

Energy levels and branching ratios [00Bl05].

¹⁰⁷In
₄₉

E^* [keV]	$2J^\pi$	L	S' (τ, d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage						
						$E_f^*:$ $2J_f^\pi:$	0.0 9 ⁺	678 1 ⁻	1001 11 ⁺	1107 $\langle 3 \rangle^-$	1129 $\langle 5 \rangle^+$	1166 $\langle 1 \rangle^+$
0.0	9 ⁺	4	0.8	32.4(3) m	70ThZW							
678.5(3)	1 ⁻	1	0.07	50.4(6) s	70ThZW		100					
1001.25(25)	11 ⁺						100					
1107.1(4)*	$\langle 3 \rangle^-$		≈ 6.0		70ThZW			100				
1129.3(4)*	$\langle 5 \rangle^+$		incl		70ThZW		100					
1166.1(5)*	$\langle 1 \rangle^+$		incl		70ThZW			100				
1396.0(5)*	$\langle 5^+ \rangle$		≈ 0.3		70ThZW		100					
1414.8(5)*	13 ⁺		incl		70ThZW		73(8)		27(8)			
1423.3(4)*	$\langle 9 \rangle^+$		incl		70ThZW		66(5)		34(5)			
1490.9(5)	$\langle 3 \rangle^+$	2	0.52		70ThZW						93(9)	7(4)
1518.9(5)	$\langle 1-5 \rangle^-$							100				
1540.6(5)	X ⁽⁺⁾						100					
1733											x	
1806(1)							91(23)				≈ 9	
1840(20)	$\langle 1^+ \rangle$											
1854(1)	17 ⁺			1.7(3) ns								
1864.6(7)	X ⁻									100		
1910.5(7)	X ⁻						44(14)			56		
1937(1)											100	
1941(1)												
1972.7	$\langle 7-11 \rangle$								100			
2004(2)	19 ⁺			0.6(2) ns								
2200(20)												
2290(20)												
2315(1)							27(8)				60(18)	
2320.2(18)	$\langle 17-21 \rangle^+$											
2340(20)												
2395(20)												
2416.8(3)	$\langle 17-21 \rangle$											
2431.2(3)	$\langle 17, 19 \rangle^+$											
2465(1)							≈ 17				29(9)	
2705(20)												
2795.2(18)	21 ⁺											
2889(2)												
3223.8(9)							1.0(3)	26(8)		26(8)	23(7)	
3283.3(15)	19 ⁻			<0.2 ns								
3314.7(3)	$\langle 19, 21 \rangle^+$											
3442.2(18)	21 ⁻			<0.2 ns								
3537.0(16)	21 ⁻											
3646.2(21)	23 ⁻											
3742.6(3)	$\langle 17-23 \rangle$											
3752.0(16)												
3852.4(3)												
3853.0(19)	23 ⁻											
4039.2(5)	25 ⁻											

(continued)

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E^* [keV]	$2J^\pi$	L	S' (τ, d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage						
						$E_f^*:$ $2J_f^\pi:$	0.0 9 ⁺	678 1 ⁻	1001 11 ⁺	1107 $\langle 3 \rangle^-$	1129 $\langle 5 \rangle^+$	1166 $\langle 1 \rangle^+$
4103.0(17)												
4213.0(22)	25 ⁻											
4650.6(5)	27 ⁻											
4723.0(24)	27 ⁻											
4787.0(21)												
4890.0(24)												
4902.0(22)	29 $\langle - \rangle$											
5075.0(24)												
5182.7(5)	29 $\langle - \rangle$											
5211(3)	29 $\langle - \rangle$											
5502(3)												
5566.0(22)	31 $\langle - \rangle$											
5655(3)	31 $\langle - \rangle$											
6070.0(24)	33 $\langle - \rangle$											
6989(3)	$\langle 33 \rangle$											
9402(10)	5 ⁺											
9815(10)	1 ⁺											
10079(10)	3 ⁺											
70ThZW					Ref.							

* Triplet not resolved in measurements of (τ, d) cross section [70ThZW, 00Bl05].

Energy levels and branching ratios [00Bl05]. Part 2

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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	1396.0 $\langle 5^+ \rangle$	1414.8 13 ⁺	1490.9 $\langle 3 \rangle^+$	1853.6 17 ⁺	1864.6 X ⁻	2004.0 19 ⁺	2320.2	2795.2 21 ⁺	2889.0	
1854(1)	17 ⁺			100								
1941(1)					100							
2004(2)	19 ⁺					100						
2315(1)			13(4)									
2320.2(18)	$\langle 17-21 \rangle^+$							100				
2416.8(3)	$\langle 17-21 \rangle$								100			
2431.2(3)	$\langle 17, 19 \rangle^+$							100				
2465(1)			54(16)									
2795.2(18)	21 ⁺							100				
2889(2)						100						
3223.8(9)					8(2)		17(5)					
3283.3(15)	19 ⁻					91		8.8(18)				
3314.7(3)	$\langle 19, 21 \rangle^+$							7.3(13)		93(10)		
3442.2(18)	21 ⁻							51(2)		5(3)	12(3)	
3537.0(16)	21 ⁻							89(3)		11(5)		
3646.2(21)	23 ⁻									22(7)		

(continued)

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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	1396.0 $\langle 5^+ \rangle$	1414.8 13^+	1490.9 $\langle 3 \rangle^+$	1853.6 17^+	1864.6 X^-	2004.0 19^+	2320.2	2795.2 21^+	2889.0
3742.6(3)	$\langle 17-23 \rangle$									100	
3752.0(16)								34(13)			
3852.4(3)									100		

Energy levels and branching ratios [00Bl05]. Part 3

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E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	3283.3 19^-	3442.2 21^-	3537.0 21^-	3646.2 23^-	3742.6 $\langle 17-23 \rangle$	3752.0	3853.0 23^-	4039.2 25^-	4213.0 25^-
3442.2(18)	21^-		32.5(4)								
3646.2(21)	23^-			75(2)	3(1)						
3752.0(16)			66(3)								
3853.0(19)	23^-				100						
4039.2(5)	25^-					100					
4103.0(17)				81(4)				19(10)			
4213.0(22)	25^-								100		
4650.6(5)	27^-									100	
4723.0(24)	27^-										100
4787.0(21)							100				
4890.0(24)											100
5182.7(5)	$29^{\langle - \rangle}$									12(6)	

Energy levels and branching ratios [00Bl05]. Part 4

 $^{107}_{49}\text{In}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	4650.6 27^-	4723.0 27^-	4787.0	4902.0 $29^{\langle - \rangle}$	5075.0	5182.7 $29^{\langle - \rangle}$	5211 $29^{\langle - \rangle}$	5566.0 $31^{\langle - \rangle}$	5655 $31^{\langle - \rangle}$
4902.0(22)	$29^{\langle - \rangle}$		100								
5075.0(24)					100						
5182.7(5)	$29^{\langle - \rangle}$		88								
5211(3)	$29^{\langle - \rangle}$			100							
5502(3)							100				
5566.0(22)	$31^{\langle - \rangle}$					25(10)		75(6)			
5655(3)	$31^{\langle - \rangle}$								100		
6070.0(24)	$33^{\langle - \rangle}$									100	
6989(3)	$\langle 33 \rangle$										100

Energy levels and branching ratios [00Bl21].

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E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage							
			E_f^* : J_f^π :	0 7 ⁺	29.7 2 ⁺	96.9 <6-8>	198.4 3 ⁺	230.7 <4> ⁺	247.7 6 ⁺	266.1 3 ⁺
0	7 ⁺	58.0(12) m								
29.75(5)	2 ⁺	39.6(7) m								
96.91(6)	<6,7,8>			100						
198.38(7)	3 ⁺				100					
230.72(6)	<4> ⁺						100			
247.69(4)	6 ⁺ , <7> ⁺			91(5)		8.8(12)				
266.06(7)	3 ⁺				100					
288.89(6)	<5> ⁺							81(9)	19(12)	
302.51(7)	2 ⁺				75.9(5)		23.3(3)			0.77(14)
481.57(7)	4 ⁺						31(3)			69(6)
598.45(6)	5 ⁺ , <6> ⁺								85(5)	
632.94(7)	4 ⁺ , 5 ⁺						9.1(5)			59(4)
681.63(6)	5 ⁺ , <6> ⁺							66(4)	34(2)	
698.88(8)	1 ⁺				25.0(4)		1.01(10)			
764.27(8)	2 ⁻				14.3(17)		16.0(10)			70(4)
867.97(8)	3 ⁻ , 2 ⁻						26(2)			4.2(4)
957	<8> ⁺		x							
982.35(9)	<5,6>									
1010.12(8)	<2,3> ⁺				74(4)					20.2(12)
1028.26(8)	<4,3>						6.0(6)			58(4)
1037.44(7)	4,5,6								64(4)	
1070.43(8)	<4,3>						5.2(4)			50(8)
1086.16(13)	≥4 ⁺								100	
1094.79(8)	1,2,3				32(5)		4.4(4)			14(1)
1109.84(8)	2,3,4				13(1)		8.1(5)			32(2)
1113.85(8)	1,2,3									21.9(16)
1114.41(10)					53(11)		47(4)			
1119.3(2)	8 ⁻			100						
1158.72(9)	2,3,4						36(2)			25(2)
1166.96(9)										
1178.48(10)							2.2(5)			
1183.47(8)					17(8)		2.5(3)			
1191.44(8)	1 ⁺				20.1(12)		0.37(8)			3.8(2)
1212.71(10)							76(5)			24(2)
1260.74(8)										60(4)
1266.47(10)										
1270.59(9)										
1294.03(13)										
1309.76(8)							18(1)			4.0(3)
1314.97(9)										5.4(6)
1332.4(2)	<9> ⁻									
1358.11(9)										27(2)
1396	<8> ⁺		x							
1401.48(8)							27(2)			16(1)
1410.89(13)										55(2)

(continued)

¹⁰⁸In
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E^*	J^π	$T_{1/2}$ or	Branching ratios in percentage							
[keV]		Γ_{cm}	$E_{\text{f}}^*:$ $J_{\text{f}}^\pi:$	0 7 ⁺	29.7 2 ⁺	96.9 ⟨6–8⟩	198.4 3 ⁺	230.7 ⟨4⟩ ⁺	247.7 6 ⁺	266.1 3 ⁺
1415.77(10)							8.4(10)			10.5(10)
1422.6(1)										
1456.8(1)							7(2)			
1469.4(1)										
1486.3(1)										
1497.9(2)										
1532.1(1)										<96
1542.9(1)										41(3)
1555.7(1)										16(2)
1562.9(1)										
1590.3(2)										
1612.1(1)										
1629.6(1)										
1633	⟨9 ⁺ ⟩									
1707	⟨9 ⁺ ⟩									
1860.9(3)	10 [−]									
1861	10 [−]			x						
2084.3(5)	⟨11 [−] ⟩									
2364	9 [−]									
2406.5(6)	⟨12 [−] ⟩									
2465.4(4)	⟨11⟩ [−]									
2514.5(3)	10 [−]									
2620	⟨10 ⁺ ⟩									
2661.3(3)	11 [−]									
2695	⟨11 [−] ⟩									
2814.7(4)	12 [−]									
2820.0(6)	⟨13 [−] ⟩									
2879	⟨10 ⁺ ⟩									
3006.7(6)	12 [−]									
3045.5(4)	13 [−]									
3063	⟨11 ⁺ ⟩									
3102	⟨11 ⁺ ⟩									
3273	⟨13 [−] ⟩									
3381.2(5)	14 [−]									
3403.0(5)	⟨14 [−] ⟩									
3424	⟨12 ⁺ ⟩									
3675.4(6)	⟨15 [−] ⟩									
3837	⟨13 ⁺ ⟩									
3876.2(6)	⟨15 [−] ⟩									
3908.2(8)	15 [−]	≈0.10 ps								
4050	⟨15 [−] ⟩									
4327	13 ⁺									
4348	⟨14 ⁺ ⟩									
4441.1(7)	⟨16 [−] ⟩									
4463	⟨14 ⁺ ⟩									

(continued)

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E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage							
			E_f^* : J_f^π :	0 7 ⁺	29.7 2 ⁺	96.9 ⟨6–8⟩	198.4 3 ⁺	230.7 ⟨4⟩ ⁺	247.7 6 ⁺	266.1 3 ⁺
4493.3(8)										
4514	14 ⁺									
4569.5(8)	16 [−]									
4697.6(8)	⟨17 [−] ⟩									
4770	15 ⁺									
4878	⟨17 [−] ⟩									
5127	16 ⁺									
5154	17 [−]									
5601	17 ⁺									
5782	⟨19 [−] ⟩									
5889	18 [−]									
6166	18 ⁺									
6709	19 ⁺									
6711	⟨21 [−] ⟩									
7713	⟨23 [−] ⟩									

Additional data on this isotope can be found in [01Ch71, 98Ch35, 96Ko23].

5 bands of levels are considered in [98Ch35].

Energy levels and branching ratios [00Bl21]. Part 2

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E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	288.9 ⟨5⟩ ⁺	302.5 2 ⁺	481.6 4 ⁺	598.4 5 ⁺	632.9 4 ⁺ , 5 ⁺	698.9 1 ⁺	764.3 2 [−]	868.0 3 [−] , 2 [−]	957 ⟨8 ⁺ ⟩	1010.1 ⟨2, 3⟩ ⁺
598.45(6)	5 ⁺ , ⟨6⟩ ⁺				15.0(21)							
632.94(7)	4 ⁺ , 5 ⁺		31(3)									
698.88(8)	1 ⁺			74.0(7)								
867.97(8)	3 [−] , 2 [−]			69(6)								
982.35(9)	⟨5, 6⟩				100							
1010.12(8)	⟨2, 3⟩ ⁺				4.0(3)	2.2(2)						
1028.26(8)	⟨4, 3⟩				36(4)							
1037.44(7)	4, 5, 6				36(3)							
1070.43(8)	⟨4, 3⟩			32(2)					13(2)			
1094.79(8)	1, 2, 3			22(1)				27(2)				
1109.84(8)	2, 3, 4			29(2)	17(1)	1.5(2)						
1113.85(8)	1, 2, 3			66(3)				9.7(5)		2.4(3)		
1158.72(9)	2, 3, 4			30(2)	9(1)							
1166.96(9)									100			
1178.48(10)									98(6)			
1183.47(8)				56(3)				24(2)				
1191.44(8)	1 ⁺			56(17)				19(1)				
1260.74(8)				23(2)	11.4(11)	6.0(6)						
1266.47(10)				54(3)					46(3)			

(continued)

¹⁰⁸In
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E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	288.9 $\langle 5 \rangle^+$	302.5 2^+	481.6 4^+	598.4 5^+	632.9 $4^+, 5^+$	698.9 1^+	764.3 2^-	868.0 $3^-, 2^-$	957 $\langle 8^+ \rangle$	1010.1 $\langle 2, 3 \rangle^+$
1270.59(9)					22(3)	61(7)	17(2)					
1294.03(13)						100						
1309.76(8)				31(2)				48(4)				
1314.97(9)									95(18)			
1358.11(9)				58(3)			15(2)					
1401.48(8)												17(3)
1410.89(13)				45(4)								
1415.77(10)									81(6)			
1422.6(1)					100							
1456.8(1)				41(3)				52(4)				
1469.4(1)				72(5)						28(4)		
1486.3(1)				85(6)								
1497.9(2)									48(5)			
1532.1(1)				100								
1542.9(1)				15(1)				44(3)				
1555.7(1)				84(6)								
1562.9(1)				91(5)				9.1(10)				
1590.3(2)				100								
1612.1(1)				≈ 17					83(4)			
1629.6(1)							75(6)			25(7)		
1707	$\langle 9^+ \rangle$										x	

Energy levels and branching ratios [00Bl21]. Part 3

¹⁰⁸In
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E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	1109.8 2,3,4	1119.3 8^-	1167.0	1183.5	1332.4 $\langle 9 \rangle^-$	1396 $\langle 8^+ \rangle$	1633 $\langle 9^+ \rangle$	1707 $\langle 9^+ \rangle$	1861 10^-	2084.3 $\langle 11^- \rangle$
1332.4(2)	$\langle 9 \rangle^-$			100								
1401.48(8)			30(5)			10(2)						
1486.3(1)					14.7(20)							
1497.9(2)					52(5)							
1633	$\langle 9^+ \rangle$							x				
1860.9(3)	10^-						100					
2084.3(5)	$\langle 11^- \rangle$										100	
2364	9^-			x						x		
2406.5(6)	$\langle 12^- \rangle$											100
2465.4(4)	$\langle 11^- \rangle$						x				100	
2514.5(3)	10^-			43		57						
2620	$\langle 10^+ \rangle$								x			
2661.3(3)	11^-						39(7)					
2695	$\langle 11^- \rangle$										x	
2879	$\langle 10^+ \rangle$								x			

(continued)

¹⁰⁸In₄₉

E^*	J^π	Branching ratios in percentage										
		E^*_f :	1109.8	1119.3	1167.0	1183.5	1332.4	1396	1633	1707	1861	2084.3
[keV]		J^π_f :	2,3,4	8 ⁻			$\langle 9 \rangle^-$	$\langle 8^+ \rangle$	$\langle 9^+ \rangle$	$\langle 9^+ \rangle$	10 ⁻	$\langle 11^- \rangle$
3006.7(6)	12 ⁻										x	
3102	$\langle 11^+ \rangle$								x			

Energy levels and branching ratios [00Bl21]. Part 4

¹⁰⁸In₄₉

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2364 9 ⁻	2406.5 ⟨12 ⁻ ⟩	2465.4 ⟨11 ⁻ ⟩	2514.5 10 ⁻	2620 ⟨10 ⁺ ⟩	2661.3 11 ⁻	2695 ⟨11 ⁻ ⟩	2814.7 12 ⁻	2879 ⟨10 ⁺ ⟩	3045.5 13 ⁻
2514.5(3)	10 ⁻		x									
2661.3(3)	11 ⁻					61(5)						
2814.7(4)	12 ⁻				15(7)			85(7)				
2820.0(6)	⟨13 ⁻ ⟩			100								
3006.7(6)	12 ⁻				100							
3045.5(4)	13 ⁻									100		
3063	⟨11 ⁺ ⟩						x					
3102	⟨11 ⁺ ⟩										x	
3273	⟨13 ⁻ ⟩								x			
3381.2(5)	14 ⁻											100
3403.0(5)	⟨14 ⁻ ⟩											100
4327	13 ⁺									x		
4514	14 ⁺											x

Energy levels and branching ratios [00Bl21]. Part 5

¹⁰⁸In₄₉

E^*	J^π	Branching ratios in percentage										
[keV]		$E_f^*:$ $J_f^\pi:$	3102 $\langle 11^+ \rangle$	3273 $\langle 13^- \rangle$	3381.2 14^-	3403.0 $\langle 14^- \rangle$	3424 $\langle 12^+ \rangle$	3837 $\langle 13^+ \rangle$	3876.2 $\langle 15^- \rangle$	3908.2 15^-	4050 $\langle 15^- \rangle$	4327 13^+
3424	$\langle 12^+ \rangle$		x									
3675.4(6)	$\langle 15^- \rangle$				100							
3837	$\langle 13^+ \rangle$						x					
3876.2(6)	$\langle 15^- \rangle$					100						
3908.2(8)	15^-				100							
4050	$\langle 15^- \rangle$			x								
4348	$\langle 14^+ \rangle$							x				
4441.1(7)	$\langle 16^- \rangle$								100			
4463	$\langle 14^+ \rangle$							x				
4493.3(8)										100		
4514	14^+											x
4569.5(8)	16^-									100		

(continued)

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E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	3102 $\langle 11^+ \rangle$	3273 $\langle 13^- \rangle$	3381.2 14^-	3403.0 $\langle 14^- \rangle$	3424 $\langle 12^+ \rangle$	3837 $\langle 13^+ \rangle$	3876.2 $\langle 15^- \rangle$	3908.2 15^-	4050 $\langle 15^- \rangle$	4327 13^+
4770	15^+				x							
4878	$\langle 17^- \rangle$										x	
5127	16^+									x		

Energy levels and branching ratios [00Bl21]. Part 6

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E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	4441.1 $\langle 16^- \rangle$	4514 14^+	4569.5 16^-	4770 15^+	4878 $\langle 17^- \rangle$	5127 16^+	5154 17^-	5601 17^+	5782 $\langle 19^- \rangle$	6166 18^+
4697.6(8)	$\langle 17^- \rangle$		100									
4770	15^+			x								
5127	16^+					x						
5154	17^-				x							
5601	17^+							x				
5782	$\langle 19^- \rangle$						x					
5889	18^-								x			
6166	18^+									x		
6709	19^+											x
6711	$\langle 21^- \rangle$										x	

Energy levels and branching ratios [00Bl21]. Part 7

 $^{108}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	6711 $\langle 21^- \rangle$									
7713	$\langle 23^- \rangle$											x

Energy levels and branching ratios [99Bl07].

 $^{109}_{49}\text{In}$

E^* [keV]	$2J^\pi$	σ (p, α) <i>rel.</i>	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					$E_f^*:$ $2J_f^\pi:$	0 9^+	650 1^-	981 $\langle 3 \rangle^-$	1026 $\langle 11 \rangle^+$	1099 5^+	1172.1 $1^+, 3^+$	1320.8 $\langle 5, 7 \rangle^+$
0	9^+	100	4.2(1) h	76Sm04								
650.1(3)	1^-	35	1.34(7) m	76Sm04		100						
981.4(4)	$\langle 3 \rangle^-$	55	0.6(3) ps	76Sm04			100					
1026.4(2)	$\langle 11 \rangle^+$		0.17(7) ps			100						

(continued)

¹⁰⁹In
49

E^*	$2J^\pi$	σ (p, α)	$T_{1/2}$ or	Ref.	Branching ratios in percentage						
[keV]		<i>rel.</i>	Γ_{cm}	E_{f}^* : $2J_{\text{f}}^\pi$:	0 9 ⁺	650 1 ⁻	981 $\langle 3 \rangle^-$	1026 $\langle 11 \rangle^+$	1099 5 ⁺	1172.1 1 ⁺ ,3 ⁺	1320.8 $\langle 5,7 \rangle^+$
1099.2(4)	5 ⁺		0.45(23) ps		100		0.2(1)				
1172.1(4)	1 ⁺ ,3 ⁺					100					
1320.8(5)	$\langle 5,7 \rangle^+$				98(6)		2.0(5)		0.5(2)		
1428.3(2)	$\langle 13 \rangle^+$		0.3(1) ps		81(4)			19(6)			
1441.4(5)	$\langle 3,5 \rangle^-$					88(4)	12(5)				
1463.6(4)	$\langle 9 \rangle^+$		0.2(1) ps		54(16)			46(7)			
1482.2(4)	$\langle 3,5 \rangle$						9(2)		91(9)		
1483.1(4)	$\langle 3,5 \rangle^+$								92(8)	8(5)	
1573.9(5)					100						
1712.9(4)	$\langle 9 \rangle^+$				31(4)				57(14)		
1722.3(5)	$\langle 5,7 \rangle^+$				33(3)				67(7)		
1759.2(2)									36(4)		64(10)
1816.8(7)	$\langle 1-5 \rangle^-$					25(5)	48(7)				22(5)
1901.3(2)	$\langle 9-13 \rangle^+$		0.14(7) ps					100			
1956.9(2)					20(3)		56(4)			14(3)	
2055.2(3)	3 ⁺ ,7 ⁺				100						
2064.4(5)	$\langle 3^- - 7^- \rangle$						100				
2101.8(2)	$\langle 19^+ \rangle$		0.209(6) s								
2125.9(2)	$\langle 5^+ - 9^+ \rangle$				20.7(13)				79(3)		
2138.3(2)	$\langle 3^+ \rangle$					44(3)			49(2)		6(1)
2151.3(4)	$\langle 3,5 \rangle$					23(9)	13(4)				
2195.2(3)	$\langle 15 \rangle^+$		0.35(14) ps								
2218.5(4)	$\langle 5^+, 7^+ \rangle$				4.7(5)				67(3)		20(3)
2235.8(3)	$\langle 5^+, 7^+ \rangle$				26(4)						
2271(1)	$\langle 3,7 \rangle$					75(15)	25(25)				
2272.2(5)	$\langle 13^- \rangle$							100			
2276.5(2)					50(16)			50(16)			
2305.3(4)	$\langle 3^+, 5 \rangle$					55(10)			45(7)		
2322.0(10)	$\langle 15 \rangle$										
2356.2(3)	$\langle 3,7 \rangle$						72(11)				
2411.0(3)							31(6)			41(9)	
2468(1)	$\langle 3^+, 7^+ \rangle$										
2508.5(3)	$\langle 3^+, 5^+ \rangle$					30(5)			52(5)		18(7)
2532.4(3)	$\langle 15 \rangle^-$		0.24(10) ps								
2541.8(3)	5 ⁺ ,7 ⁺				59(4)				16(1)		3.4(14)
2560.9(2)	$\langle 3^+ \rangle$					71(4)	14(2)		15(15)		
2564.2(7)					100						
2574.8(3)					100						
2591.6(3)	$\langle 5^+ - 9^+ \rangle$				11(1)			5(1)	25(3)		
2602.7(4)	$\langle 5,7 \rangle$				12(2)						
2617.0(4)	$\langle 5,7 \rangle$				8(5)						
2785.4(3)	$\langle 7^+ \rangle$				24(1)				10.3(12)		49(16)
2808.7(4)	$\langle 3,5 \rangle$					88(12)			12(4)		
2813.2(4)	$\langle 5,7 \rangle$				38(6)						
2845.5(3)	$\langle 3^+ \rangle$					43(3)					16(2)

