

Energy levels and branching ratios [92Sh13].

¹⁶⁶Yb
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E^*	J^π	J^π	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(p,t)	$\mu\text{b/sr}$	Γ_{cm}		$E^*_\text{f}:$ $J^\pi_\text{f}:$	0.0 0+	102 2+	330 4+	668 6+	932 2+
0.0	0 ⁺	0+	647(22)	56.7(1) h	73Oo01						
102.37(3)	2 ⁺	2+	267(16)	1.24(6) ns	73Oo01		100				
330.50(4)	4 ⁺	4+	54.8(80)	52.9(17) ps	73Oo01			100			
668.01(6)	6 ⁺			7.8(3) ps					100		
932.35(5)	2 ⁺	2+	57.7(78)		73Oo01		44(3)	56(3)			
1039.10(5)	3 ⁺							84(4)	16(3)		
1043	$\langle 0^+ \rangle$	$\langle 0 \rangle +$	76(11)		73Oo01						
1098.25(10)	8 ⁺			2.14(24) ps						100	
1144.2(2)	$\langle 2^+ \rangle$					x		100			
1162.77(12)	4 ⁺							17(2)	80(6)	3(2)	
1315.25(25)									61(12)		
1327.9(1)	5 ⁺								79(4)	16(2)	
1342.5(5)	$\langle 4^+ \rangle$								100		
1358.93(20)	$\langle 1^- \rangle$						47(6)	53(5)			
1385.98(20)	$\langle 2^+, 3, 4^+ \rangle$							81(16)	19(10)		
1418.6(5)	$\langle 3^- \rangle$							100			
1451.35(20)								31(12)			
1482.46(20)	6 ⁺								x	x	
1503.32(14)	$\langle 2^- \rangle$										81(8)
1505.43(14)	$\langle 5^- \rangle$								62(6)	38(2)	
1529.67(20)	$\langle 1^- \rangle$						32(2)	68(7)			
1570.6(2)	$\langle 5^- \rangle$								77(9)	23(9)	
1579.8(3)	$\langle 2^+ \rangle$		30(16)		73Oo01		20(10)	51(8)	29(11)		
1605.93(15)	10 ⁺			1.0(5) ps							
1607.33(20)	$\langle 2^+, 3, 4^+ \rangle$							38(9)	38(9)		
1607.77(20)	6 ⁺									100	
1616.79(10)	$\langle 4^- \rangle$										
1684.82(20)	$\langle 4^+ \rangle$							12(6)	88(18)		
1704.82(20)	7 ⁺									73(7)	
1724.90(15)	$\langle 7^+ \rangle$									53(11)	
1744.21(12)	$\langle 4^+ \rangle$										69(4)
1790.36(20)	$\langle 5^- \rangle$								64(4)	34(2)	
1812.58(20)	$\langle 8^+ \rangle$									<80	
1818.3(3)									55(13)	23(5)	
1833.3(5)	$\langle 7^- \rangle$									53(21)	
1835.2(5)	$\langle 6^- \rangle$										
1852.58(20)	8 ⁺									47(5)	
1865.45(10)	$\langle 6^- \rangle$									3	
1923.1(4)	$\langle 1, 2^+ \rangle$						72(9)	28(14)			
1941.54(20)	$\langle 9^- \rangle$										
1957.16(20)	$\langle 6^+ \rangle$								6(1)		
1958.95(15)	$\langle 7^- \rangle$									74(7)	
2016.35(25)									70(12)		
2029.23(20)	$\langle 4^- \rangle$								6(1)		
2030.33(20)	8 ⁺										

(continued)

¹⁶⁶₇₀Yb

E^*	J^π	J^π	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(p,t)	$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* : J_{f}^π :	0.0 0+	102 2+	330 4+	668 6+	932 2+
2073.04(20)	$\langle 8^- \rangle$										
2098.61(20)	$\langle 1^- \rangle$						78(9)	16(5)			
2136.5(6)	$\langle 8^- \rangle$										
2143.12(25)	10^+										
2150.48(15)	9^+										
2165.80(15)	$\langle 6^+, 7^+ \rangle$									20(5)	
2175.94(25)	12^+			0.64(33) ps							
2209.64(25)	$\langle 9 \rangle^-$										
2215.09(20)	10^+										
2233.39(12)	$\langle 6, 7 \rangle^-$			<10 ns							
2319.3(4)	$\langle 10^+ \rangle$										
2362.24(25)	$\langle 10^- \rangle$										
2416.72(25)	$\langle 11 \rangle^-$										
2426.4(2)	$\langle 1^- \rangle$						4(2)	60(5)			
2491.0(6)	$\langle 10^- \rangle$										
2531.8(3)	12^+										
2609.6(4)	$\langle 12^+ \rangle$										
2646.9(3)	11^+										
2729.5(5)	$\langle 12^- \rangle$										
2779.4(3)	14^+			0.51(30) ps							
2862.4(3)	$\langle 13 \rangle^-$										
2891.2(7)	$\langle 12^- \rangle$										
2897.8(4)	14^+										
3167.1(7)	$\langle 14^- \rangle$										
3196.9(6)	$\langle 13^+ \rangle$										
3273.7(5)	16^+			1.14(27) ps							
3350.2(8)	$\langle 14^- \rangle$										
3353.5(5)	$\langle 15^- \rangle$										
3490.0(5)	16^+										
3666.5(5)	$\langle 16^- \rangle$										
3782.0(5)	18^+			0.82(11) ps							
3878(1)	$\langle 16^- \rangle$										
3891.8(5)	$\langle 17 \rangle^-$										
4189.8(5)	$\langle 18^+ \rangle$										
4219.3(8)	$\langle 18^- \rangle$										
4370.5(5)	20^+			0.41(4) ps							
4470.6(12)	$\langle 18^- \rangle$										
4478.3(5)	$\langle 19 \rangle^-$										
4819.7(10)	$\langle 20^- \rangle$										
4922.7(5)	20^+										
5036.8(5)	$\langle 22^+ \rangle$			0.20(2) ps							
5108.3(7)	$\langle 21^- \rangle$										
5118.9(15)	$\langle 20^- \rangle$										
5469.1(1)	$\langle 22^- \rangle$										
5649.6(1)	$\langle 22^+ \rangle$										

(continued)

¹⁶⁶₇₀Yb

<i>E</i> [*]	<i>J</i> ^π	<i>J</i> ^π	<i>σ</i> (p,t)	<i>T</i> _{1/2} or	Ref.	Branching ratios in percentage					
[keV]		(p,t)	μb/sr	<i>Γ</i> _{cm}		<i>E</i> _f [*] : <i>J</i> _f ^π :	0.0 0+	102 2+	330 4+	668 6+	932 2+
5775.4(7)	⟨24 ⁺ ⟩			0.125(14) ps							
5782.3(7)	⟨23 [−] ⟩										
5813.8(15)	⟨22 [−] ⟩										
6174(1)	⟨24 [−] ⟩										
6378.1(10)	⟨24 ⁺ ⟩										
6507.2(7)	⟨25 [−] ⟩										
6551.6(15)	⟨24 [−] ⟩										
6581.7(7)	26 ⁺			0.083(7) ps							
6940.5(10)	⟨26 [−] ⟩										
7294.3(9)	⟨27 [−] ⟩										
7334.6(15)	⟨26 [−] ⟩										
7451.9(10)	28 ⁺			0.069(7) ps							
7774.1(10)	⟨28 [−] ⟩										
8148.1(10)	⟨29 [−] ⟩										
8386.9(10)	30 ⁺			0.056(7) ps							
8677.6(12)	⟨30 [−] ⟩										
9070.9(10)	⟨31 [−] ⟩										
9385.7(10)	32 ⁺			0.042(7) ps							
9649.2(15)	⟨32 [−] ⟩										
10057(2)	⟨33 [−] ⟩										
10445.7(15)	34 ⁺			0.035(7) ps							
11102(2)	⟨35 [−] ⟩										
11558(2)	⟨36 ⁺ ⟩										
12186(2)	⟨37 [−] ⟩										
12716(2)	⟨38 ⁺ ⟩										
			73Oo01		Ref.						

Additional data on this isotope can be found in [03StZZ, 00Ya22].
Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [92Sh13]. Part 2

¹⁶⁶₇₀Yb

<i>E</i> [*]	<i>J</i> ^π	Branching ratios in percentage										
[keV]	(p,t)	<i>E</i> _f [*] : <i>J</i> _f ^π :	1039.10 3+	1098.25 8+	1162.77 4+	1327.9 5+	1358.93 ⟨1−⟩	1385.98	1482.46 6+	1503.32 ⟨2−⟩	1505.43 ⟨5−⟩	1570.6 ⟨5−⟩
1315.25(25)					39(3)							
1327.9(1)		≈6										
1385.98(20)		<9										
1451.35(20)		69(7)										
1482.46(20)					x							
1503.32(14)		19(5)										
1605.93(15)				100								
1607.33(20)		24(11)										

(continued)

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E^* [keV]	J^π (p,t)	E_f^* :	1039.10	1098.25	1162.77	Branching ratios in percentage						
		J_f^π :	3+	8+	4+	1327.9	1358.93	1385.98	1482.46	1503.32	1505.43	1570.6
						5+	$\langle 1- \rangle$		6+	$\langle 2- \rangle$	$\langle 5- \rangle$	$\langle 5- \rangle$
1616.79(10)			72(4)		27(2)	≈ 1.2						
1704.82(20)						27(3)						
1724.90(15)				11(4)		37(1)						
1744.21(12)			31(3)									
1790.36(20)												2.7(3)
1812.58(20)				100					<74			
1818.3(3)						23(5)						
1833.3(5)				47(16)								
1835.2(5)						x						
1852.58(20)				53(5)								
1865.45(10)						38(2)			14(1)		17(2)	1.8(4)
1941.54(20)				100								
1957.16(20)					17(1)	40(2)			16(1)			2(1)
1958.95(15)				24(1)								
2016.35(25)									x			30(14)
2029.23(20)					5(1)			16(1)		13(1)		
2030.33(20)				100					<13			
2150.48(15)				35(4)								
2165.80(15)				70(9)								
2209.64(25)				100								
2215.09(20)				56(6)								
2426.4(2)							36(5)					

Energy levels and branching ratios [92Sh13]. Part 3

 $^{166}_{70}\text{Yb}$

E^* [keV]	J^π (p,t)	E_f^* :	1579.8	1605.93	1607.33	Branching ratios in percentage						
		J_f^π :	$\langle 2+ \rangle$	10+		1607.77	1616.79	1684.82	1704.82	1744.21	1790.36	1812.58
						6+	$\langle 4- \rangle$	$\langle 4+ \rangle$	7+	$\langle 4+ \rangle$	$\langle 5- \rangle$	$\langle 8+ \rangle$
1835.2(5)							x					
1865.45(10)							22(1)				4(1)	
1957.16(20)								10(2)		6(1)		
2016.35(25)								x				
2029.23(20)						9		x		50(2)		
2098.61(20)			5(2)									
2136.5(6)									x			
2143.12(25)				100								x
2150.48(15)									65(6)			
2175.94(25)				100								
2215.09(20)				44(5)								<25
2233.39(12)											0.9(2)	
2319.3(4)				x								x

(continued)

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E^* [keV]	J^π (p,t)	Branching ratios in percentage										
		E_f^* : J_f^π :	1579.8 $\langle 2+ \rangle$	1605.93 10+	1607.33	1607.77 6+	1616.79 $\langle 4- \rangle$	1684.82 $\langle 4+ \rangle$	1704.82 7+	1744.21 $\langle 4+ \rangle$	1790.36 $\langle 5- \rangle$	1812.58 $\langle 8+ \rangle$
2416.72(25)				100								
2531.8(3)					48							

Energy levels and branching ratios [92Sh13]. Part 4

 $^{166}_{70}\text{Yb}$

E^* [keV]	J^π (p,t)	Branching ratios in percentage										
		E_f^* : J_f^π :	1818.3	1835.2 $\langle 6- \rangle$	1865.45 $\langle 6- \rangle$	1941.54 $\langle 9 \rangle -$	1957.16 $\langle 6+ \rangle$	1958.95 $\langle 7 \rangle -$	2073.04 $\langle 8- \rangle$	2136.5 $\langle 8- \rangle$	2143.12 10+	2150.48 9+
1957.16(20)			2(1)									
1958.95(15)					1.6(3)							
2073.04(20)					91(9)			9(5)				
2136.5(6)				100								
2165.80(15)							10(10)					
2233.39(12)					53(2)		23(2)	17(2)				
2362.24(25)						37(4)			39(4)			
2491.0(6)										100		x
2609.6(4)											x	
2646.9(3)												100

Energy levels and branching ratios [92Sh13]. Part 5

 $^{166}_{70}\text{Yb}$

E^* [keV]	J^π (p,t)	Branching ratios in percentage										
		E_f^* : J_f^π :	2165.80 $\langle 6+, 7+ \rangle$	2175.94 12+	2209.64 $\langle 9 \rangle -$	2362.24 $\langle 10 \rangle -$	2416.72 $\langle 11 \rangle -$	2491.0 $\langle 10 \rangle -$	2531.8 12+	2646.9 11+	2729.5 $\langle 12 \rangle -$	2779.4 14+
2233.39(12)			7(1)									
2362.24(25)					24(2)							
2531.8(3)				52								
2609.6(4)				x								
2729.5(5)						100						
2779.4(3)				100								
2862.4(3)				58(6)			42(4)					
2891.2(7)								100				
2897.8(4)				100					<9			
3167.1(7)											100	
3196.9(6)										100		
3273.7(5)												78
3353.5(5)												24(2)
3490.0(5)												100

Energy levels and branching ratios [92Sh13]. Part 6

 $^{166}_{70}\text{Yb}$

E^* [keV]	J^π (p,t)	$E^*_f:$ $J^\pi_f:$	Branching ratios in percentage									
			2862.4 ⟨13⟩−	2891.2 ⟨12⟩−	2897.8 14+	3167.1 ⟨14⟩−	3273.7 16+	3350.2 ⟨14⟩−	3353.5 ⟨15⟩−	3490.0 16+	3666.5 ⟨16⟩−	3782.0 18+
3273.7(5)					22							
3350.2(8)				100								
3353.5(5)			76(8)									
3490.0(5)					<63							
3666.5(5)						x						
3782.0(5)							100					
3878(1)								100				
3891.8(5)									65(6)	35(4)		
4189.8(5)										100		
4219.3(8)											100	
4370.5(5)												100

Energy levels and branching ratios [92Sh13]. Part 7

 $^{166}_{70}\text{Yb}$

E^* [keV]	J^π (p,t)	$E^*_f:$ $J^\pi_f:$	Branching ratios in percentage									
			3878 ⟨16⟩−	3891.8 ⟨17⟩−	4189.8 ⟨18⟩+	4219.3 ⟨18⟩−	4370.5 20+	4470.6 ⟨18⟩−	4478.3 ⟨19⟩−	4819.7 ⟨20⟩−	4922.7 20+	5036.8 ⟨22⟩+
4470.6(12)			100									
4478.3(5)				100								
4819.7(10)						100						
4922.7(5)					100							
5036.8(5)							100					
5108.3(7)									100			
5118.9(15)								100				
5469.1(1)										100		
5649.6(1)											100	
5775.4(7)												100

Energy levels and branching ratios [92Sh13]. Part 8

 $^{166}_{70}\text{Yb}$

E^* [keV]	J^π (p,t)	$E^*_f:$ $J^\pi_f:$	Branching ratios in percentage									
			5108.3 ⟨21⟩−	5118.9 ⟨20⟩−	5469.1 ⟨22⟩−	5649.6 ⟨22⟩+	5775.4 ⟨24⟩+	5782.3 ⟨23⟩−	5813.8 ⟨22⟩−	6174 ⟨24⟩−	6507.2 ⟨25⟩−	6551.6 ⟨24⟩−
5782.3(7)			100									
5813.8(15)				100								
6174(1)					100							
6378.1(10)						100						
6507.2(7)								100				
6551.6(15)									100			

(continued)

¹⁶⁶₇₀Yb

<i>E</i> [*]	<i>J</i> ^π	Branching ratios in percentage										
		<i>E</i> _f [*] :	5108.3	5118.9	5469.1	5649.6	5775.4	5782.3	5813.8	6174	6507.2	6551.6
[keV]	(p,t)	<i>J</i> _f ^{π:}	⟨21−⟩	⟨20−⟩	⟨22−⟩	⟨22+⟩	⟨24+⟩	⟨23−⟩	⟨22−⟩	⟨24−⟩	⟨25−⟩	⟨24−⟩
6581.7(7)						100						
6940.5(10)										100		
7294.3(9)											100	
7334.6(15)												100

Energy levels and branching ratios [92Sh13]. Part 9

¹⁶⁶₇₀Yb

<i>E</i> [*]	<i>J</i> ^π	Branching ratios in percentage										
[keV]	(p,t)	<i>E</i> _f [*] : <i>J</i> _f ^π :	6581.7 26+	6940.5 ⟨26−⟩	7294.3 ⟨27−⟩	7451.9 28+	7774.1 ⟨28−⟩	8148.1 ⟨29−⟩	8386.9 30+	8677.6 ⟨30−⟩	9070.9 ⟨31−⟩	9385.7 32+
7451.9(10)			100									
7774.1(10)				100								
8148.1(10)					100							
8386.9(10)						100						
8677.6(12)							100					
9070.9(10)								100				
9385.7(10)									100			
9649.2(15)										100		
10057(2)											100	
10445.7(15)												100

Energy levels and branching ratios [92Sh13]. Part 10

¹⁶⁶₇₀Yb

<i>E</i> [*]	<i>J</i> ^π	Branching ratios in percentage				
[keV]	(p,t)	<i>E</i> _f [*] : <i>J</i> _f ^π :	10057 ⟨33−⟩	10445.7 34+	11102 ⟨35−⟩	11558 ⟨36+⟩
11102(2)			100			
11558(2)				100		
12186(2)					100	
12716(2)						100

Energy levels and branching ratios [00Ba65].

 $^{167}_{70}\text{Yb}$

E^*	$2J^\pi$	σ (d,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		<i>rel.</i>	Γ_{cm}		$E_f^*:$ $2J_f^\pi:$	0.0 5 ⁻	29.6 5 ⁺	33.9 7 ⁺	58.5 9 ⁺	78.7 7 ⁻
0.0	5 ⁻	13	17.5(2) m	66Bu16						
29.658(6)	5 ⁺	≈ 3	<14 ns	66Bu16		100				
33.909(6)	7 ⁺	incl	<16 ns	66Bu16		100	<0.33			
58.538(7)	9 ⁺	34		66Bu16			1.9	98		
78.671(8)	7 ⁻	7	0.84(4) ns	66Bu16		34(4)	34	27(6)	5(1)	
125.910(11)	11 ⁺							26(7)	74(10)	
178.875(10)	9 ⁻		≤ 0.23 ns			51(5)		29(4)	14.5(8)	5.5(7)
179.790(21)	$\langle 3^- \rangle$					100				
185.96(6)	13 ⁺								100	
188.754(18)	1 ⁻	90	≈ 23 ns	66Bu16		100				
213.195(16)	$\langle 5^- \rangle$	62		66Bu16		97(10)	≈ 3.5			
239.190(16)	$\langle 5^- \rangle$					87(4)	7.9(6)	3.6(4)		<2.6
258.582(16)	3 ⁻	12		66Bu16		100				<24
278.257(17)	5 ⁻	12		66Bu16		53(16)	42(4)			
301.484(25)	11 ⁻								46(8)	54(6)
308.456(15)	$\langle 7^- \rangle$					8.4(6)	55(11)	5.6(5)		23.9(13)
317.524(16)	$\langle 7^- \rangle$	98		66Bu16		48(2)				29(14)
330.16(7)	15 ⁺									
407.69(9)	17 ⁺									
411.009(18)	7 ⁻	12		66Bu16		25(2)	23(2)	31(2)		5.2(7)
419.590(17)	$\langle 9^- \rangle$							<45		28(2)
430.92(5)	7 ⁺						72(3)	20.0(12)	7.7(7)	<9
440.713(14)	7 ⁻							11.0(10)		7.2(5)
442.5(3)	$\langle 13^- \rangle$									
477.45(3)	9 ⁻	2		66Bu16		4.3(12)		9(3)		<24
545(3)		≈ 4		66Bu16						
553.44(3)	9 ⁻								10(1)	
566(3)		89		66Bu16						
569.45(10)	$\langle 5,7 \rangle^+$	incl		66Bu16			<69			
571.548(22)	$\langle 11^- \rangle$		≈ 180 ns						40(7)	
601(3)		≈ 4		66Bu16						
607.3(7)	$\langle 15^- \rangle$									
614(3)		60		66Bu16						
628.39(10)	7 ⁺						53(5)	<33	47(4)	
644.40(11)	$\langle 19^+ \rangle$									
660(3)		10		66Bu16						
677.39(10)	$\langle 7^- \rangle$									
692(3)		≈ 4		66Bu16						
719.89(10)	$\langle 7^- \rangle$					12.9(11)	15(5)	9(5)		<6
721.28(13)	$\langle 21^+ \rangle$									
726.55(10)	$\langle 13^- \rangle$									
752(3)		52		66Bu16						
783.72(25)	$\langle 17^- \rangle$									
788.39(6)	$\langle 5,9 \rangle^-$					12(1)				27(2)
801(3)		≈ 2		66Bu16						

(continued)

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	σ (d,t) <i>rel.</i>	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
					$E^*_f:$ $2J^\pi_f:$	0.0 5 ⁻	29.6 5 ⁺	33.9 7 ⁺	58.5 9 ⁺	78.7 7 ⁻
835(3)		≈ 8		66Bu16						
901.45(14)	$\langle 15^- \rangle$									
966(3)		≈ 33		66Bu16						
987.4(7)	$\langle 19^- \rangle$									
1022.29(7)	$\langle 5,9 \rangle^+$							43(2)	18(1)	
1061.17(14)	$\langle 23^+ \rangle$									
1094.70(21)	$\langle 17^- \rangle$									
1122.26(15)	$\langle 25^+ \rangle$									
1192.88(25)	$\langle 21^- \rangle$									
1267.24(5)	5 ⁺					70(2)				26.2(9)
1304.98(23)	$\langle 19^- \rangle$									
1305.53(7)	7 ⁻					39(3)				
1356.33(9)	$\langle 9^+, 11^+ \rangle$							6(2)		
1433.2(7)	$\langle 23^- \rangle$									
1531.0(3)	$\langle 21^- \rangle$									
1570.11(21)	$\langle 27^+ \rangle$									
1602.13(18)	$\langle 29^+ \rangle$									
1656.9(3)	$\langle 25^- \rangle$									
1759.3(5)	$\langle 23^- \rangle$									
1771.6(3)	$\langle 23^- \rangle$									
1895.5(8)	$\langle 27^- \rangle$									
1934.8(7)	$\langle 27^- \rangle$									
1947.50(5)	9 ⁺									
1951.19(6)	9					10(1)		12(1)		
1952.85(7)	7 ⁺								7(3)	7.8(6)
1973.97(11)	5,7					<61				28(6)
1975.24(8)	9 ⁺						<4.8	56(3)		
1979.50(7)	7 ⁻					38(2)		<5	10(1)	
1995.32(9)	9 ⁻					3.9(8)		39(2)	25(3)	
1998.48(6)	9 ⁺							11(1)		
2012.32(13)	7,9 ⁻								<14	42(5)
2013.05(11)	7 ⁻					79(3)	15.3(13)		<10	
2025.6(4)	25 ⁻									
2052.68(16)	9 ⁻					[5(1)]				
2149.1(3)	33 ⁺									
2158.7(3)	29 ⁻									
2159.09(25)	31 ⁺									
2292.6(4)	27 ⁻									
2330.40(8)	9 ⁺							3.0(3)	30(3)	
2359.7(8)	31 ⁻									
2483.0(7)	31 ⁻									
2571.6(4)	29 ⁻									
2684.0(4)	33 ⁻									
2751.9(4)	37 ⁺									
2817.8(4)	35 ⁺									

(continued)

 $^{167}_{70}\text{Yb}$

E^*	$2J^\pi$	σ (d,t)	$T_{1/2}$ or Ref.	Branching ratios in percentage					
[keV]		<i>rel.</i>	Γ_{cm}	$E^*_f:$ $2J^\pi_f:$	0.0 5^-	29.6 5^+	33.9 7^+	58.5 9^+	78.7 7^-
2862.8(4)	$\langle 31^- \rangle$								
2882.4(9)	$\langle 35^- \rangle$								
3073.1(9)	$\langle 35^- \rangle$								
3164.8(5)	$\langle 33^- \rangle$								
3237.4(6)	$\langle 37^- \rangle$								
3399.5(4)	$\langle 41^+ \rangle$								
3460.4(13)	$\langle 39^- \rangle$								
3481.3(6)	$\langle 35^- \rangle$								
3533.9(7)	$\langle 39^+ \rangle$								
3703.1(13)	$\langle 39^- \rangle$								
3807.3(7)	$\langle 37^- \rangle$								
3815.4(7)	$\langle 37^- \rangle$								
3838.1(8)	$\langle 41^- \rangle$								
4078.4(17)	$\langle 43^- \rangle$								
4091.8(7)	$\langle 45^+ \rangle$								
4116.6(8)	$\langle 39^- \rangle$								
4141.8(8)	$\langle 39^- \rangle$								
4296.1(9)	$\langle 43^+ \rangle$								
4373.1(17)	$\langle 43^- \rangle$								
4434.5(8)	$\langle 41^- \rangle$								
4496.1(10)	$\langle 45^- \rangle$								
4503.3(11)	$\langle 41^- \rangle$								
4734.4(20)	$\langle 47^- \rangle$								
4764.3(9)	$\langle 43^- \rangle$								
4834.4(8)	$\langle 49^+ \rangle$								
4860.9(12)	$\langle 43^- \rangle$								
5095.5(10)	$\langle 47^+ \rangle$								
5096.1(20)	$\langle 47^- \rangle$								
5106.2(10)	$\langle 45^- \rangle$								
5212.8(11)	$\langle 49^- \rangle$								
5226.8(13)	$\langle 45^- \rangle$								
5444.4(22)	$\langle 51^- \rangle$								
5454.0(10)	$\langle 47^- \rangle$								
5614.9(15)	$\langle 47^- \rangle$								
5637.6(10)	$\langle 53^+ \rangle$								
5812.7(10)	$\langle 49^- \rangle$								
5879.1(22)	$\langle 51^- \rangle$								
5920.7(11)	$\langle 51^+ \rangle$								
5986.2(12)	$\langle 53^- \rangle$								
6009.0(16)	$\langle 49^- \rangle$								
6178.7(11)	$\langle 51^- \rangle$								
6217.4(24)	$\langle 55^- \rangle$								
6508.0(11)	$\langle 57^+ \rangle$								
6552.9(11)	$\langle 53^- \rangle$								
6727.1(24)	$\langle 55^- \rangle$								

(continued)

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	σ (d,t) <i>rel.</i>	$T_{1/2}$ or Ref. Γ_{cm}	Branching ratios in percentage					
				E^*_f : $2J^\pi_f$:	0.0 5 ⁻	29.6 5 ⁺	33.9 7 ⁺	58.5 9 ⁺	78.7 7 ⁻
6759.5(12)	$\langle 55^+ \rangle$								
6818.3(13)	$\langle 57^- \rangle$								
6936.2(12)	$\langle 55^- \rangle$								
7057(3)	$\langle 59^- \rangle$								
7335.1(14)	$\langle 57^- \rangle$								
7447.2(12)	$\langle 61^+ \rangle$								
7640(3)	$\langle 59^- \rangle$								
7640.8(13)	$\langle 59^+ \rangle$								
7713.9(14)	$\langle 61^- \rangle$								
7744.0(14)	$\langle 59^- \rangle$								
7965(3)	$\langle 63^- \rangle$								
8173.9(16)	$\langle 61^- \rangle$								
8454.0(13)	$\langle 65^+ \rangle$								
8569.3(14)	$\langle 63^+ \rangle$								
8605.0(16)	$\langle 63^- \rangle$								
8614(3)	$\langle 63^- \rangle$								
8678.0(15)	$\langle 65^- \rangle$								
8938(3)	$\langle 67^- \rangle$								
9524.6(14)	$\langle 69^+ \rangle$								
9541.3(15)	$\langle 67^+ \rangle$								
9638(3)	$\langle 67^- \rangle$								
9711.1(16)	$\langle 69^- \rangle$								
9973(4)	$\langle 71^- \rangle$								
10564.3(16)	$\langle 71^+ \rangle$								
10649.8(15)	$\langle 73^+ \rangle$								
10714(4)	$\langle 71^- \rangle$								
10809.9(17)	$\langle 73^- \rangle$								
11053(4)	$\langle 75^- \rangle$								
11641.8(17)	$\langle 75^+ \rangle$								
11814.1(16)	$\langle 77^+ \rangle$								
11967.5(17)	$\langle 77^- \rangle$								
12764.8(20)	$\langle 79^+ \rangle$								
12990.9(17)	$\langle 81^+ \rangle$								
13180.3(18)	$\langle 81^- \rangle$								
13887.8(22)	$\langle 83^+ \rangle$								
14173.7(17)	$\langle 85^+ \rangle$								
14359.3(21)	$\langle 85^- \rangle$								
15052.2(23)	$\langle 87^+ \rangle$								
15385.1(18)	$\langle 89^+ \rangle$								
15548.3(23)	$\langle 89^- \rangle$								
16276.2(25)	$\langle 91^+ \rangle$								

(continued)

 $^{167}_{70}\text{Yb}$

E^*	$2J^\pi$	σ (d,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		<i>rel.</i>	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5 ⁻	29.6 5 ⁺	33.9 7 ⁺	58.5 9 ⁺	78.7 7 ⁻
16767.3(25)	$\langle 93^- \rangle$	66Bu16		Ref.						

Additional data on this isotope can be found in [03StZZ].

 $d\sigma/d\Omega$ of (d,t) reaction was measured at six angles [66Bu16]; here are data for 85°.

Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [00Ba65]. Part 2

 $^{167}_{70}\text{Yb}$

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	125.9 11 ⁺	178.9 9 ⁻	179.8 ⟨3 ⁻ ⟩	185.96 13 ⁺	188.754 1 ⁻	213.195 ⟨5 ⁻ ⟩	239.190 ⟨5 ⁻ ⟩	258.582 3 ⁻	278.257 5 ⁻	301.484 11 ⁻
185.96(6)	13 ⁺	x										
239.190(16)	⟨5 ⁻ ⟩				1.61							
258.582(16)	3 ⁻						<16	<5.7	<1.6			
278.257(17)	5 ⁻						5.5(12)			<1.3		
301.484(25)	11 ⁻			<3.1								
308.456(15)	⟨7 ⁻ ⟩							6.6(9)				
317.524(16)	⟨7 ⁻ ⟩			6(2)					18(6)		<0.22	
330.16(7)	15 ⁺	66(2)				34.3(7)						
407.69(9)	17 ⁺					79(8)						
411.009(18)	7 ⁻			8.0(7)				<7				
419.590(17)	⟨9 ⁻ ⟩			12(5)					25(8)			
440.713(14)	7 ⁻			26(5)					2.6(6)	42(3)	0.7(3)	
442.5(3)	⟨13 ⁻ ⟩	24.7(13)	75(4)									
477.45(3)	9 ⁻	<22	18(3)								68(12)	
553.44(3)	9 ⁻	8.8(10)	11(3)									
569.45(10)	⟨5,7 ⁺ ⟩							66(7)	34(9)			
571.548(22)	⟨11 ⁻ ⟩	28(1)	16(1)		<17							2.5(3)
607.3(7)	⟨15 ⁻ ⟩				x							x
677.39(10)	⟨7 ⁻ ⟩							[68(7)]	[32(7)]			
719.89(10)	⟨7 ⁻ ⟩				<13							
788.39(6)	⟨5,9 ⁻ ⟩		21(2)						11(3)			
1305.53(7)	7 ⁻		31(2)					6.5(8)				
1356.33(9)	⟨9 ⁺ ,11 ⁺ ⟩			20(6)								3(2)
1951.19(6)	⟨9⟩	1.4(3)										
1952.85(7)	⟨7 ⁺ ⟩								18(1)		9.6(8)	
1973.97(11)	5,7										14(2)	
1975.24(8)	⟨9 ⁺ ⟩	6.7(6)										
1979.50(7)	⟨7 ⁻ ⟩		4.9(7)						14(2)			
1998.48(6)	⟨9 ⁺ ⟩		5.9(3)						<11		4.1(5)	
2012.32(13)	⟨7,9 ⁻ ⟩		29(2)									

(continued)

 $^{167}_{70}\text{Yb}$

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^* :	125.9	178.9	179.8	185.96	188.754	213.195	239.190	258.582	278.257	301.484
[keV]	$2J_f^\pi$:	11 ⁺	9 ⁻	$\langle 3^- \rangle$	13 ⁺	1 ⁻	$\langle 5 \rangle^-$	$\langle 5 \rangle^-$	3 ⁻	5 ⁻	11 ⁻
2052.68(16)	9 ^{$\langle - \rangle$}	[27(2)]									[15(4)]
2330.40(8)	9 ^{$\langle + \rangle$}	10.0(6)	1.2(3)								

Energy levels and branching ratios [00Ba65]. Part 3

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	308.456 $\langle 7^- \rangle$	317.524 $\langle 7^- \rangle$	330.16 15 ⁺	407.69 17 ⁺	411.009 7 ⁻	419.590 $\langle 9^- \rangle$	430.92 7 ⁺	440.713 7 ⁻	442.5 $\langle 13^- \rangle$	477.45 9 ⁻
407.69(9)	17 ⁺				21(9)							
411.009(18)	7 ⁻		8(3)									
419.590(17)	$\langle 9^- \rangle$		<1.5	35(8)								
440.713(14)	7 ⁻		<0.8	10(1)				0.07(3)				
477.45(3)	9 ⁻							<14		≈0.46		
553.44(3)	9 ⁻			45(4)				25(3)				
571.548(22)	$\langle 11^- \rangle$			6(2)		<7.4	6.2(5)					
628.39(10)	7 ⁺								<16			
644.40(11)	$\langle 19^+ \rangle$				65(6)	35(3)						
677.39(10)	$\langle 7^- \rangle$		<78									
719.89(10)	$\langle 7^- \rangle$									64(18)		
721.28(13)	$\langle 21^+ \rangle$					90(8)						
783.72(25)	$\langle 17^- \rangle$				9.3(5)						90.7(19)	
788.39(6)	$\langle 5,9^- \rangle$	5(1)	23(2)					<15				
987.4(7)	$\langle 19^- \rangle$				x							
1022.29(7)	$\langle 5,9^+ \rangle$		4(2)						35(2)			
1267.24(5)	5 ⁺					3.8(7)						
1356.33(9)	$\langle 9^+, 11^+ \rangle$							8(4)				
1947.50(5)	$\langle 9^+ \rangle$			5.6(8)						46(2)		5.6(5)
1951.19(6)	$\langle 9 \rangle$			22(2)				6(1)		14(1)		2.9(5)
1952.85(7)	$\langle 7^+ \rangle$	33(2)				<15						
1973.97(11)	5,7	33(2)	17(2)			8(1)	<9.0					
1975.24(8)	$\langle 9^+ \rangle$									<18		
1979.50(7)	$\langle 7^- \rangle$								25(2)			
1995.32(9)	$\langle 9^- \rangle$			13(2)		7(3)				<10		
1998.48(6)	$\langle 9^+ \rangle$			19(1)		1(1)	12(1)			6(1)		10(1)
2012.32(13)	$\langle 7,9^- \rangle$								17(6)			<40
2052.68(16)	9 ^{$\langle - \rangle$}			[53(3)]								
2330.40(8)	9 ^{$\langle + \rangle$}							10(1)	19(1)	20(1)		

Energy levels and branching ratios [00Ba65]. Part 4

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	553.44 9 ⁻	571.548 ⟨11⟩ ⁻	607.3 ⟨15⟩ ⁻	628.39 7 ⁺	644.40 ⟨19⟩ ⁺	677.39 ⟨7⟩ ⁻	719.89 ⟨7⟩ ⁻	721.28 ⟨21⟩ ⁺	726.55 ⟨13⟩ ⁻	783.72 ⟨17⟩ ⁻
721.28(13)	⟨21⟩ ⁺						10.2(17)					
726.55(10)	⟨13⟩ ⁻			100								
901.45(14)	⟨15⟩ ⁻			[100]								
987.4(7)	⟨19⟩ ⁻				x							
1061.17(14)	⟨23⟩ ⁺						82(4)			18.2(7)		
1094.70(21)	⟨17⟩ ⁻										≈30	
1122.26(15)	⟨25⟩ ⁺									x		
1192.88(25)	⟨21⟩ ⁻						10.8(21)					89(9)
1305.53(7)	7 ⁻					23(4)						
1356.33(9)	⟨9 ⁺ , 11 ⁺ ⟩			63(3)								
1433.2(7)	⟨23⟩ ⁻									21.6(15)		
1947.50(5)	⟨9⟩ ⁺		8.8(6)	11.1(6)					21.6(10)			
1951.19(6)	⟨9⟩		19(1)	12(1)								
1952.85(7)	⟨7⟩ ⁺							14(1)				
1975.24(8)	⟨9⟩ ⁺			25.3(14)					12			
1995.32(9)	⟨9⟩ ⁻			12.1(8)								
1998.48(6)	⟨9⟩ ⁺		7(1)	23(1)								
2012.32(13)	⟨7, 9⟩ ⁻					12(2)						
2330.40(8)	9 ⁽⁺⁾			<16		7(1)						

Energy levels and branching ratios [00Ba65]. Part 5

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	788.39 ⟨5, 9⟩ ⁻	901.45 ⟨15⟩ ⁻	987.4 ⟨19⟩ ⁻	1022.29 ⟨5, 9⟩ ⁺	1061.17 ⟨23⟩ ⁺	1094.70 ⟨17⟩ ⁻	1122.26 ⟨25⟩ ⁺	1192.88 ⟨21⟩ ⁻	1304.98 ⟨19⟩ ⁻	1305.53 7 ⁻
1094.70(21)	⟨17⟩ ⁻			70(20)								
1122.26(15)	⟨25⟩ ⁺						x					
1304.98(23)	⟨19⟩ ⁻			≤100				[100]				
1433.2(7)	⟨23⟩ ⁻				78.4(20)							
1531.0(3)	⟨21⟩ ⁻							40(8)			60(12)	
1570.11(21)	⟨27⟩ ⁺						90(4)		10.4(4)			
1602.13(18)	⟨29⟩ ⁺								100			
1656.9(3)	⟨25⟩ ⁻						x			x		
1771.6(3)	⟨23⟩ ⁻										57(3)	
1895.5(8)	⟨27⟩ ⁻								100			
1934.8(7)	⟨27⟩ ⁻								26.5(18)			
1947.50(5)	⟨9⟩ ⁺					1.6(3)						<5
1952.85(7)	⟨7⟩ ⁺		7.5(6)									
1979.50(7)	⟨7⟩ ⁻											8(1)
1998.48(6)	⟨9⟩ ⁺					1.3(3)						
2013.05(11)	⟨7⟩ ⁻					5.8(18)						
2330.40(8)	9 ⁽⁺⁾		<27									

Energy levels and branching ratios [00Ba65]. Part 6

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1356.33 $\langle 23^- \rangle$	1433.2 $\langle 23^- \rangle$	1531.0 $\langle 21^- \rangle$	1570.11 $\langle 27^+ \rangle$	1602.13 $\langle 29^+ \rangle$	1656.9 $\langle 25^- \rangle$	1771.6 $\langle 23^- \rangle$	1895.5 $\langle 27^- \rangle$	1934.8 $\langle 27^- \rangle$	2025.6 $\langle 25^- \rangle$
1759.3(5)	$\langle 23^- \rangle$				[100]							
1771.6(3)	$\langle 23^- \rangle$				43(3)							
1934.8(7)	$\langle 27^- \rangle$			73(2)								
1951.19(6)	$\langle 9 \rangle$	<6										
1952.85(7)	$\langle 7^+ \rangle$	3(3)										
1995.32(9)	$\langle 9^- \rangle$	<5										
1998.48(6)	$\langle 9^+ \rangle$	<7										
2025.6(4)	$\langle 25^- \rangle$				67(4)				33(2)			
2149.1(3)	$\langle 33^+ \rangle$						100					
2158.7(3)	$\langle 29^- \rangle$					53(13)		47(13)				
2159.09(25)	$\langle 31^+ \rangle$				90(4)		10.3(4)					
2292.6(4)	$\langle 27^- \rangle$								70(4)			30(2)
2359.7(8)	$\langle 31^- \rangle$					x				x		
2483.0(7)	$\langle 31^- \rangle$					22(2)					78(3)	
2571.6(4)	$\langle 29^- \rangle$											74(5)

Energy levels and branching ratios [00Ba65]. Part 7

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2149.1 $\langle 33^+ \rangle$	2158.7 $\langle 29^- \rangle$	2159.09 $\langle 31^+ \rangle$	2292.6 $\langle 27^- \rangle$	2359.7 $\langle 31^- \rangle$	2483.0 $\langle 31^- \rangle$	2571.6 $\langle 29^- \rangle$	2684.0 $\langle 33^- \rangle$	2751.9 $\langle 37^+ \rangle$	2817.8 $\langle 35^+ \rangle$
2571.6(4)	$\langle 29^- \rangle$					26.1(16)						
2684.0(4)	$\langle 33^- \rangle$			75(2)	24.8(10)							
2751.9(4)	$\langle 37^+ \rangle$	100										
2817.8(4)	$\langle 35^+ \rangle$	x		x								
2862.8(4)	$\langle 31^- \rangle$					77(5)			22.6(14)			
2882.4(9)	$\langle 35^- \rangle$	x					x					
3073.1(9)	$\langle 35^- \rangle$	18(3)						82(3)				
3164.8(5)	$\langle 33^- \rangle$								x			
3237.4(6)	$\langle 37^- \rangle$									100		
3399.5(4)	$\langle 41^+ \rangle$										100	
3533.9(7)	$\langle 39^+ \rangle$											100

