⁺)	E2 [#]	

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$^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ **1998La14,1982Ma29** (continued) $\gamma(^{112}\text{Sb})$ (continued)

E_γ †	I_γ †	E_i (level)	J_i^π	E_f	J_f^π	Mult. ‡	Comments
622.6 3	9.9 4	3224.8	14 ⁻	2602.3	12 ⁻	E2	Mult.: DCO=1.01 14 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
631.6 3	2.99 15	1675.1	7 ⁻	1043.5	(8 ⁻)	(M1+E2)	Mult.: DCO=0.94 14 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
632.0 3	11.2 4	4122.1	14 ⁺	3489.9	12 ⁺	E2	Mult.: DCO=1.13 8 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
655.8 4	4.8 3	x+1216.8	(15 ⁻)	x+561.0	(13 ⁻)	(E2) [#]	$I_\gamma(656)/I_\gamma(841.3)=0.68$ 10.
664.0 3	2.7 5	2548.7	(11 ⁻)	1885.2	10 ⁻	(M1+E2)	Mult.: DCO=0.61 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
673.9 3	0.89 11	y+2046.3	(16 ⁺)	y+1372.6	(14 ⁺)	E2 [#]	
679.1 3	10.0 4	2629.0	11 ⁻	1949.6	9 ⁻	E2	Mult.: DCO=1.71 8 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
699.7 3	1.11 7	y+1077.6	(13 ⁺)	y+378.09	(11 ⁺)	E2 [#]	
701.3 3	18.4 6	1675.1	7 ⁻	973.8	6 ⁺	E1	Mult.: $A_2=0.10$ 2 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=0.98 3 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
704.0 3	21.9 13	1530.6	9 ⁻	826.7	8 ⁻	M1+E2	Mult.: $A_2=-0.58$ 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=0.39 9 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
708.8 3	16.5 6	4089.7	15 ⁺	3380.9	13 ⁺	E2	Mult.: DCO=1.07 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
717.1 3	10.6 6	2602.3	12 ⁻	1885.2	10 ⁻	E2	Mult.: DCO=0.92 6 for 717.1+718.2 γ in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
718.2 3	5.1 2	4122.1	14 ⁺	3403.9	12 ⁺	E2	Mult.: DCO=0.92 6 for 717.1+718.2 γ in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); Pol=+0.12 19.
727.7 3	3.32 16	5161.9	17 ⁺	4434.3	15 ⁺	E2	Mult.: DCO=1.35 18 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); Pol=+0.55 10.
734.6 3	9.2 4	3009.6	12 ⁻	2275.1	10 ⁻	E2	Mult.: DCO=1.51 8 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
742.6 3	11.6 5	4864.8	(16 ⁺)	4122.1	14 ⁺	E2	Mult.: DCO=1.00 10 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14) for 742.6+743.7 γ ; Pol=+0.21 18.
743.7 3	5.7 3	x+1960.5	(17 ⁻)	x+1216.8	(15 ⁻)	E2	$I_\gamma(744)/I_\gamma(841.3)=0.97$ 6. Mult.: DCO=1.00 10 for 742.6+743.7 γ in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
747.6 10	0.71 9	y+2438.0	(17 ⁺)	y+1690.5	(15 ⁺)	E2 [#]	
750.6 3	2.31 11	y+750.72	(12 ⁺)	y	(10 ⁺)	E2 [#]	
754.3 3	6.1 3	3383.1	13 ⁻	2629.0	11 ⁻	E2	Mult.: DCO=1.39 10 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
761.9 3	2.1 2	3082.9	12 ⁻	2320.9	11 ⁺	E1	
773.5 3	6.0 3	3402.3	13 ⁻	2629.0	11 ⁻	E2	Mult.: DCO=1.55 10 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
799.7 3	6.9 3	3809.2	14 ⁻	3009.6	12 ⁻	E2	Mult.: DCO=1.43 9 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
806.5 3	4.7 7	5644.5	18 ⁻	4838.0	16 ⁻	E2	$I_\gamma(806)/I_\gamma(841.3)=0.66$ 5. Mult.: DCO=0.85 8 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
815.1 3	8.5 4	1185.2	7 ⁽⁺⁾	370.1	6 ⁺	(M1+E2)	Mult.: from DCO=0.44 6 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
818.6 3	9.2 4	3687.6	14 ⁻	2869.0	12 ⁻	E2	Mult.: DCO=1.14 11 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
834.0 3	4.2 2	x+2794.5	(19 ⁻)	x+1960.5	(17 ⁻)	E2	$I_\gamma(833)/I_\gamma(841.3)=0.91$ 6. Mult.: DCO=0.93 10 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
841.2 1	6.1 3	6003.1	19 ⁺	5161.9	17 ⁺	E2	Mult.: DCO=0.98 7 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14), 0.97 5 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14); Pol=+0.41 8.
842.9 3	5.4 3	4223.8		3380.9	13 ⁺		
848.4 3	22.8 8	1675.1	7 ⁻	826.7	8 ⁻	M1+E2	Mult.: $A_2=0.42$ 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=1.39 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
865.4 3	2.40 16	5730.2	18 ⁺	4864.8	(16 ⁺)	E2	Mult.: DCO=1.00 8 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); Pol=+0.2 3.
893.2 3	2.15 15	4295.5	15 ⁻	3402.3	13 ⁻	E2	Mult.: DCO=2.1 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
896.4 3	3.1 2	4277.3		3380.9	13 ⁺		
900.8 3	3.08 16	6545.3	(20 ⁻)	5644.5	18 ⁻	(E2)	$I_\gamma(901)/I_\gamma(841.3)=0.76$ 5.
920.8 3	1.97 13	1747.5	8 ⁻	826.7	8 ⁻	M1+E2	Mult.: DCO=1.44 17 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
923.9 3	1.64 13	x+3718.4	(21 ⁻)	x+2794.5	(19 ⁻)	(E2) [#]	$I_\gamma(924)/I_\gamma(841.3)=0.91$ 6.
932.2 2	3.26 18	6935.3	21 ⁺	6003.1	19 ⁺	E2	$I_\gamma: I_\gamma(932)/I_\gamma(841.3)=0.96$ 6 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$

