

Energy levels and branching ratios [99Fa05].

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E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage							
			E_f^* : $2J_f^\pi$:	0.0 3^-	119.5 $\langle 5^- \rangle$	132.5 $\langle 5 \rangle^+$	154.6 $\langle 3 \rangle^+$	220.8 $\langle 9 \rangle^+$	295.6 $\langle 5, 7 \rangle$	352.5 $\langle 5^- \rangle$
0.0	3^-	96.7(13) m								
119.52(4)	$\langle 5^- \rangle$	1.7(3) ns		100						
132.46(6)	$\langle 5 \rangle^+$	6.1(4) ns		100						
154.61(8)	$\langle 3 \rangle^+$	1.2(3) ns		92(5)		7.8(5)				
179.32(9)	$\langle 3, 5, 7^- \rangle$			100						
220.80(7)	$\langle 9 \rangle^+$	31.7(3) ns		6(2)		94(4)				
273.10(9)	$\langle 3 \rangle$			100						
295.64(12)	$\langle 5, 7 \rangle$			100						
352.47(9)	$\langle 5^- \rangle$			94(8)	6(3)					
373.97(7)	$\langle 7^+ \rangle$	57(5) ps				15(2)	3.2(8)	81(5)		
518.050(19)	$\langle 7^- \rangle$	7.1(5) ps		78(2)	14(2)	<2		8(1)		
524.33(15)									100	
773.49(6)	$\langle 9^- \rangle$	4.0(4) ps			80(3)			12(1)		3
782.20(25)	$\langle 3, 5 \rangle$			<59			100			
783.74(10)	$\langle 13^+ \rangle$	4.7(4) ps						100		
792.97(9)	$\langle 3, 5, 7^- \rangle$			84(6)	16(2)					
824.91(20)	$\langle 3, 5 \rangle$			88(5)		6(4)	6(4)			
847.8(5)	$\langle 9^+ \rangle$					29		71		
901.51(14)	$\langle 3, 5 \rangle$			17(3)	<10	53(4)	30(3)			
939.64(10)	$\langle 11^+ \rangle$	4.6(9) ps						42(4)		
1072.49(24)	$\langle 3^+, 5, 7 \rangle$				27(4)	40(4)				
1149.81(4)	$\langle 11^- \rangle$	2.29(7) ps								
1258.2(7)	$\langle 9^- \rangle$									100
1512.1(5)	$\langle 13^+ \rangle$									
1515.91(7)	$\langle 13^- \rangle$	0.9(3) ps								
1601.99(19)	$\langle 3^+, 5^+ \rangle$			46(2)		29(2)				
1612.50(24)	$\langle 3^+, 5, 7^- \rangle$			23(4)						
1613.90(10)	$\langle 17^+ \rangle$	0.83(14) ps								
1791.25(14)	$\langle 15^+ \rangle$									
1897.43(9)	$\langle 15^- \rangle$	0.76(7) ps								
2042.5(3)	$\langle 3^+, 5, 7 \rangle$									
2069.7(4)	$\langle 13^- \rangle$									
2133.3(5)	$\langle 13^- \rangle$									
2301.4(6)	$\langle 17^+ \rangle$									
2355.96(8)	$\langle 17^- \rangle$	0.83(21) ps								
2606.3(6)	$\langle 15^- \rangle$									
2659.31(14)	$\langle 21^+ \rangle$	0.33(4) ps								
2756.14(11)	$\langle 19^- \rangle$	0.55(14) ps								
2775.8(4)	$\langle 17^- \rangle$									
2863.66(25)	$\langle 19^+ \rangle$									
2945.9(20)										
2958.8(3)	$\langle 3, 5, 7 \rangle^+$									
3223.1(5)	$\langle 21^+ \rangle$									
3225.8(6)	$\langle 19^- \rangle$									
3274.02(10)	$\langle 21^- \rangle$	0.51(7) ps								

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E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage							
			E_f^* : $2J_f^\pi$:	0.0 3^-	119.5 $\langle 5^- \rangle$	132.5 $\langle 5 \rangle^+$	154.6 $\langle 3 \rangle^+$	220.8 $\langle 9 \rangle^+$	295.6 $\langle 5, 7 \rangle$	352.5 $\langle 5^- \rangle$
3326.3(9)	$\langle 19^- \rangle$									
3438.7(8)	$\langle 21^+ \rangle$									
3665.3(5)	$\langle 21^- \rangle$									
3777.77(13)	$\langle 23^- \rangle$	0.37(8) ps								
3870.42(18)	$\langle 25^+ \rangle$	0.16(2) ps								
4016.5(11)										
4137.1(10)	$\langle 23^+ \rangle$									
4171.8(8)	$\langle 23^- \rangle$									
4198.7(6)	$\langle 25^+ \rangle$									
4349.60(13)	$\langle 25^- \rangle$	0.30(3) ps								
4416.6(11)	$\langle 25^+ \rangle$									
4525.1(9)	$\langle 25^+ \rangle$									
4782.1(11)	$\langle 25^- \rangle$									
4968.80(16)	$\langle 27^- \rangle$	0.18(3) ps								
5192.33(20)	$\langle 29^+ \rangle$	0.23(10) ps								
5293.9(12)	$\langle 27^- \rangle$									
5526.4(7)	$\langle 29^+ \rangle$									
5603.80(16)	$\langle 29^- \rangle$	0.14(7) ps								
5708.8(14)	$\langle 29^+ \rangle$									
5811.2(13)	$\langle 29^+ \rangle$									
6237.81(19)	$\langle 31^- \rangle$	0.21(11) ps								
6587.3(15)	$\langle 31^- \rangle$									
6630.8(3)	$\langle 33^+ \rangle$									
6940.11(19)	$\langle 33^- \rangle$									
6991.9(11)	$\langle 33^+ \rangle$									
7076.7(8)	$\langle 33^+ \rangle$									
7114(21)	$\langle 1 \rangle^-$									
7225.2(16)	$\langle 33^+ \rangle$									
7452(21)	1^+									
7641.82(22)	$\langle 35^- \rangle$									
7955(21)	1^+									
7973(21)	$\langle 1^-, 3^- \rangle$									
8042(21)	1^+									
8051.7(18)	$\langle 35^- \rangle$									
8068(21)	$\langle 1^-, 3^- \rangle$									
8209(21)	1^+									
8278.7(4)	$\langle 37^+ \rangle$									
8334.33(22)	$\langle 37^- \rangle$									
8359(21)	$\langle 3^+, 5^+ \rangle$									
8436(21)	$\langle 3^+, 5^+ \rangle$									
8555(21)	$\langle 3^+, 5^+ \rangle$									
8599(21)	1^+									
8645.0(15)	$\langle 37^+ \rangle$									
8692.5(12)	$\langle 37^+ \rangle$									
9212.5(3)	$\langle 39^- \rangle$									

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E^*	$2J^\pi$	$T_{1/2}$ or	Branching ratios in percentage							
[keV]		Γ_{cm}	E_f^* : $2J_f^\pi$:	0.0 3^-	119.5 $\langle 5^- \rangle$	132.5 $\langle 5 \rangle^+$	154.6 $\langle 3 \rangle^+$	220.8 $\langle 9 \rangle^+$	295.6 $\langle 5, 7 \rangle$	352.5 $\langle 5^- \rangle$
9704.7(20)	$\langle 39^- \rangle$									
9883.8(3)	$\langle 41^- \rangle$									
10151.0(6)	$\langle 41^+ \rangle$									
10412.5(16)	$\langle 41^+ \rangle$									
10444.5(16)	$\langle 41^+ \rangle$									
10452.8(17)	$\langle 41^+ \rangle$									
10909.3(5)	$\langle 43^- \rangle$									
11515.7(23)	$\langle 43^- \rangle$									
11656.4(5)	$\langle 45^- \rangle$									
12107.0(12)	$\langle 45^+ \rangle$									
12208.0(12)	$\langle 45^+ \rangle$									
12799.0(8)	$\langle 47^- \rangle$									
13682.4(11)	$\langle 49^- \rangle$									

Additional data on this isotope can be found in [78Be08].

Energy levels and branching ratios [99Fa05]. Part 2

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E^*	$2J^\pi$	E_f^* : $2J_f^\pi$:	374.0 $\langle 7^+ \rangle$	518.0 $\langle 7^- \rangle$	773.5 $\langle 9^- \rangle$	783.7 $\langle 13^+ \rangle$	793.0	824.9 $\langle 3, 5 \rangle$	847.8 $\langle 9^+ \rangle$	901.5 $\langle 3, 5 \rangle$	939.6 $\langle 11^+ \rangle$	1149.8 $\langle 11^- \rangle$
773.49(6)	$\langle 9^- \rangle$			4.1(14)								
847.8(5)	$\langle 9^+ \rangle$	<14										
939.64(10)	$\langle 11^+ \rangle$	53(3)				4						
1072.49(24)	$\langle 3^+, 5, 7 \rangle$	33(4)										
1149.81(4)	$\langle 11^- \rangle$			94(3)	3.7(21)		2					
1512.1(5)	$\langle 13^+ \rangle$					43			50		7	
1515.91(7)	$\langle 13^- \rangle$				87(3)	10.9						2.2
1601.99(19)	$\langle 3^+, 5^+ \rangle$	10(1)								15(1)		
1612.50(24)	$\langle 3^+, 5, 7^- \rangle$	45(4)						32(4)				
1613.90(10)	$\langle 17^+ \rangle$					100						
1791.25(14)	$\langle 15^+ \rangle$					28(12)					72(5)	
1897.43(9)	$\langle 15^- \rangle$											100
2042.5(3)	$\langle 3^+, 5, 7 \rangle$	42(5)					58(6)					
2133.3(5)	$\langle 13^- \rangle$											75
2301.4(6)	$\langle 17^+ \rangle$					31						

Energy levels and branching ratios [99Fa05]. Part 3

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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1258.2 $\langle 9^- \rangle$	1512.1 $\langle 13^+ \rangle$	1515.9 $\langle 13^- \rangle$	1602.0 $\langle 3^+, 5^+ \rangle$	1612.5	1613.9 $\langle 17^+ \rangle$	1791.2 $\langle 15^+ \rangle$	1897.4 $\langle 15^- \rangle$	2042.5	2069.7 $\langle 13^- \rangle$
2069.7(4)	$\langle 13^- \rangle$		100									
2133.3(5)	$\langle 13^- \rangle$				25							
2301.4(6)	$\langle 17^+ \rangle$			69								
2355.96(8)	$\langle 17^- \rangle$				89(4)			6.7		4		
2606.3(6)	$\langle 15^- \rangle$									<100		
2659.31(14)	$\langle 21^+ \rangle$							100				
2756.14(11)	$\langle 19^- \rangle$									100		
2775.8(4)	$\langle 17^- \rangle$				33					25		8
2863.66(25)	$\langle 19^+ \rangle$								100			
2945.9(20)								100				
2958.8(3)	$\langle 3, 5, 7 \rangle^+$					18(3)	68(4)				14(1)	
3225.8(6)	$\langle 19^- \rangle$									33		

Energy levels and branching ratios [99Fa05]. Part 4

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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2133.3 $\langle 13^- \rangle$	2301.4 $\langle 17^+ \rangle$	2356.0 $\langle 17^- \rangle$	2606.3 $\langle 15^- \rangle$	2659.3 $\langle 21^+ \rangle$	2756.1 $\langle 19^- \rangle$	2775.8 $\langle 17^- \rangle$	2863.7 $\langle 19^+ \rangle$	3223.1 $\langle 21^+ \rangle$	3225.8 $\langle 19^- \rangle$
2606.3(6)	$\langle 15^- \rangle$		100									
2775.8(4)	$\langle 17^- \rangle$		25		8							
3225.8(6)	$\langle 19^- \rangle$					33			33			
3274.02(10)	$\langle 21^- \rangle$				93(6)			7				
3326.3(9)	$\langle 19^- \rangle$					50		50				
3438.7(8)	$\langle 21^+ \rangle$			50			50					
3665.3(5)	$\langle 21^- \rangle$				27			9	64			
3777.77(13)	$\langle 23^- \rangle$							100				
3870.42(18)	$\langle 25^+ \rangle$						100					
4016.5(11)										x		
4137.1(10)	$\langle 23^+ \rangle$									100		
4171.8(8)	$\langle 23^- \rangle$											80
4198.7(6)	$\langle 25^+ \rangle$						74				26	
4416.6(11)	$\langle 25^+ \rangle$										100	
4525.1(9)	$\langle 25^+ \rangle$										44	

Energy levels and branching ratios [99Fa05]. Part 5

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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3274.0 ⟨21 ⁻ ⟩	3326.3 ⟨19 ⁻ ⟩	3438.7 ⟨21 ⁺ ⟩	3665.3 ⟨21 ⁻ ⟩	3777.8 ⟨23 ⁻ ⟩	3870.4 ⟨25 ⁺ ⟩	4171.8 ⟨23 ⁻ ⟩	4198.7 ⟨25 ⁺ ⟩	4349.6 ⟨25 ⁻ ⟩	4416.6 ⟨25 ⁺ ⟩
4171.8(8)	⟨23 ⁻ ⟩			20		<20						
4198.7(6)	⟨25 ⁺ ⟩							<7				
4349.60(13)	⟨25 ⁻ ⟩		96				3.6					
4525.1(9)	⟨25 ⁺ ⟩				56							
4782.1(11)	⟨25 ⁻ ⟩					100						
4968.80(16)	⟨27 ⁻ ⟩						100					
5192.33(20)	⟨29 ⁺ ⟩							100				
5293.9(12)	⟨27 ⁻ ⟩								100			
5526.4(7)	⟨29 ⁺ ⟩							67		33		
5603.80(16)	⟨29 ⁻ ⟩										100	
5708.8(14)	⟨29 ⁺ ⟩											100

Energy levels and branching ratios [99Fa05]. Part 6

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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	4525.1 ⟨25 ⁺ ⟩	4968.8 ⟨27 ⁻ ⟩	5192.3 ⟨29 ⁺ ⟩	5293.9 ⟨27 ⁻ ⟩	5526.4 ⟨29 ⁺ ⟩	5603.8 ⟨29 ⁻ ⟩	5811.2 ⟨29 ⁺ ⟩	6237.8 ⟨31 ⁻ ⟩	6587.3 ⟨31 ⁻ ⟩	6630.8 ⟨33 ⁺ ⟩
5603.80(16)	⟨29 ⁻ ⟩			<5								
5811.2(13)	⟨29 ⁺ ⟩		100									
6237.81(19)	⟨31 ⁻ ⟩			100								
6587.3(15)	⟨31 ⁻ ⟩					100						
6630.8(3)	⟨33 ⁺ ⟩				100							
6940.11(19)	⟨33 ⁻ ⟩							100				
6991.9(11)	⟨33 ⁺ ⟩						100					
7076.7(8)	⟨33 ⁺ ⟩				22		78					
7225.2(16)	⟨33 ⁺ ⟩								100			
7641.82(22)	⟨35 ⁻ ⟩									100		
8051.7(18)	⟨35 ⁻ ⟩										100	
8278.7(4)	⟨37 ⁺ ⟩											100

Energy levels and branching ratios [99Fa05]. Part 7

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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	6940.1 ⟨33 ⁻ ⟩	6991.9 ⟨33 ⁺ ⟩	7076.7 ⟨33 ⁺ ⟩	7641.8 ⟨35 ⁻ ⟩	8051.7 ⟨35 ⁻ ⟩	8278.7 ⟨37 ⁺ ⟩	8334.3 ⟨37 ⁻ ⟩	8645.0 ⟨37 ⁺ ⟩	8692.5 ⟨37 ⁺ ⟩	9212.5 ⟨39 ⁻ ⟩
8334.33(22)	⟨37 ⁻ ⟩		100									
8645.0(15)	⟨37 ⁺ ⟩			100								
8692.5(12)	⟨37 ⁺ ⟩				100							
9212.5(3)	⟨39 ⁻ ⟩					100						

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E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	6940.1 $\langle 33^- \rangle$	6991.9 $\langle 33^+ \rangle$	7076.7 $\langle 33^+ \rangle$	7641.8 $\langle 35^- \rangle$	8051.7 $\langle 35^- \rangle$	8278.7 $\langle 37^+ \rangle$	8334.3 $\langle 37^- \rangle$	8645.0 $\langle 37^+ \rangle$	8692.5 $\langle 37^+ \rangle$	9212.5 $\langle 39^- \rangle$
9704.7(20)	$\langle 39^- \rangle$					100						
9883.8(3)	$\langle 41^- \rangle$								100			
10151.0(6)	$\langle 41^+ \rangle$							100				
10412.5(16)	$\langle 41^+ \rangle$										100	
10444.5(16)	$\langle 41^+ \rangle$										100	
10452.8(17)	$\langle 41^+ \rangle$									100		
10909.3(5)	$\langle 43^- \rangle$											100

Energy levels and branching ratios [99Fa05]. Part 8

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E^*	$2J^\pi$	Branching ratios in percentage						
[keV]		E_f^* : $2J_f^\pi$:	9704.7 $\langle 39^- \rangle$	9883.8 $\langle 41^- \rangle$	10151 $\langle 41^+ \rangle$	10909 $\langle 43^- \rangle$	11656 $\langle 45^- \rangle$	1613
3223.1(5)	$\langle 21^+ \rangle$							41
11515.7(23)	$\langle 43^- \rangle$		100					
11656.4(5)	$\langle 45^- \rangle$			100				
12107.0(12)	$\langle 45^+ \rangle$				100			
12208.0(12)	$\langle 45^+ \rangle$				x			
12799.0(8)	$\langle 47^- \rangle$					100		
13682.4(11)	$\langle 49^- \rangle$						100	

Energy levels and branching ratios [84Si14, 95Si03].