Energy levels and branching ratios [00Ba65]. Part 8

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2862.8 $\langle 31^- \rangle$	2882.4 $\langle 35^- \rangle$	3073.1 $\langle 35^- \rangle$	3164.8 $\langle 33^- \rangle$	3237.4 $\langle 37^- \rangle$	3399.5 $\langle 41^+ \rangle$	3460.4 $\langle 39^- \rangle$	3481.3 $\langle 35^- \rangle$	3533.9 $\langle 39^+ \rangle$	3703.1 $\langle 39^- \rangle$
3164.8(5)	$\langle 33^- \rangle$		x									
3460.4(13)	$\langle 39^- \rangle$			100								
3481.3(6)	$\langle 35^- \rangle$		100									
3703.1(13)	$\langle 39^- \rangle$				100							
3807.3(7)	$\langle 37^- \rangle$					100						
3815.4(7)	$\langle 37^- \rangle$					x				x		
3838.1(8)	$\langle 41^- \rangle$						100					
4078.4(17)	$\langle 43^- \rangle$								100			
4091.8(7)	$\langle 45^+ \rangle$							100				
4141.8(8)	$\langle 39^- \rangle$									100		
4296.1(9)	$\langle 43^+ \rangle$										100	
4373.1(17)	$\langle 43^- \rangle$											100

Energy levels and branching ratios [00Ba65]. Part 9

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3807.3 $\langle 37^- \rangle$	3815.4 $\langle 37^- \rangle$	3838.1 $\langle 41^- \rangle$	4078.4 $\langle 43^- \rangle$	4091.8 $\langle 45^+ \rangle$	4116.6 $\langle 39^- \rangle$	4141.8 $\langle 39^- \rangle$	4296.1 $\langle 43^+ \rangle$	4373.1 $\langle 43^- \rangle$	4434.5 $\langle 41^- \rangle$
4116.6(8)	$\langle 39^- \rangle$		x	x								
4434.5(8)	$\langle 41^- \rangle$		43(3)	x				57(3)				
4496.1(10)	$\langle 45^- \rangle$				100							
4503.3(11)	$\langle 41^- \rangle$		100									
4734.4(20)	$\langle 47^- \rangle$					100						
4764.3(9)	$\langle 43^- \rangle$							x				x
4834.4(8)	$\langle 49^+ \rangle$						100					
4860.9(12)	$\langle 43^- \rangle$								100			
5095.5(10)	$\langle 47^+ \rangle$									100		
5096.1(20)	$\langle 47^- \rangle$										100	
5106.2(10)	$\langle 45^- \rangle$											x

Energy levels and branching ratios [00Ba65]. Part 10

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	4496.1 $\langle 45^- \rangle$	4734.4 $\langle 47^- \rangle$	4764.3 $\langle 43^- \rangle$	4834.4 $\langle 49^+ \rangle$	4860.9 $\langle 43^- \rangle$	5095.5 $\langle 47^+ \rangle$	5096.1 $\langle 47^- \rangle$	5106.2 $\langle 45^- \rangle$	5212.8 $\langle 49^- \rangle$	5226.8 $\langle 45^- \rangle$
5106.2(10)	$\langle 45^- \rangle$				x							
5212.8(11)	$\langle 49^- \rangle$		100									
5226.8(13)	$\langle 45^- \rangle$		100									
5444.4(22)	$\langle 51^- \rangle$			100								

(continued)

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	4496.1 $\langle 45^- \rangle$	4734.4 $\langle 47^- \rangle$	4764.3 $\langle 43^- \rangle$	4834.4 $\langle 49^+ \rangle$	4860.9 $\langle 43^- \rangle$	5095.5 $\langle 47^+ \rangle$	5096.1 $\langle 47^- \rangle$	5106.2 $\langle 45^- \rangle$	5212.8 $\langle 49^- \rangle$	5226.8 $\langle 45^- \rangle$
5454.0(10)	$\langle 47^- \rangle$				x					x		
5614.9(15)	$\langle 47^- \rangle$						100					
5637.6(10)	$\langle 53^+ \rangle$					100						
5812.7(10)	$\langle 49^- \rangle$									x		
5879.1(22)	$\langle 51^- \rangle$								100			
5920.7(11)	$\langle 51^+ \rangle$							100				
5986.2(12)	$\langle 53^- \rangle$										100	
6009.0(16)	$\langle 49^- \rangle$											100

Energy levels and branching ratios [00Ba65]. Part 11

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	5444.4 $\langle 51^- \rangle$	5454.0 $\langle 47^- \rangle$	5637.6 $\langle 53^+ \rangle$	5812.7 $\langle 49^- \rangle$	5879.1 $\langle 51^- \rangle$	5920.7 $\langle 51^+ \rangle$	5986.2 $\langle 53^- \rangle$	6178.7 $\langle 51^- \rangle$	6217.4 $\langle 55^- \rangle$	6508.0 $\langle 57^+ \rangle$
5812.7(10)	$\langle 49^- \rangle$			x								
6178.7(11)	$\langle 51^- \rangle$			x		x						
6217.4(24)	$\langle 55^- \rangle$		100									
6508.0(11)	$\langle 57^+ \rangle$				100							
6552.9(11)	$\langle 53^- \rangle$					x				x		
6727.1(24)	$\langle 55^- \rangle$						100					
6759.5(12)	$\langle 55^+ \rangle$							100				
6818.3(13)	$\langle 57^- \rangle$								100			
6936.2(12)	$\langle 55^- \rangle$									x		
7057(3)	$\langle 59^- \rangle$										100	
7447.2(12)	$\langle 61^+ \rangle$											100

Energy levels and branching ratios [00Ba65]. Part 12

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	6552.9 $\langle 53^- \rangle$	6727.1 $\langle 55^- \rangle$	6759.5 $\langle 55^+ \rangle$	6818.3 $\langle 57^- \rangle$	6936.2 $\langle 55^- \rangle$	7057 $\langle 59^- \rangle$	7335.1 $\langle 57^- \rangle$	7447.2 $\langle 61^+ \rangle$	7640 $\langle 59^- \rangle$	7640.8 $\langle 59^+ \rangle$
6936.2(12)	$\langle 55^- \rangle$		x									
7335.1(14)	$\langle 57^- \rangle$		100									
7640(3)	$\langle 59^- \rangle$			100								
7640.8(13)	$\langle 59^+ \rangle$				100							
7713.9(14)	$\langle 61^- \rangle$					100						
7744.0(14)	$\langle 59^- \rangle$						100					
7965(3)	$\langle 63^- \rangle$							100				
8173.9(16)	$\langle 61^- \rangle$								100			

(continued)

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	6552.9 $\langle 53^- \rangle$	6727.1 $\langle 55^- \rangle$	6759.5 $\langle 55^+ \rangle$	6818.3 $\langle 57^- \rangle$	6936.2 $\langle 55^- \rangle$	7057 $\langle 59^- \rangle$	7335.1 $\langle 57^- \rangle$	7447.2 $\langle 61^+ \rangle$	7640 $\langle 59^- \rangle$	7640.8 $\langle 59^+ \rangle$
8454.0(13)	$\langle 65^+ \rangle$									100		
8569.3(14)	$\langle 63^+ \rangle$											100
8614(3)	$\langle 63^- \rangle$										100	

Energy levels and branching ratios [00Ba65]. Part 13

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	7713.9 $\langle 61^- \rangle$	7744.0 $\langle 59^- \rangle$	7965 $\langle 63^- \rangle$	8454.0 $\langle 65^+ \rangle$	8569.3 $\langle 63^+ \rangle$	8614 $\langle 63^- \rangle$	8678.0 $\langle 65^- \rangle$	8938 $\langle 67^- \rangle$	9524.6 $\langle 69^+ \rangle$	9541.3 $\langle 67^+ \rangle$
8605.0(16)	$\langle 63^- \rangle$			100								
8678.0(15)	$\langle 65^- \rangle$		100									
8938(3)	$\langle 67^- \rangle$				100							
9524.6(14)	$\langle 69^+ \rangle$					100						
9541.3(15)	$\langle 67^+ \rangle$						100					
9638(3)	$\langle 67^- \rangle$							100				
9711.1(16)	$\langle 69^- \rangle$								100			
9973(4)	$\langle 71^- \rangle$									100		
10564.3(16)	$\langle 71^+ \rangle$											100
10649.8(15)	$\langle 73^+ \rangle$										100	

Energy levels and branching ratios [00Ba65]. Part 14

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	9638 $\langle 67^- \rangle$	9711.1 $\langle 69^- \rangle$	9973 $\langle 71^- \rangle$	10564.3 $\langle 71^+ \rangle$	10649.8 $\langle 73^+ \rangle$	10809.9 $\langle 73^- \rangle$	11641.8 $\langle 75^+ \rangle$	11814.1 $\langle 77^+ \rangle$	11967.5 $\langle 77^- \rangle$	12764.8 $\langle 79^+ \rangle$
10714(4)	$\langle 71^- \rangle$		100									
10809.9(17)	$\langle 73^- \rangle$			100								
11053(4)	$\langle 75^- \rangle$				100							
11641.8(17)	$\langle 75^+ \rangle$					100						
11814.1(16)	$\langle 77^+ \rangle$						100					
11967.5(17)	$\langle 77^- \rangle$							100				
12764.8(20)	$\langle 79^+ \rangle$								100			
12990.9(17)	$\langle 81^+ \rangle$									100		
13180.3(18)	$\langle 81^- \rangle$										100	
13887.8(22)	$\langle 83^+ \rangle$											100

Energy levels and branching ratios [00Ba65]. Part 15

 $^{167}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage							
		$E_f^*:$ $2J_f^\pi:$	12990.9 $\langle 81^+ \rangle$	13180.3 $\langle 81^- \rangle$	13887.8 $\langle 83^+ \rangle$	14173.7 $\langle 85^+ \rangle$	14359.3 $\langle 85^- \rangle$	15052.2 $\langle 87^+ \rangle$	15548.3 $\langle 89^- \rangle$
14173.7(17)	$\langle 85^+ \rangle$		100						
14359.3(21)	$\langle 85^- \rangle$			100					
15052.2(23)	$\langle 87^+ \rangle$				100				
15385.1(18)	$\langle 89^+ \rangle$					100			
15548.3(23)	$\langle 89^- \rangle$						100		
16276.2(25)	$\langle 91^+ \rangle$							100	
16767.3(25)	$\langle 93^- \rangle$								100

Energy levels and branching ratios [94Sh13].

 $^{168}_{70}\text{Yb}$

E^* [keV]	J^π	L (p,t)	σ (p,t)	σ (d,d')	R (d,d')	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
			$\mu\text{b/sr}$	$\mu\text{b/sr}$				$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	87.7 2 ⁺	286 4 ⁺	585 6 ⁺	0.0+Y $\langle 15 \rangle$
0.0	0 ⁺	0	938(11)	13000		Stable	73Oo01						
87.73(1)	2 ⁺	2	362(7)	3090	2.0	1.47(3) ns	73Oo01		100				
286.551(21)	4 ⁺	4	93.2(39)	69	0.9		73Oo01			100			
585.25(5)	6 ⁺	$\langle 6 \rangle$	10.8(7)	7.9	0.6		73Oo01				100		
0.0+Y	$\langle 15 \rangle$												
0.0+Z	$\langle 20 \rangle$												
970.02(11)	8 ⁺											100	
983.85(5)	2 ⁺	2	45.8(17)	54	2.3	1.03(10) ps	73Oo01		43(7)	56	2(2)		
1066.95(5)	$\langle 3 \rangle^+$		4.3(5)				73Oo01			84(14)	15.6(19)		
1098(5)			5.6(8)				73Oo01						
1154(1)	$\langle 0^+ \rangle$			3.1	1.1		67Bu21	x	x				
1161(7)			3.1(11)				73Oo01						
1171.20(6)	$\langle 4^+ \rangle$	$\langle 4 \rangle$	14.4(10)	27	0.7		73Oo01			28(3)	72(7)		
1197(7)	0 ⁺		19.7(12)			1.3(3) ns	73Oo01	x					
1231(5)			7.8(5)				73Oo01						
0.0+X	$\langle 13 \rangle$												
1233.18(13)	2 ⁺			8.3	3.9		67Bu21	x	x				
1277(5)	$\langle 2^+ \rangle$	$\langle 2 \rangle$	20.1(16)				73Oo01						
1302.30(8)	$\langle 5^+ \rangle$										85(15)	15(15)	
1340(7)	$\langle 0^+ \rangle$	$\langle 0 \rangle$	2.8(6)				73Oo01						
1391.1(3)	4 ⁺			7.7	0.9		67Bu21			50(33)	50(33)	<100	
560.4+Y	$\langle 17 \rangle$												100
1425.41(22)	10 ⁺												
1433(6)				3.0	0.9		67Bu21						
1445.11(9)	$\langle 6 \rangle^+$										21(3)	79(12)	
1451.67(5)	$\langle 3 \rangle^+$		24.2(12)				73Oo01			64(10)	18(5)		
625.7+Z	$\langle 22 \rangle$												
1479.71(14)	3 ⁻			65	1.3		67Bu21			35(12)	29(12)		
1480(5)	$\langle 4^+ \rangle$	$\langle 4 \rangle$		incl			73Oo01						

(continued)

¹⁶⁸₇₀Yb

E^* [keV]	J^π	L (p,t)	σ (p,t)	σ (d,d')	R (d,d')	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
			$\mu\text{b/sr}$	$\mu\text{b/sr}$				E_f^* : 0.0 J_f^π : 0 ⁺	87.7 2 ⁺	286 4 ⁺	585 6 ⁺	0.0+Y <15>
1543(5)	0 ⁺	0	26.5(19)	12	0.9	≤ 1.1 ns	73Oo01	x				
1551.21(5)	4 ⁺								35(5)	41(7)	11(2)	
1595(6)	3 ⁻											
1597.78(7)				35	1.2		67Bu21		63(21)	37(11)	x	
1600(5)	<2 ⁺ >	<2>	47.0(23)				73Oo01					
1618.6(3)	<7 ⁺ >										x	
1650.48(9)	<2,3,4> ⁻											
1674.12(8)	<5 ⁺ >										x	
1698(5)			10.7(9)				73Oo01					
1725(6)	<4 ⁺ >	<4>	5.7(7)	5.6	0.9		73Oo01					
1770.20(8)	5 ⁻		6.2(7)				73Oo01			61(8)	39(4)	
1793(5)			6.7(6)				73Oo01					
569.1+X	<15>											
1819.18(8)	<6 ⁺ >									11(3)	39(8)	
1842.17(11)	<6 ⁻ >											
1860(6)			16.7(11)	8.0	1.5		73Oo01					
1904(5)	<0 ⁺ >	<0>	37.4(17)				73Oo01					
1936.0(5)	<12 ⁺ >											
1972.7(1)										[100]		
1973(5)	<2 ⁺ >	<2>	9.0(11)	5.9			73Oo01					
1985	<7 ⁺ >											
1993(5)			30.1(20)	3.3			73Oo01					
1998.78(6)	<5> ⁻					81.7(45) ns			≈ 0.8	7(1)		
2002	<9 ⁺ >											
1189.5+Y	<19>											
2056.19(10)	X<+>			13			67Bu21		23(15)			
2092(7)			5.8(11)				73Oo01					
2100	<8 ⁻ >											
2110.6(3)	<5 ⁻ -7 ⁻ >					0.34(6) ns					8.4(18)	
2122(6)			5.2(12)	16			73Oo01					
2135.4(2)	<2 ⁺ ,3,4 ⁺ >							x		28(18)		
1289.2+Z	<24>											
2160(7)	<0 ⁺ >	<0>	12.2(12)				73Oo01					
2173(12)			6.4(15)				73Oo01					
2174	<8 ⁺ >											
2186(7)			7.3(12)				73Oo01					
2203.84(5)	<3,4> ⁺					<0.14 ns			2.9(7)	3(1)		
2222.37(20)						62(8) ns						
2242.93(21)	<3 ⁺ -5 ⁺ >									x		
2274.43(15)	<1,2 ⁺ >							62(25)				
2292(7)			7.7(11)				73Oo01					
2327(7)			6.9(10)				73Oo01					
2360(12)			6.4(12)				73Oo01					
2404.61(6)	3 ⁺											
1186.0+X	<17>											

(continued)

 $^{168}_{70}\text{Yb}$

E^*	J^π	L	σ (p,t)	σ (d,d')	R	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(p,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,d')	Γ_{cm}		$E_{\text{f}}^*:$ $J_{\text{f}}^\pi:$	0.0 0 ⁺	87.7 2 ⁺	286 4 ⁺	585 6 ⁺	0.0+Y ⟨15⟩
2426	⟨10 [−] ⟩												
2427.75(23)	⟨2 ⁺ –4 ⁺ ⟩									19(8)	49(8)		
2442	⟨11 ⁺ ⟩												
2464(12)			8.8(15)				73Oo01						
2488.6(6)	⟨14 ⁺ ⟩												
2500(12)			4.7(15)				73Oo01						
1873.0+Y	⟨21⟩												
2826	⟨12 [−] ⟩												
2846	⟨13 [−] ⟩												
2019.0+Z	⟨26⟩												
2929	⟨13 ⁺ ⟩												
3073.1(7)	⟨16 ⁺ ⟩												
1852.1+X	⟨19⟩												
3296	⟨14 [−] ⟩												
3310	⟨15 [−] ⟩												
3445	⟨15 ⁺ ⟩												
2611.7+Y	⟨23⟩												
2802.1+Z	⟨28⟩												
3686.9(8)	⟨18 ⁺ ⟩												
2568.9+X	⟨21⟩												
3821	⟨17 [−] ⟩												
3829	⟨16 [−] ⟩												
3980	⟨17 ⁺ ⟩												
4134	⟨18 ⁺ ⟩												
4165	⟨17 [−] ⟩												
3407.1+Y	⟨25⟩												
4336.9(8)	⟨20 ⁺ ⟩												
4373	⟨19 [−] ⟩												
4412	⟨18 [−] ⟩												
3644.5+Z	⟨30⟩												
3341.7+X	⟨23⟩												
4578	⟨19 ⁺ ⟩												
4763	⟨19 [−] ⟩												
4786	⟨20 ⁺ ⟩												
4968	⟨21 [−] ⟩												
5032	⟨20 [−] ⟩												
5037	⟨22 ⁺ ⟩												
4260.9+Y	⟨27⟩												
5254	⟨21 ⁺ ⟩												
5400	⟨21 [−] ⟩												
4548.9+Z	⟨32⟩												
4176.9+X	⟨25⟩												
5511	⟨22 ⁺ ⟩												
5612	⟨23 [−] ⟩												
5688	⟨22 [−] ⟩												

(continued)

 $^{168}_{70}\text{Yb}$

E^*	J^π	L	σ (p,t)	σ (d,d')	R	$T_{1/2}$ or Ref.	E_f^* :	Branching ratios in percentage				
[keV]		(p,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,d')	Γ_{cm}	J_f^π :	0.0	87.7	286	585	0.0+Y
								0 ⁺	2 ⁺	4 ⁺	6 ⁺	$\langle 15 \rangle$
5797	$\langle 24^+ \rangle$											
6007	$\langle 23^+ \rangle$											
6080	$\langle 23^- \rangle$											
6276	$\langle 24^+ \rangle$											
6314	$\langle 25^- \rangle$											
5515.4+Z	$\langle 34 \rangle$											
6393	$\langle 24^- \rangle$											
6624	$\langle 26^+ \rangle$											
6810	$\langle 25^- \rangle$											
6833	$\langle 25^+ \rangle$											
7072	$\langle 26^+ \rangle$											
7081	$\langle 27^- \rangle$											
7157	$\langle 26^- \rangle$											
6542+Z	$\langle 36 \rangle$											
7517	$\langle 28^+ \rangle$											
7600	$\langle 27^- \rangle$											
7725	$\langle 27^+ \rangle$											
7912	$\langle 28^+ \rangle$											
7917	$\langle 29^- \rangle$											
7986	$\langle 28^- \rangle$											
8454	$\langle 29^- \rangle$											
8475	$\langle 30^+ \rangle$											
7629+Z	$\langle 38 \rangle$											
8669	$\langle 29^+ \rangle$											
8801	$\langle 30^+ \rangle$											
8825	$\langle 31^- \rangle$											
8881	$\langle 30^- \rangle$											
9372	$\langle 31^- \rangle$											
9495	$\langle 32^+ \rangle$											
8772+Z	$\langle 40 \rangle$											
9748	$\langle 32^+ \rangle$											
9802	$\langle 33^- \rangle$											
9841	$\langle 32^- \rangle$											
10352	$\langle 33^- \rangle$											
10575	$\langle 34^+ \rangle$											
10760	$\langle 34^+ \rangle$											
10848	$\langle 35^- \rangle$											
11388	$\langle 35^- \rangle$											
11701	$\langle 36^+ \rangle$											
11841	$\langle 36^+ \rangle$											
11958	$\langle 37^- \rangle$											
12870	$\langle 38^+ \rangle$											
12985	$\langle 38^+ \rangle$											
13128	$\langle 39^- \rangle$											
14342	$\langle 41^- \rangle$											

(continued)

 $^{168}_{70}\text{Yb}$

E^*	J^π	L	σ (p,t)	σ (d,d')	R	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(p,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,d')	Γ_{cm}		E^*_f :	0.0	87.7	286	585	0.0+Y
								J^π_f :	0 ⁺	2 ⁺	4 ⁺	6 ⁺	$\langle 15 \rangle$

15575	$\langle 43^- \rangle$	73Oo01	73Oo01	67Bu21			Ref.						
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Additional data on this isotope can be found in [04Ga03, 03StZZ, 00Ya22, 93Ol02, 90Li34].

Abundance: 0.13(1) %. σ (d,d') is measured at 125°, $R=(\sigma$ (d,d') at 85°)/(σ (d,d') at 125°) [67Bu21].

9 bands are assigned to excited states of this nucleus in [93Ol02].

Energy levels and branching ratios [94Sh13]. Part 2

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	0.0+Z <20>	970.02 8 ⁺	983.85 2 ⁺	1066.95 <3> ⁺	1171.20 <4> ⁺	0.0+X <13>	1233.18 2 ⁺	1302.30 <5> ⁺	560.4+Y <17>	1425.41 10 ⁺
1425.41(22)	10 ⁺			100								
1451.67(5)	<3> ⁺				18(5)	<10						
625.7+Z	<22>		100									
1479.71(14)	3 ⁻								35(12)			
1551.21(5)	4 ⁺					5(2)	9(5)					
1618.6(3)	<7> ⁺									x		
1650.48(9)	<2,3,4> ⁻					64(9)				≈36		
1674.12(8)	<5> ⁺									x		
569.1+X	<15>							100				
1842.17(11)	<6> ⁻									86(9)		
1936.0(5)	<12> ⁺											100
2002	<9> ⁺			x								
1189.5+Y	<19>										100	
2056.19(10)	X<+>					77(15)						
2135.4(2)	<2 ⁺ ,3,4> ⁺								72(18)			
2203.84(5)	<3,4> ⁺				25(3)	29(3)	26(3)					
2242.93(21)	<3 ⁺ -5> ⁺						x					
2274.43(15)	<1,2> ⁺				25(25)							
2404.61(6)	3 ⁺				45(4)	18(3)	<14					
2427.75(23)	<2 ⁺ -4> ⁺					8(5)	24(5)					
2442	<11> ⁺											x

Energy levels and branching ratios [94Sh13]. Part 3

¹⁶⁸₇₀Yb

E^*	J^π	Branching ratios in percentage										
[keV]		E^*_f : J^π_f :	1445.11 $\langle 6 \rangle^+$	1451.67 $\langle 3 \rangle^+$	625.7+Z $\langle 22 \rangle$	1551.21 4^+	1597.78 $\langle 7^+ \rangle$	1618.6 $\langle 7^+ \rangle$	1650.48 $\langle 5^+ \rangle$	1674.12 $\langle 5^+ \rangle$	1770.20 5^-	569.1+X $\langle 15 \rangle$
1551.21(5)	4^+			x								
1674.12(8)	$\langle 5^+ \rangle$			[39]		[61]						
1819.18(8)	$\langle 6^+ \rangle$		17(3)			17(4)				17(3)		
1842.17(11)	$\langle 6^- \rangle$		14(3)									
1985	$\langle 7^+ \rangle$									61		
1998.78(6)	$\langle 5 \rangle^-$						11(1)		≈ 19	12(1)	28(3)	
2002	$\langle 9^+ \rangle$							x				
2100	$\langle 8^- \rangle$							x				
1289.2+Z	$\langle 24 \rangle$				100							
2203.84(5)	$\langle 3,4 \rangle^+$			5(1)		4.1(7)	2.9(7)					
2404.61(6)	3^+					21(3)	<4			8(2)		
1186.0+X	$\langle 17 \rangle$											100

Energy levels and branching ratios [94Sh13]. Part 4

¹⁶⁸₇₀Yb

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	1819.18 $\langle 6^+ \rangle$	1842.17 $\langle 6^- \rangle$	1936.0 $\langle 12^+ \rangle$	1985 $\langle 7^+ \rangle$	1998.78 $\langle 5 \rangle^-$	2002 $\langle 9^+ \rangle$	1190+Y $\langle 19 \rangle$	2056.19 $X^{(+)}$	2100 $\langle 8^- \rangle$	2110.57
1985	$\langle 7^+ \rangle$		39									
1998.78(6)	$\langle 5 \rangle^-$		10(1)	13(2)								
2100	$\langle 8^- \rangle$			x								
2110.6(3)	$\langle 5^- - 7^- \rangle$						≈ 92					
2174	$\langle 8^+ \rangle$					100						
2203.84(5)	$\langle 3,4 \rangle^+$									1.9(6)		
2222.37(20)							≤ 82					[100]
2404.61(6)	3^+									6(2)		
2426	$\langle 10^- \rangle$							40			60	
2442	$\langle 11^+ \rangle$							x				
2488.6(6)	$\langle 14^+ \rangle$				100							
1873.0+Y	$\langle 21 \rangle$								100			
2846	$\langle 13^- \rangle$				100							
2929	$\langle 13^+ \rangle$				x							

Energy levels and branching ratios [94Sh13]. Part 5

 $^{168}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	1289+Z (24)	2203.84 (3,4) ⁺	2274.43 (1,2 ⁺)	1186+X (17)	2427.75	2442 (11 ⁺)	2488.6 (14 ⁺)	1873+Y (21)	2826 (12 ⁻)	2846 (13 ⁻)
2274.43(15)	(1,2 ⁺)			12(12)								
2404.61(6)	3 ⁺				3(1)							
2826	(12 ⁻)						100					
2019.0+Z	(26)	100										
2929	(13 ⁺)							x				
3073.1(7)	(16 ⁺)								100			
1852.1+X	(19)					100						
3296	(14 ⁻)									100		
3310	(15 ⁻)								x			x
2611.7+Y	(23)									100		

Energy levels and branching ratios [94Sh13]. Part 6

 $^{168}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	2019+Z (26)	2929 (13 ⁺)	3073.1 (16 ⁺)	1852+X (19)	3296 (14 ⁻)	3310 (15 ⁻)	3445 (15 ⁺)	2612+Y (23)	2802+Z (28)	3686.9 (18 ⁺)
3445	(15 ⁺)			100								
2802.1+Z	(28)	100										
3686.9(8)	(18 ⁺)				100							
2568.9+X	(21)					100						
3821	(17 ⁻)				x			x				
3829	(16 ⁻)						100					
3980	(17 ⁺)								100			
4134	(18 ⁺)				x							x
4165	(17 ⁻)				100							
3407.1+Y	(25)									100		
4336.9(8)	(20 ⁺)											100
4373	(19 ⁻)											x
3644.5+Z	(30)										100	
4763	(19 ⁻)											x
4786	(20 ⁺)											x

Energy levels and branching ratios [94Sh13]. Part 7

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
		E_f^* :	2569+X	3821	3829	3980	4134	4165	3407+Y	4336.9	4373	4412
[keV]		J_f^π :	$\langle 21 \rangle$	$\langle 17^- \rangle$	$\langle 16^- \rangle$	$\langle 17^+ \rangle$	$\langle 18^+ \rangle$	$\langle 17^- \rangle$	$\langle 25 \rangle$	$\langle 20^+ \rangle$	$\langle 19^- \rangle$	$\langle 18^- \rangle$
4373	$\langle 19^- \rangle$			x								
4412	$\langle 18^- \rangle$				100							

(continued)

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2569+X	3821	3829	3980	4134	4165	3407+Y	4336.9	4373	4412
			$\langle 21 \rangle$	$\langle 17^- \rangle$	$\langle 16^- \rangle$	$\langle 17^+ \rangle$	$\langle 18^+ \rangle$	$\langle 17^- \rangle$	$\langle 25 \rangle$	$\langle 20^+ \rangle$	$\langle 19^- \rangle$	$\langle 18^- \rangle$
3341.7+X	$\langle 23 \rangle$		100									
4578	$\langle 19^+ \rangle$					100						
4763	$\langle 19^- \rangle$							x				
4786	$\langle 20^+ \rangle$						x			x		
4968	$\langle 21^- \rangle$									32	68	
5032	$\langle 20^- \rangle$											100
5037	$\langle 22^+ \rangle$									100		
4260.9+Y	$\langle 27 \rangle$								100			
5400	$\langle 21^- \rangle$									x		
5511	$\langle 22^+ \rangle$									x		

Energy levels and branching ratios [94Sh13]. Part 8

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	3645+Z ⟨30⟩	3342+X ⟨23⟩	4578 ⟨19 ⁺ ⟩	4763 ⟨19 ⁻ ⟩	4786 ⟨20 ⁺ ⟩	4968 ⟨21 ⁻ ⟩	5032 ⟨20 ⁻ ⟩	5037 ⟨22 ⁺ ⟩	5254 ⟨21 ⁺ ⟩	5400 ⟨21 ⁻ ⟩
5254	⟨21 ⁺ ⟩				100							
5400	⟨21 ⁻ ⟩					x						
4548.9+Z	⟨32⟩		100									
4176.9+X	⟨25⟩			100								
5511	⟨22 ⁺ ⟩						x					
5612	⟨23 ⁻ ⟩							100				
5688	⟨22 ⁻ ⟩								100			
5797	⟨24 ⁺ ⟩									100		
6007	⟨23 ⁺ ⟩										100	
6080	⟨23 ⁻ ⟩											100

Energy levels and branching ratios [94Sh13]. Part 9

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	4549+Z $\langle 32 \rangle$	5511 $\langle 22^+ \rangle$	5612 $\langle 23^- \rangle$	5688 $\langle 22^- \rangle$	5797 $\langle 24^+ \rangle$	6007 $\langle 23^+ \rangle$	6080 $\langle 23^- \rangle$	6276 $\langle 24^+ \rangle$	6314 $\langle 25^- \rangle$	5515+Z $\langle 34 \rangle$
6276	$\langle 24^+ \rangle$			100								
6314	$\langle 25^- \rangle$				100							
5515.4+Z	$\langle 34 \rangle$		100									
6393	$\langle 24^- \rangle$					100						
6624	$\langle 26^+ \rangle$						100					
6810	$\langle 25^- \rangle$									100		
6833	$\langle 25^+ \rangle$							100				

(continued)

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
		E_f^* :	4549+Z	5511	5612	5688	5797	6007	6080	6276	6314	5515+Z
[keV]		J_f^π :	$\langle 32 \rangle$	$\langle 22^+ \rangle$	$\langle 23^- \rangle$	$\langle 22^- \rangle$	$\langle 24^+ \rangle$	$\langle 23^+ \rangle$	$\langle 23^- \rangle$	$\langle 24^+ \rangle$	$\langle 25^- \rangle$	$\langle 34 \rangle$
7072	$\langle 26^+ \rangle$									100		
7081	$\langle 27^- \rangle$										100	
6542+Z	$\langle 36 \rangle$											100

Energy levels and branching ratios [94Sh13]. Part 10

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E^*_f : J^π_f :	6393 ⟨24 ⁻ ⟩	6624 ⟨26 ⁺ ⟩	6810 ⟨25 ⁻ ⟩	6833 ⟨25 ⁺ ⟩	7072 ⟨26 ⁺ ⟩	7081 ⟨27 ⁻ ⟩	7157 ⟨26 ⁻ ⟩	6542+Z ⟨36⟩	7517 ⟨28 ⁺ ⟩	7600 ⟨27 ⁻ ⟩
7157	⟨26 ⁻ ⟩		100									
7517	⟨28 ⁺ ⟩			100								
7600	⟨27 ⁻ ⟩				100							
7725	⟨27 ⁺ ⟩					100						
7912	⟨28 ⁺ ⟩						100					
7917	⟨29 ⁻ ⟩							100				
7986	⟨28 ⁻ ⟩								100			
8454	⟨29 ⁻ ⟩											100
8475	⟨30 ⁺ ⟩										100	
7629+Z	⟨38⟩									100		

Energy levels and branching ratios [94Sh13]. Part 11

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E^*_f : J^π_f :	7725 ⟨27 ⁺ ⟩	7912 ⟨28 ⁺ ⟩	7917 ⟨29 ⁻ ⟩	7986 ⟨28 ⁻ ⟩	8454 ⟨29 ⁻ ⟩	8475 ⟨30 ⁺ ⟩	7629+Z ⟨38⟩	8801 ⟨30 ⁺ ⟩	8825 ⟨31 ⁻ ⟩	8881 ⟨30 ⁻ ⟩
8669	⟨29 ⁺ ⟩		100									
8801	⟨30 ⁺ ⟩			100								
8825	⟨31 ⁻ ⟩				100							
8881	⟨30 ⁻ ⟩					100						
9372	⟨31 ⁻ ⟩						100					
9495	⟨32 ⁺ ⟩							100				
8772+Z	⟨40⟩								100			
9748	⟨32 ⁺ ⟩									100		
9802	⟨33 ⁻ ⟩										100	
9841	⟨32 ⁻ ⟩											100

Energy levels and branching ratios [94Sh13]. Part 12

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
		$E^*_\text{f}:$	9372	9495	9748	9802	10352	10575	10760	10848	11701	11841
[keV]		$J^\pi_\text{f}:$	$\langle 31^- \rangle$	$\langle 32^+ \rangle$	$\langle 32^+ \rangle$	$\langle 33^- \rangle$	$\langle 33^- \rangle$	$\langle 34^+ \rangle$	$\langle 34^+ \rangle$	$\langle 35^- \rangle$	$\langle 36^+ \rangle$	$\langle 36^+ \rangle$
10352	$\langle 33^- \rangle$		100									
10575	$\langle 34^+ \rangle$			100								
10760	$\langle 34^+ \rangle$				100							
10848	$\langle 35^- \rangle$					100						
11388	$\langle 35^- \rangle$						100					
11701	$\langle 36^+ \rangle$							100				
11841	$\langle 36^+ \rangle$								100			
11958	$\langle 37^- \rangle$									100		
12870	$\langle 38^+ \rangle$										100	
12985	$\langle 38^+ \rangle$											100

Energy levels and branching ratios [94Sh13]. Part 13

 $^{168}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage			
[keV]		$E_f^*:$	11958	13128	14342
		$J_f^\pi:$	$\langle 37^- \rangle$	$\langle 39^- \rangle$	$\langle 41^- \rangle$
13128	$\langle 39^- \rangle$		100		
14342	$\langle 41^- \rangle$			100	
15575	$\langle 43^- \rangle$				100

Energy levels and branching ratios [91Sh18].

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	L (d,p)	$d\sigma/d\Omega$ $\mu\text{b/sr}$	L (d,t)	$d\sigma/d\Omega$ $\mu\text{b/sr}$	L (p,t)	σ (p,t) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
										$E_f^*:$ $2J_f^\pi:$	0.0 7 ⁺	24.1 1 ⁻	70.8 9 ⁺	86.9 3 ⁻	99.2 5 ⁻
0.0	7 ⁺		≈1*					32.03 d							
24.199(3)	1 ⁻		238		155*	0	349(5)	46 s	73Oo01	100					
70.882(2)	9 ⁺		≈13		22		6.4(15)		73Oo01	100					
86.918(3)	3 ⁻		63		8	2	43.1(57)		73Oo01			100			
99.240(3)	5 ⁻		incl		26	2	130(8)		73Oo01			94		5.7	
161.651(2)	11 ⁺									23.4			76.6		
191.214(2)	5 ⁻						1.6(3)	3.35 ns	73Oo01	94.9	0.08			2.22	2.77
243.816(3)	7 ⁻		99		48	⟨4⟩	11.5(16)		73Oo01					71.3	28.7
264.253(3)	9 ⁻		300		26	4	27.6(29)		73Oo01						99.6
269.655(3)	13 ⁺		incl		incl									34	
278.597(2)	7 ⁻				65					4.2			13.9		1.41
389.527(2)	9 ⁻		7							5.0			3.03		
405.0(3)	15 ⁺														
486.944(4)	⟨11 ⁻ ⟩		3				1.7(2)		73Oo01						

(continued)

¹⁶⁹Yb
70

E^* [keV]	$2J^\pi$	L (d,p)	$d\sigma/d\Omega$ $\mu\text{b/sr}$	L (d,t)	$d\sigma/d\Omega$ $\mu\text{b/sr}$	L (p,t)	σ (p,t) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
										E_f^* :	0.0	24.1	70.8	86.9	99.2
										$2J_f^\pi$:	7 ⁺	1 ⁻	9 ⁺	3 ⁻	5 ⁻
512.020(19)	$\langle 13 \rangle^-$						3.5(4)		73Oo01						
523.071(4)	11 ⁻		5												
547.1(3)	17 ⁺														
569.830(4)	5 ⁻		5		20		10.4(8)		73Oo01	5.0				5.0	3.6
590.687(10)	$\langle 5 \rangle^+$				11					97			2.6		
647.286(12)	7 ⁺		53		13					30			68		
647.836(4)	7 ⁻				incl										14.3
659.627(9)	3 ⁻				80		33.4(10)		73Oo01					[81]	[19]
677.105(8)	13 ⁻														
707.19(3)	9 ⁺		9		30								57		
719.911(16)	3 ⁺				12					100					
722.278(12)	5 ⁻														[86]
736.3(3)	19 ⁺														
748.956(25)	$\langle 9 \rangle^-$		≈ 6		22		5.5(6)		73Oo01						5.1
761.843(12)	$\langle 5 \rangle^+$									52			48		
807.056(14)	$\langle 7 \rangle^-$		43		100		17.3(7)		73Oo01						41
807.6(5)	$\langle 15 \rangle^-$														
813.329(17)	$\langle 1 \rangle^-$													55	
832.05(3)	$\langle 7 \rangle^+$									16			58		
833.8(3)	$\langle 17 \rangle^-$														
851.40(2)	3 ⁻		236		≈ 15							66		21	10.0
851.5(3)	15 ⁻														
871	$\langle 11 \rangle^-$				31										
877(3)	$\langle 13 \rangle^+$		≈ 9		incl										
886.81(4)	9 ⁺												39		
903.0(3)	21 ⁺														
911.671(18)	$\langle 5 \rangle^-$		70											20	12
919.887(13)	$\langle 9 \rangle^-$				22										
929.06(6)	11 ⁻														
960.627(17)	7 ⁻		76							81			18.6		
996.60(4)	$\langle 7 \rangle^-$		21												99
1033.90(1)	1,3		19		110		9.7(5)		73Oo01			67		15	8.6
1042.7(4)	$\langle 17 \rangle^-$														
1064.88(3)			≈ 18		17					73					
1070.69(3)	$\langle 7 \rangle^+$		≈ 8		8					35			37		
1078.35(2)	9 ⁻				incl					28.6			48.2		
1110.72(2)	3 ⁻ , 5 ⁻		44		105	2	6.1(4)		73Oo01			47		52	
1134(3)			8		8										
1157.4(7)	23 ⁺														
1160.4(8)	1,3														
1167.63(2)	$\langle 7,9 \rangle^-$		11		≈ 6		4.9(5)		73Oo01						68
1177.01(8)	7 ⁺ , 9 ⁺		≈ 2							<92			100		
1198(3)			9		21										
1198.7(9)	$\langle 19 \rangle^-$														
1202.9(8)	1,3														

(continued)

 ^{169}Yb
70

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	L	$d\sigma/d\Omega$	L	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(d,p)	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* :	0.0	24.1	70.8	86.9	99.2
										$2J_{\text{f}}^\pi$:	7^+	1^-	9^+	3^-	5^-
1218.0(5)	$\langle 21^- \rangle$														
1224.1(12)	1,3		13		11										
1233.6(12)	1,3														
1250.5(5)	$\langle 19^- \rangle$														
1270.75(2)	$\langle 1 \rangle^-$											33		46	
1283.23(18)	7^-		173		≈ 9					78			17.6		
1296.65(3)	$3^- - 7^-$													26	48
1319.83(2)	$\langle 1 \rangle^-$		≈ 20		18						50			50	
1335.6(5)	$\langle 25 \rangle^+$														
1343.65(5)	7^-									9.6			45		4.9
1350.165(21)	$\langle 3^- \rangle$		171		≈ 14		27.8(11)		73Oo01		27			60	
1354.852(21)	$\langle 3^- \rangle$				incl		incl		73Oo01						
1395.407(21)	$\langle 5^- \rangle$		68		20										
1398.64(8)	$\langle 3 \rangle^-$										50				
1406.33(5)	9^-									46					23
1420.39(16)															
1426.81(8)	$7^-, 9^-$		≈ 4		5		10.8(7)		73Oo01						
1444.73(6)	$7^-, 9^-$														
1449.781(19)	7^-									57.4		12			1.12
1463.40(3)	7^-		≈ 61		16		2.0(14)		73Oo01	27.1					
1465.03(4)	$\langle 7 \rangle^-$						incl		73Oo01						
1478.61(9)	1,3		≈ 40											66	
1510.2(8)	1^-					0	5.3(11)		73Oo01						
1524.4(7)	1,3		73												
1531.58(9)	1,3						9.8(8)		73Oo01					18	80
1540.69(4)	9^-									6					
1554.73(2)	$\langle 1^- \rangle$		≈ 88								62			17	
1554.87(3)	9^-									<6.8					
1565.61(6)	$\langle 7^- \rangle$		≈ 21												
1585.91(3)	$\langle 1^- \rangle$					$\langle 0 \rangle$	20.2(15)		73Oo01						
1607(6)			≈ 50												
1618.95(3)	1,3						9.3(9)		73Oo01		77				
1640(6)			238												
1650.5(9)	$\langle 23^- \rangle$														
1655.5(6)	$\langle 25^- \rangle$														
1656.51(5)	$5^-, 7^-$														12
1658.05(8)	5^+									15.0					
1666.5(7)	$\langle 27^+ \rangle$														
1689.00(19)	$5^-, 7^-$		334							22					
1689.35(4)	7^-		incl							30			40.5		
1694.43(7)	5^+									32				51	17
1696.53(7)	3^-														
1707.79(9)	$\langle 7^+, 9^+ \rangle$									49			51		
1708.52(5)	7^-														
1716.06(9)	7^+						7.4(12)		73Oo01				4.4		

(continued)

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	L (d,p)	$d\sigma/d\Omega$ $\mu\text{b/sr}$	L (d,t)	$d\sigma/d\Omega$ $\mu\text{b/sr}$	L (p,t)	σ (p,t) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
										E^*_f :	0.0	24.1	70.8	86.9	99.2
										$2J^\pi_f$:	7^+	1^-	9^+	3^-	5^-
1724.4(7)	1,3														
1733(6)			≈ 61												
1740(5)	$\langle 1^- \rangle$					$\langle 0 \rangle$	14.0(9)		73Oo01						
1745.5(7)	1,3														
1757.8(8)	1,3														
1767(6)			≈ 150												
1781.77(3)	7^-						13.5(11)		73Oo01	26.4					8.2
1787.8(7)	1,3						incl		73Oo01						
1797.9(7)	1,3														
1829.3(8)	1,3														
1838.0(6)	1,3														
1844.0(8)	$\langle 29^+ \rangle$														
1857.9(8)	1,3														
1869.5(12)	1,3														
1888.00(7)	$\langle 7^+, 9^+ \rangle$												8.7		
1894.5(7)	1,3														
1908.66(4)	5^+									3.6					
1911.4(10)	1,3														
1921.0(8)	1,3														
1939.5(6)	1,3						10.7(13)		73Oo01						
1954.55(5)	$5^-, 7^-$									7.1					
1972.23(7)	9^-						9.7(14)		73Oo01						
1974.14(4)	7^-									25			6.4		
1998.9(6)	1,3						4.7(13)		73Oo01						
2030.04(6)	7^-									57			23.3		
2038.2(7)	1,3														
2048.7(11)	1,3						10.4(8)		73Oo01						
2104.1(6)	1,3														
2123.7(12)	1,3						9.0(11)		73Oo01						
2140.2(7)	$\langle 29^- \rangle$														
2193.4(9)	1,3														
2218(1)	1,3														
2235.0(8)	1,3														
2245.0(6)	1,3														
2258(3)	$\langle 31^+ \rangle$														
2286.7(12)	1,3						6.3(15)		73Oo01						
2299.6(8)	1,3														
2314.1(6)	1,3														
2342.9(8)	1,3														
2350.6(7)	1,3														
2356.1(7)	1,3														
2376.4(10)	1,3														
2381.9(10)	1,3														
2388.5(8)	1,3														
2401.5(8)	1,3														

(continued)

 $^{169}_{70}\text{Yb}$

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	L	$d\sigma/d\Omega$	L	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(d,p)	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	Γ_{cm}		E^*_f :	0.0	24.1	70.8	86.9	99.2
										$2J^\pi_f$:	7 ⁺	1 ⁻	9 ⁺	3 ⁻	5 ⁻
2407.9(8)	1,3														
2415.9(8)	1,3														
2425.5(10)	$\langle 33^+ \rangle$														
2668.0(8)	$\langle 33^- \rangle$														
2929(4)	$\langle 35^+ \rangle$														
3074.6(11)	$\langle 37^+ \rangle$														
3238.6(8)	$\langle 37^- \rangle$														
3588(4)	$\langle 39^+ \rangle$														
3781.6(13)	$\langle 41^+ \rangle$														
3856.1(9)	$\langle 41^- \rangle$														
4330(5)	$\langle 43^+ \rangle$														
4523.8(14)	$\langle 45^+ \rangle$														
4526.9(11)	$\langle 45^- \rangle$														
5116(5)	$\langle 47^+ \rangle$														
5256.5(11)	$\langle 49^- \rangle$														
5271.9(15)	$\langle 49^+ \rangle$														
6045.6(16)	$\langle 53^+ \rangle$														
6048.3(11)	$\langle 53^- \rangle$														
6875(3)	$\langle 57^+ \rangle$														
6903.6(12)	$\langle 57^- \rangle$														
7771(4)	$\langle 61^+ \rangle$														
7823.3(12)	$\langle 61^- \rangle$														
8806.6(13)	$\langle 65^- \rangle$														
9854.1(14)	$\langle 69^- \rangle$														
10961(3)	$\langle 73^- \rangle$														
			66Bu16		66Bu16		73Oo01		Ref.						