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$^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ **1998La14,1982Ma29 (continued)**

$\gamma(^{112}\text{Sb})$ (continued)

E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	Comments
							(1998La14). Mult.: DCO=0.98 16 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14), 1.21 11 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14); Pol=+0.67 11.
940.1 3	12.0 5	4321.0	15 ⁺	3380.9	13 ⁺	E2	Mult.: DCO=1.09 7 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
976.0 3	4.4 2	1345.7	7 ⁺	370.1	6 ⁺	M1+E2	Mult.: DCO=0.56 6 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
983.8 3	28.1 11	2869.0	12 ⁻	1885.2	10 ⁻	E2	Mult.: A ₂ =0.41 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=0.97 4 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
989.8 3	2.5 2	4798.6	16 ⁻	3809.2	14 ⁻	E2	Mult.: DCO=1.62 9 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
990.8 3	1.8 9	7536.1	(22 ⁻)	6545.3	(20 ⁻)	E2	I _γ (991)/I _γ (841.3)= 0.81 5. Mult.: DCO=0.91 7 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1002.9 3	1.11 13	7938.2	(23 ⁺)	6935.3	21 ⁺	E2	I _γ : I _γ (1003)/I _γ (841.3)=0.89 8 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14). Mult.: DCO=0.98 7 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14); Pol=+0.52 11.
1007.4 3	6.2 3	3489.9	12 ⁺	2482.6	(12 ⁻)	(E1)	Mult.: DCO=1.08 14 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1015.3 3	1.58 13	x+4733.7	(23 ⁻)	x+3718.4	(21 ⁻)	(E2) [#]	I _γ (1016)/I _γ (841.3)= 0.86 5.
1017.6 3	14.2 6	2548.7	(11 ⁻)	1530.6	9 ⁻	(E2)	Mult.: A ₂ =0.28 3 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1030.8 10	<0.15	5326.5	17 ⁻	4295.5	15 ⁻	E2	
1041.3 3	2.64 16	5717.8		4676.5	(16 ⁺)		Mult.: DCO=0.79 8 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1058.5 3	100	1885.2	10 ⁻	826.7	8 ⁻	E2	Mult.: A ₂ =0.40 3 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=1.01 2 for 1058.5+1060.0 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1059.0 5	5.3 6	8997.2	(25 ⁺)	7938.2	(23 ⁺)	E2	I _γ : from I _γ (1059)/I _γ (841.3)=0.87 9 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14); Mult.: DCO=0.99 5 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14); Pol(1059+1059+1060)=+0.46 11.
1060.0 3	43.1 14	3380.9	13 ⁺	2320.9	11 ⁺	E2	Mult.: A ₂ =0.40 3 for 1058.5+1060.0γ in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=1.01 2 for 1058.5+1060.0γ in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1080.6 3	0.20 9	8616.7	(24 ⁻)	7536.1	(22 ⁻)	(E2)	I _γ (1081)/I _γ (841.3)= 0.82 5.
1083.0 3	6.7 3	3403.9	12 ⁺	2320.9	11 ⁺	M1+E2	Mult.: DCO=0.54 3 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); Pol=-0.3 3.
1103.4 3	16.1 8	2988.4	12 ⁻	1885.2	10 ⁻	E2	Mult.: DCO=1.02 7 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1108.9 2	4.9 4	x+5842.6	(25 ⁻)	x+4733.7	(23 ⁻)		I _γ : from I _γ (1109)/I _γ (841.3)=0.80 6 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1116.8 2	4.9 3	10114.0	(27 ⁺)	8997.2	(25 ⁺)	E2	I _γ : from I _γ (1117)/I _γ (841.3)=0.81 4 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14). Mult.: DCO=1.27 20 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14); Pol=+0.76 18.
1122.9 3	19.0 6	1949.6	9 ⁻	826.7	8 ⁻	M1+E2	Mult.: A ₂ =0.37 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=1.34 10 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1168.3 3		9785.0	(26 ⁻)	8616.7	(24 ⁻)		I _γ (1168)/I _γ (841.3)= 0.78 6.
1168.8 3	6.7 3	3489.9	12 ⁺	2320.9	11 ⁺	M1+E2	Mult.: DCO=0.47 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1183.2 2	5.3 6	11297.2	(29 ⁺)	10114.0	(27 ⁺)	E2	I _γ : from I _γ (1183)/I _γ (841.3)=0.58 4 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14). Mult.: DCO=1.2 3 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14); Pol=+0.6 3.
1197.7 3	5.9 5	3082.9	12 ⁻	1885.2	10 ⁻	E2	Mult.: DCO=1.01 12 for 1197.7+1199.4γ in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1199.4 3	1.8 2	3748.1	(13 ⁻)	2548.7	(11 ⁻)	(E2)	Mult.: DCO=1.01 12 for 1197.7+1199.4γ in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1203.9 3	4.4 4	x+7046.5	(27 ⁻)	x+5842.6	(25 ⁻)		I _γ : I _γ (1204)/I _γ (841.3)=0.72 5 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).

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$^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ **1998La14,1982Ma29 (continued)**

$\gamma(^{112}\text{Sb})$ (continued)