(continued)

 $^{109}_{49}\text{In}$

E^*	$2J^\pi$	σ (p, α)	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		$rel.$	Γ_{cm}	E_{f}^* : $2J_{\text{f}}^\pi$:	0 9 ⁺	650 1 ⁻	981 $\langle 3 \rangle^-$	1026 $\langle 11 \rangle^+$	1099 5 ⁺	1172.1 1 ⁺ ,3 ⁺	1320.8 $\langle 5,7 \rangle^+$	
2851.9(3)	$\langle 5^+,7^+ \rangle$				4(2)			40(4)				
2858.6(2)	$\langle 5^+,7^+ \rangle$				37(3)				40(2)			
2868.7(3)	$\langle 17 \rangle^-$		0.38(17) ps									
2871.0(3)	$\langle 5^+ \rangle$				2.2(4)		41(4)			3.2(8)		
2919.8(7)					100							
2924.5(2)	$\langle 3^+,5^+ \rangle$						37(1)		14(1)		8(1)	
2942.9(3)	$\langle 5^+ \rangle$				43(6)		57(14)					
2957.9(3)	$\langle 19 \rangle^-$											
2986.9(4)	$\langle 3^+-7^+ \rangle$											
3013.4(3)	$\langle 5,7 \rangle$				100							
3029.7(3)	5 ⁺				2(1)		16(8)		27(3)			
3034.8(4)	$\langle 5,7 \rangle$				100							
3050.6(2)	$\langle 5,7 \rangle$				80(14)				20(20)			
3065.6(2)	$\langle 5,7 \rangle$				100							
3067.3(3)	$\langle 17 \rangle^-$		0.17(10) ps									
3092.0(3)	$\langle 19 \rangle^-$		0.5(2) ps									
3122.4(3)	$\langle 21 \rangle^-$											
3140(4)	$\langle 5,7 \rangle$				19(6)						81(27)	
3202.4(4)	$\langle 21 \rangle^-$											
3273.8(8)												
3285.8(4)	$\langle 19 \rangle^-$		>1.0 ps									
3316.7(3)	$\langle 5^+,7^+ \rangle$				100							
3360.9(6)	$\langle 5,7 \rangle$				100							
3374.6(3)	$\langle 19 \rangle^-$		0.20(10) ps									
3395.6(3)	$\langle 5^+,7^+ \rangle$				55(8)						45(15)	
3410.3(10)	$\langle 23 \rangle^-$		0.40(14) ps									
3418.5(6)	$\langle 5,7 \rangle$				8(8)		92(10)					
3427.3(6)	$\langle 5^+,7^+ \rangle$				3.4(12)							
3461.8(10)	$\langle 23 \rangle^-$											
3484.8(8)												
3517.1(10)	$\langle 21 \rangle^-$		0.45(14) ps									
3800.1(10)	$\langle 25 \rangle^-$		1.4(7) ps									
3976.8(9)												
4037.1(10)	$\langle 25 \rangle^-$		0.6(3) ps									
4473.8(9)												
4508.3(9)	$\langle 27^- \rangle$											
4832.3(9)	$\langle 29^- \rangle$											
5055.6(10)												
5241.5(9)	$\langle 31^- \rangle$											
5423.2(10)												
5796.7(10)												
5905.0(10)												
6258.9(10)												
6385.7(11)												
10744(5)*	1 ⁺											

(continued)

¹⁰⁹In
49

E^*	$2J^\pi$	σ (p, α)	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		<i>rel.</i>	Γ_{cm}		E_f^* :	0	650	981	1026	1099	1172.1	1320.8
					$2J_f^\pi$:	9 ⁺	1 ⁻	$\langle 3 \rangle^-$	$\langle 11 \rangle^+$	5 ⁺	1 ⁺ , 3 ⁺	$\langle 5, 7 \rangle^+$
11053(5)*	3 ⁺											
11596(5)*	1 ⁺											
		76Sm04		Ref.								

* IAS (Isobar Analog States) of ¹⁰⁹Cd states with $E^* = 0.0$ and 347.5 keV [06Bl02].

Three bands are assigned in [06Bl02].

Relative cross section σ (p, α) is represented by the ratio $(d\sigma/d\Omega)_{\text{exp}}/(d\sigma/d\Omega)_{\text{DWBA}}$ [76Sm04].

Energy levels and branching ratios [99Bl07]. Part 2

¹⁰⁹In
49

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* :	1428.3	1441.4	1463.6	1483.1	1573.9	1712.9	1722.3	1759.2	1816.8	1901.3
		$2J_f^\pi$:	$\langle 13 \rangle^+$	$\langle 3, 5 \rangle^-$	$\langle 9 \rangle^+$	$\langle 3, 5 \rangle^+$		$\langle 9 \rangle^+$	$\langle 5, 7 \rangle^+$			
1712.9(4)	$\langle 9 \rangle^+$		11(3)									
1816.8(7)	$\langle 1-5 \rangle^-$			5(1)								
1956.9(2)						10(3)						
2101.8(2)	$\langle 19^+ \rangle$		100									
2151.3(4)	$\langle 3, 5 \rangle$			64(13)								
2195.2(3)	$\langle 15 \rangle^+$		100									
2218.5(4)	$\langle 5^+, 7^+ \rangle$										1.9(7)	
2235.8(3)	$\langle 5^+, 7^+ \rangle$							74(15)				
2322.0(10)	$\langle 15 \rangle$		56(3)									44(3)
2356.2(3)	$\langle 3, 7 \rangle$									28(11)		
2411.0(3)											9(6)	
2468(1)	$\langle 3^+, 7^+ \rangle$					76(11)						
2532.4(3)	$\langle 15 \rangle^-$		93(4)									
2541.8(3)	5 ⁺ , 7 ⁺				2(2)			19(2)				
2591.6(3)	$\langle 5^+ - 9^+ \rangle$				27(1)	9(2)			13(2)			
2602.7(4)	$\langle 5, 7 \rangle$								88(13)			
2617.0(4)	$\langle 5, 7 \rangle$									75(17)		
2785.4(3)	$\langle 7^+ \rangle$						13(1)	3.3(8)				
2813.2(4)	$\langle 5, 7 \rangle$									62(6)		
2845.5(3)	$\langle 3^+ \rangle$						15(3)					
2851.9(3)	$\langle 5^+, 7^+ \rangle$				15(4)				6(4)	35(10)		
2871.0(3)	$\langle 5^+ \rangle$							14(2)				
2924.5(2)	$\langle 3^+, 5^+ \rangle$						20(2)				11(2)	
2986.9(4)	$\langle 3^+ - 7^+ \rangle$			20(5)						55(15)		
3029.7(3)	5 ⁺						35(5)					

Energy levels and branching ratios [99Bl07]. Part 3

¹⁰⁹In
₄₉

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	1956.9	2055.2	2101.8	2125.9	2138.3	2218.5	2272.2	2305.3	2322.0	2411.0
				$3^+, 7^+$	$\langle 19^+ \rangle$		$\langle 3^+ \rangle$	$\langle 5^+, 7^+ \rangle$	$\langle 13^- \rangle$	$\langle 3^+, 5 \rangle$	$\langle 15 \rangle$	
2138.3(2)	$\langle 3^+ \rangle$		0.6(3)									
2218.5(4)	$\langle 5^+, 7^+ \rangle$		7(3)									
2411.0(3)			19(6)									
2468(1)	$\langle 3^+, 7^+ \rangle$							24(11)				
2532.4(3)	$\langle 15 \rangle^-$								7(3)			
2591.6(3)	$\langle 5^+ - 9^+ \rangle$					3(1)	3(1)	5(1)				
2617.0(4)	$\langle 5, 7 \rangle$						17(8)					
2845.5(3)	$\langle 3^+ \rangle$		20(5)							6(2)		
2858.6(2)	$\langle 5^+, 7^+ \rangle$					23(3)						
2868.7(3)	$\langle 17 \rangle^-$										11.9(11)	
2871.0(3)	$\langle 5^+ \rangle$			14(3)		9(2)						6(2)
2924.5(2)	$\langle 3^+, 5^+ \rangle$		11(2)									
2957.9(3)	$\langle 19 \rangle^-$				29.5(17)							
2986.9(4)	$\langle 3^+ - 7^+ \rangle$						25(10)					
3092.0(3)	$\langle 19 \rangle^-$				84(5)							
3427.3(6)	$\langle 5^+, 7^+ \rangle$					97(23)						

Energy levels and branching ratios [99Bl07]. Part 4

¹⁰⁹In
₄₉

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	2468.0	2508.5	2532.4	2560.9	2808.7	2813.2	2868.7	2871.0	2957.9	3067.3
			$\langle 3^+, 7^+ \rangle$	$\langle 3^+, 5^+ \rangle$	$\langle 15 \rangle^-$	$\langle 3^+ \rangle$	$\langle 3, 5 \rangle$	$\langle 5, 7 \rangle$	$\langle 17 \rangle^-$	$\langle 5^+ \rangle$	$\langle 19 \rangle^-$	$\langle 17 \rangle^-$
2868.7(3)	$\langle 17 \rangle^-$				88(4)							
2871.0(3)	$\langle 5^+ \rangle$			7(2)		4(4)						
2957.9(3)	$\langle 19 \rangle^-$								70(4)			
3029.7(3)	5^+		5(2)				6(3)	3(2)		5(2)		
3067.3(3)	$\langle 17 \rangle^-$				100							
3092.0(3)	$\langle 19 \rangle^-$								16.3(19)			
3122.4(3)	$\langle 21 \rangle^-$										100	
3202.4(4)	$\langle 21 \rangle^-$										64(3)	
3285.8(4)	$\langle 19 \rangle^-$											100
3374.6(3)	$\langle 19 \rangle^-$										100	

Energy levels and branching ratios [99Bl07]. Part 5

¹⁰⁹In
49

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	3092.0 $\langle 19 \rangle^-$	3122.4 $\langle 21 \rangle^-$	3202.4 $\langle 21 \rangle^-$	3273.8	3285.8 $\langle 19 \rangle^-$	3410.3 $\langle 23 \rangle^-$	3461.8 $\langle 23 \rangle^-$	3484.8	3800.1 $\langle 25 \rangle^-$	3976.8
3202.4(4)	$\langle 21 \rangle^-$		36(2)									
3273.8(8)				100								
3410.3(10)	$\langle 23 \rangle^-$			15(3)	85(4)							
3461.8(10)	$\langle 23 \rangle^-$			100								
3484.8(8)				64(1)		36(1)						
3517.1(10)	$\langle 21 \rangle^-$						100					
3800.1(10)	$\langle 25 \rangle^-$							100				
3976.8(9)									17(2)	83(2)		
4037.1(10)	$\langle 25 \rangle^-$								100			
4473.8(9)												100
4508.3(9)	$\langle 27^- \rangle$										86(2)	

Energy levels and branching ratios [99Bl07]. Part 6

¹⁰⁹In
49

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	4037.1 $\langle 25 \rangle^-$	4473.8	4508.3 $\langle 27^- \rangle$	4832.3 $\langle 29^- \rangle$	5055.6	5241.5 $\langle 31^- \rangle$	5423.2	5796.7	5905.0
4508.3(9)	$\langle 27^- \rangle$		14(1)								
4832.3(9)	$\langle 29^- \rangle$				100						
5055.6(10)				100							
5241.5(9)	$\langle 31^- \rangle$					100					
5423.2(10)							100				
5796.7(10)								100			
5905.0(10)									100		
6258.9(10)											100
6385.7(11)										100	

Energy levels and branching ratios [00De11].

¹¹⁰In
49

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage							
			$E_f^*:$ $J_f^\pi:$	0.0 7^+	62.1 2^+	202.4 $\langle 3 \rangle^+$	321.2 $\langle 4 \rangle^+$	334.1 $\langle 2 \rangle^+$	342.5 1^+	346.3 $\langle 4 \rangle^+$
0.0	7^+	4.9(1) h								
62.1(5)	2^+	69.1(5) m								
202.39(5)	$\langle 3 \rangle^+$				100					
321.20(4)	$\langle 4 \rangle^+$				2.8(2)	97(3)				
334.10(4)	$\langle 2 \rangle^+$	≥ 4.9 ps			100	0.39(3)				
342.55(4)	1^+	≥ 4.9 ps			100					
346.33(4)	$\langle 4 \rangle^+$				4.1(3)	96(5)				

(continued)

 $^{110}_{49}\text{In}$

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage							
			E_f^* : J_f^π :	0.0 7^+	62.1 2^+	202.4 $\langle 3 \rangle^+$	321.2 $\langle 4 \rangle^+$	334.1 $\langle 2 \rangle^+$	342.5 1^+	346.3 $\langle 4 \rangle^+$
366.54(4)	$\langle 5^+ \rangle$						100			
413.49(2)	$\langle 7^+ \rangle$			100						
437.16(4)	$\langle 5^+ \rangle$					3.4(3)	55(2)			42(1)
541.25(4)	$\langle 3^+ \rangle$	2.4(+17-6) ps			56(2)	5.1(3)	1.1(1)	37(2)		1.0(2)
568.40(4)	$\langle 6^+ \rangle$	1.9(+9-6) ps		98(3)						
714.47(4)	$\langle 8^+ \rangle$	1.4(+15-5) ps		92(4)						
756.48(4)	X^+	1.0(+8-3) ps					48(3)			40(1)
756.56(4)	2^-				22(2)	1.7(2)		11(1)	53(7)	
793.04(4)	$\langle 4^+ \rangle$	1.7(+10-5) ps				42(2)	6(1)			
799.856(20)	$\langle 7^- \rangle$	≥ 2.0 ps		79.8(16)						
808.080(22)	$\langle 8^- \rangle$	≥ 2.4 ps		70(2)						
856.27(3)	$\langle 6^- \rangle$			<55						
886.42(4)	$\langle 6^+ \rangle$									
887.40(4)	$\langle 5^+ \rangle$						63(3)			14(1)
958.46(4)	$\langle 3^+ \rangle$				15(5)	14.0(5)	21(2)	10(1)	3.9(3)	25(2)
970.89(5)	$\langle 4 \rangle$					39(2)	28(1)			
989.83(4)	2^-				24(1)	19(5)		4.2(3)	39(1)	
1006.07(3)	$\langle 5^- \rangle$	≥ 1.7 ps								
1017.87(5)	$\langle 9^- \rangle$	≥ 1.2 ps								
1020.82(4)	$\langle 5,6^+ \rangle$			69(5)						3(6)
1023.40(4)	3^-				65(2)	11(2)	3(2)	2.7(4)		10(2)
1049.88(4)	$\langle 2^+ \rangle$	1.0(+3-4) ps			24(1)			8(1)	68(3)	
1062.73(5)	$\langle 4,5 \rangle$						11(2)			18(2)
1118.47(11)										
1119.82(5)	$\langle 0^- \rangle$								74(2)	
1134.08(4)	$\langle 3,4^- \rangle$						17(7)			
1176.23(5)	$\langle 2-4 \rangle$				61(6)		7(3)	11(1)		6(2)
1190.93(4)	$\langle 1-3^- \rangle$							1.8(4)		
1204.88(5)	$\langle 4^- \rangle$	≥ 1.1 ps								
1216.83(6)	$\langle 2-4^+ \rangle$						6.4(8)	42(2)		51(3)
1230.05(4)										64(6)
1239.91(5)	$\langle 1-3^- \rangle$				36(5)			21(2)		
1254.9(1)	$0^- - 2^-$								63(4)	
1259(1)										
1280.2(1)	$X^{\langle + \rangle}$									
1303.3(1)								100		
1390.7(1)										
1441.7(1)										
1482.4(1)		≥ 1.8 ps								
1494.0(2)	$X^{\langle - \rangle}$									
1507.1(1)										
1529.8(2)										
1561.8(1)	$\langle 10^- \rangle$									
1563.0(1)		1.0(2) ps								
1617.5(1)										

(continued)

 $^{110}_{49}\text{In}$

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Branching ratios in percentage							
			$E_f^*:$ $J_f^\pi:$	0.0 7^+	62.1 2^+	202.4 $\langle 3 \rangle^+$	321.2 $\langle 4 \rangle^+$	334.1 $\langle 2 \rangle^+$	342.5 1^+	346.3 $\langle 4 \rangle^+$
1693.7(1)										
2129.2(4)										
2175.0(2)	$\langle 11 \rangle^-$									
2492.6(5)										
2597.1(3)	$\langle 12 \rangle^-$									
2765.3(5)	$\langle 12^- \rangle$									
2838.4(4)	$\langle 13^- \rangle$									
3193.0(6)										
3374(1)										
3513.1(5)	$\langle 12^+ \rangle$									
3714.8(8)										
3720.7(6)	$\langle 13^+ \rangle$									
3915.3(8)										
3944.5(8)										
4080.3(8)										
4229.9(9)										
4369(1)										
4532(1)										
4599(1)										
4802(1)										
5086(1)										
5283(2)										
5649(2)										
5652(13)										
8768(59)	$\langle 0^+ \rangle$									
9438(59)	$\langle 2^+ \rangle$									
10268(59)	$\langle 0^+-4^+ \rangle$									
10568(59)										
10858(59)	$\langle 3^- \rangle$									
11068(59)	$\langle 4^+ \rangle$									
11268(59)										
11468(59)										
11768(59)										

Additional data on this isotope can be found in [01Ch71].

Energy levels and branching ratios [00De11]. Part 2

 $^{110}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	366.5 $\langle 5^+ \rangle$	413.5 $\langle 7 \rangle^+$	437.2 $\langle 5^+ \rangle$	541.2 $\langle 3 \rangle^+$	568.4 $\langle 6^+ \rangle$	714.5 $\langle 8 \rangle^+$	756.5 X^+	756.6 2^-	793.0 $\langle 4 \rangle^+$	799.9 $\langle 7 \rangle^-$
568.40(4)	$\langle 6^+ \rangle$			x	2.3(3)							
714.47(4)	$\langle 8 \rangle^+$			8(3)								

(continued)

 $^{110}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	366.5 $\langle 5^+ \rangle$	413.5 $\langle 7 \rangle^+$	437.2 $\langle 5^+ \rangle$	541.2 $\langle 3 \rangle^+$	568.4 $\langle 6^+ \rangle$	714.5 $\langle 8 \rangle^+$	756.5 X^+	756.6 2^-	793.0 $\langle 4 \rangle^+$	799.9 $\langle 7 \rangle^-$
756.48(4)	X^+		12(1)									
756.56(4)	2^-					12(2)						
793.04(4)	$\langle 4 \rangle^+$					52(2)						
799.856(20)	$\langle 7 \rangle^-$			18.5(5)			1.71(16)					
808.080(22)	$\langle 8 \rangle^-$			30.1(8)				x				
856.27(3)	$\langle 6^- \rangle$			49(9)			51(7)					x
886.42(4)	$\langle 6 \rangle^+$			68(4)	32(3)							
887.40(4)	$\langle 5 \rangle^+$	6.1(9)					8.2(7)				9(2)	
958.46(4)	$\langle 3 \rangle^+$	1				9(1)					1.1(3)	
970.89(5)	$\langle 4 \rangle$				26(2)	7(2)						
989.83(4)	2^-					7.0(4)						
1006.07(3)	$\langle 5^- \rangle$				6.7(8)							
1020.82(4)	$\langle 5,6 \rangle^+$						28(2)					
1023.40(4)	3^-									8(3)		
1062.73(5)	$\langle 4,5 \rangle$		72(6)									
1118.47(11)			100									
1119.82(5)	$\langle 0 \rangle^-$									26(1)		
1134.08(4)	$\langle 3,4 \rangle^-$									83(2)		
1176.23(5)	$\langle 2-4 \rangle$									15(1)		
1190.93(4)	$\langle 1-3 \rangle^-$									90(3)		
1239.91(5)	$\langle 1-3 \rangle^-$									30(2)		
1254.9(1)	$0^- - 2^-$									37(6)		
1259(1)					83(5)				17(2)			
1280.2(1)	$X^{(+)}$										100	
1441.7(1)							100					
1507.1(1)			20(3)		26(5)							
1529.8(2)										100		
1617.5(1)												65(3)

Energy levels and branching ratios [00De11]. Part 3

 $^{110}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	808.1 $\langle 8 \rangle^-$	856.3 $\langle 6^- \rangle$	989.8 2^-	1006.1 $\langle 5^- \rangle$	1017.9 $\langle 9 \rangle^-$	1134.1 $\langle 3,4 \rangle^-$	1204.9 $\langle 4^- \rangle$	1507.1	1561.8 $\langle 10 \rangle^-$	2129.2
1006.07(3)	$\langle 5^- \rangle$			93(4)								
1017.87(5)	$\langle 9 \rangle^-$		100									
1190.93(4)	$\langle 1-3 \rangle^-$				8.1(6)							
1204.88(5)	$\langle 4^- \rangle$					100						
1230.05(4)						36(3)						
1239.91(5)	$\langle 1-3 \rangle^-$				14(5)							
1390.7(1)								100				
1482.4(1)									100			

(continued)

 $^{110}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		E^*_f : J^π_f :	808.1 $\langle 8 \rangle^-$	856.3 $\langle 6^- \rangle$	989.8 2^-	1006.1 $\langle 5^- \rangle$	1017.9 $\langle 9^- \rangle$	1134.1 $\langle 3,4 \rangle^-$	1204.9 $\langle 4^- \rangle$	1507.1	1561.8 $\langle 10 \rangle^-$	2129.2
1494.0(2)	$X \langle - \rangle$					100						
1507.1(1)				26(4)		29(3)						
1561.8(1)	$\langle 10 \rangle^-$		7.5(15)				93(9)					
1563.0(1)									100			
1617.5(1)							35(3)					
1693.7(1)										100		
2129.2(4)			58(12)								42(21)	
2175.0(2)	$\langle 11 \rangle^-$						15(3)				85(9)	
2492.6(5)												100
2597.1(3)	$\langle 12 \rangle^-$										8(3)	

Energy levels and branching ratios [00De11]. Part 4

 $^{110}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		E^*_f : J^π_f :	2175.1 $\langle 11 \rangle^-$	2492.6	2597.1 $\langle 12 \rangle^-$	2765.3 $\langle 12^- \rangle$	2838.4 $\langle 13^- \rangle$	3193.0	3513.1 $\langle 12^+ \rangle$	3714.8	3720.7 $\langle 13^+ \rangle$	3915.3
2597.1(3)	$\langle 12 \rangle^-$		86(9)	6.1(12)								
2765.3(5)	$\langle 12^- \rangle$		100	x								
2838.4(4)	$\langle 13^- \rangle$				100							
3193.0(6)							100					
3374(1)						100						
3513.1(5)	$\langle 12^+ \rangle$		100									
3714.8(8)								100				
3720.7(6)	$\langle 13^+ \rangle$					27(9)			73(15)			
3915.3(8)					100							
3944.5(8)											100	
4080.3(8)							61(15)					39(9)
4532(1)										100		

Energy levels and branching ratios [00De11]. Part 5

 $^{110}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		E^*_f : J^π_f :	3944.5	4080.3	4229.9	4368.9	4599.0	4801.5	5086.1	5282.5	756.52	
989.83(4)	2^-											7.3(4)
4229.9(9)			100									
4369(1)				100								
4599(1)					100							
4802(1)						100						

(continued)

¹¹⁰In
₄₉

E^*	J^π	Branching ratios in percentage								
[keV]	$E_f^*:$ $J_f^\pi:$	3944.5	4080.3	4229.9	4368.9	4599.0	4801.5	5086.1	5282.5	756.52
5086(1)						100				
5283(2)							100			
5649(2)									100	
5652(13)								100		

Energy levels and branching ratios [03B110].