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E^*	J^π	$T_{1/2}$ or Γ_{cm}	E_f^* : J_f^π :	0.0 1^-	45.47 $\langle 2 \rangle^-$	102.6 $\langle 4 \rangle^+$	150.5 $\langle \leq 3 \rangle$	212.1 $\langle 3^- \rangle$	244.8 $\langle 5 \rangle^+$	252.3 $\langle 2 \rangle^+$
0.0	1^-	16.2(2) h								
45.47(2)	$\langle 2 \rangle^-$	1.13(6) ns		100						
102.58(3)	$\langle 4 \rangle^+$	1.31(2) s		<0.8	100					
150.52(12)	$\langle \leq 3 \rangle$				[100]					
212.1(3)	$\langle 3^- \rangle$	111(28) ps		x	x					
244.8(2)	$\langle 5 \rangle^+$	76(14) ps				100				
252.28(10)	$\langle 2 \rangle^+$	2.18(9) ns		100		<3				
301.6(3)	$\langle 4^- \rangle$	0.52(7) ns				x		x		
315.78(10)	1^+			65(6)	35(4)					0.11(3)
317.11(10)	$\langle 2^+ \rangle$			9(3)	82(8)	5.8(6)	3.1(7)			
355.33(10)	1^+	0.5(2) ns		44(7)	24(3)					31(4)
356.8(2)	$\langle 6 \rangle^+$	118(21) ps				15(1)			85(4)	
363.1(3)	$\langle 4^- \rangle$	59(10) ps			47			53		

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E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage							
			E_f^* : J_f^π :	0.0 1 ⁻	45.47 $\langle 2 \rangle^-$	102.6 $\langle 4 \rangle^+$	150.5 $\langle \leq 3 \rangle$	212.1 $\langle 3^- \rangle$	244.8 $\langle 5 \rangle^+$	252.3 $\langle 2 \rangle^+$
425.7(10)		45(17) ps								
446.18(14)	0 ⁺ ,1 ⁺			<91			43(9)			12
451.99(10)	1 ⁺	0.4(1) ns		37(5)	45(5)					5
467.3(3)	$\langle 5^- \rangle$	242(35) ps				x			x	
487.4(2)	$\langle 0,1 \rangle$				x					
495.6(3)	$\langle 0-2 \rangle$			81						
505.1(3)	$\langle \leq 3 \rangle$			72	28					
527.8(3)	$\langle \leq 3 \rangle$			76	24					
548.4(3)	$\langle \leq 3 \rangle$			63						
583.5(4)	$\langle 5^- \rangle$							x		
583.5+X		0.8(2) ns								
594.7(2)	$\langle 7 \rangle^+$	21(4) ps							10(3)	
616.13(13)	1 ⁺			<21	7(2)					29(4)
687.7(3)	$\langle 6^- \rangle$	73(24) ps							x	
688.2(3)	$\langle 8 \rangle^+$	69(21) ps								
761.1(3)										
815.2(2)	$\langle 0,1 \rangle$									
868.2(3)	1 ⁺			12(2)	12(2)					
882.5(10)		2.4(4) ps								
898.41(15)	1 ⁺			8(2)	6(2)					
936.55(18)	1 ⁺			9(2)	10(2)					13(3)
988.3(4)	J	17(6) ps								
1025.4(4)	$\langle 7^- \rangle$	7.6(2) ps								
1047.89(21)	1 ⁺				16(4)					39(4)
1120.5(3)	$\langle 9 \rangle^+$	0.59(6) ps								
1338.3(4)	$\langle 8^- \rangle$	5.5(14) ps								
1511.3(4)	$\langle 10 \rangle^+$	0.49(6) ps								
1610.5(6)										
1747.8(4)	$\langle J+2 \rangle$									
1825.3(5)	$\langle 9^- \rangle$	0.76(21) ps								
1993.3(4)	$\langle 11^+ \rangle$	0.21(4) ps								
2080.1(4)										
2197.8(7)										
2219.1(5)	$\langle 10^- \rangle$	0.69(21) ps								
2577.3(11)										
2626.1(5)	$\langle 12^+ \rangle$									
2689.8(5)	$\langle J+4 \rangle$									
2736.5(7)	$\langle 11^- \rangle$									
3107.6(6)	$\langle 13^+ \rangle$	0.20(2) ps								
3118(1)										
3286.2(7)	$\langle 12^- \rangle$									
3706.7(8)	$\langle J+6 \rangle$									
3835.3(23)										
4000(3)	$\langle 14^+ \rangle$									
4434(2)	$\langle 15^+ \rangle$	0.11(3) ps								

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E^*	J^π	$T_{1/2}$ or	Branching ratios in percentage							
[keV]		Γ_{cm}	E_f^* : J_f^π :	0.0 1^-	45.47 $\langle 2 \rangle^-$	102.6 $\langle 4 \rangle^+$	150.5 $\langle \leq 3 \rangle$	212.1 $\langle 3^- \rangle$	244.8 $\langle 5 \rangle^+$	252.3 $\langle 2 \rangle^+$
4900	$\langle 0^+ \rangle$	0.055(28) ps								
5400	$\langle 2^+ \rangle$									
5550(5)	$\langle 16^+ \rangle$									
5930(4)	$\langle 17^+ \rangle$									
6100	$\langle 0^+ - 4^+ \rangle$									
6500	$\langle 2^+ \rangle$									
6900	$\langle 4^+ \rangle$									
7200	$\langle 3^- \rangle$	<0.06 ps								
7303(6)	$\langle 18^+ \rangle$									
7585(6)	$\langle 19^+ \rangle$									
9415(8)	$\langle 21^+ \rangle$									

Additional data on this isotope can be found in [90Wi02, 90Bu07].

Energy levels and branching ratios [84Si14, 95Si03]. Part 2

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E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	301.6 $\langle 4^- \rangle$	315.8 1^+	317.1 $\langle 2^+ \rangle$	355.3 1^+	356.8 $\langle 6 \rangle^+$	363.1 $\langle 4^- \rangle$	446.2 $0^+, 1^+$	452.0 1^+	467.3 $\langle 5^- \rangle$	583.5 $\langle 5^- \rangle$
355.33(10)	1^+			0.5(1)								
425.7(10)			x									
446.18(14)	$0^+, 1^+$					45(10)						
451.99(10)	1^+			3.9(5)	9(1)	0.41(9)						
467.3(3)	$\langle 5^- \rangle$		x					x				
487.4(2)	$\langle 0, 1 \rangle$			61(16)						39(9)		
495.6(3)	$\langle 0 - 2 \rangle$			19								
548.4(3)	$\langle \leq 3 \rangle$			37								
583.5(4)	$\langle 5^- \rangle$							x				
594.7(2)	$\langle 7 \rangle^+$					90(5)						
616.13(13)	1^+			21(6)	43(6)							
687.7(3)	$\langle 6^- \rangle$		x				x				x	x
688.2(3)	$\langle 8 \rangle^+$						49(4)					
815.2(2)	$\langle 0, 1 \rangle$			92(16)		8(3)						
868.2(3)	1^+			77(9)								
882.5(10)								x				
898.41(15)	1^+			51(5)	23(4)	13(2)			x	<17		
936.55(18)	1^+				34(3)	x			16(3)	6(1)		
988.3(4)	J										x	x
1025.4(4)	$\langle 7^- \rangle$										x	
1047.89(21)	1^+				26(6)							

Energy levels and branching ratios [84Si14, 95Si03]. Part 3

⁷⁶Br
₃₅

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	594.7 $\langle 7 \rangle^+$	616.1 1^+	687.7 $\langle 6^- \rangle$	688.2 $\langle 8 \rangle^+$	815.2 $\langle 0,1 \rangle$	898.41 1^+	988.3 J	1025.4 $\langle 7^- \rangle$	1120.5 $\langle 9 \rangle^+$	1338.3 $\langle 8^- \rangle$
688.2(3)	$\langle 8 \rangle^+$		51(4)									
761.1(3)						100						
936.55(18)	1^+							12(3)				
988.3(4)	J					x						
1025.4(4)	$\langle 7^- \rangle$				x							
1047.89(21)	1^+			11(2)			7(2)					
1120.5(3)	$\langle 9 \rangle^+$		9(1)			91(6)						
1338.3(4)	$\langle 8^- \rangle$				x				x	x		
1511.3(4)	$\langle 10 \rangle^+$				79(8)						21(2)	
1610.5(6)						100						
1747.8(4)	$\langle J+2 \rangle$								x	x		x
1825.3(5)	$\langle 9^- \rangle$									x		x
1993.3(4)	$\langle 11^+ \rangle$										32(3)	
2080.1(4)											100	
2197.8(7)											100	
2219.1(5)	$\langle 10^- \rangle$											x

Energy levels and branching ratios [84Si14, 95Si03]. Part 4

⁷⁶Br
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E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	1511.3 $\langle 10 \rangle^+$	1747.8 $\langle J+2 \rangle$	1825.3 $\langle 9^- \rangle$	1993.3 $\langle 11^+ \rangle$	2219.1 $\langle 10^- \rangle$	2577.3	2626.1 $\langle 12^+ \rangle$	2689.8 $\langle J+4 \rangle$	3107.6 $\langle 13^+ \rangle$	3286.2 $\langle 12^- \rangle$
1993.3(4)	$\langle 11^+ \rangle$		68(7)									
2219.1(5)	$\langle 10^- \rangle$			x								
2577.3(11)			100									
2626.1(5)	$\langle 12^+ \rangle$		100			x						
2689.8(5)	$\langle J+4 \rangle$			x	x		x					
2736.5(7)	$\langle 11^- \rangle$				x							
3107.6(6)	$\langle 13^+ \rangle$					100			x			
3118(1)						x						
3286.2(7)	$\langle 12^- \rangle$						x			x		
3706.7(8)	$\langle J+6 \rangle$									x		x
3835.3(23)								100				
4000(3)	$\langle 14^+ \rangle$								100			
4434(2)	$\langle 15^+ \rangle$										100	

Energy levels and branching ratios [84Si14, 95Si03]. Part 5

⁷⁶Br
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E^*	J^π	$E_f^*:$ $J_f^\pi:$	4000 (14 ⁺)	4434 (15 ⁺)	5550 (16 ⁺)	5930 (17 ⁺)	7585 (19 ⁺)
[keV]							
5550(5)	⟨16 ⁺ ⟩		100				
5930(4)	⟨17 ⁺ ⟩			100			
7303(6)	⟨18 ⁺ ⟩				x		
7585(6)	⟨19 ⁺ ⟩					100	
9415(8)	⟨21 ⁺ ⟩						100

Energy levels and branching ratios [97Fa12].

⁷⁷Br
₃₅

E^*	$2J^\pi$	L	$(2J+1)C^2S$	$T_{1/2}$ or	Ref.	$E_f^*:$ $2J_f^\pi:$	Branching ratios in percentage					
[keV]			(τ ,d)	Γ_{cm}			0.0 3 ⁻	105.9 9 ⁺	129.6 5 ⁺	162 5 ⁻	167 1 ⁻ ,3 ⁻	
0.0	3 ⁻	1	0.35	57.036(6) h	83Zu01							
105.86(8)	9 ⁺	4	2.1	4.28(10) m	83Zu01		100					
129.64(4)	5 ⁺	2	0.33	9.3(3) ns	83Zu01		100	0.05(1)				
161.93(11)	5 ⁻	3	2.06	498(35) ps	83Zu01		100					
166.73(21)	1 ⁻ ,3 ⁻	1	0.52,0.44		83Zu01		100					
226.7(3)	3 ⁻	1	0.12,0.10		83Zu01		50(9)					50(9)
276.22(6)	⟨3 ⁺ ⟩		weak	90(20) ps	83Zu01		7.2(5)		93(5)			
336.7(3)	1 ⁻ ,3 ⁻	1	0.70,0.60		83Zu01		90(13)					10(6)
417.71(12)	7 ⁽⁺⁾							95(12)	4.8(5)			
424.7(3)	5 ⁻	3	0.44*		83Zu01		85(25)					15(8)
471.2(4)	3 ⁻	1	0.020,0.018		83Zu01		22(5)					20(5)
575.86(9)	7 ⁻	⟨3⟩	0.086	9.8(15) ps	78Kl10		79(4)			21(2)		
640.13(11)	⟨13 ⁺ ⟩			9.8(6) ps				100				
649.2(5)	⟨5 ⁻ ⟩	⟨3⟩	0.035		78Kl10				x			
715.7(4)	5 ⁽⁻⁾						81(16)					
771.0(5)	1 ⁺	⟨0⟩	0.042		83Zu01							
781.1(4)	⟨7 ⁻ ⟩									x		45(11)
782.49(16)	⟨9 ⁺ ⟩			3.0(6) ps				75(4)	25(3)			
790.68(12)	⟨9 ⁻ ⟩			4.3(6) ps				6(2)		89		
831.5(4)	1 ⁻ ,3 ⁻	1	0.116,0.101		83Zu01		100			x	x	
864.53(14)	⟨3 ⁺ ⟩						5(1)		67(7)			7(1)
886.9(4)	1 ⁻ ,3 ⁻	1	0.105,0.091		83Zu01		65(13)					35(7)
947.61(14)	⟨11 ⁺ ⟩							29(4)				
967.21(17)	⟨7 ⁺ ⟩	4	0.079		83Zu01			57(6)	43(4)			
969.5(5)	⟨5 ⁺ ⟩	2	0.054		83Zu01		x		x			
1024.46(20)	⟨5 ⁺ ⟩	2	0.07		83Zu01				22(3)			
1093.8(3)	⟨11 ⁺ ⟩							x				
1097.71(23)	⟨5 ⁺ ,7 ⁻ ⟩							74(12)	26(6)			
1122.6(16)	⟨5 ⁻ ,7 ⁻ ⟩	⟨3⟩	0.09,0.16		78Kl10							
1127.9(4)	⟨1,3⟩						63(13)					
1138.9(24)												

(continued)

⁷⁷₃₅Br

E^*	$2J^\pi$	L	$(2J+1)C^2S$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 3 ⁻	105.9 9 ⁺	129.6 5 ⁺	162 5 ⁻	167 1 ⁻ , 3 ⁻
1239.9(15)	7 ⁺ , 9 ⁺	4	0.20, 0.11		83Zu01						
1274.44(12)	$\langle 11 \rangle^-$			2.8(7) ps				10(3)			
1275.5(15)	5 ⁻ , 7 ⁻	3	0.19*								
1286.8(5)	$\langle 9^- \rangle$										
1304.90(21)	$\langle 13 \rangle^+$			2.8(7) ps				27			
1362.6(15)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$	0.06, 0.10		78Kl10						
1393.2(23)	1 ⁻ , 3 ⁻	1	0.01		83Zu01						
1462.2(15)	$\langle 1^+ \rangle$	$\langle 0 \rangle$	0.007								
1482.53(15)	$\langle 17^+ \rangle$			0.42(14) ps							
1484.3(21)	$\langle 7^+, 9^+ \rangle$	$\langle 4 \rangle$	0.23, 0.12		83Zu01						
1539.03(14)	$\langle 13^- \rangle$										
1554.1(16)											
1576.15(14)	$\langle 5^- \rangle$	$\langle 3 \rangle$	0.103*		78Kl10		5(1)		19(3)		
1602.8(7)											
1645.0(4)	$\langle 13^+ \rangle$										
1651.5(15)	$\langle 3^+, 5^+ \rangle$	2	0.1		83Zu01						
1716.4(18)											
1746.3(15)	$\langle 7^+, 9^+ \rangle$	4	1.24, 0.66		83Zu01						
1747.39(21)	$\langle 15^+ \rangle$										
1774.0(17)	3 ⁺ , 5 ⁺	2	0.05, 0.04		83Zu01						
1789.1(23)											
1827.04(24)	$\langle 15^+ \rangle$										
1855.1(15)	$\langle 1^+ \rangle$	$\langle 0 \rangle$	0.06		83Zu01						
1879	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$	0.11, 0.18		97Fa12						
1907.6(15)	7 ⁺ , 9 ⁺	4	0.15, 0.08		83Zu01						
1998.8(15)	1 ⁻ , 3 ⁻	1	0.03, 0.02		83Zu01						
2018.9(19)	3 ⁺ , 5 ⁺	2	0.05, 0.04		83Zu01						
2021.86(13)	$\langle 15^- \rangle$										
2047.0(4)	$\langle 17^+ \rangle$			<0.2 ps							
2129.1(4)	$\langle 3^- \rangle$	$\langle 1 \rangle$	0.012		83Zu01		31(6)		50(10)		
2149.9(18)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$	0.02		83Zu01						
2172.4(20)	$\langle 3^+, 5^+ \rangle$	$\langle 2 \rangle$	0.008		83Zu01						
2193.6(6)	$\langle 3, 5, 7 \rangle$								76(15)	24(10)	
2224.0(15)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$	0.03		83Zu01						
2248.3(19)	$\langle 3^+, 5^+ \rangle$	$\langle 2 \rangle$	0.03		83Zu01						
2274.7(19)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$	0.03		83Zu01						
2296.7(15)	$\langle 3^+, 5^+ \rangle$	$\langle 2 \rangle$	0.18, 0.14		83Zu01						
2339.90(15)	$\langle 17^- \rangle$			<0.2 ps							
2344.3(5)	$\langle 3, 5, 7^+ \rangle$										
2550.8(2)	$\langle 21^+ \rangle$			<0.2 ps							
2648.19(22)	$\langle 19^+ \rangle$										
2792.81(14)	$\langle 19^- \rangle$										
2926.9(4)	$\langle 19^+ \rangle$										
2932.02(23)	$\langle 17^- \rangle$										
3037.0(4)	$\langle 21^+ \rangle$										

(continued)

⁷⁷Br
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E^*	$2J^\pi$	L	$(2J+1)C^2S$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0.0 3 ⁻	105.9 9 ⁺	129.6 5 ⁺	162 5 ⁻	167 1 ⁻ , 3 ⁻
3201.0(2)	$\langle 21^- \rangle$										
3219.85(24)	$\langle 19^- \rangle$										
3610.1(3)	$\langle 21^- \rangle$										
3642.7(4)	$\langle 23^- \rangle$										
3728.29(25)	$\langle 23^+ \rangle$										
3729.8(4)	$\langle 23^- \rangle$										
3774.9(6)	$\langle 25^+ \rangle$										
4150.0(5)	$\langle 23^- \rangle$										
4216.3(6)	$\langle 25^+ \rangle$										
4247.3(4)	$\langle 25^- \rangle$										
4903.0(4)	$\langle 27^- \rangle$										
4981.1(4)	$\langle 27^+ \rangle$										
5149.4(8)	$\langle 29^+ \rangle$										
5517.4(5)	$\langle 29^- \rangle$										
5528.3(8)	$\langle 29^+ \rangle$										
6297.0(11)	$\langle 31^- \rangle$										
6410.8(7)	$\langle 31^+ \rangle$										
6691.6(9)	$\langle 33^+ \rangle$										
6979.5(6)	$\langle 33^- \rangle$										
7876.0(15)	$\langle 35^- \rangle$										
8028.8(12)	$\langle 35^+ \rangle$										
8401(11)	$\langle 1^- \rangle$										
8421(4)	$\langle 37^+ \rangle$										
8579.5(12)	$\langle 37^- \rangle$										
8608(11)	$\langle 3^-, 5^- \rangle$										
8922(11)	$\langle 3^- \rangle$										
9092(11)	$\langle 5^+ \rangle$										
9364(11)	$\langle 1^+ \rangle$										
9430(11)	$\langle 3^- \rangle$										
9488(11)	$\langle 1^- \rangle$										
9609.0(18)	$\langle 39^- \rangle$										
9632(11)	$\langle 5^+ \rangle$										
10280(5)	$\langle 41^- \rangle$										
10316(6)	$\langle 41^+ \rangle$										
11344(2)	$\langle 43^- \rangle$										
			83Zu01	Ref.							