E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	Comments
1211.9 3	4.4 3	1345.7	7 ⁺	133.5	5 ⁺	E2	DCO=1.95 16 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1238.7 3	1.5 2	3731.6		2492.9			
1249.1 3	4.1 8	2075.8	(9 ⁻)	826.7	8 ⁻	(M1+E2)	Mult.: DCO=0.32 10 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1257.0 4	3.9 4	11042.0	(28 ⁻)	9785.0	(26 ⁻)		I_γ : from $I_\gamma(1257)/I_\gamma(841.3)=0.64$ 5 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1285.6 3	2.3 3	1389.5	6 ⁺	103.90	4 ⁺	E2	Mult.: DCO=1.76 21 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1298.8 2	2.99 23	12596.0	(31 ⁺)	11297.2	(29 ⁺)	E2	I_γ : from $I_\gamma(1299)/I_\gamma(841.3)=0.49$ 3 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14). Mult.: DCO=1.06 22 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14); Pol=+0.3 3.
1299.8 3	4.1 4	x+8346.3	(29 ⁻)	x+7046.5	(27 ⁻)		I_γ : from $I_\gamma(1300)/I_\gamma(841.3)=0.67$ 5 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1312.3 3	6.1 3	1682.4	8 ⁺	370.1	6 ⁺	E2	Mult.: $A_2=0.7$ 3 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=2.05 12 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1321.3 3	2.7 2	1691.4	7 ⁺	370.1	6 ⁺	M1+E2	Mult.: DCO=0.69 6 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1352.4 4	2.1 3	12394.4	(30 ⁻)	11042.0	(28 ⁻)		I_γ : $I_\gamma(1352)/I_\gamma(841.3)=0.35$ 4 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1385.5 3	1.15 13	2570.8	9 ⁽⁺⁾	1185.2	7 ⁽⁺⁾	E2	Mult.: $A_2=0.37$ 9 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=2.2 4 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1387.0 3	3.7 3	x+9733.3	(31 ⁻)	x+8346.3	(29 ⁻)		I_γ : from $I_\gamma(1387)/I_\gamma(841.3)=0.61$ 4 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1397.3 10	0.86 13	2582.6		1185.2	7 ⁽⁺⁾		$A_2=0.47$ 10 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=1.25 13 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14);
1411.3 3	3.4 4	3296.5	(12 ⁻)	1885.2	10 ⁻	(E2)	Mult.: $A_2=0.40$ 9 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=1.0 2 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1445.8 5	1.77 20	13840.3	(32 ⁻)	12394.4	(30 ⁻)		I_γ : $I_\gamma(1446)/I_\gamma(841.3)=0.29$ 3 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1468.6 3	2.26 21	x+11202.0	(33 ⁻)	x+9733.3	(31 ⁻)		I_γ : from $I_\gamma(1469)/I_\gamma(841.3)=0.37$ 3 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1493.6 3	1.95 16	14089.6	(33 ⁺)	12596.0	(31 ⁺)		I_γ : $I_\gamma(1494)/I_\gamma(841.3)=0.32$ 2 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14). DCO=0.83 27 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1548.2 6	1.53 20	15388.5	(34 ⁻)	13840.3	(32 ⁻)		I_γ : $I_\gamma(1548)/I_\gamma(841.3)=0.25$ 3 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1570.6 4	2.0 21	x+12772.6	(35 ⁻)	x+11202.0	(33 ⁻)		I_γ : from $I_\gamma(1571)/I_\gamma(841.3)=0.33$ 3 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1613.2 3	3.9 2	4838.0	16 ⁻	3224.8	14 ⁻	E2	Mult.: $A_2=0.36$ 5 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=1.01 16 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1653.3 3	1.18 16	4255.7	14 ⁻	2602.3	12 ⁻	E2	Mult.: $A_2=0.4$ 1 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14); DCO=0.85 18 in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14).
1666.0 7	1.28 14	17054.5	(36 ⁻)	15388.5	(34 ⁻)		I_γ : from $I_\gamma(1666)/I_\gamma(841.3)=0.21$ 2 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1695.5 3	1.59 14	15785.1	(35 ⁺)	14089.6	(33 ⁺)		I_γ : from $I_\gamma(1695)/I_\gamma(841.3)=0.26$ 2 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1708.0 5	0.98 13	x+14480.6	(37 ⁻)	x+12772.6	(35 ⁻)		I_γ : from $I_\gamma(1708)/I_\gamma(841.3)=0.16$ 2 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1810@ 1	0.85 13	18865.7?	(38 ⁻)	17054.5	(36 ⁻)		I_γ : from $I_\gamma(1810)/I_\gamma(841.3)=0.14$ 2 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1871.3 5	0.98 13	17656.5	(37 ⁺)	15785.1	(35 ⁺)		I_γ : from $I_\gamma(1871)/I_\gamma(841.3)=0.16$ 2 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
1880.8 7	0.67 13	x+16361.4	(39 ⁻)	x+14480.6	(37 ⁻)		I_γ : from $I_\gamma(1881)/I_\gamma(841.3)=0.11$ 2 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).

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$^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ 1998La14,1982Ma29 (continued) $\gamma(^{112}\text{Sb})$ (continued)

E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
2047 [@]	0.37 6	19703.2?	(39 ⁺)	17656.5	(37 ⁺)	I_γ : from $I_\gamma(2047)/I_\gamma(841.3)=0.06$ 1 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).
2078	0.31 12	x+18439?	(41 ⁻)	x+16361.4	(39 ⁻)	I_γ : from $I_\gamma(2078)/I_\gamma(841.3)=0.05$ 2 in $^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ (1998La14).

[†] From $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14), unless otherwise noted. $\Delta E_\gamma=0.3$ keV for $I_\gamma>1$ and $\Delta E_\gamma=1$ keV for $I_\gamma<1$, based on a general statement in 1998La14.

[‡] From $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14), based on the DCO ratios, polarization and the apparent band structures.

[#] Assignment made in $^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma)$ (1998La14), but no DCO or A_2 values were given.

[@] Placement of transition in the level scheme is uncertain.