¹¹¹In
₄₉

E^*	$2J^\pi$	L	S_N	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	(d, τ)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	537.0 1 ⁻	802.9 3 ⁻	1102 5 ⁺	1153 11 ⁺
0.0	9 ⁺	4	0.16	5.5	2.8047(4) d	88Ta01						
536.99(7)	1 ⁻	1	0.084	1.5	7.7(2) m	88Ta01		100				
802.92(7)	3 ⁻	1	0.054	2		69Co03			100			
1101.80(7)	5 ⁺	2	0.45			88Ta01		96(4)		3.8(2)		
1152.85(6)	11 ⁺				0.31(7) ps			100				
1187.62(7)	1 ⁺	0	0.27		0.14(3) ns	88Ta01			99(4)	0.62(20)		
1217.51(7)	5 ⁺	2	0.04		1.2(+7-5) ps	88Ta01		91(23)		8.8(8)		
1279.69(21)	$\langle 5 \rangle^-$				≤ 0.15 ns				89(6)	11.4(14)		
1344.74(7)	3 ⁺	2	0.20			88Ta01			3.8(5)		91(5)	
1350.6(6)								100				
1401.16(10)	13 ⁺							99(4)				1.0(5)
1461.7(4)								100				
1500.45(7)	7 ⁺	4	0.30		0.31(10) ps	88Ta01		95			4.7(10)	
1542.62(7)	5 ⁺ -9 ⁺							92(6)			3.9(14)	
1610.08(9)	9 ⁺							78(4)				22.1(8)
1671.23(12)	$\langle 1-5 \rangle^-$									100		
1752.60(12)	$\langle 9^+ \rangle$				0.4(+3-1) ps			38(3)			42(5)	17(3)
1831.57(12)											33(7)	
1845.98(7)								50(2)		16(1)	9(1)	
1849.39(11)	1 ⁻ , 3 ⁻				<0.2 ns							
1866.84(8)	1 ⁺ -5 ⁺									25(2)		
1914.88(10)	7 ⁺ , 9 ⁺							50(2)			1.4(3)	37.3(13)
1917.39(9)	7 ⁺ , 9 ⁺										36(2)	47(2)
1919(5)	3 ⁺ , 5 ⁺	2	0.05, 0.09			88Ta01						
1935.40(11)	X ⁻									100		
1969.63(12)	X ⁻									100		
1994.64(11)	15 ⁺				0.3(1) ps							15(5)
2002.62(11)	5 ⁺ -9 ⁺							66(4)			34(2)	
2032.18(14)	11 ⁺				0.7(3) ps							
2034.58(25)	5 ⁻ , 7 ⁻									56(12)		
2067.01(12)	$\langle 1-5 \rangle^-$								74(13)	26(7)		
2082.45(9)	5 ⁺ , 7 ⁻							3.0(7)		8.5(7)	7.7(7)	

(continued)

¹¹¹In
₄₉

E^*	$2J^\pi$	L	S_N	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	(d, τ)	Γ_{cm}		$E_f^*:$ $2J_f^\pi:$	0.0 9 ⁺	537.0 1 ⁻	802.9 3 ⁻	1102 5 ⁺	1153 11 ⁺
2085(7)	1 ⁺	0	0.19			88Ta01						
2090.11(10)	$\langle 5 \rangle$							12(2)	16(2)	20(2)		
2107.02(8)	7 ⁺ , 9 ⁺							31(2)			2.0(6)	36(1)
2112.25(10)								33(3)				67(5)
2142.07(9)	$\langle 1^+, 3 \rangle$								16.3(11)		59(3)	
2179.52(7)	$\langle 7^+, 9^+ \rangle$							15(6)				24(3)
2201.13(12)										35.0(12)		
2212.24(15)	5 ⁺							62(6)			20(3)	5.0(2)
2228.14(12)	13 ⁺				0.28(7) ps			7(3)				93(7)
2235.25(13)	13 ⁻				0.2(1) ps							81
2238.5(3)												
2246.66(18)								61(12)				
2259.43(11)												
2264.5(4)										100		
2271.81(11)	$\langle 1^+ - 5^+ \rangle$									3.1(7)	30(2)	
2287.38(14)	$\langle 5^+ - 9^+ \rangle$							37(4)			26(4)	
2290.73(13)	7 ⁺ , 9 ⁺							36(4)				20(3)
2297.75(11)	3 ⁺ , 5 ⁺	2	0.01, 0.03			88Ta01					19(3)	
2311.28(17)										48	18(2)	
2323.32(10)	7 ⁺ , 9 ⁺							88(6)				12(4)
2340.54(9)	3 ⁺ , 5 ⁺	2	0.03, 0.05			88Ta01					27(2)	
2361.60(20)	9 ⁺											
2364.58(16)	$\langle 1^+ - 5^- \rangle$								21(3)			
2373(7)												
2402.19(15)	15 ⁻				0.6(3) ps							
2439.81(15)					0.38(10) ps							
2461.74(12)	17 ⁺				0.52(17) ps							
2479.65(11)	3 ⁺ , 5 ⁺	2	0.03, 0.06			88Ta01				16.3(8)		
2529.93(13)	$\langle 5^+ \rangle$	2+5	0.037			88Ta01		19(2)		57(3)	12(2)	
2567.87(14)												
2580.85(19)	$\langle 13^+ \rangle$											
2582.6(4)												
2589(7)	3 ⁺ , 5 ⁺	2	0.04, 0.07			88Ta01						
2602.57(25)												57(14)
2613.87(14)	17 ⁻											
2616(7)	1 ⁺	0	0.0059			88Ta01						
2618.97(14)	19 ⁻											
2620.36(13)	1 ⁺							21(2)		18(2)		
2647.3(3)												
2650.31(21)	15 ⁻											
2659.4(3)	3 ⁺ , 5 ⁺	2	0.02, 0.03			88Ta01					56(5)	
2675.4(3)											100	
2688(7)												
2697.5(4)	$\langle 1^- - 5^- \rangle$								57(3)			
2699.07(23)												50(19)

(continued)

¹¹¹In
₄₉

E^*	$2J^\pi$	L	S_N	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	(d, τ)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	537.0 1 ⁻	802.9 3 ⁻	1102 5 ⁺	1153 11 ⁺
2707.60(20)	15 ⁺				1.1(4) ps							
2716.79(14)	21 ⁺				13.7(4) ns							
2724.3(5)												
2742.59(13)	21 ⁻											
2748.67(12)	15 ⁺											30(6)
2759.91(21)											100	
2767.78(25)	5 ⁺	2	0.04,0.08		>1.4 ps	88Ta01		39(8)				
2769.04(15)	17 ⁻											
2772.32(12)	15 ⁺				1.0(3) ps							13(4)
2780.16(13)	19 ⁺				1.0(+6-3) ps							
2797.9(5)												
2802.47(25)	$\langle 5^+, 7^- \rangle$							43(5)		57(5)		
2821(7)	X ⁺	2+4	0.036			88Ta01						
2826.37(14)	17 ⁺											
2830.38(14)	13 ⁺											
2840.9(5)										100		
2861.35(16)	$\langle 5^+, 7^- \rangle$							42(4)		21(4)		
2886(7)	1 ⁺	0										
2892.84(23)												
2905.01(21)	$\langle 17^+ \rangle$											
2919.28(14)	15 ⁺											23(8)
2926.7(3)												
2935.15(12)										100		
2941.19(25)												
2967.9(4)												
2979.60(14)	19 ⁻											
2997.9(3)												
3015(7)	1 ⁺	0	0.034			88Ta01						
3024.53(14)	23 ⁻				>1.4 ps							
3028(7)	1 ⁺	0										
3039.41(19)	17 ⁺											
3041.31(19)	$\langle 5^+, 7^+ \rangle$							15(3)				
3043.77(15)	19 ⁻				1.0(+10-3) ps							
3063.94(21)												
3071.02(21)	3 ⁺ , 5 ⁺	2	0.05,0.10			88Ta01					100	
3104.64(22)	1, 3, 5 ⁺									36(7)		
3130.05(25)	3 ⁺	2	0.03,0.06			88Ta01		58(3)		42(4)		
3157.62(15)	21 ⁻											
3164.2(3)	3 ⁺ , 5 ⁺	2	0.02,0.03			88Ta01					100	
3177.9(3)												
3195.28(11)	17 ⁺											
3199.15(12)										100		
3209.2(4)												
3214.8(5)												
3222.1(3)												

(continued)

¹¹¹In
49

E^*	$2J^\pi$	L	S_N	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ ,d)	(d, τ)	Γ_{cm}		E^*_f :	0.0	537.0	802.9	1102	1153
							$2J^\pi_f$:	9 ⁺	1 ⁻	3 ⁻	5 ⁺	11 ⁺
3244(7)	1 ⁺	0	0.032			88Ta01						
3254(7)	1 ⁺	0	0.034			88Ta01						
3259.40(25)												
3266.5(3)												
3363.36(15)	$\langle 21^- \rangle$											
3388(7)												
3405.3(4)												
3425.63(16)	$\langle 19^- \rangle$											
3436.25(14)	17 ⁺											
3453.26(17)	23 ⁻				1.0(+10-3) ps							
3461.13(12)	19 ⁺											
3466.34(20)	25 ⁻				0.52(17) ps							
3565.58(12)	19 ⁺											
3582.96(18)	$\langle 23^- \rangle$											
3588.63(12)	21 ⁺											
3599.94(15)	19 ⁺											
3707.60(13)	23 ⁺											
3865.08(19)	$\langle 23 \rangle^+$											
3907.54(12)	21 ⁺											
3911.92(14)	25 ⁺											
3971.15(13)	21 ⁺											
4018.96(20)	25 ⁻											
4109.59(15)	25 ⁺											
4125.90(15)	25 ⁻											
4132.66(17)	21 ⁺											
4204.58(19)	27 ⁻				0.45(+17-10) ps							
4283.28(15)	27 ⁺											
4310.31(17)	25 ⁺											
4395.37(16)	23 ⁺											
4473.29(15)	27 ⁻											
4501.05(25)	$\langle 23^+ \rangle$											
4745.46(22)	$\langle 27^- \rangle$											
4796.51(16)	29 ⁺											
4821.36(20)	25 ⁺											
4873.28(17)	27 ⁺											
4884.40(16)	27 ⁺											
4917.73(20)	29 ⁻											
4931.78(14)	27 ⁺											
4957.06(19)	29 ⁺											
4972.86(20)	$\langle 23^+ \rangle$											
5084.84(18)	29 ⁻											
5166.60(15)	29 ⁺											
5331.51(17)	31 ⁺											
5398.60(18)	31 ⁺											
5402.14(20)	31 ⁻											

(continued)

¹¹¹In
49

E^*	$2J^\pi$	L	S_N	S_N	$T_{1/2}$ or Ref.	Branching ratios in percentage					
[keV]			(τ, d)	(d, τ)	Γ_{cm}	E^*_f : $2J^\pi_f$:	0.0 9 ⁺	537.0 1 ⁻	802.9 3 ⁻	1102 5 ⁺	1153 11 ⁺
5509.79(20)	31 ⁺										
5586.06(22)	29 ⁺										
5670.34(23)	33 ⁻										
5677.90(21)	33 ⁺										
5690.9(4)	$\langle 31^- \rangle$										
5783.86(22)	$\langle 27^+ \rangle$										
5877.87(19)	$\langle 33^+ \rangle$										
5891.50(18)	$\langle 33^+ \rangle$										
6037.46(21)	31 ⁺										
6050.80(23)	35 ⁺										
6070.24(25)	35 ⁻										
6432.9(3)	$\langle 33^+ \rangle$										
6537.90(25)	$\langle 37^+ \rangle$										
6700.76(23)	35 ⁺										
7044.24(20)	$\langle 37^+ \rangle$										
7175.0(3)	$\langle 39^+ \rangle$										
7280.4(5)	$\langle 37^+ \rangle$										
7605.8(3)	$\langle 39^+ \rangle$										
7916.9(3)	$\langle 41^+ \rangle$										
8183.2(5)	$\langle 41^+ \rangle$										
8335.6(3)	$\langle 41^+ \rangle$										
8680.9(4)	$\langle 43^+ \rangle$										
8811.4(4)	$\langle 43^+ \rangle$										
9213.8(5)	$\langle 45^+ \rangle$										
10432.9(6)	$\langle 49^+ \rangle$										
11868.3(8)	$\langle 53^+ \rangle$										
13502.8(10)	$\langle 57^+ \rangle$										
0+X	$\langle 31^- \rangle$										
390.50+X	$\langle 33^- \rangle$										
794.70+X	$\langle 35^- \rangle$										
1244.30+X	$\langle 37^- \rangle$										
1774.10+X	$\langle 39^- \rangle$										
2354.60+X	$\langle 41^- \rangle$										
0+Y	$\langle 23^- \rangle$										
705.70+Y	$\langle 27^- \rangle$										
1518.90+Y	$\langle 31^- \rangle$										
2410.60+Y	$\langle 35^- \rangle$										
3363.0+Y	$\langle 39^- \rangle$										
4400.1+Y	$\langle 43^- \rangle$										
5508.4+Y	$\langle 47^- \rangle$										
6714.5+Y	$\langle 51^- \rangle$										
8025.0+Y	$\langle 55^- \rangle$										
9403.1+Y	$\langle 59^- \rangle$										

(continued)

¹¹¹In
49

E^*	$2J^\pi$	L	S_N	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	(d, τ)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	537.0 1 ⁻	802.9 3 ⁻	1102 5 ⁺	1153 11 ⁺
10850.1+Y	(63 ⁻)		88Ta01			Ref.						

Additional data on this isotope can be found in [93Mu19, 91Vi08, 90Vi09, 77So10].

 S_N for 5/2⁺, 3/2⁺, 11/2⁻ and 5/2⁺, 3/2⁺, 7/2⁺ are given in [03Bl10].

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

Energy levels and branching ratios [03Bl10]. Part 2

¹¹¹In
49

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	1187.6 1 ⁺	1217.5 5 ⁺	1279.7 (5) ⁻	1344.7 3 ⁺	1401.2 13 ⁺	1500.4 7 ⁺	1542.6 5 ⁺ , 7, 9 ⁺	1610.1 9 ⁺	1671.2	1752.6 (9 ⁺)
1344.74(7)	3 ⁺		4.5(12)	0.68								
1542.62(7)	5 ⁺ -9 ⁺			4.3(17)								
1752.60(12)	(9 ⁺)							3(2)				
1831.57(12)				44(7)					23(11)			
1845.98(7)					26(2)							
1849.39(11)	1 ⁻ , 3 ⁻		100									
1866.84(8)	1 ⁺ -5 ⁺		20.6(8)	54(3)								
1914.88(10)	7 ⁺ , 9 ⁺								10.7(6)	0.4(2)		
1917.39(9)	7 ⁺ , 9 ⁺								18(1)			
1994.64(11)	15 ⁺						85(10)					
2032.18(14)	11 ⁺							92(8)		8(5)		
2034.58(25)	5 ⁻ , 7 ⁻							44(12)				
2082.45(9)	5 ⁺ , 7 ⁻			11.6(7)				24(1)	35(2)			
2090.11(10)	(5)		52(3)									
2107.02(8)	7 ⁺ , 9 ⁺			4(1)				1.1(4)	22(1)	4.7(8)		
2142.07(9)	(1 ⁺ , 3)		8.1(11)	3.4(11)		12.8(11)						
2179.52(7)	(7 ⁺ , 9 ⁺)		29(3)	1(1)					27(3)	4(2)		
2201.13(12)											65(1)	
2212.24(15)	5 ⁺			6(2)					3.5(2)	3.5(1)		
2235.25(13)	13 ⁻						19(4)					
2238.5(3)					100							
2246.66(18)										39(8)		
2259.43(11)									78(4)			
2271.81(11)	(1 ⁺ -5 ⁺)		1.5(6)	4.7(8)								
2290.73(13)	7 ⁺ , 9 ⁺								18(11)	26(5)		
2297.75(11)	3 ⁺ , 5 ⁺		55(3)	26(3)								
2311.28(17)				20(2)	13(2)							
2340.54(9)	3 ⁺ , 5 ⁺					47(2)		27(3)				
2361.60(20)	9 ⁺							100				
2364.58(16)	(1 ⁺ -5 ⁻)			24(3)				55(7)				
2402.19(15)	15 ⁻						98(7)					

(continued)

 $^{111}_{49}\text{In}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1187.6 1^+	1217.5 5^+	1279.7 $\langle 5 \rangle^-$	1344.7 3^+	1401.2 13^+	1500.4 7^+	1542.6 $5^+, 7, 9^+$	1610.1 9^+	1671.2	1752.6 $\langle 9^+ \rangle$
2439.81(15)							100					
2461.74(12)	17^+						26(3)					
2479.65(11)	$3^+, 5^+$			7.7(8)	9.4(8)	51(3)		4.3(8)				
2529.93(13)	$\langle 5^+ \rangle$								12(2)			
2567.87(14)							100					
2580.85(19)	$\langle 13^+ \rangle$						22(10)					78(10)
2602.57(25)							43(14)					
2613.87(14)	17^-						1.5(6)					
2620.36(13)	1^+			27(2)								
2647.3(3)				100								
2659.4(3)	$3^+, 5^+$			44(5)								
2697.5(4)	$\langle 1^- - 5^- \rangle$				43(3)							
2699.07(23)							50(19)					
2707.60(20)	15^+						95(8)					
2724.3(5)					100							
2748.67(12)	15^+						60(8)					
2767.78(25)	5^+		61(6)									
2772.32(12)	15^+						23(4)					
2826.37(14)	17^+						65(7)					
2861.35(16)	$\langle 5^+, 7^- \rangle$								38(4)			
2919.28(14)	15^+						77(23)					
2926.7(3)									100			
2997.9(3)			100									
3039.41(19)	17^+						58(8)					
3041.31(19)	$\langle 5^+, 7^+ \rangle$					85(4)						
3063.94(21)			100									
3104.64(22)	$1, 3, 5^+$		64(6)									
3177.9(3)					100							
3222.1(3)			100									
3266.5(3)						100						
3405.3(4)					100							

Energy levels and branching ratios [03B110]. Part 3

 $^{111}_{49}\text{In}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1846.0	1849.4 $1^-, 3^-$	1866.8	1935.4 X^-	1994.6 15^+	2002.6	2032.2 11^+	2067.0	2112.2	2228.1 13^+
2082.45(9)	$5^+, 7^-$				10.0(7)							
2259.43(11)								11(4)		11(4)		
2271.81(11)	$\langle 1^+ - 5^+ \rangle$				5.5(8)					55(3)		
2287.38(14)	$\langle 5^+ - 9^+ \rangle$					37(7)						
2461.74(12)	17^+						74(4)					

(continued)

¹¹¹In
49

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	1846.0	1849.4 1 ⁻ , 3 ⁻	1866.8	1935.4 X ⁻	1994.6 15 ⁺	2002.6	2032.2 11 ⁺	2067.0	2112.2	2228.1 13 ⁺
2479.65(11)	3 ⁺ , 5 ⁺		4(2)							7.7(8)		
2582.6(4)							50(16)					
2613.87(14)	17 ⁻						5.1(9)					
2620.36(13)	1 ⁺			33(2)								
2650.31(21)	15 ⁻						3.1(16)					
2748.67(12)	15 ⁺											11(5)
2769.04(15)	17 ⁻						19.7(17)					
2772.32(12)	15 ⁺								64			
2780.16(13)	19 ⁺						83(7)					
2797.9(5)											100	
2826.37(14)	17 ⁺						28(7)					
2830.38(14)	13 ⁺								71(14)			
2892.84(23)							100					
3195.28(11)	17 ⁺						22(4)					19(4)
3461.13(12)	19 ⁺						9.2(12)					

Energy levels and branching ratios [03B110]. Part 4

¹¹¹In
49

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*:$ $2J_f^\pi:$	2235.2 13 ⁻	2361.6 9 ⁺	2402.2 15 ⁻	2439.8	2461.7 17 ⁺	2613.9 17 ⁻	2619.0 19 ⁻	2650.3 15 ⁻	2707.6 15 ⁺	2716.8 21 ⁺
2402.19(15)	15 ⁻		1.8(7)									
2582.6(4)			50(16)									
2613.87(14)	17 ⁻				93(9)							
2618.97(14)	19 ⁻						100	x				
2650.31(21)	15 ⁻	97										
2707.60(20)	15 ⁺	4.9(25)										
2716.79(14)	21 ⁺						100					
2742.59(13)	21 ⁻							2.7(3)	97(5)			
2769.04(15)	17 ⁻				75(6)	4.9(17)				x		
2780.16(13)	19 ⁺						17(3)					
2826.37(14)	17 ⁺					7(7)						
2830.38(14)	13 ⁺			29(14)								
2905.01(21)	⟨17 ⁺ ⟩				21(7)						79(10)	
2941.19(25)					100							
2967.9(4)					100							
2979.60(14)	19 ⁻								30(3)			
3039.41(19)	17 ⁺					42(8)						
3043.77(15)	19 ⁻							35(4)				
3209.2(4)					100							
3214.8(5)												100
3259.40(25)												100

(continued)

¹¹¹₄₉In

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		$E_{\rm f}^*$: $2J_{\rm f}^\pi$:	2235.2 13 [−]	2361.6 9 ⁺	2402.2 15 [−]	2439.8 17 ⁺	2461.7 17 [−]	2613.9 19 [−]	2619.0 15 [−]	2650.3 15 ⁺	2707.6 21 ⁺	2716.8 21 ⁺
3363.36(15)	$\langle 21^- \rangle$								50(7)			
3425.63(16)	$\langle 19^- \rangle$				34(4)				50(4)			
3461.13(12)	19 ⁺					5.7(12)	74(4)					
3565.58(12)	19 ⁺						27(3)					
3588.63(12)	21 ⁺						36(2)		3(1)			7(1)
3707.60(13)	23 ⁺											12.3(6)
4109.59(15)	25 ⁺											100

Energy levels and branching ratios [03B110]. Part 5

¹¹¹₄₉In

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	2742.6 21 ⁻	2748.7 15 ⁺	2769.0 17 ⁻	2772.3 15 ⁺	2780.2 19 ⁺	2826.4 17 ⁺	2830.4 13 ⁺	2919.3 15 ⁺	2979.6 19 ⁻	3024.5 23 ⁻
2979.60(14)	19 ⁻				70(6)							
3024.53(14)	23 ⁻		100									
3043.77(15)	19 ⁻				65(7)							
3157.62(15)	21 ⁻										100	
3195.28(11)	17 ⁺			44(4)						15(4)		
3436.25(14)	17 ⁺					17(5)			83(10)			
3453.26(17)	23 ⁻											6.5(21)
3461.13(12)	19 ⁺							9.2(12)				
3466.34(20)	25 ⁻											100
3565.58(12)	19 ⁺			10(3)						23(3)		
3588.63(12)	21 ⁺						5(1)	1(1)			4(1)	6(1)
3599.94(15)	19 ⁺					100						
3707.60(13)	23 ⁺		31(1)									
3865.08(19)	$\langle 23 \rangle^+$						100					
3907.54(12)	21 ⁺						43(3)					
3911.92(14)	25 ⁺											8.6(5)
3971.15(13)	21 ⁺						20(4)					
4125.90(15)	25 ⁻		100									
4473.29(15)	27 ⁻											52(7)

Energy levels and branching ratios [03B110]. Part 6

¹¹¹In
49

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3039.4 17 ⁺	3043.8 19 ⁻	3157.6 21 ⁻	3195.3 17 ⁺	3363.4 ⟨21 ⁻ ⟩	3436.2 17 ⁺	3453.3 23 ⁻	3461.1 19 ⁺	3466.3 25 ⁻	3565.6 19 ⁺
3363.36(15)	⟨21 ⁻ ⟩			50(7)								
3425.63(16)	⟨19 ⁻ ⟩			16(4)								
3453.26(17)	23 ⁻				93(5)							
3461.13(12)	19 ⁺		2.3(12)									
3565.58(12)	19 ⁺					40(3)						
3582.96(18)	⟨23 ⁻ ⟩						100					
3588.63(12)	21 ⁺									36(2)		
3707.60(13)	23 ⁺				8.4(3)							
3907.54(12)	21 ⁺					32(3)						25(3)
3971.15(13)	21 ⁺					30(6)						50(6)
4018.96(20)	25 ⁻								100			
4132.66(17)	21 ⁺							100				
4204.58(19)	27 ⁻										100	
4473.29(15)	27 ⁻										39(5)	
4917.73(20)	29 ⁻										32(3)	

Energy levels and branching ratios [03B110]. Part 7

¹¹¹In
49

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3588.6 21 ⁺	3599.9 19 ⁺	3707.6 23 ⁺	3865.1 ⟨23⟩ ⁺	3907.5 21 ⁺	3911.9 25 ⁺	3971.1 21 ⁺	4019.0 25 ⁻	4109.6 25 ⁺	4125.9 25 ⁻
3707.60(13)	23 ⁺		48(2)									
3911.92(14)	25 ⁺				91(5)							
4132.66(17)	21 ⁺			x								
4283.28(15)	27 ⁺							100				
4310.31(17)	25 ⁺					7(2)	32(2)		61(2)			
4395.37(16)	23 ⁺			100								
4473.29(15)	27 ⁻											9(2)
4501.05(25)	⟨23 ⁺ ⟩			100								
4745.46(22)	⟨27 ⁻ ⟩									100		
4796.51(16)	29 ⁺							3.8(7)				
4884.40(16)	27 ⁺										100	
4931.78(14)	27 ⁺				40(2)			15(2)			17(2)	
5166.60(15)	29 ⁺							24(4)				

Energy levels and branching ratios [03B110]. Part 8

¹¹¹₄₉In

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	4132.7 21 ⁺	4204.6 27 ⁻	4283.3 27 ⁺	4310.3 25 ⁺	4395.4 23 ⁺	4473.3 27 ⁻	4501.1 ⟨23 ⁺ ⟩	4796.5 29 ⁺	4821.4 25 ⁺	4873.3 27 ⁺
4796.51(16)	29 ⁺				96(5)							
4821.36(20)	25 ⁺		100									
4873.28(17)	27 ⁺					69(7)	31(3)		x			
4917.73(20)	29 ⁻			68(4)								
4931.78(14)	27 ⁺				29(2)							
4957.06(19)	29 ⁺					100						
4972.86(20)	⟨23 ⁺ ⟩		100									
5084.84(18)	29 ⁻			68(5)				31.6(16)				
5166.60(15)	29 ⁺									x		
5331.51(17)	31 ⁺				14.5(9)					85(4)		
5509.79(20)	31 ⁺											100
5586.06(22)	29 ⁺										100	
5877.87(19)	⟨33 ⁺ ⟩									23.8(16)		
5891.50(18)	⟨33 ⁺ ⟩									21.5(15)		

