

Energy levels and branching ratios [98Bl04].

¹¹³Sb
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E^* [keV]	$2J^\pi$	L	C^2S' (τ ,d)	σ (τ ,d) μ b/sr	C^2S' theor	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								E_f^* :	0	645	814	1019	1257
								$2J_f^\pi$:	5 ⁺	1 ⁺	7 ⁺	5 ⁺	$\langle 9^+ \rangle$
0	5 ⁺	2	4.2	950	6.0	6.67(7) m	66Ba25 68Co22						
644.78(20)	1 ⁺	0	1.0	600	2.0	<1 ns	66Ba25 68Co22	100					
814.15(22)	7 ⁺	4	7.5	180	8.0	<1 ns	66Ba25 68Co22	100					
1018.6(3)	5 ⁺	2	2.3	580	4.0	<1 ns	66Ba25 68Co22	100					
1181.0(4)						<1 ns		100					
1257.1(3)	$\langle 9^+ \rangle$					<1 ns		83(10)		10(3)	7(2)		
1348.0(4)	11 ⁻	$\langle 5 \rangle$	4.8	160	12.0	<1 ns	66Ba25 68Co22	17(2)					83(1)
1460.9(3)	9 ⁺		5.0	incl		<1 ns		78(8)		22(2)			
1550.9(4)	5 ⁺	2	0.6	250			66Ba25 68Co22	69(21)		31(10)			
1716.5(5)									100				
1853.2(5)						<1 ns				37(11)			
1910.2(4)	$\langle 11^+ \rangle$					<1 ns							
1995.4(11)						<1 ns				100			
2094.2(6)								62(14)	38(10)				
2115.5(6)								53(12)		47(16)			
2132.1(7)										100			
2172.1(5)										46(12)			54(16)
2217.3(5)	$\langle 13^+ \rangle$					<1 ns							
2263	$\langle 13^+ \rangle$												
2307.4(5)													
2395.2(6)													
2504.4(5)	$\langle 15^+ \rangle$												
2534.9(3)								52(13)		17(5)	30(9)		
2626.9(7)													
2662	$\langle 15^+ \rangle$												
2818	$\langle 15^- \rangle$												
3009.3(11)													
3045.5(9)	19 $\langle^- \rangle$					3.7(3) ns							
3086	$\langle 17^+ \rangle$												
3174.6(9)	21 $\langle^- \rangle$												
3216	$\langle 19^- \rangle$												
3474.2(7)	$\langle 19^+ \rangle$												
3554.5(9)													
3781	$\langle 23^- \rangle$												
3916	$\langle 21^+ \rangle$												
4365	$\langle 23^+ \rangle$												
4463	$\langle 27^- \rangle$												
4747	$\langle 25^+ \rangle$												
5179	$\langle 27^+ \rangle$												
5242	$\langle 31^- \rangle$												
5571	$\langle 29^+ \rangle$												
5962	$\langle 31^+ \rangle$												
6097	$\langle 35^- \rangle$												
6336	$\langle 33^+ \rangle$												
6684	$\langle 35^+ \rangle$												

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E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	C^2S'	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	$\mu b/sr$	theor	Γ_{cm}		E_f^* :	0	645	814	1019	1257
								$2J_f^\pi$:	5 ⁺	1 ⁺	7 ⁺	5 ⁺	$\langle 9^+ \rangle$
6980	$\langle 37^+ \rangle$												
7016	$\langle 39^- \rangle$												
8002	$\langle 43^- \rangle$												
9065	$\langle 47^- \rangle$												
9280(40)													
9720(40)													
9780(40)													
10219	$\langle 51^- \rangle$												
11470	$\langle 55^- \rangle$												
12804	$\langle 59^- \rangle$												
14217	$\langle 63^- \rangle$												
15722	$\langle 67^- \rangle$												
17356	$\langle 71^- \rangle$												
19147	$\langle 75^- \rangle$												
21107	$\langle 79^- \rangle$												
			68Co22	68Co22	68Co22		Ref.						

Additional data on this isotope can be found in [93Ja04, 93Ra08, 66Ba25].

 $C^2S'=(2J+1)C^2S/(2I+1)$ was determined from σ (τ, d) reaction measured at 50° [68Co22].

Energy levels and branching ratios [98Bl04]. Part 2

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E^*	$2J^\pi$	Branching ratios in percentage											
[keV]		E_f^* :	1348.0	1460.9	1910.2	2217.3	2263	2307.4	2504.4	2626.9	2662	2818	
		$2J_f^\pi$:	11 ⁻	9 ⁺	$\langle 11^+ \rangle$	$\langle 13^+ \rangle$	$\langle 13^+ \rangle$		$\langle 15^+ \rangle$		$\langle 15^+ \rangle$	$\langle 15^- \rangle$	
1853.2(5)				63(32)									
1910.2(4)	$\langle 11^+ \rangle$			100									
2217.3(5)	$\langle 13^+ \rangle$			39(5)	61(6)								
2263	$\langle 13^+ \rangle$				x								
2307.4(5)					100								
2395.2(6)			100										
2504.4(5)	$\langle 15^+ \rangle$					68(7)		32(3)					
2626.9(7)			100										
2662	$\langle 15^+ \rangle$				x	100	x						
2818	$\langle 15^- \rangle$		x										
3009.3(11)									100				
3045.5(9)	19^-									100			
3086	$\langle 17^+ \rangle$					x					100		
3216	$\langle 19^- \rangle$											x	
3474.2(7)	$\langle 19^+ \rangle$										x		

Energy levels and branching ratios [98Bl04]. Part 3

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E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	3045.5 19 \langle^-	3086 $\langle 17^+$	3174.6 21 \langle^-	3216 $\langle 19^-$	3474.2 $\langle 19^+$	3781 $\langle 23^-$	3916 $\langle 21^+$	4365 $\langle 23^+$	4463 $\langle 27^-$	4747 $\langle 25^+$
3174.6(9)	21 \langle^-		100									
3474.2(7)	$\langle 19^+$			100								
3554.5(9)					100							
3781	$\langle 23^-$					x						
3916	$\langle 21^+$			x			x					
4365	$\langle 23^+$						x		x			
4463	$\langle 27^-$							x				
4747	$\langle 25^+$								x	x		
5179	$\langle 27^+$									x		x
5242	$\langle 31^-$										x	
5571	$\langle 29^+$											x

Energy levels and branching ratios [98Bl04]. Part 4

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E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	5179 $\langle 27^+ \rangle$	5242 $\langle 31^- \rangle$	5571 $\langle 29^+ \rangle$	5962 $\langle 31^+ \rangle$	6097 $\langle 35^- \rangle$	6336 $\langle 33^+ \rangle$	6684 $\langle 35^+ \rangle$	7016 $\langle 39^- \rangle$	8002 $\langle 43^- \rangle$	9065 $\langle 47^- \rangle$
5571	$\langle 29^+ \rangle$		x									
5962	$\langle 31^+ \rangle$		x		x							
6097	$\langle 35^- \rangle$			x								
6336	$\langle 33^+ \rangle$				x	x						
6684	$\langle 35^+ \rangle$					x		x				
6980	$\langle 37^+ \rangle$							x	x			
7016	$\langle 39^- \rangle$						x					
8002	$\langle 43^- \rangle$									x		
9065	$\langle 47^- \rangle$										x	
10219	$\langle 51^- \rangle$											x

Energy levels and branching ratios [98Bl04]. Part 5

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E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		$E_f^*:$ $2J_f^\pi:$	10219 51 ⁽⁻⁾	11470 55 ⁽⁻⁾	12804 59 ⁽⁻⁾	14217 63 ⁽⁻⁾	15722 67 ⁽⁻⁾	17356 71 ⁽⁻⁾
11470	55 ⁽⁻⁾		x					
12804	59 ⁽⁻⁾			x				
14217	63 ⁽⁻⁾				x			
15722	67 ⁽⁻⁾					x		
17356	71 ⁽⁻⁾						x	

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E^* [keV]	$2J^\pi$	Branching ratios in percentage							
		E_f^* : $2J_f^\pi$:	10219 $\langle 51^- \rangle$	11470 $\langle 55^- \rangle$	12804 $\langle 59^- \rangle$	14217 $\langle 63^- \rangle$	15722 $\langle 67^- \rangle$	17356 $\langle 71^- \rangle$	19147 $\langle 75^- \rangle$
19147	$\langle 75^- \rangle$							x	
21107	$\langle 79^- \rangle$								x

Energy levels and branching ratios [02Bl20].

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E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
				E_f^* : J_f^π :	0.0 3^+	27.3 1^+	45.8 $\langle 2^+ \rangle, 4^+$	54.6 3^+	83.5 $\langle 5 \rangle$	83.8 2^+	144.9 2^+
0.0	3^+	3.49(3) m									
27.33(3)	1^+				100						
45.86(2)	$\langle 2^+ \rangle, 4^+$	26(3) ns			100						
54.64(3)	3^+	20.4(9) ns			100						
83.48(3)	$\langle 5 \rangle$						x				
83.84(3)	2^+	<2 ns		98(4)	1.9(10)						
144.95(2)	2^+	<1 ns		2.1(1)				98(4)			
173.81(12)	$\langle 6^+ \rangle$	<2 ns								100	
264.57(3)	4^+			54(3)			0.9(2)	38(2)	7.2(4)		
272.00(3)	1^+	<1 ns				13.9(4)				86(2)	
344.48(2)	3^+	<1 ns		18(4)			67(2)				
492.00(2)	2^+							21.3(7)		11.7(3)	50(2)
495.5(7)	$\langle 8^- \rangle$	219(12) μs	76Va16								
495.5+X											
495.5+Y											
501.63(3)	3^-	<1 ns	76Va16	41(2)			53(2)				6.5(2)
506.88(3)	$\langle 0^+ \rangle$					87(3)					
565.76(3)	4^+			100							
572.65(4)	$\langle 2, 3 \rangle$					95(4)					
641.50(6)	5										
664.80(4)	4^-	<1 ns	76Va16								
664.85(3)	3^+									37(2)	52(4)
691.4(1)	2^+					27(1)		27(1)			
756.21(12)										38(2)	
763.32(5)	$1^+, 2^+$					66(3)			27(1)		4(2)
793.4(3)	$5, 6^+$										
805.88(4)	2^+			4.4(2)	41(1)			8(1)		27(2)	
809.21(7)	3^+			49(2)							
869.85(6)	0^+					50(4)					
871.91(5)	1^+					18(4)					63(2)
893.15(6)	5^-	<1 ns	76Va16								
945.31(20)	$\langle 3, 4 \rangle$									68(3)	12(2)
948.72(20)	$4, 5, 6^+$										
988.7(8)	$\langle 7^- \rangle$										

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E^* [keV]	J^π	$T_{1/2}$ or Ref. Γ_{cm}	Branching ratios in percentage							
			$E_f^*:$ $J_f^\pi:$	0.0 3 ⁺	27.3 1 ⁺	45.8 $\langle 2^+ \rangle, 4^+$	54.6 3 ⁺	83.5 $\langle 5 \rangle$	83.8 2 ⁺	144.9 2 ⁺
990.70(20)	1,2									40(16)
1005.2(5)										100
1017.36(6)	1,2			17(1)	15(1)		13(1)	30(2)		
1055+X										
1080+Y										
1109.13(17)	$\langle 2^+ \rangle$						60(3)		16(1)	
1184.4(5)										
1244.6(8)	$\langle 9^- \rangle$									
1471.77(6)	$\langle 1^+ \rangle$				4					
1562.3(8)	$\langle 8^- \rangle$									
1666.5(3)	10 ⁻									
1670.5(1)	$\langle 1^+ \rangle$									
1680.0(8)	$\langle 10^- \rangle$									
1694+X										
1757.51(5)	$\langle 1^+ \rangle$								28(1)	18(1)
1769.6(8)	$\langle 9^- \rangle$									
1771+Y										
1924.21(5)	$\langle 1^+ \rangle$				32(2)			10.6(3)		1.4(1)
1938.2(8)	$\langle 11^+ \rangle$									
1971.2(5)	$\langle 1^+ \rangle$									
1985.94(8)	$\langle 1^+ \rangle$				13(1)				48(2)	
2072.5	$\langle 8^- \rangle$									
2078.6(8)	$\langle 10^- \rangle$									
2081.2(8)	12									
2139.61(22)	$\langle 1^+ \rangle$									
2188.9(11)	$\langle 9^- \rangle$									
2261.8(8)	$\langle 12^+ \rangle$									
2365.4(11)	$\langle 10^- \rangle$									
2374.4(8)										
2421.6(8)	$\langle 11^- \rangle$									
2505.4(11)	$\langle 11^- \rangle$									
2538.5(8)	$\langle 12^+ \rangle$									
2554+Y										
2681.9(8)	$\langle 12^+, 13^+ \rangle$									
2740.7(11)	$\langle 12^- \rangle$									
2794.1(8)	$\langle 12^- \rangle$									
2933.4(11)	$\langle 13^- \rangle$									
3011.7(8)	$\langle 12-14 \rangle^+$									
3099.9(13)	$\langle 13^+ \rangle$									
3185.2(8)	$\langle 13^- \rangle$									
3195.2(8)										
3256+X										
3256.3(11)	$\langle 14^- \rangle$									
3257.0	$\langle 12-14 \rangle^+$									
3425+Y										

(continued)

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E^*	J^π	$T_{1/2}$ or Ref.	Branching ratios in percentage							
[keV]		Γ_{cm}	$E_{\text{f}}^*:$ $J_{\text{f}}^\pi:$	0.0 3 ⁺	27.3 1 ⁺	45.8 $\langle 2^+ \rangle, 4^+$	54.6 3 ⁺	83.5 $\langle 5 \rangle$	83.8 2 ⁺	144.9 2 ⁺
3533.8(11)	$\langle 15^- \rangle$									
3586.5(8)										
3588.5(13)	$\langle 14^- \rangle$									
3614.8(8)	$\langle 14^- \rangle$									
3696.9(13)	$\langle 15^+ \rangle$									
3889.5(12)	$\langle 16^- \rangle$									
3949.9(13)										
4080.2(8)										
4085.3(5)	$\langle 15^- \rangle$									
4151.6(13)	$\langle 16^+ \rangle$									
4155+X										
4266.3(12)	$\langle 17^- \rangle$									
4371+Y										
4591.9(5)	$\langle 16^- \rangle$									
4659.8(12)	$\langle 18^- \rangle$									
5107.1(5)	$\langle 17^- \rangle$									
5124+X										
5130.0(12)	$\langle 19^- \rangle$									
5390+Y										
5548.7(12)	$\langle 20^- \rangle$									
5613.8(6)	$\langle 18^- \rangle$									
6118.7(12)	$\langle 21^- \rangle$									
6150.9(9)	$\langle 19^- \rangle$									
6171+X										
6491+Y										
6550.0(12)	$\langle 22^- \rangle$									
7221.6(13)	$\langle 23^- \rangle$									
7307+X										
7652.8(13)	$\langle 24^- \rangle$									
7680+Y										
8428.2(13)	$\langle 25^- \rangle$									
8526+X										
8841.3(13)	$\langle 26^- \rangle$									
8957+Y										
9729.6(13)	$\langle 27^- \rangle$									
9806+X										
10105.2(13)	$\langle 28^- \rangle$									
10316+Y										
11119.7(14)	$\langle 29^- \rangle$									
11150+X										
11441.5(14)	$\langle 30^- \rangle$									
11770+Y										
12540+X										
12636+X										
12858.5(14)	$\langle 32^- \rangle$									

(continued)

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E^*	J^π	$T_{1/2}$ or Ref.	Branching ratios in percentage							
[keV]		Γ_{cm}	E_f^* : J_f^π :	0.0 3 ⁺	27.3 1 ⁺	45.8 ⟨2 ⁺ ⟩, 4 ⁺	54.6 3 ⁺	83.5 ⟨5⟩	83.8 2 ⁺	144.9 2 ⁺
13358+Y										
14338+X										
14386.7(14)	⟨34 ⁻ ⟩									
16268+X										

Additional data on this isotope can be found in [96Zi01, 95Ph01, 76Ka19, 76Va16].

Energy levels and branching ratios [02Bl20]. Part 2

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E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	173.8 $\langle 6^+ \rangle$	264.6 4^+	272.0 1^+	344.5 3^+	492.0 2^+	495.5 $\langle 8^- \rangle$	495.5+X	495.5+Y	501.6 3^-	506.9 $\langle 0^+ \rangle$
344.48(2)	3^+			15.2(5)								
492.00(2)	2^+					16.8(8)						
495.5(7)	$\langle 8^- \rangle$	100										
506.88(3)	$\langle 0^+ \rangle$				13.1(6)							
572.65(4)	$\langle 2,3 \rangle$				5.2(8)							
641.50(6)	5			100								
664.80(4)	4^-										100	
664.85(3)	3^+					11.2(4)						
691.4(1)	2^+				6.0(2)	40(1)						
756.21(12)					28(2)		34(2)					
763.32(5)	$1^+, 2^+$											3.5(1)
805.88(4)	2^+				8.2(3)	11.6(2)						
809.21(7)	3^+			35(1)		15.9(10)						
869.85(6)	0^+				50(8)							
871.91(5)	1^+						18.9(5)					
945.31(20)	$\langle 3,4 \rangle$					17(7)	3.7(9)					
948.72(20)	$4, 5, 6^+$			100								
988.7(8)	$\langle 7^- \rangle$							100				
990.70(20)	1,2				43(28)							17.2(6)
1017.36(6)	1,2				24(1)							
1055+X									100			
1080+Y										100		
1109.13(17)	$\langle 2^+ \rangle$											17(1)
1184.4(5)					100							
1244.6(8)	$\langle 9^- \rangle$							100				
1471.77(6)	$\langle 1^+ \rangle$				21(1)		16(1)					
1562.3(8)	$\langle 8^- \rangle$							29.0(32)				
1666.5(3)	10^-							x				
1670.5(1)	$\langle 1^+ \rangle$				52(3)							
1680.0(8)	$\langle 10^- \rangle$							93(9)				
1757.51(5)	$\langle 1^+ \rangle$				14(1)							

(continued)

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E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	173.8 $\langle 6^+ \rangle$	264.6 4^+	272.0 1^+	344.5 3^+	492.0 2^+	495.5 $\langle 8^- \rangle$	495.5+X	495.5+Y	501.6 3^-	506.9 $\langle 0^+ \rangle$
1769.6(8)	$\langle 9^- \rangle$							47(4)				
1924.21(5)	$\langle 1^+ \rangle$				10(1)		4					25(1)
1971.2(5)	$\langle 1^+ \rangle$					100						
1985.94(8)	$\langle 1^+ \rangle$						29(1)					
2072.5	$\langle 8^- \rangle$							x				
2139.61(22)	$\langle 1^+ \rangle$				50(3)							
2188.9(11)	$\langle 9^- \rangle$							9(3)				
2365.4(11)	$\langle 10^- \rangle$							38				

Energy levels and branching ratios [02Bl20]. Part 3

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E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	572.6 $\langle 2,3 \rangle$	664.8 3^+	756.2	763.3 $1^+, 2^+$	805.9 2^+	871.9 1^+	988.7 $\langle 7^- \rangle$	1017.4 $1, 2$	1055+X	1080+Y
893.15(6)	5^-			100								
1109.13(17)	$\langle 2^+ \rangle$				7(1)							
1471.77(6)	$\langle 1^+ \rangle$		6(1)				16(1)	36(2)				
1562.3(8)	$\langle 8^- \rangle$								71(4)			
1670.5(1)	$\langle 1^+ \rangle$		19(1)				3(1)			26(2)		
1694+X											100	
1757.51(5)	$\langle 1^+ \rangle$		29(1)			11(1)						
1771+Y												100
1924.21(5)	$\langle 1^+ \rangle$		3.0(1)			5(1)	2			6		
1985.94(8)	$\langle 1^+ \rangle$									10(1)		
2139.61(22)	$\langle 1^+ \rangle$					50(3)						

Energy levels and branching ratios [02Bl20]. Part 4

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E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	1244.6 $\langle 9^- \rangle$	1471.8 $\langle 1^+ \rangle$	1562.3 $\langle 8^- \rangle$	1666.5 10^-	1680.0 $\langle 10^- \rangle$	1694+X	1769.6 $\langle 9^- \rangle$	1771+Y	1938.2 $\langle 11^+ \rangle$
1666.5(3)	10^-	x									
1680.0(8)	$\langle 10^- \rangle$	7(1)									
1769.6(8)	$\langle 9^- \rangle$				53(13)						
1924.21(5)	$\langle 1^+ \rangle$			0.9(1)							
1938.2(8)	$\langle 11^+ \rangle$					100					
2078.6(8)	$\langle 10^- \rangle$				12.6(3)				87(4)		
2081.2(8)	12						48.0(8)				52(12)
2261.8(8)	$\langle 12^+ \rangle$										100

(continued)

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E^* [keV]	J^π	Branching ratios in percentage								
		$E_f^*:$ $J_f^\pi:$	1244.6 ⟨9 ⁻ ⟩	1471.8 ⟨1 ⁺ ⟩	1562.3 ⟨8 ⁻ ⟩	1666.5 10 ⁻	1680.0 ⟨10 ⁻ ⟩	1694+X	1769.6 ⟨9 ⁻ ⟩	1771+Y 1938.2 ⟨11 ⁺ ⟩
2374.4(8)			100				x			
2421.6(8)	⟨11 ⁻ ⟩								14(2)	
2505.4(11)	⟨11 ⁻ ⟩					6(1)				
2538.5(8)	⟨12 ⁺ ⟩									100
2554+Y										100
2740.7(11)	⟨12 ⁻ ⟩									1
3011.7(8)	⟨12-14 ⁺ ⟩									74(4)
3099.9(13)	⟨13 ⁺ ⟩									100

Energy levels and branching ratios [02Bl20]. Part 5

¹¹⁴Sb₅₁

E^* [keV]	J^π	Branching ratios in percentage								
		$E_f^*:$ $J_f^\pi:$	2072.5 ⟨8 ⁻ ⟩	2078.6 ⟨10 ⁻ ⟩	2081.2 12	2188.9 ⟨9 ⁻ ⟩	2261.8 ⟨12 ⁺ ⟩	2365.4 ⟨10 ⁻ ⟩	2421.6 ⟨11 ⁻ ⟩	2435+X 2505.4 ⟨11 ⁻ ⟩
2188.9(11)	⟨9 ⁻ ⟩		91(9)							
2365.4(11)	⟨10 ⁻ ⟩					62				
2421.6(8)	⟨11 ⁻ ⟩			86(4)						
2505.4(11)	⟨11 ⁻ ⟩				x	9(1)		85(4)		
2740.7(11)	⟨12 ⁻ ⟩				1			49(2)		50(2)
2794.1(8)	⟨12 ⁻ ⟩			26.6(7)					73(13)	
2933.4(11)	⟨13 ⁻ ⟩				5(1)					26(1)
3011.7(8)	⟨12-14 ⁺ ⟩						26(2)			
3185.2(8)	⟨13 ⁻ ⟩								23.5(6)	
3256+X										100
3257.0	⟨12-14 ⁺ ⟩						100			

Energy levels and branching ratios [02Bl20]. Part 6

¹¹⁴Sb₅₁

E^* [keV]	J^π	Branching ratios in percentage								
		$E_f^*:$ $J_f^\pi:$	2538.5 ⟨12 ⁺ ⟩	2554+Y	2740.7 ⟨12 ⁻ ⟩	2794.1 ⟨12 ⁻ ⟩	2933.4 ⟨13 ⁻ ⟩	3099.9 ⟨13 ⁺ ⟩	3185.2 ⟨13 ⁻ ⟩	3256+X 3256.3 ⟨14 ⁻ ⟩
2681.9(8)	⟨12 ⁺ , 13 ⁺ ⟩		100							
2933.4(11)	⟨13 ⁻ ⟩				69(3)					
3185.2(8)	⟨13 ⁻ ⟩					77(6)				
3195.2(8)						100				
3256.3(11)	⟨14 ⁻ ⟩				64(3)		36(2)			
3425+Y				100						
3533.8(11)	⟨15 ⁻ ⟩						45(2)			55(3)
3586.5(8)									100	

(continued)

¹¹⁴Sb
51

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	2538.5 $\langle 12^+ \rangle$	2554+Y	2740.7 $\langle 12^- \rangle$	2794.1 $\langle 12^- \rangle$	2933.4 $\langle 13^- \rangle$	3099.9 $\langle 13^+ \rangle$	3185.2 $\langle 13^- \rangle$	3256+X	3256.3 $\langle 14^- \rangle$
3588.5(13)	$\langle 14^- \rangle$							100			
3614.8(8)	$\langle 14^- \rangle$					50(8)			50(8)		
3696.9(13)	$\langle 15^+ \rangle$							100			
3889.5(12)	$\langle 16^- \rangle$										58(3)
4085.3(5)	$\langle 15^- \rangle$								39(2)		
4155+X										100	

Energy levels and branching ratios [02Bl20]. Part 7

¹¹⁴Sb
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E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	3425+Y	3533.8 $\langle 15^- \rangle$	3614.8 $\langle 14^- \rangle$	3696.9 $\langle 15^+ \rangle$	3889.5 $\langle 16^- \rangle$	4085.3 $\langle 15^- \rangle$	4155+X	4266.3 $\langle 17^- \rangle$	4371+Y	4591.9 $\langle 16^- \rangle$
3889.5(12)	$\langle 16^- \rangle$			42(2)								
3949.9(13)						100						
4080.2(8)					100							
4085.3(5)	$\langle 15^- \rangle$				61(3)							
4151.6(13)	$\langle 16^+ \rangle$					100						
4266.3(12)	$\langle 17^- \rangle$			62(3)			38(2)					
4371+Y		100										
4591.9(5)	$\langle 16^- \rangle$				35(2)			65(3)				
4659.8(12)	$\langle 18^- \rangle$						58(3)			42(2)		
5107.1(5)	$\langle 17^- \rangle$							59(3)				41(2)
5124+X									100			
5130.0(12)	$\langle 19^- \rangle$									100		
5390+Y											100	
5613.8(6)	$\langle 18^- \rangle$											40(2)

Energy levels and branching ratios [02Bl20]. Part 8

¹¹⁴Sb
51

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	4659.8 $\langle 18^- \rangle$	5107.1 $\langle 17^- \rangle$	5124+X	5130.0 $\langle 19^- \rangle$	5390+Y	5548.7 $\langle 20^- \rangle$	5613.8 $\langle 18^- \rangle$	6118.7 $\langle 21^- \rangle$	6171+X	6491+Y
5130.0(12)	$\langle 19^- \rangle$	<4										
5548.7(12)	$\langle 20^- \rangle$	100				<4						
5613.8(6)	$\langle 18^- \rangle$			60(3)								
6118.7(12)	$\langle 21^- \rangle$					100		<4				
6150.9(9)	$\langle 19^- \rangle$			35(2)						65(3)		
6171+X					100							
6491+Y							100					

(continued)

¹¹⁴Sb
51

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* :	4659.8	5107.1	5124+X	5130.0	5390+Y	5548.7	5613.8	6118.7	6171+X	6491+Y
		J_f^π :	(18 ⁻)	(17 ⁻)		(19 ⁻)		(20 ⁻)	(18 ⁻)	(21 ⁻)		
6550.0(12)	(22 ⁻)							100		<4		
7221.6(13)	(23 ⁻)									100		
7307+X											100	
7680+Y												100

Energy levels and branching ratios [02Bl20]. Part 9

¹¹⁴Sb
51

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	6550.0 ⟨22 ⁻ ⟩	7221.6 ⟨23 ⁻ ⟩	7307+X	7652.8 ⟨24 ⁻ ⟩	7680+Y	8428.2 ⟨25 ⁻ ⟩	8526+X	8841.3 ⟨26 ⁻ ⟩	8957+Y	9729.6 ⟨27 ⁻ ⟩
7652.8(13)	⟨24 ⁻ ⟩		100									
8428.2(13)	⟨25 ⁻ ⟩			100								
8526+X					100							
8841.3(13)	⟨26 ⁻ ⟩					100						
8957+Y							100					
9729.6(13)	⟨27 ⁻ ⟩							100				
9806+X									100			
10105.2(13)	⟨28 ⁻ ⟩									100		
10316+Y											100	
11119.7(14)	⟨29 ⁻ ⟩											100

Energy levels and branching ratios [02Bl20]. Part 10

¹¹⁴Sb
51

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	9806+X	10105.2 ⟨28 ⁻ ⟩	10316+Y	11150+X	11441.5 ⟨30 ⁻ ⟩	11770+Y	12636+X	12858.5 ⟨32 ⁻ ⟩	14338+X
11150+X			100								
11441.5(14)	⟨30 ⁻ ⟩			100							
11770+Y					100						
12540+X						100					
12636+X						100					
12858.5(14)	⟨32 ⁻ ⟩						100				
13358+Y								100			
14338+X									100		
14386.7(14)	⟨34 ⁻ ⟩									100	
16268+X											100

Energy levels and branching ratios [99Bl28].