Additional data on this isotope can be found in [01Ra33, 93Sy03, 93Do14, 78Kl10].

* For $f_{5/2}$.

Energy levels and branching ratios [97Fa12]. Part 2

⁷⁷Br
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	227 3 ⁻	276 ⟨3⟩ ⁺	337 1 ⁻ ,3 ⁻	417.71 7 ⁽⁺⁾	424.7 5 ⁻	575.86 7 ⁻	640.13 ⟨13⟩ ⁺	781.1 ⟨7 ⁻ ⟩	782.49 ⟨9⟩ ⁺	790.68 ⟨9⟩ ⁻
471.2(4)	3 ⁻		58(21)									
649.2(5)	⟨5 ⁻ ⟩			x								
715.7(4)	5 ⁽⁻⁾		19(4)									
771.0(5)	1 ⁺			100								
781.1(4)	⟨7 ⁻ ⟩						55(13)					
782.49(16)	⟨9⟩ ⁺					<5						
790.68(12)	⟨9⟩ ⁻							5.2				
831.5(4)	1 ⁻ ,3 ⁻		x		x							
864.53(14)	⟨3 ⁺ ⟩			20(3)								
947.61(14)	⟨11 ⁺ ⟩					29(4)			42(5)			
969.5(5)	⟨5 ⁺ ⟩			x		x						
1024.46(20)	⟨5⟩ ⁺			5.5(9)		73(7)						
1093.8(3)	⟨11 ⁺ ⟩					x			x		x	
1127.9(4)	⟨1,3⟩		12(3)		25(5)							
1274.44(12)	⟨11⟩ ⁻							75(4)				15
1286.8(5)	⟨9 ⁻ ⟩						x			x		
1304.90(21)	⟨13⟩ ⁺								34(4)		35(4)	
1482.53(15)	⟨17⟩ ⁺								100			
1539.03(14)	⟨13 ⁻ ⟩								4.3			91(5)
1576.15(14)	⟨5 ⁻ ⟩			67(7)		8(1)						
1602.8(7)										x		
1645.0(4)	⟨13 ⁺ ⟩								x			
1747.39(21)	⟨15 ⁺ ⟩								<7			
1827.04(24)	⟨15 ⁺ ⟩								x			
2021.86(13)	⟨15 ⁻ ⟩								20			
2047.0(4)	⟨17⟩ ⁺								x			
2344.3(5)	⟨3,5,7 ⁺ ⟩			51(8)								

Energy levels and branching ratios [97Fa12]. Part 3

⁷⁷Br
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	864.53 ⟨3 ⁺ ⟩	947.61 ⟨11 ⁺ ⟩	1093.8 ⟨11 ⁺ ⟩	1097.71 ⟨5 ⁺ ,7⟩	1274.44 ⟨11⟩ ⁻	1286.8 ⟨9 ⁻ ⟩	1304.90 ⟨13⟩ ⁺	1482.53 ⟨17⟩ ⁺	1539.03 ⟨13 ⁻ ⟩	1747.39 ⟨15 ⁺ ⟩
1304.90(21)	⟨13⟩ ⁺			5								
1539.03(14)	⟨13 ⁻ ⟩						4.2					
1602.8(7)								x				
1645.0(4)	⟨13 ⁺ ⟩				x							
1747.39(21)	⟨15 ⁺ ⟩			100	x					<7		
1827.04(24)	⟨15 ⁺ ⟩			x						x		
2021.86(13)	⟨15 ⁻ ⟩						80					
2047.0(4)	⟨17⟩ ⁺								100			<4
2129.1(4)	⟨3 ⁻ ⟩					19(4)						

(continued)

⁷⁷Br
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E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	864.53 $\langle 3^+ \rangle$	947.61 $\langle 11^+ \rangle$	1093.8 $\langle 11^+ \rangle$	1097.71 $\langle 5^+, 7 \rangle$	1274.44 $\langle 11 \rangle^-$	1286.8 $\langle 9^- \rangle$	1304.90 $\langle 13 \rangle^+$	1482.53 $\langle 17 \rangle^+$	1539.03 $\langle 13 \rangle^-$	1747.39 $\langle 15^+ \rangle$
2339.90(15)	$\langle 17^- \rangle$										93	
2344.3(5)	$\langle 3, 5, 7^+ \rangle$		49(8)									
2550.8(2)	$\langle 21 \rangle^+$									100		
2648.19(22)	$\langle 19^+ \rangle$									<14		100
2792.81(14)	$\langle 19^- \rangle$									45		
2926.9(4)	$\langle 19^+ \rangle$									x		
2932.02(23)	$\langle 17^- \rangle$										50	
3219.85(24)	$\langle 19^- \rangle$									33		

Energy levels and branching ratios [97Fa12]. Part 4

⁷⁷Br
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E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	1827.04 $\langle 15^+ \rangle$	2021.86 $\langle 15^- \rangle$	2047.0 $\langle 17^+ \rangle$	2339.90 $\langle 17^- \rangle$	2550.8 $\langle 21^+ \rangle$	2648.19 $\langle 19^+ \rangle$	2792.81 $\langle 19^- \rangle$	2932.02 $\langle 17^- \rangle$	3037.0 $\langle 21^+ \rangle$	3201.0 $\langle 21^- \rangle$
2339.90(15)	$\langle 17^- \rangle$			7(3)								
2792.81(14)	$\langle 19^- \rangle$			55		x						
2926.9(4)	$\langle 19^+ \rangle$	x										
2932.02(23)	$\langle 17^- \rangle$					50						
3037.0(4)	$\langle 21^+ \rangle$				100			<6				
3201.0(2)	$\langle 21^- \rangle$					100			x			
3219.85(24)	$\langle 19^- \rangle$									67		
3610.1(3)	$\langle 21^- \rangle$						<10					
3642.7(4)	$\langle 23^- \rangle$								x			
3728.29(25)	$\langle 23^+ \rangle$						<14	100				
3729.8(4)	$\langle 23^- \rangle$						x		100			
3774.9(6)	$\langle 25^+ \rangle$						100					
4216.3(6)	$\langle 25^+ \rangle$										100	
4247.3(4)	$\langle 25^- \rangle$											100

Energy levels and branching ratios [97Fa12]. Part 5

⁷⁷Br
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E^*	$2J^\pi$	Branching ratios in percentage										
		E_f^* :	3219.85	3610.1	3728.29	3729.8	3774.9	4216.3	4247.3	4903.0	4981.1	5149.4
[keV]		$2J_f^\pi$:	$\langle 19^- \rangle$	$\langle 21^- \rangle$	$\langle 23^+ \rangle$	$\langle 23^- \rangle$	$\langle 25^+ \rangle$	$\langle 25^+ \rangle$	$\langle 25^- \rangle$	$\langle 27^- \rangle$	$\langle 27^+ \rangle$	$\langle 29^+ \rangle$
3610.1(3)	$\langle 21^- \rangle$		100									
4150.0(5)	$\langle 23^- \rangle$			100								
4247.3(4)	$\langle 25^- \rangle$					<4						
4903.0(4)	$\langle 27^- \rangle$					100						
4981.1(4)	$\langle 27^+ \rangle$				100							

(continued)

⁷⁷Br
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E^*	$2J^\pi$	Branching ratios in percentage										
		E_f^* :	3219.85	3610.1	3728.29	3729.8	3774.9	4216.3	4247.3	4903.0	4981.1	5149.4
[keV]		$2J_f^\pi$:	$\langle 19^- \rangle$	$\langle 21^- \rangle$	$\langle 23^+ \rangle$	$\langle 23^- \rangle$	$\langle 25^+ \rangle$	$\langle 25^+ \rangle$	$\langle 25^- \rangle$	$\langle 27^- \rangle$	$\langle 27^+ \rangle$	$\langle 29^+ \rangle$
5149.4(8)	$\langle 29^+ \rangle$					100						
5517.4(5)	$\langle 29^- \rangle$								100	<4		
5528.3(8)	$\langle 29^+ \rangle$							100				
6297.0(11)	$\langle 31^- \rangle$									100		
6410.8(7)	$\langle 31^+ \rangle$										100	
6691.6(9)	$\langle 33^+ \rangle$											100

Energy levels and branching ratios [97Fa12]. Part 6

⁷⁷Br
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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	5517.4 ⟨29 ⁻ ⟩	6297.0 ⟨31 ⁻ ⟩	6410.8 ⟨31 ⁺ ⟩	6691.6 ⟨33 ⁺ ⟩	6979.5 ⟨33 ⁻ ⟩	7876.0 ⟨35 ⁻ ⟩	8421 ⟨37 ⁺ ⟩	8579.5 ⟨37 ⁻ ⟩	9609.0 ⟨39 ⁻ ⟩
6979.5(6)	⟨33 ⁻ ⟩		100								
7876.0(15)	⟨35 ⁻ ⟩			100							
8028.8(12)	⟨35 ⁺ ⟩				100						
8421(4)	⟨37 ⁺ ⟩					100					
8579.5(12)	⟨37 ⁻ ⟩						100				
9609.0(18)	⟨39 ⁻ ⟩							100			
10280(5)	⟨41 ⁻ ⟩									100	
10316(6)	⟨41 ⁺ ⟩								100		
11344(2)	⟨43 ⁻ ⟩										100

Energy levels and branching ratios [91Ra06].

⁷⁸Br
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E^* [keV]	J^π	L	C^2S' (τ ,d)	L	C^2S (p,d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
								E_f^* : J_f^π :	0.0 1 ⁺	32.3 ⟨2 ⁻ ⟩	55.1 ⟨1,2⟩ ⁺	125 ⟨4 ⁺ ⟩
0.0	1 ⁺	1	0.079,0.138	1+3	0.153,0.134	6.46(4) m	79Kl05					
32.3(1)	⟨2 ⁻ ⟩			1	0.016,0.014	8.3(3) ns	79Kl05		100			
55.1(1)	⟨1-3⟩ ⁺			1+3	0.021,0.019	7.5(8) ns	79Kl05		100			
125.1(2)	⟨1,2⟩ ⁺	1	0.091,0.123	1	0.153,0.134		79Kl05		100			
180.82(13)	⟨4 ⁺ ⟩					119.2 μ s				100		
194.0(1)*	⟨ ≤ 3 ⟩ ⁺	[1]	0.047,0.082			4.4(1) ns	79Kl05		100			
195.8(1)*		[3]	0.330,0.572			<25 ns	79Kl05		100			
197.2(2)	⟨ ≤ 3 ⟩ ⁺					4.7(1) ns				25(4)	6(4)	69(4)
204.4(1)	⟨ ≤ 3 ⟩ ⁺			1	0.133,0.117	5.9(2) ns	79Kl05		94(8)			6(1)
227.7(2)	⟨5 ⁺ ⟩					84(8) ns						100
242.9(2)	⟨3,4⟩ ⁻			4+2	0.461,0.263	17(2) ns	79Kl05	x				
244.6(2)	⟨2,3⟩ ⁺	3	0.531,0.683				79Kl05		47(14)	53(5)		

(continued)

⁷⁸Br
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E^*	J^π	L	C^2S'	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ ,d)		(p,d)	Γ_{cm}		E_f^* : J_f^π :	0.0 1 ⁺	32.3 ⟨2 ⁻ ⟩	55.1	125 ⟨1,2⟩ ⁺	181 ⟨4 ⁺ ⟩
263.4(2)	⟨3,4⟩ ⁻			4	1.24,0.701		79Kl05		43(5)	57(5)			
265.0(2)						5.1(1) ns							32(3)
284.3(5)									100				
292.2(5)									100				
311.7(4)									66(11)	x		34	
329.6(2)	⟨1,2⟩ ⁺	1	0.070,0.122	3+1	0.442,0.294		79Kl05		12(4)			88	
337.8(2)	⟨6⟩					6.5(1) ns							
367.2(3)	⟨1-4⟩ ⁻			2	0.021,0.017		79Kl05		22	56			
389(4)	⟨3,4⟩ ⁻			4+2	0.703,0.402		79Kl05						
391.2(4)	⟨2,3⟩ ⁺	3	0.348,0.604				79Kl05		49(24)	16			
414.9(5)									100				
433.6(4)	⟨1,2⟩ ⁺	1	0.076,0.132	1	0.172,0.151		79Kl05		50(30)			50(15)	
437.7(3)	⟨7⟩					<3 ns							
447.0(3)									x	24(23)			
457.2(2)	⟨≤3⟩								31(8)				
467.8(3)	⟨8⟩												
476.9(2)	⟨3,4⟩ ⁻			4	1.80,1.03		79Kl05		4(3)				
498.0(2)	⟨1,2⟩ ⁺	1	0.051,0.089	1	0.110,0.096		79Kl05		100				
508(10)													
526(1)													
551(4)	⟨≤3⟩ ⁺			1	0.059,0.052		79Kl05						
573(10)	⟨2,3⟩ ⁺	3	0.225,0.389				79Kl05						
579.4(3)	⟨2,3⟩ ⁺			1	0.200,0.176		79Kl05						
643(4)	⟨≤3⟩ ⁺			1	0.068,0.060		79Kl05						
647.7(2)	⟨4⟩												
663(4)				4+1	0.149,0.085		79Kl05						
717(4)	⟨1-3⟩ ⁺			3+1	0.660,0.439		79Kl05						
793.3(3)	⟨1,2⟩ ⁺	1	0.082,0.143	3+1	0.134,0.089		79Kl05						
854(4)	⟨1-3⟩ ⁺			3+1	0.100,0.066		79Kl05						
868(4)	⟨1-3⟩ ⁺			3+1	0.100,0.066		79Kl05						
891(4)	⟨1-3⟩ ⁺			1+3	0.054,0.048		79Kl05						
912.1(4)	⟨1,2⟩ ⁺	1	0.045,0.070	1	0.065,0.057		79Kl05						
930(4)	⟨1-3⟩ ⁺			3+1	0.134,0.090		79Kl05						
989(4)	⟨≤3⟩ ⁺			1	0.061,0.053		79Kl05						
1001.0(4)	⟨1-3⟩ ⁺			1	0.058,0.051		79Kl05						
1006.3(4)	⟨8⟩			1+3									
1026(4)	⟨≤3⟩ ⁺			1	0.046,0.040		79Kl05						
1039(4)	⟨≤3⟩ ⁺			1	0.032,0.028		79Kl05						
1060(4)	⟨1,2⟩ ⁺	1	0.015,0.026	3+1	0.056,0.032		79Kl05						
1130(4)	⟨1-3⟩ ⁺			3+1	0.028,0.019		79Kl05						
1173(4)	⟨2,3⟩ ⁺	3	0.089,0.154	1	0.030,0.026		79Kl05						
1188(4)	⟨1-3⟩ ⁺			3+1	0.028,0.022		79Kl05						
1200(4)	⟨≤3⟩ ⁺			1	0.036,0.031		79Kl05						
1243(4)	⟨≤3⟩ ⁺			1	0.011,0.010		79Kl05						
1254(10)	⟨2,3⟩ ⁺	3	0.066,0.114				79Kl05						

(continued)

⁷⁸Br
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E^* [keV]	J^π	L	C^2S' (τ, d)	L	C^2S (p, d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								E_f^* : J_f^π :	0.0 1 ⁺	32.3 (2 ⁻)	55.1	125 (1,2) ⁺	181 (4 ⁺)
1261(4)	$\langle \leq 3 \rangle^+$			1	0.020, 0.018		79Kl05						
1372.4(4)	$\langle 10 \rangle$												
1395(10)	$\langle 2, 3 \rangle^+$	3	0.055, 0.095				79Kl05						
1486(10)	$\langle 0, 1 \rangle^+$	1	0.012, 0.022				79Kl05						
1570(10)*	$\langle \leq 3 \rangle^+$	3	0.057, 0.098				79Kl05						
		+1	0.007, 0.012				79Kl05						
1691(10)	$\langle 2, 3 \rangle^+$	3	0.107, 0.186				79Kl05						
1746(10)*	$\langle \leq 3 \rangle^+$	3	0.057, 0.098				79Kl05						
		+1	0.008, 0.014				79Kl05						
1767.1(5)	$\langle 11, 12 \rangle$												
1823(10)	$\langle 2, 3 \rangle^+$	3	0.074, 0.128				79Kl05						
1985(10)													
2062(10)	$\langle 2, 3 \rangle^+$	3	0.044, 0.076				79Kl05						
2162(10)	$\langle 2, 3 \rangle^+$	3	0.070, 0.121				79Kl05						
2668.3(7)	$\langle 11, 12 \rangle$												
			79Kl05		79Kl05		Ref.						