Additional data on this isotope can be found in [92Dr03].

* Differential cross sections of the (d,t) and (d,p) reactions were measured at different angles [66Bu16], data are presented for 90° and 56°, respectively.

Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [91Sh18]. Part 2

 $^{169}_{70}\text{Yb}$

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E^*_f :	161.6	191.2	243.8	264.253	269.655	278.597	389.527	405.0	486.944	512.020
		$2J^\pi_f$:	11 ⁺	5 [−]	7 [−]	9 [−]	13 ⁺	7 [−]	9 [−]	15 ⁺	⟨11 [−] ⟩	⟨13 [−] ⟩
264.253(3)	9 [−]				0.42(7)							
269.655(3)	13 ⁺		66(11)									
278.597(2)	7 [−]			79.8(14)	≈0.6	x						
389.527(2)	9 [−]		7.4(8)	25.6(8)				59.0(14)				
405.0(3)	15 ⁺		67(7)				33(3)					
486.944(4)	⟨11 [−] ⟩				84(9)	15.7(21)						

(continued)

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	161.6 11 ⁺	191.2 5 ⁻	243.8 7 ⁻	264.253 9 ⁻	269.655 13 ⁺	278.597 7 ⁻	389.527 9 ⁻	405.0 15 ⁺	486.944 <11 ⁻ >	512.020 <13 ⁻ >
512.020(19)	<13 ⁻ >					100						
523.071(4)	11 ⁻							47(5)	53(2)			
547.1(3)	17 ⁺						78(8)			22(2)		
569.830(4)	5 ⁻			71.0(18)	0.47(6)			14.9(5)				
647.286(12)	7 ⁺	1.4(2)										
647.836(4)	7 ⁻			29(1)	5.0(3)	3.3(3)		34.3(9)	13.9(5)			
677.105(8)	13 ⁻								76(11)			
707.19(3)	9 ⁺	43(3)										
722.278(12)	5 ⁻			[1.7]	[11.2]			[1.28]				
736.3(3)	19 ⁺									76(8)		
748.956(25)	<9 ⁻ >				21(9)	14.8(6)		40(5)	15.0(8)			
807.056(14)	<7 ⁻ >				47(3)	12(3)						
807.6(5)	<15 ⁻ >										100	
813.329(17)	<1 ⁻ >			45(6)								
832.05(3)	<7 ⁺ >	27(3)										
833.8(3)	<17 ⁻ >											100
851.40(2)	3 ⁻			<45	3.3(5)							
886.81(4)	9 ⁺	61(3)										
911.671(18)	<5 ⁻ >				32(4)			35(5)				
919.887(13)	<9 ⁻ >				22(2)	48(5)			19(5)			
929.06(6)	11 ⁻	79(6)					x		21(3)			
960.627(17)	7 ⁻							0.07(3)				
996.60(4)	<7 ⁻ >			<6.3								
1070.69(3)	<7 ⁺ >	11(1)										
1078.35(2)	9 ⁻	23.2(7)										
1167.63(2)	<7,9 ⁻ >					9(3)						
1177.01(8)	7 ⁺ , 9 ⁺	x										
1296.65(3)	3 ⁻ , 7 ⁻			16(3)				10(2)				
1343.65(5)	7 ⁻				4.2(4)			31(3)				
1354.852(21)	<3 ⁻ >			60(12)								
1395.407(21)	<5 ⁻ >				53(9)	35(16)						
1398.64(8)	<3 ⁻ >			43(9)								
1406.33(5)	9 ⁻			22(2)	<37	8.5(11)						
1420.39(16)						[100]						
1426.81(8)	7 ⁻ , 9 ⁻					<98		29(16)	26(13)		<64	
1444.73(6)	7 ⁻ , 9 ⁻				x	70(8)						
1449.781(19)	7 ⁻			2.05(5)	2.9(2)			4.6(2)	11.0(3)			
1463.40(3)	7 ⁻				5.4(7)	4.0(3)		40(2)	20(1)			
1465.03(4)	<7 ⁻ >				80(12)	16(5)						
1540.69(4)	9 ⁻				25(2)	<26			31(4)			
1554.87(3)	9 ⁻			4.4(6)	4.1(7)	72(4)		<11.1	10.8(7)			
1565.61(6)	<7 ⁻ >			58(2)	<21	42(2)						
1656.51(5)	5 ⁻ , 7 ⁻				24(3)	22			28(5)			
1658.05(8)	5 ⁺			63(2)				20				
1689.00(19)	5 ⁻ , 7 ⁻			30(9)				46(23)				

(continued)

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	161.6 11 ⁺	191.2 5 ⁻	243.8 7 ⁻	264.253 9 ⁻	269.655 13 ⁺	278.597 7 ⁻	389.527 9 ⁻	405.0 15 ⁺	486.944 ⟨11 ⁻ ⟩	512.020 ⟨13 ⁻ ⟩
1689.35(4)	7 ⁻			16.0(6)								
1696.53(7)	3 ⁻			90(18)								
1708.52(5)	7 ⁻			64(4)				36(2)	<15.0			
1716.06(9)	7 ⁺	<6		28(1)				35(1)	33			
1781.77(3)	7 ⁻			13.5(5)				6.0(3)	34			
1888.00(7)	⟨7 ⁺ ,9 ⁺ ⟩	16(2)										
1908.66(4)	5 ⁺			4.9(4)				2.9(5)				
1954.55(5)	5 ⁻ ,7 ⁻			30(2)				14.6(7)				
1972.23(7)	9 ⁻	6.1(11)				56						
1974.14(4)	7 ⁻				2(1)	25(6)					3.2(4)	
2030.04(6)	7 ⁻			3.0(2)				1.1(3)				

Energy levels and branching ratios [91Sh18]. Part 3

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	523.071 11 ⁻	547.1 17 ⁺	569.830 5 ⁻	590.687 ⟨5 ⁺ ⟩	647.286 7 ⁺	647.836 7 ⁻	659.627 3 ⁻	677.105 13 ⁻	707.19 9 ⁺	719.911 3 ⁺
659.627(9)	3 ⁻				[0.12]							
677.105(8)	13 ⁻	24(13)										
719.911(16)	3 ⁺					0.035(6)						
736.3(3)	19 ⁺			24(2)								
748.956(25)	⟨9 ⁻ ⟩	4.5(4)										
761.843(12)	⟨5 ⁺ ⟩					0.07(2)						
813.329(17)	⟨1 ⁻ ⟩								0.05(3)			
851.5(3)	15 ⁻	75(15)								25(5)		
903.0(3)	21 ⁺			86(9)								
919.887(13)	⟨9 ⁻ ⟩							8(1)				
929.06(6)	11 ⁻	<9.8										
996.60(4)	⟨7 ⁻ ⟩							0.91(25)				
1033.90(1)	1,3								6.7(8)			
1042.7(4)	⟨17 ⁻ ⟩									x		
1064.88(3)						8.6(16)	8(3)				10(2)	
1070.69(3)	⟨7 ⁺ ⟩					14(1)	2.5(3)					
1110.72(2)	3 ⁻ ,5 ⁻								0.7(2)			
1167.63(2)	⟨7,9 ⁻ ⟩							10.7(14)				
1319.83(2)	⟨1 ⁻ ⟩								<45			
1354.852(21)	⟨3 ⁻ ⟩											14(4)
1398.64(8)	⟨3 ⁻ ⟩								3.6(6)			1.5(12)
1426.81(8)	7 ⁻ ,9 ⁻			19(11)								
1444.73(6)	7 ⁻ ,9 ⁻							30(6)				
1449.781(19)	7 ⁻	0.14(7)		1.97(11)			1.53(12)					
1463.40(3)	7 ⁻	<2										

(continued)

 $^{169}_{70}\text{Yb}$

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	523.071	547.1	569.830	590.687	647.286	647.836	659.627	677.105	707.19	719.911
			11 [−]	17 ⁺	5 [−]	$\langle 5 \rangle^+$	7 ⁺	7 [−]	3 [−]	13 [−]	9 ⁺	3 ⁺
1478.61(9)	1,3											11(3)
1540.69(4)	9 [−]		39(3)									
1554.87(3)	9 [−]		8.3(4)									
1585.91(3)	$\langle 1^− \rangle$								60(9)			
1658.05(8)	5 ⁺				1.9(3)							
1908.66(4)	5 ⁺				71(2)	<5.6		14.0(9)				
1974.14(4)	7 [−]						10					

Energy levels and branching ratios [91Sh18]. Part 4

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	722.278 5 ⁻	736.3 19 ⁺	748.956 $\langle 9 \rangle^-$	761.843 $\langle 5 \rangle^+$	807.056 $\langle 7 \rangle^-$	807.6 $\langle 15^- \rangle$	813.329 $\langle 1 \rangle^-$	832.05 $\langle 7 \rangle^+$	833.8 $\langle 17^- \rangle$	851.40 3 ⁻
903.0(3)	21 ⁺			14(3)								
919.887(13)	$\langle 9 \rangle^-$		2.5(3)									
1033.90(1)	1,3		2.8(3)									
1110.72(2)	3 ⁻ , 5 ⁻								0.33(6)			
1157.4(7)	23 ⁺			81(8)								
1198.7(9)	$\langle 19^- \rangle$							100				
1218.0(5)	$\langle 21^- \rangle$										100	
1250.5(5)	$\langle 19^- \rangle$											61(12)
1270.75(2)	$\langle 1 \rangle^-$								3.9(6)			16(2)
1283.23(18)	7 ⁻		3.6(2)				1.1(2)					
1319.83(2)	$\langle 1 \rangle^-$											<5.7
1350.165(21)	$\langle 3^- \rangle$		11.8(14)									1.3(2)
1354.852(21)	$\langle 3^- \rangle$		10(2)									
1395.407(21)	$\langle 5^- \rangle$						11(2)					
1398.64(8)	$\langle 3 \rangle^-$											1.3(3)
1406.33(5)	9 ⁻				<39							
1449.781(19)	7 ⁻				0.34(7)	1.56(8)	0.33(5)			1.37(11)		
1478.61(9)	1,3		17(3)									
1554.73(2)	$\langle 1^- \rangle$								9(2)			12(2)
1618.95(3)	1,3								<3.5			
1656.51(5)	5 ⁻ , 7 ⁻		14(7)									
1696.53(7)	3 ⁻											4.3(10)
1707.79(9)	$\langle 7^+, 9^+ \rangle$									<8		
1888.00(7)	$\langle 7^+, 9^+ \rangle$					x				21(7)		
1908.66(4)	5 ⁺					3.2(6)						
1954.55(5)	5 ⁻ , 7 ⁻									26(3)		
1972.23(7)	9 ⁻				<29							
1974.14(4)	7 ⁻		6(2)									
2030.04(6)	7 ⁻							<10				

Energy levels and branching ratios [91Sh18]. Part 5

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	851.5 15 ⁻	903.0 21 ⁺	911.671 $\langle 5 \rangle^-$	919.887 $\langle 9 \rangle^-$	929.06 11 ⁻	960.627 7 ⁻	996.60 $\langle 7 \rangle^-$	1033.90 1,3	1042.7 $\langle 17^- \rangle$	1070.69 $\langle 7 \rangle^+$
1042.7(4)	$\langle 17^- \rangle$		x									
1157.4(7)	23 ⁺			19(4)								
1167.63(2)	$\langle 7,9 \rangle^-$					12(4)						
1250.5(5)	$\langle 19^- \rangle$										39(8)	
1296.65(3)	3 ⁻ -7 ⁻		0.6(2)									
1335.6(5)	$\langle 25 \rangle^+$			100								
1343.65(5)	7 ⁻				1.8(2)							4(1)
1354.852(21)	$\langle 3^- \rangle$				16(2)							
1426.81(8)	7 ⁻ ,9 ⁻							26(6)				
1449.781(19)	7 ⁻							0.81(10)				
1463.40(3)	7 ⁻							3.0(10)				
1465.03(4)	$\langle 7^- \rangle$				3.5(6)				<10.6			
1478.61(9)	1,3									5.2(10)		
1531.58(9)	1,3									1.3(2)		
1585.91(3)	$\langle 1^- \rangle$				35(6)							
1618.95(3)	1,3		5.2(13)							18(2)		
1689.00(19)	5 ⁻ ,7 ⁻				2.5(4)							
1689.35(4)	7 ⁻							13.9(8)				
1696.53(7)	3 ⁻				5(1)							
1781.77(3)	7 ⁻					<1.0		8.9(3)				
1888.00(7)	$\langle 7^+,9^+ \rangle$											54(2)
1954.55(5)	5 ⁻ ,7 ⁻							9(3)				13(3)
1972.23(7)	9 ⁻						38(3)					
1974.14(4)	7 ⁻							7(1)				
2030.04(6)	7 ⁻					15.6(8)						

Energy levels and branching ratios [91Sh18]. Part 6

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1078.35 9 ⁻	1110.72 3 ⁻ ,5 ⁻	1157.4 23 ⁺	1167.63 $\langle 7,9 \rangle^-$	1198.7 $\langle 19^- \rangle$	1218.0 $\langle 21^- \rangle$	1270.75 $\langle 1^- \rangle$	1283.23 7 ⁻	1319.83 $\langle 1^- \rangle$	1335.6 $\langle 25 \rangle^+$
1270.75(2)	$\langle 1^- \rangle$			0.5(1)								
1296.65(3)	3 ⁻ -7 ⁻			0.20(3)								
1335.6(5)	$\langle 25 \rangle^+$				<14.2							
1350.165(21)	$\langle 3^- \rangle$			0.16(2)								
1395.407(21)	$\langle 5^- \rangle$			1.1(2)								
1449.781(19)	7 ⁻									0.74(3)		
1554.73(2)	$\langle 1^- \rangle$										0.58(7)	
1585.91(3)	$\langle 1^- \rangle$								4.9(7)			
1650.5(9)	$\langle 23^- \rangle$						100					
1655.5(6)	$\langle 25^- \rangle$							100				
1666.5(7)	$\langle 27^+ \rangle$				100							

(continued)

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1078.35 9 ⁻	1110.72 3 ⁻ , 5 ⁻	1157.4 23 ⁺	1167.63 ⟨7,9⟩ ⁻	1198.7 ⟨19⟩ ⁻	1218.0 ⟨21⟩ ⁻	1270.75 ⟨1⟩ ⁻	1283.23 7 ⁻	1319.83 ⟨1⟩ ⁻	1335.6 ⟨25⟩ ⁺
1689.35(4)	7 ⁻									<2.4		
1696.53(7)	3 ⁻							0.77(21)				
1781.77(3)	7 ⁻		3.4(4)									
1844.0(8)	⟨29 ⁺ ⟩											100
1954.55(5)	5 ⁻ , 7 ⁻		<6									
1974.14(4)	7 ⁻		13(4)									
2030.04(6)	7 ⁻					<3						

Energy levels and branching ratios [91Sh18]. Part 7

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1554.73 ⟨1⟩ ⁻	1655.5 ⟨25⟩ ⁻	1666.5 ⟨27⟩ ⁺	1844.0 ⟨29⟩ ⁺	2140.2 ⟨29⟩ ⁻	2258 ⟨31⟩ ⁺	2425.5 ⟨33⟩ ⁺	2668.0 ⟨33⟩ ⁻	2929 ⟨35⟩ ⁺	3074.6 ⟨37⟩ ⁺
1974.14(4)	7 ⁻		3.2(3)									
2140.2(7)	⟨29⟩ ⁻			100								
2258(3)	⟨31⟩ ⁺				100							
2425.5(10)	⟨33⟩ ⁺					100						
2668.0(8)	⟨33⟩ ⁻						100					
2929(4)	⟨35⟩ ⁺							100				
3074.6(11)	⟨37⟩ ⁺								100			
3238.6(8)	⟨37⟩ ⁻									100		
3588(4)	⟨39⟩ ⁺										100	
3781.6(13)	⟨41⟩ ⁺											100

Energy levels and branching ratios [91Sh18]. Part 8

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3238.6 ⟨37⟩ ⁻	3588 ⟨39⟩ ⁺	3781.6 ⟨41⟩ ⁺	3856.1 ⟨41⟩ ⁻	4330 ⟨43⟩ ⁺	4523.8 ⟨45⟩ ⁺	4526.9 ⟨45⟩ ⁻	5256.5 ⟨49⟩ ⁻	5271.9 ⟨49⟩ ⁺	6045.6 ⟨53⟩ ⁺
3856.1(9)	⟨41⟩ ⁻		100									
4330(5)	⟨43⟩ ⁺			100								
4523.8(14)	⟨45⟩ ⁺				100							
4526.9(11)	⟨45⟩ ⁻					100						
5116(5)	⟨47⟩ ⁺						100					
5256.5(11)	⟨49⟩ ⁻								100			
5271.9(15)	⟨49⟩ ⁺							100				
6045.6(16)	⟨53⟩ ⁺										100	
6048.3(11)	⟨53⟩ ⁻									100		
6875(3)	⟨57⟩ ⁺											100

Energy levels and branching ratios [91Sh18]. Part 9

 $^{169}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		$E_f^*:$ $2J_f^\pi:$	6048.3 $\langle 53^- \rangle$	6875 $\langle 57^+ \rangle$	6903.6 $\langle 57^- \rangle$	7823.3 $\langle 61^- \rangle$	8806.6 $\langle 65^- \rangle$	9854.1 $\langle 69^- \rangle$
6903.6(12)	$\langle 57^- \rangle$		100					
7771(4)	$\langle 61^+ \rangle$			100				
7823.3(12)	$\langle 61^- \rangle$				100			
8806.6(13)	$\langle 65^- \rangle$					100		
9854.1(14)	$\langle 69^- \rangle$						100	
10961(3)	$\langle 73^- \rangle$							100

Energy levels and branching ratios [02Ba93].

 $^{170}_{70}\text{Yb}$

E^*	J^π	σ (d,d')	R	L	σ (p,t)	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\mu\text{b/sr}$	(d,d')	(p,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : J_f^π :	0.0 0 ⁺	84.2 2 ⁺	277 4 ⁺	573 6 ⁺	963 8 ⁺
0.0	0 ⁺	13000	4.8	0	904(10)	130*	Stable	73Oo01						
84.2547(1)	2 ⁺	2700	2.0		324(7)	30	1.605(13) ns	67Bu21	100					
277.43(4)	4 ⁺	64	0.6		77(3)	47		73Oo01			100			
573.30(8)	6 ⁺	5.0	1.4		11.3(12)	\approx 5		73Oo01				100		
963.32(10)	8 ⁺						2.97(25) ps						100	
1069.35(6)	0 ⁺			0	15.6(14)	22		73Oo01	x		100			
1138.55(3)	2 ⁺	35				45	2.1(4) ps	67Bu21	43.1(13)	57(2)				
1145.72(5)	2 ⁺		2.2		72.2(23)		0.83(16) ps	73Oo01	44(2)	54(2)	1.9(2)			
1225.35(6)	(3) ⁺				8.1(10)	14		73Oo01			77(2)	23.5(7)		
1228.84(10)	0 ⁺						0.51(10) ps		x		100			
1258.46(14)	4 ⁻						370(15) ns					100		
1292.4(7)	(4) ⁺	12	1.6			16		67Bu21				100		
1306.39(5)	2 ⁺								25(1)	33(1)	42(1)			
1329.31(20)	(4) ⁺	22	0.7		24.4(18)	32		73Oo01				100		
1345.18(9)	5 ⁻				8.9(11)	16		73Oo01				68(3)	22.7(11)	
1364.53(4)	1 ⁻				8.3(8)	10		73Oo01	36.1	64(2)				
1397.05(13)	(3) ⁻	60	0.9		23.5(12)	19		73Oo01		64(4)	36.3(11)			
1408.73(20)	(4) ⁺											100		
1425.24(4)	(2) ⁻									87(3)				
1437.53(13)	10 ⁺						1.16(8) ps							100
1450.35(13)	6 ⁻													
1459.75(18)	(5) ⁺					\approx 3		67Bu21				75(14)	25(7)	
1479.91(6)	0 ⁺			0	13.4(13)	58		73Oo01	x	100				
1510.2(5)	(5 ⁻)					\approx 6		67Bu21				100		
1512.37(4)	1 ⁻				8.7(10)			73Oo01	42.3(12)	58(2)				
1521.31(14)	6 ⁺											48(10)	46(6)	
1528.74(18)	5 ⁺					15		67Bu21				74(16)	26(10)	
1534.57(4)	2 ⁺				8.8(11)			73Oo01	22.0(6)	38(1)	33(1)			
1552						\approx 5		67Bu21						
1566.38(8)	0 ⁺				27.9(20)	45		73Oo01	x	97(4)				

(continued)

 $^{170}_{70}\text{Yb}$

E^* [keV]	J^π	σ (d,d') $\mu\text{b/sr}$	R (d,d')	σ (p,t) $\mu\text{b/sr}$	$d\sigma/d\Omega$ $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
								E^*_f : 0.0 J^π_f : 0 ⁺	84.2 2 ⁺	277 4 ⁺	573 6 ⁺	963 8 ⁺
1572.73(11)	7 ⁻										62(2)	21.1(14)
1573.10(20)	$\langle 4^- \rangle$									100		
1601.33(17)	6 ⁺			3.1(14)			73Oo01				93(20)	
1634.84(8)	$\langle 1^+ \rangle$			10.1(12)			73Oo01	17.4(7)	83(2)			
1658.06(9)	$\langle 2^+ \rangle$			4.2(12)	16		73Oo01		43(2)	57(7)		
1660.26(14)	$\langle 5^- \rangle$									50(6)	50(5)	
1669.03(17)	6 ⁺										87(17)	
1690					≈ 2		67Bu21					
1712.41(21)	$\langle 7^- \rangle$			7.6(10)			73Oo01				100	
1715.95(4)	$\langle 8^- \rangle$											
1717.95(4)	$\langle 2^- \rangle$											
1762.63(22)	$\langle 6^- \rangle$				12		67Bu21					
1780.55(15)	$\langle 7^+ \rangle$			27.8(14)	27		73Oo01				80(10)	14.5(20)
1783	$\langle 3^- \rangle$	53	0.8				67Bu21					
≈ 1789	$\langle 3^- \rangle$											
1793.37(18)	$\langle 6^- \rangle$										67(22)	
1803.39(14)	$\langle 8^+ \rangle$										35(5)	55(6)
1835.06(21)	$7^{(+)}$				32		67Bu21				22(5)	71(8)
1838.2(3)	$\langle 2^+ \rangle$			7.4(7)			73Oo01	<97	100			
1851.23(16)	6 ⁻					<0.2 ns						
1871(5)				4.9(7)			73Oo01					
1872.09(14)	$\langle 9^- \rangle$										52(6)	56(2)
1903.14(14)	7 ⁻										26(4)	
1911					4.5		67Bu21					
1954.13(17)	8 ⁺											79(9)
1964.64(22)	$\langle 7^- \rangle$				≈ 3		67Bu21					
1971(10)			1.6	12.0(13)			73Oo01					
1983.36(17)	12 ⁺					0.77(6) ps						
1985.64(9)	1 ⁻ , 2 ⁻							<12.9	97(4)			
2001(10)				8.6(8)	24		73Oo01					
2005.43(18)	$\langle 9^- \rangle$										95(9)	
2009.35(17)	8 ⁺										83(9)	
2039.85(8)	1 ⁺							65(3)	34.3(12)			
2044.64(17)	$\langle 8^- \rangle$											
2047(7)				16.7(11)			73Oo01					
2052.59(7)	0 ⁻ -2 ⁻											
2056.73(15)	$\langle 10^- \rangle$											
2096.81(18)	$\langle 8^- \rangle$										41(5)	
2098.5(3)	$\langle 8^- \rangle$				21		67Bu21					
2115.90(7)	1 ⁻							29(3)	67(2)			
2126.14(5)	1 ⁻							44(2)	53(2)			
2135.33(15)	$\langle 10^+ \rangle$											27(8)
2137(12)				9.0(11)			73Oo01					
2170.04(19)	$\langle 9^+ \rangle$											
2171(7)	$\langle 2^+ \rangle$			21.7(16)			73Oo01					

(continued)

 $^{170}_{70}\text{Yb}$

E^* [keV]	J^π	σ (d,d') $\mu\text{b/sr}$	R (d,d')	L (p,t)	σ (p,t) $\mu\text{b/sr}$	$d\sigma/d\Omega$ $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
									E^*_f : 0.0 J^π_f : 0^+	84.2 2^+	277 4^+	573 6^+	963 8^+
2189.65(17)	7^-						2.5(3) ns						
2200.91(9)	$1^-, 2^-$								7.0(3)	64(3)			
2220.69(15)	$\langle 9 \rangle^-$											58(4)	
2229(7)					14.2(12)			73Oo01					
2242.00(16)	$\langle 11 \rangle^-$												
2249(7)					8.7(9)			73Oo01					
2253.5(3)	$\langle 9^- \rangle$												
2268.08(17)	1^-								77(2)	16.2(9)			
2275.49(5)	1^-				12.9(12)			73Oo01	30.6(10)	56(2)			
2289.37(10)	1^+								56(3)	44(2)			
2328.0(4)	$\langle 0^+ \rangle$				29.9(23)			73Oo01	x	[100]			
2341.6(3)	$\langle 8^- \rangle$												
2351.71(6)	$0^- - 2^-$				7.3(13)			73Oo01					
2364.06(4)	1^-								9.6(3)	1.27(4)			
2367.65(5)	$\langle 1^- \rangle$												
2372.83(19)	10^+												
2388.06(18)	$\langle 11^- \rangle$				9.9(17)			73Oo01					
2398.51(19)	$\langle 10^- \rangle$												
2400.10(6)	1^-								62(2)	31.5(11)			
2412.39(19)	$\langle 10^+ \rangle$												
2429.0(3)	$\langle 10^- \rangle$												
2429.05(11)	$1^+, 2^+$								17(2)	16.3(6)			
2436.01(11)	$\langle 2, 3^- \rangle$				16.5(14)			73Oo01		38(2)	7.5(3)		
2460.55(23)	$\langle 10^- \rangle$												
2473.69(19)	$\langle 12^- \rangle$												
2477.8(3)	$\langle 10^- \rangle$												
2496.20(5)	1^-				8.0(14)			73Oo01	31(1)	33(1)			
2498.19(7)	$0^- - 2^-$												
2523.07(14)	1^+								49(1)	38(1)			
2524.27(17)	$\langle 12^+ \rangle$												
2525.1(3)	$\langle 9^- \rangle$												
2536.97(6)	1^-				20.5(21)			73Oo01	9(1)	19(1)			
2580.35(24)	$\langle 14^+ \rangle$												
2595(7)					5.1(16)			73Oo01					
2603.60(21)	$\langle 11^- \rangle$												
2603.8(3)	$\langle 11^+ \rangle$												
2661.02(12)	1^+								75(4)	25(4)			
2667.19(4)	$1^{\langle + \rangle}$								11(1)	18(1)			
2678(7)					6.8(18)			73Oo01					
2680.75(19)	$\langle 13^- \rangle$												
2732.3(3)	$\langle 10^- \rangle$												
2748.08(5)	1^-								43(2)	25.4(9)			
2768.34(8)	$0^-, 1^-$												
2775.66(8)	1^-								3.87(16)	78(3)			
2783.12(10)	1^+								62(2)	36.4(14)			

(continued)

 $^{170}_{70}\text{Yb}$

E^*	J^π	σ (d,d')	R	L	σ (p,t)	$d\sigma/d\Omega$	$T_{1/2}$ or Ref.	Branching ratios in percentage					
[keV]		$\mu\text{b/sr}$	(d,d')	(p,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	Γ_{cm}	E^*_f : J^π_f :	0.0 0 ⁺	84.2 2 ⁺	277 4 ⁺	573 6 ⁺	963 8 ⁺
2815.73(23)	$\langle 12^- \rangle$												
2819.77(4)	$0^-, 1^-$									0.43(4)			
2826.8(3)	$\langle 12^+ \rangle$												
2847.0(11)	$\langle 12^- \rangle$												
2855.61(21)	$\langle 13^- \rangle$												
2859.2(3)	$\langle 12^+ \rangle$												
2927.2(4)	$\langle 12^- \rangle$												
2929.60(8)	1^-								16.2(8)	46(2)			
2938.6(3)	$12^{\langle - \rangle}$												
2939.73(5)	1^-								21(1)	4.5(2)			
2947.84(6)	1^-								17(1)	3.8(1)			
2956.55(11)	1^+								17.0(5)	15.1(7)			
2959.4(3)	$\langle 11^- \rangle$												
2965.66(8)	1^+								55(3)	32(2)			
2966.42(22)	$\langle 14 \rangle^-$												
2969.45(13)	1^-								4.3(5)	47(2)			
2975.32(11)	1^-								x				
2986.67(21)	$\langle 14^+ \rangle$												
3007.6(3)	1^-								43(2)	57(3)			
3042.46(17)	1^+								43(2)	29(1)			
3049.95(24)	$\langle 13^- \rangle$												
3065.36(12)	1^+									14(1)			
3067.0(4)	$\langle 13^+ \rangle$												
3067.62(10)	1^-								21(2)	14(1)			
3070.52(19)	0,1									[100]			
3091.93(11)	1								76(5)	<71			
3099.64(9)	$1^{\langle - \rangle}$								12(1)	16(1)			
3115.58(11)	1^-								36(2)	64(3)			
3123.94(12)	1^-								9.7(9)				
3131.10(16)	1^+								6(1)	20(2)			
3140.60(13)	$\langle 1 \rangle$								0.80(18)				
3146.03(9)	1^+								26(2)	24(2)			
3149.09(9)	1^-								18(2)	46(2)			
3161.02(17)	$\langle 1^- \rangle$								37(4)	x			
3165.59(9)	1^-								9(1)				
3169.59(12)	1^-								[10]	[33]			
3179.76(16)	1^-								3.7(4)	70(4)			
3186.2(4)	$\langle 15^- \rangle$												
3186.66(13)	$\langle 1^- \rangle$									2.8(3)			
3195.1(3)	$\langle 16^+ \rangle$												
3195.58(8)	1^-								19(2)	38(2)			
3202.1(4)	$\langle 12^- \rangle$												
3202.94(13)	1^+								32(3)	9(3)			
3213.27(13)	1^-								4.4(4)	26(3)			
3258.18(10)	1^+								5.3(5)	6.4(6)			

(continued)

 $^{170}_{70}\text{Yb}$

E^*	J^π	σ (d,d')	R	L	σ (p,t)	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\mu\text{b/sr}$	(d,d')	(p,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	Γ_{cm}		E^*_f :	0.0	84.2	277	573	963
									J^π_f :	0 ⁺	2 ⁺	4 ⁺	6 ⁺	8 ⁺
3268.91(15)	1 ⁽⁺⁾										38(4)			
3274.17(14)	1 ⁻									27(3)	34(3)			
3291.82(21)	1 ⁺									4.1(4)	12.5(12)			
3296.5(3)	$\langle 14^- \rangle$													
3301.95(11)	1 ⁺									3.7(4)	0.7(1)			
3307.3(4)	$\langle 14^+ \rangle$													
3314.42(11)	1									[16(2)]	[9(1)]			
3333.2(11)	$\langle 14^+ \rangle$													
3366.40(11)	1										3.3(7)			
3384.87(17)	1 ⁻									2.5(7)				
3401.7(3)	$\langle 15^- \rangle$													
3423.2(8)	$\langle 0^- \rangle$										1.6(4)			
3437.8(6)	$\langle 14^- \rangle$													
3466.8(8)	$\langle 13^- \rangle$													
≈ 3500														
3533.8(3)	$\langle 16^- \rangle$													
3547.3(3)	$\langle 16^+ \rangle$													
3558.1(4)	$\langle 15^+ \rangle$													
3567.4(3)	$\langle 15^- \rangle$													
3742.1(4)	$\langle 14^- \rangle$													
3756.5(4)	$\langle 17^- \rangle$													
3806.8(4)	$\langle 18^+ \rangle$													
3833.3(4)	$\langle 16^+ \rangle$													
3842.3(6)	$\langle 16^- \rangle$													
3844.2(15)	$\langle 16^+ \rangle$													
4011.8(12)	$\langle 16^- \rangle$													
4017.6(6)	$\langle 17^- \rangle$													
4065.1(11)	$\langle 17^+ \rangle$													
4174.0(4)	$\langle 18^- \rangle$													
4207.1(5)	$\langle 18^+ \rangle$													
4390.3(5)	$\langle 19^- \rangle$													
4436.5(7)	$\langle 20^+ \rangle$													
4885.9(7)	$\langle 20^- \rangle$													
5084.8(5)	$\langle 21^- \rangle$													
		67Bu21	67Bu21		73Oo01	67Bu21		Ref.						

Additional data on this isotope can be found in [03Gr16, 00Ya22, 90Gr19].

Abundance: 3.04(15) %.

* Cross section of the (d,t) reaction was measured in [67Bu21] at four different angles; the differential cross sections of the (d,t) reaction at 90° is presented.

σ (d,d') is measured at 125°, $R=(\sigma$ (d,d') at 90°)/(σ (d,d') at 125°) [67Bu21, 02Ba93].

Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [02Ba93]. Part 2

 ^{170}Yb

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1069.35 0 ⁺	1138.55 2 ⁺	1145.72 2 ⁺	1225.35 $\langle 3 \rangle^+$	1228.84 0 ⁺	1258.46 4 ⁻	1292.4 $\langle 4 \rangle^+$	1306.39 2 ⁺	1329.31 $\langle 4 \rangle^+$	1345.18 5 ⁻
1228.84(10)	0 ⁺	x										
1345.18(9)	5 ⁻							9(3)				
1425.24(4)	$\langle 2 \rangle^-$			12.4(3)						0.88(9)		
1450.35(13)	6 ⁻							53(3)				47(3)
1479.91(6)	0 ⁺	x					x					
1521.31(14)	6 ⁺								5(2)			
1534.57(4)	2 ⁺			4.5(1)	2.15(6)					0.86(5)		
1566.38(8)	0 ⁺	x					x					
1572.73(11)	7 ⁻											13.0(9)
1601.33(17)	6 ⁺										7(4)	
1717.95(4)	$\langle 2 \rangle^-$			19.6(6)	55(2)	25.0(8)						
1851.23(16)	6 ⁻											68(7)
2039.85(8)	1 ⁺	<2.9	<1.8									
2115.90(7)	1 ⁻				<21							
2126.14(5)	1 ⁻			1.20(12)	1.16(12)					0.279(8)		
2189.65(17)	7 ⁻											23(8)
2200.91(9)	1 ⁻ , 2 ⁻				29(6)							
2268.08(17)	1 ⁻				6.44(19)							
2275.49(5)	1 ⁻	4.8(2)	5.5(2)				<3.2			<2.1		
2364.06(4)	1 ⁻	18.9(6)	32(1)	9.1(3)			x			1.41(4)		
2367.65(5)	$\langle 1 \rangle^-$									4.4(9)		
2400.10(6)	1 ⁻	<5.7										
2429.05(11)	1 ⁺ , 2 ⁺		31(6)									
2436.01(11)	$\langle 2, 3 \rangle^-$					27(2)						
2496.20(5)	1 ⁻	19(2)										
2523.07(14)	1 ⁺									<76		
2536.97(6)	1 ⁻	9(1)	9(2)				16(2)			16(1)		
2667.19(4)	1 ^{$\langle + \rangle$}	9(1)	9(1)	5(1)			6.5(3)			15(1)		
2748.08(5)	1 ⁻	4.6(1)	4.5(2)	2.14(9)			1.21(5)					
2775.66(8)	1 ⁻									3.16(16)		
2783.12(10)	1 ⁺	<1.32		<3.4								
2929.60(8)	1 ⁻	15.0(6)	0.97(2)	0.67(6)			<3.8					
2939.73(5)	1 ⁻				<0.30					<0.9		
2947.84(6)	1 ⁻	16.4(5)	23(1)	4.7(1)			4.3(1)			9.2(3)		
2956.55(11)	1 ⁺	<8	4.2(5)		<2.1							
2965.66(8)	1 ⁺	<2.5		0.69(8)			<2.0			x		
2969.45(13)	1 ⁻									10.3(6)		
2975.32(11)	1 ⁻		<9.1				4.3(2)					
3007.6(3)	1 ⁻						<9.4					
3042.46(17)	1 ⁺		<13	<37						<28		
3065.36(12)	1 ⁺	36(1)					<28			36(1)		
3067.62(10)	1 ⁻	<4.0					<8			<8		
3070.52(19)	0, 1		x	x								
3099.64(9)	1 ^{$\langle - \rangle$}	18(1)	18(1)	10(1)						5.7(3)		
3115.58(11)	1 ⁻	<1.3	<1.9				<1.9					

(continued)

 ^{170}Yb

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1069.35 0 ⁺	1138.55 2 ⁺	1145.72 2 ⁺	1225.35 $\langle 3 \rangle^+$	1228.84 0 ⁺	1258.46 4 ⁻	1292.4 $\langle 4 \rangle^+$	1306.39 2 ⁺	1329.31 $\langle 4 \rangle^+$	1345.18 5 ⁻
3123.94(12)	1 ⁻		64(3)	<41								
3131.10(16)	1 ⁺		8.1(4)	10(1)	<46					18(2)		
3146.03(9)	1 ⁺			3.0(4)		22(1)	5.3(3)					
3149.09(9)	1 ⁻									9.4(6)		
3161.02(17)	$\langle 1^- \rangle$						x			13(1)		
3165.59(9)	1 ⁻		12.3(4)	14(1)	5.3(4)		19(1)			18(3)		
3195.58(8)	1 ⁻			<8.6			6.3(5)			<8.1		
3202.94(13)	1 ⁺				<19	<18				<27		
3213.27(13)	1 ⁻		46(2)				16.5(9)					
3268.91(15)	1 ⁽⁺⁾									58(2)		
3291.82(21)	1 ⁺			17.8(9)			66(2)			<73		
3301.95(11)	1 ⁺		5.0(2)									
3314.42(11)	1						[26(1)]					
3366.40(11)	1			x	x							
3384.87(17)	1 ⁻		50(3)	15.7(10)								

Energy levels and branching ratios [02Ba93]. Part 3

 ^{170}Yb

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1364.53 1 ⁻	1397.05 $\langle 3 \rangle^-$	1408.73 $\langle 4 \rangle^+$	1425.24 $\langle 2 \rangle^-$	1437.53 10 ⁺	1450.35 6 ⁻	1459.75 $\langle 5 \rangle^+$	1479.91 0 ⁺	1512.37 1 ⁻	1521.31 6 ⁺
1566.38(8)	0 ⁺		2.52(21)									
1572.73(11)	7 ⁻							4.0(9)				
1669.03(17)	6 ⁺				13(6)							
1715.95(4)	$\langle 8 \rangle^-$							70.4(6)				
1717.95(4)	$\langle 2 \rangle^-$					<0.24					0.35(3)	
1780.55(15)	$\langle 7 \rangle^+$								5.1(18)			
1803.39(14)	$\langle 8 \rangle^+$											10(3)
1851.23(16)	6 ⁻							32(3)				
1872.09(14)	$\langle 9 \rangle^-$						4(2)					
1964.64(22)	$\langle 7^- \rangle$							67(11)				
1983.36(17)	12 ⁺						100					
1985.64(9)	1 ⁻ , 2 ⁻		<7.9			2.7(4)						
2039.85(8)	1 ⁺		0.27(2)									
2052.59(7)	0 ⁻ –2 ⁻		49(2)								51(2)	
2126.14(5)	1 ⁻					0.279(8)				0.12(1)	<0.08	
2135.33(15)	$\langle 10 \rangle^+$						51(9)					
2170.04(19)	$\langle 9^+ \rangle$						6.8(17)					
2189.65(17)	7 ⁻							12(4)				
2220.69(15)	$\langle 9 \rangle^-$						14(2)					
2242.00(16)	$\langle 11 \rangle^-$						46(1)					
2275.49(5)	1 ⁻		1.45(8)			1.66(8)						

(continued)

 ^{170}Yb

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1364.53 1 ⁻	1397.05 $\langle 3 \rangle^-$	1408.73 $\langle 4 \rangle^+$	1425.24 $\langle 2 \rangle^-$	1437.53 10 ⁺	1450.35 6 ⁻	1459.75 $\langle 5 \rangle^+$	1479.91 0 ⁺	1512.37 1 ⁻	1521.31 6 ⁺
2351.71(6)	0 ⁻ -2 ⁻		63(2)			9.9(3)					26.7(8)	
2364.06(4)	1 ⁻		10.1(3)	0.95(3)		10.5(3)				2.3(1)	0.54(3)	
2367.65(5)	$\langle 1 \rangle^-$		67(2)			4.11(13)					18.7(5)	
2372.83(19)	10 ⁺						52(12)					
2388.06(18)	$\langle 11 \rangle^-$						88(9)					
2412.39(19)	$\langle 10 \rangle^+$						36(8)					
2429.05(11)	1 ⁺ , 2 ⁺										36(3)	
2460.55(23)	$\langle 10 \rangle^-$						100					
2496.20(5)	1 ⁻					2.19(7)					13(1)	
2498.19(7)	0 ⁻ -2 ⁻		92(3)									
2523.07(14)	1 ⁺		<8.0									
2524.27(17)	$\langle 12 \rangle^+$						40(6)					
2536.97(6)	1 ⁻		<6									
2661.02(12)	1 ⁺									<18		
2667.19(4)	1 \langle^+					6.5(3)				5.9(3)		
2748.08(5)	1 ⁻		3.9(1)			3.6(3)				2.42(9)	4.7(1)	
2768.34(8)	0 ⁻ , 1 ⁻		16.6(19)									
2775.66(8)	1 ⁻					2.03(9)					10.9(3)	
2783.12(10)	1 ⁺		1.93(11)									
2819.77(4)	0 ⁻ , 1 ⁻		20(1)								19(1)	
2929.60(8)	1 ⁻		2.5(2)			<0.27				3.8(5)		
2939.73(5)	1 ⁻		7.0(2)			7.7(3)				14.8(5)	4.6(5)	
2947.84(6)	1 ⁻		1.7(1)							2.7(3)	7.3(3)	
2956.55(11)	1 ⁺		27.8(9)			36(1)						
2965.66(8)	1 ⁺		5.1(2)			3.8(2)				1.98(10)		
2969.45(13)	1 ⁻										28(3)	
2975.32(11)	1 ⁻		61(3)			16(2)					10.2(13)	
3065.36(12)	1 ⁺		<61							<4.3		
3067.62(10)	1 ⁻		15.3(5)									
3070.52(19)	0, 1		<100			<37					x	
3099.64(9)	1 \langle^-									5.7(3)		
3115.58(11)	1 ⁻										x	
3131.10(16)	1 ⁺					<31				18(1)		
3140.60(13)	$\langle 1 \rangle$		71(2)									
3146.03(9)	1 ⁺									<8	<14	
3149.09(9)	1 ⁻		7(1)								<10.1	
3161.02(17)	$\langle 1 \rangle^-$		14.7(7)			<36					<13	
3165.59(9)	1 ⁻					7.1(2)				5(1)	1.9(1)	
3179.76(16)	1 ⁻										<7.1	
3186.66(13)	$\langle 1 \rangle^-$					<8.8					29.4(8)	
3195.58(8)	1 ⁻					2.4(2)					12(4)	
3202.94(13)	1 ⁺		<21									
3213.27(13)	1 ⁻		x								<90	
3258.18(10)	1 ⁺		20.3(10)			<11.8						
3268.91(15)	1 \langle^+		<12									

(continued)

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1364.53 1 [−]	1397.05 ⟨3⟩ [−]	1408.73 ⟨4⟩ ⁺	1425.24 ⟨2⟩ [−]	1437.53 10 ⁺	1450.35 6 [−]	1459.75 ⟨5⟩ ⁺	1479.91 0 ⁺	1512.37 1 [−]	1521.31 6 ⁺
3274.17(14)	1 [−]		12.2(7)								<28	
3291.82(21)	1 ⁺										<24	
3301.95(11)	1 ⁺				46(3)							
3314.42(11)	1				<49							
3366.40(11)	1									<56		
3384.87(17)	1 [−]									<29		
3423.2(8)	⟨0 [−] ⟩				16(4)							

Energy levels and branching ratios [02Ba93]. Part 4

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1528.74 5 ⁺	1534.57 2 ⁺	1566.38 0 ⁺	1572.73 7 [−]	1601.33 6 ⁺	1634.84 ⟨1 ⁺ ⟩	1658.06 ⟨2 ⁺ ⟩	1660.26 ⟨5 [−] ⟩	1669.03 6 ⁺	1712.41 ⟨7 [−] ⟩
1715.95(4)	⟨8 [−]					30(2)						
1762.63(22)	⟨6 [−]									100		
1793.37(18)	⟨6 [−]					18(7)				15(5)		
1835.06(21)	7 ^{⟨+⟩}	7(4)										
1872.09(14)	⟨9 [−]					33.4(12)						
1903.14(14)	7 [−]									13(4)	7(4)	
1954.13(17)	8 ⁺						21(6)					
2005.43(18)	⟨9 [−]											5.5(18)
2009.35(17)	8 ⁺										17(3)	
2115.90(7)	1 [−]								4.0(3)			
2364.06(4)	1 [−]			3.2(1)								
2400.10(6)	1 [−]								6.6(2)			
2436.01(11)	⟨2,3 [−]			<54				27(2)				
2523.07(14)	1 ⁺								13.1(6)			
2536.97(6)	1 [−]			19(2)								
2667.19(4)	1 ^{⟨+⟩}			9(1)					5.2(3)			
2748.08(5)	1 [−]			1.07(6)	<1.1			2.09(9)				
2768.34(8)	0 [−] , 1 [−]								1.00(6)			
2929.60(8)	1 [−]			11(1)				1.3(1)				
2939.73(5)	1 [−]			36(1)	2.3(2)			1.38(5)				
2947.84(6)	1 [−]			6.5(5)				1.3(1)				
2965.66(8)	1 ⁺							<1.7				
3042.46(17)	1 ⁺			29(4)								
3065.36(12)	1 ⁺				15.0(4)							
3067.62(10)	1 [−]								23(3)			
3099.64(9)	1 ^{⟨−}			13(1)								
3149.09(9)	1 [−]			6.7(3)								
3161.02(17)	⟨1 [−]								<8			
3165.59(9)	1 [−]			8.7(2)								

(continued)

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1528.74 5 ⁺	1534.57 2 ⁺	1566.38 0 ⁺	1572.73 7 [−]	1601.33 6 ⁺	1634.84 ⟨1 ⁺ ⟩	1658.06 ⟨2 ⁺ ⟩	1660.26 ⟨5 [−] ⟩	1669.03 6 ⁺	1712.41 ⟨7 [−] ⟩
<hr/>												
3169.59(12)	1 [−]				x							
3179.76(16)	1 [−]			<4.3								
3202.94(13)	1 ⁺				<26							
3258.18(10)	1 ⁺				x							
3268.91(15)	1 ⁽⁺⁾		x					<37				
3291.82(21)	1 ⁺								<56			
3301.95(11)	1 ⁺			25(1)				<10				
3314.42(11)	1				[15]							
3366.40(11)	1			<36	19(1)			<15				

Energy levels and branching ratios [02Ba93]. Part 5

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1715.95 $\langle 8 \rangle^-$	1717.95 $\langle 2 \rangle^-$	1762.63 $\langle 6^- \rangle$	1780.55 $\langle 7 \rangle^+$	1793.37 $\langle 6^- \rangle$	1803.39 $\langle 8 \rangle^+$	1838.2 $\langle 2 \rangle^+$	1851.23 6^-	1872.09 $\langle 9 \rangle^-$	1903.14 7^-
1872.09(14)	$\langle 9 \rangle^-$		6.5(8)									
1903.14(14)	7^-				2.6(13)							
1964.64(22)	$\langle 7^- \rangle$									33(11)		
2044.64(17)	$\langle 8^- \rangle$				53(7)							47(4)
2056.73(15)	$\langle 10 \rangle^-$		84.9(15)								15.1(15)	
2096.81(18)	$\langle 8^- \rangle$				<9		59(11)					
2098.5(3)	$\langle 8^- \rangle$									22(9)		
2135.33(15)	$\langle 10 \rangle^+$							22(6)				
2170.04(19)	$\langle 9^+ \rangle$					93(17)						
2189.65(17)	7^-									65(4)		
2220.69(15)	$\langle 9 \rangle^-$											14(2)
2242.00(16)	$\langle 11 \rangle^-$										49(1)	
2351.71(6)	$0^- - 2^-$			0.34(2)								
2367.65(5)	$\langle 1 \rangle^-$			<0.93								
2768.34(8)	$0^-, 1^-$			81(2)								
2819.77(4)	$0^-, 1^-$			16.7(5)								
3366.40(11)	1			<23								
3384.87(17)	1^-			<46								
3423.2(8)	$\langle 0^- \rangle$			43(6)					8.2(8)			

Energy levels and branching ratios [02Ba93]. Part 6

 $^{170}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	1954.13 8 ⁺	1964.64 ⟨7 ⁻ ⟩	1983.36 12 ⁺	1985.64 1 ⁻ , 2 ⁻	2005.43 ⟨9 ⁻ ⟩	2009.35 8 ⁺	2039.85 1 ⁺	2044.64 ⟨8 ⁻ ⟩	2052.59 2056.73 ⟨10 ⁻ ⟩
2098.5(3)	⟨8 ⁻ ⟩			78(9)							
2220.69(15)	⟨9 ⁻ ⟩									13(2)	
2242.00(16)	⟨11 ⁻ ⟩										5.2(5)
2253.5(3)	⟨9 ⁻ ⟩			42(12)							
2289.37(10)	1 ⁺								<6.4 0.27(3)		
2351.71(6)	0 ⁻ -2 ⁻					<0.95					
2372.83(19)	10 ⁺	48(8)									
2388.06(18)	⟨11 ⁻ ⟩						12(3)				
2398.51(19)	⟨10 ⁻ ⟩									60(3)	
2412.39(19)	⟨10 ⁺ ⟩							64(12)			
2473.69(19)	⟨12 ⁻ ⟩										88.4(19)
2524.27(17)	⟨12 ⁺ ⟩				37(6)						
2536.97(6)	1 ⁻								2.0(1)		
2580.35(24)	⟨14 ⁺ ⟩			100							
2661.02(12)	1 ⁺								<16		
2680.75(19)	⟨13 ⁻ ⟩				32.1(12)						
2748.08(5)	1 ⁻					0.58(2)					
2775.66(8)	1 ⁻									0.70(3)	
2819.77(4)	0 ⁻ , 1 ⁻					<1.8					
2855.61(21)	⟨13 ⁻ ⟩			70(10)							
2929.60(8)	1 ⁻									0.75(4)	
2938.6(3)	12 ^{⟨-⟩}			36(14)							
2939.73(5)	1 ⁻					<3.2					
2947.84(6)	1 ⁻									0.72(4)	
2969.45(13)	1 ⁻									10.8(11)	
2986.67(21)	⟨14 ⁺ ⟩			70(8)							
3007.6(3)	1 ⁻					x				x	
3065.36(12)	1 ⁺									<6	
3067.62(10)	1 ⁻					4.6(5)					
3131.10(16)	1 ⁺									20(5)	
3146.03(9)	1 ⁺										
3195.58(8)	1 ⁻								x <7.7		
3202.94(13)	1 ⁺					<96			19(1)		
3213.27(13)	1 ⁻								<29		
3258.18(10)	1 ⁺									8.5(4)	
3274.17(14)	1 ⁻								13.5(7)		
3291.82(21)	1 ⁺								x		

Energy levels and branching ratios [02Ba93]. Part 7

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage									
[keV]	E_f^* : J_f^π :	2096.81 $\langle 8^- \rangle$	2098.5 $\langle 8^- \rangle$	2115.90 1^-	2126.14 1^-	2135.33 $\langle 10 \rangle^+$	2170.04 $\langle 9^+ \rangle$	2189.65 7^-	2200.91 $1^-, 2^-$	2220.69 $\langle 9 \rangle^-$	2242.00 $\langle 11 \rangle^-$
2253.5(3)	$\langle 9^- \rangle$		58(8)								
2341.6(3)	$\langle 8^- \rangle$							100			
2351.71(6)	$0^-, 2^-$			<1.6	<0.25						
2364.06(4)	1^-				<0.12						
2367.65(5)	$\langle 1 \rangle^-$			0.92(4)	4.46(13)				<0.13		
2398.51(19)	$\langle 10^- \rangle$									40(3)	
2429.0(3)	$\langle 10^- \rangle$		52(7)								
2429.05(11)	$1^+, 2^+$				<1.6						
2436.01(11)	$\langle 2, 3 \rangle^-$								<33		
2473.69(19)	$\langle 12 \rangle^-$										11.6(19)
2477.8(3)	$\langle 10^- \rangle$	100									
2496.20(5)	1^-				1.08(6)						
2498.19(7)	$0^-, 2^-$			5.20(20)	2.73(16)						
2524.27(17)	$\langle 12 \rangle^+$					23(2)					
2525.1(3)	$\langle 9^- \rangle$							13(7)			
2603.60(21)	$\langle 11^- \rangle$									68(3)	
2603.8(3)	$\langle 11^+ \rangle$						100				
2680.75(19)	$\langle 13^- \rangle$										65(2)
2748.08(5)	1^-								0.80(4)		
2775.66(8)	1^-			0.38(2)	<1.6						
2783.12(10)	1^+				<0.81						
2819.77(4)	$0^-, 1^-$			1.33(4)	0.42(4)				<1.3		
2929.60(8)	1^-			<1.23					1.2(2)		
2939.73(5)	1^-				<0.62						
2947.84(6)	1^-								0.90(3)		
2975.32(11)	1^-			8.3(6)							
3065.36(12)	1^+								x		
3091.93(11)	1				x						
3179.76(16)	1^-				25(5)						
3186.66(13)	$\langle 1^- \rangle$				46(4)						
3195.58(8)	1^-				1.16(10)						
3202.94(13)	1^+			<16							
3213.27(13)	1^-				<23				<9.3		
3274.17(14)	1^-			<13							
3366.40(11)	1				24(1)						

Energy levels and branching ratios [02Ba93]. Part 8

 $^{170}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	2253.5 $\langle 9^- \rangle$	2268.08 1^-	2275.49 1^-	2289.37 1^+	2341.6 $\langle 8^- \rangle$	2351.71	2364.06 1^-	2367.65 $\langle 1 \rangle^-$	2372.83 10^+	2388.06 $\langle 11 \rangle^-$
2429.0(3)	$\langle 10^- \rangle$		48(7)									
2496.20(5)	1^-				0.79(3)							
2498.19(7)	$0^- - 2^-$				<3.7							
2525.1(3)	$\langle 9^- \rangle$						87(7)					
2661.02(12)	1^+								<2.8			
2667.19(4)	$1^{(+)}$								<0.6			
2732.3(3)	$\langle 10^- \rangle$						30(5)					
2748.08(5)	1^-				x							
2768.34(8)	$0^-, 1^-$							0.49(6)				
2819.77(4)	$0^-, 1^-$				14.5(4)	1.6(1)			2.3(1)			
2826.8(3)	$\langle 12^+ \rangle$										100	
2855.61(21)	$\langle 13^- \rangle$											30(7)
2939.73(5)	1^-								0.27(1)			
2965.66(8)	1^+							<0.42				
3067.62(10)	1^-				19(1)					3.7(1)		
3070.52(19)	0,1		<64									
3091.93(11)	1					<17						
3115.58(11)	1^-								x			
3123.94(12)	1^-					<54				10.4(5)		
3149.09(9)	1^-				<2.7							
3161.02(17)	$\langle 1^- \rangle$							23(1)				
3169.59(12)	1^-					[16.7]				<78		
3213.27(13)	1^-							x				
3258.18(10)	1^+					<29						
3301.95(11)	1^+			8(3)								
3314.42(11)	1							[10]				
3384.87(17)	1^-								x			
3423.2(8)	$\langle 0^- \rangle$			31(2)								

Energy levels and branching ratios [02Ba93]. Part 9

 $^{170}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	2398.51 $\langle 10^- \rangle$	2400.10 1^-	2412.39 $\langle 10 \rangle^+$	2429.0 $\langle 10^- \rangle$	2429.05 $1^+, 2^+$	2436.01 $\langle 2, 3 \rangle^-$	2460.55 $\langle 10^- \rangle$	2473.69 $\langle 12 \rangle^-$	2477.8 $\langle 10^- \rangle$	2496.20 1^-
2603.60(21)	$\langle 11^- \rangle$		32(2)									
2661.02(12)	1^+							<2.2				
2667.19(4)	$1^{(+)}$					<2.4		<0.9				
2680.75(19)	$\langle 13^- \rangle$									3.0(12)		
2768.34(8)	$0^-, 1^-$			0.74(4)		<0.30						
2775.66(8)	1^-											0.74(5)
2815.73(23)	$\langle 12^- \rangle$		68(4)									
2819.77(4)	$0^-, 1^-$			8.8(2)			0.98(4)					6.0(2)

(continued)

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2398.51 $\langle 10^- \rangle$	2400.10 1^-	2412.39 $\langle 10 \rangle^+$	2429.0 $\langle 10^- \rangle$	2429.05 $1^+, 2^+$	2436.01 $\langle 2, 3 \rangle^-$	2460.55 $\langle 10^- \rangle$	2473.69 $\langle 12 \rangle^-$	2477.8 $\langle 10^- \rangle$	2496.20 1^-
2847.0(11)	$\langle 12^- \rangle$					100						
2859.2(3)	$\langle 12^+ \rangle$				100							
2927.2(4)	$\langle 12^- \rangle$										100	
2929.60(8)	1^-						0.27(1)					
2938.6(3)	$12^{\langle - \rangle}$								64(7)			
2939.73(5)	1^-											0.57(2)
2965.66(8)	1^+			<0.59								
2966.42(22)	$\langle 14 \rangle^-$									87(3)		
2975.32(11)	1^-							<3.7				
3070.52(19)	0,1			<73								x
3091.93(11)	1			8.3(3)								15.7(5)
3099.64(9)	$1^{\langle - \rangle}$						<2.5					
3115.58(11)	1^-							x				<3.8
3131.10(16)	1^+							x				
3140.60(13)	$\langle 1 \rangle$					19.8(6)						
3146.03(9)	1^+							x				
3149.09(9)	1^-											3.0(2)
3169.59(12)	1^-											x
3186.66(13)	$\langle 1^- \rangle$						21.5(8)	<7.2				
3202.94(13)	1^+			<16								35(3)
3258.18(10)	1^+			x				52(2)				
3274.17(14)	1^-			<9								
3291.82(21)	1^+						x					
3301.95(11)	1^+			<22								6(1)
3366.40(11)	1			x								
3384.87(17)	1^-						x					

Energy levels and branching ratios [02Ba93]. Part 10

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2498.19	2523.07	2524.27	2525.1	2536.97	2580.35	2603.60	2603.8	2661.02	2667.19
				1^+	$\langle 12 \rangle^+$	$\langle 9^- \rangle$	1^-	$\langle 14^+ \rangle$	$\langle 11^- \rangle$	$\langle 11^+ \rangle$	1^+	$1^{\langle + \rangle}$
2732.3(3)	$\langle 10^- \rangle$					70(7)						
2748.08(5)	1^-	<0.10										
2768.34(8)	$0^-, 1^-$						<0.54					
2815.73(23)	$\langle 12^- \rangle$								32(2)			
2819.77(4)	$0^-, 1^-$						3.5(1)					4.8(2)
2929.60(8)	1^-			<0.69								
2939.73(5)	1^-											0.13(1)
2947.84(6)	1^-						0.3(1)					
2959.4(3)	$\langle 11^- \rangle$					64(8)						
2965.66(8)	1^+	0.97(5)										

(continued)

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_{f}^* : J_{f}^π :	2498.19 1^+	2523.07 1^+	2524.27 $\langle 12 \rangle^+$	2525.1 $\langle 9^- \rangle$	2536.97 1^-	2580.35 $\langle 14^+ \rangle$	2603.60 $\langle 11^- \rangle$	2603.8 $\langle 11^+ \rangle$	2661.02 1^+	2667.19 $1^{\langle + \rangle}$
2986.67(21)	$\langle 14^+ \rangle$				30(5)							
3049.95(24)	$\langle 13^- \rangle$								69(6)			
3065.36(12)	1^+										<7	
3067.0(4)	$\langle 13^+ \rangle$									100		
3067.62(10)	1^-										<4	
3123.94(12)	1^-						15(3)					
3140.60(13)	$\langle 1 \rangle$										8.3(4)	
3146.03(9)	1^+			5.8(4)								13(2)
3149.09(9)	1^-						7.6(2)					
3179.76(16)	1^-	1.70(10)	<2.9									
3195.1(3)	$\langle 16^+ \rangle$							100				
3195.58(8)	1^-						2.1(2)				2.13(10)	
3202.94(13)	1^+				x							4.4(2)
3258.18(10)	1^+											<18
3274.17(14)	1^-			<23								
3384.87(17)	1^-			x								
3401.7(3)	$\langle 15^- \rangle$							65(10)				
3547.3(3)	$\langle 16^+ \rangle$							64(8)				

Energy levels and branching ratios [02Ba93]. Part 11

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2680.75 $\langle 13^- \rangle$	2732.3 $\langle 10^- \rangle$	2748.08 1^-	2768.34 $0^-, 1^-$	2775.66 1^-	2783.12 1^+	2815.73 $\langle 12^- \rangle$	2819.77 $0^-, 1^-$	2826.8 $\langle 12^+ \rangle$	2855.61 $\langle 13^- \rangle$
2939.73(5)	1^-									0.10(1)		
2947.84(6)	1^-				<0.29							
2959.4(3)	$\langle 11^- \rangle$			36(3)								
2966.42(22)	$\langle 14^- \rangle$	13.2(22)										
3049.95(24)	$\langle 13^- \rangle$								31(3)			
3065.36(12)	1^+				<3.7							
3115.58(11)	1^-					<0.18						
3123.94(12)	1^-							<8.2				
3149.09(9)	1^-							<4.6		2.1(2)		
3161.02(17)	$\langle 1^- \rangle$									13.0(6)		
3169.59(12)	1^-					[19(6)]		[20(2)]				
3179.76(16)	1^-						<3.3					
3186.2(4)	$\langle 15^- \rangle$	100										
3195.58(8)	1^-				15.2(5)	1.9(3)						
3202.1(4)	$\langle 12^- \rangle$			38(8)								
3213.27(13)	1^-				6.9(6)							
3268.91(15)	$1^{\langle + \rangle}$									4.3(4)		
3274.17(14)	1^-							13.5(4)				

(continued)

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2680.75 $\langle 13^- \rangle$	2732.3 $\langle 10^- \rangle$	2748.08 1^-	2768.34 $0^-, 1^-$	2775.66 1^-	2783.12 1^+	2815.73 $\langle 12^- \rangle$	2819.77 $0^-, 1^-$	2826.8 $\langle 12^+ \rangle$	2855.61 $\langle 13^- \rangle$
3296.5(3)	$\langle 14^- \rangle$								81(7)			
3301.95(11)	1^+							3.1(1)				
3307.3(4)	$\langle 14^+ \rangle$										100	
3314.42(11)	1				<17		<34					
3366.40(11)	1					47(2)	<55					
3384.87(17)	1^-				32(5)							
3401.7(3)	$\langle 15^- \rangle$											35(17)

Energy levels and branching ratios [02Ba93]. Part 12

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2859.2 $\langle 12^+ \rangle$	2927.2 $\langle 12^- \rangle$	2929.60 1^-	2939.73 1^-	2947.84 1^-	2956.55 1^+	2959.4 $\langle 11^- \rangle$	2965.66 1^+	2966.42 $\langle 14 \rangle^-$	2975.32 1^-
3099.64(9)	$1\langle^- \rangle$									0.8(1)		
3123.94(12)	1^-							<3.5				
3146.03(9)	1^+											<0.8
3186.2(4)	$\langle 15^- \rangle$										<4.2	
3202.1(4)	$\langle 12^- \rangle$								62(8)			
3213.27(13)	1^-											<12
3258.18(10)	1^+							2.8(3)		<2.6		
3314.42(11)	1				[19(1)]	[5.8]	<32					<5
3333.2(11)	$\langle 14^+ \rangle$		100									
3366.40(11)	1											<85
3437.8(6)	$\langle 14^- \rangle$			x								
3466.8(8)	$\langle 13^- \rangle$								67(13)			
3533.8(3)	$\langle 16 \rangle^-$										100	

Energy levels and branching ratios [02Ba93]. Part 13

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2986.67 $\langle 14^+ \rangle$	3042.46 1^+	3049.95 $\langle 13^- \rangle$	3065.36 1^+	3067.0 $\langle 13^+ \rangle$	3091.93 1	3115.58 1^-	3186.2 $\langle 15^- \rangle$	3195.1 $\langle 16^+ \rangle$	3195.58 1^-
3213.27(13)	1^-			<2.3								
3258.18(10)	1^+								4.5(4)			
3291.82(21)	1^+							<9				
3296.5(3)	$\langle 14^- \rangle$				19(4)							
3301.95(11)	1^+							2.3(2)				
3314.42(11)	1							<54				
3366.40(11)	1					6.6(7)						

(continued)

 $^{170}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	2986.67 $\langle 14^+ \rangle$	3042.46 1^+	3049.95 $\langle 13^- \rangle$	3065.36 1^+	3067.0 $\langle 13^+ \rangle$	3091.93 1	3115.58 1^-	3186.2 $\langle 15^- \rangle$	3195.1 $\langle 16^+ \rangle$	3195.58 1^-
3547.3(3)	$\langle 16^+ \rangle$		36(20)									
3558.1(4)	$\langle 15^+ \rangle$						100					
3567.4(3)	$\langle 15^- \rangle$				74(13)							
3756.5(4)	$\langle 17^- \rangle$									100		
3806.8(4)	$\langle 18^+ \rangle$										100	
4017.6(6)	$\langle 17^- \rangle$											<50
4207.1(5)	$\langle 18^+ \rangle$										67(22)	

Energy levels and branching ratios [02Ba93]. Part 14

 $^{170}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	3202.1 $\langle 12^- \rangle$	3296.5 $\langle 14^- \rangle$	3307.3 $\langle 14^+ \rangle$	3333.2 $\langle 14^+ \rangle$	3401.7 $\langle 15^- \rangle$	3437.8 $\langle 14^- \rangle$	3533.8 $\langle 16^- \rangle$	3547.3 $\langle 16^+ \rangle$	3558.1 $\langle 15^+ \rangle$	3756.5 $\langle 17^- \rangle$
3466.8(8)	$\langle 13^- \rangle$		33(13)									
3567.4(3)	$\langle 15^- \rangle$			26(7)								
3742.1(4)	$\langle 14^- \rangle$		100									
3833.3(4)	$\langle 16^+ \rangle$				100							
3842.3(6)	$\langle 16^- \rangle$			100								
3844.2(15)	$\langle 16^+ \rangle$				100							
4011.8(12)	$\langle 16^- \rangle$							100				
4017.6(6)	$\langle 17^- \rangle$						100					
4065.1(11)	$\langle 17^+ \rangle$										100	
4174.0(4)	$\langle 18^- \rangle$								100			
4207.1(5)	$\langle 18^+ \rangle$									33(22)		
4390.3(5)	$\langle 19^- \rangle$											100

Energy levels and branching ratios [02Ba93]. Part 15

 $^{170}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage			
[keV]		$E_f^*:$ $J_f^\pi:$	3806.8 $\langle 18^+ \rangle$	4174.0 $\langle 18^- \rangle$	4390.3 $\langle 19^- \rangle$
4436.5(7)	$\langle 20^+ \rangle$		100		
4885.9(7)	$\langle 20^- \rangle$			100	
5084.8(5)	$\langle 21^- \rangle$				100

Energy levels and branching ratios [02Ba93].

 $^{171}_{70}\text{Yb}$

E^*	$2J^\pi$	L	C^2S	σ (d,p)	σ (d,t)	L	S_N	σ (τ, α)	L	σ (p,t)	$T_{1/2}$ or	Ref.
[keV]			(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	Γ_{cm}	
0.0	1^-	1	0.284	167*	340*			≤ 1	2	6.8(7)	Stable	79Ja23
66.732(2)	3^-		0.018	42	82			14		27.7(16)	0.79(5) ns	73Oo01
75.882(2)	5^-		0.142	incl				incl		incl	1.64(16) ns	66Bu16
95.282(2)	7^+									9.4(10)	5.25(24) ms	73Oo01
122.416(2)	5^-		0.022	≈ 14	4.3				0	485(6)	265(20) ns	73Oo01
167.662(3)	9^+		0.07	12	38	4	0.06	7		6.9(6)		71Bu01
208.019(4)	7^-		0.681	208	127			15	2	90(2)		73Oo01
230.63(1)	7^-		0.272	66	110			13	(4)	6.7(11)	155(8) ps	73Oo01
246.62(1)	9^-		0.185	incl	≈ 11			10		18.6(16)	149(4) ps	66Bu16
259.070(5)	11^+											
317.309(4)	9^-		0.177	≈ 6	4.4			9	2	58(2)		73Oo01
368.91(11)	13^+	6	0.93	11	48	6	1.42	137	(4)	1.7(3)		71Bu01
449.60(2)	11^-		0.120	≈ 8	2.8			8	(4)	13(1)		73Oo01
487.29(3)	11^-		0.097	≈ 2.5	4.6			5.3		2.8(8)	21.39(19) ps	66Bu16
501.37(13)	$\langle 15^+ \rangle$									2.3(11)		73Oo01
509.32(16)	13^-										21.3(4) ps	
604.38(12)	$\langle 13^- \rangle$								(4)	7.0(6)		73Oo01
648.22(13)	$\langle 17^+ \rangle$							≤ 1				71Er0A
766.3(11)	$\langle 3^+ \rangle$											
780.32(13)	$\langle 15^- \rangle$									1.7(5)		73Oo01
826.11(15)	$\langle 19^+ \rangle$							2.2				71Er0A
833.08(16)	15^-							incl			4.3(3) ps	
835.082(5)	7^-	3		51	22					2.2(4)		66Bu16
860.16(20)	17^-										4.19(18) ps	
≈ 867					16							66Bu16
876(3)				≈ 3	incl							66Bu16
902.25(2)	3^-				117			≤ 2		14.7(16)		66Bu16
907.2(16)	1,3			21								66Bu16
935.26(2)	9^+									6.0(7)		73Oo01
944.35(3)	5^-			44				16		incl		66Bu16
948.371(8)	9^-							incl				
953.0(15)	$\langle 1^- \rangle$							incl		29(2)		73Oo01
958.31(10)	$\langle 5^- \rangle$											
971(3)	$\langle 7^- \rangle$				72			11				66Bu16
976.38(14)	$\langle 17^- \rangle$				incl			incl				66Bu16
980.91(13)	$\langle 13^+ \rangle$							incl				
984.04(2)	$\langle 9^+ \rangle$							incl				
988.2(15)	$1^-, 3^-$							incl				
991.7(11)	$\langle 3^- \rangle$	1	0.34	298				incl		17.9(12)		66Bu16
1004.77(16)	$\langle 21^+ \rangle$											
1024.63(2)	7^-			32				19		17.0(11)		66Bu16
1039.4(14)	$1^-, 3^-$				62			incl				66Bu16
1052(3)	$\langle 5^- \rangle$	3	0.31	71						7.1(8)		66Bu16
1080.97(2)	5^-			18	78			89		14.4(8)		66Bu16
1083(3)	$\langle 9^- \rangle$			incl						incl		66Bu16

(continued)

 $^{171}_{70}\text{Yb}$

E^*	$2J^\pi$	L	C^2S	σ (d,p)	σ (d,t)	L	S_N	σ (τ, α)	L	σ (p,t)	$T_{1/2}$ or	Ref.
[keV]			(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	Γ_{cm}	
1093.30(3)	9^+					3+5						71Bu01
1114.0(2)	$\langle 15^+ \rangle$			≈ 4				121		10.6(8)		66Bu16
1119(1)	$\langle 13^+ \rangle$				36	6	1.15	incl				66Bu16
1127.68(4)	$\langle 9^- \rangle$				incl							66Bu16
1144(3)	$\langle 7^- \rangle$	3	0.10	30						6.4(7)		66Bu16
1175								≈ 12				71Er0A
1188(3)					14							66Bu16
1190.43(14)	$\langle 19^- \rangle$											
1204(3)	$\langle 11^- \rangle$			8				≤ 12		3.9(5)		66Bu16
1234.29(16)	$\langle 23^+ \rangle$											
1244					1			≈ 6		6.3(7)		66Bu16
1254(3)	$\langle 9^- \rangle$		0.24	≈ 6								66Bu16
1263.63(21)	19^-											
1265.86(16)	$\langle 17^+ \rangle$									2.9(6)		73Oo01
1280(3)					11							66Bu16
1290(3)				≈ 31								66Bu16
1294.54(25)	$\langle 21^- \rangle$											
≈ 1300					≈ 6			8				66Bu16
1320(3)					15			incl				66Bu16
1331.2(13)	$\langle 3^- \rangle$			144								66Bu16
1343(5)					72			12		2.7(6)		66Bu16
≈ 1356				≈ 28								66Bu16
1377.505(14)	7^-											
1388.1(15)	$\langle 1,3 \rangle$				≈ 4				$\langle 2 \rangle$	47(2)		73Oo01
1395(3)	$\langle 5^- \rangle$			208								66Bu16
1402(3)					≈ 5			40				66Bu16
1407(3)	$\langle 13 \rangle^+$					6	0.38	incl				71Bu01
1421.45(15)	$\langle 21^- \rangle$											
1434.9(15)	1,3			≈ 36	20					8.0(8)		66Bu16
1435.90(18)	$\langle 25^+ \rangle$											
1436.63(17)	$\langle 19^+ \rangle$											
1460(3)					27			6				66Bu16
1486(1)	$\langle 7^- \rangle$			250	28			5		7.3(9)		66Bu16
1492.3(9)	$\langle 1,3 \rangle$											
1513(5)	5^-								0	65(2)		73Oo01
1517.2(4)	$\langle 17^+ \rangle$											
1518(6)					125			5				66Bu16
1524(6)				75		0,1		incl				66Bu16
1536.9(14)	1,3											
1559(6)					≈ 2			≈ 12				66Bu16
1588(6)				≈ 23						18(1)		66Bu16
1599(6)					8							66Bu16
1614.4(3)	$\langle 19^+ \rangle$											
1626(2)				292				≈ 4				66Bu16
1626.17(18)	$\langle 21^+ \rangle$							incl				

(continued)

¹⁷¹Yb
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E^*	$2J^\pi$	L	C^2S	σ (d,p)	σ (d,t)	L	S_N	σ (τ, α)	L	σ (p,t)	$T_{1/2}$ or	Ref.
[keV]			(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	Γ_{cm}	
1638(6)					20			incl				66Bu16
1649(7)										8.2(10)		73Oo01
1656.41(20)	$\langle 19^+ \rangle$							≈ 4				71Er0A
1662(6)					19			incl				66Bu16
1664.87(17)	$\langle 23^- \rangle$											
1665.22(24)	$\langle 21^+ \rangle$											
1672(1)				358						1.9(13)		66Bu16
1702.6(25)	1,3									9.1(10)		73Oo01
1716.5(21)	1,3				5							66Bu16
1724.43(19)	$\langle 27^+ \rangle$											
1733(3)				210						5.0(9)		66Bu16
1764(1)				68						7.3(8)		66Bu16
1771(6)					32			4				71Er0A
1773.3(6)	$\langle 23^+ \rangle$							incl				
1774.2(3)	$\langle 23^- \rangle$							incl				
1807.6(3)	$\langle 25^- \rangle$											
1829.0(22)	1,3									5.8(10)		73Oo01
1834.79(21)	$\langle 23^+ \rangle$											
1845(7)										6.2(9)		73Oo01
1871.5(15)	$\langle 1^-, 3^- \rangle$									4.2(13)		73Oo01
1884.8(4)	$\langle 21^+ \rangle$											
1888.8(21)	$\langle 1^-, 3^- \rangle$									4.1(16)		73Oo01
1913.2(19)	1,3											
1919.57(18)	$\langle 25^- \rangle$											
1938.18(21)	$\langle 29^+ \rangle$											
1971.7(15)	1,3									6.7(10)		73Oo01
1986.1(3)	$\langle 23^+ \rangle$											
1995(10)	$\langle 5^- \rangle$								$\langle 0 \rangle$	18.6(12)		73Oo01
2006.8(15)	1,3											
2049.1(22)	1,3											
2059.89(20)	$\langle 25^+ \rangle$											
2069.9(3)	$\langle 23^+ \rangle$											
2087.3(4)	$\langle 25^+ \rangle$											
2108(10)										13.8(13)		73Oo01
2138.4(23)	$\langle 1^-, 3^- \rangle$											
2179.83(21)	$\langle 27^- \rangle$											
2261.4(20)	1,3											
2290.6(21)	1,3									8.0(14)		73Oo01
2293.86(25)	$\langle 31^+ \rangle$											
2303(10)										5.2(10)		73Oo01
2306.14(25)	$\langle 27^+ \rangle$											
2318.7(4)	$\langle 25^+ \rangle$											
2334.3(6)	$\langle 27^+ \rangle$											
2358.8(6)	$\langle 27^+ \rangle$											
2359.8(4)	$\langle 27^- \rangle$											

(continued)

 $^{171}_{70}\text{Yb}$

E^*	$2J^\pi$	L	C^2S	σ (d,p)	σ (d,t)	L	S_N	σ (τ,α)	L	σ (p,t)	$T_{1/2}$ or	Ref.
[keV]			(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ,α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	Γ_{cm}	
2373.4(21)	$\langle 1^-, 3^- \rangle$									11.4(12)		73Oo01
2392.9(3)	$\langle 29^- \rangle$											
2428.5(3)	$\langle 27^+ \rangle$											
2446.9(18)	1,3											
2447.23(20)	$\langle 29^- \rangle$											
2468.0(20)	$\langle 1^-, 3^- \rangle$											
2479.0(20)	$\langle 1^-, 3^- \rangle$									13.9(11)		73Oo01
2494.5(21)	$\langle 1^-, 3^- \rangle$											
2509.0(3)	$\langle 33^+ \rangle$											
2566.6(3)	$\langle 29^+ \rangle$											
2578.1(4)	$\langle 27^+ \rangle$											
2596.3(7)	$\langle 29^+ \rangle$											
2642(10)										6.7(14)		73Oo01
2717.10(25)	$\langle 31^- \rangle$											
2820.8(4)	$\langle 29^+ \rangle$											
2846.1(3)	$\langle 31^+ \rangle$											
2939.1(3)	$\langle 35^+ \rangle$											
2944.6(4)	$\langle 31^+ \rangle$											
2984.0(4)	$\langle 33^- \rangle$											
3015.1(6)	$\langle 31^- \rangle$											
3059.0(4)	$\langle 33^- \rangle$											
3142.7(5)	$\langle 33^+ \rangle$											
3146.5(4)	$\langle 37^+ \rangle$											
3281.8(3)	$\langle 35^- \rangle$											
3389.8(7)	$\langle 33^+ \rangle$											
3448.0(6)	$\langle 35^+ \rangle$											
3538.3(6)	$\langle 35^+ \rangle$											
3567.6(5)	$\langle 37^- \rangle$											
3656.5(6)	$\langle 39^+ \rangle$											
3746.7(8)	$\langle 35^- \rangle$											
3772.5(6)	$\langle 37^- \rangle$											
3779.1(7)	$\langle 37^+ \rangle$											
3848.0(6)	$\langle 41^+ \rangle$											
3882.7(5)	$\langle 39^- \rangle$											
4103.0(8)	$\langle 39^+ \rangle$											
4197.6(11)	$\langle 41^- \rangle$											
4442.5(8)	$\langle 43^+ \rangle$											
4468.1(12)	$\langle 41^+ \rangle$											
4527.7(11)	$\langle 43^- \rangle$											
4612.1(8)	$\langle 45^+ \rangle$											
4812.0(10)	$\langle 43^+ \rangle$											
4879.7(15)	$\langle 45^- \rangle$											

(continued)

¹⁷¹Yb
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E^*	$2J^\pi$	L	C^2S	σ (d,p)	σ (d,t)	L	S_N	σ (τ,α)	L	σ (p,t)	$T_{1/2}$ or	Ref.
[keV]			(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ,α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	Γ_{cm}	
			79Ja23	66Bu16	66Bu16		71Bu01	71Bu01 71Er0A		73Oo01		Ref. Ref.