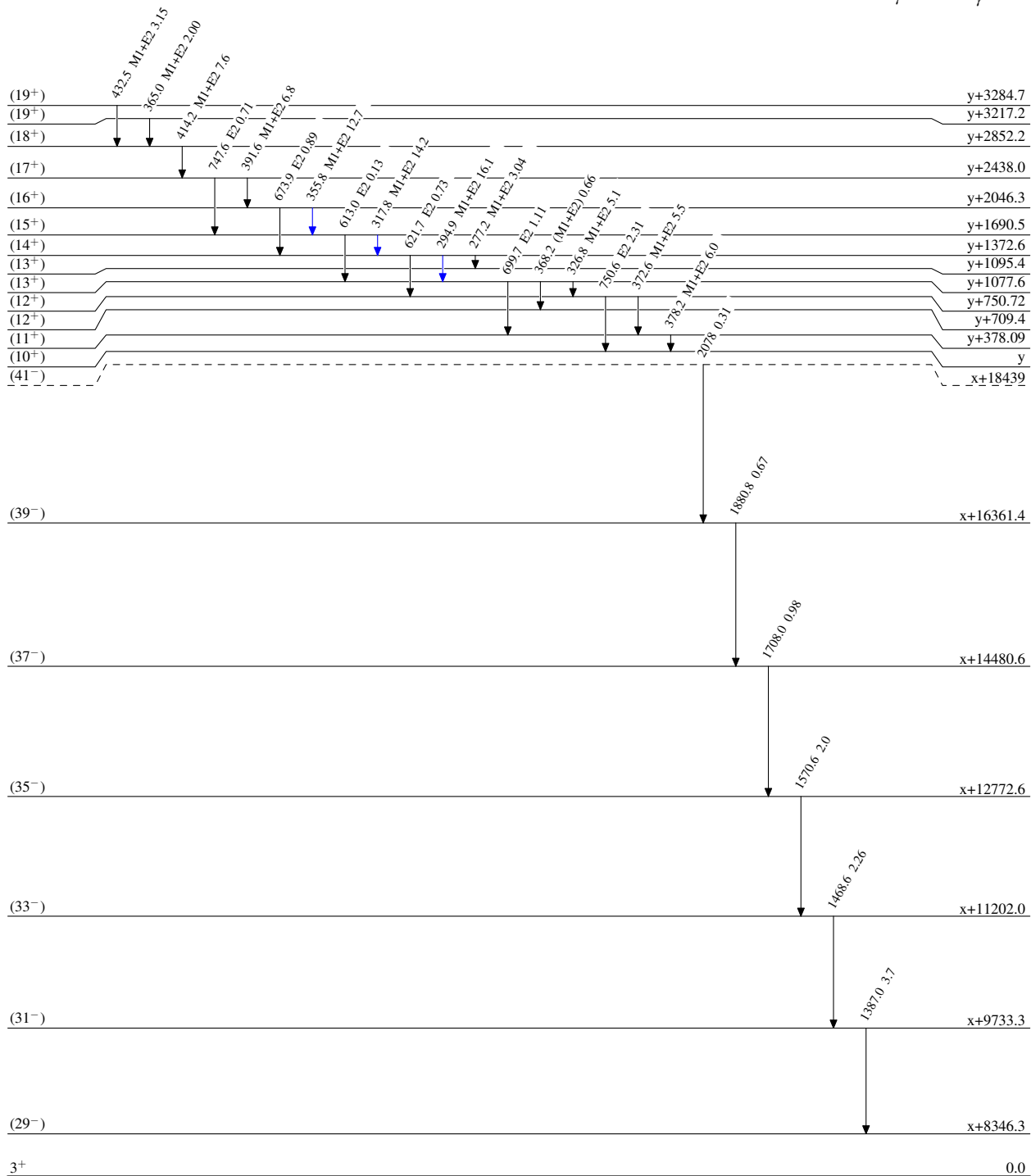
$^{103}\text{Rh}(^{12}\text{C},3n\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ 1998La14,1982Ma29

Level Scheme

Intensities: Relative I_γ

Legend

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

 $^{112}_{51}\text{Sb}_{61}$

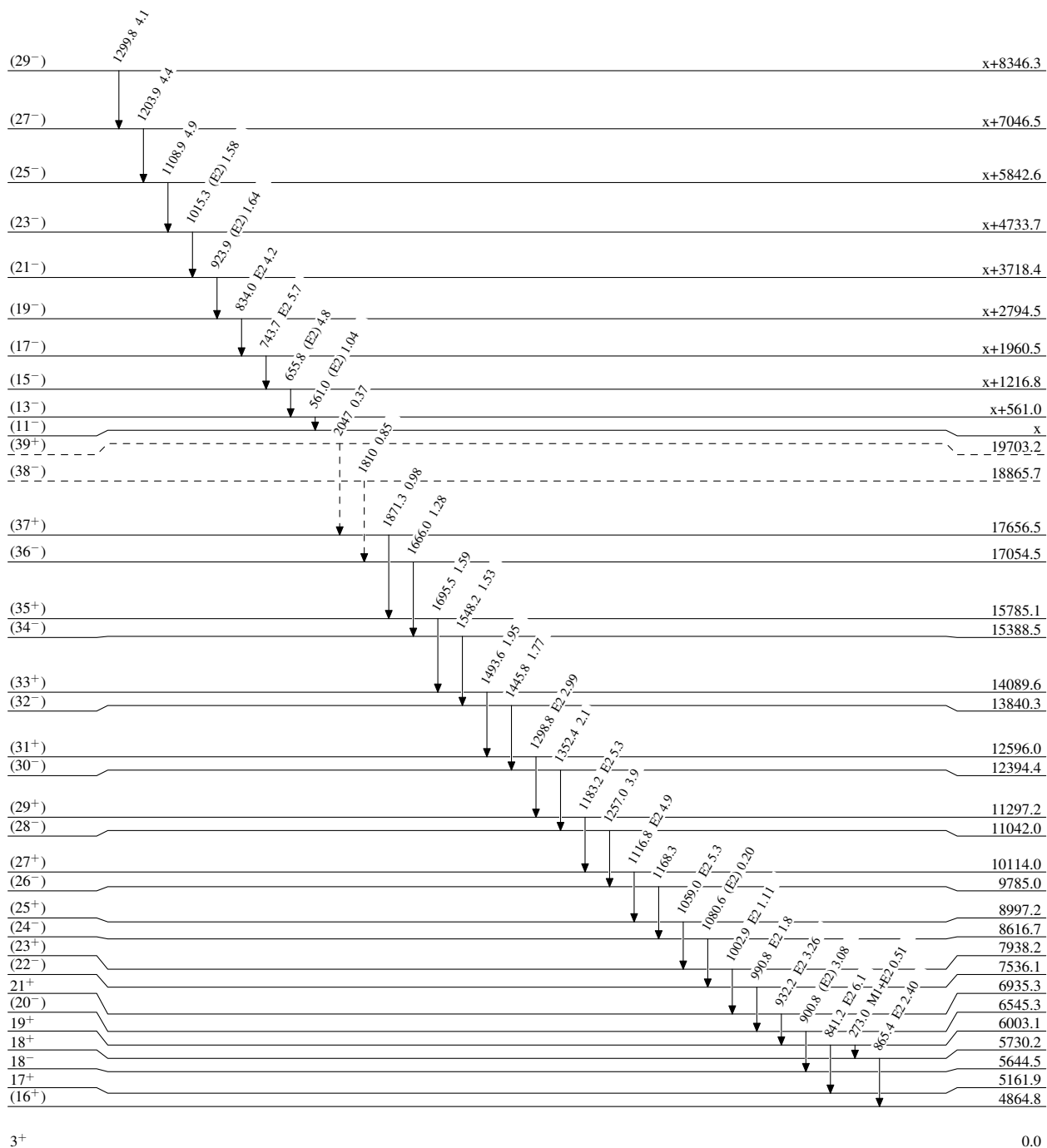
$^{103}\text{Rh}(^{12}\text{C},3n\gamma),^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ 1998La14,1982Ma29