¹¹⁵Sb
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E^*	$2J^\pi$	L	$d\sigma/d\Omega$	σ (τ, d)	C^2S'	C^2S'	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(τ, d)	$\mu b/sr$	$\mu b/sr$	(τ, d)	theor	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5 ⁺	724 7 ⁺	1072 (3) ⁺	1099 7 ⁺	1300 11 ⁻
0.0	5 ⁺	2		750	4.2	6.0	32.1(3) m	77VaZB						
723.583(20)	7 ⁺	4		660	6.8	8.0		77VaZB	100					
770.40(10)	1 ⁺	0		incl	1.0	2.0	4.4(37)·10 ² fs	77VaZB	100					
1071.73(18)	(3) ⁺	2		460	2.3	4.0	93(+21-14) fs	77VaZB	100					
1098.63(3)	7 ⁺			incl			0.58(8) ps	68Co22	100					
1300.21(5)	11 ⁻	5					6.2(3) ns	77VaZB	92(5)	8(2)				
1326.85(4)	9 ⁺						1.2(+2-1) ps		79(9)	18(3)			2.9(3)	
1380.58(3)	9 ⁺						0.97(28) ps		74(2)	23(1)			3.2(3)	
1504.17(16)	(3) ⁺	2					106(6) fs	77VaZB	69(6)	14(4)			17(6)	
1736.21(19)	(5 ⁺)									100				
1755.03(5)	(11) ⁺													
1937.17(14)							0.9(+4-1) ps			100				
2074.39(18)										79(9)				
2092.54(11)	(13) ⁺													
2104.36(18)	(3) ⁺	2						77VaZB	100					
2215.11(19)	(3) ⁺	2						77VaZB	45(7)	26(5)	12(7)	17(7)		
2315.97(12)	(13) ⁻													100
2323.43(5)	(9) ⁺									27(2)			8(1)	7(1)
2389.02(8)	(7) ⁺								2.5(5)	10(1)	1.4(7)	62(4)	8(1)	
2457.58(15)	(15) ⁺													
2516.91(9)	15 ⁻						0.4(+2-1) ps							100
2638.42(9)	15 ⁻						>2.1 ps							81(4)
2659.93(18)	(3) ⁺								5(1)	28(5)			30(8)	
2688.27(16)	(5,7) ⁺								71(9)		10(3)	19(3)		
2709.7(4)	(3) ⁺									28(10)				
2763.8(2)	(1,3) ⁺													
2796.26(9)	(19) ⁻						159(3) ns							
2803.4(3)	(17) ⁻													
2838.40(16)	(17) ⁺													
2960.66(12)	19 ⁻													
3003.64(14)	(21) ⁻													
3098	(19)													
3255.45(19)	(19) ⁺						1.1(+10-5) ps							
3445.47(16)	(23) ⁻													
3541.5	(21) ⁻													
3542.37(16)	23 ⁻													
3544.5(3)	(21) ⁻													
3659.60(17)	(25) ⁺						4.1(2) ns							
3692.63(20)	(21) ⁺													
3792.3(4)	(23) ⁻													
4111.8(5)	(25) ⁻													
4120.0(3)	(23) ⁺													
4262.7(4)	27 ⁻													
4283.0(4)														
4344.6(4)														

$^{115}_{51}\text{Sb}$

Additional data on this isotope can be found in [98Lo09, 95Bu15].
 $C^2S'=(2J+1)C^2S/(2I+1)$ was determined from $\sigma(\tau, d)$ reaction measured at 50° [68Co22].

Energy levels and branching ratios [99Bl28]. Part 2

¹¹⁵Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	1327 9 ⁺	1381 9 ⁺	1504 ⟨3⟩ ⁺	1755.0 ⟨11⟩ ⁺	2074.4	2092.5 ⟨13⟩ ⁺	2104.4 ⟨3⟩ ⁺	2215.1 ⟨3⟩ ⁺	2316.0 ⟨13⟩ ⁻
1755.03(5)	⟨11⟩ ⁺		27(1)	73(2)							
2074.39(18)					21(15)						
2092.54(11)	⟨13⟩ ⁺			12.1(6)		88(4)					
2323.43(5)	⟨9⟩ ⁺		11(1)	19(1)		28(3)					
2389.02(8)	⟨7⟩ ⁺		6(1)			10(1)					
2457.58(15)	⟨15⟩ ⁺					20(2)		80(4)			
2638.42(9)	15 ⁻										19.2(16)
2659.93(18)	⟨3⟩ ⁺				23(8)				14(3)		
2709.7(4)	⟨3⟩ ⁺				72(20)						
2763.8(2)	⟨1,3⟩ ⁺						52(12)			48(8)	
2838.40(16)	⟨17⟩ ⁺							25(5)			

Energy levels and branching ratios [99Bl28]. Part 3

¹¹⁵Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	2457.6 ⟨15⟩ ⁺	2516.9 15 ⁻	2638.4 15 ⁻	2796.3 ⟨19⟩ ⁻	2838.4 ⟨17⟩ ⁺	2960.7 19 ⁻	3003.6 ⟨21⟩ ⁻	3255.4 ⟨19⟩ ⁺	3445.5 ⟨23⟩ ⁻
2796.26(9)	⟨19⟩ ⁻			75(7)	24.8(17)						
2803.4(3)	⟨17⟩ ⁻		100								
2838.40(16)	⟨17⟩ ⁺		75(2)								
2960.66(12)	19 ⁻			100							
3003.64(14)	⟨21⟩ ⁻					100					
3255.45(19)	⟨19⟩ ⁺		32(6)				68(4)				
3445.47(16)	⟨23⟩ ⁻								100		
3542.37(16)	23 ⁻							100			
3544.5(3)	⟨21⟩ ⁻								100		
3659.60(17)	⟨25⟩ ⁺										100
3692.63(20)	⟨21⟩ ⁺						26(1)			74(3)	
4120.0(3)	⟨23⟩ ⁺									100	
4551.13(25)	23 ⁻					100		<50			

Energy levels and branching ratios [99Bl28]. Part 4

¹¹⁵Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	3542.4 23 ⁻	3544.5 ⟨21⟩ ⁻	3659.6 ⟨25⟩ ⁺	3692.6 ⟨21⟩ ⁺	3792.3 ⟨23⟩ ⁻	4111.8 ⟨25⟩ ⁻	4120.0 ⟨23⟩ ⁺	4262.7 27 ⁻	4283.0
3792.3(4)	⟨23⟩ ⁻			100							
4111.8(5)	⟨25⟩ ⁻						100				
4120.0(3)	⟨23⟩ ⁺					x					

(continued)

¹¹⁵Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	3542.4 23 ⁻	3544.5 ⟨21 ⁻ ⟩	3659.6 ⟨25 ⁺ ⟩	3692.6 ⟨21 ⁺ ⟩	3792.3 ⟨23 ⁻ ⟩	4111.8 ⟨25 ⁻ ⟩	4120.0 ⟨23 ⁺ ⟩	4262.7 27 ⁻	4283.0
4262.7(4)	27 ⁻		100								
4283.0(4)					100						
4344.6(4)					100						
4492.3(5)	⟨27 ⁻ ⟩						x	x			
4510.8(3)	⟨25 ⁺ ⟩					17.8(10)			82(4)		
4732.9(4)					100						
4885.4(4)	⟨27 ⁺ ⟩								100		
4900.6(8)	⟨29 ⁻ ⟩							<67			
4985.1(5)											100
5034.8(3)	27 ⁻		61(3)								
5109.6(5)	31 ⁻									100	
5150.1(5)	⟨31 ⁻ ⟩									100	

Energy levels and branching ratios [99Bl28]. Part 5

¹¹⁵Sb
51

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	4344.6	4492.3 ⟨27 ⁻ ⟩	4510.8 ⟨25 ⁺ ⟩	4551.13 23 ⁻	4732.9	4885.4 ⟨27 ⁺ ⟩	4900.6 ⟨29 ⁻ ⟩	5034.8 27 ⁻	5109.6 31 ⁻	5245.0 ⟨29 ⁺ ⟩
4885.4(4)	⟨27 ⁺ ⟩				x							
4900.6(8)	⟨29 ⁻ ⟩			100								
5034.8(3)	27 ⁻					39(2)						
5245.0(4)	⟨29 ⁺ ⟩				13.9(7)			86(4)				
5330.7(4)		100										
5333.1(9)	⟨31 ⁻ ⟩			50					50			
5632.6(4)	31 ⁻									100		
5635.7(4)	⟨31 ⁺ ⟩							12				88
5704.1(5)						100						
5784.5(5)						100						
5793.0(9)	⟨33 ⁻ ⟩								50			
6029.5(4)	⟨33 ⁺ ⟩											25.0(13)
6069.2(6)	⟨35 ⁻ ⟩										100	

Energy levels and branching ratios [99Bl28]. Part 6

¹¹⁵Sb
51

E^* [keV]	$2J^\pi$	Branching ratios in percentage											
		E_f^* : $2J_f^\pi$:	5330.7	5632.6 31 ⁻	5635.7 ⟨31 ⁺ ⟩	6029.5 ⟨33 ⁺ ⟩	6069.2 ⟨35 ⁻ ⟩	6349.0 35 ⁻	6431.7 ⟨35 ⁺ ⟩	7120.8 ⟨39 ⁻ ⟩	7172.3 ⟨39 ⁻ ⟩	8104.5 ⟨43 ⁻ ⟩	9151.1 ⟨47 ⁻ ⟩
5793.0(9)	⟨33 ⁻ ⟩	50											
6029.5(4)	⟨33 ⁺ ⟩				75(4)								

(continued)

¹¹⁵Sb
51

E^*	$2J^\pi$	Branching ratios in percentage											
[keV]	$E_f^*:$ $2J_f^\pi:$	5330.7	5632.6	5635.7	6029.5	6069.2	6349.0	6431.7	7120.8	7172.3	8104.5	9151.1	
6349.0(5)	35^-		100										
6431.7(5)	$\langle 35^+ \rangle$				100								
6885.7(5)	$\langle 37^+ \rangle$				<40			100					
7120.8(7)	$\langle 39^- \rangle$					100							
7172.3(6)	$\langle 39^- \rangle$						100						
8104.5(7)	$\langle 43^- \rangle$									100			
8256.8(12)	$\langle 43^- \rangle$								100				
9151.1(8)	$\langle 47^- \rangle$										100		
10305.9(9)	$\langle 51^- \rangle$											100	

Energy levels and branching ratios [01Bl04].

¹¹⁶Sb
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E^* [keV]	J^π	L	C^2S (τ, d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage						
						$E_f^*:$ $J_f^\pi:$	0.0 3 ⁺	94 1 ⁺	103 2 ⁺	383 8 ⁻	411 4 ⁺	455 3 ⁻
0.0	3 ⁺	2	0.60	15.8(8) m	78Ka12							
93.99(5)	1 ⁺			194(4) ns			100					
103.0(1)	2 ⁺	2	0.60	<1 ns	78Ka12		100					
383(40)	8 ⁻			60.3(6) m								
410.848(19)	4 ⁺			<1 ns	91Ga15		81(3)		19(3)			
455.175(19)	3 ⁻			2.1(3) ns	91Ga15		18(2)		82(3)			
466.071(18)	3 ⁺			<1 ns	91Ga15		11(3)		89(5)			
503.09(4)	5 ⁽⁺⁾			<1 ns			4(3)				96	
518.120(21)	2 ⁻			<1 ns	91Ga15		20(3)	80(3)				
546.34(6)	4 ⁺			<1 ns	91Ga15		100					
550.948(17)	2 ⁺	2	0.15		78Ka12		65(3)	23(3)	12(1)			
574.56(3)	2 ⁺			<1 ns	91Ga15		8(1)	75(4)	8(1)			
612.81(3)	4 ⁻			<1 ns	91Ga15		7.4(5)					93
654.32(5)	3 ⁺	4+2	0.37,0.02	<1 ns	78Ka12		12(2)		88(9)			
681.68(15)	6 ⁻									100		
731.721(22)	1 ⁺	2+0	0.19,0.03	<1 ns	78Ka12			17(2)	69(7)			
735.42(3)	4 ⁺				91Ga15		100					
809.18(14)	7 ⁻									100		
815.10(3)	3 ⁺	2	0.03,0.04		78Ka12		21(4)		51		28(2)	
820.89(4)	5 ⁻			<1 ns	91Ga15							30
841.12(5)	⟨6 ⁺ ⟩			<1 ns	91Ga15							
881.6(4)	3 ⁺	4	0.37		78Ka12							
917.820(25)	1 ⁺	0	0.40		78Ka12		36(4)	28(3)				
948.28(4)	4 ⁺	4	0.62		78Ka12		36				16(5)	
998.02(21)	⟨3 ⁻ ,4 ⁻ ⟩											
1032(5)	0 ⁺ ,1 ⁺	0			78Ka12							
1037.7(5)	⟨4 ⁺ ,5 ⁺ ⟩										25	

(continued)

¹¹⁶Sb
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E^*	J^π	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage						
[keV]			(τ, d)	Γ_{cm}		$E_f^*:$ $J_f^\pi:$	0.0 3 ⁺	94 1 ⁺	103 2 ⁺	383 8 ⁻	411 4 ⁺	455 3 ⁻
1045.37(3)	$\langle 4 \rangle^-$				91Ga15							67
1065.31(5)	$\langle 5 \rangle^+$											
1076.76(5)	$\langle 5, 3 \rangle^+$				91Ga15							
1087.52(5)	$4^+ - 2^+$				91Ga15		49(5)					
1096.07(11)	$\langle 2 - 4 \rangle$											
1122.3(10)	$1^+ - 5^+$						100					
1127.42(11)	$\langle 2 \rangle$				91Ga15							
1135.50(18)	9^-									100		
1138.84(7)	4^+				91Ga15		71					
1155.31(15)	$\langle 6, 7 \rangle^-$											
1158.42(12)	1^+							23	67			
1158.79(15)	7^+			10.6(7) ns						58(2)		
1164.09(13)		2	0.53, 0.97		78Ka12							
1200.0(10)												
1208.2(7)	$\langle 4^-, 5^- \rangle$											
1212.1(5)	$\langle 4, 3 \rangle^+$						27(5)				17(4)	
1223.31(8)	$3, 2$				91Ga15			28(3)				
1226.12(8)												
1267.82(15)	$\langle 6, 7 \rangle^-$											
1289.1(3)	6^-									25(2)		
1307.39(25)	$\langle 6 - 8 \rangle^-$											
1312.3(10)	$X^{\langle - \rangle}$											
1336.58(10)	$2, 3$				91Ga15							
1351.38(14)	7^-			1.0 ns						53		
1385.82(11)	$1, 2, 3$				91Ga15							
1386.72(11)	$\langle 4 - 6 \rangle^+$											
1407.88(11)	$\langle 3, 4 \rangle$				91Ga15							100
1425.55(9)	$\langle 1 - 3 \rangle$											
1436.2(10)												
1451.15(16)	8^-									7(3)		
1473.05(15)	$\langle 5 - 9 \rangle^-$											
1481.08(11)	$\langle 1 - 4 \rangle$											100
1483.31(11)	$\langle 2 - 5 \rangle^-$											
1505.00(7)	$\langle 6 - 8 \rangle^-$											
1570(1)	$\langle 8^+ \rangle$											
1626.03(16)	$\langle 8^+ \rangle$											
1658.15(16)												
1666.4(4)	9^-									7(2)		
1684.99(17)												
1703.78(18)												
1782.11(18)	11^+			4.0(1) ns						87		
1885(5)												
1949(1)	$\langle 9^+ \rangle$											
1961(6)	$\langle 9^+ \rangle$											
1983.6(4)	10^-											

(continued)

¹¹⁶Sb
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E^* [keV]	J^π	L	C^2S (τ, d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage						
						E_f^* : J_f^π :	0.0 3 ⁺	94 1 ⁺	103 2 ⁺	383 8 ⁻	411 4 ⁺	455 3 ⁻
2314(1)	$\langle 10^+ \rangle$											
2335.9(4)	11 ⁻											
2365(1)	$\langle 10^+ \rangle$											
2384.3(5)												
2688	$\langle 11^+ \rangle$											
2718.3(4)	12 ⁻											
2788(1)	$\langle 11^+ \rangle$											
2966.2(3)	13 ⁺											
3005.2(5)												
3129.0(5)	13 ⁻											
3207.0(4)	14 ⁺			1.3 ns								
3433.3(4)	15 ⁺											
3572.9(5)	14 ⁻											
3940.3(5)												
4030.7(4)												
4245.6(5)												
			78Ka12		Ref.							

Additional data on this isotope can be found in [97Fa18, 95Ph01, 91Ga16, 91Ga15, 76Va16].

Proposed high spin level scheme based on the 60-min 8⁻ isomeric state is given in [91Ga16].

Energy levels and branching ratios [01Bl04]. Part 2

¹¹⁶Sb
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E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	466 3 ⁺	503 5 ⁽⁺⁾	518 2 ⁻	546 4 ⁺	551 2 ⁺	574.56 2 ⁺	612.81 4 ⁻	654.32 3 ⁺	681.68 6 ⁻	731.721 1 ⁺
574.56(3)	2 ⁺		10(2)									
731.721(22)	1 ⁺						5(1)	10(1)				
820.89(4)	5 ⁻								70			
841.12(5)	$\langle 6^+ \rangle$			100								
917.820(25)	1 ⁺						36(4)					
948.28(4)	4 ⁺					20(4)				29(7)		
998.02(21)	$\langle 3^-, 4^- \rangle$				100							
1037.7(5)	$\langle 4^+, 5^+ \rangle$			25(5)		25(10)						
1045.37(3)	$\langle 4^- \rangle$								33(3)			
1065.31(5)	$\langle 5^+ \rangle$			42(3)								
1087.52(5)	4 ⁺ -2 ⁺		51									
1096.07(11)	$\langle 2-4 \rangle$		100									
1127.42(11)	$\langle 2 \rangle$											100
1138.84(7)	4 ⁺		9(2)							20(4)		
1155.31(15)	$\langle 6, 7 \rangle^-$										82	
1158.42(12)	1 ⁺						9					
1164.09(13)											100	

(continued)

¹¹⁶Sb
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E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	466 3 ⁺	503 5 ⁽⁺⁾	518 2 ⁻	546 4 ⁺	551 2 ⁺	574.56 2 ⁺	612.81 4 ⁻	654.32 3 ⁺	681.68 6 ⁻	731.721 1 ⁺
1208.2(7)	$\langle 4^-, 5^- \rangle$								x			
1212.1(5)	$\langle 4, 3 \rangle^+$					18(3)						
1223.31(8)	3,2				72							
1226.12(8)										100		
1267.82(15)	$\langle 6, 7 \rangle^-$										21(8)	
1336.58(10)	2,3						50	50				
1351.38(14)	7 ⁻										16(2)	
1385.82(11)	1,2,3				100							
1425.55(9)	$\langle 1-3 \rangle$				12(3)		88					
1436.2(10)									100			
1483.31(11)	$\langle 2-5 \rangle^-$								100			
1658.15(16)											100	
1703.78(18)											100	

Energy levels and branching ratios [01Bl04]. Part 3

¹¹⁶Sb
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E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	735.42 4 ⁺	809.18 7 ⁻	820.89 5 ⁻	841.12 $\langle 6^+ \rangle$	1065.31 $\langle 5 \rangle^+$	1135.50 9 ⁻	1158.79 7 ⁺	1351.38 7 ⁻	1451.15 8 ⁻	1570 $\langle 8^+ \rangle$
1037.7(5)	$\langle 4^+, 5^+ \rangle$		25(18)									
1065.31(5)	$\langle 5 \rangle^+$					58						
1076.76(5)	$\langle 5, 3 \rangle^+$		100									
1155.31(15)	$\langle 6, 7 \rangle^-$			18(4)								
1158.79(15)	7 ⁺			42(2)								
1200.0(10)					100							
1208.2(7)	$\langle 4^-, 5^- \rangle$				x							
1212.1(5)	$\langle 4, 3 \rangle^+$		38									
1267.82(15)	$\langle 6, 7 \rangle^-$			79								
1289.1(3)	6 ⁻			75(8)								
1307.39(25)	$\langle 6-8 \rangle^-$			100								
1312.3(10)	X ⁽⁻⁾				100							
1351.38(14)	7 ⁻			12(2)					19(2)			
1386.72(11)	$\langle 4-6 \rangle^+$					0						
1451.15(16)	8 ⁻			10(3)						83(8)		
1473.05(15)	$\langle 5-9 \rangle^-$			100								
1505.00(7)	$\langle 6-8 \rangle^-$				100							
1570(1)	$\langle 8^+ \rangle$								100			
1626.03(16)	$\langle 8^+ \rangle$								75	25(5)		
1666.4(4)	9 ⁻										93(7)	
1684.99(17)				100								
1782.11(18)	11 ⁺							13(2)				
1961(6)	$\langle 9^+ \rangle$								23			77

(continued)

 **^{116}Sb
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E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	735.42 4 ⁺	809.18 7 [−]	820.89 5 [−]	841.12 6 ⁺	1065.31 5 ⁺	1135.50 9 [−]	1158.79 7 ⁺	1351.38 7 [−]	1451.15 8 [−]	1570 8 ⁺
1983.6(4)	10 [−]										7.8(9)	
2365(1)	10 ⁺											30(7)
2384.3(5)								100				

Energy levels and branching ratios [01Bl04]. Part 4

 **^{116}Sb
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E^*	J^π	Branching ratios in percentage										
[keV]		$E_f^*:$ $J_f^\pi:$	1626.03 $\langle 8^+ \rangle$	1666.4 9^-	1782.11 11^+	1949 $\langle 9^+ \rangle$	1961 $\langle 9^+ \rangle$	1983.6 10^-	2314 $\langle 10^+ \rangle$	2335.9 11^-	2365 $\langle 10^+ \rangle$	2718.3 12^-
1885(5)					100							
1949(1)	$\langle 9^+ \rangle$		100									
1983.6(4)	10^-			92								
2314(1)	$\langle 10^+ \rangle$		≤ 25			100						
2335.9(4)	11^-			26(7)				74				
2365(1)	$\langle 10^+ \rangle$					70(16)						
2688	$\langle 11^+ \rangle$								100			
2718.3(4)	12^-							46(5)		54(5)		
2788(1)	$\langle 11^+ \rangle$					33(13)					67(17)	
2966.2(3)	13^+				100							
3005.2(5)								100				
3129.0(5)	13^-									32(3)		68(7)
3572.9(5)	14^-											38(6)

Energy levels and branching ratios [01Bl04]. Part 5

 **^{116}Sb
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E^*	J^π	Branching ratios in percentage				
[keV]		E_f^* : J_f^π :	2966.2 13 ⁺	3129.0 13 [−]	3207.0 14 ⁺	3433.3 15 ⁺
3207.0(4)	14 ⁺		100			
3433.3(4)	15 ⁺		77(8)		23(2)	
3572.9(5)	14 [−]			62(6)		
3940.3(5)						100
4030.7(4)						100
4245.6(5)						100

Energy levels and branching ratios [02B110].