Energy levels and branching ratios [03B110]. Part 9

¹¹¹₄₉In

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	4884.4 27 ⁺	4917.7 29 ⁻	4931.8 27 ⁺	4957.1 29 ⁺	4972.9 ⟨23 ⁺ ⟩	5084.8 29 ⁻	5166.6 29 ⁺	5331.5 31 ⁺	5398.6 31 ⁺	5402.1 31 ⁻
5166.60(15)	29 ⁺		15.9(12)		61(3)							
5398.60(18)	31 ⁺								100			
5402.14(20)	31 ⁻							100				
5670.34(23)	33 ⁻											100
5677.90(21)	33 ⁺										100	
5690.9(4)	⟨31 ⁻ ⟩			100								
5783.86(22)	⟨27 ⁺ ⟩						100					
5877.87(19)	⟨33 ⁺ ⟩					2.4(16)				74(4)		
5891.50(18)	⟨33 ⁺ ⟩					12.6(15)				66(4)		
6037.46(21)	31 ⁺					100						

Energy levels and branching ratios [03B110]. Part 10

¹¹¹₄₉In

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	5586.1 29 ⁺	5670.3 33 ⁻	5677.9 33 ⁺	5877.9 ⟨33 ⁺ ⟩	5891.5 ⟨33 ⁺ ⟩	6037.5 31 ⁺	6050.8 35 ⁺	6432.9 ⟨33 ⁺ ⟩	6537.9 ⟨37 ⁺ ⟩	6700.8 35 ⁺
6050.80(23)	35 ⁺				100							
6070.24(25)	35 ⁻			100								
6432.9(3)	⟨33 ⁺ ⟩		100									

(continued)

 $^{111}_{49}\text{In}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	5586.1 29 ⁺	5670.3 33 ⁻	5677.9 33 ⁺	5877.9 33 ⁺	5891.5 33 ⁺	6037.5 31 ⁺	6050.8 35 ⁺	6432.9 33 ⁺	6537.9 37 ⁺	6700.8 35 ⁺
6537.90(25)	37 ⁺								100			
6700.76(23)	35 ⁺							100				
7044.24(20)	37 ⁺					32(2)	68(5)					
7175.0(3)	39 ⁺										100	
7280.4(5)	37 ⁺									100		
7605.8(3)	39 ⁺											100

Energy levels and branching ratios [03B110]. Part 11

 $^{111}_{49}\text{In}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	7044.2 37 ⁺	7175.0 39 ⁺	7280.4 37 ⁺	7605.8 39 ⁺	7916.9 41 ⁺	8183.2 41 ⁺	9213.8 45 ⁺	10433 49 ⁺	11868 53 ⁺	0+X 31 ⁻
7916.9(3)	41 ⁺			100								
8183.2(5)	41 ⁺				100							
8335.6(3)	41 ⁺		100									
8680.9(4)	43 ⁺						100					
8811.4(4)	43 ⁺					100						
9213.8(5)	45 ⁺							100				
10432.9(6)	49 ⁺								100			
11868.3(8)	53 ⁺									100		
13502.8(10)	57 ⁺										100	
390.50+X	33 ⁻											100

Energy levels and branching ratios [03B110]. Part 12

 $^{111}_{49}\text{In}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	390.5+X 33 ⁻	794.7+X 35 ⁻	1244+X 37 ⁻	1774+X 39 ⁻	0+Y 23 ⁻	705.7+Y 27 ⁻	1519+Y 31 ⁻	2411+Y 35 ⁻	3363+Y 39 ⁻	4400+Y 43 ⁻
794.70+X	35 ⁻		100									
1244.30+X	37 ⁻			100								
1774.10+X	39 ⁻				100							
2354.60+X	41 ⁻					100						
705.70+Y	27 ⁻						100					
1518.90+Y	31 ⁻							100				
2410.60+Y	35 ⁻								100			
3363.0+Y	39 ⁻									100		
4400.1+Y	43 ⁻										100	
5508.4+Y	47 ⁻											100

Energy levels and branching ratios [03B110]. Part 13

¹¹¹In
49

E^* [keV]	$2J^\pi$	Branching ratios in percentage				
		$E_f^*:$ $2J_f^\pi:$	5508+Y $\langle 47^- \rangle$	6715+Y $\langle 51^- \rangle$	8025+Y $\langle 55^- \rangle$	9403+Y $\langle 59^- \rangle$
6714.5+Y	$\langle 51^- \rangle$		100			
8025.0+Y	$\langle 55^- \rangle$			100		
9403.1+Y	$\langle 59^- \rangle$				100	
10850.1+Y	$\langle 63^- \rangle$					100

Energy levels and branching ratios [96De55].

¹¹²In
49

E^*	J^π	L	C^2S'	L	C^2S	L	σ (d,t)	S_N	Ref.	Branching ratios in percentage					
[keV]		(τ ,d)	(τ ,d)		(p,d)	(d,t)	μ b/sr	(d,t)		E_f^* : J_f^π :	0.0 1 ⁺	156.6 4 ⁺	163 $\langle 5 \rangle^+$	207 2 ⁺	351 7 ⁺
0.0	1 ⁺			4	0.03,0.1		4.4	0.06	78EmZT						
156.59(5)	4 ⁺	4	7.6,4	0	0.39	$\langle 0 \rangle$	792	0.54	67Hj03	100					
162.90(8)	$\langle 5 \rangle^+$		incl									100			
206.70(3)	2 ⁺			2+4	0.03+0.1				78EmZT	100					
350.76(9)	7 ⁺			2	0.54,0.6		326	0.85	78EmZT				100		
420															
456.46(3)	2 ⁺ ,3 ⁺			2+4	0.06+0.3		67	0.18	78EmZT					100	
562.81(8)	5 ⁺			2	0.11,0.1		34		78EmZT			68(2)	32(2)		
592.1(1)*	3 ⁺ ,4 ⁺			[4]	0.41,0.6		254	0.73	78EmZT				8.6(4)	0.59(19)	
594.92*	2 ⁺			[2]	0.30,0.4		incl		78EmZT	73(3)				26(2)	
613.69(14)	8 ⁻														100
622(4)	X ⁺			4	0.27,0.4				78EmZT						
624.36(12)	$\langle 7^- \rangle$														100
648							51	0.16							
670.21(10)	6 ⁺ -8 ⁺			4	0.48,0.7				78EmZT						100
676.26(12)	$\langle 6^- \rangle$														
728.94(4)	1 ⁻						17			91.3(8)				8.7(9)	
729.85(4)	3 ⁺	2	0.2,0.2				260	0.80	78EmZT			51(3)		43(4)	
790.24(10)	$\langle 7 \rangle^+$														91(4)
795.27(8)	$\langle 5 \rangle^+$			2	0.04,0.1				78EmZT						
800.59(17)	$\langle 9^- \rangle$														
822.26(11)	$\langle 5^- \rangle$														
833.07(9)	5 ⁺ ,6 ⁺			2+4	0.4+0.6				78EmZT				8.4(10)		85(5)
866							194	0.62							
883.73(6)	3 ⁺			2	0.31,0.4				78EmZT			36(2)			
918.87(5)	1 ⁻ ,2 ⁻	1	0.4,0.2						78EmZT	44(1)					
924	4 ⁺ ,5 ⁺			0+2	0.02+0.1				78EmZT						
924.67(5)	$\langle 3 \rangle^-$													62(2)	
928.67(5)	$\langle 0 \rangle^-$									98(3)					
955	1 ⁺ -3 ⁺	2	0.2	2	0.14,0.2		123	0.42	78EmZT						
1003(4)	X ⁺						incl								
1007.40(10)	$\langle 4^- \rangle$														

(continued)

¹¹²In
49

E^*	J^π	L	C^2S'	L	C^2S	L	σ (d,t)	S_N	Ref.	Branching ratios in percentage				
[keV]		(τ ,d)	(τ ,d)		(p,d)	(d,t)	$\mu\text{b/sr}$	(d,t)		E_f^* : 0.0	156.6	163	207	351
										J_f^π : 1 ⁺	4 ⁺	$\langle 5 \rangle^+$	2 ⁺	7 ⁺
1037.66(5)	$\langle 0 \rangle^-$									100				
1056	3 ⁺ -5 ⁺	4	1.4,0.7				14		78EmZT					
1062.92(4)	2 ⁺									76(3)				
1117							201	0.74		20(9)				
1150.96(6)	$\langle 4,5 \rangle^+$													
1212	$\leq 4^-$	1	0.2,0.1				430	1.59	78EmZT					
1212.3(1)	$\langle 1^-, 2^- \rangle$													
1213(6)	4 ⁺ , 5 ⁺													
1221.52(5)	$\langle 3,4 \rangle^+$													
1249(7)	4 ⁺ , 5 ⁺													
1250.87(5)	$\langle 2 \rangle^+$													
1260.50(4)	$\langle 0,1 \rangle^-$									55(9)				
1261.35(5)	$\leq 4^+$													
1279.68(4)	$\langle 1-3 \rangle^+$									34(5)				
1286.35(5)	$\langle \leq 4 \rangle^-$													
1286.80(14)	$\langle 3^- \rangle$													
1338	0 ⁺ , 1 ⁺	0	0.56				58	0.22	78EmZT					
1388.93(17)	$\langle 10^- \rangle$													
1398	1 ⁺ -3 ⁺	2	0.3,0.2						78EmZT					
1435	1 ⁺ -3 ⁺	2	2.4,1.8						78EmZT					
1473	1 ⁺ -3 ⁺	2	≈ 1.3						78EmZT					
1488		2	≈ 0.5						78EmZT					
1529	1 ⁺ -3 ⁺	2	≈ 0.3						78EmZT					
1608	0 ⁺ , 1 ⁺	0	0.18											
1631		0+2	≈ 0.1											
1678	1 ⁺ -3 ⁺	2	≈ 0.6											
1708	1 ⁺ -3 ⁺	2	≈ 0.4											
1741	1 ⁺ -3 ⁺	2	≈ 0.1											
1777	1 ⁺ -3 ⁺	2	≈ 0.2											
1872	1 ⁺ -3 ⁺	2	≈ 0.2											
1955	1 ⁺ -3 ⁺	2	≈ 0.4											
2067	1 ⁺ -3 ⁺	2	≈ 0.7											
2172	1 ⁺ -3 ⁺	2	≈ 0.4											
2234														
			78EmZT		78EmZT		67Hj03	67Hj03	Ref.					

Additional data on this isotope can be found in [90Io01, 88Ki04].

* unresolved doublet

Energy levels and branching ratios [96De55]. Part 2

 $^{112}_{49}\text{In}$

E^*	J^π	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		Γ_{cm}		E^*_f : J^π_f :	456.5 2 ⁺ ,3 ⁺	562.8 5 ⁺	592.1 3 ⁺ ,4 ⁺	594.9 2 ⁺	613.7 8 ⁻	624.4 $\langle 7^- \rangle$	670.2
0.0	1 ⁺	15.0(1) m	78EmZT								
156.59(5)	4 ⁺	20.56(6) m	67Hj03								
162.90(8)	$\langle 5 \rangle^+$										
206.70(3)	2 ⁺		78EmZT								
350.76(9)	7 ⁺	0.69(5) μs	78EmZT								
420											
456.46(3)	2 ⁺ ,3 ⁺		78EmZT								
562.81(8)	5 ⁺		78EmZT								
592.1(1)*	3 ⁺ ,4 ⁺		78EmZT		91(3)						
594.92*	2 ⁺		78EmZT		1.0(10)						
613.69(14)	8 ⁻	2.81(3) μs									
622(4)	X ⁺		78EmZT								
624.36(12)	$\langle 7^- \rangle$										
648											
670.21(10)	6 ⁺ -8 ⁺		78EmZT								
676.26(12)	$\langle 6^- \rangle$									100	
728.94(4)	1 ⁻										
729.85(4)	3 ⁺		78EmZT		5.8(10)						
790.24(10)	$\langle 7 \rangle^+$										9(2)
795.27(8)	$\langle 5 \rangle^+$		78EmZT				100				
800.59(17)	$\langle 9^- \rangle$								100		
822.26(11)	$\langle 5^- \rangle$										
833.07(9)	5 ⁺ ,6 ⁺		78EmZT			6.4(14)					
866											
883.73(6)	3 ⁺		78EmZT		5.8(6)		1.8(9)	57(2)			
918.87(5)	1 ⁻ ,2 ⁻		78EmZT					46.3(2)			
924	4 ⁺ ,5 ⁺		78EmZT								
924.67(5)	$\langle 3 \rangle^-$				6.7(5)						
928.67(5)	$\langle 0 \rangle^-$										
955	1 ⁺ -3 ⁺		78EmZT								
1003(4)	X ⁺										
1007.40(10)	$\langle 4^- \rangle$										
1037.66(5)	$\langle 0 \rangle^-$										
1056	3 ⁺ -5 ⁺		78EmZT								
1062.92(4)	2 ⁺										
1117											
1150.96(6)	$\langle 4,5 \rangle^+$										
1212	$\leq 4^-$		78EmZT								
1212.3(1)	$\langle 1^-,2^- \rangle$										
1213(6)	4 ⁺ ,5 ⁺										
1221.52(5)	$\langle 3,4 \rangle^+$				79(3)						
1249(7)	4 ⁺ ,5 ⁺										
1250.87(5)	$\langle 2 \rangle^+$										
1260.50(4)	$\langle 0,1 \rangle^-$										
1261.35(5)	$\leq 4^+$							20(6)			

(continued)

 $^{112}_{49}\text{In}$

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
				E^*_f : J^π_f :	456.5 2 ⁺ ,3 ⁺	562.8 5 ⁺	592.1 3 ⁺ ,4 ⁺	594.9 2 ⁺	613.7 8 ⁻	624.4 ⟨7 ⁻ ⟩	670.2
1279.68(4)	⟨1-3⟩ ⁺				38(6)						
1286.35(5)	⟨≤4⟩ ⁻										
1286.80(14)	⟨3 ⁻ ⟩										
1338	0 ⁺ ,1 ⁺		78EmZT								
1388.93(17)	⟨10 ⁻ ⟩										
1398	1 ⁺ -3 ⁺		78EmZT								
1435	1 ⁺ -3 ⁺		78EmZT								
1473	1 ⁺ -3 ⁺		78EmZT								
1488			78EmZT								
1529	1 ⁺ -3 ⁺		78EmZT								
1608	0 ⁺ ,1 ⁺										
1631											
1678	1 ⁺ -3 ⁺										
1708	1 ⁺ -3 ⁺										
1741	1 ⁺ -3 ⁺										
1777	1 ⁺ -3 ⁺										
1872	1 ⁺ -3 ⁺										
1955	1 ⁺ -3 ⁺										
2067	1 ⁺ -3 ⁺										
2172	1 ⁺ -3 ⁺										
2234											
			Ref.								

Energy levels and branching ratios [96De55]. Part 3

 $^{112}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		E^*_f : J^π_f :	676.3 ⟨6 ⁻ ⟩	728.9 1 ⁻	729.8 3 ⁺	800.6 ⟨9 ⁻ ⟩	822.3 ⟨5 ⁻ ⟩	918.9 1 ⁻ ,2 ⁻	924.7 ⟨3 ⁻ ⟩	928.7 ⟨0 ⁻ ⟩	1007.4 ⟨4 ⁻ ⟩	1062.9 2 ⁺
822.26(11)	⟨5 ⁻ ⟩		100									
918.87(5)	1 ⁻ ,2 ⁻			10.2(6)								
924.67(5)	⟨3 ⁻ ⟩			32(2)								
928.67(5)	⟨0 ⁻ ⟩			2.0(6)								
1007.40(10)	⟨4 ⁻ ⟩						100					
1062.92(4)	2 ⁺				4.4(14)							
1150.96(6)	⟨4,5⟩ ⁺				100							
1212	≤4 ⁻							100				
1212.3(1)	⟨1 ⁻ ,2 ⁻ ⟩			31(2)					47(2)	11(1)		11(1)
1221.52(5)	⟨3,4⟩ ⁺										21(9)	
1250.87(5)	⟨2 ⁺ ⟩			49(4)					51(4)			
1260.50(4)	⟨0,1⟩ ⁻			45(5)								
1286.35(5)	⟨≤4⟩ ⁻							53(5)				47(5)

(continued)

¹¹²In₄₉

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	676.3 $\langle 6^- \rangle$	728.9 1^-	729.8 3^+	800.6 $\langle 9^- \rangle$	822.3 $\langle 5^- \rangle$	918.9 $1^-, 2^-$	924.7 $\langle 3 \rangle^-$	928.7 $\langle 0 \rangle^-$	1007.4 $\langle 4^- \rangle$	1062.9 2^+
1286.80(14)	$\langle 3^- \rangle$										100	
1388.93(17)	$\langle 10^- \rangle$					100						

Energy levels and branching ratios [98Bl04, 05Bl05].

¹¹³In₄₉

E^*	$2J^\pi$	L	C^2S	$2J^\pi$	L	C^2S	σ (d,d')	L	C^2S	L	σ (p,t)	σ (p, α)	Ref.
[keV]			(τ ,d)	(τ ,d)		(α ,t)	μ b/sr		(d, τ)	(p,t)	μ b/sr	<i>rel.</i>	
0.0	9^+	4	0.17		4	0.15		4	6.0	0	8.93	385	74Ma09
391.70(1)	1^-	1	0.06		1	0.08		1	1.3			175	74Ma09
646.83(1)	3^-	1	0.05		1	0.08		1	1.7			313	69Co03
1024.2(1)	5^+	2	0.52		2	0.30				2	0.04		74Ma09
1029.6(1)	$1^+, 3^+$		incl								incl		
1063.9(1)	3^+	2	0.15		2	0.09							74Ma09
1106.4(1)	$3^-, 5^-$											130	76Sm04
1131.4(1)	5^+	2	0.02	5^+	2	0.02	270			2	0.08		74Ma09
1173.1(1)	11^+						230			2	0.42		74Ma09
1191.1(1)	7^+	4	0.21	7^+	4	0.19	1360						74Ma09
1344.9(1)	13^+						470			2	0.33	39	74Ma09
1351.0(2)													
1380.8(1)	$1^- - 5^-$												
1453.0(3)													
1471.9(1)	$3^- - 7^-$						34						
1496.4(1)													
1504.0(5)													
1509.0(2)	$7^+, 9^+$						180			2	1511		74Ma09
1535.9(1)	$1^- - 5^-$												
1552.0(4)													
1567.1(1)	$7^+, 9^+$	4	0.03	$7^+, 9^+$	4	0.02	200			2	0.17	80	74Ma09
1569.5(1)	X^-												
1618.9(1)													
1630.6(1)	$7^+, 9^+$											incl	76Sm04
1634(5)		3,4			$\langle 3,4 \rangle$		40			$\langle 3 \rangle$			74Ma09
1675.5(1)													
1684.1(1)													
1689.6(5)	11^+												
1700(5)	1^+	0	0.02	1^+			44						74Ma09
1707.3(1)	X^+												
≈ 1758	9^+												
1760.3(1)													
1768.0(1)	$3^+, 5^+$	2	0.14	3^+	2	0.09	65			0+2	0.14		74Ma09
1802.3(1)							incl						

(continued)

¹¹³In
₄₉

E^*	$2J^\pi$	L	C^2S	$2J^\pi$	L	C^2S	σ (d,d')	L	C^2S	L	σ (p,t)	σ (p, α)	Ref.
[keV]			(τ ,d)	(τ ,d)		(α ,t)	$\mu\text{b/sr}$		(d, τ)	(p,t)	$\mu\text{b/sr}$	<i>rel.</i>	
1822.5(1)													
1835.7(2)	1 ⁺	0	0.03	1+									74Ma09
1865.3(2)	X ⁻												
1914.1(1)													
1920.8(1)													
1937.9(1)													
1947.6(1)													
1980(15)													
1999.1(1)													
2032.7(2)													
2039.7(1)													
2048(10)	7 ⁺ ,9 ⁺	4	0.10	3+	4	0.06							74Ma09
2051.4(1)													
2064.0(2)													
2070.1(1)													
≈ 2094													
2095.4(1)													
2104(10)	9 ⁻ ,11 ⁻				5	0.03				$\langle 3 \rangle$			74Ma09
≈ 2116										$\langle 3 \rangle$			
2118.3(2)													
2144.5(1)													
2153(10)	1 ⁺	0	0.05	1+									74Ma09
2164.9(10)													
2170.3(1)													
2180.8(5)													
2183.2(1)													
2190(10)	3 ⁺ ,5 ⁺	2	0.5,0.03	3+,5+									74Ma09
2225(1)													
2233.2(5)	$\langle 15^- \rangle$												
2253.4(1)													
2281.0(2)													
2283.5(3)	17 ⁺												
2295.3(1)													
2298(10)	3 ⁺ ,5 ⁺	2	0.04,0.02	3+,5+									74Ma09
2331.3(2)													
2339.5(2)													
2346(10)	3 ⁺ ,5 ⁺	2	0.03,0.02	3+,5+									74Ma09
2371.7(1)													
2376(10)	9 ⁻ ,11 ⁻				5	0.11							74Ma09
2378.2(1)													
2383.8(2)													
2391(10)	3 ⁺ ,5 ⁺	2	0.10,0.06	3+,5+									74Ma09
2391.5(6)	$\langle 15^+ \rangle$												
2396.1(6)	$\langle 17^- \rangle$												
2442.8(10)													

(continued)

¹¹³In
49

E^*	$2J^\pi$	L	C^2S	$2J^\pi$	L	C^2S	σ (d,d')	L	C^2S	L	σ (p,t)	σ (p, α)	Ref.
[keV]			(τ ,d)	(τ ,d)		(α ,t)	$\mu\text{b/sr}$		(d, τ)	(p,t)	$\mu\text{b/sr}$	<i>rel.</i>	
2475.3(2)													
2515.5(3)													
2540(15)													
2557.0(2)													
2559(10)	9 ⁻ , 11 ⁻				5	0.080							74Ma09
2560.6(2)													
2586(5)													
2654.1(4)													
2664.1(5)	$\langle 19^- \rangle$												
2665.0(4)													
2665+X	$\langle 19^- \rangle$												
2669.6(3)	17 ⁺												
2728.0(2)													
2783.8(1)													
2786.0(5)													
2853.9(6)	$\langle 21^- \rangle$												
2880.9(5)													
2904.8(3)													
3023.4(7)	$\langle 23^- \rangle$												
3050.6(5)													
3071.6(4)	$\langle 19^+ \rangle$												
3122.4(4)	$\langle 21^+ \rangle$												
3172.1+X	$\langle 23^- \rangle$												
3194.5(6)	$\langle 19^+ \rangle$												
3214.2(5)	$\langle 23^+ \rangle$												
3249.6(6)													
3280.2(7)	$\langle 25^- \rangle$												
3290.1(6)	$\langle 21^- \rangle$												
3305.9(6)													
3350.9(6)													
3397.5(6)	$\langle 25^+ \rangle$												
3599.2(6)													
3743.9+X	$\langle 27^- \rangle$												
3788.3(7)	$\langle 27^+ \rangle$												
3854.2(7)	$\langle 23^- \rangle$												
3866.9(6)													
3968.1(6)	$\langle 23^+ \rangle$												
3973.0(8)	$\langle 27^- \rangle$												
4090.0(7)	$\langle 25^- \rangle$												
4377.8(7)	$\langle 29^+ \rangle$												
4431.0(6)	$\langle 27^- \rangle$												
4431.9(6)													
4441.0+X	$\langle 31^- \rangle$												
4606.0(7)	$\langle 27^+ \rangle$												
4715.3(8)	$\langle 29^- \rangle$												

(continued)

¹¹³In
₄₉

E^*	$2J^\pi$	L	C^2S	$2J^\pi$	L	C^2S	σ (d,d')	L	C^2S	L	σ (p,t)	σ (p, α)Ref.
[keV]			(τ ,d)	(τ ,d)		(α ,t)	$\mu\text{b/sr}$		(d, τ)	(p,t)	$\mu\text{b/sr}$	<i>rel.</i>
4800.3(6)												
5062.4(7)	$\langle 31^+ \rangle$											
5126.2(6)												
5259.2+X	$\langle 35^- \rangle$											
5393.0(6)	$\langle 31^- \rangle$											
5394+Y	$\langle 33^- \rangle$											
5448.0(7)												
5731.0(7)												
5734.8+Y	$\langle 35^- \rangle$											
5790.6(8)	$\langle 33^+ \rangle$											
6113.9+Y	$\langle 37^- \rangle$											
6187.6+X	$\langle 39^- \rangle$											
6476.0+Y	$\langle 39^- \rangle$											
7215.9+X	$\langle 43^- \rangle$											
12883												
13190												
13427												
13541												
13748												
13867												
14074												
14389												
14488												
14683												
15043												
15096												
15141												
15335												
15476												
15518												
15610												
15639												
15684												
15758												
15801												
15880												
15934												
15971												
16038												
16146												
16236												
16344												
16503												

(continued)

¹¹³In₄₉

E^*	$2J^\pi$	L	C^2S	$2J^\pi$	L	C^2S	σ (d,d')	L	C^2S	L	σ (p,t)	σ (p, α)	Ref.
[keV]			(τ ,d)	(τ ,d)		(α ,t)	$\mu\text{b/sr}$		(d, τ)	(p,t)	$\mu\text{b/sr}$	<i>rel.</i>	
16597			74Ma09			74Ma09	67Hj03		69Co03	98Bl04	74Ma09	76Sm04	Ref.