Legend

Level Scheme (continued)

Intensities: Relative I_γ

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



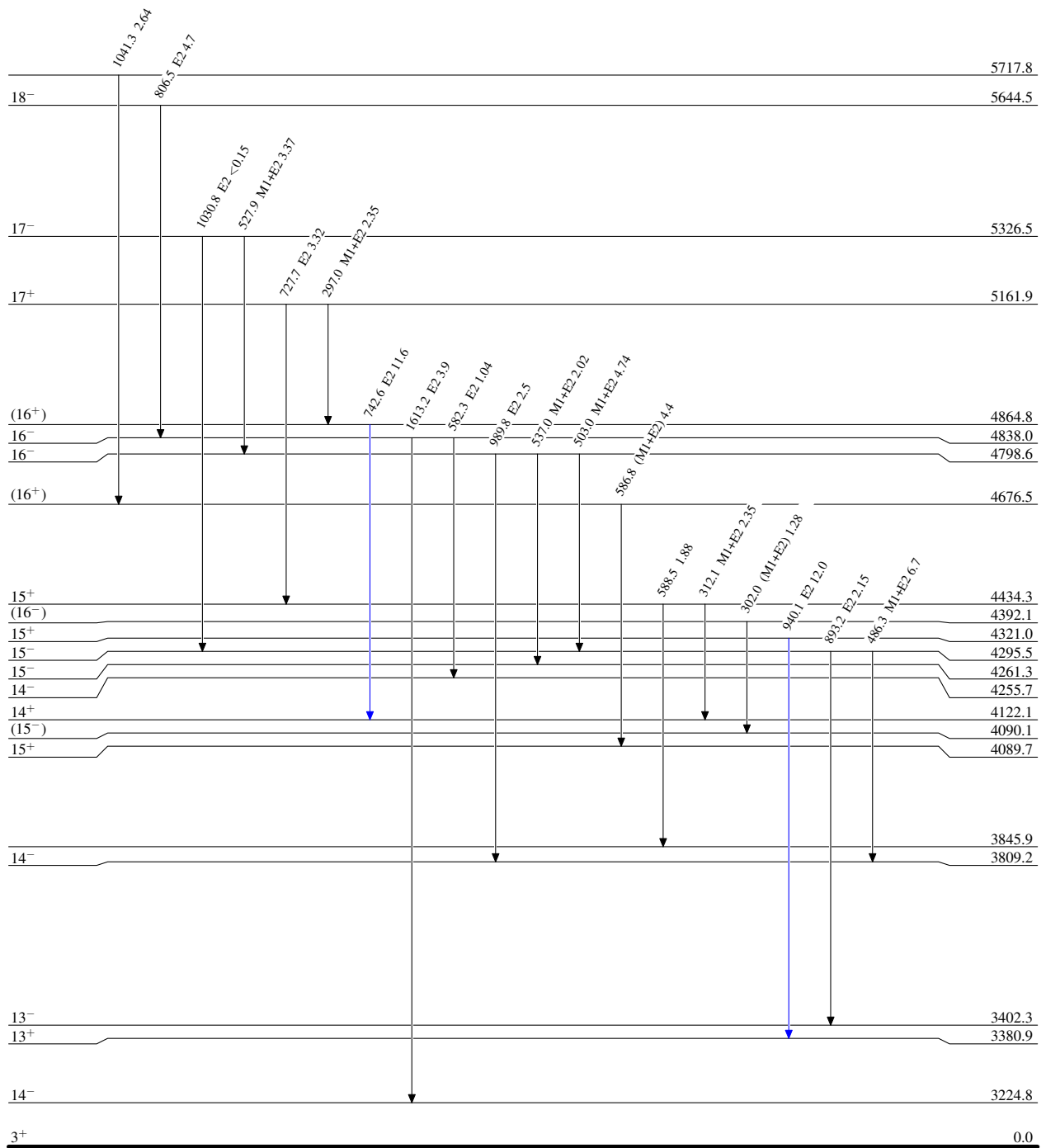
$^{103}\text{Rh}(^{12}\text{C},3n\gamma),^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ 1998La14,1982Ma29

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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