* Close doublet.

For each state the first value C^2S is for $L-1/2$, the second one - for $L+1/2$ [79Kl05].Parameters C^2S of (p, d) reaction for the second value L can be found in [79Kl05, 91Ra06].

Energy levels and branching ratios [91Ra06]. Part 2

⁷⁸Br
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E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	194 $\langle \leq 3 \rangle^+$	195.8	197.2 $\langle \leq 3 \rangle^+$	204.4 $\langle \leq 3 \rangle^+$	227.7 $\langle 5^+ \rangle$	242.9 $\langle 3, 4 \rangle^-$	244.6 $\langle 2, 3 \rangle^+$	265.0	284.3	292.2
242.9(2)	$\langle 3, 4 \rangle^-$				x							
265.0(2)							68(5)					
311.7(4)			x		x							
337.8(2)	$\langle 6 \rangle$						97(7)			3.1(2)		
367.2(3)	$\langle 1-4 \rangle^-$					x				21		x
391.2(4)	$\langle 2, 3 \rangle^+$					35						x
433.6(4)	$\langle 1, 2 \rangle^+$		x									
447.0(3)									76(11)			
457.2(2)	$\langle \leq 3 \rangle$			69(8)								
476.9(2)	$\langle 3, 4 \rangle^-$				32(3)	x			65(5)		x	
498.0(2)	$\langle 1, 2 \rangle^+$			x							x	
647.7(2)	$\langle 4 \rangle$						38(6)	62(9)				

Energy levels and branching ratios [91Ra06]. Part 3

⁷⁸Br
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E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	329.6 $\langle 1,2 \rangle^+$	337.8 $\langle 6 \rangle$	367.2 $\langle 1-4 \rangle^-$	437.7 $\langle 7 \rangle$	467.8 $\langle 8 \rangle$	476.9 $\langle 3,4 \rangle^-$	579.4 $\langle 2,3 \rangle^+$	793.3 $\langle 1,2 \rangle^+$	1372.4 $\langle 10 \rangle$
391.2(4)	$\langle 2,3 \rangle^+$		x								
433.6(4)	$\langle 1,2 \rangle^+$		x								
437.7(3)	$\langle 7 \rangle$			100							
447.0(3)					x						
467.8(3)	$\langle 8 \rangle$					100					
526(1)					100						
579.4(3)	$\langle 2,3 \rangle^+$							100			
793.3(3)	$\langle 1,2 \rangle^+$								100		
912.1(4)	$\langle 1,2 \rangle^+$									100	
1001.0(4)	$\langle 1-3 \rangle^+$									100	
1006.3(4)	$\langle 8 \rangle$					100					
1372.4(4)	$\langle 10 \rangle$						100				
1767.1(5)	$\langle 11,12 \rangle$										100
2668.3(7)	$\langle 11,12 \rangle$										100

Energy levels and branching ratios [02Si13].

⁷⁹Br
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E^*	$2J^\pi$	L	$(2J+1)C^2S$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 3 ⁻	208 9 ⁺	217 5 ⁻	261 3 ⁻	306 1 ⁻ , 3 ⁻
0.0	3 ⁻	1	0.783	Stable	83Zu01						
207.61(9)	9 ⁺	4	2.85	4.86(4) s	83Zu01		100				
217.10(6)	5 ⁻	3	1.43	47(4) ps	83Zu01		100				
261.33(6)	3 ⁻			0.13(2) ns			98		1.7(2)		
306.51(6)	1 ⁻ , 3 ⁻	1	0.685, 0.594	4.23(7) ps	83Zu01		100				
381.50(22)	5 ⁺	2	0.453, 0.346	\approx 0.5 ns	83Zu01		92	8			
397.48(6)	1 ⁻ , 3 ⁻	1	0.100, 0.085	13(4) ps	83Zu01		91(3)		1.0(5)	8.3(11)	
523.11(8)	5 ⁻	3	0.055, 0.095	1.91(6) ps	83Zu01		90		10(1)		
606.03(6)	3 ⁻	1	0.108, 0.094	1.87(7) ps	83Zu01		67(2)		12(1)	1.9(2)	13(1)
761.31(7)	7 ⁻	$\langle 3 \rangle$	0.058	1.50(4) ps	83Zu01		32(3)	3.9(4)	56(4)		
793.40(21)	$\langle 3^-, 5 \rangle$			2.08(14) ps			46(5)		31(4)	15(2)	8
796.83(11)	13 ⁺			9.0(21) ps				100			
831.97(6)	1 ⁻ , 3 ⁻	1	0.120, 0.104	0.20(4) ps	83Zu01		70(4)		5(2)	0.30(4)	22(4)
906.45(24)	$\langle 7 \rangle^-$	3	0.022, 0.038		83Zu01			85			
940.1(4)	$\langle 3 \rangle$										
954.04(13)	$\langle 7^- \rangle$			1.11(7) ps			22(2)		31(5)	46(5)	
954.7(18)	3 ⁺ , 5 ⁺	2	0.027, 0.017		83Zu01						
1032.4(5)											
1038.8(18)	1 ⁺	0	0.013		83Zu01						
1053(10)		3	0.105, 0.182		78Kl10						
1068.29(9)	9 ⁻								83(7)		
1079.7(22)	5 ⁻ , 7 ⁻	3	0.192		83Zu01						

(continued)

⁷⁹Br
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E^*	$2J^\pi$	L	$(2J+1)C^2S$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	Γ_{cm}		$E_f^*:$ $2J_f^\pi:$	0.0 3 ⁻	208 9 ⁺	217 5 ⁻	261 3 ⁻	306 1 ⁻ , 3 ⁻
1112.50(11)	1 ⁻ , 3 ⁻	1	0.037, 0.032		83Zu01		30(14)		5(1)	17(2)	
1124.0(4)	$\langle 3^-, 5 \rangle$						56(14)		29(17)	15(4)	
1131.67(14)	1, 3						61(7)		10(4)	11(4)	
1176.7(3)	$\langle 5^+ \rangle$	2	0.023, 0.017		83Zu01	x				x	
1180.68(13)	11 ⁺			0.55(14) ps				89(7)			
1189.4(5)	$\langle 3^--7^- \rangle$	4	0.147, 0.077		83Zu01		43(11)		57(14)		
1221.6(6)	5 ⁻ , 7 ⁻	3	0.089, 0.154		83Zu01						
1254.3(4)							22			78	
1256.5(4)	$\langle 7 \rangle$					x					
1313.8(3)	$\langle 3^-, 5, 7^- \rangle$					8				x	
1332.28(6)	3 ⁻					34(2)			29(3)	5(1)	12(1)
1332.92(17)	$\langle 9^- \rangle$								7(2)		
1376		3	0.075, 0.131		83Zu01						
1390.4(4)	$\langle 9^+ \rangle$	4	0.266, 0.146		83Zu01						
1470.8(5)											
1491.7(6)		3	0.054, 0.093		83Zu01						
1501.6(3)	1, 3						<4			33(17)	11(6)
1512.7(6)											
1512.8(6)							41(10)		35(9)	24(6)	
1517.3(18)	1 ⁺	0	0.015		83Zu01						
1561		1+3	0.015, 0.025		83Zu01						
1573.5(5)	$\langle 5^+ \rangle$	2	0.083, 0.064		83Zu01		19(5)		81(20)		
1613.1(5)							17(4)				2(1)
1621.6(5)											
1682.77(15)	13 ⁺							28(3)			
1692.2(6)	1 ⁻ , 3 ⁻	1	0.012, 0.010		83Zu01		59(15)		22(6)	19(5)	
1713.53(10)	11 ⁻			0.55(17) ps							
1732.02(13)	17 ⁺			0.76(21) ps							
1742.3(6)											
1778.6(5)							68(17)				32(8)
1780.79(16)	$\langle 11^- \rangle$										
1792.7(8)											
1794.7(20)	3 ⁺ , 5 ⁺	2	0.014, 0.011		83Zu01						
1800(100)	$\langle 7^- \rangle$										
1908.2(19)		4	0.740, 0.392		83Zu01						
1946.7(6)	3 ⁺ , 5 ⁺	2	0.033, 0.026		83Zu01						
1948.21(11)	13 ⁻										
1957.22(14)	15 ⁺			0.21(7) ps							
1973.8(24)	1 ⁻ , 3 ⁻	1	0.036, 0.022		83Zu01						
2016.1(19)	3 ⁺ , 5 ⁺	2	0.038, 0.029		83Zu01						
2039.8(25)											
2048.9(6)											
2075.1(19)	1 ⁺	0	0.025		83Zu01						
2159.4(18)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$	0.018, 0.030		83Zu01						
2182.8(24)											

(continued)

⁷⁹Br
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E^*	$2J^\pi$	L	$(2J+1)C^2S$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	Γ_{cm}		$E_{\text{f}}^*:$ $2J_{\text{f}}^\pi:$	0.0 3 ⁻	208 9 ⁺	217 5 ⁻	261 3 ⁻	306 1 ⁻ , 3 ⁻
2202.7(24)											
2235.2(29)											
2260.2(20)											
2279.5(3)											
2314.6(19)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$	0.017, 0.030		83Zu01						
2344.7(23)											
2355.7(4)											
2363.3(25)											
2392.89(13)	13 ⁻			3.5(21) ps							
2414.4(32)	5 ⁻ , 7 ⁻	3	0.15, 0.26		83Zu01						
2421.32(20)	17 ⁺										
2424.8(25)											
2434.9(28)											
2463.4(24)											
2468.59(18)	15 ⁻										
2478.71(14)	$\langle 13^- \rangle$										
2511.4(24)		1+3	0.051, 0.087		83Zu01						
2528.9(24)											
2548.0(22)											
2568.5(25)											
2574.8(6)											
2580.12(11)	15 ⁻										
2725.59(14)	17 ⁻			0.55(28) ps							
2773.78(14)	17 ⁻			8(3) ps							
2802.1(10)											
2866.24(16)	21 ⁺			0.28(4) ps							
2902.36(22)	19 ⁺			0.17(5) ps							
3088.04(16)	$\langle 19 \rangle^-$			0.76(21) ps							
3169.3(2)	19 ⁻										
3235.3(6)											
3365.6(2)	21 ⁺										
3535.3(2)	$\langle 21 \rangle^-$			0.38(10) ps							
3559.6(2)	21 ^{$\langle - \rangle$}			0.42(14) ps							
3670.9(3)	$\langle 21^+ \rangle$										
3816.9(4)	$\langle 17^+ - 23^+ \rangle$										
3908.4(4)	$\langle 17^- - 21^- \rangle$										
3936.1(2)	$\langle 23 \rangle^+$			0.187(35) ps							
4066.7(3)	23 ⁻			1.2(4) ps							
4116.9(2)	25 ⁺			0.159(21) ps							
4153.1(3)	$\langle 23 \rangle^-$			0.139(28) ps							
4340.9(4)	$\langle 17^+ - 23^+ \rangle$										
4530.2(3)	25 ⁺			0.35(7) ps							
4581.3(3)	$\langle 25 \rangle^-$			0.26(6) ps							
4721.0(3)	$\langle 25^+ \rangle$										
4803.6(4)	$\langle 25 \rangle^-$			0.118(21) ps							

(continued)

⁷⁹₃₅Br

E^*	$2J^\pi$	L	$(2J+1)C^2S$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	Γ_{cm}		E_f^* :	0.0	208	217	261	306
						$2J_f^\pi$:	3 ⁻	9 ⁺	5 ⁻	3 ⁻	1 ⁻ , 3 ⁻
4896.1(7)											
4965.1(6)											
5132.0(3)	$\langle 27^+ \rangle$										
5214.1(4)	$\langle 27^- \rangle$										
5505.5(3)	29 ⁺			0.049(21) ps							
5579.3(5)	$\langle 27^- \rangle$										
5824.1(4)	$\langle 29^- \rangle$			0.097(28) ps							
5863.8(6)	$\langle 29^+ \rangle$										
6019.3(4)	$\langle 29^+ \rangle$										
6199.4(8)											
6384.6(5)	$\langle 29^- \rangle$										
6526.9(5)	$\langle 31^+ \rangle$			0.17(6) ps							
6536.9(7)	$\langle 31^- \rangle$										
7066.8(5)	$\langle 33^+ \rangle$										
7224.3(7)	$\langle 33^- \rangle$										
7379.9(8)	$\langle 33^+ \rangle$										
7591.8(10)											
8061.7(9)	$\langle 35^- \rangle$										
8149.4(6)	$\langle 35^+ \rangle$										
8777.8(8)	$\langle 37^- \rangle$										
8811.5(8)	$\langle 37^+ \rangle$										
10843	$\langle 3^- \rangle$										
10966(11)	$\langle 1^+ \rangle$										
11077(11)	$\langle 5^+ \rangle$										
11352(11)	$\langle 1^+ \rangle$										
11431(11)	$\langle 3^+ \rangle$										
11557(11)	$\langle 5^+ \rangle$										
11623(11)	$\langle 3^+ \rangle$										
11831	$\langle 1^-, 3^- \rangle$										
			83Zu01		Ref.						

Additional data on this isotope can be found in [02Sc13, 01Bb07].

Abundance: 50.69(7) %.Two values $(2J+1)C^2S$ are given for $J=L+1/2$ and $J=L-1/2$; the first one - for lower J .

Energy levels and branching ratios [02Si13]. Part 2

⁷⁹₃₅Br

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* :	381	397	523	606.0	761.3	793.4	796.8	832.0	906.4	940.1
		$2J_f^\pi$:	5^+	$1^-, 3^-$	5^-	3^-	7^-	$\langle 3^-, 5 \rangle$	13^+	$1^-, 3^-$	$\langle 7 \rangle^-$	$\langle 3 \rangle$
606.03(6)	3^-			6.3(4)								
761.31(7)	7^-				8(1)							
831.97(6)	$1^-, 3^-$			2.2(3)								

(continued)

⁷⁹₃₅Br

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	381 5 ⁺	397 1 ⁻ ,3 ⁻	523 5 ⁻	606.0 3 ⁻	761.3 7 ⁻	793.4 ⟨3 ⁻ ,5⟩	796.8 13 ⁺	832.0 1 ⁻ ,3 ⁻	906.4 ⟨7⟩ ⁻	940.1 ⟨3⟩
906.45(24)	⟨7⟩ ⁻		15									
940.1(4)	⟨3⟩		100									
1032.4(5)			100									
1068.29(9)	9 ⁻				7.2(16)		9.7(13)					
1112.50(11)	1 ⁻ ,3 ⁻			3(1)		40				5(1)		
1131.67(14)	1,3			18(5)								
1176.7(3)	⟨5 ⁺ ⟩	55									38(11)	7
1180.68(13)	11 ⁺								11.4(12)			
1221.6(6)	5 ⁻ ,7 ⁻	100										
1256.5(4)	⟨7⟩	100										
1313.8(3)	⟨3 ⁻ ,5,7 ⁻ ⟩				61		31					
1332.28(6)	3 ⁻			9.5(6)	7.6(5)	1.5(3)				1.3(4)		
1332.92(17)	⟨9 ⁻ ⟩				21(2)		72(8)					
1390.4(4)	⟨9⟩ ⁺	76									24	
1470.8(5)		51										
1491.7(6)									100			
1501.6(3)	1,3			56(28)								
1512.7(6)												x
1573.5(5)	⟨5⟩ ⁺										x	
1613.1(5)				38(9)	43(11)							
1621.6(5)											100	
1682.77(15)	13 ⁺								26(3)			
1713.53(10)	11 ⁻						50(5)					
1732.02(13)	17 ⁺								100			
1742.3(6)									100			
1778.6(5)								x		x		
1780.79(16)	⟨11 ⁻ ⟩						37(4)					
1948.21(11)	13 ⁻								5.8(15)			
1957.22(14)	15 ⁺								90(9)			
2355.7(4)									<77			
2392.89(13)	13 ⁻								22(2)			
2421.32(20)	17 ⁺								36(4)			
2580.12(11)	15 ⁻								23(2)			

Energy levels and branching ratios [02Si13]. Part 3

⁷⁹₃₅Br

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	954.0 ⟨7 ⁻ ⟩	1032.4	1068.3 9 ⁻	1180.7 11 ⁺	1221.6 5 ⁻ ,7 ⁻	1256.5 ⟨7⟩	1332.3 3 ⁻	1332.9 ⟨9 ⁻ ⟩	1682.8 13 ⁺	1713.5 11 ⁻
1470.8(5)				49								
1621.6(5)								x				
1682.77(15)	13 ⁺					46(4)						