Additional data on this isotope can be found in [01Sc02, 00St06, 00Gu25, 75Ja18].

Abundance: 14.28(57) %.

* Differential cross sections of the (d,p) and (d,t) reactions at 60° and 90° [66Bu16]; data for 12 angles (50°-160°) can be found in [79Ja23].

Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [02Ba93]. Part 2

¹⁷¹Yb
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E^*	$2J^\pi$	Branching ratios in percentage										
		E_f^* : 0.0	66.7	75.9	95.3	122	168	208	230.631	246.617	259.070	
[keV]		$2J_f^\pi$: 1 ⁻	3 ⁻	5 ⁻	7 ⁺	5 ⁻	9 ⁺	7 ⁻	7 ⁻	9 ⁻	11 ⁺	
66.732(2)	3 ⁻	100										
75.882(2)	5 ⁻	97.6(13)	2.42(22)									
95.282(2)	7 ⁺			100								
122.416(2)	5 ⁻	0.54(3)	56.1(9)	7.7(3)	35.6(7)							
167.662(3)	9 ⁺				100							
208.019(4)	7 ⁻				0.45(5)	99.6(13)						
230.63(1)	7 ⁻		65(5)	35.0(10)								
246.62(1)	9 ⁻			100					0.152(3)			
259.070(5)	11 ⁺				27(3)		73.0(14)					
317.309(4)	9 ⁻				1.08(12)	22(2)	0.57(9)	76(2)				
368.91(11)	13 ⁺						42(2)				58(3)	
449.60(2)	11 ⁻							40(2)				
487.29(3)	11 ⁻								86	13.8(4)		
501.37(13)	⟨15 ⁺ ⟩										69.0(17)	
509.32(16)	13 ⁻									100		
604.38(12)	⟨13 ⁻ ⟩										6(2)	
766.3(11)	⟨3 ⁺ ⟩		[48]	[52]								
835.082(5)	7 ⁻			0.038(2)	78.1(11)	1.85(2)	18.0(3)	1.37(2)				
902.25(2)	3 ⁻	100										
907.2(16)	1,3	[100]										
935.26(2)	9 ⁺				80.9(13)		18.7(2)				0.46(5)	
944.35(3)	5 ⁻	10(1)	33(2)	45(2)		12(2)						
948.371(8)	9 ⁻				26.3(4)	1.67(6)	45.1(6)				24.5(4)	
953.0(15)	⟨1 ⁻ ⟩		[100]									
958.31(10)	⟨5 ⁻ ⟩	6.0(5)				94(8)						
980.91(13)	⟨13 ⁺ ⟩										66(7)	
984.04(2)	⟨9 ⁺ ⟩				12(1)		26(1)		7(1)		54(2)	
988.2(15)	1 ⁻ , 3 ⁻		100									
991.7(11)	⟨3 ⁻ ⟩	66				34						

(continued)

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	0.0 1 ⁻	66.7 3 ⁻	75.9 5 ⁻	95.3 7 ⁺	122 5 ⁻	168 9 ⁺	208 7 ⁻	230.631 7 ⁻	246.617 9 ⁻	259.070 11 ⁺
1024.63(2)	7 ⁻				40(1)					32(1)	22(6)	
1039.4(14)	1 ⁻ , 3 ⁻		x		x							
1080.97(2)	5 ⁻				26.3(7)	17(1)				57(7)	<23	
1093.30(3)	9 ⁺					23.2(8)		32.7(8)		30(1)		<25
1127.68(4)	⟨9 ⁻ ⟩				8.6(10)					35(4)	56(2)	
1331.2(13)	⟨3 ⁻ ⟩			x	x							
1377.505(14)	7 ⁻					80.3(14)	1.54(9)	16.8(2)	1.34(12)			
1388.1(15)	⟨1,3⟩		100									
1434.9(15)	1,3		[100]									
1492.3(9)	⟨1,3⟩		x				x					
1536.9(14)	1,3			100								
2261.4(20)	1,3			100								
2468.0(20)	⟨1 ⁻ , 3 ⁻ ⟩			100								
2479.0(20)	⟨1 ⁻ , 3 ⁻ ⟩		7.7									

Energy levels and branching ratios [02Ba93]. Part 3

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	317.309 9 ⁻	368.91 13 ⁺	449.599 11 ⁻	487.29 11 ⁻	501.37 ⟨15 ⁺ ⟩	509.32 13 ⁻	604.38 ⟨13 ⁻ ⟩	648.22 ⟨17 ⁺ ⟩	766.3 ⟨3 ⁺ ⟩	780.32 ⟨15 ⁻ ⟩
449.60(2)	11 ⁻		60(3)									
501.37(13)	⟨15 ⁺ ⟩			31(3)								
509.32(16)	13 ⁻					0.059(5)						
604.38(12)	⟨13 ⁻ ⟩		57(3)		38(4)							
648.22(13)	⟨17 ⁺ ⟩			70.9(13)			29(2)					
780.32(13)	⟨15 ⁻ ⟩			5.3(13)	64(3)				30.7(13)			
826.11(15)	⟨19 ⁺ ⟩						77.5(9)			22(2)		
833.08(16)	15 ⁻					87.0(20)		13.0(15)				
835.082(5)	7 ⁻		0.558(9)									
860.16(20)	17 ⁻							100				
948.371(8)	9 ⁻		1.36(3)		1.07(3)							
976.38(14)	⟨17 ⁻ ⟩						6(1)		72(3)			22(2)
980.91(13)	⟨13 ⁺ ⟩			26(3)			7.8(13)					
1004.77(16)	⟨21 ⁺ ⟩									81.4		
1024.63(2)	7 ⁻		6(1)									
1093.30(3)	9 ⁺					14(3)						
1114.0(2)	⟨15 ⁺ ⟩			19(3)								
1190.43(14)	⟨19 ⁻ ⟩									7.0(15)		74(3)
1265.86(16)	⟨17 ⁺ ⟩						11(2)					
1436.63(17)	⟨19 ⁺ ⟩									6.7(11)		
1517.2(4)	⟨17 ⁺ ⟩									42(17)		

(continued)

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	317.309 9 ⁻	368.91 13 ⁺	449.599 11 ⁻	487.29 11 ⁻	501.37 15 ⁺	509.32 13 ⁻	604.38 13 ⁻	648.22 17 ⁺	766.3 3 ⁺	780.32 15 ⁻
1971.7(15)	1,3										100	
2006.8(15)	1,3										100	

Energy levels and branching ratios [02Ba93]. Part 4

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	826.11 <19 ⁺	833.08 15 ⁻	860.16 17 ⁻	907.2 1,3	953.0 1 ⁻	976.38 17 ⁻	980.91 13 ⁺	984.037 9 ⁺	988.2 1 ⁻ , 3 ⁻	991.7 3 ⁻
860.16(20)	17 ⁻			<0.25								
1004.77(16)	<21 ⁺		18.6(18)									
1114.0(2)	<15 ⁺								81(9)			
1190.43(14)	<19 ⁻							19.4(15)				
1234.29(16)	<23 ⁺		82.4(11)									
1263.63(21)	19 ⁻			93(3)	7.3(6)							
1265.86(16)	<17 ⁺								28(4)			
1294.54(25)	<21 ⁻				100							
1421.45(15)	<21 ⁻		12.6(18)					72(3)				
1517.2(4)	<17 ⁺			58(17)								
1614.4(3)	<19 ⁺				100							
1626.17(18)	<21 ⁺		12(3)									
1656.41(20)	<19 ⁺		52(9)									
1665.22(24)	<21 ⁺		100									
1829.0(22)	1,3					21				79	<80	
1871.5(15)	<1 ⁻ , 3 ⁻					x						
1913.2(19)	1,3											100
2049.1(22)	1,3					100						
2479.0(20)	<1 ⁻ , 3 ⁻										<50	

Energy levels and branching ratios [02Ba93]. Part 5

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1004.77 <21 ⁺	1039.4 <1 ⁻ , 3 ⁻	1114.03 <15 ⁺	1190.43 <19 ⁻	1234.29 <23 ⁺	1263.63 19 ⁻	1265.86 17 ⁺	1294.54 21 ⁻	1331.2 3 ⁻	1421.45 21 ⁻
1234.29(16)	<23 ⁺		17.6(2)									
1265.86(16)	<17 ⁺				60(7)							
1421.45(15)	<21 ⁻					15.3(18)						
1435.90(18)	<25 ⁺		86.1(15)				13.9(6)					
1436.63(17)	<19 ⁺				38(4)				55(6)			
1626.17(18)	<21 ⁺								49(5)			

(continued)

 $^{171}_{70}\text{Yb}$

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* :	1004.77	1039.4	1114.03	1190.43	1234.29	1263.63	1265.86	1294.54	1331.2	1421.45
		$2J_f^\pi$:	$\langle 21^+ \rangle$	$\langle 1^-, 3^- \rangle$	$\langle 15^+ \rangle$	$\langle 19^- \rangle$	$\langle 23^+ \rangle$	19^-	$\langle 17^+ \rangle$	$\langle 21^- \rangle$	$\langle 3^- \rangle$	$\langle 21^- \rangle$
1656.41(20)	$\langle 19^+ \rangle$		48(9)									
1664.87(17)	$\langle 23^- \rangle$		14(2)			71(3)						15(2)
1724.43(19)	$\langle 27^+ \rangle$						87.3(17)					
1773.3(6)	$\langle 23^+ \rangle$		100									
1774.2(3)	$\langle 23^- \rangle$							94(3)		5.9(9)		
1807.6(3)	$\langle 25^- \rangle$									100		
1871.5(15)	$\langle 1^-, 3^- \rangle$			x								
1884.8(4)	$\langle 21^+ \rangle$							46(16)				
1919.57(18)	$\langle 25^- \rangle$						22(3)					67(3)
1986.1(3)	$\langle 23^+ \rangle$									72(9)		
2059.89(20)	$\langle 25^+ \rangle$						31(4)					
2069.9(3)	$\langle 23^+ \rangle$						29(10)					
2087.3(4)	$\langle 25^+ \rangle$						53(13)					
2138.4(23)	$\langle 1^-, 3^- \rangle$			20							80	
2446.9(18)	1,3										25	

Energy levels and branching ratios [02Ba93]. Part 6

 $^{171}_{70}\text{Yb}$

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	1435.90 $\langle 25^+ \rangle$	1436.63 $\langle 19^+ \rangle$	1517.2 $\langle 17^+ \rangle$	1536.9 1,3	1614.4 $\langle 19^+ \rangle$	1626.17 $\langle 21^+ \rangle$	1656.41 $\langle 19^+ \rangle$	1664.87 $\langle 23^- \rangle$	1665.22 $\langle 21^+ \rangle$	1702.6 1,3
1626.17(18)	$\langle 21^+ \rangle$			38(4)								
1724.43(19)	$\langle 27^+ \rangle$		12.7(9)									
1834.79(21)	$\langle 23^+ \rangle$			65(6)				35(3)				
1884.8(4)	$\langle 21^+ \rangle$				54(8)							
1919.57(18)	$\langle 25^- \rangle$									10.6(13)		
1938.18(21)	$\langle 29^+ \rangle$		92.5(16)									
1986.1(3)	$\langle 23^+ \rangle$					28(6)						
2059.89(20)	$\langle 25^+ \rangle$							53(6)				
2069.9(3)	$\langle 23^+ \rangle$		38(10)						33(10)			
2087.3(4)	$\langle 25^+ \rangle$										47(7)	
2179.83(21)	$\langle 27^- \rangle$		18(4)							74(4)		
2334.3(6)	$\langle 27^+ \rangle$		100									
2358.8(6)	$\langle 27^+ \rangle$		100									
2446.9(18)	1,3					75						
2479.0(20)	$\langle 1^-, 3^- \rangle$											92

Energy levels and branching ratios [02Ba93]. Part 7

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1724.43 $\langle 27^+ \rangle$	1774.2 $\langle 23^- \rangle$	1807.6 $\langle 25^- \rangle$	1834.79 $\langle 23^+ \rangle$	1884.8 $\langle 21^+ \rangle$	1919.57 $\langle 25^- \rangle$	1938.18 $\langle 29^+ \rangle$	1986.1 $\langle 23^+ \rangle$	2059.89 $\langle 25^+ \rangle$	2069.9 $\langle 23^+ \rangle$
1938.18(21)	$\langle 29^+ \rangle$		7.5(5)									
2059.89(20)	$\langle 25^+ \rangle$					16(2)						
2179.83(21)	$\langle 27^- \rangle$							8.4(16)				
2293.86(25)	$\langle 31^+ \rangle$		90(3)						9.8(20)			
2306.14(25)	$\langle 27^+ \rangle$					81(9)					19(2)	
2318.7(4)	$\langle 25^+ \rangle$			30(5)			70(15)					
2359.8(4)	$\langle 27^- \rangle$			100								
2392.9(3)	$\langle 29^- \rangle$				100							
2428.5(3)	$\langle 27^+ \rangle$				53(7)					47(7)		
2447.23(20)	$\langle 29^- \rangle$		32(5)					60(5)				
2509.0(3)	$\langle 33^+ \rangle$								100			
2566.6(3)	$\langle 29^+ \rangle$										83(9)	
2578.1(4)	$\langle 27^+ \rangle$								35(7)			65(14)
2717.10(25)	$\langle 31^- \rangle$								24(3)			

Energy levels and branching ratios [02Ba93]. Part 8

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2087.3 $\langle 25^+ \rangle$	2179.83 $\langle 27^- \rangle$	2293.86 $\langle 31^+ \rangle$	2306.14 $\langle 27^+ \rangle$	2318.7 $\langle 25^+ \rangle$	2359.8 $\langle 27^- \rangle$	2392.9 $\langle 29^- \rangle$	2428.5 $\langle 27^+ \rangle$	2446.9 1,3	2447.23 $\langle 29^- \rangle$
2447.23(20)	$\langle 29^- \rangle$			8(2)								
2566.6(3)	$\langle 29^+ \rangle$					17(2)						
2596.3(7)	$\langle 29^+ \rangle$	100										
2717.10(25)	$\langle 31^- \rangle$			70(7)								5.6(17)
2820.8(4)	$\langle 29^+ \rangle$						100	<5				
2846.1(3)	$\langle 31^+ \rangle$					87(10)						
2939.1(3)	$\langle 35^+ \rangle$				100							
2944.6(4)	$\langle 31^+ \rangle$								24(5)	76(10)		
2984.0(4)	$\langle 33^- \rangle$				32(5)				26(3)		42(11)	
3015.1(6)	$\langle 31^- \rangle$							100				
3059.0(4)	$\langle 33^- \rangle$								79(6)		21(7)	

Energy levels and branching ratios [02Ba93]. Part 9

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2509.0 $\langle 33^+ \rangle$	2566.6 $\langle 29^+ \rangle$	2717.10 $\langle 31^- \rangle$	2820.8 $\langle 29^+ \rangle$	2846.1 $\langle 31^+ \rangle$	2939.1 $\langle 35^+ \rangle$	2944.6 $\langle 31^+ \rangle$	2984.0 $\langle 33^- \rangle$	3015.1 $\langle 31^- \rangle$	3059.0 $\langle 33^- \rangle$
2846.1(3)	$\langle 31^+ \rangle$			13(3)								
3142.7(5)	$\langle 33^+ \rangle$			87(22)			13(4)					

(continued)

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2509.0 $\langle 33^+ \rangle$	2566.6 $\langle 29^+ \rangle$	2717.10 $\langle 31^- \rangle$	2820.8 $\langle 29^+ \rangle$	2846.1 $\langle 31^+ \rangle$	2939.1 $\langle 35^+ \rangle$	2944.6 $\langle 31^+ \rangle$	2984.0 $\langle 33^- \rangle$	3015.1 $\langle 31^- \rangle$	3059.0 $\langle 33^- \rangle$
3146.5(4)	$\langle 37^+ \rangle$		100									
3281.8(3)	$\langle 35^- \rangle$		16(4)		84(14)							
3389.8(7)	$\langle 33^+ \rangle$					100						
3448.0(6)	$\langle 35^+ \rangle$						100					
3538.3(6)	$\langle 35^+ \rangle$								100			
3567.6(5)	$\langle 37^- \rangle$							12(7)		88(15)		
3656.5(6)	$\langle 39^+ \rangle$							100				
3746.7(8)	$\langle 35^- \rangle$										100	
3772.5(6)	$\langle 37^- \rangle$											100

Energy levels and branching ratios [02Ba93]. Part 10

 $^{171}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage											
		E_f^* : $2J_f^\pi$:	3142.7 $\langle 33^+ \rangle$	3146.5 $\langle 37^+ \rangle$	3281.8 $\langle 35^- \rangle$	3448.0 $\langle 35^+ \rangle$	3567.6 $\langle 37^- \rangle$	3656.5 $\langle 39^+ \rangle$	3779.1 $\langle 37^+ \rangle$	3848.0 $\langle 41^+ \rangle$	3882.7 $\langle 39^- \rangle$	4103.0 $\langle 39^+ \rangle$	4197.6 $\langle 41^- \rangle$
3779.1(7)	$\langle 37^+ \rangle$		100										
3848.0(6)	$\langle 41^+ \rangle$			100									
3882.7(5)	$\langle 39^- \rangle$			15(5)	85(15)								
4103.0(8)	$\langle 39^+ \rangle$					100							
4197.6(11)	$\langle 41^- \rangle$						100						
4442.5(8)	$\langle 43^+ \rangle$							100					
4468.1(12)	$\langle 41^+ \rangle$								100				
4612.1(8)	$\langle 45^+ \rangle$									100			
4812.0(10)	$\langle 43^+ \rangle$											100	
4879.7(15)	$\langle 45^- \rangle$												100

Energy levels and branching ratios [95Si16].

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p,d)	σ (d,p)	σ (d,t)	σ (t,d)	S_N	σ (d,t)	S_N	σ (τ,α)	L	$d\sigma/d\Omega$	σ (p,t)	S_N	Γ_{γ_0}	Ref.
[keV]		<i>rel.</i>	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(τ, α)	$\mu\text{b/sr}$	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(p, α)	[meV]	
0.0	0^+		37*	7(1)	650(13)	6.5	1.3(3)			0	302	886(11)**	0.35		67Bu21
78.743(1)	2^+	0.83	17	212(6)	154(6)	0.93	70(2)	1.2	3.9(3)		39	288(6)	0.36		76TaZZ
260.27(1)	4^+	0.58	20	146(6)	150(7)	1.1	56(2)	0.78	3.1(3)		15	80(2)	0.71		76TaZZ
539.98(1)	6^+	0.04	2	12(2)	5(2)	2.9	8.6(6)	1.4	1.0(4)			16(1)	≈ 3		76TaZZ
912.12(7)	8^+			1.9(6)			0.6(2)					1.6(11)			72On01
1042.91(2)	0^+		≈ 3	1.9(8)	61(6)		0.3(2)			0	43	37(2)			67Bu21
1117.87(1)	2^+	0.21	≈ 4	74(8)	14(2)		25(2)		2.3(3)		≤ 3	30(2)			76TaZZ
1154.93(1)	1^-											14(1)			73Oo01

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p,d)	σ (d,p)	σ (d,t)	σ (t,d)	S_N	σ (d,t)	S_N	σ (τ,α)	L	$d\sigma/d\Omega$	σ (p,t)	S_N	Γ_{γ_0}	Ref.
[keV]		<i>rel.</i>	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(τ,α)	$\mu\text{b/sr}$	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(p, α)	[meV]	
1172.38(1)	3^+	0.93	5	384(10)	18(2)	0.40	78(2)	1.5	3.8(4)			8.6(9)	0.25		76TaZZ
1198.47(1)	2^-			5(3)			3.1(4)								72On01
1221.72(1)	3^-	0.02		18(2)	9(2)	1.8	5.7(6)					18(1)			76TaZZ
1263.03(1)	4^+	0.18	49	62(5)	253(10)	0.51	23(1)	0.5	≈ 2		13	49(2)	0.24		76TaZZ
1286.54(3)	4^+	0.12		42(5)	5.5(13)		18(1)		≈ 4		≈ 3	8(1)			76TaZZ
1330.69(1)	4^-	0.02		10(1)		1.3	6.3(6)	0.62	3.8(13)						76TaZZ
1352.95(9)	$\langle 5^- \rangle$	0.02	≈ 2	12(2)		1.3	9.7(10)	0.99	12(2)			9(1)			76TaZZ
1370.1(1)	10^+														
1375.81(1)	5^+	0.08	< 2	42(5)	≤ 1.2	0.57	17(2)	0.47	2.5(8)				0.35		76TaZZ
1405.01(1)	0^+											4.8(7)			73Oo01
1465.87(1)	2^+	0.07	≈ 2	105(6)	4.4(15)		18(1)			2	7	68(2)			76TaZZ
1476.78(2)	2^+	0.02		10(3)			3.6(5)								76TaZZ
1496.1(10)		0.02					6.2(6)								76TaZZ
1510.18(1)	6^+	0.02	≈ 2	15(2)	5(3)	0.9	8.2(11)					10(1)	0.5		76TaZZ
1537.50(6)	6^+											6.7(7)			73Oo01
1540.61(6)	6^-	0.06		8(3)		1.2	7.5(12)	1.2	25(1)						76TaZZ
1549.15(2)	3^+		20	57(4)	97(8)		17(2)								67Bu21
1550.43(6)	6^-	0.12		incl	incl										76TaZZ
1550.8(7)				incl	incl										
1557.58(6)	7^-					2.6	6.1(16)					7.5(8)			72On01
1599.87(1)	1^-													15.3(46)	
1608.49(1)	2^+	1.00	≈ 3	343(20)	10(2)	0.70	72(2)					7.0(9)			76TaZZ
1633.14(6)	$\langle 4 \rangle^+$	0.05	≈ 2	7.6(20)	9(2)		3.3(3)					4.1(7)			76TaZZ
1640.56(1)	4^-			incl	incl										
1657.79(2)	$\langle 4 \rangle^+$			271(11)	71(14)						9	24(2)			83Bu03
1662.81(1)	3^+	0.85	20	incl	42(12)	2.3	52(7)	0.7	16(1)				0.24		76TaZZ
1666.12(5)	$\langle 7^+ \rangle$			incl											
1670.6(1)	$\langle 7^- \rangle$	0.07		incl		2.2	18(4)								76TaZZ
1700.64(1)	3^+	0.13	33	49(5)	247(10)	0.30	14(1)	1.5	5.8(13)				0.24		76TaZZ
1706.45(1)	5^-											19(2)			73Oo01
1707.8(3)															
1710.48(2)	$3^{\langle - \rangle}$														
1720(5)							2.9(6)								72On01
1749.21(1)	4^+	0.08	32	15(4)	146(7)	0.8	9.4(9)	0.22	2.5(4)				0.22		76TaZZ
1757.37(1)	$\langle 2 \rangle^-$	0.02		12(4)			5.7(9)					4(1)			76TaZZ
1778.86(5)	5^+	0.03		12(2)	4.7(14)		6.1(6)								76TaZZ
1789(5)	$\langle 4^+ \rangle$		≈ 6										0.24		67Bu21
1794.08(5)	0^+				38(4)							26(2)			73Oo01
1802.65(5)	6^-			40(4)	incl										82Bu23
1803.11(1)	4^+	0.15		incl		0.9	22(11)								76TaZZ
1810.3(1)	$\langle 8^- \rangle$	0.06		incl		0.7	6(3)	1.4	29(1)						76TaZZ
1821.58(1)	3^-			4(1)							15	32(2)			83Bu03
1828.8(2)	8^-	0.03		incl		3.1	2.2(4)	1.7	4.1(13)						72On01
1839.8(1)	9^-														
1841.84(8)	$\langle 8^+ \rangle$														

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p,d)	σ (d,p)	σ (d,t)	σ (t,d)	S_N	σ (d,t)	S_N	σ (τ,α)	$d\sigma/d\Omega$	σ (p,t)	S_N	Γ_{γ_0}	Ref.
[keV]		<i>rel.</i>	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(τ,α)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(p, α)	[meV]	
1849.17(2)	2^+				10(2)						13(1)			73Oo01
1853.5(1)	8^+		≈ 3							5				67Bu21
1862.80(2)	$\langle 5 \rangle^+$			12(1)	5.6(13)	1.0	5.5(6)	0.27	1.1(4)			0.39		72On01
1869.63(1)	$\langle 4,5 \rangle^-$													
1887(5)				6(1)			2.6(4)							72On01
1894.62(3)	0^+		4		≤ 42						22(2)			67Bu21
1899.30(20)														
1907.48(14)	$\langle 12^+ \rangle$													
1919.84(8)	$\langle 5,6 \rangle$						2.4(10)				14(1)			72On01
1921.80(20)	$\langle 7^- \rangle$		12		19(3)									67Bu21
1927.02(1)	5^+			28(3)	incl	0.8	11(2)	0.43	2.2(3)			0.35		72On01
1956.35(3)	2^+			4(1)	22(3)		1.8(4)				18(1)			72On01
1968.20(14)	$\langle 9^- \rangle$	0.05	12	≤ 2		1.3	6.5(7)	0.95	16(1)					76TaZZ
1975.63(14)	$\langle 4^+ \rangle$				14(2)									99Bu25
2007.98(14)	$\langle 6^+ \rangle$										7(1)			73Oo01
2009.80(3)	1^+	0.06		35(3)		0.65	10(1)	3.3	20(4)					76TaZZ
2030(5)	3^-										5(1)			73Oo01
2039.38(22)	$\langle 9^+ \rangle$													
2046.99(3)	$\langle 2 \rangle^+$			36(2)	15(2)	0.51	9.1(7)	1.1	3.3(3)		8(1)			72On01
2064.04(20)	$\langle 8^- \rangle$										9(1)			73Oo01
2073.11(1)	4^+			8(1)								0.94		99Bu25
2075.27(11)	$\langle 6^+ \rangle$			incl		0.8	3.2(6)							72On01
2076.17(1)	$\langle 1 \rangle^-$			incl										
2084.81(20)														
2100.22(17)	$\langle 4^+ \rangle$		2	6(1)	8.5(17)		3.1(8)				3(1)			67Bu21
2102.94(2)	1^-													
2108(5)	$\langle 3^+ \rangle$			25(2)		0.25	7.7(19)	0.36	2.8(4)					72On01
2115.8(8)	$0^- - 2^-$		6				0.7(6)							67Bu21
2125(2)					8(3)									99Bu25
2145.03(22)	$\langle 10^- \rangle$													
2154.30(21)	$\langle 7 \rangle$													
2156.43(3)	$\langle 6^+ \rangle$													82Bu23
2160.7(8)	$\langle 0^- - 2^- \rangle$													
2175.06(1)	3^+		5	18(2)	9(2)					8				67Bu21
2176.20(5)	$\langle 1 \rangle^-$			incl	incl					incl				83Bu03
2180(5)	$\langle 6^- \rangle$			incl	incl	1.2	7.9(8)	0.42	2.8(4)					72On01
2181.97(3)	$\langle 4-6 \rangle^+$													
2184(7)	$\langle 2^+ \rangle$										5(1)			73Oo01
2192.13(1)	5^+			11(2)	22(3)		2.2(4)					0.83		72On01
2193.02(24)	$\langle 10^- \rangle$			incl	incl									
2193.16(12)	$\langle 4^+ \rangle$			incl	incl	0.08								72On01
2194.33(1)	$\langle 1^+ \rangle$			incl	incl									
2195.03(5)	$\langle 1,2^+ \rangle$			incl	incl									
2199.47(21)	$\langle 11^- \rangle$													
2210(1)	$1^{(-)}$												39.3(76)	

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (d,p)	σ (d,t)	σ (t,d)	S_N	σ (d,t)	S_N	σ (τ,α)	L	$d\sigma/d\Omega$	σ (p,t)	S_N	$\Gamma_{\gamma o}$	Ref.
[keV]		$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(τ,α)	$\mu\text{b/sr}$	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(p, α)	[meV]	
2212.52(24)	$\langle 10^+ \rangle$													
2213.31(2)	$3^+, 4^+$	38	4.7(11)	64(6)		1.6(4)								72On01
2214.06(8)	$\langle 1^- \rangle$	incl	incl	incl										67Bu21
2225.3(3)	9^-													
2228.63(4)	2^+		12(2)	154(6)		2.9(6)			2	10	26(1)			72On01
2248.19(14)														
2255(5)	$\langle 2^+ \rangle$							1.3(4)			5(1)			72On01
2256.3(3)	$\langle 10^+ \rangle$													
2272			15(2)			3.6(5)								72On01
2285.40(1)	4^+	24		40(6)				2.9(5)						67Bu21
2293.4(10)	$\langle 0^- - 2^- \rangle$		13(2)			6.4(6)								72On01
2299.29(23)				36(4)										82Bu23
2306.20(22)	$\langle 0^- - 2^- \rangle$													
2307.79(2)	$3^+, 4^+$													
2312.90(8)	$\langle 2^+ \rangle$													
2316.97(10)	$1, 2^{(+)}$		23(4)			6.8(7)								72On01
2327.58(7)	$\langle 2^+ \rangle$	≈ 8	9(4)	obsc		3.7(5)								72On01
2333(5)	$\langle 6^+ \rangle$										33(2)	1.8		73Oo01
2340.7(3)	$\langle 11^- \rangle$													
2341.86(3)	$\langle 0^+ - 2^+ \rangle$													
2343.72(2)	4^+	19	5(2)	51(10)										67Bu21
2346(5)	$\langle 7^- \rangle$		incl		0.63	4.7(6)	0.51	8.3(8)						72On01
2352.6(8)	$\langle 0^- - 2^- \rangle$													
2356.59(11)	$\langle 0^- - 2^- \rangle$													
2367(5)	$\langle 2^+ \rangle$	80	14(2)	36(12)		4.7(7)					20(1)			72On01
2369.2(8)	$\langle 0^- - 2^- \rangle$	incl												67Bu21
2375.37(3)	$\langle 1^+, 2 \rangle$	incl	≤ 3.3	260(26)										67Bu21
2387.71(2)	$\langle 1^+, 2^+ \rangle$			69(4)										99Bu25
2392.3(4)											5(1)			73Oo01
2404.8(10)	$\langle 0^- - 2^- \rangle$		3(1)	13(2)										82Bu23
2411.4(3)	$\langle 10^- \rangle$		8(1)			3.3(4)								72On01
2439.2(8)	$\langle 0, 1, 2 \rangle$		≤ 3.3	12(2)							10(1)			73Oo01
2444.2(8)	$\langle 0, 1, 2 \rangle$			incl										
2456			10(2)	58(6)		3.3(4)		3.3(11)						72On01
2464.09(8)	$\langle 2^+ \rangle$		incl								11(1)			73Oo01
2465.22(21)	$\langle 7, 8 \rangle$													82Bu23
2480.04(2)	$\langle 1^+, 2^+ \rangle$		7(1)	216(8)		1.9(11)					32(3)			72On01
2488.7(5)			≤ 2											99Bu25
2492.2(4)	$\langle 11^+ \rangle$													
2503.9(3)			5(2)											99Bu25
2515.1(4)				80(8)										99Bu25
2518.7(4)	$\langle 14^+ \rangle$													
2524.1(3)				64(14)										99Bu25
2534.9(3)	$\langle 0^+ \rangle$		10(4)								31(2)			73Oo01
2539.2(4)														

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p,d)	σ (d,p)	σ (d,t)	σ (t,d)	S_N	σ (d,t)	S_N	σ (τ,α)	L	$d\sigma/d\Omega$	σ (p,t)	Γ_{γ_0}	Ref.
[keV]		<i>rel.</i>	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(τ, α)	$\mu\text{b/sr}$	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	[meV]	
2545(5)	$\langle 8^- \rangle$					1.6	7.5(9)	0.71	16(1)					72On01
2547.0(6)				13(3)	124(8)									82Bu23
2554.2(3)	$\langle 12^- \rangle$						3.9(8)							72On01
2559.5(3)				8(2)	149(9)		5.5(8)							72On01
2567.6(5)														
2573(1)	1												25.4(65)	
2575.6(3)	$\langle 2^+ \rangle$											13(2)		73Oo01
2582.8(4)							5.1(35)		12(1)					72On01
2588.5(4)				41(5)	116(7)		7(6)							72On01
2598.9(5)				128(8)										99Bu25
2599.7(5)	$\langle 4^+ \rangle$					1.4	42(21)							72On01
2607.2(4)	$\langle 12^+ \rangle$													
2607.3(2)														
2609.2(4)	$\langle 11^- \rangle$													
2612(1)	1												22.6(61)	
2627.9(3)					38(5)		9(1)							72On01
2629.8(4)	$\langle 12^- \rangle$													
2636.1(3)	$\langle 13^- \rangle$													
2650.0(4)	$\langle 2^+ \rangle$						5.6(6)		8(3)					72On01
2653.3(3)														
2668.1(3)							8.4(9)		24(5)					72On01
2676.0(15)					13(2)		13(1)							72On01
2689.8(4)	$\langle 9^- \rangle$						4.2(6)							72On01
2697(5)	$\langle 5^+ \rangle$					0.82	21(1)	1.1	16(2)					72On01
2700.3(3)					27(3)									99Bu25
2713.6(7)														
2721.0(8)							4.6(7)							72On01
2732.8(3)							5.1(6)							72On01
2738(5)	$\langle 2^+ \rangle$											7(2)		73Oo01
2741(5)	$\langle 9^- \rangle$					4.2	8.5(9)	1.7	21(1)					72On01
2746.5(5)	$\langle 12^+ \rangle$													
2747.3(6)					58(6)									
2766.3(4)					177(9)		2.2(4)							72On01
2776.8(6)					64(6)		3.2(28)							72On01
2781.4(14)							11(5)							72On01
2786.8(4)	$\langle 13^- \rangle$						14(7)							72On01
2787(5)	$\langle 8^+ \rangle$					0.8		1.2	57(3)			6(1)		73Oo01
2787.6(4)														
2795.9(5)							34(9)							72On01
2808.0(4)							8.0(11)							72On01
2818.5(7)	$\langle 6^+ \rangle$				49(5)	0.63	10(2)	0.91	13(2)			9(2)		72On01
2831(5)							15(2)							72On01
2834.6(5)	$\langle 2^+ \rangle$				90(10)							9(2)		73Oo01
2840.8(5)	$\langle 12^- \rangle$													
2844.3(5)					281(14)									82Bu23

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p,d)	σ (d,p)	σ (d,t)	σ (t,d)	S_N	σ (d,t)	S_N	σ (τ,α)	L	$d\sigma/d\Omega$	σ (p,t)	Γ_{γ_0}	Ref.
[keV]		<i>rel.</i>	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(τ,α)	$\mu\text{b/sr}$	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	[meV]	
2856.4(5)	$\langle 10^- \rangle$													
2861.8(9)					171(10)		4.7(6)							72On01
2864.6(6)														
2872.2(5)														
2881.0(6)					250(50)		9.1(9)		9(1)					72On01
2887.3(8)	$\langle 2^+ \rangle$				160(40)		2.8(7)							72On01
2904.2(10)							4.6(7)		6.5(7)					72On01
2916.4(8)					94(6)		4.3(6)							72On01
2943.0(6)					129(8)		8.2(14)							72On01
2959.8(6)					74(7)		6.4(7)		6.6(5)					72On01
2967.7(7)					126(7)									99Bu25
2985.4(8)														
2991.7(6)	$\langle 2^+ \rangle$				232(9)				2.8(4)					72On01
2993.8(9)					incl									
2983	1													05Sa15
3002(1)	1						5.5(7)					35.0(91)		72On01
3012.7(6)					130(8)		4.2(6)							72On01
3017(1)	1											9.1(51)		
3020.0(5)	$\langle 13^+ \rangle$													
3020.2(6)														
3034.2(4)	$\langle 14^- \rangle$													
3036.8(6)														
3043.9(5)	$\langle 14^+ \rangle$													
3044.5(6)	$\langle 11^- \rangle$													
3058.0(13)														
3072(1)	$1^{(-)}$						8.5(11)		2.8(6)			32.1(98)		72On01
3074.8(6)							4.9(12)							72On01
3081(6)							3.5(12)							72On01
3085(6)							8.9(14)							72On01
3096(1)	1											9.4(50)		
3098.7(6)							8.4(19)		5.5(8)					72On01
3106.3(6)							8.7(17)							72On01
3118(1)	$1^{(-)}$						8.7(13)					24(10)		72On01
3120.1(6)							incl							72On01
3130.6(6)							4.9(9)							72On01
3134.6(5)	$\langle 14^- \rangle$													
3141.3(6)							8.1(8)		4.8(7)					72On01
3146(5)							4.2(7)		incl					72On01
3155.9(7)														
3160(1)	$1^{(-)}$											47(14)		
3170.8(7)														
3174(1)	$1^{(-)}$											38(11)		
3175.6(7)														
3198.4(6)	$\langle 16^+ \rangle$													
3205.5(7)														

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p,d)	σ (d,p)	σ (d,t)	σ (t,d)	S_N	σ (d,t)	S_N	σ (τ,α)	L	$d\sigma/d\Omega$	σ (p,t)	Γ_{γ_0}	Ref.
[keV]		<i>rel.</i>	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(τ,α)	$\mu\text{b/sr}$	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	[meV]	
3246(1)	1^-												34(14)	
3251.6(11)														
3252.9(7)	$\langle 12^- \rangle$													
3253(1)	1												25.2(78)	
3254.4(7)														
3258.4(8)														
3260.2(5)														
3283.6(6)														
3289.2(8)														
3300.2(6)														
3308.5(7)														
3309.5(6)	$\langle 14^+ \rangle$													
3332.6(5)														
3334.6(9)														
3346.6(5)														
3360.7(7)														
3366.7(7)														
3381.5(5)														
3387.6(5)														
3393(1)	1^-												62(16)	
3404.6(6)														
3407.9(9)														
3426.4(7)														
3437.0(7)														
3465.1(6)														
3481.6(8)	$\langle 13^- \rangle$													
3490.3(12)														
3494.7(6)														
3506.0(6)														
3543.4(6)														
3545(1)	1^-												80(27)	
3557.3(5)														
3570.0(6)														
3586.9(7)														
3604(1)	1												89(22)	
3607.6(7)														
3620.8(6)														
3627.5(9)														
3634.3(7)														
3635(1)	1^-												136(31)	
3640.4(6)														
3657.0(6)														
3669.7(6)														
3680.9(6)														
3714.2(6)														

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p,d)	σ (d,p)	σ (d,t)	σ (t,d)	S_N	σ (d,t)	S_N	σ (τ,α)	L	$d\sigma/d\Omega$	σ (p,t)	S_N	Γ_{γ_0}	Ref.
[keV]		<i>rel.</i>	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(τ,α)	$\mu\text{b/sr}$	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(p, α)	[meV]	
3719.2(6)															
3740.9(5)															
3747.6(5)															
3754.7(10)															
3766.5(7)															
3777.0(6)															
3786.3(7)															
3799.0(6)															
3819.5(9)															
3829.1(7)															
3856.3(6)															
3863(1)	1													101(31)	
3876.4(6)															
3880.5(7)															
3901.6(8)															
3908.3(7)															
3917.3(6)															
3927.6(6)															
3955.7(7)															
3963.0(7)															
3984.9(7)															
3990.7(7)															
4008.8(7)															
4020.8(7)															
4043.4(7)															
4056.2(11)															
4062.1(6)															
4078.2(7)															
4162.8(6)															
4251.5(6)															

(continued)

¹⁷²Yb
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E^*	J^π	σ (p,d)	σ (d,p)	σ (d,t)	σ (t,d)	S_N	σ (d,t)	S_N	σ (τ,α)	$d\sigma/d\Omega$	σ (p,t)	S_N	Γ_{γ_0}	Ref.
[keV]		rel.	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,t)	$\mu\text{b/sr}$	(τ,α)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(p, α)	[meV]	
4351.5(7)		76TaZZ	67Bu21	99Bu25	99Bu25		72On01		72On01	83Bu03	73Oo01	82Bu23	90Zi01	Ref.

Additional data on this isotope can be found in [05Ve07, 02Ge12, 01Sc02, 00Jo11, 00Gu25, 90Zi01, 90Zi05].

Abundance: 21.83(67) %.

* Cross section of the (d,p) reaction at 90°; σ (d,p) measured at 45° and σ (d,d') measured at 90 and 125° as well as $R=(\sigma$ (d,d') at 90°)/(σ (d,d') at 125°) can be found in [67Bu21].

** Summed $d\sigma/d\Omega$ of the (p,t) reaction for four angles (12.5°, 27.5°, 42.5°, 55°) [73Oo01, 95Si16].

Spectroscopic factor $S_N=\sigma_{\text{exp}}/\sigma_{\text{theor}}$ for the (d,t) and (τ,α) reactions were deduced in evaluation [95Si16] from cross sections [72On01] given in Supplement (for 120° and 50°), data for 60° can be found in [72On01].