Additional data on this isotope can be found in [90Vi09, 77So10].

Abundance: 4.29(5) %.Integral $d\sigma/d\Omega$ of the (p,t) reaction was obtained at 5-45° [74Ma09].Relative cross section σ (p, α) is represented by the ratio $d\sigma/d\Omega_{exp}/d\sigma/d\Omega_{DWBA}$ [76Sm04].

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

Energy levels and branching ratios [98Bl04, 05Bl05]. Part 2

¹¹³In₄₉

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]	(τ ,d)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0 9+	392 1-	647 3-	1024 5+	1029 X+
0.0		Stable	74Ma09						
391.70(1)		99.48(2) m	74Ma09		100				
646.83(1)			69Co03			100			
1024.2(1)		3.6(3) ps	74Ma09		91(1)		9.3(5)		
1029.6(1)		0.33(3) ns				94(3)	6.3(3)		
1063.9(1)		0.58(3) ns	74Ma09			98(5)	2.0(5)		
1106.4(1)			76Sm04			90(5)	9.9(9)		
1131.4(1)	5+	0.97(7) ps	74Ma09		85(1)		14(1)	1.12(17)	
1173.1(1)		60(6) fs	74Ma09		100				
1191.1(1)	7+		74Ma09		98(4)			2.2(4)	
1344.9(1)		0.33(3) ps	74Ma09		98(2)				
1351.0(2)					100				
1380.8(1)						16(1)	5.4(8)		44(2)
1453.0(3)					100				
1471.9(1)						31(3)	69(31)		
1496.4(1)					9.1(23)			91(5)	
1504.0(5)					100				
1509.0(2)		≤ 0.2 ps	74Ma09		93(3)				
1535.9(1)						12(2)	x		
1552.0(4)					100				
1567.1(1)	7+,9+	0.24(10) ps	74Ma09		88(1)				
1569.5(1)						24(3)	76(5)		
1618.9(1)					82(8)		18(2)		
1630.6(1)			76Sm04		47(2)			36(2)	
1634(5)			74Ma09						
1675.5(1)					72(4)			5.9(10)	
1684.1(1)							100		
1689.6(5)									
1700(5)	1+		74Ma09						

(continued)

¹¹³In
₄₉

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]	(τ, d)	Γ_{cm}		$E_f^*:$ $2J_f^\pi:$	0 9+	392 1-	647 3-	1024 5+	1029 X+
1707.3(1) ≈ 1758						10(1)	x	40(2)	18(1)
1760.3(1) 1768.0(1) 1802.3(1) 1822.5(1)	3+		74Ma09		64(4)		3.7(12)	84(4)	16.4(15)
1835.7(2) 1865.3(2) 1914.1(1) 1920.8(1)	1+		74Ma09			6.3(21)			94(4)
1937.9(1) 1947.6(1) 1980(15) 1999.1(1)						11(1) 10(3)	87(5) 68(5)	90(4) 64(3)	
2032.7(2) 2039.7(1) 2048(10) 2051.4(1) 2064.0(2) 2070.1(1) ≈ 2094	3+		74Ma09		25(6)		18(4)		100
2095.4(1) 2104(10) ≈ 2116 2118.3(2) 2144.5(1) 2153(10) 2164.9(10) 2170.3(1) 2180.8(5) 2183.2(1)	1+		74Ma09		49(3)		6.1(10)		5.1(10)
2190(10) 2225(1) 2233.2(5) 2253.4(1) 2281.0(2) 2283.5(3) 2295.3(1) 2298(10) 2331.3(2) 2339.5(2) 2346(10) 2371.7(1) 2376(10) 2378.2(1)	3+, 5+		74Ma09			48(4)	44(2)	84(5)	
	3+, 5+		74Ma09			36(4)	40(4)		
	3+, 5+		74Ma09			12(3)	23(3)	100	
			74Ma09					100	
							17(2)		

(continued)

¹¹³In
₄₉

E^* [keV]	$2J^\pi$ (τ, d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
				$E_f^*:$ $2J_f^\pi:$	0 9+	392 1-	647 3-	1024 5+	1029 X+
2383.8(2)	3+, 5+		74Ma09			64(4)	9(4)	27(4)	
2391(10)									
2391.5(6)									
2396.1(6)									
2442.8(10)					x				
2475.3(2)								100	
2515.5(3)									
2540(15)									
2557.0(2)			74Ma09				36(7)	64(7)	
2559(10)									
2560.6(2)									
2586(5)									
2654.1(4)									
2664.1(5)									
2665.0(4)									
2665+X									
2669.6(3)									
2728.0(2)									
2783.8(1)							18(2)	82(5)	
2786.0(5)									
2853.9(6)									
2880.9(5)									
2904.8(3)									
3023.4(7)									
3050.6(5)									
3071.6(4)									
3122.4(4)									
3172.1+X									
3194.5(6)									
3214.2(5)									
3249.6(6)									
3280.2(7)									
3290.1(6)									
3305.9(6)									
3350.9(6)									
3397.5(6)									
3599.2(6)									
3743.9+X									
3788.3(7)									
3854.2(7)									
3866.9(6)									
3968.1(6)									
3973.0(8)									
4090.0(7)									
4377.8(7)									

(continued)

 $^{113}_{49}\text{In}$

E^*	$2J^\pi$	$T_{1/2}$ or Ref.	Branching ratios in percentage					
[keV]	(τ, d)	Γ_{cm}	$E_f^*:$ $2J_f^\pi:$	0 9+	392 1-	647 3-	1024 5+	1029 X+
4431.0(6)								
4431.9(6)								
4441.0+X								
4606.0(7)								
4715.3(8)								
4800.3(6)								
5062.4(7)								
5126.2(6)								
5259.2+X								
5393.0(6)								
5394+Y								
5448.0(7)								
5731.0(7)								
5734.8+Y								
5790.6(8)								
6113.9+Y								
6187.6+X								
6476.0+Y								
7215.9+X								
12883								
13190								
13427								
13541								
13748								
13867								
14074								
14389								
14488								
14683								
15043								
15096								
15141								
15335								
15476								
15518								
15610								
15639								
15684								
15758								
15801								
15880								
15934								
15971								
16038								
16146								

(continued)

 $^{113}_{49}\text{In}$

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]	(τ ,d)	Γ_{cm}		E^*_f : $2J^\pi_f$:	0 9+	392 1-	647 3-	1024 5+	1029 X+
16236									
16344									
16503									
16597									
			Ref.						

Energy levels and branching ratios [98Bl04, 05Bl05]. Part 3

 $^{113}_{49}\text{In}$

E^*	$2J^\pi$	E^*_f : $2J^\pi_f$:	1063.9 3+	1106.4 3-,5-	1131.4 5+	1173.1 11+	1191.1 7+	1344.9 13+	1380.8	1471.9	1509.0 7+,9+	1535.9
[keV]	(τ ,d)											
1344.9(1)						2.10(10)						
1380.8(1)			34(2)									
1509.0(2)					7(3)							
1535.9(1)			68(3)	10.2(17)			10.2(17)					
1567.1(1)	7+,9+					12.4(9)						
1630.6(1)						17(3)						
1675.5(1)					21.8(10)							
1689.6(5)							100					
1707.3(1)					32(2)							
1760.3(1)						100						
1802.3(1)				19.8(12)						2.4(12)		9.9(12)
1835.7(2)	1+										85(3)	
1865.3(2)				100								
1914.1(1)					7.7(9)							
1920.8(1)			22.2(14)		13.9(14)							
1937.9(1)				2.7(13)								
1947.6(1)				22(3)								
1999.1(1)							22(4)					
2039.7(1)							100					
2051.4(1)				75(6)								
2064.0(2)			100									
2070.1(1)									14.1(10)	75(4)		
2095.4(1)					21(3)							
2118.3(2)											91(5)	
2164.9(10)						100						
2170.3(1)							100					
2180.8(5)								100				
2183.2(1)				14(2)	30(2)					5(2)		
2225(1)						100						
2233.2(5)								100				
2253.4(1)				8(2)								

(continued)

¹¹³In
49

E^*	$2J^\pi$	E_f^* :	1063.9	1106.4	1131.4	1173.1	1191.1	1344.9	1380.8	1471.9	1509.0	1535.9
[keV]	(τ ,d)	$2J_f^\pi$:	3+	3-,5-	5+	11+	7+	13+			7+,9+	
2281.0(2)					16(8)							
2283.5(3)								100				
2295.3(1)					24(4)							
2339.5(2)				65(3)								
2378.2(1)				30(2)								
2442.8(10)								100				
2515.5(3)				100								
2669.6(3)								100				
2904.8(3)					33(7)							

Energy levels and branching ratios [98Bl04, 05Bl05]. Part 4

¹¹³In
49

E^*	$2J^\pi$	E_f^* :	1567.0	1569.5	1618.9	1630.6	1675.5	1684.1	1689.6	1707.3	1768.0	1914.1
[keV]	(τ ,d)	$2J_f^\pi$:	7+,9+	X-		$\langle 7+,9+ \rangle$			11+	X+	3+,5+	
1835.7(2)	1+						15(3)					
1914.1(1)			2.6(17)									
1999.1(1)										61(4)		
2095.4(1)			7(1)					19(1)		4(1)		
2118.3(2)				8.7(15)								
2183.2(1)				7(2)								
2378.2(1)					53(6)							
2391.5(6)									100			
2560.6(2)												100
2665.0(4)						100						
2728.0(2)												100
2904.8(3)						40(7)					27(7)	

Energy levels and branching ratios [98Bl04, 05Bl05]. Part 5

¹¹³In
49

E^*	$2J^\pi$	E_f^* :	2233.2	2283.5	2391.5	2396.1	2442.8	2654.1	2664.1	2665.0	2665+X	2669.6
[keV]	(τ ,d)	$2J_f^\pi$:	$\langle 15- \rangle$	17+	$\langle 15+ \rangle$	$\langle 17- \rangle$			$\langle 19- \rangle$		$\langle 19- \rangle$	17+
2396.1(6)			100									
2654.1(4)			71(7)				29(4)					
2664.1(5)						100						
2786.0(5)						66(2)		34.4(10)				
2853.9(6)									50			
2880.9(5)						100						

(continued)

¹¹³In
49

E^*	$2J^\pi$	E_f^* :	2233.2	2283.5	2391.5	Branching ratios in percentage						
[keV]	(τ ,d)	$2J_f^\pi$:	$\langle 15^- \rangle$	17+	$\langle 15+ \rangle$	2396.1	2442.8	2654.1	2664.1	2665.0	2665+X	2669.6
						$\langle 17^- \rangle$			$\langle 19^- \rangle$		$\langle 19^- \rangle$	17+
3050.6(5)									50			
3071.6(4)				64(2)								36(1)
3122.4(4)				100								
3172.1+X											100	
3194.5(6)					100							
3290.1(6)										100		
3305.9(6)										100		
3350.9(6)										100		

Energy levels and branching ratios [98Bl04, 05Bl05]. Part 6

¹¹³In
49

E^*	$2J^\pi$	E_f^* :	2786.0	2853.9	2880.9	Branching ratios in percentage						
[keV]	(τ ,d)	$2J_f^\pi$:		$\langle 21^- \rangle$		3023.4	3050.6	3122.4	3172+X	3194.5	3214.2	3249.6
						$\langle 23^- \rangle$		$\langle 21+ \rangle$	$\langle 23^- \rangle$	$\langle 19+ \rangle$	$\langle 23+ \rangle$	
2853.9(6)			50									
3023.4(7)				100								
3050.6(5)					50							
3214.2(5)								100				
3249.6(6)				50			50					
3280.2(7)						100						
3397.5(6)											100	
3599.2(6)				100								
3743.9+X									100			
3866.9(6)												100
3968.1(6)										100		
4431.0(6)						100						

Energy levels and branching ratios [98Bl04, 05Bl05]. Part 7

¹¹³In
49

E^*	$2J^\pi$	E_f^* :	3280.2	3290.1	3397.5	Branching ratios in percentage						
[keV]	(τ ,d)	$2J_f^\pi$:	$\langle 25^- \rangle$	$\langle 21^- \rangle$	$\langle 25+ \rangle$	3744+X	3788.3	3854.2	3866.9	3968.1	3973.0	4377.8
						$\langle 27^- \rangle$	$\langle 27+ \rangle$	$\langle 23^- \rangle$		$\langle 23+ \rangle$	$\langle 27^- \rangle$	$\langle 29+ \rangle$
3788.3(7)					100							
3854.2(7)				100								
3973.0(8)			100									
4090.0(7)								100				
4377.8(7)					<14		100					
4431.9(6)									x			
4441.0+X						100						

(continued)

¹¹³In
₄₉

E^* [keV]	$2J^\pi$ (τ ,d)	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3280.2 ⟨25−⟩	3290.1 ⟨21−⟩	3397.5 ⟨25+⟩	3744+X ⟨27−⟩	3788.3 ⟨27+⟩	3854.2 ⟨23−⟩	3866.9	3968.1 ⟨23+⟩	3973.0 ⟨27−⟩	4377.8 ⟨29+⟩
4606.0(7)										100		
4715.3(8)			36(3)								28(2)	
4800.3(6)			100								<71	
5062.4(7)							<10					100
5393.0(6)											45(9)	

Energy levels and branching ratios [98Bl04, 05Bl05]. Part 8

¹¹³In
₄₉

E^* [keV]	$2J^\pi$ (τ ,d)	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	4431.0 ⟨27−⟩	4441+X ⟨31−⟩	4715.3 ⟨29−⟩	4800.3	5062.4 ⟨31+⟩	5259+X ⟨35−⟩	5394+Y ⟨33−⟩	5735+Y ⟨35−⟩	6114+Y ⟨37−⟩	6188+X ⟨39−⟩
4715.3(8)			36									
5126.2(6)					100	<40						
5259.2+X				100								
5393.0(6)					55(7)							
5448.0(7)					100							
5731.0(7)					100							
5734.8+Y									100			
5790.6(8)						100						
6113.9+Y										100		
6187.6+X							100					
6476.0+Y											100	
7215.9+X												100

Energy levels and branching ratios [02Bl20].

¹¹⁴In
₄₉

E^* [keV]	J^π	L	S_N	σ (d,p) $\mu\text{b/sr}$	σ (d,t) $\mu\text{b/sr}$	L	S_N	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
										E_f^* : J_f^π :	0.0 1 ⁺	190 5 ⁺	221 288 ⟨2⟩ ⁺	497
0.0	1 ⁺	⟨4⟩	2.29	30	10	4	0.13	71.9(1) s	67Hj03					
190.268(1)	5 ⁺	0	6.4	1765	1180	0	0.7	49.51(1) d	99SaZX	100				
221.067(3)	4 ⁺	2	0.69	92	incl				99SaZX			100		
287.741(3)	2 ⁺	4	2.75	38	17	⟨4⟩	0.25	<69 ps	99SaZX	100				
497.162(3)	5 ⁺		3.6	505	174			0.15(11) ns	99SaZX			62(5)	38(3)	
501.938(3)	8 [−]		28	211	incl			43.1(6) ms	99SaZX			100		
536.286(3)	7 [−]					5	0.29		99SaZX					
574.407(3)	6 [−]	5	15.8	120	22				99SaZX			7(3)		
600.358(8)	3 [−]								99SaZX					100
628.035(3)	3 ⁺							<69 ps	99SaZX					100

(continued)

¹¹⁴In
49

E^* [keV]	J^π	L	S_N	σ (d,p) (d,p) $\mu\text{b/sr}$	σ (d,t) $\mu\text{b/sr}$	L	S_N	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
										E_f^* : 0.0 J_f^π : 1 ⁺	190 5 ⁺	221	288 $\langle 2 \rangle^+$	497
640.4(1)	9 ⁻								99SaZX					
641.739(3)	7 ⁺							4.3(4) μs	99SaZX		70(7)			
687.518(4)	8 ⁺								99SaZX					
692.932(4)	2 ⁻								99SaZX	95(10)			4.6(10)	
696.369(3)	5 ⁻							<104 ps	99SaZX		1.2(7)	0.8(5)		0.37(19)
725.127(4)	3 ⁺								99SaZX	x		x	x	
728.544(3)	4 ⁺								99SaZX					100
775.337(3)	4 ⁺							<140 ps	99SaZX				10.8(15)	
825.00(1)	2 ⁺								99SaZX	71(6)			26(5)	
835.65(1)	4 ⁻							<140 ps	99SaZX		3.1(20)			
906.12(1)	2 ⁻								99SaZX					
909.50(1)	6 ⁺								99SaZX		35(5)	9(2)		39(5)
970.58(1)	4 ⁺ -6 ⁺								99SaZX					86(21)
1003.13(1)	5 ⁺								99SaZX		x	x		x
1006.41(1)	4 ⁻								99SaZX					
1018.67(1)	4 ⁻ ,5 ⁻								99SaZX			27(6)	6(2)	
1019.74(1)	7 ⁺								99SaZX					
1032.04(1)	3 ⁻							<104 ps	99SaZX					
1037.18(1)	3 ⁺ -5 ⁺							<210 ps	99SaZX			61(18)		
1044.89(1)	6 ⁺								99SaZX					53(16)
1047.212(4)	3 ⁺								99SaZX					
1059.49(5)	1 ⁺ ,2 ⁺								99SaZX	78(4)			22(2)	
1062.538	3 ⁺								99SaZX		13(5)	25(10)	45(4)	1.6(7)
1074.04(3)	1 ⁺ ,2 ⁺								99SaZX	100				
1111.79(1)	3								99SaZX		3	65		
1138.71(9)		2	1.13			2	0.37		67Hj03			70(9)		5.1(20)
1155.37(1)	3 ⁺ ,4 ⁺								99SaZX			13(5)	4(3)	11(3)
1164.28(1)	6 ⁺ -8 ⁺								99SaZX				26(16)	27(6)
1168.83(1)	2 ⁺ -4 ⁺								99SaZX		16(5)	7(5)		7(3)
1178.67(5)	1 ⁻ -3 ⁻								99SaZX					
1198.93(1)	4 ⁻								99SaZX					3.9(1)
1201.52(1)	$\langle 3^- \rangle$								99SaZX				53(11)	
1205.34(1)	3 ⁺								99SaZX					
1216.8(8)	10 ⁻								99SaZX					
1270.98(1)	3 ⁻								99SaZX					
1272.27(1)	4 ⁺								99SaZX				16(3)	
1303.55(1)	3 ⁻								99SaZX					9(3)
1311.77(1)	3 ⁺ -5 ⁺								99SaZX					
1319.57(1)	2 ⁺ -4 ⁺								99SaZX					
1322.45(1)	5 ⁺ -7 ⁺								99SaZX				18(5)	
1328.95(1)	6 ⁻								99SaZX					
1349.00(1)	3 ⁻ -5 ⁻								99SaZX					8(4)
1394.23(1)	5 ⁻ ,6 ⁻								99SaZX					
1406.49(1)	2 ⁻ -4 ⁻								99SaZX					
1424.45(1)	4 ⁻								99SaZX					15(7)

(continued)

¹¹⁴In
49

E^*	J^π	L	S_N	σ (d,p)	σ (d,t)	L	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]			(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)		Γ_{cm}		E_f^* : 0.0	190	221	288	497
										J_f^π : 1 ⁺	5 ⁺		$\langle 2 \rangle^+$	
1431.61(1)	4 ⁻								99SaZX					
1484.77(1)	3 ⁻ -5 ⁻	2	0.95			2	0.52		67Hj03					28(7)
1575.53(1)	3 ⁻ , 4 ⁻	2	1.32			2	0.38		67Hj03					
1585.1(6)														
1615.91(2)	3-5								99SaZX					
1677.64(2)	3,4								99SaZX					
1785(15)														
1863(15)														
	99SaZX		67Hj03	67Hj03	67Hj03		67Hj03		Ref.					

Additional data on this isotope can be found in [02SaZO, 99SaZX].

Possible nucleon configurations are discussed in [99SaZX, 02SaZO].

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

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

¹¹⁴In
49

E^*	J^π	Branching ratios in percentage											
[keV]		E_f^* : 501.94	536.29	574.43	599.7	627.982	641.72	687.50	693.40	696.40	724.89		
		J_f^π : 8 ⁻	X ⁻	$\langle 6 \rangle^-$		$\langle 3 \rangle^+$	$\langle 7^+ \rangle$	$\langle 8^+, 7^+ \rangle$	1 ⁻ , 2 ⁻	$\langle 5 \rangle^-$	$\langle 3 \rangle^+$		
536.286(3)	7 ⁻		100										
574.407(3)	6 ⁻			93(19)									
641.739(3)	7 ⁺		6(3)	21(3)		3.6(17)							
687.518(4)	8 ⁺							100					
696.369(3)	5 ⁻					98(11)							
775.337(3)	4 ⁺						89(8)						
825.00(1)	2 ⁺								0.9(3)				
835.65(1)	4 ⁻					3.1(23)				93.8			
909.50(1)	6 ⁺							16(2)					
970.58(1)	4 ⁺ -6 ⁺										5.7(21)		
1006.41(1)	4 ⁻				100								
1018.67(1)	4 ⁻ , 5 ⁻									53(7)			
1019.74(1)	7 ⁺					23(3)	70(6)						
1032.04(1)	3 ⁻								23(14)				
1044.89(1)	6 ⁺						15(5)	33(5)					
1062.538	3 ⁺					7(3)							
1155.37(1)	3 ⁺ , 4 ⁺					26(4)							
1164.28(1)	6 ⁺ -8 ⁺						21(10)						
1168.83(1)	2 ⁺ -4 ⁺				8(4)								
1198.93(1)	4 ⁻					18(5)				16(9)	15(5)		
1201.52(1)	$\langle 3^- \rangle$					30(7)				14(1)	33(7)		
1272.27(1)	4 ⁺								22(9)				
1303.55(1)	3 ⁻									22(4)	12(2)		
1311.77(1)	3 ⁺ -5 ⁺				7(1)		25(4)		12(3)				
						5(1)	15(2)		22(1)	22(1)			

(continued)

 $^{114}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	501.94 8 ⁻	536.29 X ⁻	574.43 (6) ⁻	599.7	627.982 (3) ⁺	641.72 (7 ⁺)	687.50 (8 ⁺ , 7 ⁺)	693.40 1 ⁻ , 2 ⁻	696.40 (5) ⁻	724.89 (3) ⁺
1322.45(1)	5 ⁺ -7 ⁺						24(7)	15(3)		15(5)		
1328.95(1)	6 ⁻			34(6)							23(6)	
1349.00(1)	3 ⁻ -5 ⁻										37(9)	
1424.45(1)	4 ⁻										65(14)	
1431.61(1)	4 ⁻				61(12)							
1484.77(1)	3 ⁻ -5 ⁻											12(5)

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

 $^{114}_{49}\text{In}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	728.60 4 ⁺ , 5 ⁺	775.292	825.83 2 ⁺ , 3 ⁺	835.69 (4, 5) ⁻	909.68 (7 ⁺ , 6 ⁺)	969.27 (4 ⁺ , 5 ⁺)	1003.33 X ⁺	1018.56 (3 ⁻ , 4 ⁺)	1032.11 (3, 4) ⁻	1036.83 (3, 4, 5)
825.00(1)	2 ⁺	1.9(9)										
970.58(1)	4 ⁺ -6 ⁺			4.3(21)			4.3(21)					
1003.13(1)	5 ⁺						x					
1018.67(1)	4 ⁻ , 5 ⁻			10(2)	3.3(14)	1.0(5)						
1019.74(1)	7 ⁺						7.5(20)					
1032.04(1)	3 ⁻			5.0(21)		72(14)						
1037.18(1)	3 ⁺ -5 ⁺			39(33)								
1062.538	3 ⁺	6.7(11)			2.6(7)	0.7(4)						
1111.79(1)	3			32		<61			x			
1138.71(9)					23(3)							1.2(4)
1155.37(1)	3 ⁺ , 4 ⁺					9(5)						
1164.28(1)	6 ⁺ -8 ⁺				18(9)							
1168.83(1)	2 ⁺ -4 ⁺				10(4)	<4		5(2)				2(1)
1198.93(1)	4 ⁻					14(8)					3.8(8)	
1201.52(1)	(3 ⁻)			8(3)		17(4)						
1272.27(1)	4 ⁺					43(9)				6(1)		
1303.55(1)	3 ⁻					41(8)						14(3)
1311.77(1)	3 ⁺ -5 ⁺	5(3)		11(6)		5(1)						
1322.45(1)	5 ⁺ -7 ⁺							14(5)				
1328.95(1)	6 ⁻									34(5)	10(2)	
1394.23(1)	5 ⁻ , 6 ⁻				15(6)	46(12)						
1424.45(1)	4 ⁻				12(3)							
1431.61(1)	4 ⁻					15(4)					18(5)	
1484.77(1)	3 ⁻ -5 ⁻			11(3)		22(6)						
1575.53(1)	3 ⁻ , 4 ⁻					24(10)					35(9)	
1585.1(6)						100						
1615.91(2)	3-5					100						
1677.64(2)	3, 4					100						

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

¹¹⁴In
49

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : 1044.82	1062.58	1111.69	1155.42	1163.05	1169.92	1198.86	1201.68	1321.14	1329.10	1425.56
		J_f^π :	$\langle 3,4 \rangle^+$		$\langle 3,4^+ \rangle$	$X^{(+)}$			$\langle 3^- \rangle$			
<hr/>												
1155.37(1)	$3^+, 4^+$		37(5)									
1168.83(1)	$2^+ - 4^+$	4(2)										
1198.93(1)	4^-		0.8(6)	1.1(6)								
1311.77(1)	$3^+ - 5^+$		5(1)		5(1)							
1322.45(1)	$5^+ - 7^+$					14(5)						
1349.00(1)	$3^- - 5^-$							55(14)				
1394.23(1)	$5^-, 6^-$				7(4)					6(2)	25(4)	
1424.45(1)	4^-						9(3)					
1431.61(1)	4^-							7(5)				
1484.77(1)	$3^- - 5^-$					27(8)						
1575.53(1)	$3^-, 4^-$								32(13)			8(4)

Energy levels and branching ratios [99Bl28, 05Bl06].