(continued)

⁷⁹Br
₃₅

E^*	$2J^\pi$	E_f^* : $2J_f^\pi$:	954.0 $\langle 7^- \rangle$	1032.4	1068.3 9 ⁻	Branching ratios in percentage						
[keV]						1180.7 11 ⁺	1221.6 5 ⁻ , 7 ⁻	1256.5 $\langle 7 \rangle$	1332.3 3 ⁻	1332.9 $\langle 9^- \rangle$	1682.8 13 ⁺	1713.5 11 ⁻
1713.53(10)	11 ⁻		15(1)		25(2)					10(2)		
1780.79(16)	$\langle 11^- \rangle$		30(4)		16(1)					17(1)		
1792.7(8)							100					
1948.21(11)	13 ⁻				92(12)							2.5(6)
1957.22(14)	15 ⁺					9.7(16)						
2048.9(6)						100						
2279.5(3)									51(6)			49(6)
2392.89(13)	13 ⁻				22(2)							
2421.32(20)	17 ⁺										47(5)	
2468.59(18)	15 ⁻											47(5)
2478.71(14)	$\langle 13^- \rangle$				21(6)							
2580.12(11)	15 ⁻											10(1)

Energy levels and branching ratios [02Si13]. Part 4

⁷⁹Br
₃₅

E^*	$2J^\pi$	E_f^* : $2J_f^\pi$:	1732.0 17 ⁺	1780.8 $\langle 11^- \rangle$	1946.7 3 ⁺ , 5 ⁺	Branching ratios in percentage						
[keV]						1948.2 13 ⁻	1957.2 15 ⁺	2279.5	2392.9 13 ⁻	2421.3 17 ⁺	2468.6 15 ⁻	2478.7 $\langle 13^- \rangle$
2355.7(4)			100									
2392.89(13)	13 ⁻			23(8)		33(3)						
2421.32(20)	17 ⁺						18(1)					
2468.59(18)	15 ⁻		13.6(10)	35(4)	4.8(10)							
2478.71(14)	$\langle 13^- \rangle$					79(10)						
2574.8(6)			100									
2580.12(11)	15 ⁻		15(1)	16(1)		8(2)		4(1)	18			6(1)
2725.59(14)	17 ⁻		13(3)			74(7)					12.6(13)	
2773.78(14)	17 ⁻					15(2)					8.4(17)	
2802.1(10)		x										
2866.24(16)	21 ⁺		100									
2902.36(22)	19 ⁺		72(13)				28(3)					
3169.3(2)	19 ⁻		15.0(12)								59(6)	
3235.3(6)								100				
3365.6(2)	21 ⁺		34(3)							43(5)		
3670.9(3)	$\langle 21^+ \rangle$		33(3)									

Energy levels and branching ratios [02Si13]. Part 5

⁷⁹Br
₃₅

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2580.1 15 ⁻	2725.6 17 ⁻	2774 17 ⁻	2866.2 21 ⁺	2902.4 19 ⁺	3088.0 $\langle 19 \rangle^-$	3169.3 19 ⁻	3365.6 21 ⁺	3535.3 $\langle 21 \rangle^-$	3559.6 21 ⁽⁻⁾
2773.78(14)	17 ⁻		76(5)									
3088.04(16)	$\langle 19 \rangle^-$			6.5(11)	94(8)							
3169.3(2)	19 ⁻		<7	2(1)	24(2)							
3365.6(2)	21 ⁺					17(5)	6(1)					
3535.3(2)	$\langle 21 \rangle^-$			22(3)	12(2)			66(7)				
3559.6(2)	21 ⁽⁻⁾			29(2)	12(1)	7(2)		36(4)	15(1)			
3670.9(3)	$\langle 21 \rangle^+$					55(6)	12(3)					
3816.9(4)	$\langle 17^+-23^+ \rangle$					45(5)	55(5)					
3908.4(4)	$\langle 17^--21^- \rangle$				48(5)			24(5)				29(5)
3936.1(2)	$\langle 23 \rangle^+$					51(5)	32(3)			17(2)		
4066.7(3)	23 ⁻							13(1)	67(6)			20.2(15)
4116.9(2)	25 ⁺					100						
4153.1(3)	$\langle 23 \rangle^-$							9(2)			40(4)	51(6)
4340.9(4)	$\langle 17^+-23^+ \rangle$					29(5)	29(5)					
4530.2(3)	25 ⁺					17(2)				83(7)		
4581.3(3)	$\langle 25 \rangle^-$										40(4)	37(4)
4721.0(3)	$\langle 25 \rangle^+$					16(2)						
4803.6(4)	$\langle 25 \rangle^-$										21(6)	

Energy levels and branching ratios [02Si13]. Part 6

⁷⁹Br
₃₅

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3670.9 $\langle 21^+ \rangle$	3816.9	3908.4	3936.1 $\langle 23 \rangle^+$	4066.7 23 ⁻	4116.9 25 ⁺	4153.1 $\langle 23 \rangle^-$	4530.2 25 ⁺	4581.3 $\langle 25 \rangle^-$	4721.0 $\langle 25^+ \rangle$
4340.9(4)	$\langle 17^+-23^+ \rangle$		43(5)									
4530.2(3)	25 ⁺							x				
4581.3(3)	$\langle 25 \rangle^-$						23(3)					
4721.0(3)	$\langle 25^+ \rangle$		20(2)			23(2)		41(4)				
4803.6(4)	$\langle 25 \rangle^-$								79(10)			
4896.1(7)				100								
4965.1(6)					100							
5132.0(3)	$\langle 27^+ \rangle$					47(6)		53(6)				
5214.1(4)	$\langle 27^- \rangle$						100					
5505.5(3)	29 ⁺							100				
5579.3(5)	$\langle 27^- \rangle$								42(8)			
5824.1(4)	$\langle 29 \rangle^-$										100	
5863.8(6)	$\langle 29^+ \rangle$									100		
6019.3(4)	$\langle 29^+ \rangle$							17(5)				22(5)

Energy levels and branching ratios [02Si13]. Part 7

⁷⁹Br
₃₅

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]	E_f^* : $2J_f^\pi$:	4803.6 $\langle 25 \rangle^-$	4965.1	5132.0 $\langle 27^+ \rangle$	5214.1 $\langle 27^- \rangle$	5505.5 29^+	5579.3 $\langle 27^- \rangle$	5824.1 $\langle 29 \rangle^-$	5863.8 $\langle 29^+ \rangle$	6199.4	6526.9 $\langle 31^+ \rangle$	
5579.3(5)	$\langle 27^- \rangle$	58(8)										
6019.3(4)	$\langle 29^+ \rangle$			39(5)		22(5)						
6199.4(8)			100									
6384.6(5)	$\langle 29^- \rangle$	43(14)						57(14)				
6526.9(5)	$\langle 31^+ \rangle$			54(8)		46(8)						
6536.9(7)	$\langle 31^- \rangle$				100							
7066.8(5)	$\langle 33^+ \rangle$					100						
7224.3(7)	$\langle 33^- \rangle$							100				
7379.9(8)	$\langle 33^+ \rangle$								100			
7591.8(10)										100		
8149.4(6)	$\langle 35^+ \rangle$										60(20)	

Energy levels and branching ratios [02Si13]. Part 8

⁷⁹Br
₃₅

E^*	$2J^\pi$	Branching ratios in percentage			
		$E^*_{\text{f}}:$	6536.9	7066.8	7224.3
[keV]		$2J^\pi_{\text{f}}:$	$\langle 31^- \rangle$	$\langle 33^+ \rangle$	$\langle 33^- \rangle$
8061.7(9)	$\langle 35^- \rangle$		100		
8149.4(6)	$\langle 35^+ \rangle$			40(20)	
8777.8(8)	$\langle 37^- \rangle$				100
8811.5(8)	$\langle 37^+ \rangle$			100	

Energy levels and branching ratios [92Si19].

⁸⁰Br
₃₅

E^* [keV]	J^π	L	S'' (d,p)	σ (d,p) $\mu\text{b/sr}$	L	C^2S (p,d)	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	1^+	1	0.26,0.32	750	1	0.34,0.30	17.68(2) m	72Ch33
37.0526(18)	2^-						7.43(6) ns	
85.843(4)	5^-	4	0.49,0.39	80	4	1.26,0.72	4.421(1) h	72Ch33
256.431(3)	$\langle 2 \rangle^-$			500				
271.374(3)	$\langle 2 \rangle^+$	1	0.16,0.20	incl	1^*	0.27,0.23		72Ch33
281.292(3)	$\langle 3 \rangle^-$			incl	4^*	1.97,1.13		78Kl13
299.891(5)	$\langle 0^+-2^+ \rangle$							
309.471(4)	$\langle 4 \rangle^-$	[4]	0.75,0.60		4^*	1.59,0.91		72Ch33
314.982(4)	$\langle 1 \rangle^+$	1	0.40,0.49		1^*	0.17,0.15		72Ch33
331.048(5)	5^+						0.7(2) ns	
331.404(4)	$\langle 3 \rangle^-$							
357.23(3)	$\langle 6^+ \rangle$						0.4(2) ns	

(continued)

⁸⁰₃₅Br

E^*	J^π	L	S''	σ (d,p)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,p)	$\mu\text{b/sr}$		(p,d)	Γ_{cm}	
366.608(3)	$\langle 1,2 \rangle^-$	4	1.98,1.59	350				72Ch33
379.91(3)	$\langle 6^- \rangle$				4	0.28,0.16		78Kl13
380.459(3)	$\langle 3^- \rangle$							
385.731(5)	$\langle 4^- \rangle$							
390.519(4)	$\langle 4^- \rangle$							
447.87(4)	$\langle 7^+ \rangle$							
456.375(4)	$\langle 4^- \rangle$							
468.983(3)	$\langle 2^+ \rangle$	1	0.25,0.30	730	[1]	0.23,0.21		72Ch33
469.274(4)	$\langle 3^- \rangle$				[3]	0.68,0.45		78Kl13
492.886(3)	$\langle 2^- \rangle$				2	0.025,0.02		78Kl13
500.10(4)	$\langle 4^- \rangle$				4	0.21,0.12		78Kl13
523.289(19)	$\langle 5^- \rangle$				4	0.59,0.33		78Kl13
547(8)	$\langle 3-6 \rangle^-$	4	0.36,0.29	70				72Ch33
549.563(3)	$\langle 3^+ \rangle$	1	0.01,0.01	incl	$\langle 3 \rangle$	0.33,0.22		72Ch33
572.93(3)	$\langle 3,4,5 \rangle^-$				4	0.71,0.41		78Kl13
586.122(5)	$\langle 3^+ \rangle$							05Si20
608.82(1)	$\langle \leq 4^- \rangle$				$\langle 2 \rangle$	0.03,0.02		05Si20
615.32(4)	$\langle 8^+ \rangle$							
615.51(2)	$\langle 4^- \rangle$							05Si20
646.45(7)	$\langle 3-7 \rangle$				[1]	0.32,0.28		78Kl13
660.566(4)	$\langle 2^+ \rangle$	1	0.14,0.17	530	[3]	1.07,0.71		72Ch33
682.91(3)	$\langle 3-5^- \rangle$	[2]	0.10,0.09	200	[2]	0.02,0.02		72Ch33
685.27(10)	$\langle 3^- \rangle$			incl	[4]	0.33,0.19		78Kl13
694.8(4)	$\langle 4 \rangle$							05Si20
717.55(7)	$\langle 3,4^-,5 \rangle$				[1]	0.13,0.12		78Kl13
723.989(5)	$\langle 1,2 \rangle$	$\langle 1 \rangle$	0.09,0.11	300	[3]	0.13,0.09		72Ch33
727.077(12)	$\langle 1^-,2,3 \rangle$							
731.152(5)	$\langle 2^+ \rangle$							05Si20
737.140(6)	$\langle 1^-,2^- \rangle$							05Si20
754.8	$\langle 4^- \rangle$							05Si20
765.891(5)	$\langle 1,2 \rangle^+$	1	0.15,0.18	600	1+4	0.16,0.14		72Ch33
771.20(5)	$\langle 4^--6^- \rangle$							
774.16(4)	$\langle 7^- \rangle$							05Si20
805.126(12)	$\langle 1,2,3 \rangle$							
813.892(7)	$\langle 2,3 \rangle^+$			30				
821.9								05Si20
825.27(5)	$\langle 6,7^+ \rangle$				1+3	0.01,0.01		78Kl13
830.877(12)	$\langle 2^+ \rangle$	1	0.03,0.04	110	1	0.05,0.05		72Ch33
852.350(10)	$\langle 3^+ \rangle$							
860.655(7)	$\langle 2^+ \rangle$							
883.59(9)	$\langle \leq 3 \rangle$							
908.054(7)	$\langle 1^-,2,3 \rangle$				2+4	0.01,0.01		78Kl13
914.581(7)	$\langle 0^+,1,2 \rangle$							
918.5								05Si20
958.460(7)	$\langle 1,2,3 \rangle^+$				1+3	0.02,0.02		78Kl13

(continued)

⁸⁰₃₅Br

E^*	J^π	L	S''	σ (d,p)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,p)	$\mu\text{b/sr}$		(p,d)	Γ_{cm}	
971.733(9)	$\langle 1-4 \rangle$			360				
987.7								05Si20
997.318(13)	$\langle 2,3 \rangle^+$							
1021.326(10)	$\langle \leq 4 \rangle$			180	1+3	0.09,0.08		78Kl13
1022.394(8)	$\langle 1^-, 2, 3^+ \rangle$			incl				
1033.06(8)	$\langle 8^+ \rangle$							
1051.59(4)	$\langle \leq 3 \rangle$			450				
1053.60(2)	$\langle 1-3 \rangle$							
1065.21(1)	$\langle 2^-, 3, 4^- \rangle$			240	1+3	0.54,0.47		78Kl13
1075.57(3)	$\langle 1-4 \rangle$							
1116.92(2)	$\langle 1, 2, 3 \rangle^+$			230	1+3	0.16,0.14		78Kl13
1130.1(6)	$\langle 5^-, 7^- \rangle$							
1141.02(11)	$\langle 9^+ \rangle$	$\langle 1 \rangle$	0.07,0.09	230	1+3	0.02,0.02		72Ch33
1143.43(2)	$\langle 1^-, 2, 3^+ \rangle$							
1146.39(1)	$\langle 1-3 \rangle^+$							
1148.05(3)	$\langle 1^-, 2, 3^+ \rangle$							
1190.73(6)	$\langle 1^-, 2, 3^+ \rangle$			90	1+3	0.06,0.05		78Kl13
1198.22(1)	$\langle \leq 4 \rangle$			620				
1203.04(4)	$\langle 1^-, 2, 3^+ \rangle$	2	0.30,0.28	incl				72Ch33
1212.33(3)	$\langle 1-4 \rangle$							
1224.0(1)	$\langle \leq 3 \rangle$							
1248.81(1)	$\langle \leq 3 \rangle^+$			250	1	0.12,0.10		78Kl13
1260.5								05Si20
1274(4)	$\langle 1, 2, 3 \rangle^+$				1+3	0.03,0.02		78Kl13
1279.4(3)								
1301(4)				250				
1320.25(3)	$\langle \leq 3 \rangle$							
1322.09(9)	$\langle 1^-, 2, 3^+ \rangle$							
1346.8(3)								
1357.8								05Si20
1358.85(3)	$\langle 3^- \rangle$							
1383(4)	$\langle 1, 2, 3 \rangle^+$				1+3	0.01,0.01		78Kl13
1401(4)	$\langle 1^+ - 5^+ \rangle$	$\langle 3 \rangle$	0.65,0.65	670				72Ch33
1405.9(3)								
1428(4)	$\langle 1, 2, 3 \rangle^+$				1+3	0.03,0.03		78Kl13
1445(4)					1+4	0.02,0.02		78Kl13
1499(4)	$\langle \leq 3 \rangle^+$				1	0.05,0.04		78Kl13
1520(4)	$\langle 1, 2, 3 \rangle^+$				1	0.03,0.02		78Kl13
1534.3(2)	$\langle 7^+, 9^+ \rangle$							05Si20
1576(4)	$\langle \leq 3 \rangle^+$				1	0.04,0.04		78Kl13
1588.1(2)	$\langle 10^+ \rangle$							
1598(4)	$\langle 3^- - 6^- \rangle$			300	$\langle 4 \rangle$	0.18,0.11		78Kl13
1637(4)				350				
1665(4)				350				
1702(4)	$\langle 1^- - 4^- \rangle$	$\langle 2 \rangle$	0.11,0.09	250	1	0.01,0.01		72Ch33

(continued)

⁸⁰₃₅Br

E^*	J^π	L	S''	σ (d,p)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,p)	$\mu\text{b/sr}$		(p,d)	Γ_{cm}	
1724(4)	$\langle 1,2,3 \rangle^+$							
1746(8)	$\langle 1-4 \rangle^-$	2	0.39,0.33	80				72Ch33
1759(4)	$\langle 1^+-3^+ \rangle$				$\langle 1+3 \rangle$	0.006		78Kl13
1851.1(3)	$\langle 9^- \rangle$							05Si20
1857(4)				450				
1880(8)	$\langle 1^--4^- \rangle$	$\langle 2 \rangle$	0.13,0.13	150				72Ch33
1953(4)				310				05Si20
1954.2(7)	$\langle 7^-,9^- \rangle$							05Si20
2001.7(2)	$\langle 8^+,10^+ \rangle$							05Si20
2257.0(2)	$\langle 11^+ \rangle$							05Si20
2379.0(6)								05Si20
2796.8(4)	$\langle 9^+,11^+ \rangle$							05Si20
2914.9(8)	$\langle 9^-,11^- \rangle$							05Si20
2944.1(2)	$\langle 12^+ \rangle$							05Si20
3212.0(4)								05Si20
3606.0(11)	$\langle 13^+ \rangle$							05Si20
3658.1(7)								05Si20
4450.1(11)	$\langle 14^+ \rangle$							05Si20
			72Ch33	72Ch33		78Kl13		Ref.