 $^{112}_{51}\text{Sb}_{61}$

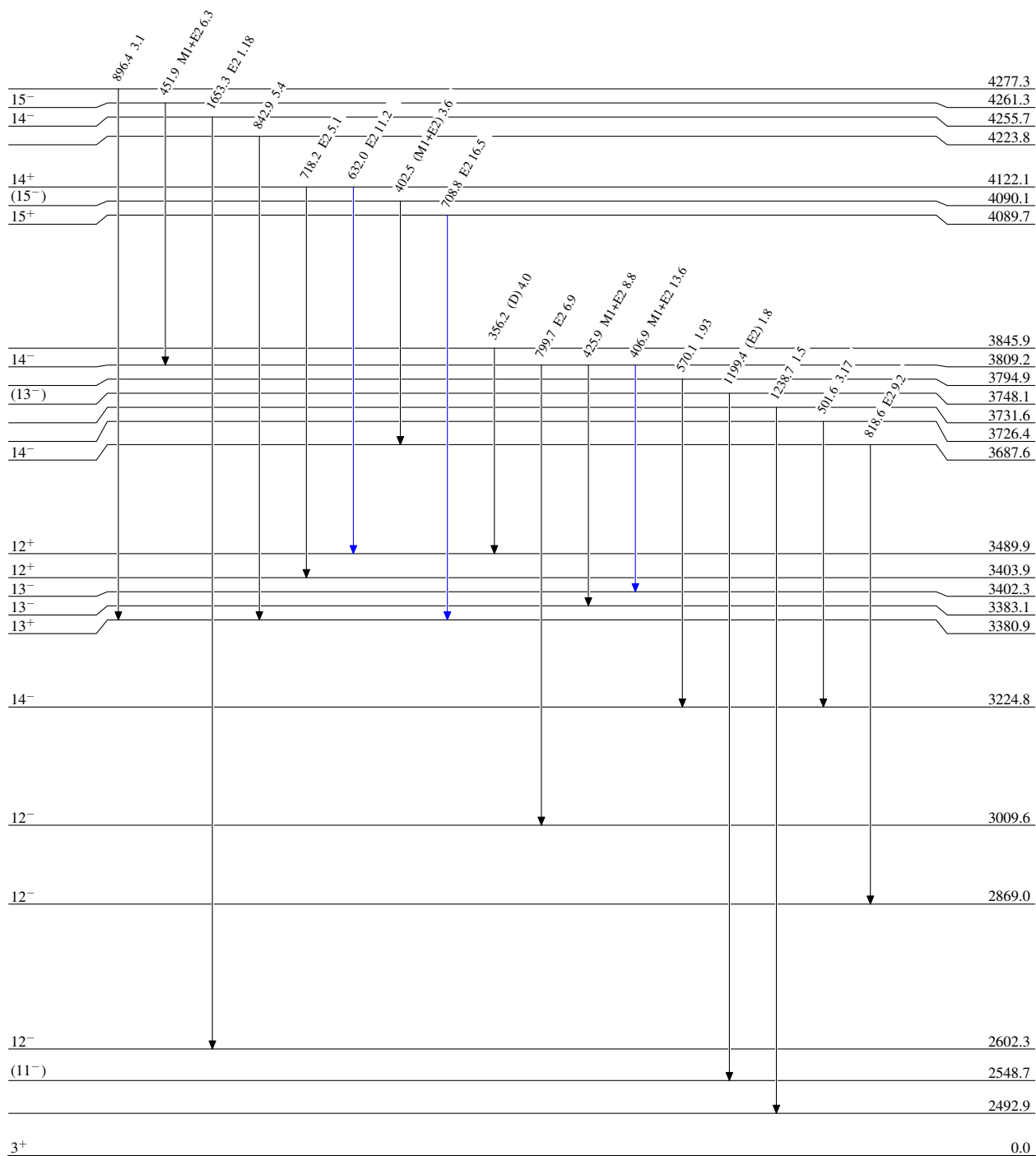
$^{103}\text{Rh}(^{12}\text{C},3n\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ 1998La14,1982Ma29

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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

 $^{112}_{51}\text{Sb}_{61}$

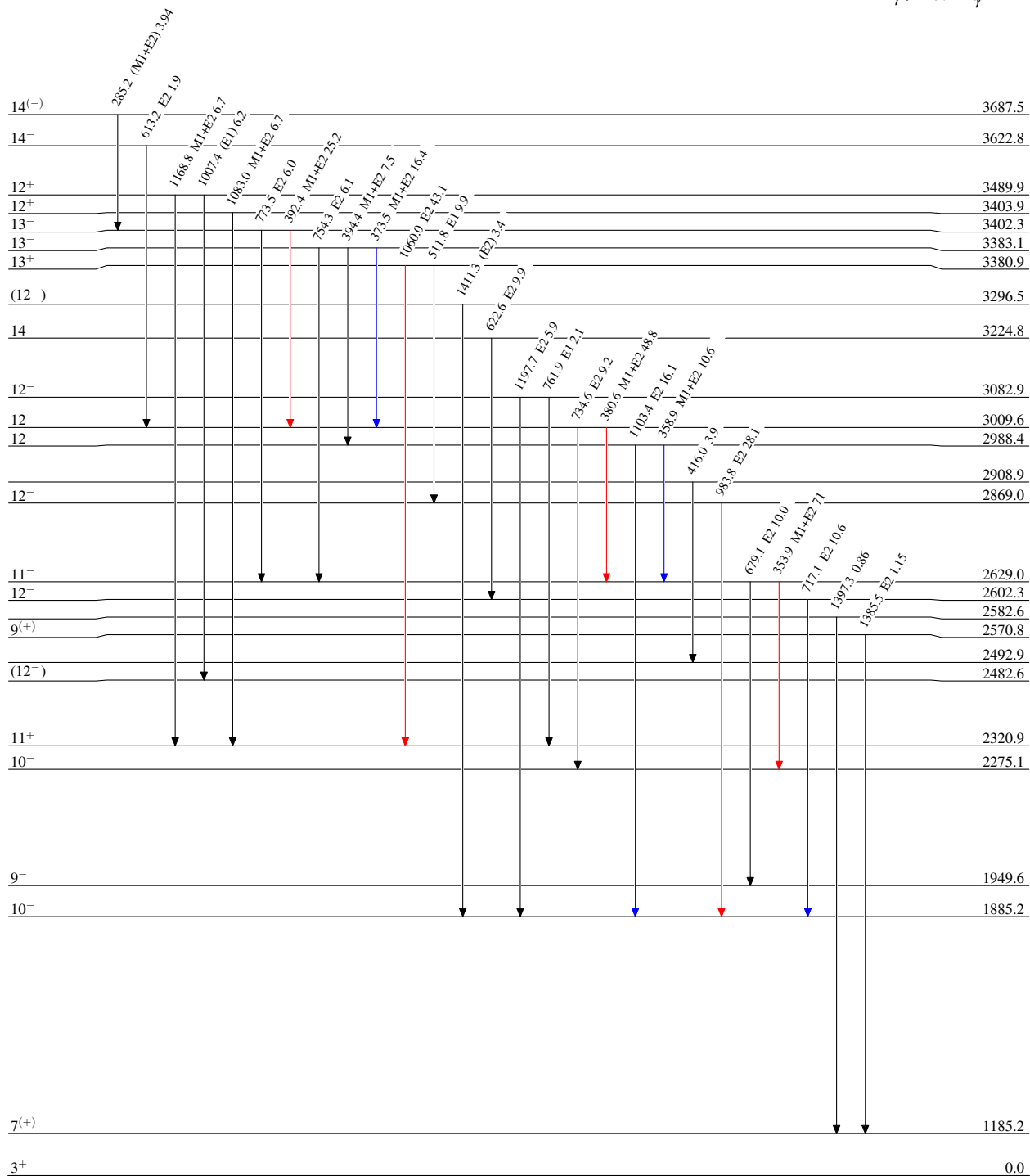
$^{103}\text{Rh}(^{12}\text{C},3n\gamma),^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ 1998La14,1982Ma29