¹¹⁵In
49

E^* [keV]	$2J^\pi$	L	S_N	σ (d,d')	σ (d,d')	L	C^2S	σ (d, τ)	σ (d, τ)	S_N	$g\Gamma_o^2/\Gamma$	σ (p, α)	Ref.
			(τ ,d)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(d, τ)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d, τ)	[meV]	rel.	
0.0*	9^+	4	0.9			4	7.4	910	225	6.7		362	74He11
336.24(2)	1^-	1	0.14		20	1	1.7	540	125	1.5		182	74He11
597.14(2)	3^-	1	0.15	1400(200)	53	1	2.0	700	175	1.9		300	74He11
828.59(2)***	3^+	2	0.3										70ThZW
864.139(18)	1^+	0	0.3										70ThZW
933.78(2)***	7^+	4	8.5						5.4				70ThZW
941.42(1)	5^+	2	0.86										70ThZW
1041.4(2)	5^-					3	0.7	62	12	0.21		138	74He11
1078.2(1)	5^+				200			68	12	0.21	0.42(15)	7	74He11
1132.58(1)*	11^+				780						9.4(7)	11	76Sm04
1192.49(2)	$\langle 3 \rangle$												
1287.41(5)	$1, 3^-, 5^-$				580				2				
1290.59(1)*	13^+				incl				incl		1.3(3)	60	76Sm04
1347.5(7)	$\langle 5^- \rangle$												
1418.25(1)***	$\langle 9^+ \rangle$												
1448.79(1)	9^+	4	0.32				2.4	410	28	1.2	1.7(4)		70ThZW
1463.5(6)	7^+				310			incl			4.0(6)		95Vo02
1470(12)	$\langle 1^-, 3^- \rangle$				incl		0.5	incl	18	0.3****			74He11
1478.5(2)					incl								
1486.11(1)	9^+				incl				38	1.7	0.80(21)	53	76Sm04
1497.2(8)	$\langle 7^+ \rangle$				10				incl		0.49(18)		95Vo02
1602.3(10)	$\langle 7^+ \rangle$												
1608.1(7)	$\langle 7^+ \rangle$				73						1.0(3)		95Vo02
1650(2)	$\langle 1^-, 3^- \rangle$		0.5				0.4	135	16	0.4****		9	70ThZW
1736.9(6)	$\langle 9^+ \rangle$				30		0.7	48					74He11

(continued)

¹¹⁵In
₄₉

E^*	$2J^\pi$	L	S_N	σ (d,d')	σ (d,d')	L	C^2S	σ (d, τ)	σ (d, τ)	S_N	$g\Gamma_0^2/\Gamma$	σ (p, α)	Ref.
[keV]			(τ ,d)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(d, τ)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d, τ)	[meV]	rel.	
1801.0(8)	$\langle 5^+ \rangle$				incl								
1830.9(8)	$\langle 5^+ \rangle$		0.12		31								70ThZW
1864(2)													
1872.4(8)	$\langle 9^- \rangle$				54								
1917.6(10)													
1971.6(7)	$\langle 9^+ \rangle$												
1978.3(7)	$7^+, 9^+$												
1999.1(6)	$\langle 7^+ \rangle$												
2057.3(10)	$\langle 5^+ \rangle$	0	0.15										70ThZW
2071.0(4)	$7, 9^-$										1.4(4)		95Vo02
2088	$\langle 13^- \rangle$												
2107.8(2)	$7, 9, 11^-$										5.1(6)		95Vo02
2113.7(7)	$\langle 9^+ \rangle$												
2119***	$[15^+]$												02Lu15
2131(7)	$1^-, 3^-$						0.25	49					74He11
2136.8(1)**	15^-												02Lu15
2170.7(10)	$\langle 5^+ \rangle$												
2208(2)	1^+	0	0.11										70ThZW
2230(20)	$5^-, 7^-$						1.1	64				43	74He11
2234(1)	$\langle 5^+ \rangle$												
2254*	$[17^+]$												02Lu15
2264.0(8)	$\langle 7^+ \rangle$												
2283.0(2)**	$\langle 17^- \rangle$												02Lu15
2283.4(7)	$\langle 7^+, 9^+ \rangle$										12.4(13)		95Vo02
2309.7(1)*	$\langle 17^+ \rangle$												
2318(10)													
2384.6(3)	7^--11^-										4.1(7)		95Vo02
2393.0(4)	$\langle 19^+ \rangle$												
2434(2)	$\langle 15^- \rangle$												
2443.1(2)	$7, 9, 11^-$										14.8(16)		95Vo02
2450(25)	$1^-, 3^-$						0.15	32					74He11
2451(2)	$\langle 13^- \rangle$												
2479.7(3)	7^--11^-										5.2(8)		95Vo02
2489(7)	$5^-, 7^-$						0.8	55					74He11
2529.7(4)	$\langle 21^+ \rangle$												
2539.1(2)**	$\langle 19^- \rangle$												02Lu15
2540.7(2)	7^--11^-										10.9(14)		95Vo02
2580.0(3)											5.0(9)		95Vo02
2646													02Lu15
2739.9(2)											15.8(24)		95Vo02
2746.3(2)	$\langle 21^- \rangle$												
2746.7(4)											4.9(12)		95Vo02
2815	1^+	0	0.11										70ThZW
2827.5(3)											5.1(13)		95Vo02
2831**	$[21^-]$												02Lu15

(continued)

¹¹⁵In
49

E^*	$2J^\pi$	L	S_N	σ (d,d')	σ (d,d')	L	C^2S	σ (d, τ)	σ (d, τ)	S_N	$g\Gamma_o^2/\Gamma$	σ (p, α)	Ref.
[keV]			(τ ,d)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(d, τ)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d, τ)	[meV]	<i>rel.</i>	
2852.2(4)											7.1(14)		95Vo02
2860(10)	$1^-, 3^-$						0.20	48					74He11
2868	[19 ⁺]												02Lu15
2878*	[21 ⁺]												02Lu15
2896.7(4)											14.5(19)		95Vo02
2905.5(4)	$\langle 23^+ \rangle$												
2947***	[19 ⁺]												02Lu15
2969*	[23 ⁺]												02Lu15
2994.4(6)											6.5(14)		95Vo02
3038.9(2)**	$\langle 23^- \rangle$												02Lu15
3042.9(5)											6.8(18)		95Vo02
3096*	[25 ⁺]												02Lu15
3110	$3^+, 5^+$	2	0.3										70ThZW
3158.2(7)											5.2(14)		95Vo02
3184**	[25 ⁻]												02Lu15
3220.7(6)											6.2(15)		95Vo02
3231.5(3)											32(3)		95Vo02
3272.0(3)											35(3)		95Vo02
3289.0(4)											11.2(18)		95Vo02
3384.6(3)	$\langle 25^- \rangle$												
3386.6(4)											7.0(8)		95Vo02
3395.1(5)											8.2(18)		95Vo02
3475.7(4)*	$\langle 25^+ \rangle$												
3684.7(9)											x		95Vo02
3701.1(5)											x		95Vo02
3822.1(3)	$\langle 27^- \rangle$												
4035.5(4)*	$\langle 27^+ \rangle$												
4048.5(3)	$\langle 27^- \rangle$												
4245.3(3)	$\langle 29^- \rangle$												
4698.6(4)	$\langle 29^+ \rangle$												
4715.6(5)	$\langle 31^- \rangle$												
			70ThZW			67Hj03	74He11	74He11	71We01		95Vo02	76Sm04	Ref.
										71We01			Ref.

Additional data on this isotope can be found in [91Vo08].

Abundance: 95.71(5) %.

* Ground-state band (No 1) discussed in [02Lu15].

** Negative-parity band (No 2) discussed in [02Lu15].

*** Positive-parity band (No 3) discussed in [02Lu15].

**** Computed for $J^\pi = 3/2^-$ [71We01].Relative cross section σ (p, α) is represented by the ratio $(d\sigma/d\Omega)_{exp}/(d\sigma/d\Omega)_{DWBA}$ [76Sm04].

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

Energy levels and branching ratios [99Bl28, 05Bl06]. Part 2

¹¹⁵In
49

E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
				E_f^* : $2J_f^\pi$:	0.0 9 ⁺	336 1 ⁻	597 3 ⁻	828 3 ⁺	864 1 ⁺	933.7 7 ⁺	941.4 5 ⁺
0.0*	9 ⁺	4.4(2)·10 ¹⁴ yr	74He11								
336.24(2)	1 ⁻	4.486(4) h	74He11		100						
597.14(2)	3 ⁻	≤0.25 ns	74He11			100					
828.59(2)***	3 ⁺	5.78(6) ns	70ThZW			92(2)	8.44(11)				
864.139(18)	1 ⁺	0.91(3) ns	70ThZW			98(2)	0.33(1)	1.51(1)			
933.78(2)***	7 ⁺	57(5) ps	70ThZW		100			0.22(1)			
941.42(1)	5 ⁺	15.1(14) ps	70ThZW		90		10.2(6)				
1041.4(2)	5 ⁻		74He11			88	12				
1078.2(1)	5 ⁺	0.99(5) ps	74He11		83(3)		15.6(3)				1.0(2)
1132.58(1)*	11 ⁺	0.065(3) ps	76Sm04		100						
1192.49(2)	⟨3⟩					16.4(7)	13(1)	46(5)	25(4)		0.7(5)
1287.41(5)	1,3 ⁻ ,5 ⁻					32(3)	68(7)				
1290.59(1)*	13 ⁺	0.42(4) ps	76Sm04		98(2)						
1347.5(7)	⟨5 ⁻ ⟩						36	64			
1418.25(1)***	⟨9 ⁺ ⟩				0.63(3)					99(6)	0.034(7)
1448.79(1)	9 ⁺	0.35(4) ps	70ThZW		85(5)					0.50(20)	1.30(10)
1463.5(6)	7 ⁺	0.063(10) ps	95Vo02		94						
1470(12)	⟨1 ⁻ ,3 ⁻ ⟩		74He11								
1478.5(2)					15(9)					85(13)	
1486.11(1)	9 ⁺	0.44(6) ps	76Sm04		80(6)						3.8(6)
1497.2(8)	⟨7 ⁺ ⟩	0.17(2) ps	95Vo02		78						
1602.3(10)	⟨7 ⁺ ⟩				100						
1608.1(7)	⟨7 ⁺ ⟩	0.11(2) ps	95Vo02		69						
1650(2)	⟨1 ⁻ ,3 ⁻ ⟩		70ThZW								
1736.9(6)	⟨9 ⁺ ⟩		74He11		37						
1801.0(8)	⟨5 ⁺ ⟩									100	
1830.9(8)	⟨5 ⁺ ⟩		70ThZW							100	
1864(2)											
1872.4(8)	⟨9 ⁻ ⟩									67	
1917.6(10)											
1971.6(7)	⟨9 ⁺ ⟩				75						
1978.3(7)	7 ⁺ ,9 ⁺				11						
1999.1(6)	⟨7 ⁺ ⟩				30						
2057.3(10)	⟨5 ⁺ ⟩		70ThZW		100						
2071.0(4)	7,9 ⁻		95Vo02		x						
2088	⟨13 ⁻ ⟩										
2107.8(2)	7,9,11 ⁻		95Vo02		100						
2113.7(7)	⟨9 ⁺ ⟩				x						
2119***	[15 ⁺]		02Lu15								
2131(7)	1 ⁻ ,3 ⁻		74He11								
2136.8(1)**	15 ⁻		02Lu15								
2170.7(10)	⟨5 ⁺ ⟩				100						
2208(2)	1 ⁺		70ThZW								
2230(20)	5 ⁻ ,7 ⁻		74He11								
2234(1)	⟨5 ⁺ ⟩				100						

(continued)

¹¹⁵In
₄₉

E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
				$E_f^*:$ $2J_f^\pi:$	0.0 9 ⁺	336 1 ⁻	597 3 ⁻	828 3 ⁺	864 1 ⁺	933.7 7 ⁺	941.4 5 ⁺
2254*	[17 ⁺]		02Lu15								
2264.0(8)	$\langle 7^+ \rangle$				x						
2283.0(2)**	$\langle 17^- \rangle$		02Lu15								
2283.4(7)	$\langle 7^+, 9^+ \rangle$		95Vo02		44						
2309.7(1)*	$\langle 17^+ \rangle$										
2318(10)											
2384.6(3)	7 ⁻ -11 ⁻		95Vo02		100						
2393.0(4)	$\langle 19^+ \rangle$										
2434(2)	$\langle 15 \rangle^-$										
2443.1(2)	7,9,11 ⁻		95Vo02		100						
2450(25)	1 ⁻ ,3 ⁻		74He11								
2451(2)	$\langle 13 \rangle^-$										
2479.7(3)	7 ⁻ -11 ⁻		95Vo02		100						
2489(7)	5 ⁻ ,7 ⁻		74He11								
2529.7(4)	$\langle 21^+ \rangle$										
2539.1(2)**	$\langle 19^- \rangle$		02Lu15								
2540.7(2)	7 ⁻ -11 ⁻		95Vo02		100						
2580.0(3)			95Vo02		100						
2646			02Lu15								
2739.9(2)			95Vo02		100						
2746.3(2)	$\langle 21^- \rangle$										
2746.7(4)			95Vo02		100						
2815	1 ⁺		70ThZW								
2827.5(3)			95Vo02		100						
2831**	[21 ⁻]		02Lu15								
2852.2(4)			95Vo02		100						
2860(10)	1 ⁻ ,3 ⁻		74He11								
2868	[19 ⁺]		02Lu15								
2878*	[21 ⁺]		02Lu15								
2896.7(4)			95Vo02		100						
2905.5(4)	$\langle 23^+ \rangle$										
2947***	[19 ⁺]		02Lu15								
2969*	[23 ⁺]		02Lu15								
2994.4(6)			95Vo02		100						
3038.9(2)**	$\langle 23^- \rangle$		02Lu15								
3042.9(5)			95Vo02		100						
3096*	[25 ⁺]		02Lu15								
3110	3 ⁺ ,5 ⁺		70ThZW								
3158.2(7)			95Vo02		100						
3184**	[25 ⁻]		02Lu15								
3220.7(6)			95Vo02		100						
3231.5(3)			95Vo02		100						
3272.0(3)			95Vo02		100						
3289.0(4)			95Vo02		100						
3384.6(3)	$\langle 25^- \rangle$										

(continued)

¹¹⁵In
₄₉

E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
				E_f^* : $2J_f^\pi$:	0.0 9 ⁺	336 1 ⁻	597 3 ⁻	828 3 ⁺	864 1 ⁺	933.7 7 ⁺	941.4 5 ⁺
3386.6(4)			95Vo02		100						
3395.1(5)			95Vo02		100						
3475.7(4)*	$\langle 25^+ \rangle$										
3684.7(9)			95Vo02		100						
3701.1(5)			95Vo02		100						
3822.1(3)	$\langle 27^- \rangle$										
4035.5(4)*	$\langle 27^+ \rangle$										
4048.5(3)	$\langle 27^- \rangle$										
4245.3(3)	$\langle 29^- \rangle$										
4698.6(4)	$\langle 29^+ \rangle$										
4715.6(5)	$\langle 31^- \rangle$										
			Ref.								
			Ref.								

Energy levels and branching ratios [99Bl28, 05Bl06]. Part 3

¹¹⁵In
₄₉

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	1041 5 ⁻	1078.16 5 ⁺	1132.58 11 ⁺	1290.59 13 ⁺	1347.5 $\langle 5^- \rangle$	1418.25 $\langle 9 \rangle^+$	1448.79 9 ⁺	1486.11 9 ⁺	2136.79 15 ⁻
1290.59(1)*	13 ⁺				1.87(2)						
1448.79(1)	9 ⁺			0.040(20)	13.2(4)						
1463.5(6)	7 ⁺			5.8(5)							
1486.11(1)	9 ⁺				16.4(7)						
1497.2(8)	$\langle 7^+ \rangle$		22								
1608.1(7)	$\langle 7^+ \rangle$			31							
1736.9(6)	$\langle 9^+ \rangle$				39			24			
1872.4(8)	$\langle 9^- \rangle$		33								
1917.6(10)						100					
1971.6(7)	$\langle 9^+ \rangle$								25		
1978.3(7)	7 ⁺ , 9 ⁺				89						
1999.1(6)	$\langle 7^+ \rangle$		47						23		
2071.0(4)	7, 9 ⁻							x			
2113.7(7)	$\langle 9^+ \rangle$				x						
2136.8(1)**	15 ⁻					100					
2264.0(8)	$\langle 7^+ \rangle$						x				
2283.0(2)**	$\langle 17^- \rangle$										100
2283.4(7)	$\langle 7^+, 9^+ \rangle$									56	
2309.7(1)*	$\langle 17^+ \rangle$					100					

Energy levels and branching ratios [99Bl28, 05Bl06]. Part 4

¹¹⁵In
₄₉

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	2282.99 $\langle 17^- \rangle$	2309.70 $\langle 17^+ \rangle$	2393.0 $\langle 19^+ \rangle$	2529.7 $\langle 21^+ \rangle$	2539.09 $\langle 19^- \rangle$	2746.29 $\langle 21^- \rangle$	2905.5 $\langle 23^+ \rangle$	3038.89 $\langle 23^- \rangle$	3384.59 $\langle 25^- \rangle$	3475.7 $\langle 25^+ \rangle$
2393.0(4)	$\langle 19^+ \rangle$			100								
2529.7(4)	$\langle 21^+ \rangle$				100							
2539.1(2)**	$\langle 19^- \rangle$	100										
2746.3(2)	$\langle 21^- \rangle$					100						
2905.5(4)	$\langle 23^+ \rangle$					100						
3038.9(2)**	$\langle 23^- \rangle$							100				
3384.6(3)	$\langle 25^- \rangle$									100		
3475.7(4)*	$\langle 25^+ \rangle$								100			
3822.1(3)	$\langle 27^- \rangle$										100	
4035.5(4)*	$\langle 27^+ \rangle$											100
4048.5(3)	$\langle 27^- \rangle$										100	

Energy levels and branching ratios [99Bl28, 05Bl06]. Part 5

¹¹⁵In
₄₉

E^*	$2J^\pi$	Branching ratios in percentage			
[keV]		$E_f^*:$ $2J_f^\pi:$	3822 $\langle 27^- \rangle$	4035.5 $\langle 27^+ \rangle$	4245.3 $\langle 29^- \rangle$
4245.3(3)	$\langle 29^- \rangle$		100		
4698.6(4)	$\langle 29^+ \rangle$			100	
4715.6(5)	$\langle 31^- \rangle$				100

Energy levels and branching ratios [01Bl04].

¹¹⁶In
₄₉

E^* [keV]	J^π	L (d,p)	S_N (d,p)	S' (d,p)	L (d,p)	S' (d,p)	σ (d,p) $\mu\text{b/sr}$	σ (d,p) $\mu\text{b/sr}$	$B(GT)$	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	1^+	4	0.70	0.21	4	0.20	14.5	15.4	0.032(5)	14.10(3) s	76Al06
127.27(1)	5^+	0	0.40	0.44	0	0.45	1350	1320		54.3(2) m	76Al06
223.33(1)	4^+	0+2	0.18	0.16	0	0.20	620	500			76Al06
				0.16	+2	0.12	90	120			68Mo04
272.97(1)	2^+	4,5	0.40	0.20	0	0.008	23	16			76Al06
289.66(1)	8^-	5	0.66	1.12	5	1.07	85	90		2.18(4) s	76Al06
313.48(1)	$4^+, 5^+$	2	0.53	0.58	2	0.56	440	455		631(70) ps	76Al06
					+0	0.03	100				68Mo04
350.58(1)	7^-	5	0.62	0.93	5	0.90	72	74			76Al06
366.42(1)	7^--9^-	5	0.54	1.03	5	0.87	70	82			76Al06
373.37(1)	6^-	5	0.65	0.85		1.13	incl	69			76Al06
425.93(1)	4^+	0+2	0.28	0.25	0	0.23	700	765			76Al06
				0.30	+2	0.43	340	245			68Mo04

(continued)

¹¹⁶In
₄₉

E^*	J^π	L	S_N	S'	L	S'	σ (d,p)	σ (d,p)	$B(GT)$	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)	(d,p)	(d,p)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		Γ_{cm}	
448.03(1)	1^-3^-										
458.94(1)	5^-	5	0.55	0.61	5	0.92	75	50			76Al06
460.00(1)	$4^+,5^+$	0	incl	0.01		incl		30			76Al06
508.24(1)	3^+	2	0.86	0.60	2	0.57	480	490			76Al06
554.98(1)	4^-	5	0.71	0.64	5	0.62	52	53			76Al06
556.85(2)	2^-					incl					
648.92(1)	6^+	2	0.69	0.89	2	0.86	720	750			76Al06
658.07(1)	3^+	4,5	0.63	0.44				36			76Al06
665.62(1)	$7^+,8^+$	4	0.33	0.57	4	0.87	75	49			76Al06
722.7(13)	3^+										
728.86(1)	3^-	5	0.63	0.44	5	0.57	50	39			76Al06
735.69(1)	$4^+,5^+$	0	0.007	0.008		incl		25			76Al06
744.82(1)	3^+	2	0.014	0.015				13			76Al06
761.00(1)	$6,7^+$	2	0.13		2	0.18	160	170			76Al06
771.14(10)	X^+										
787.18(4)	1^-3^-										
789.37(1)	X^+	2	0.13		2	0.14	125	132			76Al06
790.921(18)	3^+										
813.346(8)	4^+	4	0.12		4+0			9+13			76Al06
829.131(8)	4^+	0	0.002					6			76Al06
850.491(23)	3^-										
875.287(33)	3^-										
892.667(12)	4^-										
910.77(10)	$\langle 2 \rangle^+$			0.13	2	0.16	150	122			68Mo04
914.5(5)				0.60				59			76Al06
920.81(10)	X^+										
949.305(10)	$4^{\langle + \rangle}, 5^{\langle + \rangle}$	0+2		0.004	0+2	0.007	33	20			76Al06
951.476(15)	4^-				1	incl	incl	incl			68Mo04
970.302(8)	3^+-5^+				2						
972.95(20)											
$\approx 1000^*$	1^+								0.12(2)		97Ak02
1007.663(13)	6^-			0.002	1	0.002	10	8			68Mo04
1015.495(21)	$4^-, 5^-$										
1019.038(12)	3^--5^-			0.002	1			9			76Al06
1031.226(25)	4^+										
1052.680(19)	5^-										
1057.340(19)	$\langle 3^+-6^+ \rangle$			0.020	2	0.027	19	21			68Mo04
1070.89(10)	3^+				2		40	40			76Al06
1072.37(17)	$4^-, 5^-$			0.040	1		incl	incl			
1081.58(18)	6^-										
1081.871(24)	3^+-5^+										
1088.1(11)	6^+										
1094.42				0.018	[2]	0.034	40	20			76Al06
1097.7(3)	3^-			incl	1	incl	incl	incl			
1119.4(13)	3^+										68Mo04

(continued)											¹¹⁶ ₄₉ In
E^*	J^π	L	S_N	S'	L	S'	σ (d,p)	σ (d,p)	$B(GT)$	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)	(d,p)	(d,p)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		Γ_{cm}	
1121.5											
1142.7(4)				0.052	2	0.065	76	61			76Al06
1152.40(8)	6 ⁻										
1167.04(1)	X ⁺				2	0.065	76				68Mo04
1187.27				0.073	2	0.102	120	89			76Al06
1204.36(10)	6 ⁺			0.074	2	0.102	120	91			76Al06
1213.46(3)	4 ⁺ ,5 ⁺										
1252.65	3 ⁺										
1258.5(4)	3 ⁻										
1285.692					4	0.36	35				68Mo04
1285.83(8)	4 ⁻ ,5 ⁻										
1292.5(8)	3 ⁻				[2]	0.09	105				68Mo04
1318.2(6)	6 ⁻				5	0.30	28				68Mo04
1341.5(10)						0.10	≈10				68Mo04
1364					0	0.01	27				68Mo04
1374.43(12)	4 ⁻ ,5 ⁻					0.02	65				68Mo04
1399.77(8)	5 ⁺										
1426.4											
1437.7					2	0.065	80				68Mo04
1451.07					3	0.032	24				68Mo04
1465.9											
1497					2	0.049	64				68Mo04
1539					2	0.035	46				68Mo04
1598					2	0.077	100				68Mo04
≈2200*	1 ⁺								0.17(3)		97Ak02
8900**									6.6(11)		97Ak02
13240(50)											
13740(50)											
14500(50)											
14500**									25.8(41)		97Ak02
15140(50)											
15660(50)											
			76Al06	76Al06		68Mo04	68Mo04	76Al06	97Ak02		Ref.