Additional data on this isotope can be found in [00Ra25].

* Mixed L -transfer implying opposite parities corresponds to unresolved doublet, for example, $L=1+4$ in the case of low-lying states [82Si20]. For levels with $E^* < 720$ keV both components are given; for levels with higher energies only the first components are given, see details in [82Si20].

Energy levels and branching ratios [92Si19]. Part 2

⁸⁰₃₅Br

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	0.0 1 ⁺	37.0 2 ⁻	85.8 5 ⁻	256 $\langle 2 \rangle^+$	271 $\langle 2 \rangle^+$	281.3 $\langle 3 \rangle^-$	299.9	309.5 $\langle 4 \rangle^-$	315.0 $\langle 1 \rangle^+$	331.0 5 ⁺
37.0526(18)	2 ⁻		100									
85.843(4)	5 ⁻			100								
256.431(3)	$\langle 2 \rangle^-$			100								
271.374(3)	$\langle 2 \rangle^+$	68(4)		32(3)								
281.292(3)	$\langle 3 \rangle^-$			100								
299.891(5)	$\langle 0^+-2^+ \rangle$	100										
309.471(4)	$\langle 4 \rangle^-$				100							
314.982(4)	$\langle 1 \rangle^+$	99(5)					0.81(11)					
331.048(5)	5 ⁺				100							
331.404(4)	$\langle 3 \rangle^-$			63(6)		11(1)		26(2)				
357.23(3)	$\langle 6^+ \rangle$				58							42(5)
366.608(3)	$\langle 1,2 \rangle^-$	91(7)		5.8(7)		1.6(2)	1.3(1)					
379.91(3)	$\langle 6^- \rangle$				100							

(continued)

⁸⁰₃₅Br

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	0.0 1 ⁺	37.0 2 ⁻	85.8 5 ⁻	256 ⟨2⟩ ⁺	271 ⟨2⟩ ⁺	281.3 ⟨3⟩ ⁻	299.9	309.5 ⟨4⟩ ⁻	315.0 ⟨1⟩ ⁺	331.0 5 ⁺
380.459(3)	⟨3⟩ ⁻			72(5)		22(1)	0.6(1)	6(1)				
385.731(5)	⟨4⟩ ⁻				96(19)			3.8(3)				
390.519(4)	⟨4⟩ ⁻											100
447.87(4)	⟨7⟩ ⁺											≈0.4
456.375(4)	⟨4⟩ ⁻				27(3)			34(1)	2(1)	32(3)		
468.983(3)	⟨2⟩ ⁺	93(8)					5.0(7)	0.3(1)			0.50(7)	
469.274(4)	⟨3⟩ ⁻			75(4)				1.8(2)		22(1)		
492.886(3)	⟨2⟩ ⁻	16(3)		18(1)		22(1)	2.3(2)	26(2)	0.3(2)			
500.10(4)	⟨4⟩ ⁻				58(4)			34(12)		8(2)		
523.289(19)	⟨5⟩ ⁻				8(2)					64(3)		
549.563(3)	⟨3⟩ ⁺	35(2)		37(6)			7(1)			6(1)		
572.93(3)	⟨3,4,5⟩ ⁻									89(3)		
646.45(7)	⟨3-7⟩				7(2)							93(19)
660.566(4)	⟨2⟩ ⁺	50(8)					33(3)				14(1)	
682.91(3)	⟨3-5⟩ ⁻									45(5)		
685.27(10)	⟨3⟩ ⁻									59(8)		
717.55(7)	⟨3,4 ⁻ ,5⟩									74(10)		
723.989(5)	⟨1,2⟩	15(5)		11(3)			57(6)				12(2)	
727.077(12)	⟨1 ⁻ ,2,3⟩			72(4)		17(6)		1.7(12)				
731.152(5)	⟨2⟩ ⁺	17(4)					62(6)					
765.891(5)	⟨1,2⟩ ⁺										32(8)	
771.20(5)	⟨4 ⁻ -6 ⁻ ⟩									20(15)		
813.892(7)	⟨2,3⟩ ⁺						91(6)					
825.27(5)	⟨6,7⟩ ⁺											31(3)
830.877(12)	⟨2⟩ ⁺	75(11)		9(3)								
852.350(10)	⟨3⟩ ⁺			53(7)		20(3)	11(3)					
860.655(7)	⟨2⟩ ⁺						2.1(11)				5(2)	
883.59(9)	⟨≤3⟩	100										
908.054(7)	⟨1 ⁻ ,2,3⟩						44(5)					
914.581(7)	⟨0 ⁺ ,1,2⟩	67(11)					7(3)					
958.460(7)	⟨1,2,3⟩ ⁺					95(9)						
997.318(13)	⟨2,3⟩ ⁺			18(8)				51(7)				
1021.326(10)	⟨≤4⟩								87(8)			
1022.394(8)	⟨1 ⁻ ,2,3 ⁺ ⟩	12(2)				50(4)	25(6)				6(3)	
1051.59(4)	⟨≤3⟩	36(10)										
1065.21(1)	⟨2 ⁻ ,3,4 ⁻ ⟩									38(16)		
1075.57(3)	⟨1-4⟩					44(13)						
1116.92(2)	⟨1,2,3⟩ ⁺					78(4)						
1143.43(2)	⟨1 ⁻ ,2,3 ⁺ ⟩	28(2)										
1146.39(1)	⟨1-3⟩ ⁺					27(6)						
1148.05(3)	⟨1 ⁻ ,2,3 ⁺ ⟩	42(6)					26(4)					
1190.73(6)	⟨1 ⁻ ,2,3 ⁺ ⟩	28(5)					34(4)					
1203.04(4)	⟨1 ⁻ ,2,3 ⁺ ⟩							27(9)			55(14)	
1212.33(3)	⟨1-4⟩			18(3)				7(4)				
1224.0(1)	⟨≤3⟩					17(5)	30(3)		14(6)		39(3)	

(continued)

⁸⁰₃₅Br

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	0.0 1 ⁺	37.0 2 [−]	85.8 5 [−]	256 ⟨2⟩ ⁺	271 ⟨2⟩ ⁺	281.3 ⟨3⟩ [−]	299.9	309.5 ⟨4⟩ [−]	315.0 ⟨1⟩ ⁺	331.0 5 ⁺
1248.81(1)	⟨≤3⟩ ⁺		64(9)				16(3)				12(3)	
1320.25(3)	⟨≤3⟩		31(8)									
1322.09(9)	⟨1 [−] ,2,3 ⁺ ⟩		47(8)									
1358.85(3)	⟨3 [−] ⟩				12(4)		17(13)					

Energy levels and branching ratios [92Si19]. Part 3

⁸⁰₃₅Br

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	331.4 $\langle 2,3 \rangle^+$	357.2 $\langle 6^+ \rangle$	366.6 $\langle 1,2 \rangle^-$	379.9 $\langle 6^- \rangle$	380.5 $\langle 3 \rangle^-$	385.7 $\langle 4^- \rangle$	390.5 $\langle 4 \rangle^+$	447.9 $\langle 7^+ \rangle$	456.4 $\langle 3^-,4^- \rangle$
447.87(4)	$\langle 7^+ \rangle$			100							
456.375(4)	$\langle 4 \rangle^-$					6(1)					
468.983(3)	$\langle 2 \rangle^+$	0.63(7)									
469.274(4)	$\langle 3^- \rangle$					1.3(2)		0.49(19)			
492.886(3)	$\langle 2 \rangle^-$	0.6(2)		12(1)		2					
523.289(19)	$\langle 5^- \rangle$				10(2)		18(3)				
549.563(3)	$\langle 3 \rangle^+$							11(1)			4
572.93(3)	$\langle 3,4,5 \rangle^-$						11(3)				
586.122(5)	$\langle 3^+ \rangle$							100			
615.32(4)	$\langle 8^+ \rangle$		<2						100		
660.566(4)	$\langle 2 \rangle^+$										1.5(2)
682.91(3)	$\langle 3-5^- \rangle$				27(10)					25(5)	
685.27(10)	$\langle 3^- \rangle$						≈ 41				
717.55(7)	$\langle 3,4^-,5 \rangle$						26(10)				
723.989(5)	$\langle 1,2 \rangle$				3.7(12)						1.1(5)
727.077(12)	$\langle 1^-,2,3 \rangle$	2.0(6)			3.2(8)	2.9(12)					
731.152(5)	$\langle 2 \rangle^+$	3(2)			5(3)						6(1)
737.140(6)	$\langle 1^-,2^- \rangle$				100						
765.891(5)	$\langle 1,2 \rangle^+$										61(7)
774.16(4)	$\langle 7^- \rangle$				100						
805.126(12)	$\langle 1,2,3 \rangle$				77(21)						
813.892(7)	$\langle 2,3 \rangle^+$							2.2(8)			5.9(11)
825.27(5)	$\langle 6,7^+ \rangle$								69(5)		
830.877(12)	$\langle 2 \rangle^+$				7(2)						7(1)
852.350(10)	$\langle 3 \rangle^+$				16(2)						
860.655(7)	$\langle 2^+ \rangle$	9(5)			5(2)						
914.581(7)	$\langle 0^+,1,2 \rangle$	11(3)									
971.733(9)	$\langle 1-4 \rangle$										8(4)
997.318(13)	$\langle 2,3 \rangle^+$				7(3)						
1033.06(8)	$\langle 8^+ \rangle$		81(8)								
1051.59(4)	$\langle \leq 3 \rangle$				64(6)						
1075.57(3)	$\langle 1-4 \rangle$									44(18)	

(continued)

⁸⁰₃₅Br

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	331.4 $\langle 2,3 \rangle^+$	357.2 $\langle 6^+ \rangle$	366.6 $\langle 1,2 \rangle^-$	379.9 $\langle 6^- \rangle$	380.5 $\langle 3^- \rangle$	385.7 $\langle 4^- \rangle$	390.5 $\langle 4^+ \rangle$	447.9 $\langle 7^+ \rangle$	456.4 $\langle 3^-, 4^- \rangle$	469.0 $\langle 2^+ \rangle$
1141.02(11)	$\langle 9^+ \rangle$									x		
1203.04(4)	$\langle 1^-, 2, 3^+ \rangle$					14(7)						
1212.33(3)	$\langle 1-4 \rangle$				55(4)							
1322.09(9)	$\langle 1^-, 2, 3^+ \rangle$										30(13)	

Energy levels and branching ratios [92Si19]. Part 4

⁸⁰₃₅Br

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	469.3 $\langle 3^- \rangle$	492.9 $\langle 2^- \rangle$	500.2 $\langle 4^- \rangle$	523.3 $\langle 5^- \rangle$	549.6 $\langle 3^+ \rangle$	586.1 $\langle 3^- \rangle$	615.3 $\langle 8^+ \rangle$	660.6 $\langle 2^+ \rangle$	724.0 $\langle 1, 2 \rangle$	727.1
660.566(4)	$\langle 2^+ \rangle$						0.5(1)	1.6(1)				
682.91(3)	$\langle 3-5^- \rangle$				≈ 4							
727.077(12)	$\langle 1^-, 2, 3 \rangle$		1.7(2)									
731.152(5)	$\langle 2^+ \rangle$						7(1)					
765.891(5)	$\langle 1, 2 \rangle^+$									7(1)		
771.20(5)	$\langle 4^- - 6^- \rangle$					80(5)						
805.126(12)	$\langle 1, 2, 3 \rangle$			11(7)						5(2)	7(2)	
813.892(7)	$\langle 2, 3 \rangle^+$							1.0(2)				
830.877(12)	$\langle 2^+ \rangle$									1.8(3)		
860.655(7)	$\langle 2^+ \rangle$						3.4(7)	76(14)				
908.054(7)	$\langle 1^-, 2, 3 \rangle$						12(7)	29(5)		13(2)	2.3(5)	
914.581(7)	$\langle 0^+, 1, 2 \rangle$									3.5(7)	12(2)	
971.733(9)	$\langle 1-4 \rangle$						25(7)	56(6)			8(2)	
997.318(13)	$\langle 2, 3 \rangle^+$			21(9)								
1022.394(8)	$\langle 1^-, 2, 3^+ \rangle$							3.9(7)				
1033.06(8)	$\langle 8^+ \rangle$								13(3)			
1053.60(2)	$\langle 1-3 \rangle$			59(35)						22(7)		
1065.21(1)	$\langle 2^-, 3, 4^- \rangle$							54(8)			7(4)	
1116.92(2)	$\langle 1, 2, 3 \rangle^+$					16(3)						
1141.02(11)	$\langle 9^+ \rangle$								100			
1143.43(2)	$\langle 1^-, 2, 3^+ \rangle$							50(3)		20(3)		
1146.39(1)	$\langle 1-3 \rangle^+$											4(1)
1148.05(3)	$\langle 1^-, 2, 3^+ \rangle$		16(2)									
1190.73(6)	$\langle 1^-, 2, 3^+ \rangle$							31(4)				
1203.04(4)	$\langle 1^-, 2, 3^+ \rangle$											4(2)
1320.25(3)	$\langle \leq 3 \rangle$		22(16)	41(6)								
1322.09(9)	$\langle 1^-, 2, 3^+ \rangle$											21(13)
1346.8(3)									100			
1358.85(3)	$\langle 3^- \rangle$						13(3)					
1405.9(3)									100			
1534.3(2)	$\langle 7^+, 9^+ \rangle$								100			
1588.1(2)	$\langle 10^+ \rangle$								60(30)			

Energy levels and branching ratios [92Si19]. Part 5

⁸⁰₃₅Br

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	737.1 $\langle \leq 4 \rangle$	765.9 $\langle \leq 3 \rangle^+$	813.9 $\langle 2, 3 \rangle^+$	825.3 $\langle 6, 7^+ \rangle$	830.9 $\langle 2 \rangle^+$	852.3 $\langle 3 \rangle^+$	860.7 $\langle 2^- \rangle$	908.1	914.6	958.5
958.460(7)	$\langle 1, 2, 3 \rangle^+$						1.0(3)	0.6(2)		3.1(9)		
971.733(9)	$\langle 1-4 \rangle$			1.6(8)			1.3(4)					
997.318(13)	$\langle 2, 3 \rangle^+$							1.8(5)				
1021.326(10)	$\langle \leq 4 \rangle$			9(2)							1.0(3)	
1022.394(8)	$\langle 1^-, 2, 3^+ \rangle$		1.5(5)	1.1(5)								0.8(3)
1033.06(8)	$\langle 8^+ \rangle$					6(3)						
1053.60(2)	$\langle 1-3 \rangle$						11(9)				8(2)	
1065.21(1)	$\langle 2^-, 3, 4^- \rangle$								1.4(4)			
1075.57(3)	$\langle 1-4 \rangle$							12(11)				
1116.92(2)	$\langle 1, 2, 3 \rangle^+$				3.9(9)							
1143.43(2)	$\langle 1^-, 2, 3^+ \rangle$									1.0(8)		
1146.39(1)	$\langle 1-3 \rangle^+$						64(10)	<1.9		2.7(11)		
1148.05(3)	$\langle 1^-, 2, 3^+ \rangle$			11(3)							5(2)	
1190.73(6)	$\langle 1^-, 2, 3^+ \rangle$										7(2)	
1198.22(1)	$\langle \leq 4 \rangle$							37(6)		11(7)	14(3)	
1212.33(3)	$\langle 1-4 \rangle$										5(2)	
1248.81(1)	$\langle \leq 3 \rangle^+$										5(3)	
1358.85(3)	$\langle 3^- \rangle$								52(6)			

Energy levels and branching ratios [92Si19]. Part 6

⁸⁰₃₅Br

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	971.7 $\langle 1-4 \rangle$	997.3 $\langle 2, 3 \rangle^+$	1021.3 $\langle \leq 4 \rangle$	1051.6 $\langle \leq 3 \rangle$	1053.6 $\langle 1, 2, 3 \rangle$	1075.6 $\langle 1-4 \rangle$	1116.9	1141.0 $\langle 9^+ \rangle$	1143.4
1021.326(10)	$\langle \leq 4 \rangle$		3.0(7)								
1116.92(2)	$\langle 1, 2, 3 \rangle^+$			1.6(5)							
1143.43(2)	$\langle 1^-, 2, 3^+ \rangle$		0.9(2)								
1146.39(1)	$\langle 1-3 \rangle^+$				0.8(3)		0.8(3)				
1198.22(1)	$\langle \leq 4 \rangle$		28(5)								
1212.33(3)	$\langle 1-4 \rangle$					1.1(4)	1.7(9)	12(1)			
1248.81(1)	$\langle \leq 3 \rangle^+$		3.2(10)								
1320.25(3)	$\langle \leq 3 \rangle$										4(1)
1322.09(9)	$\langle 1^-, 2, 3^+ \rangle$								2(1)		
1358.85(3)	$\langle 3^- \rangle$						4.1(10)				
1588.1(2)	$\langle 10^+ \rangle$									40(15)	
2257.0(2)	$\langle 11^+ \rangle$									x	

Energy levels and branching ratios [92Si19]. Part 7

⁸⁰Br
₃₅

E^*	J^π	E_f^* :	1146.4	Branching ratios in percentage			1587.5	2256.4
[keV]		J_f^π :	$\langle \leq 4 \rangle$	1148.0	1203.0		$\langle 10^+ \rangle$	$\langle 11^+ \rangle$
1198.22(1)	$\langle \leq 4 \rangle$		10(3)					
1320.25(3)	$\langle \leq 3 \rangle$				2.2(6)			
1358.85(3)	$\langle 3^- \rangle$			1.7(9)				
2257.0(2)	$\langle 11^+ \rangle$					x		
2944.1(2)	$\langle 12^+ \rangle$					x		
3606.0(11)	$\langle 13^+ \rangle$							x

Energy levels and branching ratios [96Ba89].