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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

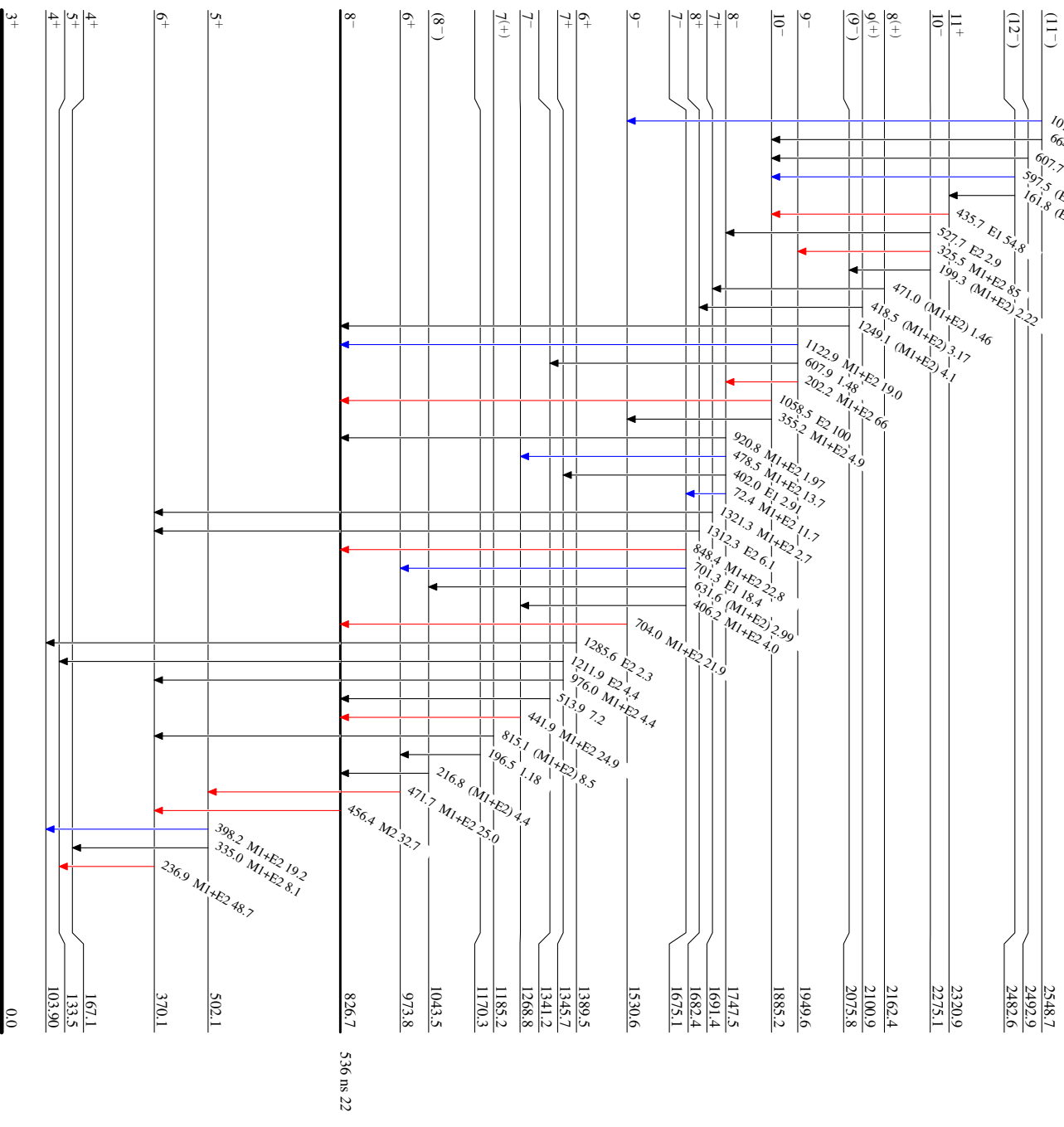


¹⁰³Rh(¹²C,3nγ),⁹⁰Zr(³¹P,2αnγ) 1998Ia14,1982Ma29

Level Scheme (continued)

Intensities: Relative I_γ

- Legend
- I_γ < 2% × I_{γmax}
 - I_γ < 10% × I_{γmax}
 - I_γ > 10% × I_{γmax}



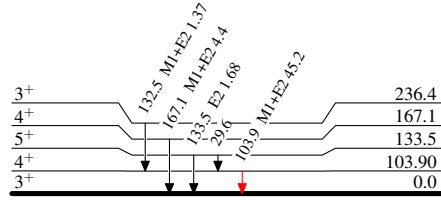
$^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ 1998La14,1982Ma29