Presented σ (d,t) and σ (t,d) are from [99Bu25] where spectroscopic strengths were extracted and discussed; data on σ (d,t) measured at 60° and 90° can be found in [67Bu21].

For the (p, α) reaction $S_N=\sigma_{\text{exp}}/\sigma_{\text{theor}}$ is from [82Bu23].

For the levels at $E^*=1599$ and 2210 keV parameters $\Gamma_{\gamma_0}^{\text{red}}=3.7(11)$ and 3.6(7) meV as well as $B(E1)=11(3)$ and 10(2) in units $10^{-3}e^2fm^2$ were given in [91Zi01]; Γ_{γ_0} for these and other levels are from [90Zi01], see $B(E1)$ and $B(M1)$ therein.

Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [95Si16]. Part 2

¹⁷²Yb
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E^*	J^π	σ (p, α)	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		$\mu\text{b/sr}$	Γ_{cm}		E_f^* : 0.0	78.7	260	540	912	1043	1117	
					J_f^π : 0 ⁺	2 ⁺	4 ⁺	6 ⁺	8 ⁺	0 ⁺	2 ⁺	
0.0	0 ⁺	0.7	Stable	67Bu21								
78.743(1)	2 ⁺	1.7	1.65(5) ns	76TaZZ		100						
260.27(1)	4 ⁺	1.0	0.122(8) ns	76TaZZ			100					
539.98(1)	6 ⁺	0.3	16.6(15) ps	76TaZZ				100				
912.12(7)	8 ⁺		3.5(3) ps	72On01					100			
1042.91(2)	0 ⁺		3.3(9) ps	67Bu21	x	100						
1117.87(1)	2 ⁺		3.7(4) ps	76TaZZ	15(1)	42(1)	42(1)					
1154.93(1)	1 ⁻			73Oo01	15.9(6)	84.1(4)						
1172.38(1)	3 ⁺	1.8	8.14(17) ns	76TaZZ		80(2)	19.7(6)					
1198.47(1)	2 ⁻			72On01		100						
1221.72(1)	3 ⁻			76TaZZ		46(4)	54(2)					
1263.03(1)	4 ⁺	1.3	0.49(3) ns	76TaZZ		3.3(12)	49(1)	4.2(1)				
1286.54(3)	4 ⁺			76TaZZ		18(3)	61(2)	21(3)				
1330.69(1)	4 ⁻			76TaZZ			98(2)					
1352.95(9)	$\langle 5^- \rangle$			76TaZZ			65(6)	35(2)				
1370.1(1)	10 ⁺		1.32(8) ps						100			
1375.81(1)	5 ⁺	0.8	0.21(6) ns	76TaZZ			6.4(7)	7(1)				
1405.01(1)	0 ⁺		0.42(6) ns	73Oo01	x	45(3)				x	52(7)	

(continued)

 ^{172}Yb
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E^* [keV]	J^π	σ (p, α) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					E_f^* : J_f^π :	0.0 0 ⁺	78.7 2 ⁺	260 4 ⁺	540 6 ⁺	912 8 ⁺	1043 0 ⁺	1117 2 ⁺
1465.87(1)	2 ⁺		0.47(3) ps	76TaZZ	43(2)	55(2)	1.6(1)				0.16(1)	0.17(1)
1476.78(2)	2 ⁺		48(11) ps	76TaZZ	24(1)	67(2)	8(1)					0.81(10)
1496.1(10)				76TaZZ								
1510.18(1)	6 ⁺	0.3		76TaZZ					5.9(4)			
1537.50(6)	6 ⁺			73Oo01					85(3)	8.0(16)		
1540.61(6)	6 ⁻			76TaZZ					77(3)			
1549.15(2)	3 ⁺			67Bu21		77(2)	22(1)					0.25(2)
1550.43(6)	6 ⁻		3.6(1) μs	76TaZZ					24.5(10)			
1550.8(7)							100					
1557.58(6)	7 ⁻			72On01					69(3)	31(4)		
1599.87(1)	1 ⁻		11(3) fs		39(3)	60(2)						
1608.49(1)	2 ⁺		1.1(2) ps	76TaZZ	43(3)	51(3)	1.7(1)				0.42(3)	
1633.14(6)	$\langle 4 \rangle^+$			76TaZZ		21(3)	79(4)					
1640.56(1)	4 ⁻		0.5(2) ns				1.0(3)					
1657.79(2)	$\langle 4 \rangle^+$		0.05(3) ps	83Bu03		35(6)	65(6)					
1662.81(1)	3 ⁺	1.8		76TaZZ		45(1)	13					0.44(9)
1666.12(5)	$\langle 7^+ \rangle$											
1670.6(1)	$\langle 7^- \rangle$			76TaZZ								
1700.64(1)	3 ⁺	1.8		76TaZZ		30(1)	8.5(3)					
1706.45(1)	5 ⁻			73Oo01			3.9(4)	8(1)				
1707.8(3)							100					
1710.48(2)	$3^{\langle - \rangle}$					59(4)	35(4)					
1720(5)				72On01								
1749.21(1)	4 ⁺	1.2		76TaZZ		20	43(1)	1.9(2)				
1757.37(1)	$\langle 2 \rangle^-$			76TaZZ		16(3)						
1778.86(5)	5 ⁺			76TaZZ			44(3)	56(7)				
1789(5)	$\langle 4^+ \rangle$			67Bu21								
1794.08(5)	0 ⁺		<0.15 ns	73Oo01	x	99(7)					x	
1802.65(5)	6 ⁻	1.3		82Bu23								
1803.11(1)	4 ⁺			76TaZZ		12	29(1)	1.2(2)				
1810.3(1)	$\langle 8^- \rangle$			76TaZZ								
1821.58(1)	3 ⁻			83Bu03		56(8)						
1828.8(2)	8 ⁻			72On01						53(4)		
1839.8(1)	9 ⁻									82(4)		
1841.84(8)	$\langle 8^+ \rangle$											
1849.17(2)	2 ⁺		0.8(5) ps	73Oo01	29(2)	47(3)	24(2)					
1853.5(1)	8 ⁺			67Bu21						48(3)		
1862.80(2)	$\langle 5 \rangle^+$	0.9		72On01			50(2)	16(2)				
1869.63(1)	$\langle 4,5 \rangle^-$							7(1)				
1887(5)				72On01								
1894.62(3)	0 ⁺		<0.15 ns	67Bu21	x	96(7)						2.0(4)
1899.30(20)							100					
1907.48(14)	$\langle 12^+ \rangle$		0.52(7) ps									
1919.84(8)	$\langle 5,6 \rangle$			72On01			17(6)	46(5)				
1921.80(20)	$\langle 7^- \rangle$			67Bu21								

(continued)

 ^{172}Yb
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E^*	J^π	σ (p, α)	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* : J_{f}^π :	0.0 0 ⁺	78.7 2 ⁺	260 4 ⁺	540 6 ⁺	912 8 ⁺	1043 0 ⁺	1117 2 ⁺
1927.02(1)	5 ⁺	0.8		72On01				35(1)	<15			
1956.35(3)	2 ⁺		0.29(15) ps	72On01	28(3)	37(3)	30(2)					2.39(6)
1968.20(14)	$\langle 9^- \rangle$			76TaZZ								
1975.63(14)	$\langle 4^+ \rangle$			99Bu25		28(3)	53(10)	19(3)				
2007.98(14)	$\langle 6^+ \rangle$	0.3		73Oo01			17(2)	37(3)				
2009.80(3)	1 ⁺			76TaZZ	43(5)	40(3)						2.1(2)
2030(5)	3 ⁻			73Oo01								
2039.38(22)	$\langle 9^+ \rangle$											
2046.99(3)	$\langle 2 \rangle^+$			72On01			60(12)	27(3)				
2064.04(20)	$\langle 8^- \rangle$			73Oo01								
2073.11(1)	4 ⁺			99Bu25			0.23(1)	0.30(1)	0.04			
2075.27(11)	$\langle 6^+ \rangle$			72On01				18(3)	48(5)			
2076.17(1)	$\langle 1 \rangle^-$						50(6)					
2084.81(20)												
2100.22(17)	$\langle 4^+ \rangle$			67Bu21				68(13)	32(13)			
2102.94(2)	1 ⁻				32(2)	65(7)						
2108(5)	$\langle 3^+ \rangle$			72On01								
2115.8(8)	0 ⁻ -2 ⁻			67Bu21								
2125(2)				99Bu25								
2145.03(22)	$\langle 10^- \rangle$											
2154.30(21)	$\langle 7 \rangle$		0.17(10) ns									
2156.43(3)	$\langle 6^+ \rangle$	1.6		82Bu23					100			
2160.7(8)	$\langle 0^- - 2^- \rangle$											
2175.06(1)	3 ⁺			67Bu21			3.2(2)	27.6(5)	x			
2176.20(5)	$\langle 1 \rangle^-$			83Bu03							26(3)	
2180(5)	$\langle 6^- \rangle$			72On01								
2181.97(3)	$\langle 4-6 \rangle^+$											
2184(7)	$\langle 2^+ \rangle$			73Oo01								
2192.13(1)	5 ⁺	4.4		72On01				0.69(7)	0.26(6)			
2193.02(24)	$\langle 10^- \rangle$											
2193.16(12)	$\langle 4^+ \rangle$			72On01					38(7)			
2194.33(1)	$\langle 1^+ \rangle$						56(8)					
2195.03(5)	$\langle 1, 2^+ \rangle$				72(9)						23(2)	
2199.47(21)	$\langle 11^- \rangle$											
2210(1)	1 $\langle^- \rangle$		4.6(9) fs		39(4)	61						
2212.52(24)	$\langle 10^+ \rangle$											
2213.31(2)	3 ⁺ , 4 ⁺	≈ 2		72On01								
2214.06(8)	$\langle 1^- \rangle$			67Bu21			67(6)					
2225.3(3)	9 ⁻											
2228.63(4)	2 ⁺			72On01				77(15)			9.3(3)	
2248.19(14)										100		
2255(5)	$\langle 2^+ \rangle$			72On01								
2256.3(3)	$\langle 10^+ \rangle$											
2272		1.1		72On01								
2285.40(1)	4 ⁺			67Bu21			0.1(1)	1.0(1)				

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p, α)	$T_{1/2}$ or	Ref.	Branching ratios in percentage						
[keV]		$\mu\text{b/sr}$	Γ_{cm}		E_f^* : 0.0	78.7	260	540	912	1043	1117
					J_f^π : 0^+	2^+	4^+	6^+	8^+	0^+	2^+
2293.4(10)	$\langle 0^- - 2^- \rangle$			72On01							
2299.29(23)		2.0	0.15(10) ns	82Bu23							
2306.20(22)	$\langle 0^- - 2^- \rangle$										
2307.79(2)	$3^+, 4^+$						1.8(4)				
2312.90(8)	$\langle 2^+ \rangle$					62(16)				16(9)	
2316.97(10)	$1, 2^{(+)}$			72On01		95(19)					
2327.58(7)	$\langle 2^+ \rangle$			72On01	79(14)						
2333(5)	$\langle 6^+ \rangle$	2.5		73Oo01							
2340.7(3)	$\langle 11^- \rangle$										
2341.86(3)	$\langle 0^+ - 2^+ \rangle$					92(23)					
2343.72(2)	4^+			67Bu21		0.54(8)	9.0(3)	0.5(1)			
2346(5)	$\langle 7^- \rangle$			72On01							
2352.6(8)	$\langle 0^- - 2^- \rangle$										
2356.59(11)	$\langle 0^- - 2^- \rangle$										
2367(5)	$\langle 2^+ \rangle$			72On01							
2369.2(8)	$\langle 0^- - 2^- \rangle$			67Bu21							
2375.37(3)	$\langle 1^+, 2 \rangle$			67Bu21		84(13)					
2387.71(2)	$\langle 1^+, 2^+ \rangle$			99Bu25						32(4)	29(17)
2392.3(4)				73Oo01				100			
2404.8(10)	$\langle 0^- - 2^- \rangle$	7.0		82Bu23		[100]					
2411.4(3)	$\langle 10^- \rangle$			72On01							
2439.2(8)	$\langle 0, 1, 2 \rangle$			73Oo01							
2444.2(8)	$\langle 0, 1, 2 \rangle$										
2456				72On01							
2464.09(8)	$\langle 2^+ \rangle$			73Oo01							
2465.22(21)	$\langle 7, 8 \rangle$	1.4	0.13(10) ns	82Bu23							
2480.04(2)	$\langle 1^+, 2^+ \rangle$			72On01		78(6)					
2488.7(5)				99Bu25							
2492.2(4)	$\langle 11^+ \rangle$										
2503.9(3)				99Bu25							
2515.1(4)				99Bu25							
2518.7(4)	$\langle 14^+ \rangle$		0.29(4) ps								
2524.1(3)				99Bu25							
2534.9(3)	$\langle 0^+ \rangle$			73Oo01							
2539.2(4)											
2545(5)	$\langle 8^- \rangle$			72On01							
2547.0(6)		7.0		82Bu23							
2554.2(3)	$\langle 12^- \rangle$			72On01							
2559.5(3)				72On01							
2567.6(5)											
2573(1)	1		12(3) fs		66	34(6)					
2575.6(3)	$\langle 2^+ \rangle$			73Oo01							
2582.8(4)				72On01							
2588.5(4)				72On01							
2598.9(5)				99Bu25							

(continued)

 $^{172}_{70}\text{Yb}$

E^* [keV]	J^π	σ (p, α) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					E^*_f : J^π_f :	0.0 0^+	78.7 2^+	260 4^+	540 6^+	912 8^+	1043 0^+	1117 2^+
2599.7(5)	$\langle 4^+ \rangle$			72On01								
2607.2(4)	$\langle 12^+ \rangle$											
2607.3(2)												44(7)
2609.2(4)	$\langle 11^- \rangle$											
2612(1)	1		12(3) fs			59	41(8)					
2627.9(3)		≈ 1		72On01								
2629.8(4)	$\langle 12^- \rangle$											
2636.1(3)	$\langle 13^- \rangle$											
2650.0(4)	$\langle 2^+ \rangle$			72On01								
2653.3(3)												
2668.1(3)		5.6		72On01								
2676.0(15)				72On01								
2689.8(4)	$\langle 9^- \rangle$		0.7(1) ns	72On01								
2697(5)	$\langle 5^+ \rangle$			72On01								
2700.3(3)				99Bu25								
2713.6(7)												
2721.0(8)		1.8		72On01								
2732.8(3)				72On01								
2738(5)	$\langle 2^+ \rangle$	4.1		73Oo01								
2741(5)	$\langle 9^- \rangle$			72On01								
2746.5(5)	$\langle 12^+ \rangle$											
2747.3(6)												
2766.3(4)				72On01								
2776.8(6)				72On01								
2781.4(14)				72On01								
2786.8(4)	$\langle 13^- \rangle$			72On01								
2787(5)	$\langle 8^+ \rangle$			73Oo01								
2787.6(4)												
2795.9(5)				72On01								
2808.0(4)				72On01								
2818.5(7)	$\langle 6^+ \rangle$	≈ 1		72On01								
2831(5)				72On01								
2834.6(5)	$\langle 2^+ \rangle$			73Oo01								
2840.8(5)	$\langle 12^- \rangle$											
2844.3(5)		2.5		82Bu23								
2856.4(5)	$\langle 10^- \rangle$											
2861.8(9)				72On01								
2864.6(6)												
2872.2(5)												
2881.0(6)				72On01								
2887.3(8)	$\langle 2^+ \rangle$			72On01								
2904.2(10)				72On01								
2916.4(8)				72On01								
2943.0(6)				72On01								
2959.8(6)				72On01								

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p, α)	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		$\mu\text{b/sr}$	Γ_{cm}		E^*_f : J^π_f :	0.0 0 ⁺	78.7 2 ⁺	260 4 ⁺	540 6 ⁺	912 8 ⁺	1043 0 ⁺	1117 2 ⁺
2967.7(7)				99Bu25								
2985.4(8)												
2991.7(6)	$\langle 2^+ \rangle$			72On01								
2993.8(9)												
2983	1			05Sa15								
3002(1)	1		8.7(24) fs	72On01		66	34(7)					
3012.7(6)				72On01								
3017(1)	1		18(9) fs			35(16)	65					
3020.0(5)	$\langle 13^+ \rangle$											
3020.2(6)												
3034.2(4)	$\langle 14^- \rangle$											
3036.8(6)												
3043.9(5)	$\langle 14^+ \rangle$											
3044.5(6)	$\langle 11^- \rangle$											
3058.0(13)												
3072(1)	$1^{\langle - \rangle}$		6.1(20) fs	72On01		43(10)	57					
3074.8(6)				72On01								
3081(6)				72On01								
3085(6)				72On01								
3096(1)	1		17(9) fs			35	65(27)					
3098.7(6)				72On01								
3106.3(6)				72On01								
3118(1)	$1^{\langle - \rangle}$		8(4) fs	72On01		39(12)	61					
3120.1(6)				72On01								
3130.6(6)				72On01								
3134.6(5)	$\langle 14^- \rangle$											
3141.3(6)				72On01								
3146(5)				72On01								
3155.9(7)												
3160(1)	$1^{\langle - \rangle}$		3.4(10) fs			35(6)	65					
3170.8(7)												
3174(1)	$1^{\langle - \rangle}$		3.7(11) fs			31	69(14)					
3175.6(7)												
3198.4(6)	$\langle 16^+ \rangle$											
3205.5(7)												
3246(1)	$1^{\langle - \rangle}$		5.6(23) fs			42(12)	58					
3251.6(11)												
3252.9(7)	$\langle 12^- \rangle$											
3253(1)	1		12(4) fs			68	32(8)					
3254.4(7)												
3258.4(8)												
3260.2(5)												
3283.6(6)												
3289.2(8)												
3300.2(6)												

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p, α)	$T_{1/2}$ or Ref.	Branching ratios in percentage							
[keV]		$\mu\text{b/sr}$	Γ_{cm}	$E_{\text{f}}^*:$ $J_{\text{f}}^\pi:$	0.0 0^+	78.7 2^+	260 4^+	540 6^+	912 8^+	1043 0^+	1117 2^+
3308.5(7)	$\langle 14^+ \rangle$										
3309.5(6)											
3332.6(5)											
3334.6(9)											
3346.6(5)											
3360.7(7)											
3366.7(7)											
3381.5(5)	$1^{\langle - \rangle}$										
3387.6(5)											
3393(1)			2.7(7) fs		36(6)	64					
3404.6(6)											
3407.9(9)											
3426.4(7)											
3437.0(7)											
3465.1(6)	$\langle 13^- \rangle$										
3481.6(8)											
3490.3(12)											
3494.7(6)											
3506.0(6)											
3543.4(6)											
3545(1)			1.6(5) fs		29(6)	71					
3557.3(5)	1										
3570.0(6)											
3586.9(7)											
3604(1)			2.9(8) fs		57	43(7)					
3607.6(7)											
3620.8(6)											
3627.5(9)											
3634.3(7)	$1^{\langle - \rangle}$										
3635(1)			1.3(3) fs		38(5)	62					
3640.4(6)											
3657.0(6)											
3669.7(6)											
3680.9(6)											
3714.2(6)											
3719.2(6)											
3740.9(5)											
3747.6(5)											
3754.7(10)											
3766.5(7)											
3777.0(6)											
3786.3(7)											
3799.0(6)											
3819.5(9)											
3829.1(7)											

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	σ (p, α)	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* :	0.0	78.7	260	540	912	1043	1117
					J_{f}^π :	0^+	2^+	4^+	6^+	8^+	0^+	2^+
3856.3(6)	1		2.1(6) fs			47(10)	53					
3863(1)												
3876.4(6)												
3880.5(7)												
3901.6(8)												
3908.3(7)												
3917.3(6)												
3927.6(6)												
3955.7(7)												
3963.0(7)												
3984.9(7)												
3990.7(7)												
4008.8(7)												
4020.8(7)												
4043.4(7)												
4056.2(11)												
4062.1(6)												
4078.2(7)												
4162.8(6)												
4251.5(6)												
4351.5(7)												
				Ref.								

Energy levels and branching ratios [95Si16]. Part 3

 $^{172}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E^*_f :	1155	1172.39	1198.47	1221.72	1263.03	1286.54	1330.69	1352.95	1370.07	1375.82
		J^π_f :	1^-	3^+	2^-	3^-	4^+	4^+	4^-	$\langle 5^- \rangle$	10^+	5^+

1263.03(1)	4^+			44(1)								
1330.69(1)	4^-				1.8(9)							
1375.81(1)	5^+			69(1)			17(1)					
1405.01(1)	0^+	3.1(2)										
1465.87(1)	2^+			0.11(1)	0.02(1)							
1476.78(2)	2^+	0.40(11)										
1510.18(1)	6^+					85(3)						8.9(6)
1537.50(6)	6^+						7.0(16)					
1540.61(6)	6^-								18.7(9)	4(2)		
1549.15(2)	3^+					0.26(5)						
1550.43(6)	6^-									5(1)		71(3)
1599.87(1)	1^-				0.72(5)							
1608.49(1)	2^+			2.5(1)								
1640.56(1)	4^-						81(2)					18.1(5)

(continued)

 $^{172}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1155 1 ⁻	1172.39 3 ⁺	1198.47 2 ⁻	1221.72 3 ⁻	1263.03 4 ⁺	1286.54 4 ⁺	1330.69 4 ⁻	1352.95 ⟨5 ⁻ ⟩	1370.07 10 ⁺	1375.82 5 ⁺
1662.81(1)	3 ⁺			32(1)			9					
1666.12(5)	⟨7 ⁺ ⟩											87(4)
1700.64(1)	3 ⁺			57(1)			3.3(1)					
1706.45(1)	5 ⁻						15(1)					59(3)
1710.48(2)	3 ^{⟨-⟩}			5.4(4)								
1749.21(1)	4 ⁺			11.2(5)			25(1)					x
1757.37(1)	⟨2⟩ ⁻	37(3)			25(2)	7.2(5)						
1802.65(5)	6 ⁻											28(6)
1803.11(1)	4 ⁺			12			40(1)					3.5(2)
1821.58(1)	3 ⁻	17(3)	6(1)	10(1)	6(1)			x				
1839.8(1)	9 ⁻										12(4)	
1853.5(1)	8 ⁺										35(3)	
1862.80(2)	⟨5⟩ ⁺						23(3)					
1869.63(1)	⟨4,5⟩ ⁻											13(3)
1894.62(3)	0 ⁺	1.6(6)										
1907.48(14)	⟨12 ⁺ ⟩									100		
1927.02(1)	5 ⁺						13(1)					52(2)
1956.35(3)	2 ⁺					2.5(5)						
2009.80(3)	1 ⁺	11(2)		4(2)								
2046.99(3)	⟨2⟩ ⁺	3.6(2)										
2073.11(1)	4 ⁺		46.7(6)				26.0(4)					9.6(2)
2076.17(1)	⟨1⟩ ⁻			6.4(4)	23(4)							
2084.81(20)												100
2175.06(1)	3 ⁺			12(6)								
2176.20(5)	⟨1⟩ ⁻	35(3)										
2192.13(1)	5 ⁺		2.1(2)				55.8(13)					21.1(4)
2193.02(24)	⟨10 ⁻ ⟩									18(6)		
2193.16(12)	⟨4 ⁺ ⟩						51(4)					12(4)
2194.33(1)	⟨1 ⁺ ⟩			29(2)								
2199.47(21)	⟨11 ⁻ ⟩									84(7)		
2212.52(24)	⟨10 ⁺ ⟩									55(10)		
2213.31(2)	3 ⁺ ,4 ⁺		49(1)				8(1)					
2285.40(1)	4 ⁺		28(1)				24(1)					11(1)
2312.90(8)	⟨2 ⁺ ⟩							22(2)				
2327.58(7)	⟨2 ⁺ ⟩	11(6)										
2343.72(2)	4 ⁺		1.1(3)				38(1)					7.9(4)
2387.71(2)	⟨1 ⁺ ,2 ⁺ ⟩	9(2)	18(2)									
2464.09(8)	⟨2 ⁺ ⟩				66(6)							
2480.04(2)	⟨1 ⁺ ,2 ⁺ ⟩			3.2(4)								
2607.3(2)			20(7)	36(7)								

Energy levels and branching ratios [95Si16]. Part 4

 $^{172}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	1405.01 0 ⁺	1465.88 2 ⁺	1476.78 2 ⁺	1510.18 6 ⁺	1537.50 6 ⁺	1540.61 6 ⁻	1549.15 3 ⁺	1550.43 6 ⁻	1550.8	1557.58 7 ⁻
1608.49(1)	2 ⁺			1.0(1)	0.10(1)							
1662.81(1)	3 ⁺			0.47(4)	0.17(6)							
1666.12(5)	$\langle 7^+ \rangle$					13.4(15)						
1670.6(1)	$\langle 7^- \rangle$									100		
1700.64(1)	3 ⁺								0.57(10)			
1706.45(1)	5 ⁻					11(1)						
1749.21(1)	4 ⁺								<2			
1757.37(1)	$\langle 2 \rangle^-$			11(1)					3.1(4)			
1794.08(5)	0 ⁺	x			0.80(17)							
1802.65(5)	6 ⁻					56(6)						
1803.11(1)	4 ⁺			1.3(2)								
1810.3(1)	$\langle 8^- \rangle$										10(1)	
1821.58(1)	3 ⁻								6(3)			
1828.8(2)	8 ⁻							47(20)				
1839.8(1)	9 ⁻											6(2)
1841.84(8)	$\langle 8^+ \rangle$					100						
1853.5(1)	8 ⁺						17(4)					
1862.80(2)	$\langle 5 \rangle^+$					10(2)						
1919.84(8)	$\langle 5, 6 \rangle$					19(2)						
1921.80(20)	$\langle 7^- \rangle$					34(6)						
1927.02(1)	5 ⁺					<11						
2073.11(1)	4 ⁺			0.77(8)					0.35(1)			
2075.27(11)	$\langle 6^+ \rangle$					34(9)						
2076.17(1)	$\langle 1 \rangle^-$			3.6(6)								
2102.94(2)	1 ⁻	1.0(2)										
2154.30(21)	$\langle 7 \rangle$									42(8)		
2175.06(1)	3 ⁺			38(2)					14.3(6)			
2192.13(1)	5 ⁺					12.7(4)						
2194.33(1)	$\langle 1^+ \rangle$			3.3(4)	9.6(11)							
2195.03(5)	$\langle 1, 2^+ \rangle$			3.6(9)								
2213.31(2)	3 ⁺ , 4 ⁺								15(1)			
2214.06(8)	$\langle 1^- \rangle$			12(5)								
2307.79(2)	3 ⁺ , 4 ⁺								11(2)			
2327.58(7)	$\langle 2^+ \rangle$			7(2)	2.3(2)							
2387.71(2)	$\langle 1^+, 2^+ \rangle$								6(2)			
2480.04(2)	$\langle 1^+, 2^+ \rangle$			4.7(6)	5.0(4)							

Energy levels and branching ratios [95Si16]. Part 5

 $^{172}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E^*_f : J^π_f :	1599.87 1 ⁻	1608.49 2 ⁺	1640.56 4 ⁻	1657.79 $\langle 4 \rangle^+$	1662.81 3 ⁺	1666.12 $\langle 7^+ \rangle$	1670.55 $\langle 7^- \rangle$	1700.64 3 ⁺	1706.45 5 ⁻	1710.48 3 $\langle^- \rangle$
1706.45(1)	5 ⁻				4(2)							
1802.65(5)	6 ⁻				6(3)						10(3)	
1803.11(1)	4 ⁺			x	1.0(2)							
1810.3(1)	$\langle 8^- \rangle$								90(9)			
1841.84(8)	$\langle 8^+ \rangle$							x				
1862.80(2)	$\langle 5 \rangle^+$						<8					
1869.63(1)	$\langle 4,5 \rangle^-$				68(2)						13(1)	
1919.84(8)	$\langle 5,6 \rangle$							18(3)				
1921.80(20)	$\langle 7^- \rangle$							16(3)			37(6)	
1968.20(14)	$\langle 9^- \rangle$								22(2)			
2007.98(14)	$\langle 6^+ \rangle$					46(5)						
2039.38(22)	$\langle 9^+ \rangle$							100				
2064.04(20)	$\langle 8^- \rangle$							12(4)				
2073.11(1)	4 ⁺				2.56(7)	0.08(4)	3.09(5)			4.17(8)	0.45(2)	
2076.17(1)	$\langle 1 \rangle^-$	15(2)										2.4(12)
2154.30(21)	$\langle 7 \rangle$								58(12)			
2175.06(1)	3 ⁺			3.6(3)		1.9(3)						
2176.20(5)	$\langle 1 \rangle^-$	39(3)										
2181.97(3)	$\langle 4-6 \rangle^+$					x						
2192.13(1)	5 ⁺					2.3(3)						
2194.33(1)	$\langle 1^+ \rangle$			2.6(4)								
2213.31(2)	3 ⁺ , 4 ⁺									28(2)		
2214.06(8)	$\langle 1^- \rangle$			19(7)								
2228.63(4)	2 ⁺						11.1(7)					
2285.40(1)	4 ⁺				2.0(2)		2.7(2)			5.8(2)		
2299.29(23)									64(14)			
2307.79(2)	3 ⁺ , 4 ⁺					7.0(20)				80(8)		
2341.86(3)	$\langle 0^+-2^+ \rangle$			6.5(7)								
2343.72(2)	4 ⁺				5.6(6)		5(2)			9.4(5)		
2375.37(3)	$\langle 1^+, 2 \rangle$						5.3(6)					
2465.22(21)	$\langle 7, 8 \rangle$								39(9)			
2480.04(2)	$\langle 1^+, 2^+ \rangle$			4.0(3)			2.0(6)					

Energy levels and branching ratios [95Si16]. Part 6

 $^{172}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E^*_f : J^π_f :	1749.21 4 ⁺	1757.37 ⟨2 [−] ⟩	1778.86 5 ⁺	1802.65 6 [−]	1803.11 4 ⁺	1810.32 ⟨8 [−] ⟩	1828.76 8 [−]	1839.80 9 [−]	1841.84 ⟨8 ⁺ ⟩	1849.17 2 ⁺
1921.80(20)	⟨7 [−] ⟩				12(3)							
1968.20(14)	⟨9 [−] ⟩						78(7)					
2039.38(22)	⟨9 ⁺ ⟩										x	
2064.04(20)	⟨8 [−] ⟩				69(8)							

(continued)

 $^{172}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	1749.21 4 ⁺	1757.37 ⟨2⟩ ⁻	1778.86 5 ⁺	1802.65 6 ⁻	1803.11 4 ⁺	1810.32 ⟨8 ⁻ ⟩	1828.76 8 ⁻	1839.80 9 ⁻	1841.84 ⟨8 ⁺ ⟩	1849.17 2 ⁺
2073.11(1)	4 ⁺		2.35(4)				3.02(7)					
2145.03(22)	⟨10 ⁻ ⟩							32(3)				
2192.13(1)	5 ⁺				0.7(3)	1.3(2)						
2193.02(24)	⟨10 ⁻ ⟩								82(6)			
2195.03(5)	⟨1,2 ⁺ ⟩			1.8(3)								
2199.47(21)	⟨11 ⁻ ⟩									16(5)		
2256.3(3)	⟨10 ⁺ ⟩										100	
2285.40(1)	4 ⁺		11(1)				10(1)					
2299.29(23)								36(14)				
2343.72(2)	4 ⁺		17(1)				x					
2387.71(2)	⟨1 ⁺ ,2 ⁺ ⟩			<6								
2465.22(21)	⟨7,8⟩							24(6)				
2480.04(2)	⟨1 ⁺ ,2 ⁺ ⟩											<0.8

Energy levels and branching ratios [95Si16]. Part 7

 $^{172}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	1853.46 8 ⁺	1862.80 ⟨5⟩ ⁺	1894.62 0 ⁺	1907.48 ⟨12 ⁺ ⟩	1921.80 ⟨7 ⁻ ⟩	1927.02 5 ⁺	1956.35 2 ⁺	1968.20 ⟨9 ⁻ ⟩	2009.80 1 ⁺	2039.38 ⟨9 ⁺ ⟩
2046.99(3)	⟨2⟩ ⁺								10(2)			
2064.04(20)	⟨8 ⁻ ⟩						19(4)					
2073.11(1)	4 ⁺			0.14(1)				0.12(1)				
2102.94(2)	1 ⁻				2.0(3)							
2145.03(22)	⟨10 ⁻ ⟩									68(5)		
2181.97(3)	⟨4-6⟩ ⁺			71(5)				29(9)				
2192.13(1)	5 ⁺			2.5(2)								
2212.52(24)	⟨10 ⁺ ⟩	45(7)										
2214.06(8)	⟨1 ⁻ ⟩				1.7(11)							
2225.3(3)	9 ⁻					80(15)						
2228.63(4)	2 ⁺								2.9(16)			
2285.40(1)	4 ⁺			2.3(1)				2.1(1)				
2316.97(10)	1,2 ⁽⁺⁾				5.2(19)							
2340.7(3)	⟨11 ⁻ ⟩									38(5)		
2343.72(2)	4 ⁺			5.1(5)				<3.6				
2375.37(3)	⟨1 ⁺ ,2⟩										5(3)	
2480.04(2)	⟨1 ⁺ ,2 ⁺ ⟩				0.70(10)				2.7(3)			
2492.2(4)	⟨11 ⁺ ⟩											100
2518.7(4)	⟨14 ⁺ ⟩					100						
2636.1(3)	⟨13 ⁻ ⟩					70(12)						
2653.3(3)										50(20)		

Energy levels and branching ratios [95Si16]. Part 8

 $^{172}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2046.99 $\langle 2 \rangle^+$	2064.04 $\langle 8^- \rangle$	2073.11 4^+	2102.94 1^-	2145.03 $\langle 10^- \rangle$	2154.30 $\langle 7 \rangle$	2192.13 5^+	2193.02 $\langle 10^- \rangle$	2194.33 $\langle 1^+ \rangle$	2199.47 $\langle 11^- \rangle$
2192.13(1)	5^+				0.6(1)							
2225.3(3)	9^-			20(5)								
2340.7(3)	$\langle 11^- \rangle$						62(5)					
2341.86(3)	$\langle 0^+-2^+ \rangle$	1.8(5)										
2343.72(2)	4^+								1.7(3)			
2375.37(3)	$\langle 1^+,2 \rangle$				6(3)							
2387.71(2)	$\langle 1^+,2^+ \rangle$										7(1)	
2411.4(3)	$\langle 10^- \rangle$			88(12)								
2465.22(21)	$\langle 7,8 \rangle$							36(6)				
2554.2(3)	$\langle 12^- \rangle$						50(7)					
2629.8(4)	$\langle 12^- \rangle$									100		
2636.1(3)	$\langle 13^- \rangle$											30(12)

Energy levels and branching ratios [95Si16]. Part 9

 $^{172}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	2212.52 $\langle 10^+ \rangle$	2214.06 $\langle 1^- \rangle$	2225.3 9^-	2256.3 $\langle 10^+ \rangle$	2299.29	2340.7 $\langle 11^- \rangle$	2411.4 $\langle 10^- \rangle$	2465.22 $\langle 7, 8 \rangle$	2492.2 $\langle 11^+ \rangle$
2411.4(3)	$\langle 10^- \rangle$				12(5)						
2464.09(8)	$\langle 2^+ \rangle$			34(3)							
2554.2(3)	$\langle 12^- \rangle$							50(7)			
2607.2(4)	$\langle 12^+ \rangle$	100									
2609.2(4)	$\langle 11^- \rangle$				100						
2653.3(3)							50(20)				
2689.8(4)	$\langle 9^- \rangle$									100	
2746.5(5)	$\langle 12^+ \rangle$					100					
2786.8(4)	$\langle 13^- \rangle$							67(13)			
2840.8(5)	$\langle 12^- \rangle$								100		
3020.0(5)	$\langle 13^+ \rangle$										100

Energy levels and branching ratios [95Si16]. Part 10

 $^{172}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2518.7 $\langle 14^+ \rangle$	2554.2 $\langle 12^- \rangle$	2607.2 $\langle 12^+ \rangle$	2629.8 $\langle 12^- \rangle$	2689.8 $\langle 9^- \rangle$	2746.5 $\langle 12^+ \rangle$	2786.8 $\langle 13^- \rangle$	2856.4 $\langle 10^- \rangle$	3044.5 $\langle 11^- \rangle$	3252.9 $\langle 12^- \rangle$
2786.8(4)	$\langle 13^- \rangle$			33(7)								
2856.4(5)	$\langle 10^- \rangle$					100						
3034.2(4)	$\langle 14^- \rangle$			71(29)					29(14)			
3043.9(5)	$\langle 14^+ \rangle$				100							

(continued)

 ^{172}Yb
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E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2518.7 $\langle 14^+ \rangle$	2554.2 $\langle 12^- \rangle$	2607.2 $\langle 12^+ \rangle$	2629.8 $\langle 12^- \rangle$	2689.8 $\langle 9^- \rangle$	2746.5 $\langle 12^+ \rangle$	2786.8 $\langle 13^- \rangle$	2856.4 $\langle 10^- \rangle$	3044.5 $\langle 11^- \rangle$	3252.9 $\langle 12^- \rangle$
3044.5(6)	$\langle 11^- \rangle$									100		
3134.6(5)	$\langle 14^- \rangle$				100							
3198.4(6)	$\langle 16^+ \rangle$	100										
3252.9(7)	$\langle 12^- \rangle$										100	
3309.5(6)	$\langle 14^+ \rangle$							100				
3481.6(8)	$\langle 13^- \rangle$											100

Energy levels and branching ratios [95Sh21].

 ^{173}Yb
70

E^* [keV]	$2J^\pi$	L (d,p)	S_N <i>rel.</i>	σ (d,p) $\mu\text{b/sr}$	L (d,t)	S_N <i>rel.</i>	σ (d,t) $\mu\text{b/sr}$	σ (d,d')	σ (τ,α) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	5^-				3	0.047			2.5	Stable	77Ta13
78.647(12)	7^-			96*	3	0.633	623*	1826	28	46(5) ps	77Ta13
179.36(1)	9^-			8	5	0.189	15	1181	4.9	32(4) ps	77Ta13
301.86(1)	11^-			9	5	0.098	12	168	≤ 1.7	16.7(15) ps	77Ta13
350.76(1)	7^+									0.45(2) ns	05Te04
398.9(5)	1^-			18	1	0.373	801		≈ 3.2	2.9(1) μs	77Ta13
412.97(1)	9^+			11	4	0.422	135		incl		77Ta13
445.7(1)	13^-									12.2(11) ps	
461.5(5)	3^-			6	1	0.024	69		15	0.56(3) ns	77Ta13
482.0(7)	5^-			6	3	0.129	116		incl		77Ta13
≈ 531									17		71Er0A
≈ 564									incl		71Er0A
603.1(7)	$\langle 13 \rangle^+$			22	6	1.380	66		130		77Ta13
610.6(1)	15^-								incl	7.3(6) ps	71Er0A
626.7(6)	7^-			25	3	0.233	196	17	incl		77Ta13
636.13(1)	7^-						12		≈ 24	8.0(26) ps	77Ta13
659.4(9)	9^-						15		incl		77Ta13
≈ 707									$\langle 13 \rangle$		71Er0A
749.1(6)	$\langle 9^- \rangle$			13			9	26	12		71Er0A
796.2(1)	17^-									4.3(4) ps	
882.2(8)	$\langle 11^- \rangle$			13			13		3.2		77Ta13
≈ 926									$\langle 1.3 \rangle$		71Er0A
1001.9(2)	19^-									2.6(2) ps	
1032.5(16)	$\langle 1^- \rangle$			20				16	3.9		77Ta13
1058.3(11)				27				15	32		77Ta13
1074.5(6)	$\langle 3 \rangle^-$	1	0.135	366	1	0.025	52		incl		77Ta13
1121.6(6)	$\langle 5 \rangle^-$	3	0.149	159	3	0.062	27				77Ta13
1142.5(14)				30							77Ta13
1159.0(18)				19							77Ta13
1172.5(7)	$\langle 9 \rangle^-$			8	5	0.523	32	18			77Ta13

(continued)

 $^{173}_{70}\text{Yb}$

E^*	$2J^\pi$	L	S_N	σ (d,p)	L	S_N	σ (d,t)	σ (d,d')	σ (τ,α)	$T_{1/2}$ or	Ref.
[keV]		(d,p)	rel.	$\mu\text{b/sr}$	(d,t)	rel.	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	Γ_{cm}	
1195.5(21)				12							77Ta13
1219.9(9)	$\langle 7^- \rangle$	3	0.045	100				15	≤ 5		77Ta13
1227.1(2)	21^-									1.81(16) ps	
1232.5(7)	$\langle 3^- \rangle$			14	1	0.386	273				77Ta13
1287.5(10)							4				77Ta13
1306.0(15)	$\langle 9^- \rangle$			28					4		77Ta13
1329.0(8)							21				77Ta13
1340.9(9)	$\langle 3^- \rangle$	1	0.029	105			11		25		77Ta13
1362.4(7)	$\langle 7^- \rangle$			20	$\langle 3 \rangle$	0.357	162		incl		77Ta13
1406.1(7)	$\langle 5^- \rangle$	3	0.121	183			18				77Ta13
≈ 1438	$\langle 5^-, 7^- \rangle$								≈ 13		71Er0A
1443.5(7)	$\langle 7^+, 9^+ \rangle$			20	$\langle 4 \rangle$	0.452	76				77Ta13
1460.8(11)							11		≈ 5		77Ta13
1471.7(2)	23^-								incl	1.15(17) ps	
1492.3(10)	$1, 3$										05Te04
1493.5(8)	$\langle 7^- \rangle$	3	0.039	62			18				77Ta13
1506.8(8)				70			13				77Ta13
1520.6(10)							18				77Ta13
1531.4(10)					2=4	≈ 0.1	20		11		77Ta13
1578.2(23)				43							77Ta13
1586.9(9)	$\langle 13^+ \rangle$				5,6	≈ 1.5	9		95		77Ta13
1606.5(7)	$\langle 5^+ \rangle$			36	$\langle 2 \rangle$	0.106	54				77Ta13
1619.6(20)				17					≈ 25		77Ta13
1629.2(8)							23		incl		77Ta13
1639.3(9)				6	4=6	≈ 0.1	23				77Ta13
1665.4(7)	$1^-, 3^-$	1	0.250	433	$\langle 1 \rangle$	0.021	39		≈ 6		77Ta13
1707.7(8)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$	0.141	312			10		≈ 22		77Ta13
1721.3(9)	$\langle 9^+ \rangle$				$\langle 4 \rangle$	0.316	112				77Ta13
1735.0(7)	$\langle 1^-, 3, 5^+ \rangle$		0.066	86	$\langle 2 \rangle$	0.712	70				77Ta13
1736.0(3)	25^-									0.60(5) ps	
1746.1(11)							40				77Ta13
1761.7(10)	$X^{(-)}$	$\langle 1, 3 \rangle$	0.042	96				91	16		77Ta13
1776.3(8)	$3^+, 5, 7^-$				2,3	≈ 0.2	119				77Ta13
1787.4(12)				96							77Ta13
1814.0(11)							8		38		77Ta13
1829.0(8)					4=6	≈ 0.4	16				77Ta13
1839.1(23)				68							77Ta13
1853.3(14)				78					≈ 15		77Ta13
1867.2(7)	$\langle 7^- \rangle$			38	3	1.663	492				77Ta13
≈ 1877									≈ 8		71Er0A
1894.4(7)	$\langle 3^+, 5^+ \rangle$				$\langle 2 \rangle$	0.432	215				77Ta13
1910.4(17)				60				51			77Ta13
1922.5(7)	$\langle 3^+, 5^+ \rangle$				$\langle 2 \rangle$	0.328	159				77Ta13
1927.9(15)				54							77Ta13
1932.6(9)	$\langle 1^-, 3^- \rangle$				$\langle 1 \rangle$	0.115	171				77Ta13

(continued)

 $^{173}_{70}\text{Yb}$

E^*	$2J^\pi$	L	S_N	σ (d,p)	L	S_N	σ (d,t)	σ (d,d')	σ (τ,α)	$T_{1/2}$ or	Ref.
[keV]		(d,p)	rel.	$\mu\text{b/sr}$	(d,t)	rel.	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	Γ_{cm}	
1944.9(9)	$3^+, 5, 7^-$				2,3	≈ 0.2	97	52			77Ta13
1953.3(18)				27							77Ta13
1980.8(7)				40			66	42	≈ 24		77Ta13
1988.2(9)				23			117				77Ta13
2006.2(11)							12				77Ta13
2016.5(8)	$\langle 27^- \rangle$			30			59				77Ta13
2018.0(3)											
2031.5(14)				15			7				77Ta13
2043.8(9)							18				77Ta13
2051.5(9)				39			15				77Ta13
2075.9(12)				39			6				77Ta13
2086.1(13)											
2107.0(9)							7				77Ta13
2129.9(9)							29		≈ 18		77Ta13
2136.3(10)							37				77Ta13
2162.5(10)							7				77Ta13
2176.9(9)							6				77Ta13
2200.3(9)				21			18				77Ta13
2212.4(12)							37				77Ta13
2229.2(15)				26			9				77Ta13
2245.0(8)							51				77Ta13
2255.2(10)				23			9				77Ta13
2267.6(12)							5				77Ta13
2277.9(12)							5				77Ta13
2312.9(9)							18				77Ta13
2331.4(8)				17			32				77Ta13
2392.8(16)				24							77Ta13
2407.8(11)				114							77Ta13
2425.7(13)				33							77Ta13
2440.7(21)											
2462.8(17)				16							77Ta13
2479.9(11)				54							77Ta13
2503.5(16)				6							77Ta13
2515.8(11)				64							77Ta13
2539.2(15)				28							77Ta13
2577.4(19)				48							77Ta13
2605.2(15)				29							77Ta13
2627.4(12)				46							77Ta13
			77Ta13	77Ta13		77Ta13	77Ta13		71Er0A		Ref.