¹¹⁷Sb
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E^*	$2J^\pi$	L	S_N	L	C^2S'	σ (τ ,d)	L	C^2S	C^2S'	σ (τ ,d)	C^2S	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,n)		(τ ,d)	μ b/sr	(τ ,d)	(τ ,d)	(τ ,d)	μ b/sr	(α ,t)	(¹⁶ O, ¹⁵ N)	Γ_{cm}		
0.0	5 ⁺	2	1.5	2	4.2	680	2	0.70	5.42(32)*	5100		2	0.70**	2.80(1) h	77Le17
527.31(8)	7 ⁺	4		4	6.5	110	4	0.76	5.6(6)	540	0.64	4	0.90		77Le17
719.7(5)	1 ⁺	0	1.0	0	1.2	520	0	0.49	1.02(8)	2400		0	0.37		67Fu06
923.9(6)	3 ⁺	2	0.65	2	1.7	250	2	0.42	1.66(13)	1950	0.35	2	0.38	118(+70-35) fs	67Fu06
1089.3(1)	7 ⁺													1.5(+15-6)·10 ² fs	
1160.1(1)	9 ⁺													>2 ps	
1310.6(1)	9 ⁺													>50 fs	
1322.9(1)	11 ⁻			5	6.3	400	5	0.57	11(2)	540	0.42			3.8(2) ns	72St19
1354(1)	$\langle 1,3 \rangle$					incl									
1378.8(8)						incl								1.5(+15-6)·10 ² fs	
1380(10)	3 ⁺ ,5 ⁺			2	0.9	incl	2		0.86(10)	1100					72St19
1396.0(2)						incl									
1454(1)	1 ⁺ -5 ⁺					incl									
1471.7(8)						incl								≥ 367 fs	
1487.6(2)	9 ⁺													0.8(3) ps	
1534.6(1)	11 ⁺														
1536.5(2)	$\langle 9^+ \rangle$													≥ 243 fs	
1623.9(12)	3													≥ 132 fs	
1710.6(2)	11 ⁺													1.4(+4-3) ps	
1716.4(6)	1 ⁺ ,3 ⁺													32(+7-6) fs	
1751.9(6)														2.4(+31-9)·10 ² fs	
1761.2(1)	9 ⁺														
1810.5(7)	1 ⁺ ,3 ⁺														
1871.5(1)	13 ⁺										0.14				85Ga01
2033.3(2)	$\langle 11^+ \rangle$										0.03				85Ga01
2040.0(2)	11 ⁺													1.4(+14-3) ps	
2085.2(10)											0.06			66(+30-18) fs	85Ga01
2187.4(1)	13 ⁺										0.16			0.7(+4-2) ps	85Ga01
2213.0(15)	3 ⁺ ,5 ⁺			2	1.0		2		1.05(11)	1600					72St19
2228.4(3)														≈ 0.5 ps	
2237.5(1)	15 ⁺														
2242.0(2)	$\langle 13^+ \rangle$														
2284.8(7)	1 ⁺			0	0.36		0		0.36(3)	1200					72St19
2300.1(7)	1 ⁺ ,3 ⁺													14(+10-8) fs	
2323.1(1)	15 ⁻										0.01			>2 ps	85Ga01
2355.6(3)	13 ⁺														
2410(30)	1 ⁺			0	0.2		0		0.21(2)	720	0.05				72St19
2412.6(2)	15 ⁻														
2520(30)				2	0.3		2		0.29(4)	480	0.06				72St19
				+4	+1.0		+4		1.0(3)	140					67Is02
2525.3(2)	17 ⁻														
2526.8(2)	15 ⁺														
2610(30)				0	0.04		0		0.04(1)	130	0.05				72St19
				+2	+0.4		+2		0.36(7)	600					67Is02
2624.60(14)	17 ⁺													≈ 1 ps	

(continued)

¹¹⁷Sb
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E^*	$2J^\pi$	L	S_N	L	C^2S'	σ (τ, d)	L	C^2S	C^2S'	σ (τ, d)	C^2S	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,n)		(τ, d)	$\mu b/sr$	(τ, d)	(τ, d)	(τ, d)	$\mu b/sr$	(α, t)	($^{16}O, ^{15}N$)	Γ_{cm}		
2760(30)	X ⁺			0	0.03		0		0.03(1)	130	0.03				72St19
				+2	+0.4		+2		0.35(7)	600					
2778.65(25)	17 ⁺													>1.4 ps	
2780.15(18)	19 ⁻													0.50(15) ns	
2841.76(16)	17 ⁻													1.1(+4-3) ps	
2845.50(20)	19 ⁻														
2875.10(14)	19 ⁻													<0.2 ns	
3057.65(21)	19 ⁺														
3060.5(4)															
3072.64(17)	$\langle 21 \rangle^-$													<0.1 ns	
3098.4(3)															
3130.76(19)	$\langle 25 \rangle^+$													355(17) μs	
3173.9(3)															
3214.13(15)	19 ⁻													>1.4 ps	
3230.1(2)	19 ⁺														
3230.7(2)	$\langle 23^- \rangle$													290(5) ns	
3416.0(3)	$\langle 23^- \rangle$													1.1(3) ps	
3437.7(3)	$\langle 25^- \rangle$														
3485.9(4)	$\langle 21^+ \rangle$														
3495.1(4)															
3501.9(3)															
3522.66(21)	$\langle 21^+ \rangle$														
3741.1(5)	$\langle 27^- \rangle$														
3836.8(4)															
4001.49(23)	$\langle 23^+ \rangle$														
4029.6(4)	23 ⁺														
4076.6(4)															
4106.6(4)	$\langle 29^- \rangle$														
4116.2(4)	$\langle 27^- \rangle$														
4296.6(4)	$\langle 25^+ \rangle$														
4424.83(25)	$\langle 25^+ \rangle$														
4509.4(4)	$\langle 31^- \rangle$														
4555.32(25)	$\langle 25^+ \rangle$														
4679.1(5)															
4749.3(4)															
4759.0(4)	27 ⁺														
4901.8(4)	27 ⁺														
4929.2(4)	$\langle 31^- \rangle$														
4937.1(4)	$\langle 33^- \rangle$														
5027.9(3)	$\langle 27^+ \rangle$														
5170.2(4)															
5172.4(4)	$\langle 29^+ \rangle$														
5182.8(5)	$\langle 29^+ \rangle$														
5394.2(4)	$\langle 35^- \rangle$														
5572.1(5)	$\langle 31^+ \rangle$														

(continued)

¹¹⁷Sb
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E^*	$2J^\pi$	L	S_N	L	C^2S'	σ (τ ,d)	L	C^2S	C^2S'	σ (τ ,d)	C^2S	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,n)		(τ ,d)	μ b/sr	(τ ,d)	(τ ,d)	(τ ,d)	μ b/sr	(α ,t)		($^{16}\text{O}, ^{15}\text{N}$)	Γ_{cm}	
5823.7(5)	$\langle 31^+ \rangle$														
5837.2(5)	$\langle 35^- \rangle$														
5882.8(4)	$\langle 37^- \rangle$														
6009.2(5)	$\langle 33^+ \rangle$														
6121.4(5)	$\langle 33^+ \rangle$														
6403.6(4)	$\langle 39^- \rangle$														
6762.4(5)	$\langle 35^+ \rangle$														
6829.3(5)	$\langle 39^- \rangle$														
6950.9(4)	$\langle 41^- \rangle$														
7116.8(5)	$\langle 37^+ \rangle$														
7905.8(6)	$\langle 43^- \rangle$														
8184.6(6)	$\langle 41^+ \rangle$														
11280(10)	1^+														
11430(10)	3^+														
≈ 11500	$\langle 11^- \rangle$														
12290(15)	$\langle 5 \rangle^+$														
12455(15)	5^+														
12587(15)	$\langle 7^- \rangle$														
					72St19				67Is02						Ref.
		67Fu06			68Co22	68Co22		78Ka12		67Is02	85Ga01		77Le17		Ref.

(continued)

¹¹⁷Sb
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E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*:$ $2J_f^\pi:$	0.0 5 ⁺	527 7 ⁺	720 1 ⁺	924 3 ⁺	1089 7 ⁺	1160 9 ⁺	1311 9 ⁺	1323 11 ⁻	1354.4 ⟨1,3⟩	1454.2
1454(1)	1 ⁺ -5 ⁺		100									
1487.6(2)	9 ⁺			100								
1534.6(1)	11 ⁺							100				
1536.5(2)	⟨9 ⁺ ⟩		12.0(9)	83(2)			5(1)					
1623.9(12)	3					x						
1710.6(2)	11 ⁺			100								
1716.4(6)	1 ⁺ ,3 ⁺		80(8)		20(2)							
1751.9(6)		x			x		x					
1761.2(1)	9 ⁺		21(1)	<79			79(2)					
1810.5(7)	1 ⁺ ,3 ⁺				82(8)	18(2)						
1871.5(1)	13 ⁺							19(2)				
2033.3(2)	⟨11 ⁺ ⟩						100					
2040.0(2)	11 ⁺			44(2)								
2085.2(10)				x								
2187.4(1)	13 ⁺							4.9(2)				
2213.0(15)	3 ⁺ ,5 ⁺		100									
2228.4(3)								100				
2284.8(7)	1 ⁺		12(4)		31(4)	14(4)					6(4)	16(4)
2300.1(7)	1 ⁺ ,3 ⁺		98(10)		2(1)							
2323.1(1)	15 ⁻									100		
2355.6(3)	13 ⁺							100				
2412.6(2)	15 ⁻									100		

Energy levels and branching ratios [02B110]. Part 3

¹¹⁷Sb
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E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	1487.6 9 ⁺	1534.6 11 ⁺	1710.6 11 ⁺	1716.4 1 ⁺ ,3 ⁺	1761.2 9 ⁺	1871.5 13 ⁺	2040.0 11 ⁺	2187.4 13 ⁺	2237.5 15 ⁺	2323.1 15 ⁻
1871.5(1)	13 ⁺			81(2)								
2040.0(2)	11 ⁺	56(5)										
2187.4(1)	13 ⁺	x			<2		95					
2237.5(1)	15 ⁺			25.6(4)				74(1)				
2242.0(2)	⟨13 ⁺ ⟩						100					
2284.8(7)	1 ⁺					20(4)						
2525.3(2)	17 ⁻											100
2526.8(2)	15 ⁺				100				<50			
2624.60(14)	17 ⁺							26.4(4)			74(1)	
2778.65(25)	17 ⁺									100		
2780.15(18)	19 ⁻											33(1)
2841.76(16)	17 ⁻										39(1)	49(1)
2845.50(20)	19 ⁻											8(5)
2875.10(14)	19 ⁻											42(4)

(continued)

 $^{117}_{51}\text{Sb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1487.6 9 ⁺	1534.6 11 ⁺	1710.6 11 ⁺	1716.4 1 ⁺ ,3 ⁺	1761.2 9 ⁺	1871.5 13 ⁺	2040.0 11 ⁺	2187.4 13 ⁺	2237.5 15 ⁺	2323.1 15 ⁻
3057.65(21)	19 ⁺										29(7)	
3214.13(15)	19 ⁻											22(1)

Energy levels and branching ratios [02B110]. Part 4

 $^{117}_{51}\text{Sb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2355.6 13 ⁺	2412.6 15 ⁻	2525.3 17 ⁻	2526.8 15 ⁺	2624.6 17 ⁺	2778.6 17 ⁺	2780.1 19 ⁻	2841.8 17 ⁻	2845.5 19 ⁻	2875.1 19 ⁻
2780.15(18)	19 ⁻				67(1)							
2841.76(16)	17 ⁻				11(1)							
2845.50(20)	19 ⁻			92(9)								
2875.10(14)	19 ⁻			18.6(4)	23(2)		17(2)					
3057.65(21)	19 ⁺						71(7)					
3060.5(4)		100										
3072.64(17)	$\langle 21 \rangle^-$				42(7)				15.1(7)			43(3)
3098.4(3)									100			
3173.9(3)									100			
3214.13(15)	19 ⁻			1.3(2)			36(2)		8	32(1)		
3230.1(2)	19 ⁺					100						
3416.0(3)	$\langle 23^- \rangle$										100	
3485.9(4)	$\langle 21^+ \rangle$							100				
3522.66(21)	$\langle 21^+ \rangle$						40(10)					

Energy levels and branching ratios [02B110]. Part 5

 $^{117}_{51}\text{Sb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3057.6 19 ⁺	3060.5	3072.6 $\langle 21 \rangle^-$	3098.4	3130.8 $\langle 25 \rangle^+$	3214.1 19 ⁻	3230.1 19 ⁺	3416.0 $\langle 23^- \rangle$	3437.7 $\langle 25^- \rangle$	3485.9 $\langle 21^+ \rangle$
3130.76(19)	$\langle 25 \rangle^+$				100							
3214.13(15)	19 ⁻				0.7(2)							
3230.7(2)	$\langle 23^- \rangle$						91(27)	9.1(4)				
3437.7(3)	$\langle 25^- \rangle$								100			
3495.1(4)						100						
3501.9(3)					100							
3522.66(21)	$\langle 21^+ \rangle$	60										
3741.1(5)	$\langle 27^- \rangle$								<25		100	
3836.8(4)				100								
4001.49(23)	$\langle 23^+ \rangle$	43(14)										
4029.6(4)	23 ⁺								100			

(continued)

¹¹⁷Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3057.6 19 ⁺	3060.5	3072.6 ⟨21⟩ ⁻	3098.4	3130.8 ⟨25⟩ ⁺	3214.1 19 ⁻	3230.1 19 ⁺	3416.0 ⟨23⟩ ⁻	3437.7 ⟨25⟩ ⁻	3485.9 ⟨21⟩ ⁺
4106.6(4)	⟨29⟩ ⁻										<29	
4116.2(4)	⟨27⟩ ⁻									100		
4296.6(4)	⟨25⟩ ⁺											100

Energy levels and branching ratios [02B110]. Part 6

¹¹⁷Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3501.9	3522.7 ⟨21⟩ ⁺	3741.1 ⟨27⟩ ⁻	3836.8	4001.5 ⟨23⟩ ⁺	4029.6 23 ⁺	4076.6	4106.6 ⟨29⟩ ⁻	4116.2 ⟨27⟩ ⁻	4296.6 ⟨25⟩ ⁺
4001.49(23)	⟨23⟩ ⁺			57(14)								
4076.6(4)		100										
4106.6(4)	⟨29⟩ ⁻				100							
4424.83(25)	⟨25⟩ ⁺			40(20)			60(20)					
4509.4(4)	⟨31⟩ ⁻				40(20)					60(20)		
4555.32(25)	⟨25⟩ ⁺			50			50					
4679.1(5)						100						
4901.8(4)	27 ⁺							100				
4929.2(4)	⟨31⟩ ⁻										100	
4937.1(4)	⟨33⟩ ⁻									<100		
5027.9(3)	⟨27⟩ ⁺						50					
5170.2(4)									100			
5182.8(5)	⟨29⟩ ⁺											100

Energy levels and branching ratios [02B110]. Part 7

¹¹⁷Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	4424.8 ⟨25⟩ ⁺	4509.4 ⟨31⟩ ⁻	4555.3 ⟨25⟩ ⁺	4759.0 27 ⁺	4901.8 27 ⁺	4929.2 ⟨31⟩ ⁻	4937.1 ⟨33⟩ ⁻	5172.4 ⟨29⟩ ⁺	5182.8 ⟨29⟩ ⁺	5394.2 ⟨35⟩ ⁻
4749.3(4)				100								
4759.0(4)	27 ⁺	100										
4937.1(4)	⟨33⟩ ⁻			100								
5027.9(3)	⟨27⟩ ⁺				50							
5172.4(4)	⟨29⟩ ⁺					100						
5394.2(4)	⟨35⟩ ⁻			50					50			
5572.1(5)	⟨31⟩ ⁺									100		
5823.7(5)	⟨31⟩ ⁺						100					
5837.2(5)	⟨35⟩ ⁻							100				
5882.8(4)	⟨37⟩ ⁻								50			50

(continued)

 **^{117}Sb
 $_{51}$**

E^*	$2J^\pi$	Branching ratios in percentage										
		E_f^* :	4424.8	4509.4	4555.3	4759.0	4901.8	4929.2	4937.1	5172.4	5182.8	5394.2
[keV]		$2J_f^\pi$:	$\langle 25^+ \rangle$	$\langle 31^- \rangle$	$\langle 25^+ \rangle$	27^+	27^+	$\langle 31^- \rangle$	$\langle 33^- \rangle$	$\langle 29^+ \rangle$	$\langle 29^+ \rangle$	$\langle 35^- \rangle$
6121.4(5)	$\langle 33^+ \rangle$										100	
6403.6(4)	$\langle 39^- \rangle$											50

Energy levels and branching ratios [02B110]. Part 8

 **^{117}Sb
 $_{51}$**

E^*	$2J^\pi$	Branching ratios in percentage								
[keV]	E_f^* : $2J_f^\pi$:	5572.1 $\langle 31^+ \rangle$	5823.7 $\langle 31^+ \rangle$	5837.2 $\langle 35^- \rangle$	5882.8 $\langle 37^- \rangle$	6121.4 $\langle 33^+ \rangle$	6403.6 $\langle 39^- \rangle$	6829.3 $\langle 39^- \rangle$	7116.8 $\langle 37^+ \rangle$	
6009.2(5)	$\langle 33^+ \rangle$	100								
6403.6(4)	$\langle 39^- \rangle$				50					
6762.4(5)	$\langle 35^+ \rangle$		100							
6829.3(5)	$\langle 39^- \rangle$			100						
6950.9(4)	$\langle 41^- \rangle$				50		50			
7116.8(5)	$\langle 37^+ \rangle$					100				
7905.8(6)	$\langle 43^- \rangle$							100		
8184.6(6)	$\langle 41^+ \rangle$								100	

Energy levels and branching ratios [95Ki07].

 **^{118}Sb
 $_{51}$**

E^* [keV]	J^π	E_{anal}^* [keV]	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					E_f^* : J_f^π :	0.0 1^+	31.3 $\langle 2 \rangle$	50.8 $\langle 3 \rangle^+$	82.1 $\langle 4 \rangle^+$	166.2 $\langle 2 \rangle^+$	250 8^-	269.8 $\langle 3 \rangle^-$
0.0	1^+		3.6(1) m									
31.26(4)	$\langle 2 \rangle$		<15 ns			100						
50.81(2)	$\langle 3 \rangle^+$		20.6(6) μs			100						
82.07(6)	$\langle 4 \rangle^+$							x				
118(10)												
166.17(2)	$\langle 2 \rangle^+$							100				
238(10)												
250(6)	8^-		5.00(2) h									
269.82(3)	$\langle 3 \rangle^-$		13.3(2) ns				90(5)		5.0(5)	5.2(1)		
282(10)												
324.32(2)	2^+					69(1)		29(4)		2.7(2)		
324.65(4)	$\langle 4 \rangle^+$							100				
370(10)												
398.20(4)	$\langle 4 \rangle^-$											100
403.50(3)	$\langle 3 \rangle^+$							12.2(11)		88(11)		
511.0(3)											100	
540.59(3)	3^+					5(1)				67(1)		

(continued)

¹¹⁸Sb
₅₁

E^*	J^π	E_{anal}^*	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		[keV]	Γ_{cm}		$E_f^*:$ $J_f^\pi:$	0.0 1^+	31.3 $\langle 2 \rangle$	50.8 $\langle 3 \rangle^+$	82.1 $\langle 4 \rangle^+$	166.2 $\langle 2 \rangle^+$	250 8^-	269.8 $\langle 3 \rangle^-$
557.32(4)	$\langle 3,4 \rangle$							69(7)				
568.23(3)	$\langle 6,7,8 \rangle^-$										100	
569.90(6)	$\langle 4,5 \rangle^-$											6(3)
606.32(10)												
618.74(3)	$\langle 3,4,5 \rangle^+$							61(2)				
622.22(2)	$1^+, 2^+$					13(1)		20(1)		61(1)		
628.05(6)	$\langle 5^+ \rangle$							<10				
629.04(3)	$\langle 3 \rangle^+$							7(1)		57(2)		
637.57(4)	$\langle 3,4,5 \rangle^-$											100
682.99(4)	$\langle 3,4,5 \rangle^-$											91(4)
712(10)												
741.24(3)	$\langle 2,3 \rangle^+$							67(2)		17(1)		
760.43(4)												
788.32(4)	$\langle 2,3 \rangle^+$					16(12)		60(1)				10(3)
808.30(11)												
821.15(4)	$\langle 2-5 \rangle^-$											7(2)
821.66(4)	$\langle 6^-, 7, 8 \rangle$										15(2)	
833.74(4)	$\langle 2,3 \rangle^-$											100
837.35(21)	$\langle 6^+ \rangle$											
852.40(6)	$\langle 3,4,5 \rangle^+$											
863.40(3)	$\langle 1,2,3 \rangle^+$					22(4)				72(2)		
873.50(12)												
890.15(7)												
926.48(4)	$7, 8, 9^-$										79(4)	
930.36(11)												
939.01(5)	$\langle 3,4,5 \rangle^+$											
940.11(5)	$\langle 0,2,3 \rangle^+$					30(2)				20(2)		
947.85(24)												
964.88(4)	$\langle 7 \rangle^+$		22.6(3) ns								22(2)	
985.39(13)												100
998.63(6)	$7, 8, 9^-$										89(4)	
998.70(4)	X^+									57(2)		
1016.95(8)	X^-											100
1019.33(4)	0^+-2^+					52(2)						
1024.03(6)								30(3)				
1044.32(2)	$\langle 2,3 \rangle^+$					30(11)			14(2)	13(4)		
1072.97(6)	X^-											100
1081.3(1)	$X^{(+)}$											
1093.7(1)												
1096.12(4)	1^+-2^+					20(2)						
1113.5(1)												
1117.42(2)	$\langle 1-3 \rangle^+$					19(2)						14(1)
1124.45(6)												100
1131.35(5)	0^+-2^+					60(5)						
1142.50(8)												

(continued)

¹¹⁸Sb
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E^*	J^π	E_{anal}^*	$T_{1/2}$ or Ref.	Branching ratios in percentage							
[keV]		[keV]	Γ_{cm}	$E_f^*:$ $J_f^\pi:$	0.0 1 ⁺	31.3 ⟨2⟩	50.8 ⟨3⟩ ⁺	82.1 ⟨4⟩ ⁺	166.2 ⟨2⟩ ⁺	250 8 ⁻	269.8 ⟨3⟩ ⁻
1147.70(4)											
1150											
1152.80(10)											
1153.61(6)					42(3)						
1160.48(5)	X ⁺								80(3)		
1164.55(8)											
1168.38(10)											
1170.80(16)											
1187.21(4)	7 ⁻ -9 ⁻									40(2)	
1191.56(6)	X ⁺										
1196.03(6)											
1211.38(8)											
1213.59(5)	X ⁻										54(3)
1224.34(9)	⟨8 ⁻ ⟩										
1233.55(12)											
1252.10(9)	⟨1-3⟩ ⁻										62(2)
1262.74(21)	⟨2-4⟩ ⁻										
1269.93(12)											
1279.85(13)	⟨3-5⟩ ⁺										
1286.2(5)											
1294.42(7)											100
1295.99(8)	X ⁺										
1299.61(11)											
1306.75(8)											
1309.43(10)											100
1325.31(12)											
1325.83(11)											100
1327.62(11)											
1331.27(7)											
1335.92(5)											
1381.60(12)											
1393.36(11)											
1405.34(10)											
1411.33(11)											100
1427.07(9)	⟨9 ⁻ ⟩									35(3)	
1427.72(19)											65(13)
1434.33(11)											100
1451.05(7)										45(9)	
1458.22(12)											
1497.62(20)											
1542.03(10)											
1571.0(3)	⟨10 ⁻ ⟩									100	
1582.24(11)											
1633.70(7)											
1635.65(9)											

(continued)

¹¹⁸Sb
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E^* [keV]	J^π	E^*_{anal} [keV]	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					E^*_f : J^π_f :	0.0 1 ⁺	31.3 ⟨2⟩	50.8 ⟨3⟩ ⁺	82.1 ⟨4⟩ ⁺	166.2 ⟨2⟩ ⁺	250 8 ⁻	269.8 ⟨3⟩ ⁻
1640.24(11)												
1693.96(11)												
1712.09(6)												
1732.8(5)	⟨11 ⁺ ⟩											
1753.4(4)	⟨10 ⁻ ⟩											
1802.28(11)												
1820.84(14)												
1852.27(10)												
1889.01(21)												
2104.66(9)												
2115.5(4)	⟨11 ⁻ ⟩											
2171.58(13)												
2402.8(6)	⟨12 ⁺ ⟩											
2503.0(5)	⟨12 ⁻ ⟩											
2918.4(6)												
4440(15)		0.0		66Ri06								
5670(15)		1230		66Ri06								
6140(15)		1700		66Ri06								
6470(15)		2030		66Ri06								
6770(15)		2330		66Ri06								
6920(15)		2480		66Ri06								
7100(15)		2660		66Ri06								
7170(15)		2730		66Ri06								
7330(15)		2890		66Ri06								
9300												
		66Ri06		Ref.								

Additional data on this isotope can be found in [97Fa18, 95Ph01, 92Gu12].