Legend

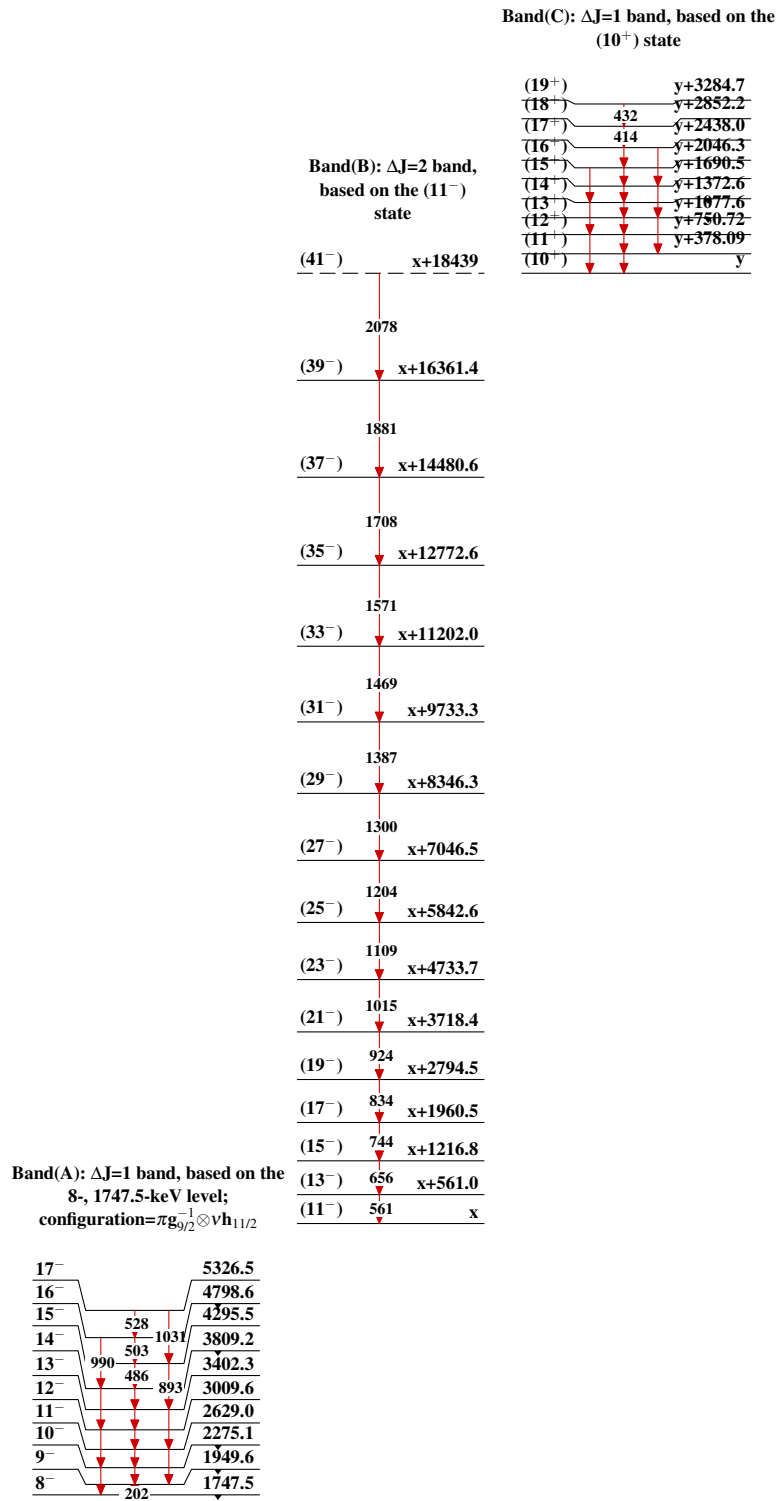
Level Scheme (continued)

Intensities: Relative I_γ

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

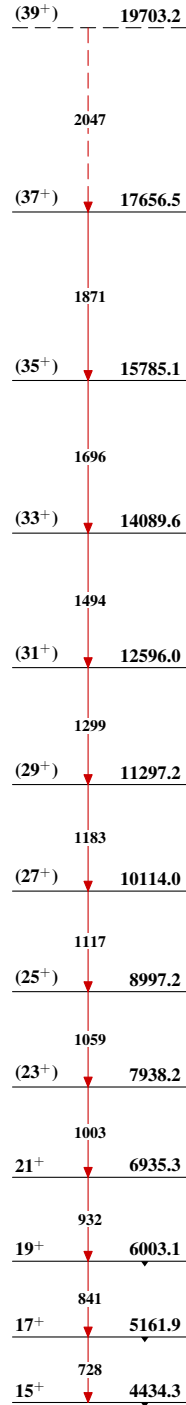
 $^{112}_{51}\text{Sb}_{61}$

$^{103}\text{Rh}(^{12}\text{C},3n\gamma), ^{90}\text{Zr}(^{31}\text{P},2\alpha n\gamma)$ 1998La14,1982Ma29

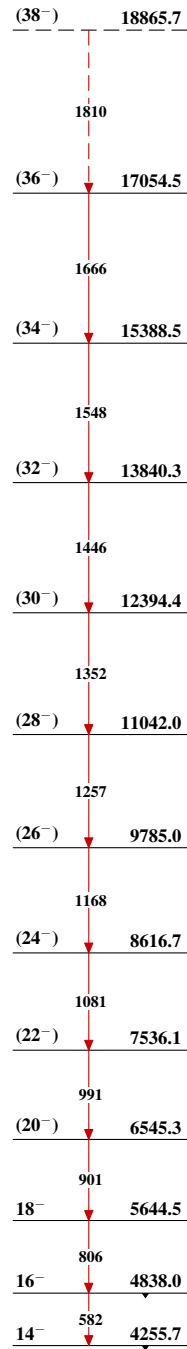


$^{103}\text{Rh}(^{12}\text{C},3\text{n}\gamma),^{90}\text{Zr}(^{31}\text{P},2\alpha\text{n}\gamma)$ 1998La14,1982Ma29 (continued)

Band(D): $\Delta J=2$ band,
based on the 15^+ state



Band(E): $\Delta J=2$ band,
based on the 14^- state

 $^{112}_{51}\text{Sb}_{61}$