Additional data on this isotope can be found in [05Ve07, 05Te04, 97Kr08, 66Bu16].

Abundance: 16.13(27) %.

* Measured differential cross sections of the (d,p) reaction at 50°, (d,t) at 80° and (d,d') at 120° were used for obtaining spectroscopic factors S_N which values turned out to be too low and were considered as relative only [77Ta13, 95Sh21]; other data can be found in [05Ve07, 66Bu16].

Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [95Sh21]. Part 2

 $^{173}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	0.0 5 ⁻	78.6 7 ⁻	179 9 ⁻	302 11 ⁻	351 7 ⁺	390 1 ⁻	413 9 ⁺	446 13 ⁻	461.5 3 ⁻	482.0 5 ⁻
78.647(12)	7 ⁻		100									
179.36(1)	9 ⁻		20.8(4)	79.2(13)								
301.86(1)	11 ⁻			39.1(8)	60.9(11)							
350.76(1)	7 ⁺		1.23(4)	86.9(13)	11.9(4)							
398.9(5)	1 ⁻		100									
412.97(1)	9 ⁺		≤0.02	12.3(5)	62.6(12)	6.1(3)	19.0(9)					
445.7(1)	13 ⁻				51.7(9)	48.3(9)						
461.5(5)	3 ⁻		88(4)					12(4)				
482.0(7)	5 ⁻							100				
610.6(1)	15 ⁻					60(1)				39.5(8)		
626.7(6)	7 ⁻		19									81
636.13(1)	7 ⁻		51(2)	18.2(7)	4.9(2)	≤0.19	21.3(6)		4.9(2)			
796.2(1)	17 ⁻									74(2)		
1032.5(16)	⟨1 ⁻ ⟩		<76					<22			100	
1074.5(6)	⟨3 ⁻ ⟩			12				44			28	16
1232.5(7)	⟨3 ⁻ ⟩							39			61	
1492.3(10)	1,3										100	

Energy levels and branching ratios [95Sh21]. Part 3

 $^{173}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage							
		E_f^* : $2J_f^\pi$:	610.6 15 ⁻	626.7 7 ⁻	636.128 7 ⁻	796.2 17 ⁻	1001.9 19 ⁻	1227.1 21 ⁻	1471.7 23 ⁻
796.2(1)	17 ⁻		26.4(4)						
1001.9(2)	19 ⁻		79(2)			20.5(8)			
1227.1(2)	21 ⁻					86(2)	13.9(7)		
1340.9(9)	⟨3 ⁻ ⟩			47	53				
1471.7(2)	23 ⁻						87(3)	13.3(20)	
1736.0(3)	25 ⁻							x	x
2018.0(3)	⟨27 ⁻ ⟩								100

Energy levels and branching ratios [99Br24].

 $^{174}_{70}\text{Yb}$

E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t,α)	L	σ (p,t)	$\Gamma_{\gamma o}$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	μb/sr	μb/sr	μb/sr	(t,α)	μb/sr	(p,t)	μb/sr	[meV]	Γ_{cm}	
0.0	0 ⁺	0	370	≈0.7**	13000	4	137(16)	0	819(5)		Stable	73Oo01
76.471(1)	2 ⁺		220	29	3300	4	387(37)	⟨2⟩	237(2)		1.79(4) ns	93Fr01
253.117(2)	4 ⁺	4	24	20	108	4	139(16)	⟨4⟩	62.5(9)		144(4) ps	77Ga01

(continued)

 $^{174}_{70}\text{Yb}$

E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t, α)	L	σ (p,t)	$\Gamma_{\gamma o}$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(t, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	[meV]	Γ_{cm}	
526.034(9)	6^+		19		3	4	14(5)		15.1(7)		16(2) ps	73Oo01
889.93(5)	8^+								2.2(4)		3.8(2) ps	73Oo01
1318.36(1)	2^-			≤ 2					2.8(3)		0.491(13) ns	73Oo01
1336(1)	10^+										1.6(1) ps	
1348.3(5)	$0-5$				14							67Bu21
1382.01(1)	3^-		13		39				38(2)			73Oo01
1468.19(1)	$\langle 4 \rangle^-$											05Dr05
1487.12(3)	0^+	0	81					0	211(3)		1.3(6) ps	73Oo01
1518.15(1)	6^+			17					7.7(6)		830(40) μs	73Oo01
1561.02(2)	$\langle 2 \rangle^+$	$\langle 2 \rangle$	56	11					66.9(12)			73Oo01
1572.13(1)	$\langle 5^- \rangle$											05Gr22
1578.4(3)	1^-											05Gr22
1606.36(1)	$\langle 3 \rangle^+$					2	161		4.6(4)			73Oo01
1624.40(3)	$\langle 1 \rangle^+$											
1633.97(1)	$\langle 2 \rangle^+$			44	29			$\langle 2 \rangle$	43.3(13)		0.20(3) ps	73Oo01
1671.22(1)	$\langle 7^+ \rangle$											05Dr05
1674.82(3)	2^+			18					5.5(5)			73Oo01
1701.68(10)	4^+				19	2	143(16)					93Fr01
1709.42(6)	$\langle 3 \rangle^+$			67								67Bu21
1710.86(5)	$\langle 1^- \rangle$									25.5(58)	7.6(20) fs	90Zi01
1715.45(3)	4^+		18	≈ 12					39.0(12)			73Oo01
1733.64(1)	$\langle 3 \rangle^+$											05Gr22
1760.6(4)	$0-5$				2							67Bu21
1765.3	7^-										370 ns***	05Dr05
1785.90(4)	3^-				19				4.9(7)			73Oo01
1805.40(15)	4^+		23	35	15				13.2(8)			73Oo01
1819.82(1)	$\langle 5^+ \rangle$					2	81(11)					93Fr01
1830.4(4)	$0-5$											05Gr22
1844.7	8^+											05Dr05
1851.41(1)	$\langle 3 \rangle^-$			≈ 8	55				25.3(13)			73Oo01
1859.23(3)	$\langle 4^+ \rangle$		12									77Ga01
1861(2)	$\langle 12^+ \rangle$										0.66(4) ps	
1876(6)				≈ 15								67Bu21
1884.67(1)	$\langle 5 \rangle^-$											05Gr22
1886.0(2)	0^+		≤ 5					0	96.9(15)			73Oo01
1913(2)							18(4)					
1914.1	8^-											05Dr05
1922.1(3)	$2^- - 4^-$											05Gr22
1926	$\langle 5^+ \rangle$			24								67Bu21
1933.95(3)	$2^- - 4^-$						46(8)					05Gr22
1940.7(3)	$2^- - 4^-$											05Gr22
1949.70(1)	$\langle 4^- \rangle$			35								67Bu21
1958.52(3)	$\langle 2^+ \rangle$		5.4						46.9(23)			73Oo01
1959(2)	$\langle 6^+ \rangle$						58(9)		incl			73Oo01
2004.8(4)	$\langle 1,4 \rangle$											05Gr22

(continued)

 $^{174}_{70}\text{Yb}$

E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t, α)	L	σ (p,t)	$\Gamma_{\gamma o}$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(t, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	[meV]	Γ_{cm}	
2016.13(2)	3^+											05Gr22
2019(2)						2	134(15)					93Fr01
2020.62(5)	$\langle 6^- \rangle$											
2037	1									4.7(34)		90Zi01
2038.3	9^+											05Dr05
2038.83(3)				10								67Bu21
2049.97(1)	$\langle 3^- \rangle$											05Gr22
2068.98(6)	$\langle 1^+ \rangle$	22							11.9(8)	6.9(41)		73Oo01
2078.2	9^-											05Dr05
2088.46(18)	$\langle 4^- \rangle$			51			54(8)					67Bu21
2101.21(2)	$2^+, 3^+$	49		14								67Bu21
2111.88(1)	2-4						101(48)					05Gr22
2113.9(4)	0^+						incl	0	59(2)			73Oo01
2123.04(10)	$\langle 4^+ \rangle$								13.4(8)			73Oo01
2150(6)				58								67Bu21
2158.78(18)	2-4											05Gr22
2160.918(10)	4^+					2	396(38)					93Fr01
2163.144(11)	$\langle 2^+ \rangle$						incl					05Gr22
2171.982(26)	$\langle 2^+ \rangle$								55(2)			73Oo01
2186.864(26)	$1^- - 4^-$											05Gr22
2189	$2^-, 3^-$			51	10							67Bu21
2191.6(10)							73(15)					
2198.6(3)	$\langle 1^- \rangle$											05Gr22
2213				19								67Bu21
2230	$\langle 3^+ \rangle$						57(10)					05Gr22
2237.715(19)	$\langle 1^+, 2^+ \rangle$			78	2							67Bu21
2246.825(15)	$\langle 2^+, 3^+ \rangle$								9.0(10)			73Oo01
2251.5	10^+											05Dr05
2256.416(8)	$\langle 3^+ \rangle$						60(13)					05Gr22
2259.3	10^-						incl					05Dr05
2278.1(5)	0,5											05Gr22
2284	$\langle 3^+ \rangle$			95								67Bu21
2290.27(14)	5^+					2	171(23)					93Fr01
2295.773(30)	$\langle 2^+ \rangle$								4.8(6)			73Oo01
2321.11(22)												05Gr22
2329(2)	7^-					5	230(27)					93Fr01
2336.7(3)	$\langle 4^-, 5 \rangle$			69								67Bu21
2336.876(7)	$\langle 4^+ \rangle$								12.3(9)			73Oo01
2338	1									13.7(47)		90Zi01
2341.502(17)	$1, 2^+$											
2345.97(15)	$1^+ - 4^+$											05Gr22
2350.3(2)*												89BoYR
2361.838(10)	$1^+, 4^+$											05Gr22
2370.0	$\langle 4^+ \rangle$			67					7.3(13)			73Oo01
2377.9(2)												

(continued)

¹⁷⁴Yb
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E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t, α)	L	σ (p,t)	Γ_{γ_0}	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(t, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	[meV]	Γ_{cm}	
2378.7(2)	$\langle 5^- \rangle$											05Gr22
2384.056(25)	$\langle 4^+ \rangle$											05Gr22
2393.4(6)	0,5											05Gr22
2403.332(13)	2^-											05Gr22
2405.6(4)				11			46(10)					67Bu21
2418.13(24)	$1^+ - 3^-$											05Gr22
2423.5(5)	0,5											05Gr22
2427.01(23)	$2^- , 3^-$											05Gr22
2434(3)	5^+					2	411(39)					93Fr01
2436.4(3)									12.7(9)			73Oo01
2438.165(10)	$\langle 4^+ \rangle$								incl			73Oo01
2439.0(7)	0,5											05Gr22
2448.10(28)	0-5			47								67Bu21
2451.34(22)	$2^- , 3^-$											05Gr22
2456.1(5)	0,5											05Gr22
2457(3)	$\langle 14^+ \rangle$										0.4(1) ps	
2458.7	11^-											05Dr05
2464.965(17)	$\langle 2^+ , 3^+ \rangle$								19(1)			73Oo01
2473.0(5)	0,5											05Gr22
2476.0(7)	$1^- , 4^-$											
2482.0	$\langle 5 \rangle$			26								67Bu21
2483	11^+											05Dr05
2496(4)	8^-					5	408(42)					93Fr01
2500	1									21.1(68)		90Zi01
2501.3(5)	$\langle 2^- , 3^- \rangle$											05Gr22
2504.15(23)	$1^- - 4^-$											05Gr22
2513.15(9)	$2^+ , 3^+$											05Gr22
2519.09(8)	$2^+ , 3^+$						90(35)		6.2(9)			73Oo01
2526.92(10)	$1^+ - 4^+$						incl					05Gr22
2533.1(6)	0,5											05Gr22
2540.36(11)	$1^+ - 4^+$											05Gr22
2547.6(5)	0,5						73(39)					05Gr22
2555.56(16)	$1^+ , 4^+$								50(2)			73Oo01
2572(3)	$\langle 6^+ \rangle$					2	102(34)					93Fr01
2574.20(28)	$2^- , 3^-$											05Gr22
2579.4(4)	1^+											05Gr22
2581.4(4)	1									13.8(51)		90Zi01
2583.36(5)	$2^+ , 3^+$								31.6(14)			73Oo01
2588.82(8)	$\langle 2^+ , 3^+ \rangle$						58(12)					05Gr22
2598.10(23)	$1^- - 4^-$											05Gr22
2601.85(6)	$2^+ , 3^+$											05Gr22
2609.15(21)	$1^+ , 4^+$											05Gr22
2618.51(15)	$1^+ , 4^+$											05Gr22
2623.75(8)	$\langle 2^+ , 3^+ \rangle$								10.5(12)			73Oo01
2637.5(7)	0,5											05Gr22

(continued)

 $^{174}_{70}\text{Yb}$

E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t, α)	L	σ (p,t)	$\Gamma_{\gamma o}$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(t, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	[meV]	Γ_{cm}	
2642.76(9)	$2^+, 3^+$											05Gr22
2647.35(10)	$2^+, 3^+$											05Gr22
2657.53(8)	$2^+, 3^+$						163(21)					05Gr22
2663.31(10)	$[2^+]$								29.6(16)			73Oo01
2668.2(5)	$1^- - 4^-$											05Gr22
2676.7	12^-											05Dr05
2680.83(7)	$2^+, 3^+$											05Gr22
2683(3)	9^-					5	285(31)					93Fr01
2688.93(15)	4^+											05Gr22
2700.44(18)	$1^+, 4^+$											05Gr22
2705.28(8)	$1-4$											05Gr22
2712.88(4)	$2^+, 3^+$											05Gr22
2720.1(6)	$1^-, 4^-$											05Gr22
2726.15(19)	$1-4$											05Gr22
2728.1(10)	2^+					2	129(19)		11.9(12)			73Oo01
2732.44(7)	$2^+, 3^+$											05Gr22
2734.4	12^+											05Dr05
2749.90(11)	$1^+ - 4^+$											05Gr22
2752.51(24)	0,5								9.0(12)			73Oo01
2761(3)												
2767.89(15)	2,3											05Gr22
2772.30(18)	$1^+ - 4^+$											05Gr22
2784.0(6)	$2^+, 3^+$											05Te04
2793.33(11)	3^+					2	129(19)					93Fr01
2796.1(2)												
2798.64(12)	$1^+, 4^+$											05Gr22
2809.1(4)												05Gr22
2814.11(19)	1									13.8(74)		90Zi01
2819.07(11)	$1^+, 4^+$											05Gr22
2821(5)	$\langle 0^+ \rangle$								12.0(15)			73Oo01
2824.68(11)	$1^+ - 4^+$											05Gr22
2830.80(19)	$1^+ - 4^+$											05Gr22
2838.71(17)	$1^+ - 4^+$								21.3(16)			73Oo01
2845.1(1)*	$2^+, 3^+$											05Gr22
2851.14(26)	$2^-, 3^-$											05Gr22
2869.5(4)	$1^-, 4^-$						137(24)					05Gr22
2883.07(14)	$\langle 4^+ \rangle$					$\langle 2 \rangle$	120(20)		7.6(10)			73Oo01
2889.7(12)*												89BoYR
2896.48(8)	$2^+, 3^+$											05Gr22
2902.81(11)	$1^+, 4^+$						53(14)					05Gr22
2904.5(5)	$\langle 0^+ \rangle$						incl		14.5(13)			73Oo01
2910.08(11)	$2^+, 3^+$											05Gr22
2913.0	13^-											05Dr05
2918.2(5)	1									41(11)		90Zi01
2920.01(29)	1^+											05Sa15

(continued)

 $^{174}_{70}\text{Yb}$

E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t, α)	L	σ (p,t)	$\Gamma_{\gamma o}$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(t, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	[meV]	Γ_{cm}	
2941.47(27)	$2^-, 3^-$											05Gr22
2945.5(1)*	$2^-, 3^-$											05Gr22
2950.2(8)	0,5											05Gr22
2954.7(4)	$1^+, 4^+$											05Gr22
2962.84(13)	$1^+, 4^+$											05Gr22
2966.74(16)	$2^+, 3^+$											05Gr22
2969.2(8)	0,5											05Gr22
2975.9(6)	0,5											05Gr22
2985.37(21)	$2^+, 3^+$											05Gr22
2991.65(18)	$1^+, 4^+$											05Gr22
2998.94(20)	$2^-, 3^-$											05Gr22
3002.67(8)	$2^+, 3^+$											05Gr22
3003.1	13^+											05Dr05
3009.0(4)	1^-						45(9)			33.4(98)	3.9(13) fs	05Sa15
3015.21(19)	$1^+, 4^+$											05Gr22
3027	1^-											05Sa15
3033.5(5)	$1^-, 4^-$											05Gr22
3038.59(14)	$1^+, 4^+$								6.7(14)			73Oo01
3048.43(21)	$1^+, 4^+$						88(14)			15.1(77)	15(10) fs	90Zi01
3063.76(9)	$2^+, 3^+$											05Gr22
3070.94(25)	$2^-, 3^-$											05Gr22
3075.04(26)	$1^+, 4^+$											05Gr22
3077.8(7)	0,5											05Gr22
3084.7(8)	0,5											05Gr22
3087.11(23)	$1^+, 4^+$											05Gr22
3091.1(8)	0,5											05Gr22
3092.76(16)	$2^+, 3^+$											05Gr22
3095.8(4)	0,5											05Gr22
3096.5	$\langle 11 \rangle$											05Dr05
3098.08(14)	$2^+, 3^+$											05Gr22
3112.30(25)	$2^-, 3^-$											05Gr22
3117(4)	$\langle 16^+ \rangle$											
3124.35(19)	1									11.9(74)		90Zi01
3136.1(8)												
3141.01(22)	$1^+, 4^+$											05Gr22
3144.91(21)	1									15.6(73)		90Zi01
3152.43(13)	$2^+, 3^+$											05Gr22
3158.25(19)	$2^+, 3^+$											05Gr22
3162.95(7)	$2^+, 3^+$						108(14)					05Gr22
3166.8(6)	$1^-, 4^-$											05Gr22
3168	14^-											05Dr05
3174.48(9)	$2^+, 3^+$											05Gr22
3180.55(25)	$1^+, 4^+$						12(5)					05Gr22
3187.41(13)	$2^+, 3^+$						incl					05Gr22
3209.96(9)	$2^+, 3^+$											05Gr22

(continued)

 $^{174}_{70}\text{Yb}$

E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t, α)	L	σ (p,t)	$\Gamma_{\gamma o}$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(t, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	[meV]	Γ_{cm}	
3217.82(12)	$1^+, 4^+$											05Gr22
3222.0	$\langle 1^- \rangle$									41(16)	3.9(19) fs	90Zi01
3228.53(19)	$1^- - 4^-$											05Gr22
3236.87(8)	$2^+, 3^+$											05Gr22
3240.85(21)	$1^+, 4^+$						56(11)					05Gr22
3250.1(5)	$1^- - 4^-$											05Gr22
3257.1(4)	$1, 4$											05Gr22
3268.72(10)	$2^+, 3^+$											05Gr22
3284.0(4)	$1^+, 4^+$											05Gr22
3289.2	14^+											05Dr05
3291.1(4)	$1, 4$											05Gr22
3294.61(17)	$0, 5$											05Gr22
3300.48(15)	$2^+, 3^+$											05Gr22
3310.9(4)												05Gr22
3314.96(9)	$2^+, 3^+$											05Gr22
3327.92(20)	$1^+ - 4^+$									77(16)	2.8(7) fs	90Zi01
3336.18(16)	$2^+, 3^+$											05Gr22
3337.3	$\langle 12 \rangle$											05Dr05
3341.15(22)	$2^+, 3^+$											05Gr22
3349.81(18)	$1^+ - 3^+$									48(20)		90Zi01
3354.29(13)	$2^+, 3^+$											05Gr22
3362.9(8)	$0, 5$											05Gr22
3375.29(23)	$1^+ - 4^+$											05Gr22
3379.74(23)	$1^+ - 4^+$											05Gr22
3383.88(14)												05Gr22
3385.85(23)	$2^+, 3^+$											05Gr22
3387.0	$\langle 1^- \rangle$									82(20)	1.8(5) fs	90Zi01
3395.85(19)	$1^+, 4^+$											05Gr22
3402.57(24)	$2^+, 3^+$											05Gr22
3407.98(23)	$1^+ - 4^+$											05Gr22
3411.87(19)	$0, 5$											05Gr22
3420.24(12)	$2^+, 3^+$											05Gr22
3427.76(15)	$2^+, 3^+$											05Gr22
3432.9(3)	$1^+ - 4^+$											05Gr22
3447.4(5)												05Gr22
3449.29(23)	$2^+, 3^+$											05Gr22
3456.0(4)	$1 - 4$											05Gr22
3460.4(8)	$0, 5$											05Gr22
3462.71(18)	$1^+ - 4^+$											05Gr22
3475.0(5)	$1^- - 4^-$											05Gr22
3480.16(9)	$1^+ - 4^+$											05Gr22
3486.96(28)	$1^+ - 4^+$									38(13)		90Zi01
3487.0(9)												05Gr22
3491.71(10)	$1^+ - 4^+$											05Gr22
3496.18(21)												05Gr22

(continued)

 $^{174}_{70}\text{Yb}$

E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t, α)	L	σ (p,t)	$\Gamma_{\gamma o}$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(t, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	[meV]	Γ_{cm}	
3500.0(4)												05Gr22
3502.18(24)												05Gr22
3506.54(18)	1^-4^-											05Gr22
3512.37(21)	1^+4^+											05Gr22
3520.28(12)	1^+4^+						95(14)					05Gr22
3525.1(8)												05Gr22
3527.1(5)	$\langle 1^- \rangle$									104(26)	1.6(5) fs	90Zi01
3533.6(7)												05Gr22
3536.03(9)												05Gr22
3540.9(6)	1^-4^-											05Gr22
3543.9(6)												05Gr22
3553.73(13)	1^+									71(18)		90Zi01
3562	1^+											05Sa15
3572.7(8)												05Gr22
3574.0(5)												05Gr22
3587.08(28)												05Gr22
3592.1(5)												05Gr22
3598.04(13)	1^-4^-											05Gr22
3603.77(14)	1^+4^+											05Gr22
3615.84(12)	1^+4^+											05Gr22
3624.51(16)	1^+4^+											05Gr22
3635.19(29)												05Gr22
3640.7(4)												05Gr22
3646.89(14)	1^+4^+									27(20)	7.8(7) fs	90Zi01
3656.17(10)	1^+4^+											05Gr22
3669.29(24)												05Gr22
3672.29(28)												05Gr22
3684.35(25)	1^-4^-											05Gr22
3690.19(25)												05Gr22
3692.2(4)	1									64(25)		90Zi01
3694.7(4)												05Gr22
3698.5	14^+										80 ns***	05Dr05
3705.68(19)												05Gr22
3712.7(3)												05Gr22
3716.62(22)	1^-4^-											05Gr22
3724.90(13)												05Gr22
3732.67(19)	1^+4^+											05Gr22
3734.30(18)												05Gr22
3747.6(11)												05Gr22
3750.53(13)												05Gr22
3757.54(22)	$\langle 13 \rangle$											05Dr05
3769.73(18)												05Gr22
3773.03(21)												05Gr22
3775.42(24)												05Gr22
3784.34(22)												05Gr22

(continued)

 $^{174}_{70}\text{Yb}$

E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t, α)	L	σ (p,t)	Γ_{γ_0}	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(t, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	[meV]	Γ_{cm}	
3789.29(29)												05Gr22
3792.6(4)												05Gr22
3795.28(24)												05Gr22
3797.8(6)												05Gr22
3798.97(20)												05Gr22
3805.24(28)												05Gr22
3808.07(15)												05Gr22
3815.50(15)												05Gr22
3819.36(15)	1^+-4^+											05Gr22
3828.0(4)												05Gr22
3832.60(9)	1^+-4^+											05Gr22
3836(5)	$\langle 18^+ \rangle$											
3837.46(26)	1^+-4^+											05Gr22
3849.95(28)												05Gr22
3854.6(4)												05Gr22
3862.18(18)												05Gr22
3868.78(17)												05Gr22
3872.2(6)												05Gr22
3873.53(21)												05Gr22
3885.90(22)												05Gr22
3895.57(14)												05Gr22
3898.6(4)												05Gr22
3900.5(2)*												05Gr22
3909.14(16)	1^+-4^+											05Gr22
3916.1	15^+											05Dr05
3918.94(18)	1^--4^-											05Gr22
3929.24(18)	1^+-4^+											05Gr22
3933.7(8)												05Gr22
3935.1(5)												05Gr22
3938.91(26)												05Gr22
3945.15(20)												05Gr22
3951.61(20)	1^--4^-											05Gr22
3955.55(19)												05Gr22
3966.14(29)	1^--4^-											05Gr22
3974.3(6)												05Gr22
3976.7(5)												05Gr22
3985.9(4)												05Gr22
3989.57(16)												05Gr22
3991.79(28)												05Gr22
3997.6	$\langle 14 \rangle$											05Dr05
4002.62(17)	1^+-4^+											05Gr22
4113.8(13)*												89BoYR
4121.8(12)*												89BoYR
4157.2(9)*												89BoYR
4160.9	16^+											05Dr05

(continued)

 $^{174}_{70}\text{Yb}$

E^*	J^π	L	σ (t,p)	σ (d,p)	σ (d,d')	L	σ (t, α)	L	σ (p,t)	$\Gamma_{\gamma o}$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(t, α)	$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	[meV]	Γ_{cm}	
4435.1	17^+											05Dr05
4563.5	$\langle 17^- \rangle$											05Dr05
4271.7(21)*												89BoYR
4427.4(7)*												89BoYR
4610(7)	$\langle 20^+ \rangle$											
4725.4	$\langle 18 \rangle$											05Dr05
5001.4	$\langle 19 \rangle$											05Dr05
5029.6	$\langle 18^- \rangle$											05Dr05
5299.4	$\langle 20 \rangle$											05Dr05
5366.2	$\langle 19^-, 20 \rangle$											05Dr05
5729.8	$\langle 20^-, 21 \rangle$											05Dr05
5974.3	$\langle 21, 22 \rangle$											05Dr05
6147.1	$\langle 22, 23 \rangle$											05Dr05
			77Ga01	67Bu21			93Fr01		73Oo01	90Zi01		Ref.

Additional data on this isotope can be found in [05Te04, 95Bo20, 93Fr01, 93Va13, 91Bo14, 90BoZV, 90Zi05, 89Bo53].

Abundance: 31.83(92) %.

* E_M^* the intermediate state introduced in ($n_{\text{thermal}}, \gamma\gamma$) measurements [89BoYR].

** Measured differential cross sections of reactions (d,p) at 90° and (d,d') at 90° and 120° were used for assignment of levels to different bands [67Bu21]; see σ (d,p) measured at 60° and $R=(\sigma$ (d,d') at $90^\circ)/(\sigma$ (d,d') at $125^\circ)$ therein.

*** τ from [05Dr05] instead of $T_{1/2}$.

For the level at $E^*=1711$ keV $\Gamma_o^{\text{red}}=5.1(12)$ meV as well as $B(E1)=14.6(33)$ in units $10^{-3}e^2fm^2$ were given in [91Zi01]; $\Gamma_{\gamma o}$ for this and other levels are from [90Zi01], see $B(E1)$ and $B(M1)$ therein.

Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [99Br24]. Part 2

 $^{174}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	76.5 2 ⁺	253 4 ⁺	526 6 ⁺	890 8 ⁺	1318 2 ⁻	1336 10 ⁺	1382.01 3 ⁻	1468.20 $\langle 4 \rangle^-$	1487.12 0 ⁺
76.471(1)	2 ⁺		100									
253.117(2)	4 ⁺			100								
526.034(9)	6 ⁺				100							
889.93(5)	8 ⁺					100						
1318.36(1)	2 ⁻		0.7(1)	99(2)	0.32(4)							
1336(1)	10 ⁺						100					
1382.01(1)	3 ⁻			81(4)	19(2)							
1468.19(1)	$\langle 4 \rangle^-$				78(4)			12(4)		9(3)		
1487.12(3)	0 ⁺			100								
1518.15(1)	6 ⁺				2.39(11)	95(7)	2.94(14)					
1561.02(2)	$\langle 2 \rangle^+$		<5.2	39(2)	61(4)							

(continued)

 $^{174}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	0.0 0 ⁺	76.5 2 ⁺	253 4 ⁺	526 6 ⁺	890 8 ⁺	1318 2 ⁻	1336 10 ⁺	1382.01 3 ⁻	1468.20 $\langle 4 \rangle^-$	1487.12 0 ⁺
1572.13(1)	$\langle 5^- \rangle$				90(5)						10.2(22)	
1606.36(1)	$\langle 3 \rangle^+$			12.2(10)	5.9(5)			65(3)		15.9(13)	0.7(3)	
1624.40(3)	$\langle 1 \rangle^+$	33(3)		67(5)								
1633.97(1)	$\langle 2 \rangle^+$	32		60(2)	8(3)							
1674.82(3)	2 ⁺	58(3)		42(3)								
1701.68(10)	4 ⁺				25(2)	8.2(8)				41(3)	≈ 13	
1709.42(6)	$\langle 3 \rangle^+$			72(12)	28(3)							
1710.86(5)	$\langle 1^- \rangle$	48(7)		51								
1715.45(3)	4 ⁺			11(2)	74(4)	15.4(1)						
1733.64(1)	$\langle 3 \rangle^+$			67(3)	17(2)					15(3)		
1785.90(4)	3 ⁻			48(5)	52(3)							
1805.40(15)	4 ⁺			26(3)	74(5)							
1819.82(1)	$\langle 5^+ \rangle$					21(3)					28(4)	
1851.41(1)	$\langle 3 \rangle^-$							31(2)		4.5(5)	6(2)	
1859.23(3)	$\langle 4^+ \rangle$			81(9)		14.5(19)						
1861(2)	$\langle 12^+ \rangle$								100			
1884.67(1)	$\langle 5 \rangle^-$				0.20(4)	0.07(3)						
1886.0(2)	0 ⁺			100								
1933.95(3)	2 ⁻ –4 ⁻			47(4)	53(7)							
1949.70(1)	$\langle 4^- \rangle$									30(3)		
1958.52(3)	$\langle 2^+ \rangle$			93(7)								
2016.13(2)	3 ⁺				19(4)							
2037	1	61		39(24)								
2038.83(3)											7(2)	
2068.98(6)	$\langle 1 \rangle^+$	x		83(8)				17(7)				
2101.21(2)	2 ⁺ , 3 ⁺			95(6)								
2111.88(1)	2–4							34(6)			9(2)	
2123.04(10)	$\langle 4 \rangle^+$				100							
2160.918(10)	4 ⁺									20(5)		
2163.144(11)	$\langle 2^+ \rangle$	33(5)		59(3)								
2171.982(26)	$\langle 2^+ \rangle$	24(3)		39(3)	28(2)							
2186.864(26)	1 ⁻ –4 ⁻				72(7)						28(4)	
2198.6(3)	$\langle 1^- \rangle$	100										
2237.715(19)	$\langle 1^+, 2^+ \rangle$											30(15)
2256.416(8)	$\langle 3^+ \rangle$							11(2)			13(4)	
2295.773(30)	$\langle 2 \rangle^+$											33(10)
2321.11(22)				50(5)	50(5)							
2336.876(7)	$\langle 4^+ \rangle$				66(11)							
2338	1	57		43(11)								
2341.502(17)	1, 2 ⁺											29(8)
2350.3(2)*		57(9)		43(6)								
2361.838(10)	1 ⁺ , 4 ⁺			93(16)								
2377.9(2)					56(6)							
2436.4(3)		56(12)		44(8)								
2438.165(10)	$\langle 4^+ \rangle$									36(18)		

(continued)

¹⁷⁴₇₀Yb

<i>E</i> [*]	<i>J</i> ^π	<i>E</i> _f [*] :	0.0	76.5	253	526	890	1318	1336	1382.01	1468.20	1487.12
[keV]		<i>J</i> _f ^π :	0 ⁺	2 ⁺	4 ⁺	6 ⁺	8 ⁺	2 [−]	10 ⁺	3 [−]	⟨4⟩ [−]	0 ⁺
2464.965(17)	⟨2 ⁺ ,3 ⁺ ⟩			90(19)								
2500	1		62	38(10)								
2581.4(4)	1		68	32(10)								
2601.85(6)	2 ⁺ ,3 ⁺			40(6)								
2796.1(2)				47(9)								
2814.11(19)	1		53	47(20)								
2918.2(5)	1		71	29(5)								
3009.0(4)	1 [−]		28(5)	72								
3048.43(21)	1 ⁺ ,4 ⁺		48(19)	52								
3124.35(19)	1		67	33(18)								
3144.91(21)	1		57	43(16)								
3222.0	⟨1 [−] ⟩		35(10)	65								
3327.92(20)	1 ⁺ −4 ⁺		47(6)	53								
3349.81(18)	1 ⁺ −3 ⁺		63	37(11)								
3387.0	⟨1 [−] ⟩		32(5)	68								
3402.57(24)	2 ⁺ ,3 ⁺							75(6)			25(5)	
3427.76(15)	2 ⁺ ,3 ⁺									12(3)		
3486.96(28)	1 ⁺ −4 ⁺		60	40(11)								
3527.1(5)	⟨1 [−] ⟩		36(5)	64								
3553.73(13)	1 ⁺		68	32(5)								
3646.89(14)	1 ⁺ −4 ⁺		45(26)	55								
3692.2(4)	1		68	32(11)								

Energy levels and branching ratios [99Br24]. Part 3

¹⁷⁴₇₀Yb

<i>E</i> [*]	<i>J</i> ^π	<i>E</i> _f [*] :	1518.15	1561.02	1572.13	1606.36	1624.40	1633.97	1671.22	1674.82	1701.68	1709.42
[keV]		<i>J</i> _f ^π :	6 ⁺	⟨2⟩ ⁺	⟨5 [−] ⟩	⟨3⟩ ⁺	⟨1⟩ ⁺	⟨2⟩ ⁺	⟨7 ⁺ ⟩	2 ⁺	4 ⁺	⟨3⟩ ⁺
1671.22(1)	⟨7 ⁺ ⟩	100										
1701.68(10)	4 ⁺					13(2)						
1710.86(5)	⟨1 [−] ⟩			≈1								
1733.64(1)	⟨3⟩ ⁺			1.1(4)								
1819.82(1)	⟨5 ⁺ ⟩				4(1)	14(2)					11(1)	
1851.41(1)	⟨3⟩ [−]					47(4)		11.9(11)				
1859.23(3)	⟨4 ⁺ ⟩	4.5(10)										
1884.67(1)	⟨5⟩ [−]	100										
1949.70(1)	⟨4 [−] ⟩					44(3)					26(3)	
2016.13(2)	3 ⁺					73(4)					7.4(10)	
2020.62(5)	⟨6 [−] ⟩	33(8)						49(27)				
2049.97(1)	⟨3⟩ [−]					45(4)					11(5)	
2088.46(18)	⟨4⟩ [−]					29(11)					68(12)	
2101.21(2)	2 ⁺ ,3 ⁺										5.0(6)	

(continued)

 $^{174}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1518.15 6 ⁺	1561.02 (2) ⁺	1572.13 (5 ⁻)	1606.36 (3) ⁺	1624.40 (1) ⁺	1633.97 (2) ⁺	1671.22 (7 ⁺)	1674.82 2 ⁺	1701.68 4 ⁺	1709.42 (3) ⁺
2160.918(10)	4 ⁺				40(5)						28(2)	
2171.982(26)	(2 ⁺)									1.9(3)		
2237.715(19)	(1 ⁺ ,2 ⁺)			23(8)	20(3)			10(2)				
2246.825(15)	(2 ⁺ ,3 ⁺)			19(3)		60(8)		22(3)				
2256.416(8)	(3 ⁺)			7(1)				29(4)				23(4)
2295.773(30)	(2) ⁺							52(6)				11.5(13)
2361.838(10)	1 ⁺ ,4 ⁺											3.9(16)
2378.7(2)	(5) ⁻	12.0(7)										
2384.056(25)	(4 ⁺)	10(3)										
2403.332(13)	2 ⁻					39(10)						
2438.165(10)	(4 ⁺)			27(9)						27(9)		
2464.965(17)	(2 ⁺ ,3 ⁺)										10(4)	
2796.1(2)											53(3)	

Energy levels and branching ratios [99Br24]. Part 4

 $^{174}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1710.86 $\langle 1^- \rangle$	1715.45 4^+	1733.64 $\langle 3 \rangle^+$	1785.90 3^-	1805.40 4^+	1819.82 $\langle 5^+ \rangle$	1851.41 $\langle 3 \rangle^-$	1861 $\langle 12^+ \rangle$	1884.67 $\langle 5 \rangle^-$	1933.95
1819.82(1)	$\langle 5^+ \rangle$				21(7)							
1958.52(3)	$\langle 2^+ \rangle$	4.6(7)				2.6(8)						
2020.62(5)	$\langle 6^- \rangle$										17(8)	
2038.83(3)							93(7)					
2049.97(1)	$\langle 3 \rangle^-$								45(9)			
2088.46(18)	$\langle 4 \rangle^-$							3.5(4)				
2111.88(1)	2-4							57(11)				
2160.918(10)	4^+							12(2)				
2171.982(26)	$\langle 2^+ \rangle$			1.9(3)								
2237.715(19)	$\langle 1^+, 2^+ \rangle$	16(2)										
2336.7(3)	$\langle 4^-, 5 \rangle$										77(18)	
2336.876(7)	$\langle 4^+ \rangle$				3.2(5)			12(3)				
2377.9(2)				44(6)								
2378.7(2)	$\langle 5 \rangle^-$										84(4)	
2384.056(25)	$\langle 4^+ \rangle$					12.1(17)						
2403.332(13)	2^-											31(3)
2457(3)	$\langle 14^+ \rangle$									100		
2601.85(6)	$2^+, 3^+$			12(3)								
3427.76(15)	$2^+, 3^+$			88(2)								

Energy levels and branching ratios [99Br24]. Part 5

 $^{174}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	1949.70 $\langle 4^- \rangle$	1958.52 $\langle 2^+ \rangle$	2016.13 3^+	2020.62 $\langle 6^- \rangle$	2068.98 $\langle 1 \rangle^+$	2088.46 $\langle 4 \rangle^-$	2101.21	2111.88	2123.04 $\langle 4 \rangle^+$
2163.144(11)	$\langle 2^+ \rangle$		7.9(10)								
2171.982(26)	$\langle 2^+ \rangle$			5.1(6)							
2256.416(8)	$\langle 3^+ \rangle$				17(2)						
2295.773(30)	$\langle 2 \rangle^+$										3.6(12)
2336.7(3)	$\langle 4^-, 5 \rangle$					≈ 23					
2336.876(7)	$\langle 4^+ \rangle$							19(3)			
2341.502(17)	$1, 2^+$			33(12)					37(4)		
2378.7(2)	$\langle 5 \rangle^-$					3.9(4)					
2403.332(13)	2^-									29(10)	
2438.165(10)	$\langle 4^+ \rangle$							≈ 11			
2601.85(6)	$2^+, 3^+$						49(2)				

Energy levels and branching ratios [99Br24]. Part 6

 $^{174}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage					
		$E_f^*:$ $J_f^\pi:$	2256.42 $\langle 3^+ \rangle$	2295.77 $\langle 2 \rangle^+$	2457 $\langle 14^+ \rangle$	3117 $\langle 16^+ \rangle$	3836 $\langle 18^+ \rangle$
2361.838(10)	$1^+, 4^+$		3.1(7)				
2384.056(25)	$\langle 4^+ \rangle$			78(16)			
3117(4)	$\langle 16^+ \rangle$				100		
3836(5)	$\langle 18^+ \rangle$					100	
4610(7)	$\langle 20^+ \rangle$						100

Energy levels and branching ratios [04Ba89].