Energy levels and branching ratios [95Ki07]. Part 2

¹¹⁸Sb
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E^* [keV]	J^π	Branching ratios in percentage										
		E^*_f : J^π_f :	324.3 2 ⁺	324.6 ⟨4⟩ ⁺	398.2 ⟨4⟩ ⁻	403.5 ⟨3⟩ ⁺	511.0	540.6 3 ⁺	557.3 ⟨3,4⟩	568.2	569.9 ⟨4,5⟩ ⁻	618.7
540.59(3)	3 ⁺		28(1)									
557.32(4)	⟨3,4⟩			10.7(9)		20(3)						
569.90(6)	⟨4,5⟩ ⁻				94(16)							
606.32(10)					100							
618.74(3)	⟨3,4,5⟩ ⁺			37(4)		2(1)						
622.22(2)	1 ⁺ , 2 ⁺	6(1)										
628.05(6)	⟨5 ⁺ ⟩			100								
629.04(3)	⟨3⟩ ⁺	12(2)		24(2)								
682.99(4)	⟨3,4,5⟩ ⁻				9(2)							

(continued)

¹¹⁸Sb
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E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	324.3 2 ⁺	324.6 <4> ⁺	398.2 <4> ⁻	403.5 <3> ⁺	511.0	540.6 3 ⁺	557.3 <3,4>	568.2	569.9 <4,5> ⁻	618.7
741.24(3)	<2,3> ⁺		5.2(4)									
760.43(4)				17(3)		8(2)			36(5)			39(2)
788.32(4)	<2,3> ⁺		2(1)			12.9(7)						
808.30(11)					100							
821.15(4)	<2-5> ⁻				36(2)						31(3)	
821.66(4)	<6 ⁻ , 7, 8>									85(8)		
852.40(6)	<3, 4, 5> ⁺			71(4)	3(1)				6(1)			
863.40(3)	<1, 2, 3> ⁺			5(1)								
873.50(12)											100	
890.15(7)										100		
926.48(4)	7, 8, 9 ⁻									21(4)		
939.01(5)	<3, 4, 5> ⁺			100								
964.88(4)	<7> ⁺									78(3)		
998.63(6)	7, 8, 9 ⁻									7(1)		
998.70(4)	X ⁺		43(2)									
1019.33(4)	0 ⁺ -2 ⁺			20(1)								
1024.03(6)						51(4)		19(3)				
1044.32(2)	<2, 3> ⁺		22(1)			10(8)		11(5)				
1093.7(1)									100			
1096.12(4)	1 ⁺ -2 ⁺		63(1)			WEAK						
1113.5(1)								100				
1117.42(2)	<1-3> ⁺		32(1)									
1131.35(5)	0 ⁺ -2 ⁺		40(1)									
1142.50(8)				84(9)					16(4)			
1147.70(4)										100		
1152.80(10)									100			
1153.61(6)			58(3)									
1164.55(8)					18(5)						82(14)	
1168.38(10)			100									
1187.21(4)	7 ⁻ -9 ⁻						x			5		
1191.56(6)	X ⁺		100									
1211.38(8)					53(11)						32(16)	
1252.10(9)	<1-3> ⁻		38(2)									
1279.85(13)	<3-5> ⁺			100								
1286.2(5)			100									
1295.99(8)	X ⁺							100				
1299.61(11)					100							
1306.75(8)					100							
1327.62(11)			100									
1331.27(7)					35(5)						65(10)	
1381.60(12)											100	
1405.34(10)										72(7)		
1451.05(7)										55(18)		
1497.62(20)			100									
1582.24(11)										100		

(continued)

¹¹⁸Sb
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E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	324.3 2 ⁺	324.6 (4) ⁺	398.2 (4) ⁻	403.5 (3) ⁺	511.0	540.6 3 ⁺	557.3 (3,4)	568.2	569.9 (4,5) ⁻	618.7
1635.65(9)										59(12)		
1640.24(11)										100		

Energy levels and branching ratios [95Ki07]. Part 3

¹¹⁸Sb
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E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	622.2 1 ⁺ ,2 ⁺	628.0 (5 ⁺)	629.0 (3) ⁺	637.6	683.0	741.2 (2,3) ⁺	821.7	833.7 (2,3) ⁻	837.3 (6 ⁺)	852.4
741.24(3)	(2,3) ⁺				11.2(4)							
821.15(4)	(2-5) ⁻						27(2)					
837.35(21)	(6 ⁺)			100								
852.40(6)	(3,4,5) ⁺			19(1)								
930.36(11)									100			
940.11(5)	(0,2,3) ⁺		50(2)									
947.85(24)											100	
998.63(6)	7,8,9 ⁻								4(1)			
1019.33(4)	0 ⁺ -2 ⁺							28(2)				
1081.3(1)	X ⁽⁺⁾			92(6)								8(3)
1096.12(4)	1 ⁺ -2 ⁺		17(1)									
1117.42(2)	(1-3) ⁺				35(1)							
1160.48(5)	X ⁺		20(3)									
1196.03(6)						100						
1211.38(8)							16(11)					
1213.59(5)	X ⁻									46(2)		
1233.55(12)				100								
1262.74(21)	(2-4) ⁻				100							
1393.36(11)									100			
1405.34(10)									28(4)			
1427.72(19)						35(18)						
1693.96(11)									44(22)			

Energy levels and branching ratios [95Ki07]. Part 4

¹¹⁸Sb
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E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	873.5	890.1	926.5 7,8,9 ⁻	930.4	964.9 (7) ⁺	998.63 7,8,9 ⁻	1024.0	1142.5	1152.8	1153.6
1170.80(16)			100									
1187.21(4)	7 ⁻ -9 ⁻			4(1)	12(1)		31(1)	7				
1269.93(12)									100			

(continued)

 $^{118}_{51}\text{Sb}$

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	873.5	890.1	926.5 7,8,9 ⁻	930.4	964.9 $\langle 7 \rangle^+$	998.63 7,8,9 ⁻	1024.0	1142.5	1152.8	1153.6
1325.31(12)												100
1335.92(5)							100					
1458.22(12)										61(6)	39(19)	
1542.03(10)							x					
1635.65(9)								41(12)				
1693.96(11)						56(11)						
1712.09(6)							16(11)					
1802.28(11)							100					

Energy levels and branching ratios [95Ki07]. Part 5

 $^{118}_{51}\text{Sb}$

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	1187.2	1224.3 $\langle 8^- \rangle$	1335.9	1405.3	1427.1 $\langle 9^- \rangle$	1542.0	1571.0 $\langle 10^- \rangle$	1712.1	1732.8 $\langle 11^+ \rangle$	1753.4 $\langle 10^- \rangle$
1224.34(9)	$\langle 8^- \rangle$		100									
1393.36(11)		x										
1427.07(9)	$\langle 9^- \rangle$			65(3)								
1542.03(10)					x							
1633.70(7)		100										
1712.09(6)					84(5)							
1732.8(5)	$\langle 11^+ \rangle$								100			
1753.4(4)	$\langle 10^- \rangle$			x			100					
1820.84(14)						100						
1852.27(10)					44(11)			56(11)				
1889.01(21)		100										
2104.66(9)					50(10)					50(10)		
2115.5(4)	$\langle 11^- \rangle$						x					100
2171.58(13)							100					
2402.8(6)	$\langle 12^+ \rangle$										100	
2503.0(5)	$\langle 12^- \rangle$											x

Energy levels and branching ratios [95Ki07]. Part 6

 $^{118}_{51}\text{Sb}$

E^* [keV]	J^π	Branching ratios in percentage		
		$E_f^*:$ $J_f^\pi:$	2115.5 $\langle 11^- \rangle$	2503.0 $\langle 12^- \rangle$
2503.0(5)	$\langle 12^- \rangle$		100	
2918.4(6)				x

Energy levels and branching ratios [00Oh01].

¹¹⁹Sb
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E^*	$2J^\pi$	L	L	S_N	σ (τ, d)	C^2S'	σ (τ, d)	C^2S'	L	S_N	E_{anal}^*	$T_{1/2}$ or	Ref.
[keV]		(α, p)		(τ, d)	$\mu\text{b/sr}$	(τ, d)	$\mu\text{b/sr}$	theor		($^7\text{Li}, ^6\text{He}$)	[keV]	Γ_{cm}	
0	5^+		2	5.6(3)	3800	4.5	560	6	0	0.47		38.19(22) h	67Is02
270.52(4)	7^+		4	5.3(5)	360	6.3	115	8	4	0.59		35(10) ps	67Is02
644.03(4)	1^+		0	0.82(1)	1350	0.9	350	2	0	0.08		5.2(48) ps	67Is02
699.88(5)	$3^+, 5^+$		2	1.74(14)	incl	1.8	incl	4	[2]	0.37		>300 fs	67Is02
970.90(5)	9^+												05Po03
1048.42(5)	7^+											>300 fs	
1212.74(4)	9^+											5.2(48) ps	05Po03
1249.74(5)	9^+												
1327.3(1)	$\langle 1^- \rangle$											>76 fs	
1338.61(9)	3^+		2	0.64(10)	580	1.3	320					0.07(6) ps	67Is02
1340.7(2)	11^+												05Po03
1366.34(4)	11^-		5	12(3)	440	7.6	incl	12	5	0.68		112(15) ps	78Ze05
1407.35(8)	11^+												
1413.21(7)	3^-											0.12(10) ps	
1450(8)													
1469(3)	$3^+, 5^+$		2	0.21(3)	200								67Is02
1482(10)	1^-												
1487.61(6)	$\langle 3^+ \rangle$											>215 fs	
1547(10)													
1646.5(10)	1^+		0	0.02(1)	50							>450 fs	67Is02
1660(8)	$\langle 7^+ \rangle$			<0.5	<40								67Is02
1665(10)	$3^+, 5^+$		2	0.16(3)	160								67Is02
1675.7(2)	13^+												05Po03
1730(30)													
1749.64(6)	3^+											23(11) fs	
1821.14(8)	1^+		0	0.26(2)	560	0.2	105					55(22) fs	67Is02
1848.2(10)												>130 fs	
1875.3(2)	$\langle 1^+, 3 \rangle$											0.08(21) ps	
1970(10)	$7^+, 9^+$		4	2.6(4)	240								67Is02
1982.0(10)												0.11(28) ps	
2037.6(2)	15^+												05Po03
2043(3)													
2067(10)													
2094.4(2)													
2100(3)													
2114(10)	$1^+ - 5^+$		0	0.07(1)	150	≈ 0.9	145						67Is02
			+2	0.64(10)	680								67Is02
2129.8(1)	9^-												
2130(10)													
2138.4(1)	13^+												
2159(3)													
2187(10)													
2202.3(1)	13^+												
2223(8)													
2226.06(6)	11^-												

(continued)

¹¹⁹Sb
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E^*	$2J^\pi$	L	L	S_N	σ (τ, d)	C^2S'	σ (τ, d)	C^2S'	L	S_N	E_{anal}^*	$T_{1/2}$ or	Ref.
[keV]		(α, p)		(τ, d)	$\mu\text{b/sr}$	(τ, d)	$\mu\text{b/sr}$	theor		($^7\text{Li}, ^6\text{He}$)	[keV]	Γ_{cm}	
2258(3)													
2269.1(10)	1^+-5^+		0	0.27(3)	650	≈ 1.3	310					<14 fs	67Is02
			+2	0.59(7)	650								67Is02
2278.93(6)	13^-												
2283.7(4)	9^-												
2298(8)													
2314.0(2)	$\langle 15 \rangle^-$												05Po03
2320(30)													
2327(3)													
2355(3)													
2360.20(9)	9^-												
2379.6(2)	$\langle 9, 13 \rangle$												
2384(8)													
2415.5(2)	1^+		0	0.3		0.3	180					0.12(28) ps	67Is02
2419.3(2)	17^+												05Po03
2455(10)													
2475.4(1)	15^-												
2505.2(2)	15^-												
2508(8)													
2539(10)													
2553.6(3)	$\langle 19^- \rangle$											134(3) ns	05Po03
2561(10)													
2624(8)													
2707.7(2)	17^-												
2708(10)	1^+-5^+		0	0.06(1)	150	≈ 0.8	200						67Is02
			+2	0.43(9)	520								67Is02
2747.7(3)													
2749(8)													
2769.1(2)	$\langle 17^+ \rangle$												
2841.7(4)	$\langle 21^- \rangle$												
2841.7+X	$\langle 27^+ \rangle$											0.85(9) s	
2849.0(2)	19^+												
2862(10)													
2885(10)													
2980(10)													
3002.5(3)	19^-												
3035(10)													
3062(10)													
3064.9(3)	17^-												
3068.7(2)	17^-												
3280(30)													
3295.8(2)	19^-												
3310.4(2)	21^+												
3440(30)													
3505.5(3)	$\langle 21^+ \rangle$												

(continued)

¹¹⁹Sb
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E^*	$2J^\pi$	L	L	S_N	$\sigma(\tau, d)$	C^2S'	$\sigma(\tau, d)$	C^2S'	L	S_N	E_{anal}^*	$T_{1/2}$ or	Ref.
[keV]		(α, p)		(τ, d)	$\mu\text{b/sr}$	(τ, d)	$\mu\text{b/sr}$	theor		($^7\text{Li}, ^6\text{He}$)	[keV]	Γ_{cm}	
3581.9(3)	21 ⁻												
3608.4(4)	23 ⁻												
3620(30)													
3630(20)													
3778(15)													
3784.6(3)	23 ⁺												
3830(15)													
3939.6(3)	23 ⁻												
3990(30)													
4020(15)	$\langle 23^+, 25^+ \rangle$	12, 14											79Sm04
4120(15)	$\langle 19^+, 21^+ \rangle$	10											79Sm04
4200(30)													
4210(15)	$\langle 19^+, 21^+ \rangle$	10											79Sm04
4211.5(4)	25 ⁺												
4274.3(3)	25 ⁺												
4298.1(4)	27 ⁻												
4342.0(4)	$\langle 25^+ \rangle$												
4346.5(3)	25 ⁻												
4352.6(4)	27 ⁻												
4444.7(5)	29 ⁻												
4490(30)													
4542.6(4)	$\langle 27^+ \rangle$												
4776.1(3)	27 ⁻												
4785.2(4)	$\langle 27^+ \rangle$												
4940.3(5)	$\langle 29^+ \rangle$												
5190.5(5)	$\langle 31^- \rangle$												
5232.1(3)	$\langle 29^- \rangle$												
5243.5(5)	$\langle 29^+ \rangle$												
5354.0(5)	$\langle 31^+ \rangle$												
5490(20)													
5712.0(4)	$\langle 31^- \rangle$												
6113.9(5)	$\langle 35^- \rangle$												
6880(30)													
7200(30)													
8090(25)													
12368(12)	1 ⁺										0.0		
12386(17)	3 ⁺										24		
13170	7 ⁺										787		
13300	3 ⁺										920		
13433(12)	5 ⁺										1089		
13708(17)	5 ⁺										1355		
13710(25)													

(continued)

¹¹⁹Sb
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E^*	$2J^\pi$	L	L	S_N	σ (τ, d)	C^2S'	σ (τ, d)	C^2S'	L	S_N	E^*_{anal}	$T_{1/2}$ or	Ref.
[keV]		(α, p)		(τ, d)	$\mu\text{b/sr}$	(τ, d)	$\mu\text{b/sr}$	theor		($^7\text{Li}, ^6\text{He}$)	[keV]	Γ_{cm}	
14290		79Sm04		67Is02	67Is02	68Co22	68Co22	68Co22		78Ze05	00Oh01		Ref.

Additional data on this isotope can be found in [05Po03, 97La17, 95Ph01, 94Pa19, 79Sm04, 67Ka22, 66Ba25].

Values S_N from (τ, d) reaction are related to $\Sigma C^2S'=10.0$ for $L=2$ transitions [67Is02, 00Oh01].

$C^2S'=(2J+1)C^2S/(2I+1)$ was determined from σ (τ, d) reaction measured at 50° [68Co22].

It was noticed [00Oh01] that E^* in [67Ka22] are shifted systematically by 8 keV from other works.

Energy levels and branching ratios [00Oh01]. Part 2

¹¹⁹Sb
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E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E^*_f : $2J^\pi_f$:	0.0 5 ⁺	270 7 ⁺	644 1 ⁺	699.9 3 ⁺ , 5 ⁺	971 9 ⁺	1048 7 ⁺	1213 9 ⁺	1250 9 ⁺	1338.6 3 ⁺	1340.7 11 ⁺
270.52(4)	7 ⁺		100									
644.03(4)	1 ⁺		100									
699.88(5)	3 ⁺ , 5 ⁺		99(5)	0.8(3)								
970.90(5)	9 ⁺		33(5)	67(7)								
1048.42(5)	7 ⁺		98(2)	2(1)								
1212.74(4)	9 ⁺		91	7.0(1)			0.08(2)	1.8(1)				
1249.74(5)	9 ⁺		5.5(4)	95(2)								
1327.3(1)	$\langle 1^- \rangle$		7		83(19)	11						
1338.61(9)	3 ⁺		71(13)		29(11)	x						
1340.7(2)	11 ⁺						100					
1366.34(4)	11 ⁻		1.52(3)	3.2(1)			0.47(4)		94(4)	0.64(4)		
1407.35(8)	11 ⁺			100						<18		
1413.21(7)	3 ⁻		87(7)		8(2)	5(1)						
1487.61(6)	$\langle 3^+ \rangle$		0.14	0.07	50(7)	45(7)					5	
1646.5(10)	1 ⁺		100									
1675.7(2)	13 ⁺						15(1)					85(1)
1749.64(6)	3 ⁺		87(5)	0.8(3)	12(2)	x						
1821.14(8)	1 ⁺		4(2)		75(9)	21(5)						
1848.2(10)			100									
1875.3(2)	$\langle 1^+, 3 \rangle$		100									
1982.0(10)			100									
2037.6(2)	15 ⁺											17.8(12)
2094.4(2)								x	x			
2129.8(1)	9 ⁻			8(2)				87(2)	5(2)			
2138.4(1)	13 ⁺								$\langle 100 \rangle$			
2202.3(1)	13 ⁺								$\langle 100 \rangle$			
2226.06(6)	11 ⁻						0.3(1)		45(1)	50(2)		
2269.1(10)	1 ⁺ -5 ⁺		100									
2283.7(4)	9 ⁻			100								

(continued)

¹¹⁹Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	0.0 5 ⁺	270 7 ⁺	644 1 ⁺	699.9 3 ⁺ ,5 ⁺	971 9 ⁺	1048 7 ⁺	1213 9 ⁺	1250 9 ⁺	1338.6 3 ⁺	1340.7 11 ⁺
2360.20(9)	9 ⁻			96(1)				2.5(3)		0.23(19)		
2415.5(2)	1 ⁺		100									

Energy levels and branching ratios [00Oh01]. Part 3

¹¹⁹Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1366.3 11 ⁻	1407.3 11 ⁺	1675.7 13 ⁺	2037.6 15 ⁺	2094	2138 13 ⁺	2202 13 ⁺	2278.9 13 ⁻	2314.0 ⟨15⟩ ⁻	2419.3 17 ⁺
1407.35(8)	11 ⁺		<18									
2037.6(2)	15 ⁺				82.2(12)							
2094.4(2)			x									
2226.06(6)	11 ⁻		2.9(3)	1.9(5)								
2278.93(6)	13 ⁻		94.3(12)	5.7(5)								
2314.0(2)	⟨15⟩ ⁻		100									
2360.20(9)	9 ⁻			1.7(9)								
2379.6(2)	⟨9,13⟩		96(2)	4(3)								
2419.3(2)	17 ⁺				22.4(12)	78(2)						
2475.4(1)	15 ⁻		100						<40	<40		
2505.2(2)	15 ⁻		100									
2553.6(3)	⟨19 ⁻ ⟩										17(3)	83(3)
2747.7(3)							100					
2769.1(2)	⟨17 ⁺ ⟩							100				
2849.0(2)	19 ⁺					29(7)						71(7)
3064.9(3)	17 ⁻										100	
3068.7(2)	17 ⁻					67(17)					33(17)	
3295.8(2)	19 ⁻											18(9)
3310.4(2)	21 ⁺											22(11)

Energy levels and branching ratios [00Oh01]. Part 4

¹¹⁹Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2475.4 15 ⁻	2505.2 15 ⁻	2553.6 ⟨19 ⁻ ⟩	2769.1 ⟨17 ⁺ ⟩	2849.0 19 ⁺	3002.5 19 ⁻	3064.9 17 ⁻	3068.7 17 ⁻	3295.8 19 ⁻	3310.4 21 ⁺
2707.7(2)	17 ⁻		100									
2841.7(4)	⟨21 ⁻ ⟩				100							
3002.5(3)	19 ⁻			100								
3295.8(2)	19 ⁻								18(9)	63(9)		
3310.4(2)	21 ⁺						78(11)					
3505.5(3)	⟨21 ⁺ ⟩					100						

(continued)

 $^{119}_{51}\text{Sb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2475.4 15 ⁻	2505.2 15 ⁻	2553.6 <19 ⁻ >	2769.1 <17 ⁺ >	2849.0 19 ⁺	3002.5 19 ⁻	3064.9 17 ⁻	3068.7 17 ⁻	3295.8 19 ⁻	3310.4 21 ⁺
3581.9(3)	21 ⁻										100	
3608.4(4)	23 ⁻							100				
3784.6(3)	23 ⁺						33(17)					67(17)
3939.6(3)	23 ⁻										<40	
4274.3(3)	25 ⁺											<100

Energy levels and branching ratios [00Oh01]. Part 5

 $^{119}_{51}\text{Sb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3505.5 <21 ⁺ >	3581.9 21 ⁻	3608.4 23 ⁻	3784.6 23 ⁺	3939.6 23 ⁻	4211.5 25 ⁺	4274.3 25 ⁺	4298.1 27 ⁻	4342.0 <25 ⁺ >	4346.5 25 ⁻
3939.6(3)	23 ⁻			100								
4211.5(4)	25 ⁺					100						
4274.3(3)	25 ⁺					100						
4298.1(4)	27 ⁻				100							
4342.0(4)	<25 ⁺ >	x										
4346.5(3)	25 ⁻			<67			100					
4352.6(4)	27 ⁻				100							
4444.7(5)	29 ⁻									100		
4542.6(4)	<27 ⁺ >							100				
4776.1(3)	27 ⁻						<100					100
4785.2(4)	<27 ⁺ >								100			
5232.1(3)	<29 ⁻ >											x
5243.5(5)	<29 ⁺ >										100	

Energy levels and branching ratios [00Oh01]. Part 6

 $^{119}_{51}\text{Sb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		E_f^* : $2J_f^\pi$:	4352.6 27 ⁻	4542.6 <27 ⁺ >	4776.1 27 ⁻	4940.3 <29 ⁺ >	5190.5 <31 ⁻ >	5232.1 <29 ⁻ >
4940.3(5)	<29 ⁺ >			100				
5190.5(5)	<31 ⁻ >		100					
5232.1(3)	<29 ⁻ >				x			
5354.0(5)	<31 ⁺ >					100		
5712.0(4)	<31 ⁻ >				x			x
6113.9(5)	<35 ⁻ >						100	

Energy levels and branching ratios [02Ki17].

¹²⁰Sb
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E^* [keV]	J^π	L (p,d)	C^2S (p,d)	σ (d,t) $\mu\text{b/sr}$	S_N (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
								E_f^* : 0.0 J_f^π : 1 ⁺	0.0+X 8 ⁻	8.37 ⟨2⟩ ⁻	78.2 3 ⁺	149.3 3 ⁺
0.0	1 ⁺	2	0.108	125	0.20	15.89(4) m	82Em01					
0.0+X	8 ⁻					5.76(2) d						
8.37(6)	⟨2⟩ ⁻											
78.16(5)	3 ⁺	0	0.19	763	0.42	246(2) ns	82Em01			100		
149.32(5)	3 ⁺	0+5	0.05+0.63				82Em01				100	
165+X									100			
166.09(7)	3 ⁻									100		
192.62(4)	2 ⁺	0+2	0.11+0.07	660	0.38		82Em01	26(4)			74.1(10)	
230+X									84.0(3)			
233.09(4)	2 ⁺	0+2	0.06+0.12	449	0.26		82Em01	75.9(10)			23(2)	1.3(2)
243.89(6)	4										58(2)	42(5)
260.20(7)	3 ⁻									100		
261.71(9)	4											
280												
334.08(7)	4	2	0.096	317	0.60		82Em01					91(4)
341.35(7)	5											
343.24(8)	4											
387.11(14)		2	0.061	incl			82Em01					
390.34(5)	2,3											
437.68(6)	2 ⁺	0+2	0.007+0.02				82Em01					72(4)
447.69(4)	1 ⁺							28(1)		21(3)	18(3)	
518+X												
551.86(17)										100		
616.69(21)												
628.46(11)	2 ⁺ ,3 ⁺	0+2	0.002+0.02				82Em01	54(3)				
636.59(15)	2,3,4 ⁺											
668(5)	2 ⁺ ,3 ⁺	0=4	0+0.02+0.2				82Em01					
699(5)	X ⁺	2+4	0.02+0.18	273	0.59		82Em01					
724.24(13)	2 ⁺ ,3 ⁺	0=4	0+0.01+0.3				82Em01					
729.82(21)												100
758.69(21)												
760.92(13)												
772(4)	X ⁺	4	0.454				82Em01					
820.39(21)												
821.69(21)												
841.64(14)	2 ⁺ ,3 ⁺	0=4	0.04+0.02+0.2				82Em01					
858+X	⟨8 ⁻ ⟩											
901.69(21)												
908.29(21)	2 ⁺ ,3 ⁺	0+2	0.002+0.028				82Em01					
934(4)	X ⁺	2	0.191	150	0.36		82Em01					
974(4)	2 ⁺ ,3 ⁺	0+2	0.008+0.107				82Em01					
1022.4(2)	X ⁺	2	0.068	63			82Em01					
1032.31(15)												
1037.06+X	⟨9 ⁻ ⟩								x			
1059(5)	2 ⁺ ,3 ⁺	0+2	0.008+0.16	99	0.25		82Em01					

(continued)

¹²⁰Sb
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E^* [keV]	J^π	L (p,d)	C^2S (p,d)	σ (d,t) $\mu\text{b/sr}$	S_N (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								E_f^* :	0.0	0.0+X	8.37	78.2	149.3
								J_f^π :	1 ⁺	8 ⁻	$\langle 2 \rangle^-$	3 ⁺	3 ⁺
1104(4)	X ⁺	2	0.294	237	0.61		82Em01						
1164(4)	2 ⁺ ,3 ⁺	0-4	0.004+0.2+0.5				82Em01						
1208(4)	X ⁺	2	0.23	93	0.25		82Em01						
1239(4)	2 ⁺ ,3 ⁺	0+2	0.012+0.245	310	0.84		82Em01						
1242.6+X									100				
1285(4)		2+5	0.019+0.10	45			82Em01						
1331(4)	2 ⁺ ,3 ⁺	0+2	0.0016+0.019				82Em01						
1369.9+X	$\langle 10^- \rangle$												
1383(4)	2 ⁺ ,3 ⁺	0+2	0.006+0.09	57			82Em01						
1449.8+X													
1457(5)	2 ⁺ ,3 ⁺	0+2	0.005+0.12	88			82Em01						
1499(4)	X ⁺	2	0.07				82Em01						
1550(5)	X ⁺	2	0.07	71			82Em01						
1564.9+X													
1586(5)	2 ⁺ ,3 ⁺	0=4	0.01+0.03+0.2				82Em01						
1639(6)	2 ⁺ ,3 ⁺	0+2	0.004+0.009				82Em01						
1697(6)	2 ⁺ ,3 ⁺	0+2	0.007+0.014	65			82Em01						
1742.8+X	$\langle 11^- \rangle$												
2123.9+X													
2134.1+X	$\langle 12^- \rangle$												
2266.3+X													
2328.3+X						400(8) ns							
2552.7+X	$\langle 13^- \rangle$												
2736.4+X													
2884.7+X						14(3) ns							
10204(30)							66Ri06						
11354(30)							66Ri06						
11994(30)							66Ri06						
12314(30)							66Ri06						
12504(30)							66Ri06						
12604(30)							66Ri06						
12784(30)							66Ri06						
12914(30)							66Ri06						
13034(30)							66Ri06						
13124(30)							66Ri06						
		82Em01	82Em01	67Hj04	67Hj04		Ref.						