⁸¹Br
₃₅

E^*	$2J^\pi$	L	C^2S	$T_{1/2}$ or	Ref.	E_f^* :	Branching ratios in percentage				
[keV]			(τ, d)	Γ_{cm}		$2J_f^\pi$:	0.0	276	536	538	566
							3^-	5^-	9^+	$1^-, 3^-$	3^-
0.0	3^-	1	1.29(13)	Stable	83Zu01						
275.99(1)	5^-	3	2.02(20)	9.7(14) ps	83Zu01		100				
536.20(9)	9^+	4	4.4(4)	34.6 μs	83Zu01			100			
538.20(8)	$1^-, 3^-$	1	1.2, 1.1	0.76(3) ps	83Zu01		100				
566.03(5)	3^-			77(23) ps			28(2)	72(2)			
649.90(8)	$\langle 3 \rangle^-$	1	0.08(1)	2.6(3) ps	83Zu01		100				
767.15(20)	$\langle 5 \rangle^-$			0.55(3) ps			87(1)	13(1)			
789.4(7)	5^+	2	0.36(4)		83Zu01		73	27			
828.29(5)	3^-	1	0.14(1)	0.46(6) ps	83Zu01		72(3)	23(1)		4.0(4)	
836.77(11)	7^-			1.10(10) ps			26(2)	74			
906(15)											
975(15)											
1023.7(4)	$5^{\langle - \rangle}$						6(2)	67(17)		13(3)	14
1076(2)							x			x	
1105.3(6)	$\langle 1 \rangle^-$	1	0.15(2)		83Zu01		47	36		x	17
1170(15)											
1176.8(2)	$\langle 13 \rangle^+$								100		
1189.9(21)	$5^-, 7^-$	3	0.41(4)		83Zu01						
1237.9(1)							50(13)	50(13)			
1266(2)	$\langle 3^-, 5, 7^- \rangle$						20(10)				
1266.4(3)	$9^{\langle - \rangle}$							69(6)			
1300(15)											
1323.0(4)	$\langle 5 \rangle^-$	3	0.21(2)	≤ 0.31 ps	83Zu01		14(4)	72(6)			
1327.4(4)										74(19)	
1349.8(5)							18(5)				
1371.5(13)	7^+	4	0.11(1)		83Zu01						
1401(2)							54(14)				
1481.8(6)	$\langle 7^- \rangle$										76
1512.9(10)	$\langle 1^-, 3^- \rangle$										100
1522.3(8)	$\langle 11^+ \rangle$								100		

(continued)

⁸¹₃₅Br

E^*	$2J^\pi$	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ ,d)	Γ_{cm}		$\begin{smallmatrix} E^*_\text{f}: \\ 2J^\pi_\text{f}: \end{smallmatrix}$	0.0 3 ⁻	276 5 ⁻	536 9 ⁺	538 1 ⁻ ,3 ⁻	566 3 ⁻
1535.9(7)	$\langle 3^- \rangle$						58			42	
1536(2)							30(8)	19(5)		14(4)	
1541.6(13)	$\langle 9^+ \rangle$										
1543(2)							6.0(20)	x			
1543.2(5)	$\langle 3^- \rangle$	1	0.06(1)		83Zu01		x	55			34
1587(2)							71(18)	29(7)			
1587.4(16)	1 ⁺	0	0.005(1)		83Zu01						
1615(15)											
1670.7(3)							81(20)	19(5)			
1681.2(8)	$\langle 7^- \rangle$										
1696.1(13)	$\langle 3^+ \rangle$										
1751.5(10)											
1788.9(13)	$\langle 7^+ \rangle$										
1799.1(11)	$\langle 5^- \rangle$										
1866.4(10)	$\langle 3^- \rangle$										
1885.2(7)	$\langle 3^-, 5, 7^- \rangle$										89
1945.6(4)	$\langle 11^- \rangle$										
1948.2(13)	$\langle 9 \rangle^+$	4	0.93(9)		83Zu01						
1985.6(26)	3 ⁺ ,5 ⁺	2	0.06,0.05		83Zu01						
1995.9(8)	7 ⁽⁻⁾										
2000.3(11)											
2022.2(13)	$\langle 5^+ \rangle$										
2056.0(21)	1 ⁻ ,3 ⁻	1	0.020		83Zu01						
2085(4)	7 ⁺ ,9 ⁺	4	0.08,0.04		83Zu01						
2118.1(13)	3 ⁺ ,5 ⁺	2	0.11,0.09		83Zu01						
2163.9(22)	1 ⁻ ,3 ⁻	1	0.10		83Zu01						
2215(4)											
2221.3(13)	$\langle 3, 5 \rangle$										
2245(15)											
2277.8(11)											
2288.3(21)	1 ⁺	0	0.04(1)		83Zu01						
2305.0(10)	$\langle 7^- \rangle$										
2387.5(4)	$\langle 9^- - 13^- \rangle$										
2410(15)											
2421.1(11)											
2477.6(22)*		1+4			83Zu01						
2531.7(22)*		0+1			83Zu01						
2549.4(4)	$\langle 13^- \rangle$										
2620(15)											
2657.0(22)	3 ⁺ ,5 ⁺	2	0.1,0.07		83Zu01						
2668.5(4)	$\langle 15^- \rangle$			<0.21 ns							
2704(2)	1 ⁻ ,3 ⁻	1	0.03		83Zu01						
2732(3)*	X ⁺	2+4			83Zu01						
2788(15)											
2797(2)*		4			83Zu01						

(continued)

⁸¹₃₅Br

E^*	$2J^\pi$	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 3 ⁻	276 5 ⁻	536 9 ⁺	538 1 ⁻ , 3 ⁻	566 3 ⁻
2912.4(21)											
2940(3)											
2942.1(4)	$\langle 17^- \rangle$										
3001(3)											
3027(3)											
3067(3)											
3089.0(5)											
3101(11)											
3190(15)											
3196.1(5)											
3242(15)											
3322(15)											
3333.5(4)	$\langle 19^- \rangle$			0.7(3) ps							
3429(15)											
3508(20)											
3526.8(13)											
3598(20)											
3680(20)											
3740(20)											
3759(15)											
SP780+3	1 ⁻			19(2) keV							
3798.7(5)	$\langle 21^- \rangle$										
3835(20)											
SP885+3	7 ⁺										
3965(15)											
4106(20)											
4174(20)											
SP249+4	3 ⁻			18(3) keV							
4302(15)											
4428(15)											
4512(15)											
4559(15)											
SP791+4	5 ⁺			18.1(24) keV							
SP922+4	1 ⁺			48(4) keV							
SP003+5	5 ⁺			32(3) keV							
SP162+5	3 ⁻			24(4) keV							
5632(15)											
5791(20)											
			83Zu01		Ref.						

Abundance: 49.31(7) %.

* Doublet.

Energy levels and branching ratios [96Ba89]. Part 2

 $^{81}_{35}\text{Br}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	649.9 $\langle 3 \rangle^-$	767.1 $\langle 5 \rangle^-$	789.4 5^+	828.3 3^-	836.8 7^-	1023.7 $5^{(-)}$	1076	1176.8 $\langle 13 \rangle^+$	1266.4 $9^{(-)}$	1522.3 $\langle 11^+ \rangle$
828.29(5)	3^-		1.5(2)									
1266(2)	$\langle 3^-, 5, 7^- \rangle$			40(10)			40(10)					
1266.4(3)	$9^{(-)}$						≈ 31					
1323.0(4)	$\langle 5 \rangle^-$						14(6)					
1327.4(4)			11(4)	15(15)								
1349.8(5)				29(7)				53(13)				
1371.5(13)	7^+				100							
1401(2)						46(12)						
1481.8(6)	$\langle 7^- \rangle$	x		24								
1522.3(8)	$\langle 11^+ \rangle$									x		
1536(2)			37(9)						x			
1541.6(13)	$\langle 9^+ \rangle$				100							
1543(2)				9.0(20)		85(21)						
1543.2(5)	$\langle 3^- \rangle$						10					
1587.4(16)	1^+				100							
1681.2(8)	$\langle 7^- \rangle$						85	15				
1696.1(13)	$\langle 3^+ \rangle$				100							
1751.5(10)							100					
1788.9(13)	$\langle 7^+ \rangle$				100							
1799.1(11)	$\langle 5^- \rangle$			100								
1866.4(10)	$\langle 3^- \rangle$						100					
1885.2(7)	$\langle 3^-, 5, 7^- \rangle$						11					
1945.6(4)	$\langle 11^- \rangle$						≈ 50					
1948.2(13)	$\langle 9 \rangle^+$											100
1995.9(8)	$7^{(-)}$							61			39	
2000.3(11)										100		
2022.2(13)	$\langle 5^+ \rangle$				100							
2118.1(13)	$3^+, 5^+$				100							
2221.3(13)	$\langle 3, 5 \rangle$				100							
2277.8(11)										100		
2305.0(10)	$\langle 7^- \rangle$						100					
2387.5(4)	$\langle 9^- - 13^- \rangle$										≈ 64	
2421.1(11)										100		
2549.4(4)	$\langle 13^- \rangle$										85(15)	

Energy levels and branching ratios [96Ba89]. Part 3

 $^{81}_{35}\text{Br}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		$E_f^*:$ $2J_f^\pi:$	1945.6 $\langle 11^- \rangle$	2277.8	2549.4 $\langle 13^- \rangle$	2668.5 $\langle 15^- \rangle$	2942.1 $\langle 17^- \rangle$	3333.5 $\langle 19^- \rangle$
1945.6(4)	$\langle 11^- \rangle$							
2387.5(4)	$\langle 9^- - 13^- \rangle$		36(10)					≈ 50

(continued)

⁸¹₃₅Br

E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		$E_f^*:$ $2J_f^\pi:$	1945.6 $\langle 11^- \rangle$	2277.8	2549.4 $\langle 13^- \rangle$	2668.5 $\langle 15^- \rangle$	2942.1 $\langle 17^- \rangle$	3333.5 $\langle 19^- \rangle$
2549.4(4)	$\langle 13^- \rangle$		≈ 15					
2668.5(4)	$\langle 15^- \rangle$		≈ 15		85(7)			
2942.1(4)	$\langle 17^- \rangle$					100		
3089.0(5)							100	
3196.1(5)							100	
3333.5(4)	$\langle 19^- \rangle$						100	
3526.8(13)				100				
3798.7(5)	$\langle 21^- \rangle$							100

Energy levels and branching ratios [03Tu03].

⁸²₃₅Br

E^*	J^π	L	S''	σ (d,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : J_f^π :	0 5 ⁻	45.9 2 ⁻	75.1 $\langle 1 \rangle^+$	291 $\langle 3 \rangle^-$	363 $\langle 2 \rangle^+$
0	5 ⁻	4	0.30	50	35.28(1) h	72Ch33						
45.9492(10)	2 ⁻				6.13(5) m			100				
75.0621(14)	$\langle 1 \rangle^+$	1	0.16	510	7.2(8) ns	72Ch33			100			
290.781(1)	$\langle 3 \rangle^-$	4	0.63	110		72Ch33			99(4)	0.6(2)		
362.801(2)	$\langle 2 \rangle^+$	1	0.40			72Ch33				100	0.4(2)	
376.70(9)	$\langle 6 \rangle^-$	4	0.22	570	<0.2 ns	72Ch33		100				
420.068(2)	$\langle 2 \rangle$								10(1)	88(5)		2.4(3)
475.425(2)	$\langle 4 \rangle^-$	4	0.59	110		72Ch33					100	
540.989(2)	$\langle 2^+, 3^+ \rangle$								61(18)		37(2)	1.8(9)
627.236(2)	$\langle 2, 3^+ \rangle$								19(1)	9(2)	2.0(9)	67(3)
638(8)		4	0.55	100		72Ch33						
641.164(3)	$\langle 3^+ \rangle$								6.4(7)	59(9)	8(1)	17(1)
689.249(6)	$\langle 1^- - 3^- \rangle$								89(24)			
759.949(3)	$\langle 1^+, 2, 3^+ \rangle$									55(16)		20(3)
762.13(7)									94(8)	6.4(16)		
763.714(17)	$\langle 1 \rangle^+$	1	0.13	460		72Ch33			55(5)	9.8(9)		36(7)
792.276(3)	$\langle 5 \rangle$										17(12)	
822.811(4)												
846.689(4)	$\langle 1^+, 2, 3^+ \rangle$	$\langle 1, 2 \rangle$		90		72Ch33				24(3)		65(9)
886.70(3)												
910.770(17)	$\langle 4, 5^+ \rangle$							96(5)				
935.301(14)												
967.51(9)	$\langle 6 \rangle^+$	$\langle 3, 4 \rangle$		70		72Ch33		52(3)				
970.918(12)	$\langle 2, 3^+ \rangle$										7(2)	70(31)
988.151(5)												42(11)
1007.90(1)									19(4)	81(6)		
1022.47(2)									78(2)	10(2)		
1058.98(2)	$\langle 1, 2, 3 \rangle$								73(16)			9(3)

(continued)

⁸²₃₅Br

E^*	J^π	L	S''	σ (d,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* : J_{f}^π :	0 5 ⁻	45.9 2 ⁻	75.1 $\langle 1 \rangle^+$	291 $\langle 3 \rangle^-$	363 $\langle 2 \rangle^+$
1068.73(13)	$\langle 7 \rangle^+$				<0.14 ns							
1082.854(9)									32(4)			
1093.17(1)											7(2)	9(2)
1109.79(2)	$\langle 1^-, 2, 3 \rangle$								10(2)	61(4)		28(3)
1139.930(9)				120		72Ch33						
1155.10(3)										67(6)		
1179.40(2)	$\langle 2, 3 \rangle$			90		72Ch33			33(8)		11(5)	19(4)
1186.69(6)				incl							92(10)	
1216.52(1)										12(9)		
1226.54(2)												
1232.57(3)										89(6)		
1243.59(4)				60		72Ch33						76(7)
1261.0(2)	$\langle 8 \rangle^+$				<0.2 ns							
1276.2(3)	$\langle 1, 2, 3^+ \rangle$								13(2)	23(2)		3.4(11)
1366												
1386(8)	$X^{\langle + \rangle}$	$\langle 1 \rangle$	0.05	160		72Ch33						
1432												
1478												
1489												
1497(4)	$X^{\langle - \rangle}$	$\langle 2 \rangle$	0.71	1570		72Ch33						
1535												
1548												
1629												
1650(4)	X^-	2	0.69	1550		72Ch33						
1678												
1721												
1743(6)	$1^-, 2^-$	0	0.09	520		72Ch33						
1774												
1793.8(3)	$\langle 9 \rangle^+$											
1807(6)	X^-	2	0.25	530		72Ch33						
1830												
1866												
1897												
1916												
1942												
1955(4)	$X^{\langle - \rangle}$	$\langle 2 \rangle$	0.53	1190		72Ch33						
2026(8)				340		72Ch33						
2112(8)				100		72Ch33						
2212(8)				250		72Ch33						
2243.3(4)	$\langle 10^+ \rangle$											

Given $S_N = S(2J_f + 1)/(2J_i + 1)$ is from DWBA analysis performed in [72Ch33].