Additional data on this isotope can be found in [95Ho0A, 67Hj03].

* Broad peak in (τ ,t) reaction at 0° [97Ak02].

** GTR Centroid energy of a broad bump in (τ ,t) reaction at 0° [97Ak02].

Values in [76Al06] are result of the evaluation of the original values given in [68Mo04].

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

¹¹⁶In
49

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	0.0 1 ⁺	127 5 ⁺	223 4 ⁺	273 2 ⁺	290 8 [−]	313.5 4 ⁺ ,5 ⁺	350.6 7 [−]	366.4	373.4 6 [−]	425.9 4 ⁺
223.33(1)	4 ⁺			100								
272.97(1)	2 ⁺		100									
289.66(1)	8 [−]			100								
313.48(1)	4 ⁺ ,5 ⁺			100	0.3(1)							
350.58(1)	7 [−]						100					
366.42(1)	7 [−] −9 [−]						100					
373.37(1)	6 [−]			3.0(7)					97(32)			
425.93(1)	4 ⁺			77(4)	14(2)			9.2(9)				
448.03(1)	1 [−] −3 [−]					100						
458.94(1)	5 [−]										100	
460.00(1)	4 ⁺ ,5 ⁺							100				
508.24(1)	3 ⁺				57(3)	41(3)						2.1(4)
556.85(2)	2 [−]		100									
648.92(1)	6 ⁺			16(3)				84(6)				
658.07(1)	3 ⁺					100						
665.62(1)	7 ⁺ ,8 ⁺						75(8)		19.0(18)	6(4)		
735.69(1)	4 ⁺ ,5 ⁺			68(9)				32(2)				
744.82(1)	3 ⁺			55(15)	45(27)	<55						
761.00(1)	6,7 ⁺			[37]				[6]	[21]		[2]	
771.14(10)	X ⁺		83(12)			17(12)						
789.37(1)	X ⁺			5.8(13)				40(7)				
790.921(18)	3 ⁺				21(3)	64(8)						12(2)
813.346(8)	4 ⁺					15(2)		6(3)				
829.131(8)	4 ⁺					22(11)		9(2)				
850.491(23)	3 [−]					31(4)						
875.287(33)	3 [−]					84(10)						
920.81(10)	X ⁺					57(7)						
970.302(8)	3 ⁺ −5 ⁺				11(4)							
1007.663(13)	6 [−]							24(2)			26(6)	
1015.495(21)	4 [−] ,5 [−]				100							
1031.226(25)	4 ⁺				38(13)							
1070.89(10)	3 ⁺				88(12)							

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

¹¹⁶In
49

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	448.0	458.9	508.2	555.0	556.8	648.9	658.1	665.6	728.9	735.7
				5^-	3^+	4^-	2^-		3^+	$7^+,8^+$	3^-	$4^+,5^+$
554.98(1)	4^-			100								
728.86(1)	3^-					100						
761.00(1)	$6,7^+$											
787.18(4)	1^-3^-		83(14)				17(8)	[6]		[28]		

(continued)

¹¹⁶In
₄₉

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	448.0	458.9	508.2	555.0	556.8	648.9	658.1	665.6	728.9	735.7
				5^-	3^+	4^-	2^-		3^+	$7^+,8^+$	3^-	$4^+,5^+$
789.37(1)	X^+							54(9)				
790.921(18)	3^+								3.4(11)			
813.346(8)	4^+				23(2)				56(8)			
829.131(8)	4^+				20(2)				39(4)			
850.491(23)	3^-					52(3)	18(3)					
875.287(33)	3^-						16(3)					
892.667(12)	4^-			47(2)	24(5)	21(2)	3(2)				2.9(7)	
910.77(10)	$\langle 2 \rangle^+$				50(25)				50(16)			
949.305(10)	$4^{(+)},5^{(+)}$			30(3)		9(1)		20(5)				22(3)
951.476(15)	4^-			69(5)	10(2)	8.9(12)			10(3)		2.3(12)	
970.302(8)	3^+-5^+											18(5)
1007.663(13)	6^-			39(4)								
1019.038(12)	3^--5^-			14(4)								
1031.226(25)	4^+								31(6)			
1052.680(19)	5^-					55(10)						
1057.340(19)	$\langle 3^+-6^+ \rangle$											62(19)
1070.89(10)	3^+					12(9)						
1081.58(18)	6^-			100								
1152.40(8)	6^-			100								
1167.04(1)	X^+							27(18)				
1204.36(10)	6^+							100				
1374.43(12)	$4^-,5^-$					100						
1451.07				61(6)		13(5)						

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

¹¹⁶In
₄₉

E^* [keV]	J^π	Branching ratios in percentage								
		$E_f^*:$ $J_f^\pi:$	744.8	771.1	789.4	790.9	813.3	829.1	850.5	875.3
			3 ⁺	X ⁺	X ⁺	3 ⁺	4 ⁺	4 ⁺	3 ⁻	3 ⁻
829.131(8)	4 ⁺		9(1)							
892.667(12)	4 ⁻								1.8(4)	
920.81(10)	X ⁺			43(3)						
949.305(10)	4 ^{⟨+⟩} ,5 ^{⟨+⟩}				18(3)					
970.302(8)	3 ⁺ -5 ⁺		2.6(13)		4.3(9)		5.5(9)	58(9)		
1015.495(21)	4 ⁻ ,5 ⁻						≤25			
1019.038(12)	3 ⁻ -5 ⁻									0.7(3)
1031.226(25)	4 ⁺					24(4)	7(4)			
1052.680(19)	5 ⁻								≤35	
1057.340(19)	⟨3 ⁺ -6 ⁺ ⟩				38(9)					
1081.871(24)	3 ⁺ -5 ⁺					100				
1213.46(3)	4 ⁺ ,5 ⁺		72(16)							

(continued)

 $^{116}_{49}\text{In}$

E^* [keV]	J^π	E^*_f : J^π_f :	744.8 3^+	771.1 X^+	Branching ratios in percentage					
					789.4 X^+	790.9 3^+	813.3 4^+	829.1 4^+	850.5 3^-	875.3 3^-
1399.77(8) 1451.07	5^+		54(7) 26(4)				31(5)			

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

 $^{116}_{49}\text{In}$

E^* [keV]	J^π	E^*_f : J^π_f :	892.7 4^-	Branching ratios in percentage				1007.7 6^-	1031.2 4^+
1007.663(13)	6^-		10(1)						
1019.038(12)	3^-5^-		85(4)						
1052.680(19)	5^-				23(10)			23(6)	
1167.04(1)	X^+						73(9)		
1213.46(3)	$4^+,5^+$						28(8)		
1285.83(8)	$4^-,5^-$		100						
1399.77(8)	5^+								15(7)

Energy levels and branching ratios [02Bl10].

 $^{117}_{49}\text{In}$

E^* [keV]	$2J^\pi$	L	C^2S' (τ,d)	σ (τ,d) $\mu\text{b/sr}$	C^2S' (τ,d)	L	S_N (d,τ)	σ (d,τ) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.
0.0*	9^+	4	1.37	48	1.20(16)	4	6.7	188	43.2(3) m	72Ha09
315.30(1)	1^-	1	0.29	15	0.18(2)	1	1.5	79	116.2(3) m	72Ha09
588.65(2)	3^-	1	0.34	35	0.19(2)	1	2.3	115	0.192(16) ns	72Ha09
659.76(1)***	3^+	2	1.05	77	0.52(7)				53.6(7) ns	71Is07
748.07(3)***	7^+	4	3.4	165						72Ha09
749.48(1)	1^+	0	0.28	incl	0.51(5)				4.73(12) ns	72Ha09
880.72(1)	5^+	2	2.76	320	1.61(16)					72Ha09
1028.04(4)	$\langle 5^- \rangle$									
1030(13)	$3^+,5^+$					$\langle 2 \rangle$	0.19	8.5		71We01
1051.71(2)	5^+	2	0.18	20		$\langle 2 \rangle$	0.19	8.5		72Ha09
1065.98(2)	$\langle 11,13^+ \rangle$									
1209.03(4)***	$\langle 9^-,11^+ \rangle$									02Lu15
1234.60(3)*	$\langle 13^+ \rangle$									
1360(15)	$3^+,5^+$	2	0.16	15						72Ha09
1365.52(3)	$7^+,9^+$									
1376.3(2)	$\langle 3 \rangle^+$									
1432.92(2)	9^+				0.52(10)	4	2.9	54		71We01
1439.38(9)										

(continued)

¹¹⁷In
₄₉

E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	C^2S'	L	S_N	σ (d, τ)	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu b/sr$	(τ, d)		(d, τ)	$\mu b/sr$	Γ_{cm}	
1468.7(1)	$5^+, 7, 9^+$									
1554.5(2)	$1^-, 3^-$					$\langle 1 \rangle$	0.38	7.4		71We01
1609.39(4)	$3^+ - 7^+$	2	1.70	160	0.83(10)					72Ha09
1612.00(4)	$\langle 1, 3, 5 \rangle$				incl					
1653(15)	$3^+, 5^+$	2	0.22	20						72Ha09
1712.54(3)	3^+	2	0.21	17				7.0		72Ha09
1784.96(5)	3^+	2	0.14	9						72Ha09
1855.6(1)	$\langle 5^- - 9^- \rangle$									
1891.93(2)	1^+	0	0.21	40	0.11(1)				0.42(6) ns	72Ha09
1898***	$[15^+]$									02Lu15
1957.36(9)	$\langle 9^- \rangle$									
1997.32(2)	$\langle 11 \rangle^-$									
1997.37(2)	3^+	2	1.0	68						72Ha09
2022.22(3)	3^+									
2064.15(4)	3^+	2	0.31	27	0.38(5)					72Ha09
2095.03(3)	$\langle 11, 13 \rangle^-$									
2096.45(4)	$\langle 9, 11 \rangle^-$									
2109.83(4)	$\langle 3^+ \rangle$									
2113.0(1)	$1^+, 3, 5^+$									
2124**	$[15^-]$									02Lu15
2171.74(3)	3^+	2	0.31	20						72Ha09
2223(15)	$3^+, 5^+$	2	0.48	40						72Ha09
2255(15)	$3^+, 5^+$	2	0.30	24						72Ha09
2261**	$[17^-]$									02Lu15
2264*	$\langle 17^+ \rangle$									02Lu15
2308(15)	$7^+, 9^+$	4	2.1	54						72Ha09
2311.71(2)	$1^+, 3^+$									
2322.75(6)	$\langle 9, 11 \rangle^-$									
2327.80(5)	$\langle 1 \rangle^+$									
2345.50(6)	3^+									
2372(15)										
2400.38(9)	$\langle 9 \rangle^-$									
2405.28(7)	$\langle 11, 13 \rangle^-$									
2414.2(2)										
2417.4(1)	$\langle 9 \rangle^-$									
2429**	$[19^-]$									02Lu15
2439.9(2)	$\langle 9 - 13 \rangle$									
2447	$[17^+]$									02Lu15
2456.0(1)	1^+									
2462.5(3)	$11, 13^+$									
2476.2(2)										
2525(15)	1^+	0	<0.12	44						72Ha09
2540.8(1)	$\langle 11, 13 \rangle$	$\langle 4, 5 \rangle$								72Ha09
2560(15)	$3^+, 5^+$	2	0.64	42						72Ha09
2621**	$[21^-]$									02Lu15

(continued)

¹¹⁷In
₄₉

E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	C^2S'	L	S_N	σ (d, τ)	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu b/sr$	(τ, d)		(d, τ)	$\mu b/sr$	Γ_{cm}	
2642(15)										
2671*	[21 ⁺]									02Lu15
2727***	[19 ⁺]									02Lu15
2732*	[23 ⁺]									02Lu15
2755(15)	3 ⁺ , 5 ⁺	2	0.80	72						72Ha09
2838*	[25 ⁺]									02Lu15
2856**	[23 ⁻]									02Lu15
3030**	[25 ⁻]									02Lu15
3193*	[27 ⁺]									02Lu15
3728*	[29 ⁺]									02Lu15
4186**	[29 ⁻]									02Lu15
14945(6)	$\langle 1^+ \rangle$									
15075(6)	$\langle 3^+ \rangle$									
15380(6)	$\langle 1^+ \rangle$									
15605(6)	$\langle 3^+ \rangle$									
			72Ha09	72Ha09	71Is07		71We01	71We01		Ref.

Additional data on this isotope can be found in [02Lu15].

* Ground-state band (No 1) discussed in [02Lu15].

** Negative-parity band (No 2) discussed in [02Lu15].

*** Positive-parity band (No 3) discussed in [02Lu15].

Energy levels and branching ratios [02B110]. Part 2

¹¹⁷In
₄₉

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	0 9 ⁺	315.3 1 ⁻	588.7 3 ⁻	659.8 3 ⁺	748.1 7 ⁺	749.5 1 ⁺	880.7 5 ⁺	1028.0 ⟨5 ⁻ ⟩	1051.7 5 ⁺	1066.0
315.30(1)	1 ⁻		100									
588.65(2)	3 ⁻			100								
659.76(1)***	3 ⁺			98(2)	2.2(3)							
748.07(3)***	7 ⁺		100									
749.48(1)	1 ⁺			74(3)	1.9(9)	24(2)						
880.72(1)	5 ⁺		68(3)		11(2)	20(2)	0.4(2)	0.2(1)				
1028.04(4)	⟨5 ⁻ ⟩			84(10)	16(5)							
1051.71(2)	5 ⁺		83(4)		17(2)				0.6(3)			
1065.98(2)	⟨11,13 ⁺ ⟩		100									
1209.03(4)***	⟨9 ⁻ ,11 ⁺ ⟩		10(5)				90(7)					
1234.60(3)*	⟨13 ⁺ ⟩		97(3)									2.5(5)
1365.52(3)	7 ⁺ ,9 ⁺		47(3)				10(2)		29(4)		1(1)	13(2)
1376.3(2)	⟨3 ⁺ ⟩				15(3)	54(10)		31(8)				
1432.92(2)	9 ⁺		80(2)				0.4(2)				0.2(2)	19.8(14)
1439.38(9)					100							
1468.7(1)	5 ⁺ ,7,9 ⁺		70(20)								30(30)	

(continued)

¹¹⁷In
49

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	0 9 ⁺	315.3 1 ⁻	588.7 3 ⁻	659.8 3 ⁺	748.1 7 ⁺	749.5 1 ⁺	880.7 5 ⁺	1028.0 ⟨5 ⁻ ⟩	1051.7 5 ⁺	1066.0
1554.5(2)	1 ⁻ , 3 ⁻				75(50)					25(25)		
1609.39(4)	3 ⁺ -7 ⁺					30(5)	38(26)		32(5)			
1612.00(4)	⟨1,3,5⟩					18(5)		82(7)				
1712.54(3)	3 ⁺					20(5)		16(2)	61(2)		3.0(9)	
1784.96(5)	3 ⁺					65(8)		35(5)				
1855.6(1)	⟨5 ⁻ -9 ⁻ ⟩									100		
1891.93(2)	1 ⁺			35(1)	57(2)	0.8(2)		5.2(4)			2.5(2)	
1957.36(9)	⟨9 ⁻ ⟩		15(4)				12(7)			73(12)		
1997.32(2)	⟨11⟩ ⁻		53(8)									7.4(5)
1997.37(2)	3 ⁺			8(1)	16(1)	20(3)		15(1)	13(1)	6(1)	19(2)	
2022.22(3)	3 ⁺			51(3)		12(2)		37(4)				
2064.15(4)	3 ⁺			6(2)	29(4)	8(2)		41(4)	9(2)		6(4)	
2095.03(3)	⟨11,13⟩ ⁻											55(2)
2096.45(4)	⟨9,11⟩ ⁻		92(3)									
2109.83(4)	⟨3 ⁺ ⟩				6(2)	40(4)			40(4)			
2113.0(1)	1 ⁺ , 3, 5 ⁺											44(9)
2171.74(3)	3 ⁺			13(3)	3(1)	4(2)		18(3)	36(3)	8(3)	13(2)	
2311.71(2)	1 ⁺ , 3 ⁺				33(1)	5(2)	1(1)	23(1)	9(5)		19(1)	
2322.75(6)	⟨9,11⟩ ⁻		92(3)									2.1(9)
2327.80(5)	⟨1⟩ ⁺			27(6)	31(8)			35(14)			6(3)	
2345.50(6)	3 ⁺			19(6)	13(6)	11(6)	16(16)	8(8)		5(5)		
2400.38(9)	⟨9⟩ ⁻		55(4)				34(8)					
2405.28(7)	⟨11,13⟩ ⁻											56(6)
2414.2(2)			100									
2417.4(1)	⟨9⟩ ⁻		60(3)				37(5)					
2439.9(2)	⟨9-13⟩		45(5)									
2456.0(1)	1 ⁺				100							
2462.5(3)	11, 13 ⁺		100									
2476.2(2)			76(8)									
2540.8(1)	⟨11,13⟩		65(8)									

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

¹¹⁷In
49

E^* [keV]	$2J^\pi$	Branching ratios in percentage											
		$E_f^*:$ $2J_f^\pi:$	1209.0	1234.6 ⟨13 ⁺ ⟩	1365.5 7 ⁺ , 9 ⁺	1432.9 9 ⁺	1468.7 5 ⁺ , 7, 9 ⁺	1609.4	1612.0 ⟨1,3,5⟩	1712.5 3 ⁺	1785.0 3 ⁺	1855.6	1891.9 1 ⁺
1891.93(2)	1 ⁺									0.30(8)			
1997.32(2)	⟨11⟩ ⁻		1.0(2)	3.5(3)	5.7(4)	30(2)							
1997.37(2)	3 ⁺							4(1)		1.0(3)			0.3(1)
2095.03(3)	⟨11,13⟩ ⁻		1.9(4)	38(2)									
2096.45(4)	⟨9,11⟩ ⁻					8.4(10)							
2109.83(4)	⟨3 ⁺ ⟩									13(4)			

(continued)

 $^{117}_{49}\text{In}$

E^*	$2J^\pi$	Branching ratios in percentage											
[keV]		E_f^* : $2J_f^\pi$:	1209.0	1234.6	1365.5	1432.9	1468.7	1609.4	1612.0	1712.5	1785.0	1855.6	1891.9
				$\langle 13^+ \rangle$	$7^+, 9^+$	9^+	$5^+, 7, 9^+$		$\langle 1, 3, 5 \rangle$	3^+	3^+		1^+
2113.0(1)	$1^+, 3, 5^+$						13(3)						44(9)
2171.74(3)	3^+												6(3)
2311.71(2)	$1^+, 3^+$								4(1)		2(1)		3(1)
2322.75(6)	$\langle 9, 11 \rangle^-$				4.6(12)								
2345.50(6)	3^+							18(10)					11(6)
2400.38(9)	$\langle 9 \rangle^-$											11(5)	
2405.28(7)	$\langle 11, 13 \rangle^-$		11(3)	18(3)									
2417.4(1)	$\langle 9 \rangle^-$		3(3)										
2439.9(2)	$\langle 9-13 \rangle$			45(13)									

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

 $^{117}_{49}\text{In}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage					
		$E_f^*:$ $2J_f^\pi:$	1957.4 $\langle 9^- \rangle$	1997.3 $\langle 11 \rangle^-$	1997.4 3^+	2095.0	2439.9
2095.03(3)	$\langle 11, 13 \rangle^-$			5.0(7)			
2311.71(2)	$1^+, 3^+$			1(1)			
2322.75(6)	$\langle 9, 11 \rangle^-$				1.6(6)		
2405.28(7)	$\langle 11, 13 \rangle^-$			2(2)		13(3)	
2439.9(2)	$\langle 9-13 \rangle$			9(2)			
2476.2(2)			24(11)				
2540.8(1)	$\langle 11, 13 \rangle$						35(23)

Energy levels and branching ratios [95Ki07].

 $^{118}_{49}\text{In}$

E^* [keV]	J^π	I_α (t, α)	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	1^+	135	5.0(5) s	85Pi03
≈ 60	5^+		4.45(5) m	
173(6)		18		85Pi03
≈ 200	8^-		8.5(3) s	
234(6)				
251(6)		219		85Pi03
350(6)		84		85Pi03
429(6)		81		85Pi03
500(6)				
600(6)		60		85Pi03
637(6)				

(continued)

¹¹⁸In₄₉

E^*	J^π	I_α	$T_{1/2}$ or	Ref.
[keV]		(t, α)	Γ_{cm}	
711(6)				
790(6)				
843(6)		87		85Pi03
948(6)		30		85Pi03
974(6)				
1028(10)				
1234(10)		45		85Pi03
1290(10)		39		85Pi03
		85Pi03		Ref.

The α -particle yield I_α is given in units counts per channel from [85Pi03].

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

¹¹⁸In₄₉

E^*	J^π	Branching ratios in percentage
[keV]		E_f^* : 60 J_f^π : 5 ⁺
≈ 200	8 ⁻	100

Energy levels and branching ratios [00Oh01].

¹¹⁹In₄₉

E^*	$2J^\pi$	L	C^2S	S_N	σ (d, τ)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]			(d, τ)	(d, τ)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : 0 $2J_f^\pi$: 9 ⁺	311 1 ⁻	604 3 ⁻	654 1 ⁺ ,3 ⁺	721
0.0*	9 ⁺	4	4.1	6.5	162	2.4(1) m	89La21					
311.37(3)	1 ⁻	1	1.3	1.6	68	18.0(3) m	89La21	100				
604.18(7)	3 ⁻	1	1.2	1.8	76	<1.0 ns	89La21		100			
654.3(1)***	1 ⁺ ,3 ⁺					130(15) ns	02Lu15		98(9)	2.1(2)		
720.6(1)***	$\langle 7-11^- \rangle$						02Lu15	100				
788.26(9)	1 ⁺ ,3 ⁺					2.00(15) ns			11.0(15)	2.8(5)	86(6)	
941.43(8)	5 ⁺	2	0.038				89La21	75(6)		13.0(17)	10(3)	
1025.02(7)*	$\langle 7-11 \rangle$						02Lu15	99(5)				0.7(3)
1044.4(2)	5 ⁻								79(11)	21(4)		
1050.2(1)	5 ⁺			0.5	15.5			78(6)		22(2)		
1143.0(1)***	$\langle 9-13^+ \rangle$						02Lu15	8.8(12)				91(5)
1203.7(1)	7 ⁻	3	0.07					94(6)				
1204*	[13 ⁺]						02Lu15					
1353.1(2)	$\langle 9^+ \rangle$							36(8)				32(10)
1388.4(2)	7 ⁻	3	0.21					49(7)				14(7)
1436.4(1)	7 ⁺ ,9 ⁺	4	1.7	2.9	38		89La21	82(7)				

(continued)

¹¹⁹In
₄₉

E^*	$2J^\pi$	L	C^2S	S_N	σ (d, τ)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d, τ)	(d, τ)	$\mu\text{b/sr}$	Γ_{cm}		$\begin{smallmatrix} E^*_f: \\ 2J^\pi_f: \end{smallmatrix}$	$\begin{smallmatrix} 0 \\ 9^+ \end{smallmatrix}$	$\begin{smallmatrix} 311 \\ 1^- \end{smallmatrix}$	$\begin{smallmatrix} 604 \\ 3^- \end{smallmatrix}$	$\begin{smallmatrix} 654 \\ 1^+,3^+ \end{smallmatrix}$	721
1474(5)	$7^+,9^+$	4	0.28				89La21						
1553(5)	$1^-,3^-$	1	0.3,0.2		7.3		89La21						
1624.9(2)	1,3,5											38(11)	
1649(5)	$3^+,5^+$	2	0.013				89La21						
1729(5)	$1^-,3^-$	1	0.08,0.06				89La21						
1770.0(1)	$1^+,3,5$											62(9)	
1778***	[15 $^+$]						02Lu15						
1806.6(2)	$1^+,3,5$				6.8		71We01					33(4)	
1837(5)	$1^-,3^-$	1	0.32,0.24		incl		89La21						
1920.99(8)	$1^+,3^+$									51(3)	42(5)	0.5(4)	
1979(5)	$7^+,9^+$	4	0.19				89La21						
2021.35(8)	$\langle 9^-,11^- \rangle$								71(5)				
2050(5)	$1^-,3^-$	1	0.06,0.04				89La21						
2064.2(2)	$1^+,3,5^-$									29(3)		19(5)	
2104.3(2)	$\langle 9-13^+ \rangle$								100				
2126.93(8)	$\langle 9^-,11^- \rangle$												
2132**	[15 $^-$]						02Lu15						
2226**	[27 $^-$]						02Lu15						
2224*	[17 $^+$]						02Lu15						
2272(5)	X $^-$	1+3	0.1+0.4				89La21						
2286**	[19 $^-$]						02Lu15						
2338.04(8)	$1^+,3^+$									9.8(13)	57(13)	5.1(5)	
2343(5)	$1^-,3^-$												
2359.5(2)	$\langle 9-13 \rangle$												20(5)
2367.9(1)	$1^+,3^+$									14(1)	56(11)	14(2)	
2389.2(1)	$\langle 9^-,11^- \rangle$								5.3(7)				23(2)
2410(5)	$5^-,7,9^+$	3,4	0.16****				89La21						
2422.5(2)	$\langle 9^-,11^- \rangle$								51(4)				32(2)
2460(5)	$5^-,7,9^+$	3,4	0.47****				89La21						
2487.2(1)	$\langle 9^--13^- \rangle$												
2493**	[21 $^-$]						02Lu15						
2502(5)	$1^-,3^-$	1	0.09,0.1				89La21						
2504*	[21 $^+$]						02Lu15						
2518***	[19 $^+$]						02Lu15						
2520.3(5)	$\langle 9-13^+ \rangle$								100				
2524.6(1)	1,3,5										14(5)	20(7)	
2526.6(5)	$\langle 9-13 \rangle$												100
2554.4(2)	1,3,5										100		
2564.6(2)	$\langle 9^-,11^- \rangle$												
2564.8(3)	1^+-5^+										62(12)	19(12)	
2618(5)	$7^+,9^+$	4	0.27				89La21						
2656*	[25 $^+$]						02Lu15						
2667.9(2)	$1^+,3^+$									94(41)	6.5(12)		
2670(5)	X $^-$	1+3	0.02,0.1				89La21						
2672.2(2)	$\langle 9^-,11^- \rangle$								28(3)				

(continued)

¹¹⁹In
49

E^* [keV]	$2J^\pi$	L	C^2S (d, τ)	S_N (d, τ)	σ (d, τ) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								E_f^* : $2J_f^\pi$:	0 9 ⁺	311 1 ⁻	604 3 ⁻	654 1 ⁺ ,3 ⁺	721
2745(5)	7 ⁺ ,9 ⁺	4	0.10				89La21						
2782**	[23 ⁻]						02Lu15						
2798.7(5)	1 ⁺ -5 ⁺												
2811(5)	1 ⁻ ,3 ⁻	1	0.13,0.1				89La21						
2859.6(2)	1 ⁺ ,3 ⁺												
2885(5)	X ⁻	1+3	0.03,0.1				89La21						
2927**	[25 ⁻]						02Lu15						
2992*	[27 ⁺]						02Lu15						
3005(5)	5 ⁻ ,7,9 ⁺	3,4	0.33****				89La21						
3130(5)	7 ⁺ ,9 ⁺	4	0.16				89La21						
3330(5)	X ⁻	1+3	0.05,0.1				89La21						
3452*	[29 ⁺]						02Lu15						
3526**	[27 ⁻]						02Lu15						
4025**	[29 ⁻]						02Lu15						
			89La21	71We01	71We01		Ref.						