Additional data on this isotope can be found in [95Ph01, 93Ja14].

 C^2S for $L=2$ $2d_{5/2}$ should be multiplied by 1.5 and for $L=4$ $1g_{9/2}$ – by 1.25 [82Em01].

Energy levels and branching ratios [02Ki17]. Part 2

 $^{120}_{51}\text{Sb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	165.2+X	166.09 3 ⁻	192.62 2 ⁺	230.4+X	233.09 2 ⁺	243.89 4	260.20 3 ⁻	261.71 4	334.08 4	390.34 2,3
230+X			16.0(3)									
261.71(9)	4			100								
334.08(7)	4							9(1)				
341.35(7)	5							44(2)	56(3)			
343.24(8)	4			100								
387.11(14)										100		
390.34(5)	2,3				78(4)		5.5(8)	16.3(8)				
437.68(6)	2 ⁺			18.5(9)	9.1(9)							
447.69(4)	1 ⁺				24(2)		8.4(4)					
518+X						100						
616.69(21)								100				
628.46(11)	2 ⁺ ,3 ⁺				34(2)		12(1)					
636.59(15)	2,3,4 ⁺						20(1)	80(4)				
724.24(13)	2 ⁺ ,3 ⁺				75(4)						25(2)	
758.69(21)				100								
820.39(21)							100					
821.69(21)								100				
841.64(14)	2 ⁺ ,3 ⁺				53(3)							
858+X	⟨8 ⁻ ⟩					83(1)						
901.69(21)							100					
908.29(21)	2 ⁺ ,3 ⁺						100					
1022.4(2)	X ⁺											71(4)
1032.31(15)												39(2)

Energy levels and branching ratios [02Ki17]. Part 3

 $^{120}_{51}\text{Sb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	447.69 1 ⁺	518.0+X	551.86	628.46 2 ⁺ ,3 ⁺	724.24 2 ⁺ ,3 ⁺	858.0+X ⟨8 ⁻ ⟩	1037+X ⟨9 ⁻ ⟩	1243+X	1370+X ⟨10 ⁻ ⟩	1450+X
760.92(13)			45(2)			55						
841.64(14)	2 ⁺ ,3 ⁺						47(2)					
858+X	⟨8 ⁻ ⟩			17(2)								
1022.4(2)	X ⁺				29(1)							
1032.31(15)			61(3)									
1037.06+X	⟨9 ⁻ ⟩							100				
1369.9+X	⟨10 ⁻ ⟩							x	100			
1449.8+X				100								
1564.9+X										68(1)		32(1)
1742.8+X	⟨11 ⁻ ⟩								x		100	
2134.1+X	⟨12 ⁻ ⟩										x	
2266.3+X										100		

Energy levels and branching ratios [02Ki17]. Part 4

 $^{120}_{51}\text{Sb}$

E^*	J^π	Branching ratios in percentage						
[keV]		$E^*_\text{f}:$ $J^\pi_\text{f}:$	1565+X	1743+X $\langle 11^- \rangle$	2124+X	2134+X $\langle 12^- \rangle$	2266+X	2736+X
2123.9+X			100					
2134.1+X	$\langle 12^- \rangle$			100				
2328.3+X					100			
2552.7+X	$\langle 13^- \rangle$					x		
2736.4+X							100	
2884.7+X								100

Energy levels and branching ratios [00Gu33, 00Ta03].

 $^{121}_{51}\text{Sb}$

E^* [keV]	$2J^\pi$	L	σ_{pt} μb	S_{pt} rel.u.	L	C^2S (τ, d)	$\sigma(\tau, \text{d})$ $\mu\text{b/sr}$	$\sigma(\text{d}, \text{d}')$ $\mu\text{b/sr}$	I_γ [eVb]	Γ [meV]	$B(E1)$ $10^{-3}ef$	Ref.
0.0	5^+	2=6	3.2		2	5.49(28)	4200	90				00Gu33
37.133(8)	7^+	0	1950	1								00Gu33
507.60(1)	3^+	2	30.7	0.02	2	1.18(14)	1000					00Gu33
573.14(1)	1^+	4	0.52	$5 \cdot 10^{-4}$	0	0.76(9)	1400	140				00Gu33
946.99(1) ^a	9^+	2	0.96	$4 \cdot 10^{-4}$								00Gu33
1024.0(3)	7^+	2	8.7	0.005								00Gu33
1035.43(1)	9^+	2	139	0.090				570				00Gu33
1139.29(2)	$\langle 11 \rangle^+$	2	171	0.101								00Gu33
1144.65(4)	9^+							500				
1321.9(2) ^a	$\langle 11 \rangle^+$											05Po03
1385.5(4)	$\langle 3-11 \rangle^+$	2	8.7	0.006					7.93(64)	3.96(32)	1.423(115)	00Gu33
1407.3(2)												
1426.9(2) ^b	$\langle 11^- \rangle$	3	5.1	0.007	2	1.10(18)	1150					67Is02
1447.5(2)	$1^-, 3^-$											73Co33
1447(3)	$\langle 3-11 \rangle^+$	2	2.59	0.002	5	13(3)	560	170				00Gu33
1471.2(3)	$\langle 3-11 \rangle^+$	2	29.8	0.018								00Gu33
1474.4(6)	$\langle 3-11 \rangle^+$	2	5.41	0.003				19				00Gu33
1509.0(7)	$\langle 3-11 \rangle^+$	2	2.25	0.002								00Gu33
1519.2(4)	$\langle 3-11 \rangle^+$	2	4.40	0.003				36	6.47(55)	3.88(33)	1.058(90)	00Gu33
1575.4(7)												
1590.4(4)									2.97(43)	1.95(28)	0.464(67)	02Br05
1612.6(7)	$\langle 3-11 \rangle^+$	2	13.5	0.007								00Gu33
1627.6(6)	$\langle 3-11 \rangle^+$	2	3.98	0.003	0 +2	0.05(1) 0.20(4)	110 220		4.19(45)	2.89(31)	0.640(68)	00Gu33
1648.8(4) ^a	$\langle 13^+ \rangle$											67Is02
1659(10)	$1^-, 3^-$											05Po03
1736.3(5)	$\langle 3-11 \rangle^+$	2	5.13	0.003					8.93(62)	7.00(48)	1.278(88)	73Co33
1758.5(4)	X^+	2	1.01		[0]	0.33(4)	800		0.49(16)	0.40(13)	0.070(23)	00Gu33
1810.9(6)	$\langle 3 \rangle^+$	2	1.01	0.001					4.79(42)	4.09(36)	0.658(57)	67Is02
1822(5)	$\langle 3 \rangle^+$	2	31.3	0.020								00Gu33

(continued)

¹²¹Sb
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E^*	$2J^\pi$	L	σ_{pt}	S_{pt}	L	C^2S	σ (τ, d)	σ (d, d')	I_γ	Γ	$B(E1)$	Ref.
[keV]			μb	rel.u.		(τ, d)	$\mu b/\text{sr}$	$\mu b/\text{sr}$	[eVb]	[meV]	$10^{-3}ef$	
1868(3)	$\langle 1-15 \rangle^+$	4	1.61	0.002								00Gu33
1883(2)	$\langle 3-11 \rangle^+$	2	4.00	0.003								00Gu33
1910.6(3)									0.67(21)	0.64(20)	0.087(27)	02Br05
1927.1(5)									0.60(20)	0.58(19)	0.078(25)	02Br05
1932(3)	$\langle 5-11 \rangle^+$	2=6	5.84									00Gu33
1951(3)	$\langle 3-11 \rangle^+$	2	53.5	0.036								00Gu33
1981.6(4)	$3^+, 5^+$								0.42(18)	0.43(18)	0.053(23)	02Br05
1995(3)	$\langle 3-11 \rangle^+$	2	6.78	0.004	[2]	0.20(3)	240					67Is02
1995.9(5) ^a	$\langle 15^+ \rangle$											05Po03
2016.5(9)									0.70(26)	0.75(28)	0.087(32)	02Br05
2035(3)	$\langle 1-15 \rangle^+$	4	12.0	0.013								00Gu33
2048(3)												
2068(3)	X^+	4	1.77									00Gu33
2075(3)	$\langle 3-17 \rangle^-$	5	14.3	0.039								00Gu33
2093.0(7)	$\langle 1-13 \rangle^-$	3	21.4	0.022					0.85(28)	0.97(32)	0.101(33)	00Gu33
2097.9(5)	$3^+, 5^+$				[2]	0.51(7)	620	36	1.04(27)	1.19(31)	0.123(32)	67Is02
2104(3)	$\langle 1-13 \rangle^-$	3	27.2	0.028				incl				00Gu33
2114.1(4)	$\langle 3-11 \rangle^+$	2	20.5	0.015					1.09(22)	1.27(25)	0.128(26)	00Gu33
2121.3(7)	$\langle 3-17 \rangle^-$	5	13.8	0.039					0.87(25)	1.02(29)	0.103(29)	00Gu33
2140.2(7)									1.10(27)	1.32(32)	0.128(31)	02Br05
2143 ^b	$\langle 15^- \rangle$											05Po03
2148(3)	$\langle 1-13 \rangle^-$	3	9.34	0.012				78				00Gu33
2159(3)	$\langle 3-17 \rangle^-$	5	37.9	0.108								00Gu33
2165(3)	$\langle 5-9 \rangle^-$	1	8.55	0.009								00Gu33
2176(3)	$\langle 1-13 \rangle^-$	3	10.2	0.013								00Gu33
2189(3)	7^+	0	25.1	0.013								00Gu33
2209(3)	$\langle 1-13 \rangle^-$	3	7.16	0.008								00Gu33
2234(2)	7^+	0	8.50	0.005				60				00Gu33
2235.5(3)	$\langle 3-17 \rangle^-$	5	8.35	0.024					2.91(30)	3.79(39)	0.324(33)	00Gu33
2255.2(6)									0.51(19)	0.67(25)	0.056(21)	02Br05
2259.1(3)									1.98(25)	2.63(33)	0.218(27)	02Br05
2262(3)*	$\langle 1-15 \rangle^+$	4	30.7	0.036	[0]	0.16(2)	430		1.06(21)	1.42(28)	0.116(23)	67Is02
2275(5)												
2289.8(4)	$\langle 1-15 \rangle^+$	4	15.1	0.018				96	0.24(10)	0.33(14)	0.026(11)	00Gu33
2302(3)	$\langle 1-13 \rangle^-$	3	12.2	0.014								00Gu33
2312(3)	$\langle 5-6 \rangle^-$	1	35.5	0.032								00Gu33
2329(3)	$\langle 3-11 \rangle^+$	2	22.4	0.017								67Is02
2353.9(11) ^a	$\langle 17^+ \rangle$											05Po03
2362(3)	$\langle 1-15 \rangle^+$	4	10.4	0.013	[0]	0.64(8)	1800	330				67Is02
2377(3)	$\langle 3-11 \rangle^+$	2	17.4	0.011								00Gu33
2398(3)	$\langle 1-15 \rangle^+$	4	40.1	0.048								00Gu33
2407(3)	$\langle 1-15 \rangle^+$	4	16.9	0.204								00Gu33
2426(3)	$\langle 1-15 \rangle^+$	4	5.43	0.007								00Gu33
2435 ^b	$\langle 19^- \rangle$											05Po03
2442.0(3)	7^+	0	27.5	0.016					0.50(14)	0.78(22)	0.051(15)	00Gu33

(continued)

¹²¹Sb
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E^*	$2J^\pi$	L	σ_{pt}	S_{pt}	L	C^2S	$\sigma(\tau, d)$	$\sigma(d, d')$	I_γ	Γ	$B(E1)$	Ref.
[keV]			μb	rel.u.		(τ, d)	$\mu b/\text{sr}$	$\mu b/\text{sr}$	[eVb]	[meV]	$10^{-3}ef$	
2447.7(4)	$\langle 1-15 \rangle^+$	4	12.0	0.014					0.48(14)	0.74(22)	0.048(14)	00Gu33
2459.2(6)	$\langle 1-15 \rangle^+$	4	5.7						0.43(16)	0.68(25)	0.043(16)	00Gu33
2477.0(4)	$\langle 1-13 \rangle^-$	3	19.9	0.026					0.48(13)	0.76(21)	0.048(13)	00Gu33
2488(3)	$\langle 1-13 \rangle^-$	3	25.0	0.033								00Gu33
2497.7(3)	7^+	0	45.7	0.027					3.15(31)	5.11(51)	0.313(31)	00Gu33
2523(3)	$\langle 1-15 \rangle^+$	4	20.5	0.029								00Gu33
2545(3)	$\langle 5-9 \rangle^-$	1	17.1	0.011								00Gu33
2573.8(7)	$\langle 1-15 \rangle^+$	4	38.7	0.048	0 +2	0.07(2) 0.25(5)	210 330		0.98(23)	1.68(39)	0.094(22)	67Is02 67Is02
2585.6(8)	$\langle 1-15 \rangle^+$	4	17.6	0.022		incl			0.81(21)	1.40(37)	0.077(20)	00Gu33
2599(3)	$\langle 1-13 \rangle^-$	3	6.77	0.009								00Gu33
2607(3)	$\langle 3-17 \rangle^-$	5	46.6	0.173								00Gu33
2625(3)	$[1^+, 3^+]$	4	13.4	0.016								00Gu33
2636(3)	$\langle 1-15 \rangle^+$	4	65.2	0.082								00Gu33
2639(10)												
2649.0(7)	$\langle 3-11 \rangle^+$	2	20.0	0.014					0.38(15)	0.69(27)	0.035(14)	00Gu33
2668.1(7)									0.61(15)	1.13(28)	0.057(14)	02Br05
2678.1(4)									1.74(20)	3.25(38)	0.162(19)	02Br05
2680 ^a	$\langle 19^+ \rangle$											05Po03
2698.8(8)	$3^+, 5^+$				2	1.08(14)	1500		0.53(14)	1.00(27)	0.049(13)	67Is02
2713.5(4)									1.73(20)	3.32(39)	0.159(19)	02Br05
2721	$[25^+]$											05Po03
2721.4(6)									0.57(16)	1.11(32)	0.052(15)	02Br05
2725.8(12)									0.48(17)	0.92(32)	0.044(15)	02Br05
2723.0(9)									0.66(17)	1.28(33)	0.060(16)	02Br05
2745.0(9)									0.47(15)	0.92(29)	0.043(13)	02Br05
2775.1(6)									0.28(12)	0.55(24)	0.025(11)	02Br05
2783.7(7)									0.26(12)	0.53(24)	0.024(11)	02Br05
2810.0(7)								49	0.36(15)	0.75(33)	0.032(14)	02Br05
2830(10)												
2860.1(5)									0.25(10)	0.53(21)	0.022(9)	02Br05
2917.3(6)									0.63(14)	1.40(32)	0.054(12)	02Br05
2937.4(4)	$1^+, 3^+$				0	0.13(2)	420	59	1.52(20)	3.40(46)	0.128(17)	67Is02
2964.0(7)									0.65(17)	1.48(39)	0.054(14)	02Br05
2973.6(3)									2.99(32)	6.87(73)	0.250(26)	02Br05
2994.1(3)									1.74(21)	4.05(48)	0.144(17)	02Br05
3024.6(6)									1.54(53)	3.66(125)	0.126(43)	02Br05
3033.1(10)									1.58(63)	3.77(152)	0.129(52)	02Br05
3050.4(3)									3.33(30)	8.06(72)	0.271(24)	02Br05
3064.1(6)									0.65(13)	1.60(32)	0.053(11)	02Br05
3072.9(5)									1.16(17)	2.85(41)	0.094(13)	02Br05
3082.7(8)									0.40(12)	1.00(30)	0.032(10)	02Br05
3098.7(3)									4.19(34)	10.5(9)	0.336(27)	02Br05
3122.9(4)									1.60(21)	4.05(53)	0.127(17)	02Br05
3132.0(7)									0.34(13)	0.87(33)	0.027(10)	02Br05

(continued)

¹²¹Sb
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E^*	$2J^\pi$	L	σ_{pt}	S_{pt}	L	C^2S	$\sigma(\tau, d)$	$\sigma(d, d')$	I_γ	Γ	$B(E1)$	Ref.
[keV]			μb	rel.u.		(τ, d)	$\mu b/\text{sr}$	$\mu b/\text{sr}$	[eVb]	[meV]	$10^{-3}ef$	
3148.8(7)	(3,5 ⁺)								1.00(28)	2.57(71)	0.079(22)	02Br05
3151.7(8)									0.80(27)	2.08(69)	0.063(21)	02Br05
3159.5(3)									3.69(33)	9.57(85)	0.290(26)	02Br05
3186.9(4)									1.30(21)	3.44(56)	0.101(17)	02Br05
3193.7(4)									2.32(29)	6.15(77)	0.180(23)	02Br05
3206.6(4)									2.80(41)	7.5(11)	0.217(32)	02Br05
3210.1(5)									0.62(27)	1.68(74)	0.048(21)	02Br05
3232.5(3)									4.01(34)	10.9(9)	0.308(26)	02Br05
3259.9(7)									0.26(12)	0.72(33)	0.020(9)	02Br05
3351.7(7)									0.58(20)	1.70(58)	0.043(15)	02Br05
3363.6(4)									0.28(20)	3.77(58)	0.095(15)	02Br05
3384.9(6)									0.57(16)	1.71(47)	0.042(11)	02Br05
3451.5(5)												
3485.8(5)									1.11(28)	3.50(88)	0.079(20)	02Br05
3495.6(8)									0.38(14)	1.20(44)	0.027(10)	02Br05
3503.2(6)									0.51(16)	1.63(50)	0.036(11)	02Br05
3512.7(11)									0.35(16)	1.13(52)	0.025(11)	02Br05
3521.3(5)									1.15(21)	3.72(68)	0.081(15)	02Br05
3544.9(7)									1.10(24)	3.59(77)	0.077(17)	02Br05
3570.2(13)									0.35(16)	1.16(53)	0.024(11)	02Br05
3575.0(7)									0.95(20)	3.15(66)	0.066(14)	02Br05
3580.7(4)									2.06(27)	6.88(89)	0.143(19)	02Br05
3587.6(10)									0.44(15)	1.47(51)	0.030(11)	02Br05
3614.5(6)									0.90(20)	3.05(69)	0.062(14)	02Br05
3621.4(11)									0.33(15)	1.13(51)	0.023(10)	02Br05
3642.0(7)									0.52(17)	1.81(58)	0.036(11)	02Br05
3648.5(8)									0.32(14)	1.11(47)	0.022(9)	02Br05
3672.6(11)									0.60(21)	2.11(73)	0.041(14)	02Br05
3706.3(7)									0.52(17)	1.86(62)	0.035(12)	02Br05
3759.4(9)									0.30(15)	1.10(53)	0.020(10)	02Br05
3771.8(8)									0.50(19)	1.84(69)	0.033(12)	02Br05
3781.3(5)									0.80(20)	2.98(74)	0.053(13)	02Br05
3787.3(7)									0.54(17)	2.02(65)	0.035(11)	02Br05
3804.3(10)									0.43(18)	1.63(67)	0.028(12)	02Br05
3844.6(8)									0.45(18)	1.73(67)	0.029(11)	02Br05
3849.1(7)									0.54(18)	2.06(70)	0.035(12)	02Br05
3854.2(7)									0.54(19)	2.07(72)	0.035(12)	02Br05
3858.1(7)									0.53(19)	2.04(72)	0.034(12)	02Br05
3863.8(6)									0.72(22)	2.81(85)	0.046(14)	02Br05
3867.0(8)									0.55(20)	2.15(79)	0.036(13)	02Br05
3870.1(8)									0.53(20)	2.07(80)	0.034(13)	02Br05
3894.0(9)									0.58(23)	2.27(89)	0.037(14)	02Br05
3899.6(10)									0.54(23)	2.12(90)	0.034(15)	02Br05
3905.2(6)									1.23(32)	4.9(13)	0.078(20)	02Br05
3909.4(11)									0.56(26)	2.2(10)	0.036(17)	02Br05

(continued)

¹²¹Sb
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E^*	$2J^\pi$	L	σ_{pt}	S_{pt}	L	C^2S	$\sigma(\tau, \text{d})$	$\sigma(\text{d}, \text{d}')$	I_γ	Γ	$B(E1)$	Ref.
[keV]			μb	rel.u.		(τ, d)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	[eVb]	[meV]	$10^{-3}ef$	
3916.0(8)									0.73(26)	2.9(10)	0.046(16)	02Br05
3923.4(7)									0.90(29)	3.6(12)	0.057(18)	02Br05
3929.1(8)									0.96(30)	3.9(12)	0.061(19)	02Br05
3933.3(9)									0.77(29)	3.1(12)	0.049(18)	02Br05
3940.9(7)									0.88(32)	3.6(13)	0.056(20)	02Br05
3972.7(11)									1.69(63)	6.9(26)	0.106(39)	02Br05
7495(15)	3 ⁺											
7570(15)	1 ⁺											
8621(15)	5 ⁺											
8924(15)	5 ⁺											
10091(15)	7 ⁻											
10173(15)	7 ⁻											
10431(15)	$\langle 7^- \rangle$											
10523(15)	$\langle 7^- \rangle$											
10620(15)	$\langle 7^- \rangle$											
10816(15)	$\langle 7^- \rangle$											
10888(15)	3 ⁻											
11016(15)	3 ⁻											
11161(15)	$\langle 3^- \rangle$											
						67Is02	67Is02	67Hj04	02Br05	02Br05		Ref.

Additional data on this isotope can be found in [67Be32].

Abundance: 57.21(5) %.

* Mean value between 2279(3) and 2266(3) keV [00Ta03, 00Gu33], close to 2265.9 keV [02Br05].

Two high-spin bands (marked here a,b) were considered in [05Po03].