Energy levels and branching ratios [03Tu03]. Part 2

⁸²₃₅Br

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	377 $\langle 6 \rangle^-$	420 $\langle 2 \rangle$	475 $\langle 4 \rangle^-$	541.0 $\langle 2^+, 3^+ \rangle$	627.2 $\langle 2, 3^+ \rangle$	641.2 $\langle 3^+ \rangle$	689.2	759.9	763.7 $\langle 1 \rangle^+$	822.8
627.236(2)	$\langle 2, 3^+ \rangle$				3.5(6)							
641.164(3)	$\langle 3^+ \rangle$			9.9(9)								
689.249(6)	$\langle 1^- - 3^- \rangle$					10.9(21)						
759.949(3)	$\langle 1^+, 2, 3^+ \rangle$			21(3)	2.5(11)			1.9(5)				
792.276(3)	$\langle 5 \rangle$				83(8)							
822.811(4)				88(19)				5.4(18)	6.3(18)			
846.689(4)	$\langle 1^+, 2, 3^+ \rangle$			8.1(19)		1.9(12)		1.4(5)				
886.70(3)				69(12)				31(14)				
910.770(17)	$\langle 4, 5^+ \rangle$						3.8(9)					
935.301(14)					100							
967.51(9)	$\langle 6 \rangle^+$	48(3)										
970.918(12)	$\langle 2, 3^+ \rangle$							19(3)			3.5(8)	
988.151(5)								58(8)				
1022.47(2)				10(2)								
1058.98(2)	$\langle 1, 2, 3 \rangle$										15(4)	
1068.73(13)	$\langle 7 \rangle^+$	28(11)										
1082.854(9)						29(10)	21(4)		19(5)			
1093.17(1)							80(7)					
1139.930(9)								67(6)		33(4)		
1155.10(3)				21(2)							9(3)	
1179.40(2)	$\langle 2, 3 \rangle$			12(3)				8(4)		12(4)		
1186.69(6)												4.1(23)
1226.54(2)							10(4)	8(2)				
1276.2(3)	$\langle 1, 2, 3^+ \rangle$			21(2)							40(6)	

Energy levels and branching ratios [03Tu03]. Part 3

⁸²₃₅Br

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	846.7	886.7	910.8 $\langle 4, 5^+ \rangle$	967.5 $\langle 6 \rangle^+$	970.9 $\langle 2, 3^+ \rangle$	988.2	1007.9	1059.0 $\langle 1, 2, 3 \rangle$	1068.7 $\langle 7 \rangle^+$	1082.8
1022.47(2)				1.9(8)								
1058.98(2)	$\langle 1, 2, 3 \rangle$					3.2(10)						
1068.73(13)	$\langle 7 \rangle^+$				72(3)							
1093.17(1)								3.5(10)				
1155.10(3)		2.7(8)										
1179.40(2)	$\langle 2, 3 \rangle$											1.5(8)
1186.69(6)					3.5(18)							
1216.52(1)								11(4)	71(6)			
1226.54(2)					79(6)		2.8(11)					
1232.57(3)										7(3)		
1243.59(4)									24(7)			
1261.0(2)	$\langle 8 \rangle^+$										100	

Energy levels and branching ratios [03Tu03]. Part 4

 $^{82}_{35}\text{Br}$

E^*	J^π	Branching ratios in percentage				
[keV]		$E_f^*:$ $J_f^\pi:$	1109.8	1139.9	1261.0 $\langle 8 \rangle^+$	1793.8 $\langle 9 \rangle^+$
1179.40(2)	$\langle 2,3 \rangle$		2(1)			
1216.52(1)			6(3)			
1232.57(3)				4.1(20)		
1793.8(3)	$\langle 9 \rangle^+$				100	
2243.3(4)	$\langle 10^+ \rangle$				≈ 45	55

Energy levels and branching ratios [01Wu02].

 $^{83}_{35}\text{Br}$

E^*	$2J^\pi$	L	$(2J+1)S$	L	S_N	$n\ell j$	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]			(τ, d)		(d, τ)		Γ_{cm}		$E_f^*:$ $2J_f^\pi:$	0.0 3 ⁻	357 5 ⁻	799 $\langle 5 \rangle^-$	867 7 ⁻
0.0	3 ⁻	1	1.55(16)	1	1.32	2p3/2	2.40(2) h	83Zu01					
356.68(3)	5 ⁻	3	1.94(19)	3	1.75	1f5/2		86Pf01	100				
799.09(5)	$\langle 5 \rangle^-$	3	1.04(10)					83Zu01	96(4)	4.3(11)			
866.74(5)	7 ⁻								12.9(2)	87(2)			
871.8(21)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$	0.02,0.02					83Zu01					
987.94(5)	1 ⁻ , 3 ⁻	1	0.6,0.50					83Zu01	96(1)	2.8(1)	1.08(8)		
1021.57(10)									100				
1030.67(7)	1 ⁻ , 3 ⁻	$\langle 1 \rangle$	0.06,0.05		0.77 +2.36	2p3/2 +1f5/2		83Zu01	57.7(6)	41(1)	0.89(3)		
1053.83(8)	1 ⁻ , 3 ⁻	1	1.4,1.2					83Zu01	100				
1091.90(5)	9 ⁺	4	10,5.4				4.1(1) ns	83Zu01	x	3.8(3)			96(2)
1114(3)													
1352.55(7)	$\langle 5 \rangle^+$	2	0.44,0.34						40(2)	11.2(7)	29(2)	20(1)	
1420.83(7)	$\langle 5^-, 7^- \rangle$								14.3(6)	69(6)	7(1)		
1423.1(20)	X ⁺	2+4	0.02,0.01*					83Zu01					
1438.62(7)	9 ⁻						1.5(4) ps			32(1)		68(1)	
1660.03(9)	1 ⁻ , 3 ⁻	1	0.19,0.16					83Zu01	69(7)	31(2)			
1700.6(11)	3 ⁻			$\langle 1 \rangle$	0.20	2p1/2		86Pf01					
1701.16(8)	13 ⁺						21(4) ps		x				
1704.1(18)	X ⁺	2+4	0.04,0.03*					83Zu01					
1804.11(9)	$\langle 7 \rangle$									11(1)			
1810.09(6)	$\langle 7^+ \rangle$	2+4	0.01,0.01*					83Zu01				4.2(2)	
1915.43(10)	1 ⁽⁻⁾ , 3									57(3)	33(2)		
2051.45(7)	1 ⁻ , 3 ⁻	$\langle 1+2 \rangle$	0.01,0.005					83Zu01	59(2)	4.1(3)			
2058.47(9)											16.0(9)	73(3)	
2127.1(3)	11 ⁻						1.2(4) ps					49(2)	
2134.08(16)	11 ⁺						0.3(2) ps						
2240	$\langle 1^-, 3^- \rangle$			$\langle 1 \rangle$	0.31			86Pf01					
2337.6(3)	$\langle 11^+ \rangle$												
2397.61(11)	7 ⁺ , 9 ⁺	4	2.17,1.2					83Zu01				14(3)	
2531.16(17)												50(6)	

(continued)

 $^{83}_{35}\text{Br}$

E^* [keV]	$2J^\pi$	L	$(2J+1)S$ (τ, d)	L	S_N (d, τ)	$n\ell j$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
									E_f^* : $2J_f^\pi$:	0.0 3 ⁻	357 5 ⁻	799 $\langle 5 \rangle^-$	867 7 ⁻
2646.67(8)	$\langle 7 \rangle^+$										30(1)	2.9(7)	6.7(6)
2693.81(8)	$\langle 7 \rangle^+$										13(1)	30(1)	5.1(3)
2729.6(18)	$1^-, 3^-$	1	0.06, 0.05					83Zu01					
2737.88(9)	$\langle 7, 9 \rangle^+$												10.9(6)
2759.9(24)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$	0.07, 0.06					83Zu01					
2765.4(4)	17^+						1.4(2) ps						
2777.6(9)	$7, 9, 11$										48(6)		
2788.7(3)	13^+						1.0(4) ps						
2809.72(19)	$1^-, 3^-$	1	0.03, 0.03					83Zu01		[24]	[76]		
2811.4(3)	13^-												
2946.24(10)	$7^+ - 11^+$												
2953.3(17)	$3^+, 5^+$	2	0.15, 0.12					83Zu01					
2993.8(22)													
3023.9(4)													
3034.6(20)	$3^+, 5^+$	2	0.04, 0.03					83Zu01					
3050.3(3)	$15^{\langle + \rangle}$												
3068.8(6)	$\langle 19^- \rangle$						0.7 μs						
3091.2(3)	$1^-, 3^-$									45(7)	55(10)		
3130.6(23)	1^+	0	0.023(2)					83Zu01					
3135.0(4)	$\langle 17 \rangle$												
3136.6(5)	$7 - 11^+$												
3260.0(4)													
3333.4(4)	15^-												
3369.0(22)													
3418.4(5)	15^+												
3441.0(27)													
3533.6(6)													
3548.4(23)													
3613.7(22)													
3667.8(22)													
3749.3(22)													
3804.9(22)													
3874.7(7)													
3967.5(22)													
4016.3(22)													
4049.2(26)													
4097.6(25)													
4160.3(22)													
4194.1(27)													
4221.9(6)	$\langle 21^+ \rangle$						0.3(1) ps						
4582.4(6)													
5118.2(8)													

(continued)

⁸³₃₅Br

E^*	$2J^\pi$	L	$(2J+1)S$	L	S_N	$n\ell j$	$T_{1/2}$ or Ref.	Branching ratios in percentage				
[keV]			(τ, d)		(d, τ)		Γ_{cm}	E_f^* : $2J_f^\pi$:	0.0 3 ⁻	357 5 ⁻	799 $\langle 5 \rangle^-$	867 7 ⁻
5390.7(9)												
5635.0(10)												

Additional data on this isotope can be found in [89Wi01].

* Parameters $(2J+1)S$ correspond to $L=2$; for $L=4$ the values are given in [01Wu02].

Energy levels and branching ratios [01Wu02]. Part 2

⁸³₃₅Br

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	988 1 ⁻ , 3 ⁻	1031 1 ⁻ , 3 ⁻	1054 1 ⁻ , 3 ⁻	1092 9 ⁺	1352.5 $\langle 5 \rangle^+$	1420.8 $\langle 5^-, 7^- \rangle$	1438.6 9 ⁻	1660.0 1 ⁻ , 3 ⁻	1700.6 3 ⁻	1701.2 13 ⁺
1420.83(7)	$\langle 5^-, 7^- \rangle$		2.0(6)			7.6(10)						
1701.16(8)	13 ⁺					100						
1804.11(9)	$\langle 7 \rangle$					69(6)	20.3(17)					
1810.09(6)	$\langle 7^+ \rangle$					72.9(7)	16.8(7)	3.1(2)	2.9(2)			
1915.43(10)	1 ⁻ , 3 ⁻			10(3)								
2051.45(7)	1 ⁻ , 3 ⁻		19(1)	11(1)	6.4(3)					0.64(8)		
2058.47(9)						4.8(12)	6.4(16)					
2127.1(3)	11 ⁻								51(2)			
2134.08(16)	11 ⁺					85(3)						15(1)
2337.6(3)	$\langle 11^+ \rangle$											83(2)
2397.61(11)	7 ⁺ , 9 ⁺					39(4)						
2531.16(17)								37(6)				
2646.67(8)	$\langle 7 \rangle^+$					8.1(4)	6(1)	4.2(2)	≤ 3			
2693.81(8)	$\langle 7 \rangle^+$						21(1)				1(1)	
2737.88(9)	$\langle 7, 9 \rangle^+$					3.2(5)	2.6(7)	28(1)	36(4)			2.6(5)
2765.4(4)	17 ⁺											100
2777.6(9)	7, 9, 11					52(6)						
2811.4(3)	13 ⁻								58(4)			
2946.24(10)	7 ⁺ -11 ⁺					15(2)			4.6(5)			6.1(3)
3050.3(3)	15 ⁺											57(2)
3135.0(4)	$\langle 17 \rangle$											100
3136.6(5)	7-11 ⁺					31(4)		21(2)			28(2)	
3260.0(4)												85(8)

Energy levels and branching ratios [01Wu02]. Part 3

⁸³Br
₃₅

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1804.1 $\langle 7 \rangle$	1810.1 $\langle 7^+ \rangle$	2058.5	2127.1 11^-	2134.1 11^+	2397.6 $7^+, 9^+$	2531.2	2693.8 $\langle 7 \rangle^+$	2737.9 $\langle 7, 9 \rangle^+$	2765.4 17^+
2337.6(3)	$\langle 11^+ \rangle$			17(2)								
2397.61(11)	$7^+, 9^+$		47(2)									
2531.16(17)					13(3)							
2646.67(8)	$\langle 7 \rangle^+$			43(9)								
2693.81(8)	$\langle 7 \rangle^+$			28(1)	1(1)			1.1(3)				
2737.88(9)	$\langle 7, 9 \rangle^+$		4.9(3)	1.5(5)	7.1(5)			3.2(3)				
2788.7(3)	13^+						100					
2811.4(3)	13^-					42(8)						
2946.24(10)	$7^+ - 11^+$				39(5)		3.4(4)		14.7(10)		17(1)	
3023.9(4)							83(6)					
3050.3(3)	$15^{\langle + \rangle}$						27(2)					
3068.8(6)	$\langle 19^- \rangle$											100
3136.6(5)	$7 - 11^+$									≥ 14		
3260.0(4)												15(8)
3333.4(4)	15^-					44(5)						
4221.9(6)	$\langle 21^+ \rangle$											100
4582.4(6)												x

Energy levels and branching ratios [01Wu02]. Part 4

⁸³Br
₃₅

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	2788.7 13^+	2811.4 13^-	2946.2	3068.8 $\langle 19^- \rangle$	3135.0 $\langle 17 \rangle$	3874.7	4221.9 $\langle 21^+ \rangle$	5118.2	5390.7
3023.9(4)			17(6)								
3050.3(3)	$15^{\langle + \rangle}$		16(2)								
3136.6(5)	$7 - 11^+$				7(4)						
3333.4(4)	15^-			56(10)							
3418.4(5)	15^+		100								
3533.6(6)							100				
3874.7(7)						100					
4582.4(6)									100		
5118.2(8)								100			
5390.7(9)										x	
5635.0(10)										x	x

Energy levels and branching ratios [97Tu02].

⁸⁴₃₅Br

E^*	J^π	$T_{1/2}$ or	Branching ratios in percentage	
[keV]		Γ_{cm}	E_f^* :	0
			J_f^π :	2 ⁻
0	2 ⁻	31.80(8) m		
320(100)	6 ⁻	6.0(2) m		
408.2(4)	1 ⁺	<0.14 μ s		100

Energy levels and branching ratios [91Si01].

⁸⁵₃₅Br

E^*	$2J^\pi$	L	C^2S	$n\ell j$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d, τ)	(d, τ)	Γ_{cm}		E_f^* :	0.0	345	956	1191	1427
							$2J_f^\pi$:	3 ⁻	5 ⁻	3 ⁻	1 ⁻	
0.0	3 ⁻	1	1.52	2p3/2	2.90(6) m	86Pf01						
345.19(23)	5 ⁻	3	4.54	1f5/2		86Pf01		100				
955.82(23)	3 ⁻	1	0.10	2p3/2		86Pf01		58(9)	42(8)			
1191.3(4)	1 ⁻	1	0.39	2p1/2		86Pf01		100				
1427.2(3)	$\langle 1^- - 5 \rangle$							74(11)	26(5)			
1553.3(3)								13(3)	67(10)	20(3)		
1724.7(4)								100				
1795.2(5)	1 ⁻	1	0.09+0.52	2p1/2+1f5/2		86Pf01		16(4)	32(9)	52(11)		
1859.5(5)												100
1943.8(4)								29(6)	25(5)	46(6)		
2310(31)	3 ⁻	1	0.25	2p3/2		86Pf01						
2800.5(4)	$\langle 3-7 \rangle$								28(6)			19(4)
3007.8(5)	$\langle 3-7^- \rangle$							100				
3401(36)	7 ⁻	3	0.79	1f7/2		86Pf01						
3539.6(5)	$\langle 3-7^- \rangle$							41(8)		59(9)		
3644.6(5)	$\langle 3-7 \rangle$											
3680.37(25)	$\langle 3-7 \rangle$									0100		
3741.7(3)	$\langle 3^+ \rangle$							7.1(14)	76(11)		17(4)	
3824.6(4)	$\langle 3, 5^- \rangle$								40(12)			
3970.4(4)	$\langle 3^+ - 7^+ \rangle$								25(7)			≈ 17
4000.4(5)	$\langle 3^+ - 7^+ \rangle$								89(14)			
4028.8(4)	$\langle 3^+ \rangle$								32(9)			20(6)
4119.0(5)	$\langle 3^+ - 7^+ \rangle$								75(12)			
4172.4(11)	$\langle 3, 5, 7 \rangle$								100			
4299.4(5)	$\langle 3^+ - 7^+ \rangle$								55(10)			≈ 45
4510.9(6)	$\langle 3-7^- \rangle$									100		
			86Pf01	86Pf01		Ref.						

Additional data on this isotope can be found in [72Ma02].

Energy levels and branching ratios [91Si01]. Part 2

⁸⁵₃₅Br

E^*	$2J^\pi$	$E_f^*:$ $2J_f^\pi:$	1553	Branching ratios in percentage				1859.5	1943.8
[keV]				1725	1795 1 ⁻				
2800.5(4)	$\langle 3-7 \rangle$		20(6)					32(5)	
3644.6(5)	$\langle 3-7 \rangle$		25(31)						75(11)
3824.6(4)	$\langle 3,5^- \rangle$				60(14)				
3970.4(4)	$\langle 3^+-7^+ \rangle$		52(8)	≈ 7					
4000.4(5)	$\langle 3^+-7^+ \rangle$		11(8)						
4028.8(4)	$\langle 3^+ \rangle$			8(2)	40(6)				
4119.0(5)	$\langle 3^+-7^+ \rangle$		25(6)						

Energy levels and branching ratios [97Ki04, 01Si43].

⁸⁶₃₅Br

E^*	J^π	$T_{1/2}$ or Γ_{cm}	$E_f^*:$ $J_f^\pi:$	0 $\langle 2^- \rangle$	5.1 $\langle 0^-, 1^- \rangle$	53.3	207 0 ⁻ , 1, 2 ⁻	298	436	1047
[keV]										
0	$\langle 2^- \rangle$	55.1(4) s								
5.1(3)	$\langle 0^-, 1^- \rangle$			100						
53.3(3)	0 ⁻ , 1 ⁻				100					
207.39(24)	0 ⁻ , 1, 2 ⁻			72(4)		28(1)				
298.2(4)					100					
435.65(25)				7(1)	9(1)	69(3)	15(1)			
1047.2(3)				5	13(1)	55(3)	5	17(1)	5	
1170.4(4)	0, 1, 2 ⁻					100				
2446.3(3)	1 ⁺				62(3)		11.2(6)		14.8(8)	8.3(4)
2665.1(4)	1 ⁺				100					

Energy levels and branching ratios [97Ki04, 01Si43]. Part 2

⁸⁶₃₅Br

E^*	J^π	Branching ratios in percentage
[keV]		$E_f^*:$ $J_f^\pi:$
		1170 0, 1, 2 ⁻
2446.3(3)	1 ⁺	3.2(2)