Additional data on this isotope can be found in [02Lu15].

* Ground-state band (No 1) discussed in [02Lu15].

** Negative-parity band (No 2) discussed in [02Lu15].

*** Positive-parity band (No 3) discussed in [02Lu15].

**** if $1f_{5/2}$

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

¹¹⁹In
49

E^* [keV]	$2J^\pi$	Branching ratios in percentage											
		E_f^* : $2J_f^\pi$:	788 1 ⁺ ,3 ⁺	941.4 5 ⁺	1025.0	1050.2 5 ⁺	1143.0	1203.7 7 ⁻	1353.1 (9 ⁺)	1388.4 7 ⁻	1436.4 7 ⁺ ,9 ⁺	1624.9 1,3,5	
941.43(8)	5 ⁺		1.7(7)										
1203.7(1)	7 ⁻				6.5(8)								
1353.1(2)	(9 ⁺)			33(2)									
1388.4(2)	7 ⁻				36(4)								
1436.4(1)	7 ⁺ ,9 ⁺				18(2)								
1624.9(2)	1,3,5		62(9)										
1770.0(1)	1 ⁺ ,3,5			38(4)									
1806.6(2)	1 ⁺ ,3,5		48(4)	19(6)									
1920.99(8)	1 ⁺ ,3 ⁺		4.3(5)			2.4(4)							
2021.35(8)	(9 ⁻ ,11 ⁻)				5.2(13)		1.1(2)	4.2(3)	0.7(4)	2.2(13)	15.4(11)		
2064.2(2)	1 ⁺ ,3,5 ⁻			16(3)		31(7)							
2126.93(8)	(9 ⁻ ,11 ⁻)				47(2)		5(1)	33(2)					
2338.04(8)	1 ⁺ ,3 ⁺		6(2)			19(3)							
2359.5(2)	(9-13)				76(21)		5(4)						
2367.9(1)	1 ⁺ ,3 ⁺			2.1(5)		7(2)						2.7(5)	
2389.2(1)	(9 ⁻ ,11 ⁻)				38(5)			21(2)	7(1)				

(continued)

 $^{119}_{49}\text{In}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	788 $1^+, 3^+$	941.4 5^+	1025.0	1050.2 5^+	1143.0	1203.7 7^-	1353.1 $\langle 9^+ \rangle$	1388.4 7^-	1436.4 $7^+, 9^+$	1624.9 $1, 3, 5$
2422.5(2)	$\langle 9^-, 11^- \rangle$				14(9)		2.8(11)					
2487.2(1)	$\langle 9^- - 13^- \rangle$						79(5)					
2524.6(1)	$1, 3, 5$					65(9)						
2564.6(2)	$\langle 9^-, 11^- \rangle$				31(9)			57(9)				
2564.8(3)	$1^+ - 5^+$			19(8)								
2672.2(2)	$\langle 9^-, 11^- \rangle$						21(10)	41(10)			10(4)	

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

 $^{119}_{49}\text{In}$

E^*	$2J^\pi$	Branching ratios in percentage						
[keV]	$E_f^*:$ $2J_f^\pi:$	1770.0 $1^+, 3, 5$	1921.0 $1^+, 3^+$	2021.3	2104.3	2126.9	2389.2	2667.9 $1^+, 3^+$
2064.2(2)	$1^+, 3, 5^-$		6(2)					
2126.93(8)	$\langle 9^-, 11^- \rangle$			16(1)				
2338.04(8)	$1^+, 3^+$		3.6(5)					
2367.9(1)	$1^+, 3^+$	3.2(5)	1.4(5)					
2389.2(1)	$\langle 9^-, 11^- \rangle$				5.7(7)			
2487.2(1)	$\langle 9^- - 13^- \rangle$					11.9(17)	9.0(6)	
2564.6(2)	$\langle 9^-, 11^- \rangle$					11(6)		
2798.7(5)	$1^+ - 5^+$							100

Energy levels [02Ki17].

 $^{120}_{49}\text{In}$

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}
0.0	1^+	3.08(8) s
0.0+X	$\langle 8^- \rangle$	47.3(5) s
70(60)	$\langle 5 \rangle^+$	46.2(8) s

Energy levels and branching ratios [00Ta03].

¹²¹In
49

E^*	$2J^\pi$	L	C^2S	σ (d, τ)	L	σ (p, α)	$T_{1/2}$ or	Ref.
[keV]			(d, τ)	$\mu\text{b/sr}$	(p, α)	<i>rel.</i>	Γ_{cm}	
0.0*	9 ⁺	4	7.2	83	4	357	23.1(6) s	71We01
312.98(8)	1 ⁻	1	1.4	30	1	170	3.88(10) m	71We01
637.94(8)	3 ⁻	1	2.1	45	1	333		71We01
987.7(1)***	$\langle 9^+ \rangle$							02Lu15
987.8(1)***	$\langle 3^+ \rangle$						5.5(3) ns	02Lu15
1020.8(1)*	9 ⁺ -13 ⁺			10.2				71We01
1040.3(1)	$\langle 5^+ \rangle$							
1078.6(1)	5 ⁻				3	158		76Sm04
1181.6(1)*	$\langle 13^+ \rangle$					61		76Sm04
1197.8(1)	$\langle 1^+ \rangle$						<2 ns	
1315.2(1)	$\langle 5^+ \rangle$							
1408.0(1)***	$\langle 9^+ \rangle$	$\langle 4 \rangle$	2.4	16.9				71We01
1460.2(4)								
1483.3(1)	$\langle 5^+ \rangle$							
1487.1(1)	$\langle 9^+ \rangle$					96		76Sm04
1504.0(1)				3.2				71We01
1614(5)								
1759.8(4)								
1792.5(2)								
1960.7(2)	$\langle 1^+, 3^+ \rangle$							
1966.0(1)	$\langle 1^+ - 5^+ \rangle$							
1977(5)								
1988.4(2)								
2048***	[15 ⁺]							02Lu15
2059.39(7)	$\langle 11^- \rangle$							
2114.8(1)	$\langle 9^- - 13^- \rangle$							
2129(5)								
2134.2(1)**	[15 ⁻]							02Lu15
2136.5(1)	$\langle 3^+ \rangle$							
2160.10(8)	$\langle 11^-, 13^- \rangle$							
2222.1(1)	$\langle 3^+, 5^+ \rangle$							
2247(5)								
2265.0(1)	$\langle 5^+ \rangle$							
2292.00(7)	$\langle 11^- \rangle$							
2299.5(1)	$\langle 1^+ - 5^+ \rangle$							
2331.9(1)	$\langle 9^-, 11^- \rangle$							
2336.9(1)	$\langle 1^+ - 5^+ \rangle$							
2357.6(2)	9,11,13							
2364.88(8)	$\langle 11^- \rangle$							
2367(5)								
2369.7(1)	$\langle 9^-, 11^- \rangle$							
2382.0(2)	$\langle 3^+, 5^+ \rangle$							
2396.4(3)								
2455.1(1)	$\langle 9^-, 11^- \rangle$							
2472.7(1)	$\langle 1^+ - 5^+ \rangle$							

(continued)

¹²¹₄₉In

E^*	$2J^\pi$	L	C^2S	σ (d, τ)	L	σ (p, α)	$T_{1/2}$ or	Ref.
[keV]			(d, τ)	$\mu\text{b/sr}$	(p, α)	<i>rel.</i>	Γ_{cm}	
2477.62(8)	$\langle 11^-, 13^- \rangle$							
2491.8(1)	$\langle 1^+ - 5^+ \rangle$							
2503.80(16)								
2510.78(10)	$\langle 9^-, 11^- \rangle$							
2523.25(16)	$\langle 1^+ - 5^+ \rangle$							
2538.86(22)								
2562.36(10)	$\langle 11^- \rangle$							
2581.40(11)	$\langle 11^-, 13^- \rangle$							
2611.76(21)	$\langle 1^+ - 5^+ \rangle$							
			71We01	71We01		76Sm04		Ref.

* Ground-state band (No 1) discussed in [02Lu15].

** Negative-parity band (No 2) discussed in [02Lu15].

*** Positive-parity band (No 3) discussed in [02Lu15].

Relative cross section σ (p, α) is represented by the ratio $d\sigma/d\Omega_{\text{exp}}/d\sigma/d\Omega_{\text{DWBA}}$ [76Sm04].

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

¹²¹₄₉In

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	313 1 ⁻	638 3 ⁻	988 $\langle 9 \rangle^+$	988 $\langle 3^+ \rangle$	1020.8	1040.3 $\langle 5 \rangle^+$	1078.6 5 ⁻	1181.6 $\langle 13 \rangle^+$	1197.8 $\langle 1^+ \rangle$
312.98(8)	1 ⁻		100									
637.94(8)	3 ⁻			100								
987.7(1)***	$\langle 9 \rangle^+$		100									
987.8(1)***	$\langle 3^+ \rangle$			21(5)	79(6)							
1020.8(1)*	9 ⁺ -13 ⁺		100									
1040.3(1)	$\langle 5 \rangle^+$		83(5)		17(1)							
1078.6(1)	5 ⁻			78(5)	22(2)							
1181.6(1)*	$\langle 13 \rangle^+$		94(3)			1.9(3)		4.1(5)				
1197.8(1)	$\langle 1^+ \rangle$				32(3)	68(4)						
1315.2(1)	$\langle 5^+ \rangle$		46(2)		24(2)	12(3)			14(1)	3.4(10)		
1408.0(1)***	$\langle 9^+ \rangle$		7(2)				93(5)					
1460.2(4)										100		
1483.3(1)	$\langle 5^+ \rangle$		100									
1487.1(1)	$\langle 9^+ \rangle$		64(3)					36(2)				
1504.0(1)			100									
1759.8(4)					100							
1792.5(2)												100
1960.7(2)	$\langle 1^+, 3^+ \rangle$			77(5)	23(5)							
1966.0(1)	$\langle 1^+ - 5^+ \rangle$				20(3)	24(6)						
1988.4(2)										100		
2059.39(7)	$\langle 11^- \rangle$		82(3)					6(2)			2.7(7)	
2114.8(1)	$\langle 9^- - 13^- \rangle$		87(5)				13(3)					

(continued)

¹²¹In
₄₉

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	313 1 ⁻	638 3 ⁻	988 (9) ⁺	988 (3) ⁺	1020.8	1040.3 (5) ⁺	1078.6 5 ⁻	1181.6 (13) ⁺	1197.8 (1) ⁺
2134.2(1)**	[15 ⁻]										100	
2136.5(1)	(3 ⁺)			13(1)	2(1)	19(2)			51(3)	8(1)		8(2)
2160.10(8)	(11 ⁻ ,13 ⁻)							51(4)			10(3)	
2222.1(1)	(3 ⁺ ,5 ⁺)				100							
2265.0(1)	(5) ⁺				24(1)	17(5)	26(5)					
2292.00(7)	(11 ⁻)		31(2)					51(3)			13(3)	
2299.5(1)	(1 ⁺ -5 ⁺)				49(4)	33(8)			18(3)			
2331.9(1)	(9 ⁻ ,11 ⁻)		54(3)					13(3)				
2336.9(1)	(1 ⁺ -5 ⁺)			2(1)	58(2)				40(2)			
2357.6(2)	9,11,13							100				
2364.88(8)	(11 ⁻)		79(4)								13(4)	
2369.7(1)	(9 ⁻ ,11 ⁻)		22(2)			66(5)						
2382.0(2)	(3 ⁺ ,5 ⁺)				20(3)					46(5)		
2396.4(3)											100	
2455.1(1)	(9 ⁻ ,11 ⁻)		52(5)			36(2)		8(1)				
2472.7(1)	(1 ⁺ -5 ⁺)				100							
2477.62(8)	(11 ⁻ ,13 ⁻)							28(2)			9(2)	
2491.8(1)	(1 ⁺ -5 ⁺)				64(6)	9(3)			27(3)			
2503.80(16)							47(7)					
2510.78(10)	(9 ⁻ ,11 ⁻)		90(6)									
2523.25(16)	(1 ⁺ -5 ⁺)				54(4)					10(3)		16(4)
2538.86(22)					100							
2562.36(10)	(11 ⁻)		79(5)								8(2)	
2581.40(11)	(11 ⁻ ,13 ⁻)										9(1)	
2611.76(21)	(1 ⁺ -5 ⁺)				49(5)							

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

¹²¹In
₄₉

E^*	$2J^\pi$	Branching ratios in percentage												
[keV]		E_f^* : $2J_f^\pi$:	1315.2 $\langle 5^+ \rangle$	1408.0 $\langle 9^+ \rangle$	1483.3 $\langle 5^+ \rangle$	1487.1 $\langle 9^+ \rangle$	1504.0	1966.0	2059.4 $\langle 11^- \rangle$	2114.8	2134.2	2160.1	2292.0 $\langle 11^- \rangle$	2364.9 $\langle 11^- \rangle$
1966.0(1)	$\langle 1^+-5^+ \rangle$	56(9)												
2059.39(7)	$\langle 11^- \rangle$			2.0(5)		7.8(5)								
2160.10(8)	$\langle 11^-, 13^- \rangle$			11(1)					28.8(26)					
2265.0(1)	$\langle 5^+ \rangle$				18(2)			14(2)						
2292.00(7)	$\langle 11^- \rangle$			4.9(13)										
2331.9(1)	$\langle 9^-, 11^- \rangle$					19(6)	15(4)							
2364.88(8)	$\langle 11^- \rangle$			3.3(8)			5.4(17)							
2369.7(1)	$\langle 9^-, 11^- \rangle$						12(3)							
2382.0(2)	$\langle 3^+, 5^+ \rangle$				34(5)									
2455.1(1)	$\langle 9^-, 11^- \rangle$								4.5(11)					
2477.62(8)	$\langle 11^-, 13^- \rangle$		32(2)					4(1)			7(2)	5(2)	17(1)	

(continued)

¹²¹In₄₉

E^*	$2J^\pi$	Branching ratios in percentage												
		E_f^* :	1315.2	1408.0	1483.3	1487.1	1504.0	1966.0	2059.4	2114.8	2134.2	2160.1	2292.0	2364.9
[keV]		$2J_f^\pi$:	$\langle 5^+ \rangle$	$\langle 9^+ \rangle$	$\langle 5^+ \rangle$	$\langle 9^+ \rangle$			$\langle 11^- \rangle$				$\langle 11^- \rangle$	$\langle 11^- \rangle$
2503.80(16)							53(7)							
2510.78(10)	$\langle 9^-, 11^- \rangle$			10(4)										
2523.25(16)	$\langle 1^+ - 5^+ \rangle$				19(7)									
2562.36(10)	$\langle 11^- \rangle$								13(5)					
2581.40(11)	$\langle 11^-, 13^- \rangle$			13(2)							67(4)		10(1)	
2611.76(21)	$\langle 1^+ - 5^+ \rangle$				51(18)									

Energy levels [94Ta10].

¹²²In₄₉

E^* [keV]	J^π	σ (t, τ) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	1^+	1.1	1.5(3) s	78Aj01
$\approx 0.0 + X$	5^+		10.3(6) s	
103(15)		0.9		78Aj01
157(15)		0.6		78Aj01
≈ 200	8^-		10.8(4) s	
229(15)		0.9		
262(15)		1.0		
299(15)		1.0		
383(15)		2.1		
415(20)		1.6		
495(20)		$\langle 0.7 \rangle$		
598(15)		1.0		
801(15)		1.9		
942(25)*		0.6		78Aj01
1070(25)		$\langle 0.8 \rangle$		78Aj01
1120(25)		$\langle 0.8 \rangle$		78Aj01
1150(25)		0.9		78Aj01
		78Aj01		Ref.

* The width of this group shows that it corresponds to unresolved states.
all measurements of (t, τ) cross section were performed at 25° and 30°.

Energy levels and branching ratios [93Oh12, 04Po10].

¹²³In
₄₉

E^*	$2J^\pi$	L	σ (d, τ)	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]		(d, τ)	$\mu\text{b/sr}$	(d, τ)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	327 1 ⁻	698 $\langle 3 \rangle^-$	1027 1052 $\langle 5 \rangle^+$
0.0	9 ⁺	4	67	7.2	5.98(6) s	71We01					
327.21(4)	1 ⁻	1	19	1.4	47.8(5) s	71We01					
698.55(4)	$\langle 3 \rangle^-$	1	24	1.7		71We01			100		
1027.39(3)	11 ⁺		2.0			04Sc42		100			
1052.29(3)	$\langle 5 \rangle^+$							87(5)		13(1)	
1100(20)			3.7			71We01					
1137.51(5)	$\langle 1-5^- \rangle$								73(7)	27(3)	
1165.80(2)	13 ⁺					04Sc42		97(6)			3.3(6)
1473.79(3)								100			
1512.12(3)	7 ⁺ , 9 ⁺	4	18	2.5		71We01		100			
1566.27(4)	9 ⁺ -13 ⁺		2.5			71We01		100			
1615.76(7)	$\langle 1-5^- \rangle$								7.9(15)	92(10)	
1926.34(5)	$\langle 1-5^- \rangle$								32(5)	68(7)	
2020.69(3)	$\langle 5^+ \rangle$							59(4)			
2029.85(6)	$\langle 1,3^+ \rangle$								25(3)	75(7)	
2047.0	$\langle 13^- \rangle$					04Sc42					
2078.5	$\langle 17^- \rangle$					04Sc42					
2100.95(4)	X $\langle - \rangle$										
2102.74(5)	$\langle 9^-, 11^- \rangle$							100			
2136.61(4)	$\langle 1,3^+ \rangle$								10(1)	51(4)	30(3)
2158.63(7)	$\langle 1-5^+ \rangle$									100	
2178.45(5)	$\langle 9^-, 11^- \rangle$							4(1)			6(2)
2185.7(4)											
2267.95(3)	$\langle 9^-, 11^- \rangle$							4.6(6)			69(4)
2309.59(5)	$\langle 9^- - 13^- \rangle$										57(3)
2354.69(4)	$\langle 9^-, 11^- \rangle$							85(5)			
2377.27(9)	$\langle 1-5^+ \rangle$										32(6)
2393.31(4)	$\langle 5^+ \rangle$							3(1)		33(2)	14(1)
2429.52(6)	$\langle 1-5^+ \rangle$									38(4)	27(4)
2461.49(6)	$\langle 9^-, 11^- \rangle$							86(5)			
2501.03(3)	$\langle 9^-, 11^- \rangle$							4.5(6)			52(4)
2529.17(5)	$\langle 1,3^+ \rangle$								18(3)	80(6)	
2529.42(4)	$\langle 9^- - 13^- \rangle$										2.0(3)
2541.34(5)	$\langle 1,3^+ \rangle$								8(2)	54(4)	18(4)
2602.20(7)	$\langle 9^-, 11^- \rangle$							97(6)			
2617.81(6)	$\langle 9^- - 13^- \rangle$										
2723.54(6)	$\langle 9^- - 13^- \rangle$										
		71We01	71We01	71We01		Ref.					

Energy levels and branching ratios [93Oh12, 04Po10]. Part 2

¹²³In
₄₉

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	1137.5	1165.8	1473.8	1512.1 7 ⁺ ,9 ⁺	1566.3	1615.8	1926.3	2020.7 $\langle 5^+ \rangle$	2029.8 $\langle 1,3 \rangle^+$	2100.9 $X^{\langle - \rangle}$
2020.69(3)	$\langle 5^+ \rangle$		21(2)				21(2)					
2100.95(4)	$X^{\langle - \rangle}$			100								
2136.61(4)	$\langle 1,3 \rangle^+$		8.6(2)									
2178.45(5)	$\langle 9^-, 11^- \rangle$			29(3)								24(3)
2185.7(4)												100
2267.95(3)	$\langle 9^-, 11^- \rangle$			26(2)								
2309.59(5)	$\langle 9^- - 13^- \rangle$			19(4)								
2354.69(4)	$\langle 9^-, 11^- \rangle$			5.4(7)						9.1(7)		
2377.27(9)	$\langle 1-5 \rangle^+$										68(11)	
2393.31(4)	$\langle 5 \rangle^+$	12(1)			21(3)	1.6(7)					1.2(1)	
2429.52(6)	$\langle 1-5 \rangle^+$						36(5)					
2461.49(6)	$\langle 9^-, 11^- \rangle$				13(3)							
2501.03(3)	$\langle 9^-, 11^- \rangle$					34(2)				10(1)		
2529.17(5)	$\langle 1,3 \rangle^+$								2.9(8)			
2529.42(4)	$\langle 9^- - 13^- \rangle$			30(2)								47(3)
2541.34(5)	$\langle 1,3 \rangle^+$	3.0(8)						8(3)			9(4)	
2617.81(6)	$\langle 9^- - 13^- \rangle$			64(6)								
2723.54(6)	$\langle 9^- - 13^- \rangle$			73(6)								

Energy levels and branching ratios [93Oh12, 04Po10]. Part 3

¹²³In
₄₉

E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		$E_f^*:$ $2J_f^\pi:$	2102.7	2136.6 ⟨1,3⟩ ⁺	2267.9	2309.6	2354.7	2529.4
2178.45(5)	⟨9 ⁻ , 11 ⁻ ⟩		36(4)					
2309.59(5)	⟨9 ⁻ -13 ⁻ ⟩		24(5)					
2393.31(4)	⟨5⟩ ⁺			13(2)				
2461.49(6)	⟨9 ⁻ , 11 ⁻ ⟩						1.5(5)	
2529.42(4)	⟨9 ⁻ -13 ⁻ ⟩				6		15(2)	
2602.20(7)	⟨9 ⁻ , 11 ⁻ ⟩					3.4(3)		
2617.81(6)	⟨9 ⁻ -13 ⁻ ⟩		36(3)					
2723.54(6)	⟨9 ⁻ -13 ⁻ ⟩							27(3)

$$^{124}_{49}\text{In}$$

E^*	J^π	σ (t, τ)	$T_{1/2}$ or	Ref.	Branching ratios in percentage			
[keV]		$\mu\text{b/sr}$	Γ_{cm}		E_f^* : J_f^π :	0.0 3 ⁺	36.5	179.9
0.0	3 ⁺	1.8	3.11(10) s	78Aj01				
36.53(4)	$\langle 2-4 \rangle^+$					100		
<50	$\langle 8^- \rangle$		3.7(2) s					
122(15)		0.5		78Aj01				
179.88(4)	2 ⁻ -4 ⁻	0.3		78Aj01		79(8)	21(2)	
242.68(11)	X ⁺		50(6) ns					100
365(20)		0.3		78Aj01				
555(20)		0.8		78Aj01				
		78Aj01		Ref.				