 $C^2S' = (2J+1)C^2S / (2I+1)$ was determined from $\sigma(\tau, \text{d})$ reaction measured at 50° [68Co22]. C^2S for (t, α) reaction are relative values normalized to $\Sigma C^2S = 2.0$ [73Co33, 00Ta03].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [00Gu33, 00Ta03]. Part 2

¹²¹Sb
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E^*	$2J^\pi$	C^2S'	C^2S'	σ (τ ,d)	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(τ ,d)	theor	μ b/sr	(t, α)	rel.	Γ_{cm}		$E^*_\text{f}:$ $2J^\pi_\text{f}:$	0.0 5 ⁺	37.1 7 ⁺	508 3 ⁺	573 1 ⁺	947 9 ⁺
0.0	5 ⁺	4.0	6.0	430	2	0.28	Stable	00Gu33						
37.133(8)	7 ⁺	5.6	8.0	incl	4	1.47	3.46(3) ns	00Gu33	100(10)					
507.60(1)	3 ⁺	1.1	4.0	220	2	0.19	2.0(3) ps	00Gu33	93(2)	7.38(17)				
573.14(1)	1 ⁺	0.3	2.0	incl	0	0.06	8.2(10) ps	00Gu33	100			0.32(3)		
946.99(1) ^a	9 ⁺				4	1.52		00Gu33	10.5(3)	90(2)				
1024.0(3)	7 ⁺						0.158(15) ps	00Gu33	100					
1035.43(1)	9 ⁺							00Gu33	0.7(3)	99(2)				
1139.29(2)	$\langle 11 \rangle^+$							00Gu33		100				
1144.65(4)	9 ⁺						0.21(7) ps		73(3)	27(11)				

(continued)

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E^* [keV]	$2J^\pi$	C^2S' (τ, d)	C^2S' theor	σ (τ, d) $\mu\text{b/sr}$	L (t, α)	C^2S <i>rel.</i>	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
									E_f^* : $2J_f^\pi$:	0.0 5 ⁺	37.1 7 ⁺	508 3 ⁺	573 1 ⁺	947 9 ⁺
1321.9(2) ^a	$\langle 11^+ \rangle$							05Po03						100
1385.5(4)	$\langle 3-11 \rangle^+$						0.064(6) ps	00Gu33	100					
1407.3(2)									48				52	
1426.9(2) ^b	$\langle 11^- \rangle$			320				67Is02						
1447.5(2)	$1^-, 3^-$				1	0.78		73Co33			75	25		
1447(3)	$\langle 3-11 \rangle^+$			incl				00Gu33						
1471.2(3)	$\langle 3-11 \rangle^+$			incl				00Gu33	x				x	
1474.4(6)	$\langle 3-11 \rangle^+$			incl				00Gu33	x	x				
1509.0(7)	$\langle 3-11 \rangle^+$							00Gu33	100	x				
1519.2(4)	$\langle 3-11 \rangle^+$							00Gu33	75	25				
1575.4(7)									100					
1590.4(4)								02Br05						
1612.6(7)	$\langle 3-11 \rangle^+$							00Gu33			100			
1627.6(6)	$\langle 3-11 \rangle^+$							00Gu33			100			
								67Is02						
1648.8(4) ^a	$\langle 13^+ \rangle$							05Po03						
1659(10)	$1^-, 3^-$				1	0.82		73Co33						
1736.3(5)	$\langle 3-11 \rangle^+$							00Gu33	100					
1758.5(4)	X^+							67Is02						
1810.9(6)	$\langle 3 \rangle^+$							00Gu33	100					
1822(5)	$\langle 3 \rangle^+$							00Gu33						
1868(3)	$\langle 1-15 \rangle^+$							00Gu33						
1883(2)	$\langle 3-11 \rangle^+$							00Gu33						
1910.6(3)								02Br05						
1927.1(5)								02Br05						
1932(3)	$\langle 5-11 \rangle^+$							00Gu33						
1951(3)	$\langle 3-11 \rangle^+$							00Gu33						
1981.6(4)	$3^+, 5^+$							02Br05						
1995(3)	$\langle 3-11 \rangle^+$							67Is02						
1995.9(5) ^a	$\langle 15^+ \rangle$							05Po03						
2016.5(9)								02Br05						
2035(3)	$\langle 1-15 \rangle^+$							00Gu33						
2048(3)														
2068(3)	X^+							00Gu33						
2075(3)	$\langle 3-17 \rangle^-$							00Gu33						
2093.0(7)	$\langle 1-13 \rangle^-$							00Gu33						
2097.9(5)	$3^+, 5^+$							67Is02						
2104(3)	$\langle 1-13 \rangle^-$							00Gu33						
2114.1(4)	$\langle 3-11 \rangle^+$							00Gu33						
2121.3(7)	$\langle 3-17 \rangle^-$							00Gu33						
2140.2(7)								02Br05						
2143 ^b	$\langle 15^- \rangle$							05Po03						
2148(3)	$\langle 1-13 \rangle^-$							00Gu33						
2159(3)	$\langle 3-17 \rangle^-$							00Gu33						
2165(3)	$\langle 5-9 \rangle^-$							00Gu33						

(continued)

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E^* [keV]	$2J^\pi$	C^2S' (τ, d)	C^2S' theor	σ (τ, d) $\mu\text{b/sr}$	L (t, α)	C^2S <i>rel.</i>	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
									E_f^* :	0.0	37.1	508	573	947
									$2J_f^\pi$:	5 ⁺	7 ⁺	3 ⁺	1 ⁺	9 ⁺
2176(3)	$\langle 1-13 \rangle^-$							00Gu33						
2189(3)	7 ⁺							00Gu33						
2209(3)	$\langle 1-13 \rangle^-$							00Gu33						
2234(2)	7 ⁺							00Gu33						
2235.5(3)	$\langle 3-17 \rangle^-$							00Gu33						
2255.2(6)								02Br05						
2259.1(3)								02Br05						
2262(3)*	$\langle 1-15 \rangle^+$							67Is02						
2275(5)														
2289.8(4)	$\langle 1-15 \rangle^+$							00Gu33						
2302(3)	$\langle 1-13 \rangle^-$							00Gu33						
2312(3)	$\langle 5-6 \rangle^-$							00Gu33						
2329(3)	$\langle 3-11 \rangle^+$							67Is02						
2353.9(11) ^a	$\langle 17^+ \rangle$							05Po03						
2362(3)	$\langle 1-15 \rangle^+$							67Is02						
2377(3)	$\langle 3-11 \rangle^+$							00Gu33						
2398(3)	$\langle 1-15 \rangle^+$							00Gu33						
2407(3)	$\langle 1-15 \rangle^+$							00Gu33						
2426(3)	$\langle 1-15 \rangle^+$							00Gu33						
2435 ^b	$\langle 19^- \rangle$							05Po03						
2442.0(3)	7 ⁺							00Gu33						
2447.7(4)	$\langle 1-15 \rangle^+$							00Gu33						
2459.2(6)	$\langle 1-15 \rangle^+$							00Gu33						
2477.0(4)	$\langle 1-13 \rangle^-$							00Gu33						
2488(3)	$\langle 1-13 \rangle^-$							00Gu33						
2497.7(3)	7 ⁺							00Gu33						
2523(3)	$\langle 1-15 \rangle^+$							00Gu33						
2545(3)	$\langle 5-9 \rangle^-$							00Gu33						
2573.8(7)	$\langle 1-15 \rangle^+$							67Is02						
								67Is02						
2585.6(8)	$\langle 1-15 \rangle^+$							00Gu33						
2599(3)	$\langle 1-13 \rangle^-$							00Gu33						
2607(3)	$\langle 3-17 \rangle^-$							00Gu33						
2625(3)	[1 ⁺ , 3 ⁺]							00Gu33						
2636(3)	$\langle 1-15 \rangle^+$							00Gu33						
2639(10)														
2649.0(7)	$\langle 3-11 \rangle^+$							00Gu33						
2668.1(7)								02Br05						
2678.1(4)								02Br05						
2680 ^a	$\langle 19^+ \rangle$							05Po03						
2698.8(8)	3 ⁺ , 5 ⁺							67Is02						
2713.5(4)								02Br05						
2721	[25 ⁺]							05Po03						
2721.4(6)								02Br05						
2725.8(12)								02Br05						

(continued)

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E^* [keV]	$2J^\pi$	C^2S' (τ, d)	C^2S' theor	σ (τ, d) $\mu\text{b/sr}$	L (t, α)	C^2S <i>rel.</i>	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
									E_f^* :	0.0	37.1	508	573	947
									$2J_f^\pi$:	5 ⁺	7 ⁺	3 ⁺	1 ⁺	9 ⁺
2723.0(9)								02Br05						
2745.0(9)								02Br05						
2775.1(6)								02Br05						
2783.7(7)								02Br05						
2810.0(7)								02Br05						
2830(10)														
2860.1(5)								02Br05						
2917.3(6)								02Br05						
2937.4(4)	1 ⁺ , 3 ⁺							67Is02						
2964.0(7)								02Br05						
2973.6(3)								02Br05						
2994.1(3)								02Br05						
3024.6(6)								02Br05						
3033.1(10)								02Br05						
3050.4(3)								02Br05						
3064.1(6)								02Br05						
3072.9(5)								02Br05						
3082.7(8)								02Br05						
3098.7(3)								02Br05						
3122.9(4)								02Br05						
3132.0(7)								02Br05						
3148.8(7)								02Br05						
3151.7(8)								02Br05						
3159.5(3)								02Br05						
3186.9(4)								02Br05						
3193.7(4)								02Br05						
3206.6(4)								02Br05						
3210.1(5)								02Br05						
3232.5(3)								02Br05						
3259.9(7)								02Br05						
3351.7(7)								02Br05						
3363.6(4)								02Br05						
3384.9(6)								02Br05						
3451.5(5)	⟨3, 5 ⁺ ⟩						0.14(7) ps		60	7(1)	12(2)	12(1)		
3485.8(5)								02Br05						
3495.6(8)								02Br05						
3503.2(6)								02Br05						
3512.7(11)								02Br05						
3521.3(5)								02Br05						
3544.9(7)								02Br05						
3570.2(13)								02Br05						
3575.0(7)								02Br05						
3580.7(4)								02Br05						
3587.6(10)								02Br05						
3614.5(6)								02Br05						

(continued)

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E^* [keV]	$2J^\pi$	C^2S' (τ, d)	C^2S' theor	σ (τ, d) $\mu b/sr$	L (t, α)	C^2S <i>rel.</i>	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
									E_f^* :	0.0	37.1	508	573	947
									$2J_f^\pi$:	5 ⁺	7 ⁺	3 ⁺	1 ⁺	9 ⁺
3621.4(11)								02Br05						
3642.0(7)								02Br05						
3648.5(8)								02Br05						
3672.6(11)								02Br05						
3706.3(7)								02Br05						
3759.4(9)								02Br05						
3771.8(8)								02Br05						
3781.3(5)								02Br05						
3787.3(7)								02Br05						
3804.3(10)								02Br05						
3844.6(8)								02Br05						
3849.1(7)								02Br05						
3854.2(7)								02Br05						
3858.1(7)								02Br05						
3863.8(6)								02Br05						
3867.0(8)								02Br05						
3870.1(8)								02Br05						
3894.0(9)								02Br05						
3899.6(10)								02Br05						
3905.2(6)								02Br05						
3909.4(11)								02Br05						
3916.0(8)								02Br05						
3923.4(7)								02Br05						
3929.1(8)								02Br05						
3933.3(9)								02Br05						
3940.9(7)								02Br05						
3972.7(11)								02Br05						
7495(15)	3 ⁺													
7570(15)	1 ⁺													
8621(15)	5 ⁺													
8924(15)	5 ⁺													
10091(15)	7 ⁻						28 keV							
10173(15)	7 ⁻						70 keV							
10431(15)	$\langle 7^- \rangle$						50 keV							
10523(15)	$\langle 7^- \rangle$						42 keV							
10620(15)	$\langle 7^- \rangle$						58 keV							
10816(15)	$\langle 7^- \rangle$						78 keV							
10888(15)	3 ⁻						107 keV							
11016(15)	3 ⁻						52 keV							
11161(15)	$\langle 3^- \rangle$						110 keV							
		68Co22		68Co22		73Co33		Ref.						

Energy levels and branching ratios [00Gu33, 00Ta03]. Part 3

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E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		$E_f^*:$ $2J_f^\pi:$	1035.4 9 ⁺	1144.6 9 ⁺	1321.9 <11 ⁺ >	1519.2 X ⁺	1648.8 <13 ⁺ >	1995.9 <15 ⁺ >
1139.29(2)	<11> ⁺		0.034(12)					
1426.9(2) ^b	<11> ⁻		59	41				
1648.8(4) ^a	<13> ⁺				100			
1995.9(5) ^a	<15> ⁺						100	
2353.9(11) ^a	<17> ⁺							100
3451.5(5)	<3,5> ⁺					10		

Energy levels and branching ratios [94Ta10].

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E^*	J^π	L	C^2S'	σ (d,p)	L	C^2S	L	C^2S'	σ (d,t)	Ref.	Branching ratios in percentage					
[keV]			(d,p)	$\mu\text{b/sr}$		(p,d)		(d,t)	$\mu\text{b/sr}$		$E_f^*:$ $J_f^\pi:$	0.0 2 ⁻	61.4 3 ⁺	78.1 3 ⁻	121 $\langle 1 \rangle^+$	137 $\langle 5 \rangle^+$
0.0	2 ⁻			60*	5	0.199			16**	82Em01						
0+X	3 ⁺ ,4 ⁺	$\langle 2 \rangle$	0.04	133	0	0.004			38	67Hj04						
61.4131(5)	3 ⁺	$\langle 2 \rangle$	0.09		0	0.23	$\langle 0 \rangle$	0.39	805	82Em01	100					
78.0914(6)	3 ⁻			incl					incl		100					
121.497(1)	$\langle 1 \rangle^+$	$\langle 2 \rangle$	0.23	339			$\langle 0,2 \rangle$	0.2,0.5	328	67Hj04	100					
137.473(1)	$\langle 5 \rangle^+$			incl	2	0.38			incl	82Em01		100				
163.559(1)	$\langle 8 \rangle^-$	$\langle 2 \rangle$	0.10	152	5	0.5			645	82Em01						100
					+2	+0.1										
167.229(1)	$\langle 2 \rangle^+$			incl					incl			87(2)	1.9(1)	11(1)		
178.6(4)				incl					incl							
192.959(1)	4 ⁻			incl			$\langle 0 \rangle$	0.39	incl	67Hj04				100		
209.651(1)	$\langle 4 \rangle^+$				0	0.30				82Em01		99(2)				0.9(2)
255.499(1)	$\langle 3 \rangle^+$	0	0.55	1540					48	67Hj04	17(1)	29(1)	4.6(1)			
264.426(1)	$\langle 5 \rangle^-$			incl	5	0.62			incl	82Em01			1.6(2)			
265.111(1)	$\langle 7 \rangle^-$															
271.763(1)																
282.650(1)	3 ⁻								64		83(2)	1.0(1)	11.3(2)			
311.261(1)	$\langle 4 \rangle^-$	$\langle 5 \rangle$		205					incl		5.0(2)	3.5(1)	78(2)			1.9(3)
323.092(1)	$\langle 2 \rangle^+$	0		342	0+2	0.01				82Em01		8.0(3)			83(2)	
333.680(1)	$\langle 3 \rangle^+$	2		750		incl			46	82Em01		14.6(4)				
393.699(1)	$\langle 3-5 \rangle^+$	2		828	0+2	0.01			incl	82Em01		56(1)				10(1)
396.937(1)	$\langle 2,3 \rangle^+$	2		incl		incl				82Em01		6.5			8.9(3)	
410.1(20)																
413.766(1)	$\langle 6 \rangle^-$	$\langle 5 \rangle$		466												
416(2)	3 ⁺ ,4 ⁺				0+2	0.002				82Em01						
425.148(1)	$\langle 3-5 \rangle^-$															
453.748(1)	$\langle 1-3 \rangle^+$				2+4	0.01			194	82Em01	20(2)	19(1)				
474(2)	3 ⁺ ,4 ⁺	2	0.45	698	0+2	0.007	$\langle 2 \rangle$	0.34	incl	82Em01						
480.45(1)																
481.339(5)	X ⁺	2	incl							67Hj04		100				

(continued)

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E^* [keV]	J^π	L	C^2S' (d,p)	σ (d,p) $\mu\text{b/sr}$	L	C^2S (p,d)	L	C^2S' (d,t)	σ (d,t) $\mu\text{b/sr}$	Ref.	Branching ratios in percentage				
											E_f^* : 0.0	61.4	78.1	121	137
											J_f^π : 2^-	3^+	3^-	$\langle 1 \rangle^+$	$\langle 5 \rangle^+$
483.652(1)	$\langle 2-3 \rangle^+$														
586.054(3)	X^+							45							
605(2)	X^-				5	0.82		40		82Em01					
620								incl							
631.82(4)	$\langle 1,2 \rangle^-$										100				
642.565(1)	$\langle 3,4 \rangle^-$					0.02 +0.3				82Em01					
658.443(5)								67							
667.554(10)				72				incl						77(10)	
693.995(4)	$4^- - 6^-$							incl							
702.727(16)	X^+				4	0.28		17		82Em01					
748(2)	X^+			96	4	0.54				82Em01					
790.7(20)															
796.67(5)	$2^-, 3^-$										15(3)		17(5)		
810.9(20)															
824.954(17)	$2^-, 3^-$							47			27(5)		37(1)		
855.3(8)				96				incl							
868.58(6)	X^+				2+4	0.005				82Em01					
883(3)					2+5	0.01				82Em01					
920.6(1)	$2^-, 3^-$			48							75(15)		25(5)		
935.9(6)	$2^-, 3^-$														
949(1)	$3^+, 4^+$				0+2	0.003				82Em01					
969(2)	X^+		0.39	65	2	0.068				82Em01					
998.3(9)	X^+	$\langle 4 \rangle$	incl		2+4	0.01			125	82Em01					
1004(2)								incl							
1005.9(3)	$\langle 4 \rangle^-$							incl							
1018.8(3)	$\langle 4 \rangle^-$							incl							
1031.0(3)	X^+				2	0.18	$\langle 2 \rangle$	0.28	incl	82Em01					
1043.8(7)	X^+	$\langle 4 \rangle$	0.26	44	2	0.084				82Em01					
1069(1)															
1115.7(7)		$\langle 4 \rangle$	0.51	87	0+2	0.004+0.1			555	82Em01					
1118(2)									incl						
1121.4(3)	$\langle 1 \rangle^-$								incl						
1129.2(4)	$\langle 4 \rangle^-$								incl						
1159.7(4)	$3^+, 4^+$				0+2	0.012+0.3	$\langle 2 \rangle$	1.30	incl	82Em01					
1178.2(6)	X^+	$\langle 4 \rangle$	0.70	119	2	0.49		incl	incl	82Em01					
1187.2(3)															
1190(2)					2	0.28				82Em01					
1199(5)															
1206.0(3)									47						
1230.0(4)															
1243.0(3)	X^+	2	0.37	648	2	0.49				82Em01					
1248.2(6)															
1259(2)															
1274(2)									70						

(continued)

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E^* [keV]	J^π	L	C^2S' (d,p)	σ (d,p) $\mu\text{b/sr}$	L	C^2S (p,d)	L	C^2S' (d,t)	σ (d,t) $\mu\text{b/sr}$	Ref.	Branching ratios in percentage					
											E_f^* :	0.0	61.4	78.1	121	137
											J_f^π :	2^-	3^+	3^-	$\langle 1 \rangle^+$	$\langle 5 \rangle^+$
1301(2)																
1335(5)	X^+				2	0.072				82Em01						
1382(2)	X^+				2	0.096			37	82Em01						
1416(7)	X^+				2	0.058			19	82Em01						
1432(4)	X^+				2	0.84			incl	82Em01						
1467(20)		$\langle 2 \rangle$	0.04	69						67Hj04						
1497.2(20)		$\langle 2 \rangle$	0.07	130						67Hj04						
1500.4(20)																
1527.1(20)																
1536(5)	X^+				2	0.42	$\langle 2 \rangle$	0.39	126	82Em01						
1547.5(20)																
1561.3(20)																
1571.0(20)																
1588.8(20)																
1603.5(20)																
1651.6(20)		$\langle 2 \rangle$	0.06	104						67Hj04						
1676.6(20)																
1759.6(20)		$\langle 2 \rangle$	0.04	67						67Hj04						
1779.6(20)																
1786.8(20)																
1808.3(20)																
1816.3(20)																
1835.4(20)	X^-	3	0.08	90						67Hj04						
1879.0(20)																
1890(50)***	11^+															
1945.0(20)	X^-	3	0.13	158						67Hj04						
1961.1(20)																
2018.0(20)																
2029.5(20)				102												
2078.9(20)				67												
2121.3(20)	X^-	3	0.09	110						67Hj04						
2150.7(20)																
2157.1(20)																
2185.4(20)																
2205.0(20)				66												
2246.0(20)																
2307(30)				155												
2347.3(20)				155												
2436.6(20)																
2464.1(20)				214												
2475.3(20)																
2647(30)																
2807(30)				537												
3137(30)				107												
3800																

(continued)

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E^*	J^π	L	C^2S'	σ (d,p)	L	C^2S	L	C^2S'	σ (d,t)	Ref.	Branching ratios in percentage					
[keV]			(d,p)	$\mu\text{b/sr}$		(p,d)		(d,t)	$\mu\text{b/sr}$		E_f^* :	0.0	61.4	78.1	121	137
											J_f^π :	2 ⁻	3 ⁺	3 ⁻	$\langle 1 \rangle^+$	$\langle 5 \rangle^+$
6100			67Hj04	67Hj04		82Em01		67Hj04		Ref.						

Additional data on this isotope can be found in [72El01].

* Should be considered as tentative.

** Should be considered as tentative due to poor energy resolution.

*** Strongly populated in (α ,d) reaction (ratio $\sigma_{exp}/\sigma_{DWBA}$ =1.28) [88La18].

Values $C^2S'=S_N/(2I+1)$ for the (d,p) reaction are taken from [94Ta10] where they were recalculated from values $(2J+1)S_N$ given in [67Hj04]; energies E^* in [67Hj04] and [72El01] were shifted [94Ta10] by 30 keV and 10 keV to fit the adopted values; many of the L values as well as C^2S' are uncertain due to insufficient resolution.

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [94Ta10]. Part 2

¹²²Sb
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E^*	J^π	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		T_{cm}		E_f^* :	163.6	167.2	192.9	209.651	255.499	264.426	265.111
				J_f^π :	$\langle 8 \rangle^-$	$\langle 2 \rangle^+$	4 ⁻	$\langle 4 \rangle^+$	$\langle 3 \rangle^+$	$\langle 5 \rangle^-$	$\langle 7 \rangle^-$
0.0	2 ⁻	2.7238(2) d	82Em01								
0+X	3 ⁺ ,4 ⁺		67Hj04								
61.4131(5)	3 ⁺	1.86(8) μs	82Em01								
78.0914(6)	3 ⁻	<0.14 ns									
121.497(1)	$\langle 1 \rangle^+$	6.3(3) ns	67Hj04								
137.473(1)	$\langle 5 \rangle^+$	0.53(3) ms	82Em01								
163.559(1)	$\langle 8 \rangle^-$	4.191(3) m	82Em01								
167.229(1)	$\langle 2 \rangle^+$	<0.28 ns									
178.6(4)											
192.959(1)	4 ⁻	<0.11 ns	67Hj04								
209.651(1)	$\langle 4 \rangle^+$	<0.14 ns	82Em01								
255.499(1)	$\langle 3 \rangle^+$	0.9(2) ns	67Hj04			45(1)		4.2(6)			
264.426(1)	$\langle 5 \rangle^-$		82Em01				98(4)				
265.111(1)	$\langle 7 \rangle^-$			100							
271.763(1)										x	
282.650(1)	3 ⁻	<0.14 ns				3.5(1)	0.83(7)				
311.261(1)	$\langle 4 \rangle^-$	<0.14 ns					4.72(14)			6.9(14)	
323.092(1)	$\langle 2 \rangle^+$	<0.14 ns	82Em01			1.5(2)			7.5(10)		
333.680(1)	$\langle 3 \rangle^+$		82Em01			57(1)	0.92(12)	27.9(8)			
393.699(1)	$\langle 3-5 \rangle^+$	<0.14 ns	82Em01					27.0(4)	6.6(2)		
396.937(1)	$\langle 2,3 \rangle^+$	<0.11 ns	82Em01			21(1)			60(1)		
410.1(20)											
413.766(1)	$\langle 6 \rangle^-$									31.4(9)	69(2)
416(2)	3 ⁺ ,4 ⁺		82Em01								

(continued)

¹²²Sb
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E^*	J^π	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		Γ_{cm}		E^*_f : J^π_f :	163.6 $\langle 8 \rangle^-$	167.2 $\langle 2 \rangle^+$	192.9 4^-	209.651 $\langle 4 \rangle^+$	255.499 $\langle 3 \rangle^+$	264.426 $\langle 5 \rangle^-$	265.111 $\langle 7 \rangle^-$
425.148(1)	$\langle 3\text{--}5 \rangle^-$	<0.14 ns					63(1)				
453.748(1)	$\langle 1\text{--}3 \rangle^+$	<0.21 ns	82Em01			61(1)					
474(2)	$3^+, 4^+$		82Em01								
480.45(1)											31(8)
481.339(5)	X^+		67Hj04								
483.652(1)	$\langle 2\text{--}3 \rangle^+$	<0.14 ns				7(2)		46(1)	5.5(3)		
586.054(3)	X^+					22(3)			59(2)		
605(2)	X^-		82Em01								
620											
631.82(4)	$\langle 1, 2 \rangle^-$										
642.565(1)	$\langle 3, 4 \rangle^-$		82Em01				10(2)			60(2)	
658.443(5)						79(6)					
667.554(10)											
693.995(4)	$4^- \text{--} 6^-$						22(3)				
702.727(16)	X^+		82Em01								82(7)
748(2)	X^+		82Em01								
790.7(20)											
796.67(5)	$2^-, 3^-$						20(4)				
810.9(20)											
824.954(17)	$2^-, 3^-$										
855.3(8)											
868.58(6)	X^+		82Em01								
883(3)			82Em01								
920.6(1)	$2^-, 3^-$										
935.9(6)	$2^-, 3^-$										
949(1)	$3^+, 4^+$		82Em01								
969(2)	X^+		82Em01								
998.3(9)	X^+		82Em01								
1004(2)											
1005.9(3)	$\langle 4 \rangle^-$										
1018.8(3)	$\langle 4 \rangle^-$										
1031.0(3)	X^+		82Em01								
1043.8(7)	X^+		82Em01								
1069(1)											
1115.7(7)			82Em01								
1118(2)											
1121.4(3)	$\langle 1 \rangle^-$										
1129.2(4)	$\langle 4 \rangle^-$										
1159.7(4)	$3^+, 4^+$		82Em01								
1178.2(6)	X^+		82Em01								
1187.2(3)											
1190(2)			82Em01								
1199(5)											
1206.0(3)											

(continued)

 $^{122}_{51}\text{Sb}$

E^*	J^π	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		Γ_{cm}		E^*_f : J^π_f :	163.6 $\langle 8 \rangle^-$	167.2 $\langle 2 \rangle^+$	192.9 4^-	209.651 $\langle 4 \rangle^+$	255.499 $\langle 3 \rangle^+$	264.426 $\langle 5 \rangle^-$	265.111 $\langle 7 \rangle^-$
1230.0(4)											
1243.0(3)	X^+		82Em01								
1248.2(6)											
1259(2)											
1274(2)											
1301(2)											
1335(5)	X^+		82Em01								
1382(2)	X^+		82Em01								
1416(7)	X^+		82Em01								
1432(4)	X^+		82Em01								
1467(20)			67Hj04								
1497.2(20)			67Hj04								
1500.4(20)											
1527.1(20)											
1536(5)	X^+		82Em01								
1547.5(20)											
1561.3(20)											
1571.0(20)											
1588.8(20)											
1603.5(20)											
1651.6(20)			67Hj04								
1676.6(20)											
1759.6(20)			67Hj04								
1779.6(20)											
1786.8(20)											
1808.3(20)											
1816.3(20)											
1835.4(20)	X^-		67Hj04								
1879.0(20)											
1890(50)***	11^+										
1945.0(20)	X^-		67Hj04								
1961.1(20)											
2018.0(20)											
2029.5(20)											
2078.9(20)											
2121.3(20)	X^-		67Hj04								
2150.7(20)											
2157.1(20)											
2185.4(20)											
2205.0(20)											
2246.0(20)											
2307(30)											
2347.3(20)											
2436.6(20)											
2464.1(20)											

(continued)

 $^{122}_{51}\text{Sb}$

E^*	J^π	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		Γ_{cm}		E^*_f :	163.6	167.2	192.9	209.651	255.499	264.426	265.111
				J^π_f :	$\langle 8 \rangle^-$	$\langle 2 \rangle^+$	4^-	$\langle 4 \rangle^+$	$\langle 3 \rangle^+$	$\langle 5 \rangle^-$	$\langle 7 \rangle^-$
<hr/>											
2475.3(20)											
2647(30)											
2807(30)											
3137(30)											
3800											
6100											
			Ref.								

Energy levels and branching ratios [94Ta10]. Part 3

 $^{122}_{51}\text{Sb}$

E^*	J^π	E^*_f : J^π_f :	271.763 3 ⁻	282.650 3 ⁻	311.261 $\langle 4 \rangle^-$	323.092 $\langle 2 \rangle^+$	333.680 $\langle 3 \rangle^+$	393.699	396.937 $\langle 2,3 \rangle^+$	413.766 $\langle 6 \rangle^-$	425.148	453.748
311.261(1)	$\langle 4 \rangle^-$			x								
396.937(1)	$\langle 2,3 \rangle^+$				3.8(11)							
425.148(1)	$\langle 3-5 \rangle^-$		14.0(4)		22.5(4)							
480.45(1)			69(6)									
483.652(1)	$\langle 2-3 \rangle^+$					4.4(2)	19.9(4)	4.3(4)	12.1(5)			
586.054(3)	X ⁺					4.7(5)	7.7(5)					7.0(3)
642.565(1)	$\langle 3,4 \rangle^-$				15.1(14)						15.5(3)	
658.443(5)							9.9(6)	11.0(6)				
667.554(10)						22.6(10)						
693.995(4)	$4^- - 6^-$		62(3)		8.0(11)					3.0(6)	5.6(6)	
702.727(16)	X ⁺									11.7(18)		
796.67(5)	$2^-, 3^-$			30(4)	19(1)							
824.954(17)	$2^-, 3^-$			31(5)								
868.58(6)	X ⁺							46(11)	54(6)			

Energy levels and branching ratios [94Ta10]. Part 4

 $^{122}_{51}\text{Sb}$

E^*	J^π	E^*_f : J^π_f :	480.436	631.82 $\langle 1,2 \rangle^-$	642.565 $\langle 3,4 \rangle^-$
702.727(16)	X ⁺		6.4(11)		
824.954(17)	$2^-, 3^-$			3.3(7)	1.3(2)

Energy levels and branching ratios [93Oh12].

¹²³Sb
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E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	C^2S'	L	C^2S	$I_{s,0}$	$g\Gamma_o^2/\Gamma$	$B(E1)$	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu b/sr$	theor		(t, α)	[eVb]	[meV]	$10^{-3}ef$	(t, α)	Γ_{cm}	
0.0 ^b	7 ⁺	4	6.7	58	8.0	4	1.45				1.59	Stable	73Co33
160.33(5)	5 ⁺	2	4.8	340	6.0	2	0.28				0.22	0.61(3) ns	73Co33
541.8(3)	3 ⁺	2	1.2	90	4.0	2	0.22				0.14	5.3(3) ps	73Co33
712.8(3)	1 ⁺	0	0.7	83	2.0	0	0.04						73Co33
1030.2(1)	9 ⁺							10.9(9)	3.02(23)	2.632(204)		0.189(13) ps	02Br05
1088.6(1) ^b	11 ⁺							3.61(49)	1.12(15)	0.825(112)		0.65(5) ps	05Po03
1181.3(2)	$\langle 7, 9 \rangle^+$												
1260.9(3)	9 ⁺												05Po03
1334.2(7)	7 ⁺ , 9 ⁺					4	1.60						73Co33
1337.4(2)	7 ⁺ , 9 ⁺												
1424.8(4)								0.73(22)	0.39(12)	0.128(38)			02Br05
1510.5(5)	3 ⁺ , 5 ⁺	2	0.4, 0.3	73				1.74(30)	1.03(18)	0.287(50)			68Co22
1575.5(6)													
1643(3)	3 ⁺ , 5 ⁺	2	0.6, 0.4	250									68Co22
1644(10)	11 ⁻	5	5.9	incl	12.0								
1656	$\langle 11^- \rangle$												05Po03
1729(10)	1 ⁻ , 3 ⁻					1	0.91						73Co33
1745(21)	3 ⁺ , 5 ⁺	2	0.4, 0.3	78									68Co22
1754(15)	$\langle 7 \rangle^+$												
1764.3(3)								2.51(29)	2.04(24)	0.354(41)			02Br05
1777.7(4)								1.96(27)	1.61(23)	0.274(38)			02Br05
1896.4(3)	1 ⁻ , 3 ⁻					1	0.85	2.03(26)	1.90(24)	0.266(34)			73Co33
2011.6(4)								0.60(15)	0.63(16)	0.074(18)			02Br05
2036.4(4)								0.66(16)	0.72(17)	0.081(19)			02Br05
2037	$\langle 15^- \rangle$												05Po03
2044	$\langle 15^+ \rangle$												05Po03
2047.6(3)								3.22(32)	3.51(34)	0.390(38)			02Br05
2059.0(6)								1.17(25)	1.29(27)	0.141(30)			02Br05
2101(9)	3 ⁺ , 5 ⁺	2	0.8, 0.7	86									68Co22
2137.9(8)								0.81(22)	0.96(27)	0.094(26)			02Br05
2170.0(6)								0.33(13)	0.40(17)	0.037(15)			02Br05
2230.3(4)								1.54(22)	1.99(29)	0.171(25)			02Br05
2235.0(6)	1 ⁻ , 3 ⁻					1	0.2, 0.1	0.56(21)	0.72(27)	0.062(23)			73Co33
2237 ^a	$\langle 19^- \rangle$											110 ms	05Po03
2238.6(6)								0.42(18)	0.55(23)	0.047(20)			02Br05
2252.0(6)								0.35(13)	0.46(18)	0.038(15)			02Br05
2270.0(7)								0.61(16)	0.82(21)	0.067(17)			02Br05
2283.3(7)								0.70(16)	0.95(21)	0.076(17)			02Br05
2292.1(8)								0.50(14)	0.68(19)	0.054(15)			02Br05
2296.6(4)								1.59(19)	2.19(27)	0.173(21)			
2300.8(5)								0.99(16)	1.36(22)	0.107(18)			02Br05
2306.4(3)								1.99(21)	2.75(29)	0.214(22)			02Br05
2322.3(3)								3.60(30)	5.05(43)	0.385(33)			02Br05
2329.5(3)								2.80(26)	3.95(37)	0.298(28)			02Br05
2371.3(3)								3.67(30)	5.37(43)	0.384(31)			02Br05

(continued)

¹²³Sb
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E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	C^2S'	L	C^2S	$I_{s,0}$	$g\Gamma_0^2/\Gamma$	$B(E1)$	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu b/sr$	theor	(t, α)	[eVb]	[meV]	$10^{-3}ef$	(t, α)	Γ_{cm}		
2429.3(3)								1.45(20)	2.23(30)	0.148(20)			02Br05
2455.4(6)								0.97(29)	1.52(46)	0.098(30)			02Br05
2459.1(4)								2.01(33)	3.17(52)	0.204(34)			02Br05
2486 ^b	$\langle 19^+ \rangle$												05Po03
2507.3(6)								0.50(14)	0.81(23)	0.049(14)			02Br05
2521.8(3)	1^+	0	0.8	230				2.98(26)	4.94(43)	0.294(25)			68Co22
2597.7(4)								1.10(15)	1.93(27)	0.105(15)			02Br05
2605.9(8)								0.37(12)	0.66(21)	0.036(12)			02Br05
2613 ^b	$\langle 21^+ \rangle$												05Po03
2620.1(4)	$7^+, 9^+$					4	1.09	1.65(19)	2.95(33)	0.157(18)			73Co33
2701.6(5)								0.83(16)	1.57(31)	0.076(15)			02Br05
2734 ^a	$\langle 21^- \rangle$												05Po03
2756.7(4)	$3^+, 5^+$	$\langle 2 \rangle$	≈ 2.0	280				1.56(20)	3.08(40)	0.141(18)			68Co22
2843.1(10)								0.43(17)	0.90(35)	0.038(15)			02Br05
2860.6(9)								0.46(17)	0.98(35)	0.040(14)			02Br05
2883.1(5)								0.77(15)	1.67(33)	0.067(13)			02Br05
2904.9(5)								0.92(17)	2.02(37)	0.079(15)			02Br05
2919.0(6)	$7^+, 9^+$					4	0.49	0.60(15)	1.32(34)	0.051(13)			73Co33
2934.6(7)								0.92(20)	2.06(44)	0.078(17)			02Br05
2968 ^b													05Po03
2989.0(6)								0.85(23)	1.98(52)	0.071(19)			02Br05
3000.8(5)								1.49(42)	3.49(99)	0.123(35)			02Br05
3017.3(3)								6.32(46)	15(1)	0.520(38)			02Br05
3056.8(3)								2.69(27)	6.53(66)	0.218(22)			02Br05
3062.6(4)								0.92(17)	2.23(41)	0.074(14)			02Br05
3098.1(7)								0.49(15)	1.24(36)	0.040(12)			02Br05
3147.9(5)								0.27(10)	0.69(25)	0.021(8)			02Br05
3152.4(6)								0.30(11)	0.77(27)	0.023(8)			02Br05
3158.5(10)								0.31(14)	0.80(36)	0.024(11)			02Br05
3184.5(4)	$7^+, 9^+$					4	0.48	2.28(26)	6.03(68)	0.178(14)			73Co33
3190.6(3)								0.36(9)	0.96(24)	0.028(7)			02Br05
3198.2(5)								0.86(17)	2.30(45)	0.067(13)			02Br05
3209.8(8)								0.27(12)	0.74(32)	0.021(9)			02Br05
3228.4(9)								1.53(30)	4.16(82)	0.118(23)			02Br05
3277.6(10)								0.50(22)	1.40(61)	0.038(17)			02Br05
3331.9(5)	$1^-, 3^-$					1	0.1	1.92(28)	5.56(80)	0.144(21)			73Co33
3348 ^a	$\langle 23^- \rangle$												
3351.7(6)								0.27(11)	0.78(32)	0.020(8)			02Br05
3385.7(7)								1.23(24)	3.66(72)	0.090(18)			02Br05
3399.7(9)								0.44(14)	1.32(43)	0.032(11)			02Br05
3412.3(10)								0.39(14)	1.17(44)	0.028(11)			02Br05
3418.3(10)								0.46(16)	1.40(49)	0.033(12)			02Br05
3427.6(9)								0.49(16)	1.49(48)	0.035(11)			02Br05
3476.2(6)								0.48(17)	1.51(52)	0.034(12)			02Br05
3786 ^a	$\langle 25^- \rangle$												05Po03

(continued)

¹²³Sb
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E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	C^2S'	L	C^2S	$I_{s,0}$	$g\Gamma_o^2/\Gamma$	$B(E1)$	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu b/sr$	theor		(t, α)	[eVb]	[meV]	$10^{-3}ef$	(t, α)	Γ_{cm}	
4024 ^a	$\langle 27^- \rangle$												05Po03
4392													05Po03
4772													05Po03
6417.4(15)	9												
6759.3(14)	7												
6873.6(15)	7												
7162.6(15)	7												
7309.7(14)	9												
14256(23)	3 ⁺											48 keV	
14390	1 ⁺											48 keV	
15429	5 ⁺											74 keV	
15729	5 ⁺											93 keV	
16927	7 ⁻											94 keV	
17371	$\langle 7^- \rangle$											140 keV	
17558	$\langle 3^- \rangle$											202 keV	
18251	$\langle 1^- \rangle$											130 keV	
		68Co22	68Co22				73Co33	02Br05	02Br05	02Br05	80Sh03		Ref.

Additional data on this isotope can be found in [80Sh03, 77Ka04, 66Ba45].

Abundance: 42.79(5) %.

Two high-spin bands (marked here a,b) were considered in [05Po03].

 $C^2S'=(2J+1)C^2S/(2I+1)$ was determined from σ (τ, d) reaction measured at 50° [68Co22].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [93Oh12]. Part 2

¹²³Sb
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E^*	$2J^\pi$	Branching ratios in percentage									
		E_f^* :	0.0	160	542	1030	1089	1181	1261	1337	1510.5
[keV]		$2J_f^\pi$:	7 ⁺	5 ⁺	3 ⁺	9 ⁺	9 ⁺ , 11 ⁺	$\langle 7, 9 \rangle^+$	$\langle 5, 7, 9 \rangle$	7 ⁺ , 9 ⁺	3 ⁺ , 5 ⁺
160.33(5)	5 ⁺		100								
541.8(3)	3 ⁺		31(3)	69(6)							
712.8(3)	1 ⁺			60(10)	40(24)						
1030.2(1)	9 ⁺		100								
1088.6(1) ^b	11 ⁺		100								
1181.3(2)	$\langle 7, 9 \rangle^+$		13(2)	87(4)							
1260.9(3)	9 ⁺		39(22)	61(30)							
1334.2(7)	7 ⁺ , 9 ⁺		58(1)	42(2)							
1337.4(2)	7 ⁺ , 9 ⁺		77(5)	23(2)							
1510.5(5)	3 ⁺ , 5 ⁺		[100]								
1575.5(6)			100								
1764.3(3)										100	
6417.4(15)	9		79(1)		15(2)	2(2)	3(2)				
6759.3(14)	7		49	34(1)	11(2)			4(1)			2(1)

(continued)

¹²³Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	0.0 7 ⁺	160 5 ⁺	542 3 ⁺	1030 9 ⁺	1089 9 ⁺ ,11 ⁺	1181 <7,9> ⁺	1261 <5,7,9>	1337 7 ⁺ ,9 ⁺	1510.5 3 ⁺ ,5 ⁺
6873.6(15)	7		71(6)	6(4)					18(6)		4(6)
7162.6(15)	7		38(1)	47(2)					4(1)		11(2)
7309.7(14)	9		45			12(1)	6(1)	29(1)		7(1)	

Energy levels and branching ratios [97Ii01].

¹²⁴Sb
51

E^* [keV]	J^π	L (d,p)	C^2S (d,p)	σ (d,p) $\mu\text{b/sr}$	$(2J+1)S$ (d,p)	L (τ ,t)	σ (τ ,t) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	3 ⁻			85*	8.61			60.20(3) d	67Hj04
10.863(1)	5 ⁺	2	0.35*	517	2.77			93(5) s	67Hj04
36.844(1)	<8> ⁻	<5>	1.3	105	10.42			20.2(2) m	67Hj04
40.804(1)	3 ⁺ ,4 ⁺	0+2	0.22	609	1.72			3.2(3) μs	67Hj04
80.764(1)	3 ⁺ ,4 ⁺	0+2	0.15	214	1.16			4(1) ns	67Hj04
87.6016(4)	4 ⁻								
103.6514(6)	2 ⁻ -4 ⁻								
125.229(1)	6 ⁻	<5>	2.8	226	22			86(2) ns	67Hj04
131.693(1)	<5> ⁻								
150(30)	<1> ⁺					0	723		95Ph01
180.051(2)	7 ⁻ ,8 ⁻								
195.982(1)	4 ⁺ ,5 ⁺	2	0.23	352	1.8				67Hj04
214.603(1)	3 ⁺ -5 ⁺	0	0.46	1336	3.7				67Hj04
221.5(20)									
231.5(20)									
248.369(1)	X ⁺	0	0.11	304	0.84			0.38(7) ns	67Hj04
287.129(2)	3 ⁺ ,4 ⁺	0+2	0.34	526	2.7				67Hj04
368.333(8)									
371.823(3)	6 ⁻ -8 ⁻								
384.534(3)	4 ⁻ ,5 ⁻			87					67Hj04
386.288(1)	2 ⁺ -4 ⁺			incl					
402.877(2)	3 ⁺ ,4 ⁺			incl					
419.062(2)	2 ⁻ -4 ⁻								
439.172(2)	4 ⁻ ,5 ⁻								
445.672(3)	6 ⁻								
471.260(2)	X ⁺								
483.999(2)	3 ⁺ -5 ⁺								
522.691(2)	X ⁺								
565.1(24)									
581.916(4)									
593(2)									
598.658(4)	3 ⁻ ,4 ⁻								
612.693(7)									

(continued)

¹²⁴Sb
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E^*	J^π	L	C^2S	σ (d,p)	$(2J+1)S$	L	σ (τ,t)	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)	$\mu\text{b/sr}$	(d,p)	(τ,t)	$\mu\text{b/sr}$	Γ_{cm}	
642.057(4)	5 ⁻ ,6,7 ⁻								
642.652(4)	4 ⁻ ,5,6 ⁻								
653(2)									
744.950(6)									
757.196(9)									
770(30)	0 ⁺ ,1 ⁺					0	weak		95Ph01
804.27(1)									
827.06(1)	5 ⁻ ,6,7 ⁽⁻⁾								
855.969(5)	4 ⁻ ,5			50					67Hj04
863.003(7)	3,4								
869.415(7)	3 ⁻ ,4,5 ⁻								
881.1(11)									
896.7(9)									
905.1(8)									
917.5(14)									
939(2)									
968.0(4)									
1020.95(1)	3 ⁻ ,4,5 ⁻								
1031.2(6)									
1053.07(2)									
1059.64(2)									
1067.1(5)				83					67Hj04
1075.1(20)									
1097.3(5)									
1129.2(3)									
1143.3(5)									
1159.6(6)									
1180.7(6)				307					67Hj04
1237.3(5)									
1242.5(3)									
1261(8)									
1267.8(12)									
1285.6(4)		$\langle 2+4 \rangle$	0.28+0.82	52	0.23				67Hj04
1301.8(20)			incl	150	6.6				67Hj04
1330(30)	$\langle 1^+ \rangle$					0	478		95Ph01
1379(40)				49					67Hj04
1446(40)	X ⁽⁺⁾	$\langle 0+2 \rangle$	0.01+0.01	90+64					67Hj04
1500(30)	$\langle 1^+ \rangle$					0	423		95Ph01
1566(2)									
1586(2)		$\langle 2 \rangle$	0.059	112	0.47				67Hj04
1596(2)									
1605.2(20)									
1616.8(20)									
1689(2)				56					67Hj04
1716.6(20)									

(continued)

¹²⁴Sb
51

E^*	J^π	L	C^2S	σ (d,p)	$(2J+1)S$	L	σ (τ ,t)	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)	$\mu\text{b/sr}$	(d,p)	(τ ,t)	$\mu\text{b/sr}$	Γ_{cm}	
1746.0(20)									
1832.8(20)				80					
1870(30)	$\langle 1^+ \rangle$					0	weak		95Ph01
1882.2(20)									
1952.7(20)	$X^{\langle + \rangle}$	$\langle 0+2 \rangle$	0.02+0.02	66+48					67Hj04
2038.6(20)									
2050(30)	$\langle 1^+ \rangle$					0	weak		95Ph01
2165.1(20)									
2179.2(20)									
2220.6(20)									
2305(40)				53					67Hj04
2375(40)		$\langle 4,3 \rangle$	0.98+0.16	214	7.8,1.3				67Hj04
2410(30)	$\langle 1^+ \rangle$					0	weak		95Ph01
2465(40)				77					67Hj04
2555(40)	X^+	2	0.27	613	2.2				67Hj04
2615(40)	X^-	3	0.31	434	2.5				67Hj04
2685(40)	$X^{\langle - \rangle}$	$\langle 1 \rangle$	0.18	631	1.5				67Hj04
2735(40)	$X^{\langle - \rangle}$	$\langle 1 \rangle$	0.17	598	1.4				67Hj04
2795(40)	X^-	3	0.52	750	4.12				67Hj04
2850(30)	$\langle 1^+ \rangle$					0	weak		95Ph01
2875(40)	X^-	3	0.41	598	3.26				67Hj04
2935(40)	X^-	3	0.35	523	2.82				67Hj04
3090(30)	$\langle 1^+ \rangle$					0	weak		95Ph01
3280(30)	$\langle 1^+ \rangle$					0	weak		95Ph01
3600(30)	$\langle 1^+ \rangle$					0	weak		95Ph01
3970(30)	$\langle 1^+ \rangle$					0	weak		95Ph01
4150(30)	$\langle 1^+ \rangle$					0	weak		95Ph01
			67Hj04	67Hj04	67Hj04	95Ph01	95Ph01		Ref.
			97Ii01						Ref.

Additional data on this isotope can be found in [95Ph01].

* Discussion about large uncertainties in (d,p) reaction data [67Hj04] can be found in [97Ii01]; original values S' and cross sections can be found in [67Hj04]; correspondence between E^* is weak.

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [97Ii01]. Part 2

¹²⁴Sb
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E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	0.0 3 ⁻	10.9 5 ⁺	36.8 $\langle 8 \rangle^-$	40.8 3 ⁺ ,4 ⁺	80.8 3 ⁺ ,4 ⁺	87.6 4 ⁻	103.6	125.2 6 ⁻	131.7 $\langle 5 \rangle^-$	180.0 7 ⁻ ,8 ⁻
10.863(1)	5 ⁺		100									
36.844(1)	$\langle 8 \rangle^-$			100								
40.804(1)	3 ⁺ ,4 ⁺		98(15)	1.9(2)								

(continued)

¹²⁴Sb
51

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	0.0 3 ⁻	10.9 5 ⁺	36.8 8 ⁻	40.8 3 ⁺ ,4 ⁺	80.8 3 ⁺ ,4 ⁺	87.6 4 ⁻	103.6	125.2 6 ⁻	131.7 5 ⁻	180.0 7 ⁻ ,8 ⁻
80.764(1)	3 ⁺ ,4 ⁺		6.3(7)			94(16)						
87.6016(4)	4 ⁻		100									
103.6514(6)	2 ⁻ -4 ⁻		100									
125.229(1)	6 ⁻			6.3(3)	92(3)			1.8(2)				
131.693(1)	5 ⁻							100				
180.051(2)	7 ⁻ ,8 ⁻				100					<9.7		
195.982(1)	4 ⁺ ,5 ⁺			12(1)		88(2)						
214.603(1)	3 ⁺ -5 ⁺			1.3(1)		23(1)	74(1)	1.5(1)				
248.369(1)	X ⁺						100					
287.129(2)	3 ⁺ ,4 ⁺			16(1)		78(2)	0.6(2)					
368.333(8)												100
371.823(3)	6 ⁻ -8 ⁻				81(3)					19(2)		
384.534(3)	4 ⁻ ,5 ⁻		63(3)					1.9(1)			35(1)	
386.288(1)	2 ⁺ -4 ⁺		12(1)			4(1)	7(1)					
402.877(2)	3 ⁺ ,4 ⁺		13(1)	5.8(4)			67(3)		5.8(3)			
419.062(2)	2 ⁻ -4 ⁻		9(1)				18(1)	66(2)	1.5(6)			
439.172(2)	4 ⁻ ,5 ⁻							69(3)		31		
445.672(3)	6 ⁻			2.9(6)							39	57(2)
471.260(2)	X ⁺					17(2)	18(1)					
483.999(2)	3 ⁺ -5 ⁺			26(2)		12(1)		3.0(4)				
522.691(2)	X ⁺					13(1)	58(2)					
581.916(4)				30(2)		13(2)	50(2)					
598.658(4)	3 ⁻ ,4 ⁻		80(5)								18(1)	
612.693(7)							32(2)					
642.057(4)	5 ⁻ ,6,7 ⁻											68(4)
642.652(4)	4 ⁻ ,5,6 ⁻							85(5)				
744.950(6)						15(1)	6(2)					
757.196(9)						36(4)						
804.27(1)						58(3)	27(4)					
827.06(1)	5 ⁻ ,6,7 ⁻										21(4)	13(3)
855.969(5)	4 ⁻ ,5							23(2)			12(2)	
863.003(7)	3,4		8(1)					46(3)	12(1)			
869.415(7)	3 ⁻ ,4,5 ⁻		13(2)					10(1)			18(1)	
1020.95(1)	3 ⁻ ,4,5 ⁻		35(10)								31(4)	
1059.64(2)								44(6)				

Energy levels and branching ratios [97Ii01]. Part 3

¹²⁴Sb
51

E^*	J^π	Branching ratios in percentage										
[keV]		$E_f^*:$ $J_f^\pi:$	196.0 4 ⁺ ,5 ⁺	214.6	248.4 X ⁺	287.1 3 ⁺ ,4 ⁺	371.8	384.5 4 ⁻ ,5 ⁻	386.3	402.9 3 ⁺ ,4 ⁺	419.1	439.2 4 ⁻ ,5 ⁻
287.129(2)	3 ⁺ ,4 ⁺			5.3(5)								
386.288(1)	2 ⁺ –4 ⁺			5.3(2)	72(1)							
402.877(2)	3 ⁺ ,4 ⁺		9(1)									
419.062(2)	2 ⁻ –4 ⁻		2.8(3)					2.6(7)				
439.172(2)	4 ⁻ ,5 ⁻							<5.5				
445.672(3)	6 ⁻						1.9(4)					
471.260(2)	X ⁺		42(2)	13(1)		3.9(4)			5(1)			
483.999(2)	3 ⁺ –5 ⁺		34(1)	18		7						
522.691(2)	X ⁺									29(1)		
581.916(4)									7			
598.658(4)	3 ⁻ ,4 ⁻										1.3(2)	0.6(2)
612.693(7)				21(3)	40(2)				7(2)			
642.057(4)	5 ⁻ ,6,7 ⁻						15(1)					17(2)
642.652(4)	4 ⁻ ,5,6 ⁻							8.3(8)				
744.950(6)			27(1)	16(1)		11(3)				15(1)		
757.196(9)			40(3)			23(2)						
804.27(1)				15(2)								
827.06(1)	5 ⁻ ,6,7 ⁽⁻⁾						66(3)					
863.003(7)	3,4										23(1)	
869.415(7)	3 ⁻ ,4,5 ⁻							15(1)			10(1)	25(2)
1020.95(1)	3 ⁻ ,4,5 ⁻							16(2)				
1053.07(2)											100	
1059.64(2)								12(2)				30(3)

Energy levels and branching ratios [97Ii01]. Part 4

¹²⁴Sb
51

E^* [keV]	J^π	Branching ratios in percentage							
		$E_f^*:$ $J_f^\pi:$	445.7 6 ⁻	471.3 X ⁺	581.9	598.7 3 ⁻ ,4 ⁻	612.7	642.1 5 ⁻ ,6,7 ⁻	642.7 4 ⁻ ,5,6 ⁻
642.652(4)	4 ⁻ ,5,6 ⁻		6.9(4)						
744.950(6)				6(2)			4(1)		
855.969(5)	4 ⁻ ,5		60(3)					5.0(4)	
863.003(7)	3,4					11(1)			
869.415(7)	3 ⁻ ,4,5 ⁻					5			4
1020.95(1)	3 ⁻ ,4,5 ⁻					18(2)			
1059.64(2)					14(2)				

Energy levels and branching ratios [99Ka26].

¹²⁵Sb
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E^*	$2J^\pi$	L	C^2S	C^2S'	σ (τ, d)	C^2S	L	C^2S	σ (d, τ)	L	C^2S	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	(τ, d)	$\mu b/sr$	theor		(d, τ)	$\mu b/sr$		(t, α)	(t, α)	Γ_{cm}	
0.0 ^a	7 ⁺	4	0.79	5.9	55	8.0	4	1.64(13)	58	4	1.45	1.68	2.7586(3) yr	68Au01
332.14(4)	5 ⁺	2	1.01	4.9	310	6.0	2	0.37(3)	150	2	0.43	0.20	156(8) ps	68Au01
643.2(3)	3 ⁺ , 5 ⁺	2	0.29	1.3	62	4.0	2	0.21(3)	58	2	0.12	0.09		68Au04
921.7(4)	1 ⁺	0	0.35	0.5	77	2.0	0	0.06(1)	22	0	0.03			68Au04
1067.30(2)	9 ⁺													
1089.63(3) ^a	11 ⁺													05Po03
1349.46(4)	$\langle 7^+ \rangle$													
1419.87(4)	9 ⁺													
1484.1(6)	3 ⁺ , 5 ⁺	2	0.2, 0.1	≈ 0.7	42									68Au01
1560(5)														
1591.58(5)	7 ⁺ , 9 ⁺													
1660(20)														
1700.9(5)														
1735.7(3)	$\langle 3 \rangle^+$	2	0.3	1.3	90									68Au01
1800(20)	1 ⁺	0	0.03											68Au01
1806.70(2)	$\langle 9 \rangle^+$						4	3.1	121	4	2.0			68Au04
1889.86(2)	$\langle 11^- \rangle$	$\langle 5 \rangle$	1.20	9.0	230	12.0								68Au01
1894(10)														
1913.5(5)														
1947.4(5)	$\langle 3 \rangle^+$	2	0.14											68Au01
1982.88(4)	11 ⁻													
1993 ^a	$\langle 15^+ \rangle$													05Po03
2002.14(1)	9, 11 ⁺													
2113(1)	1 ⁻ , 3 ⁻						1	1.3	116	1	0.80			68Au04
2193	$\langle 13 \rangle$													05Po03
2201.025(12)	9, 11 ⁺													
2227.1(4)														
2240.79(3)	$\langle 9 \rangle$													
2253.47(5)	9–13													
2275.770(10)	9, 11 ⁺													
2288.25(8)	$\langle 11^+ \rangle$													
2299(10)	1 ⁻ , 3 ⁻						1	0.9	113	1	0.39			68Au04
2324 ^b	$\langle 15^- \rangle$													05Po03
2470 ^b	$\langle 19^- \rangle$												155 ns	05Po03
2483 ^a	$\langle 19^+ \rangle$													05Po03
2488														05Po03
2515(10)	1 ⁻ , 3 ⁻									1	0.2			73Co33
2570(20)	1 ⁺	0	0.18											68Au01
2636 ^a	$\langle 21^+ \rangle$													05Po03
2670(20)	1 ⁺	0	0.13											68Au01
2678(10)	5 ⁻ –9 ⁺									3, 4	≈ 0.4			73Co33
2710(20)	1 ⁺	0	0.10											68Au01
2780(20)														
2815 ^a	$\langle 23^+ \rangle$													05Po03
2890(20)	3 ⁺ , 5 ⁺	2	0.15, 0.1											68Au01

(continued)

¹²⁵Sb
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E^*	$2J^\pi$	L	C^2S	C^2S'	σ (τ, d)	C^2S	L	C^2S	σ (d, τ)	L	C^2S	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	(τ, d)	$\mu b/sr$	theor		(d, τ)	$\mu b/sr$		(t, α)	(t, α)	Γ_{cm}	
2916 ^b	$\langle 21^- \rangle$													05Po03
3122(10)	$7^+, 9^+$									4	0.50			73Co33
3190(10)	$5^-, 7^-$									3	0.61			73Co33
3398 ^b	$\langle 23^- \rangle$													05Po03
3462(10)	$1^-, 3^-$									1	0.2			73Co33
3941 ^b	$\langle 25^- \rangle$													05Po03
4479 ^b	$\langle 27^- \rangle$													05Po03
4932 ^b	$\langle 29^- \rangle$													05Po03
5364 ^b	$\langle 31^- \rangle$													05Po03
15178(20)	3^+													
15385(20)	1^+													
16423(20)	$\langle 5 \rangle^+$													
16707(20)	$\langle 5 \rangle^+$													
17875(20)	7^-													
18474(20)	$\langle 3^- \rangle$													
18543(20)	$\langle 3^- \rangle$													
18965(20)	$\langle 1 \rangle^-$													
19124(20)	$\langle 1 \rangle^-$													
			68Au01	68Co22	68Co22	68Co22		68Au04	68Au04		73Co33	80Sh03		Ref.

Additional data on this isotope can be found in [98Lo09, 80Sh03].

Two high-spin bands (marked here a,b) were considered in [05Po03].

 $C^2S' = (2J+1)C^2S / (2I+1)$ was determined from σ (τ, d) reaction measured at 50° [68Co22].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [99Ka26]. Part 2

¹²⁵Sb
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E^*	$2J^\pi$	Branching ratios in percentage								
		E_f^* :	0.0	332	643	922	1067	1090	1349	1420
[keV]		$2J_f^\pi$:	7^+	5^+	$3^+, 5^+$	1^+	9^+	11^+	$\langle 7^+ \rangle$	9^+
332.14(4)	5^+		100							
643.2(3)	$3^+, 5^+$		69	31						
921.7(4)	1^+			75(14)	25(18)					
1067.30(2)	9^+		100							
1089.63(3) ^a	11^+		100							
1349.46(4)	$\langle 7^+ \rangle$		15(1)	81(3)			4.7(5)	<4.9		
1419.87(4)	9^+		29(1)	71(3)						
1484.1(6)	$3^+, 5^+$		65(10)	10(7)	24(7)					
1591.58(5)	$7^+, 9^+$		38(3)	47(3)			15(1)			
1700.9(5)				75(15)	15(15)	10(4)				
1735.7(3)	$\langle 3 \rangle^+$		3(2)	81(3)	5(2)				11(2)	
1806.70(2)	$\langle 9 \rangle^+$		97(4)							3.2(7)
1889.86(2)	$\langle 11^- \rangle$		1.1(1)	0.06(1)			62(2)	15(1)		22(1)

(continued)

¹²⁵Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage								
		$E_f^*:$ $2J_f^\pi:$	0.0 7 ⁺	332 5 ⁺	643 3 ⁺ ,5 ⁺	922 1 ⁺	1067 9 ⁺	1090 11 ⁺	1349 ⟨7 ⁺ ⟩	1420 9 ⁺
1913.5(5)			77	23						
1947.4(5)	⟨3 ⁺ ⟩		7(3)	86(15)	7(7)					
1982.88(4)	11 ⁻		0.07(2)				93(4)	6.5(5)		0.35(5)
2002.14(1)	9,11 ⁺		88(4)				10(1)	0.4(1)	1.9(1)	
2113(1)	1 ⁻ ,3 ⁻		100							
2201.025(12)	9,11 ⁺		63(3)					22(3)		
2227.1(4)			≈41					≈59		
2240.79(3)	⟨9⟩						31(1)	19(1)	1.5(3)	
2253.47(5)	9–13							20(1)	8(2)	
2275.770(10)	9,11 ⁺		87(3)				4(1)	4.2(4)		
2288.25(8)	⟨11 ⁺ ⟩						93(4)	5.4(4)		

Energy levels and branching ratios [99Ka26]. Part 3

¹²⁵Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage					
		$E_f^*:$ $2J_f^\pi:$	1591.58 7 ⁺ ,9 ⁺	1806.70 ⟨9 ⁺ ⟩	1889.87 ⟨11 ⁻ ⟩	1982.88 11 ⁻	2002.14 9,11 ⁺
2201.025(12)	9,11 ⁺				15(2)		
2240.79(3)	⟨9⟩			4.1(3)	45(2)	<3.3	
2253.47(5)	9–13				1.9(3)	70(3)	
2275.770(10)	9,11 ⁺		5.1(10)				
2288.25(8)	⟨11 ⁺ ⟩						2.0(4)

Energy levels and branching ratios [02Ka66, 93Mi12].

¹²⁶Sb
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E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage					
			$E_f^*:$ $J_f^\pi:$	0.0 ⟨8 ⁻ ⟩	17.7 ⟨5 ⁺ ⟩	40.4 ⟨3 ⁻ ⟩	83.0	104.6 ⟨3 ⁺ ⟩
0.0	⟨8 ⁻ ⟩	12.35(6) d						
17.7(3)	⟨5 ⁺ ⟩	19.15(8) m		100				
40.4(3)	⟨3 ⁻ ⟩	≈11 s			100			
83.0(3)	⟨2 ⁻ ,3 ⁻ ,4 ⁻ ⟩	5.1(3) ns				100		
104.6(3)	⟨3 ⁺ ⟩	553(5) ns			45(4)	49(6)	6.3(6)	
127.9(3)	⟨2 ⁺ ⟩	78.0(5) ns				85		14.7(6)

Energy levels and branching ratios [96Ki01].

¹²⁷Sb
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E^*	$2J^\pi$	L	C^2S	C^2S	L	C^2S	σ (d, τ)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]			(t, α)	(t, α)		(d, τ)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 7 ⁺	491 (5) ⁺	1095	1114 1471
0.0 ^a	7 ⁺	4	1.65	1.82	4	2.10(21)	74	3.85(5) d	73Co33					
491.20(23)	(5) ⁺	2	0.23	0.13	2	0.36(4)	140		73Co33	100				
765.2	3 ⁺	2	0.08	0.03	2	0.18(3)	43		95St28					
1095.48(17) ^a	9 ⁺								95St28	100				
1110(10)	1 ⁺	0	0.02		(0)	0.05(2)	8		73Co33					
1114.35(18)	11 ⁺								95St28	100				
1185.6	1 ⁺								95St28					
1351.6	5 ⁺								95St28					
1471.4(3)	7 ⁺								95St28	44(9)	44(9)		11(2)	
1584.31(21)	9 ⁺								95St28	32(3)	68(14)			
1610(10)														
1700.8	3 ⁺								95St28					
1711.7(4)	7 ⁺								95St28		100			
1840.2	5 ⁺								95St28					
1920.20(21)								11(1) μs				43(9)	57(6)	
1937.50(18)										0.7(4)			98(22)	
1948 ^a	(15 ⁺)								05Po03					
1955.08(22)												100		
1990.6(3)														
1994.1									95St28					
2003.50(21)	(9,11 ⁺)									92(9)			5.9(6)	
2051	(13)								05Po03					
2093.43(19)	(9,11 ⁺)									0.7(3)		18(2)	66(14)	
2054.2									95St28					
2102.4(3)										76(6)	24(6)			
2110.3(3)	(9-13)													
2124.32(22)														
2140.39(22)												20(3)		
2150.56(22)	(9,11 ⁺)									1.4(14)		10(3)	80(8)	
2160.0(5)	(9,11 ⁺)									44(6)		56(11)		
2194 ^b	(15 ⁻)								05Po03					
2202.1(3)														
2221.55(22)	(9-13)													
2256.4(5)													100	
2274.70(24)	(9-13)											17(2)	79	
2304.1(4)	(9 ⁺)	[4]	1.91		4	4.1	121		73Co33	50(15)	50(16)			
2317.6(3)	(9,11 ⁺)									93(9)				
2325 ^b	(19 ⁻)								05Po03					
2345.68(22)	(9-13)													
2351.82(24)	(9-13)												12(4)	
2358.5(3)	(9-13)													
2372.59(24)	(9-13)													
2379 ^a	(19 ⁺)								05Po03					
2406.3(3)	(9-13)											3(1)	32(3)	
2423(10)														

(continued)

¹²⁷Sb
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E^*	$2J^\pi$	L	C^2S	C^2S	L	C^2S	σ (d, τ)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(t, α)	(t, α)		(d, τ)	$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0.0 7 ⁺	491 (5) ⁺	1095	1114	1471
2447.4(3)	$\langle 9,11^+ \rangle$										18(2)				41(8)
2455.87(21)	$\langle 9-13 \rangle$												4(1)		
2470.0(5)	$\langle 9,11^+ \rangle$										100				
2482.8(5)	$\langle 9-13 \rangle$													100	
2500.72(22)	$\langle 9-13 \rangle$														
2513.9(5)	$\langle 9,11^+ \rangle$										100				
2529.69(21)	$\langle 9-13 \rangle$												7(1)		
2549(10)	$1^-, 3^-$	1	0.74		1	1.2	95		73Co33						
2553.7(3)	$\langle 9-13 \rangle$												33(10)		
2584.9(5)											100				
2586.81(21)	$\langle 9^- - 13^- \rangle$													11(2)	
2630.7(6)	$\langle 9-13 \rangle$														89(19)
2638.5(3)	$\langle 9-13 \rangle$												2(1)		
2663.7(3)	$\langle 9-13 \rangle$														
2695.7(4)	$\langle 9,11^+ \rangle$										88(8)		8(2)		
2747(10)	$1^-, 3^-$	1	0.61		$\langle 1 \rangle$	0.6			73Co33						
2762.20(25)	$\langle 9^- - 13^- \rangle$												17(1)	36(4)	
2785.2(4)	$\langle 9-13 \rangle$														
2790	$\langle 1^-, 3^- \rangle$														
2805.24(25)	$\langle 9,11^+ \rangle$										28(3)		19(3)		
2834.4(5)	$\langle 9-13 \rangle$													50(10)	
2846.3(4)	$\langle 9^- \rangle$										76(9)		15(6)		
2864 ^b	$\langle 21^- \rangle$								05Po03						
2866(10)	$5^-, 7^-$	3	1.47						73Co33						
2867.3(3)	$\langle 9^- - 13^- \rangle$													23(7)	
2881.1(5)	$\langle 9^+ \rangle$										70(10)	30(10)			
3164(10)	$7^+, 9^+$	4	0.53						73Co33						
3256 ^b	$\langle 23^- \rangle$								05Po03						
3868 ^b	$\langle 25^- \rangle$								05Po03						
4255 ^b	$\langle 27^- \rangle$								05Po03						
4736 ^b	$\langle 29 \rangle$								05Po03						
5101 ^b	$\langle 31 \rangle$								05Po03						
5354 ^b	$\langle 33 \rangle$								05Po03						
			73Co33	80Sh03		68Au04	68Au04		Ref.						

Additional data on this isotope can be found in [95St28, 80Sh03].

Three high-spin bands (marked here a,b,c) were considered in [05Po03].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [96Ki01]. Part 2

¹²⁷Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	1584	1712	1920	1937.50	1955.08	1990.6	2003.50 $\langle 9,11^+ \rangle$	2093.43 $\langle 9,11^+ \rangle$	2102.4
1937.50(18)			1.1(4)								
1990.6(3)					100						
2003.50(21)	$\langle 9,11^+ \rangle$					2.5(5)					
2093.43(19)	$\langle 9,11^+ \rangle$		13(3)			2.1(3)					
2110.3(3)	$\langle 9-13 \rangle$				21(2)			79(9)			
2124.32(22)					10(2)		90(9)				
2140.39(22)					23(3)	57(6)					
2150.56(22)	$\langle 9,11^+ \rangle$		5(3)			5(2)					
2202.1(3)					83(6)			17(6)			
2221.55(22)	$\langle 9-13 \rangle$				3(1)	83(8)					
2274.70(24)	$\langle 9-13 \rangle$								4(2)		
2317.6(3)	$\langle 9,11^+ \rangle$										7(3)
2345.68(22)	$\langle 9-13 \rangle$				9(1)		50(4)				
2351.82(24)	$\langle 9-13 \rangle$						36(4)		52(4)		
2358.5(3)	$\langle 9-13 \rangle$				100						
2372.59(24)	$\langle 9-13 \rangle$				13(2)						
2406.3(3)	$\langle 9-13 \rangle$					19(2)					
2447.4(3)	$\langle 9,11^+ \rangle$					41(8)					
2455.87(21)	$\langle 9-13 \rangle$					5(1)	39(4)			11(1)	
2500.72(22)	$\langle 9-13 \rangle$		19(2)			3(1)	36(4)			24(3)	
2529.69(21)	$\langle 9-13 \rangle$				7(1)	48(5)					
2553.7(3)	$\langle 9-13 \rangle$					29(5)					
2586.81(21)	$\langle 9^- - 13^- \rangle$		16(2)			7(1)	5(1)		28(3)	28(3)	
2630.7(6)	$\langle 9-13 \rangle$										11(7)
2663.7(3)	$\langle 9-13 \rangle$						19(4)			58(8)	
2762.20(25)	$\langle 9^- - 13^- \rangle$							5(1)	7(1)		
2785.2(4)	$\langle 9-13 \rangle$				43(5)	24(5)					
2805.24(25)	$\langle 9,11^+ \rangle$										11(3)
2834.4(5)	$\langle 9-13 \rangle$					50(10)					
2846.3(4)	$\langle 9^- \rangle$			9(3)							
2867.3(3)	$\langle 9^- - 13^- \rangle$					30(3)	10(3)			37(3)	

Energy levels and branching ratios [96Ki01]. Part 3

¹²⁷Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	2110.3	2124.32	2140.39	2150.56 $\langle 9,11^+ \rangle$	2202.1	2221.55	2274.70	2317.6 $\langle 9,11^+ \rangle$	2345.68
2221.55(22)	$\langle 9-13 \rangle$			14(2)							
2345.68(22)	$\langle 9-13 \rangle$		10(1)		9(1)		19(1)	3(1)			
2372.59(24)	$\langle 9-13 \rangle$		82(8)	2(2)			2(2)				
2406.3(3)	$\langle 9-13 \rangle$							46(10)			
2455.87(21)	$\langle 9-13 \rangle$			12(1)				14(2)			10(1)

(continued)

¹²⁷Sb
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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	2110.3	2124.32	2140.39	2150.56 $\langle 9, 11^+ \rangle$	2202.1	2221.55	2274.70	2317.6 $\langle 9, 11^+ \rangle$	2345.68
2500.72(22)	$\langle 9-13 \rangle$				3(1)			9(1)			
2529.69(21)	$\langle 9-13 \rangle$			11(2)		4(1)			3(1)		11(2)
2553.7(3)	$\langle 9-13 \rangle$										19(5)
2586.81(21)	$\langle 9^--13^- \rangle$				2(1)			2			
2638.5(3)	$\langle 9-13 \rangle$			6(2)							28(3)
2663.7(3)	$\langle 9-13 \rangle$			23(8)							
2762.20(25)	$\langle 9^--13^- \rangle$				16(1)					16(3)	
2785.2(4)	$\langle 9-13 \rangle$					33(9)					
2805.24(25)	$\langle 9, 11^+ \rangle$								8(6)	33(3)	

Energy levels and branching ratios [96Ki01]. Part 4

¹²⁷Sb
51

E^* [keV]	$2J^\pi$	Branching ratios in percentage							
		$E_f^*:$ $2J_f^\pi:$	2351.82	2358.5	2372.59	2406.3	2455.87	2500.72	
2455.87(21)	$\langle 9-13 \rangle$		5(1)						
2500.72(22)	$\langle 9-13 \rangle$			6(1)					
2529.69(21)	$\langle 9-13 \rangle$		3(1)		6(1)				
2553.7(3)	$\langle 9-13 \rangle$				19(5)				
2586.81(21)	$\langle 9^--13^- \rangle$			2					
2638.5(3)	$\langle 9-13 \rangle$				47(5)	18(2)			
2695.7(4)	$\langle 9, 11^+ \rangle$								4(2)
2762.20(25)	$\langle 9^--13^- \rangle$						3(1)		

Energy levels and branching ratios [01Ka61].

¹²⁸Sb
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E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage							
			$E_f^*:$ $J_f^\pi:$	0.0+X 5 ⁺	45.70+X 4 ⁺	77.8+X 3 ⁺	152.7+X 2 ⁺ , 3 ⁺	482.4+X 2 ⁺ , 3 ⁺	635.2+X 1 ⁺	751.6+X
0.0	8 ⁻	9.01(4) h								
0.0+X	5 ⁺	10.4(2) m		x						
45.70+X	4 ⁺			100						
77.8+X	3 ⁺				100					
152.7+X	2 ⁺ , 3 ⁺					100				
482.4+X	2 ⁺ , 3 ⁺				41(6)	59(6)				
635.2+X	1 ⁺					20(2)	72(4)	8(1)		
751.6+X									100	
833.0+X	1 ⁺						99(11)			1.1(3)

Energy levels and branching ratios [96Te01].

¹²⁹Sb
51

E^*	$2J^\pi$	L	C^2S	σ (d, τ)	L	C^2S	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d, τ)	$\mu\text{b/sr}$		(t, α)	(t, α)	Γ_{cm}	
0.0	7 ⁺	4	2.01(20)	61	4	1.75	1.85	4.40(1) h	68Au04
645.2(1)	3 ⁺ ,5 ⁺	2	0.26(4)	69	2	0.20	0.06		68Au04
913.5(2)	3 ⁺	(2)	0.09(3)	13	2	0.05			73Co33
1128.45(5)	(11 ⁺)								
1161.30(5)	(9 ⁺)								
1252.2(2)	(5 ⁺)								
1493.1(2)	1 ⁺	(0)	0.03(2)	6					68Au04
1503.6(2)	7 ⁺								95St28
1762.2(3)	3 ⁺								95St28
1842.1(2)	5 ⁺								95St28
1849.0(2)	7 ⁺								95St28
1851.05(10)	19 ⁻							17.7(1) m	03Ge04
1860.9(1)	15 ⁻							2.2(2) μs	03Ge04
1910.9(1)									
1913.8(3)									95St28
1922.1(2)									
1928.59									
1940.5									
1972.7									
1978.4(15)									
1999.5(25)									
2030.7(2)									
2040.5	19 ⁺								03Ge04
2115.1(2)									95St28
2138.9	23 ⁺							1.1(1) μs	03Ge04
2155.0(3)									95St28
2181.1(2)									95St28
2220.5(2)									
2259.7(3)									95St28
2263.0(2)									
2316.9(15)									
2331.2(2)									
2369.1(15)									
2383.4(3)									95St28
2393.0(2)									95St28
2555.9(1)									
2710(10)	7 ⁺ ,9 ⁺	(4)	3.5		4	2.72			
2714.3(5)									
2723.1(2)									
2747.8(3)									
2785.5(3)									95St28
2792.5(2)									
2822.4(25)									
2831.3(3)									95St28
3071(10)	1 ⁻ ,3 ⁻	(1)	1.1	55	1	0.82			

(continued)

¹²⁹Sb
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E^*	$2J^\pi$	L	C^2S	σ (d, τ)	L	C^2S	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d, τ)	$\mu\text{b/sr}$		(t, α)	(t, α)	Γ_{cm}	
3094.0(3)									95St28
3110(10)									
3291(10)									
3410(10)	$1^-, 3^-$				1	0.40			
3484(10)	$5^-, 7^-$				3	1.42			
	95St28		68Au04	68Au04		73Co33	80Sh03		Ref.

Additional data on this isotope can be found in [03Ge04, 95St28, 80Sh03].

Parameter C^2S for (t, α) reaction is normalized to $\Sigma C^2S=2$ for the low-lying levels [73Co33, 96Te01].

Energy levels and branching ratios [96Te01]. Part 2

¹²⁹Sb
51

E^*	$2J^\pi$	Branching ratios in percentage										
		E_f^* :	0.0	645	913	1128	1161	1252	1493	1503.6	1842.1	1849.0
[keV]		$2J_f^\pi$:	7^+	$3^+, 5^+$	$3^+, 5^+$	$\langle 11^+ \rangle$	$\langle 9^+ \rangle$	$\langle 5^+ \rangle$	1^+			
645.2(1)	$3^+, 5^+$		100									
913.5(2)	3^+		100									
1128.45(5)	$\langle 11^+ \rangle$		100									
1161.30(5)	$\langle 9^+ \rangle$		100									
1252.2(2)	$\langle 5^+ \rangle$		100									
1493.1(2)	1^+			50	50							
1503.6(2)	7^+		37	33			18	12				
1762.2(3)	3^+			100								
1842.1(2)	5^+			81					19			
1849.0(2)	7^+			74			26					
1851.05(10)	19^-					100						
1860.9(1)	15^-					100	x					
1910.9(1)						73(14)						
1913.8(3)										100		
1922.1(2)							100					
1978.4(15)						18(6)						
2030.7(2)						43(10)						
2115.1(2)				47				17				36
2155.0(3)				100								
2181.1(2)				32				47		15		7
2259.7(3)				100								
2263.0(2)												
2316.9(15)						25(8)	32(1)					
2369.1(15)							65(12)					
2383.4(3)							100					
2393.0(2)					25				100			
2747.8(3)				100				75				

(continued)

 $^{129}_{51}\text{Sb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	0.0 7 ⁺	645 3 ⁺ ,5 ⁺	913 3 ⁺ ,5 ⁺	1128 ⟨11 ⁺ ⟩	1161 ⟨9 ⁺ ⟩	1252 ⟨5 ⁺ ⟩	1493 1 ⁺	1503.6	1842.1	1849.0
2785.5(3)										100		
2831.3(3)										100		
3094.0(3)				100								

Energy levels and branching ratios [96Te01]. Part 3

 $^{129}_{51}\text{Sb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage											
		E_f^* : $2J_f^\pi$:	1851.05 ⟨19 ⁻ ⟩	1860.9	1910.9	1922.1	1978.4	1999.5	2030.7	2263.0	2316.9	2369.1	2555.9 2723.1
1860.9(1)	15 ⁻	x											
1910.9(1)				27(14)									
1978.4(15)				22(5)	60(18)								
1999.5(25)		12.3(18)				88(53)							
2030.7(2)				46(5)	11(4)								
2220.5(2)					83(11)	17(3)							
2263.0(2)							32(2)	36(8)					
2316.9(15)								10.3(16)					
2331.2(2)				9(4)	57(11)	34(9)							
2555.9(1)				52(13)		22(6)				26(3)			
2714.3(5)		41(17)			37(2)				21(7)				
2723.1(2)					44(11)			56(11)					
2792.5(2)				4(2)							14.2(12)	21(2)	61(24)
2822.4(25)										77(15)		23(4)	