 $^{175}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	L	C^2S (d,t)	C^2S (d,p)	σ (d,t) $\mu\text{b/sr}$	σ (d,p) $\mu\text{b/sr}$	σ (τ, α) $\mu\text{b/sr}$	L	C^2S (τ, α)	$T_{1/2}$ or Γ_{cm}	Ref.
0.0 ^a	7^-				13	≈ 15	≤ 1			4.185(1) d	79Ta04
104.526(2) ^a	$\langle 9 \rangle^-$	5	0.472		59	≈ 35	20	5	0.31		71Bu01
231.501(5) ^a	$\langle 11^- \rangle$				≈ 3						66Bu16
267.541(4) ^b	$\langle 9^+ \rangle$				12		3.9				66Bu16
380.4(7) ^a	$\langle 13^- \rangle$										04Ba89
384.755(6) ^b	$\langle 11^+ \rangle$						≤ 1				71Er0A
≈ 460							≈ 6				71Er0A
514.865(4)	1^-				50	64	43			68.2(3) ms	66Bu16
522.2(10)	$\langle 13 \rangle^+$	6	0.434		incl	incl	incl	6	0.49		71Bu01
551.3(8) ^a	$\langle 15^- \rangle$										04Ba89
556.084(4)	3^-	1	0.042	0.226	84	390	21				79Ta04

(continued)

 $^{175}_{70}\text{Yb}$

E^*	$2J^\pi$	L	C^2S	C^2S	σ (d,t)	σ (d,p)	σ (τ,α)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,t)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ,α)	Γ_{cm}	
602.836(4)	5^-	3	0.060	0.398	45	176	incl				79Ta04
639.255(4)	$\langle 5^- \rangle$	3	0.038		≈ 26	≈ 7	incl				79Ta04
698.107(4)	7^-	3		0.045	≈ 11	79					79Ta04
729.212(7)	$\langle 7^- \rangle$	3	0.726	0.055	500	93	21	3	0.47		71Bu01
741.8(10) ^a	$\langle 17^- \rangle$										04Ba89
782.232(7)	$\langle 9^- \rangle$				≈ 3	22	6.5				66Bu16
811.423(4)	$\langle 3^- \rangle$	1		0.054	14	106					79Ta04
844.179(6)	$\langle 9^- \rangle$				≈ 7		≈ 4				66Bu16
871.690(4)	$\langle 5^- \rangle$	3	0.064	0.258	35	233					79Ta04
920.027(5)	1^-	1	0.282		400	≈ 22	2.6				79Ta04
954.6(13) ^a											04Ba89
957.477(7)	$\langle 7^- \rangle$	3		0.051	16	115					79Ta04
983.0(15)	$\langle 11^- \rangle$				≈ 12		7.0				66Bu16
992.260(4)	3^-	1	0.020		≈ 26		incl				79Ta04
1009.09(6)	$\langle 7^+ \rangle$	2	0.033		86	≈ 7	incl				79Ta04
1009.384(5)	$\langle 5^- \rangle$	3	0.129		incl	incl	incl				79Ta04
1021.5(23)							4.2				71Er0A
1035.0(21)							incl				
1062.2(10)					≈ 8	≈ 20					
1067.871(5)	$\langle 3^+ \rangle$										
1097.3(9)	$5^-, 7^-$	3	0.08,0.06		42	≈ 17	≤ 4				79Ta04
1117.6(13)											
1121.331(5)	$\langle 5^+ \rangle$										
1156.5(16)											
1174.76(1)	7^-	3	0.164		108		9				79Ta04
1184.7(14) ^a	$\langle 21^- \rangle$										04Ba89
1195.2(15)					≈ 14						66Bu16
1197.29(1)	$\langle 7^+ \rangle$										04Ba89
1204.2(13)							6.7				71Er0A
1210.3(14)											04Ba89
1222.9(14)											04Ba89
1262.0(15)							≈ 7				71Er0A
1290.0(12)											
1308.3(2)					≈ 10	≈ 9	34	5,6	0.40		71Bu01
1346.4(11)	$\langle 13^+ \rangle$	$\langle 6 \rangle$	0.98		38		68	6	0.70		71Bu01
1356.49(1)	$\langle 1^+ \rangle$	$\langle 0 \rangle$		0.79	≈ 10	755					79Ta04
1368.11(1)	$\langle 5^+ \rangle$	$\langle 2 \rangle$		0.49							79Ta04
1415.4(11)**											
1424.9(6)	$7^+, 9^+$	4		1.51,1.21	≈ 8	377	≈ 8				79Ta04
1436.3(16) ^a	$\langle 23^- \rangle$										04Ba89
1461.1(9)	$3^+, 5^+$	2		0.20,0.14	≈ 5	228					79Ta04
1468.87(1)	$\langle 3^+ \rangle$										04Ba89
1497.18(1)	$\langle 3^+ \rangle$						5			<0.1 ns	71Er0A
1517.1(13)											04Ba89
1536.0(14)											04Ba89

(continued)

¹⁷⁵Yb
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E^*	$2J^\pi$	L	C^2S	C^2S	σ (d,t)	σ (d,p)	σ (τ,α)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,t)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ,α)	Γ_{cm}	
1549.6(20)	1,3,5 ⁺										04Ba89
1566.6(19)											04Ba89
1581.4(26)											04Ba89
1604.2(14)											04Ba89
1620.5(12)							≤ 1				71Er0A
1627.48(4)	1 ⁻ ,3 ⁻	1	0.10,0.09		90	13					79Ta04
1636.4(14)											04Ba89
1642.2(15)											04Ba89
1647.8(15)	1,3,5 ⁺										04Ba89
1650.4(14)											04Ba89
1660.6(20)	1,3,5 ⁺										04Ba89
1671.5(15)											04Ba89
1682.7(5)	1,3,5 ⁺										04Ba89
1685.8(10)	1 ⁻ ,3 ⁻	1	0.02,0.02		22		≈ 1				79Ta04
1689.56(3)											04Ba89
1690.9(2)	1,3,5 ⁺										04Ba89
1703.4(17)	$\langle 25^- \rangle$										04Ba89
1743.4(12)							≈ 3				71Er0A
1749.7(11)					≈ 8						66Bu16
1754.3(16)											04Ba89
1775.5(17)	5 ⁻ ,7 ⁻	3	0.20,0.15		71		15				79Ta04
1793.40(14)											04Ba89
1802.2(18)											04Ba89
1808.7(18)							9				71Er0A
1815.2(16)							incl				04Ba89
1822.9(16)											04Ba89
1833.9(16)							13				71Er0A
1842.0(12)											04Ba89
1844.3(20)	1,3,5 ⁺										04Ba89
1851.8(16)											04Ba89
1861.1(15)							16				71Er0A
1864.84(21)											04Ba89
1870.8(12)											04Ba89
1876.5(15)											04Ba89
1881.6(15)											04Ba89
1891.93(18)											04Ba89
1893.09(5)	1 ⁻ ,3 ⁻						13				71Er0A
1902.4(12)							incl				04Ba89
1911.6(15)											04Ba89
1918.9(14)											04Ba89
1932.5(17)											04Ba89
1937.47(4)	1 ⁻ ,3 ⁻						≤ 12				71Er0A
1948.9(15)											04Ba89
1960.9(12)											04Ba89
1968.3(16)	1,3,5 ⁺										04Ba89

(continued)

 $^{175}_{70}\text{Yb}$

E^*	$2J^\pi$	L	C^2S	C^2S	σ (d,t)	σ (d,p)	σ (τ,α)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,t)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ, α)	Γ_{cm}	
1980.3(16)	1,3,5 ⁺						23				71Er0A
1989.9(14)											
1880.5(19) ^a	$\langle 27^- \rangle$										04Ba89
1998.7(15)	1,3,5 ⁺						18				71Er0A
2015.11(20)							incl				04Ba89
2023.8(10)											04Ba89
2039.6(20)	1,3,5										04Ba89
2046.3(25)	1,3,5						52	$\langle 6 \rangle$	0.50		04Ba89
2053.9(11)											04Ba89
2065.2(20)	1,3,5										04Ba89
2082.0(3)											04Ba89
2093.6(4)											04Ba89
2107.8(2)	$\langle 1^-, 3^- \rangle$										04Ba89
2114.2(5)											04Ba89
2119.4(15)											04Ba89
2131.7(12)											04Ba89
2139.9(12)											04Ba89
2142.6(10)											04Ba89
2150.2*											84Va38
2161.2(15)	1,3,5										04Ba89
2181.7(9)											04Ba89
2190.2(15)	$\langle 1^-, 3^- \rangle$										04Ba89
2195.8(11)											04Ba89
2209.1(17)											04Ba89
2215.8(14)											04Ba89
2220.5(17)											04Ba89
2234.2(11)	3 ⁺ ,5 ⁺	2		0.17,0.12							79Ta04
2251.4(10)											04Ba89
2279.5(12)											04Ba89
2284.5(12)	5 ⁻ ,7 ⁻	3		0.13,0.10							79Ta04
2300.7(10)	3 ⁺ ,5 ⁺	2	0.06,0.05								79Ta04
2317.6(9)											04Ba89
2331.2(12)	3 ⁺ ,5 ⁺	2	0.14,0.12								79Ta04
2349.1(12)											04Ba89
2366.5(15)											04Ba89
2385.9(11)											04Ba89
2398.9(10)	3 ⁺ ,5 ⁺	2	0.05,0.04								79Ta04
2415.9(16)											04Ba89
2431.1(15)											04Ba89
2438.4(12)	3 ⁺ ,5 ⁺	2	0.08,0.06								79Ta04
2450.9(16)											04Ba89
2458.4(15)											04Ba89
2463.4*											84Va38
2471.0(10)											04Ba89
2491.4(14)	3 ⁺ ,5 ⁺	2	0.24,0.20								79Ta04

(continued)

¹⁷⁵Yb
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E^*	$2J^\pi$	L	C^2S	C^2S	σ (d,t)	σ (d,p)	σ (τ,α)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,t)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ,α)	Γ_{cm}	
2506.7(23)			incl								04Ba89
2515.0(13)											04Ba89
2523.5(18)											04Ba89
2533.5(12)											04Ba89
2541.6(11)	$3^+, 5^+$										04Ba89
2552.1(13)											04Ba89
2560.6											04Ba89
2571.6(16)											04Ba89
2583.3(16)											04Ba89
2599.8(14)											04Ba89
2612.1(22) ^a	$\langle 31^- \rangle$										04Ba89
2630.1(11)		2,3	0.11,0.12								79Ta04
2646.4(22)											04Ba89
2662.2(14)											04Ba89
2677.7(15)											04Ba89
2693.2(14)											04Ba89
2712.3(13)											04Ba89
2731.5*											84Va38
2737.1(14)											04Ba89
2770.3*											84Va38
2861.3*											84Va38
2877.5*											84Va38
2903.0*											84Va38
2947.0(22) ^a	$\langle 33^- \rangle$										04Ba89
3022.6*											84Va38
3159.9*											84Va38
3198.8*											84Va38
3223.5*											84Va38
3266.7*											84Va38
3296.7(24) ^a	$\langle 35^- \rangle$										04Ba89
3327.2*											84Va38
3414.9*											84Va38
3440.3*											84Va38
3545.1*											84Va38
3578.1*											84Va38
3659.7(25) ^a	$\langle 37^- \rangle$										04Ba89
4035(3) ^a	$\langle 39^- \rangle$										04Ba89

(continued)

 $^{175}_{70}\text{Yb}$

E^*	$2J^\pi$	L	C^2S	C^2S	σ (d,t)	σ (d,p)	σ (τ,α)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(d,t)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(τ,α)	Γ_{cm}	
4425(3) ^a	$\langle 41^- \rangle$		79Ta04	79Ta04	66Bu16	66Bu16	71Er0A		71Bu01		04Ba89 Ref.

Additional data on this isotope can be found in [93Va02, 89Bo16, 84Va38].

* Observed only in ($n_{\text{thermal}}, \gamma\gamma$) measurements [84Va38].

** Absent in [04Ba89].

a,b mark low-lying levels of two bands $7/2^-$ [514] and $9/2^+$ [624] proposed in [05Nc01].

7 bands of levels are presented in the recent compilation by C.Baglin [04Ba89].

First two columns contain final results of the combined study of the (d,t) and (d,p) reactions in [79Ta04]; next two columns contain differential cross sections for the same two reactions at 90° from [66Bu16], additional data for 60° and 125° can be found therein.

Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [04Ba89]. Part 2

 $^{175}_{70}\text{Yb}$

E^*	$2J^\pi$	Branching ratios in percentage										
		E_f^* :	0.0	104	231	267	514.869	556.087	602.838	639.258	698.111	729.215
[keV]		$2J_f^\pi$:	7^-	$\langle 9^- \rangle$	$\langle 11^- \rangle$	$\langle 9^+ \rangle$	1^-	3^-	5^-	$\langle 5^- \rangle$	7^-	$\langle 7^- \rangle$
104.526(2) ^a	$\langle 9^- \rangle$		100									
231.501(5) ^a	$\langle 11^- \rangle$		68(9)	32(7)								
267.541(4) ^b	$\langle 9^+ \rangle$		36(3)	64(9)								
384.755(6) ^b	$\langle 11^+ \rangle$			40(14)		60(11)						
514.865(4)	1^-		100									
556.084(4)	3^-		5.7(4)				94(27)					
602.836(4)	5^-		6.0(7)	12(1)			42(7)	40(11)				
639.255(4)	$\langle 5^- \rangle$		75(4)	25.0(13)								
698.107(4)	7^-		3.4(12)	4.1(9)				13(2)	80(18)			
729.212(7)	$\langle 7^- \rangle$		52(5)	10.8(11)	9(2)				0.9(3)	27(6)		
782.232(7)	$\langle 9^- \rangle$								100			
811.423(4)	$\langle 3^- \rangle$		85(5)				0.36(8)	3.0(3)	0.80(9)	10.4(14)		
844.179(6)	$\langle 9^- \rangle$				61(21)					9(4)		30(7)
871.690(4)	$\langle 5^- \rangle$		52(4)	33(3)			1.9(3)	0.6(2)		5.4(5)	2.6(4)	4.7(7)
920.027(5)	1^-						4.8(4)	95(5)	0.65(10)			
957.477(7)	$\langle 7^- \rangle$		18(7)	52(10)	16(5)				6.0(11)		2.3(5)	4.2(8)
992.260(4)	3^-						55(3)	41(3)	2.3(2)			
1009.09(6)	$\langle 7^+ \rangle$		43(10)	20(5)		36(6)						
1009.384(5)	$\langle 5^- \rangle$							7.3(11)	28(3)		63(5)	
1067.871(5)	$\langle 3^+ \rangle$	x					9.9(8)	18(2)	5.9(5)	66(5)		
1121.331(5)	$\langle 5^+ \rangle$							8.5(7)	7.8(10)	51(4)	9.8(7)	22(2)
1174.76(1)	7^-								64(4)		20(4)	
1197.29(1)	$\langle 7^+ \rangle$									20(7)		50(6)
1308.3(2)			69(7)							31(10)		
1356.49(1)	$\langle 1^+ \rangle$						45(4)	37(4)				

(continued)

 $^{175}_{70}\text{Yb}$

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	0.0 7 ⁻	104 ⟨9 ⁻ ⟩	231 ⟨11 ⁻ ⟩	267 ⟨9 ⁺ ⟩	514.869 1 ⁻	556.087 3 ⁻	602.838 5 ⁻	639.258 ⟨5 ⁻ ⟩	698.111 7 ⁻	729.215 ⟨7 ⁻ ⟩
1368.11(1)	⟨5 ⁺ ⟩							59(17)				
1468.87(1)	⟨3 ⁺ ⟩						53(5)		5(2)			
1497.18(1)	⟨3 ⁺ ⟩						26(2)	27(5)	19(1)	15(1)		
1627.48(4)	1 ⁻ ,3 ⁻									28(5)		
1682.7(5)	1,3,5 ⁺						27(9)	73(18)				
1689.56(3)												18(7)
1690.9(2)	1,3,5 ⁺						50(7)	38(9)	12(12)			
1793.40(14)							2(1)	9(5)		16(5)		
1864.84(21)							7(2)	25(2)	14(2)			
1891.93(18)							41(3)	6.2(8)	0.4(4)	3.1(6)		
1893.09(5)	1 ⁻ ,3 ⁻						73(19)					
2082.0(3)							4.2(10)	80(9)				
2093.6(4)							16(10)	37(10)		47(10)		
2114.2(5)							37(6)	38(9)	25(6)			
2139.9(12)							25(13)	31(13)	44(13)			

Energy levels and branching ratios [04Ba89]. Part 3

 $^{175}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	811.425 ⟨3 ⁻ ⟩	844.181 ⟨9 ⁻ ⟩	871.693 ⟨5 ⁻ ⟩	920.029 1 ⁻	992.263 3 ⁻	1009.1 ⟨7 ⁺ ⟩	1009.39 5 ⁻	1067.87 ⟨3 ⁺ ⟩	1121.33 ⟨5 ⁺ ⟩	1174.76 7 ⁻
957.477(7)	⟨7 ⁻ ⟩		1.6(7)									
992.260(4)	3 ⁻		0.43(6)		0.28(6)	0.7(2)						
1009.384(5)	⟨5 ⁻ ⟩		0.3(1)		x	0.8(3)						
1067.871(5)	⟨3 ⁺ ⟩				0.18(5)	x	x					
1121.331(5)	⟨5 ⁺ ⟩		0.6(2)						0.5(2)			
1174.76(1)	7 ⁻						11.9(15)		3.8(8)			
1197.29(1)	⟨7 ⁺ ⟩			31(3)								
1356.49(1)	⟨1 ⁺ ⟩					12(2)				5.3(4)	0.4(1)	
1368.11(1)	⟨5 ⁺ ⟩		4.3(11)		12(4)		5.0(7)		3.0(5)	2.4(7)	6.2(6)	6.9(8)
1468.87(1)	⟨3 ⁺ ⟩		8.6(8)			5.5(6)	4.2(8)		3.7(7)	2.2(6)		
1497.18(1)	⟨3 ⁺ ⟩		0.3(3)		0.7(1)	3.6(4)	5(1)		3(1)			
1627.48(4)	1 ⁻ , 3 ⁻					39(4)	26(2)		6.4(9)			
1689.56(3)							41(7)		41(6)			
1793.40(14)			27(9)		18(3)		6(2)					
1864.84(21)			8(2)		22(13)	24(10)						
1893.09(5)	1 ⁻ , 3 ⁻									27(2)		
1937.47(4)	1 ⁻ , 3 ⁻						19(3)			28(3)	37(3)	
2015.11(20)							27(9)	40(12)		33(8)		
2082.0(3)			16(5)									
2107.8(2)	⟨1 ⁻ , 3 ⁻ ⟩		30(10)			35(10)	35(10)					

(continued)

 $^{175}_{70}\text{Yb}$

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* :	811.425	844.181	871.693	920.029	992.263	1009.1	1009.39	1067.87	1121.33	1174.76
		$2J_f^\pi$:	$\langle 3 \rangle^-$	$\langle 9^- \rangle$	$\langle 5 \rangle^-$	1^-	3^-	$\langle 7^+ \rangle$	5^-	$\langle 3^+ \rangle$	$\langle 5^+ \rangle$	7^-
2139.9(12)		x				x						
2190.2(15)	$\langle 1^-, 3^- \rangle$	33(11)								67(22)		

Energy levels and branching ratios [04Ba89]. Part 4

 $^{175}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	1197.30 $\langle 7^+ \rangle$	1308.9	1356.49 $\langle 1^+ \rangle$	1368.11 $\langle 5^+ \rangle$	1468.87 $\langle 3^+ \rangle$	1497.32 $\langle 3^+ \rangle$	1627.48 $1^-, 3^-$	1689.56	
1368.11(1)	$\langle 5^+ \rangle$		0.8(2)								
1468.87(1)	$\langle 3^+ \rangle$			12(7)	0.9(2)	5.6(13)					
1793.40(14)							10(2)	11(2)			
1891.93(18)							4.9(10)	45(13)			
1937.47(4)	$1^-, 3^-$		11(3)			1.8(4)			0.8(3)	1.7(2)	

Energy levels and branching ratios [98Br13].

 $^{176}_{70}\text{Yb}$

E^* [keV]	J^π	L (t,p)	S_N <i>rel.</i>	σ (t,p) $\mu\text{b/sr}$	σ (d,d') $\mu\text{b/sr}$	R (d,d')	Γ_{γ_0} [meV]	EWSR (p,p')	$T_{1/2}$ or Γ_{cm}	Ref.
0.0 ^a	0 ⁺	0	1.0	219	13000*	4.8			Stable	83Bu03
82.13(2)	2 ⁺			27	2700	1.7		8.9	1.76(5) ns	67Bu21
271.70(5)	4 ⁺			19	117	0.6		0.001	0.11(1) ns	67Bu21
564.7(1)	6 ⁺				1.8	2.4		0.001	14(1) ps	67Bu21
954.0(2)	8 ⁺								3.5(5) ps	
1050.0(3)	$\langle 8 \rangle^-$								11.4(3) s	
1088.2(2)										
1132.0(2)				obsc						83Bu03
1193.4(2)										
1260.9(2)	2 ⁺			obsc	27	2.2		0.92	0.74(8) ps	67Bu21
1283.4(3)										
1341.1(1)	[2 ⁺]			22	3.2			2.88		67Bu21
1431(1)	$\langle 10 \rangle^+$								1.2(1) ps	
1431.7(2)										
1435.4(4)	$\langle 4 \rangle^+$			20	9.3	1.4		0.33		67Bu21
1491(6)					19	1.6				67Bu21
1498.7(1)										
≈ 1520				11						83Bu03
1542	[3 ⁻]							0.58		92Pe02
1575.5(2)										

(continued)

 $^{176}_{70}\text{Yb}$

E^*	J^π	L	S_N	σ (t,p)	σ (d,d')	R	$\Gamma_{\gamma o}$	EWSR	$T_{1/2}$ or	Ref.
[keV]		(t,p)	rel.	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,d')	[meV]	(p,p')	Γ_{cm}	
1630.1(2)	$[3^-]$							1.79		92Pe02
1671.45(4)	$\langle 3 \rangle$									
1692(6)					4.7	1.8				67Bu21
1715**	5^-							0.12		92Pe02
1738(6)				13						83Bu03
1767(6)					12	1.1				67Bu21
1778.46(11)	0^+	0		65						83Bu03
1790(6)					50	0.8				67Bu21
1798.10(6)										
1819.24(12)	$\langle 1^+ \rangle$									
1821.09(6)										
1867.93(10)	$\langle 2^+ \rangle$									92Pe02
1948**	4^+							0.81		92Pe02
1984.6(20)	$\langle 12 \rangle^+$								0.59(6) ps	
1992**	3^-							3.27		92Pe02
2053.24(12)	$3^+, 4^+$			≤ 6						83Bu03
2153.5(2)										
2163(1)	$\langle 1 \rangle$						24.0(67)		11.5(3) fs	90Zi01
2235**	7^-									92Pe02
2295.2(4)	$[2^+]$			27				2.42		92Pe02
2453(1)	$\langle 1 \rangle$						41.9(90)		7.7(17) fs	90Zi01
2462**	4^+							0.84		92Pe02
2480.7(4)										
2528**	3^-							2.93		92Pe02
2537.8(6)										
2602(3)	$\langle 14 \rangle^+$								0.38(7) ps	
2704(1)	$\langle 1 \rangle$						44.9(90)		7.4(15) fs	90Zi01
2721										92Pe02
2822**	5^-							0.28		92Pe02
2902**										92Pe02
2938(1)	$\langle 1 \rangle$						36(15)		10(4) fs	90Zi01
2949.8(6)	$3^+, 4^+$									
2953.8(3)	$3^+, 4^+$									
3033**	4^+							0.76		
3052.3(3)	$3^+ - 5^+$									
3088**	3^-							1.83		92Pe02
3126(1)	1^-						36(15)		3.8(16) fs	90Zi01
3143(1)	$\langle 1 \rangle$						67(19)		2.2(16) fs	90Zi01
3186.3(4)	4^+							0.67		92Pe02
3270(5)	$\langle 16 \rangle^+$									06Ba16
3324**	4^+							0.70		92Pe02
3456(1)	$\langle 1 \rangle$						45(23)		6(3) fs	90Zi01
3480(1)	1^-						26(14)		8(4) fs	90Zi01
3516(1)	$\langle 1 \rangle$						43(22)		5(3) fs	90Zi01
3540(1)	$\langle 1^- \rangle$						51(23)		3.2(15) fs	90Zi01

(continued)

 $^{176}_{70}\text{Yb}$

E^*	J^π	L	S_N	σ (t,p)	σ (d,d')	R	Γ_{γ_0}	EWSR	$T_{1/2}$ or	Ref.
[keV]		(t,p)	<i>rel.</i>	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,d')	[meV]	(p,p')	Γ_{cm}	
3557(1)	$\langle 1 \rangle$						75(21)		3.1(9) fs	90Zi01
3780(1)	$\langle 1^- \rangle$						99(31)		1.6(5) fs	90Zi01
3845(1)	$\langle 1 \rangle$						141(69)		1.7(9) fs	90Zi01
3979(6)	$\langle 18 \rangle^+$									06Ba16
4729(6)	$\langle 20 \rangle^+$									06Ba16
				83Bu03	67Bu21	67Bu21	90Zi01			Ref.

Additional data on this isotope can be found in [00De59, 99DeZW, 92Pe02, 90Zi01, 90Zi05].

Abundance: 12.76(41) %.* σ (d,d') is the cross section measured at 125° [67Bu21].

** Level not included in Adopted Level Scheme [06Ba16].

a,b,c mark of three bands $K^\pi=0^+$, 8^- and 4^- proposed in [05Nc01]. $R=(\sigma$ (d,d') at 90°)/(σ (d,d') at 125°) was used for the level assignment to different bands [67Bu21]; σ (t,p) was measured at 30° [83Bu03] . Γ_{γ_0} are from [90Zi01], see $B(E1)$ and $B(M1)$ therein.

Data for this isotope are considered in vol. LB I/16C.

Energy levels and branching ratios [98Br13]. Part 2

 $^{176}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
		E_f^* :	0.0	82.1	272	565	954	1088	1132	1193	1260.9	1283.4
[keV]		J_f^π :	0 ⁺	2 ⁺	4 ⁺	6 ⁺	8 ⁺				2 ⁺	
82.13(2)	2 ⁺		100									
271.70(5)	4 ⁺			100								
564.7(1)	6 ⁺				100							
954.0(2)	8 ⁺					100						
1050.0(3)	$\langle 8 \rangle^-$						100					
1088.2(2)			85(8)	15(2)								
1132.0(2)				100								
1193.4(2)				91(10)	8.7(18)							
1260.9(2)	2 ⁺		43(4)	57(5)								
1283.4(3)					100							
1341.1(1)	[2 ⁺]			<18	100							
1431(1)	$\langle 10 \rangle^+$					100						
1431.7(2)				11(1)				48(4)	23(2)	19(2)		
1435.4(4)	$\langle 4 \rangle^+$			42(11)	58(6)							
1498.7(1)								<18		[33(11)]		[67(11)]
1575.5(2)				21(6)								
1630.1(2)	[3 ⁻]				11(3)				35(4)	<22		
1671.45(4)	(3)			11(1)					2.5(4)	<4	16(1)	
2053.24(12)	3 ⁺ , 4 ⁺			7.6(6)								
2153.5(2)				13(3)	13(3)							
2163(1)	(1)		61	39(8)								

(continued)

 $^{176}_{70}\text{Yb}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	0.0 0 ⁺	82.1 2 ⁺	272 4 ⁺	565 6 ⁺	954 8 ⁺	1088	1132	1193	1260.9 2 ⁺	1283.4
2453(1)	$\langle 1 \rangle$		71	29(4)								
2537.8(6)				65(8)	35(8)							
2704(1)	$\langle 1 \rangle$		73	27(4)								
2938(1)	$\langle 1 \rangle$		77	23(8)								
2949.8(6)	3 ⁺ ,4 ⁺			56(7)	29(3)					15(3)		
2953.8(3)	3 ⁺ ,4 ⁺			24(2)	15(1)							
3052.3(3)	3 ⁺ –5 ⁺				18(2)							
3126(1)	1 [–]		30(9)	70								
3143(1)	$\langle 1 \rangle$		32(5)	68								
3186.3(4)	4 ⁺				54(4)	37(3)						
3456(1)	$\langle 1 \rangle$		56	44(20)								
3480(1)	1 [–]		43(19)	57								
3516(1)	$\langle 1 \rangle$		51	49(19)								
3540(1)	$\langle 1^- \rangle$		36(12)	64								
3557(1)	$\langle 1 \rangle$		51	49(10)								
3780(1)	$\langle 1^- \rangle$		35(7)	65								
3845(1)	$\langle 1 \rangle$			100								

Energy levels and branching ratios [98Br13]. Part 3

 $^{176}_{70}\text{Yb}$

E^* [keV]	J^π	Branching ratios in percentage								
		$E_f^*:$ $J_f^\pi:$	1341.1	1431 $\langle 10 \rangle^+$	1431.7	1498.7	1575.5	1630.1	1671.4	1798.2
1575.5(2)			79(7)							
1630.1(2)	$[3^-]$		54(5)							
1671.45(4)	$\langle 3 \rangle$		32(2)		32(3)	3.5(4)	3.1(4)			
1798.10(6)			100							
1984.6(20)	$\langle 12 \rangle^+$			100						
2053.24(12)	3 ⁺ , 4 ⁺		2.2(4)		10.4(9)	1.6(2)		2.8(6)	72(4)	3.4(4)
2153.5(2)						16(4)			58(6)	
2480.7(4)									100	
2953.8(3)	3 ⁺ , 4 ⁺		12(1)						20(2)	
3052.3(3)	3 ⁺ –5 ⁺									62(7)
3186.3(4)	4 ⁺		9.3(9)							

Energy levels and branching ratios [98Br13]. Part 4

 $^{176}_{70}\text{Yb}$

E^*	J^π	E_f^* :	1985	Branching ratios in percentage			
[keV]		J_f^π :	$\langle 12 \rangle^+$	2053.4	2480.7	2602	3270
				$\langle 3^+, 4^+ \rangle$		$\langle 14 \rangle^+$	$\langle 16 \rangle^+$
2295.2(4)	$[2^+]$			100			
2602(3)	$\langle 14 \rangle^+$		100				
2953.8(3)	$3^+, 4^+$			29(3)			
3052.3(3)	$3^+ - 5^+$				20(3)		
3270(5)	$\langle 16 \rangle^+$					100	
3979(6)	$\langle 18 \rangle^+$						100

Energy levels and branching ratios [03Ko33].

 $^{177}_{70}\text{Yb}$

E^*	$2J^\pi$	L	S_N	σ (d,p)	I_p	$T_{1/2}$ or	Ref.	E_f^* :	Branching ratios in percentage				
[keV]		(d,p)	(d,p)	$\mu\text{b/sr}$	<i>rel.</i>	Γ_{cm}		$2J_f^\pi$:	0.0	104	121	220	264
									$\langle 9^+ \rangle$	$\langle 7^- \rangle$	$\langle 11^+ \rangle$	$\langle 9^- \rangle$	$\langle 13^+ \rangle$
0.0 ^a	$\langle 9^+ \rangle$			$[\approx 1]$		1.911(3) h	79Ja23						
104.5(2)	$\langle 7^- \rangle$			≈ 2		4.48(8) ns	66Bu16		100				
121.18(20)	$\langle 11^+ \rangle$			≈ 1			66Bu16		100				
150.0										100			
220.1(7)	$\langle 9^- \rangle$			12			66Bu16	x	x	x			
264.4(4)	$\langle 13^+ \rangle$	6		35	115		79Ta04	x			x		
331.5(3)	$\langle 1^- \rangle$			9		6.41(2) s	66Bu16		100				
361.1(9)	$\langle 11^- \rangle$								x			x	
375.4(4)	$\langle 3^- \rangle$	1	0.354	305	1000		79Ta04						
423.3(3)	$\langle 5^- \rangle$	3	0.412	148	560		79Ta04						
429.6(5)	$\langle 15^+ \rangle$										x		x
432.5										100			
526.4(11)	$\langle 7^- \rangle$	3	0.062	59	240		79Ta04						
528.1(10)	$\langle 13^- \rangle$											x	
612.9(12)	$\langle 9^- \rangle$			14			66Bu16						
616.8(7)	$\langle 17^+ \rangle$												x
622.0(4)								26(10)	74(7)				
703.9(6)	$\langle 3^- \rangle$	1	0.114	168	610		79Ta04		x				
715.4(15)													
770.6(11)	$\langle 5^- \rangle$	3	0.425	218	800		79Ta04						
826.0(8)	$\langle 19^+ \rangle$												
832.5(11)	$\langle 1, 3 \rangle$			≈ 14			66Bu16						
865.0(15)	$\langle 7^- \rangle$	3	0.127	112	390		79Ta04						
866.6(6)	$\langle 1, 3 \rangle$			incl	incl		66Bu16						
896.0													
931.3													
938.6(6)	$\langle 1^-, 3^- \rangle$												
961.3(20)													
975.3(12)	$\langle 9^- \rangle$	$\langle 4=7 \rangle$		15			79Ta04						
997.8(6)	$\langle 1, 3 \rangle$												

(continued)

 $^{177}_{70}\text{Yb}$

E^*	$2J^\pi$	L	S_N	σ (d,p)	I_p	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(d,p)	(d,p)	$\mu\text{b/sr}$	$rel.$	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 $\langle 9^+ \rangle$	104 $\langle 7^- \rangle$	121 $\langle 11^+ \rangle$	220 $\langle 9^- \rangle$	264 $\langle 13^+ \rangle$
1006.6													
1048.6(18)				7			66Bu16						
1055.9(9)	$\langle 21^+ \rangle$												
1075.0													
1108.9(16)	$\langle 11^- \rangle$			11			66Bu16						
1125.5(14)				5			66Bu16						
1165.3				5			66Bu16						
1208.8(6)	$\langle 3^-, 5^+ \rangle$									100			
1221.3(11)	$\langle 7^- \rangle$	3	0.412	346	1500		79Ta04						
1283.6(6)	$\langle 1^-, 3^- \rangle$												
1304.4													
1308.5(12)	$\langle 23^+ \rangle$												
1310.1													
1319.7(5)	$\langle 1^-, 3^- \rangle$												
1336.3													
1358.6(7)	$\langle 3^- \rangle$	1	0.756	740	3080		79Ta04			100			
1366.5(8)													
1416.4(8)	$\langle 1, 3 \rangle$												
1440.8*	$\langle 5^- \rangle$	3	0.223	172	750		79Ta04						
1494*	$\langle 3^+ \rangle$	2	0.141	70	410		79Ta04						
1518.4*													
1532.9*													
1539.1*													
1562.3(14)	$\langle 7^- \rangle$			14			66Bu16						
1576.0	$\langle 25^+ \rangle$												
1582.0*													
1585.6**													
1592.1(8)	$\langle 1, 3 \rangle$												
1625.9(17)													
1643.1(11)													
1657.7(8)	$1^-, 3^-$				180		63Ve09						
1658.7*													
1673.0													
1681.4													
1690.4(12)													
1700.5(5)*	$1^-, 3^-$												
1725.3(12)	$\langle 9^- \rangle$												
1738.2*													
1750.3(14)													
1826	$\langle 1, 3 \rangle$												
1833.7*													
1849.9(13)													
1863.3(12)					>130		63Ve09						
1876													
1899.0(21)	$\langle 11^- \rangle$												

$$^{177}_{70}\text{Yb}$$
[illegible]

(continued)

 $^{177}_{70}\text{Yb}$

E^*	$2J^\pi$	L	S_N	σ (d,p)	I_p	$T_{1/2}$ or Ref.	E_f^* : $2J_f^\pi$:	Branching ratios in percentage				
[keV]		(d,p)	(d,p)	$\mu\text{b/sr}$	<i>rel.</i>	Γ_{cm}	$\langle 9^+ \rangle$	$\langle 7^- \rangle$	$\langle 11^+ \rangle$	$\langle 9^- \rangle$	$\langle 13^+ \rangle$	
2504.2*												
2513.9*												
2525.3(15)												
2533*												
2546.6(20)												
2560.9(19)												
2568(3)												
2584.8(12)												
2601.8(16)												
2622.6(17)												
2632.5*												
2653.0												
2664.3**												
2671.9**												
2700.0												
2708.3												
2731.4**	$\langle 1^-, 3^- \rangle$											
2737.3*												
2742.2**	$\langle 1^-, 3^- \rangle$											
2744.7												
2777(3)												
2786.3*												
2806.9**												
2835												
2849.5												
2854.1*												
2883.3*												
2888.9*	$\langle 1^-, 3^- \rangle$											
2898.5												
2908												
2935(3)												
2942.5												
2947.4**												
2967(3)												
2978.8*	$\langle 1^-, 3^- \rangle$											
3006(3)												
3305												

Additional data on this isotope can be found in [95St17, 90Bo49, 88Bo44, 75Ja18].

* Transition to the state at 331 keV (1^-) was observed.

** Transition to the state at 375 keV (3^-) was observed.

a,b,c mark levels of three bands $9/2^+$ [624], $7/2^-$ [514] and $15/2^+$ proposed in [05Nc01].

Differential cross section $d\sigma/d\Omega$ of the (d,p) reaction was measured at 90° [66Bu16]; data for 13 angles (40° - 160°) can be found in [79Ja23].

Relative intensity of outgoing protons I_p in the (d,p) reaction at 90° was measured in [63Ve09].

Energy levels and branching ratios [03Ko33]. Part 2

 $^{177}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	331 $\langle 1^- \rangle$	361.1 $\langle 11^- \rangle$	375.4 $\langle 3^- \rangle$	423.3 $\langle 5^- \rangle$	429.6 $\langle 15^+ \rangle$	432.5	616.8 $\langle 17^+ \rangle$	703.9 $\langle 3^- \rangle$	826.0 $\langle 19^+ \rangle$	832.5 $\langle 1,3 \rangle$
423.3(3)	$\langle 5^- \rangle$		100									
528.1(10)	$\langle 13^- \rangle$			x								
616.8(7)	$\langle 17^+ \rangle$						x					
703.9(6)	$\langle 3^- \rangle$				x							
826.0(8)	$\langle 19^+ \rangle$						x		x			
832.5(11)	$\langle 1,3 \rangle$		100									
866.6(6)	$\langle 1,3 \rangle$		18		x			82				
896.0			100									
931.3					100							
938.6(6)	$\langle 1^-, 3^- \rangle$		55		45							
997.8(6)	$\langle 1,3 \rangle$		22		56	22						
1006.6					100							
1055.9(9)	$\langle 21^+ \rangle$								x		x	
1075.0					100							
1165.3					100							
1208.8(6)	$\langle 3^-, 5^+ \rangle$				x							
1283.6(6)	$\langle 1^-, 3^- \rangle$		62		38	x						
1304.4			100									
1308.5(12)	$\langle 23^+ \rangle$										x	
1310.1						100						
1319.7(5)	$\langle 1^-, 3^- \rangle$		13		70	16		x				
1336.3						100						
1358.6(7)	$\langle 3^- \rangle$				x							
1366.5(8)						100						
1416.4(8)	$\langle 1,3 \rangle$							x				
1440.8*	$\langle 5^- \rangle$		100									
1494*	$\langle 3^+ \rangle$		100									
1518.4*			100									
1532.9*			100									
1539.1*			100									
1582.0*			100									
1585.6**					100							
1592.1(8)	$\langle 1,3 \rangle$									100		
1657.7(8)	$1^-, 3^-$									x		28
1658.7*			100									
1673.0						100						
1681.4						100						
1700.5(5)*	$1^-, 3^-$		8		3	11				6		
1738.2*					100							
1833.7*					100							
1920(1)*	$\langle 1^- \rangle$		17					26				
1936.9*			100									
1943.1*			100									
1985.1**					100							
2004.5*			100									

(continued)

 $^{177}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	331 $\langle 1^- \rangle$	361.1 $\langle 11^- \rangle$	375.4 $\langle 3^- \rangle$	423.3 $\langle 5^- \rangle$	429.6 $\langle 15^+ \rangle$	432.5	616.8 $\langle 17^+ \rangle$	703.9 $\langle 3^- \rangle$	826.0 $\langle 19^+ \rangle$	832.5 $\langle 1,3 \rangle$
2021(1)	$\langle 1,3 \rangle$							37				
2031.8(12)	$\langle 1,3 \rangle$					100						
2034.0**					100							
2044.5						100						
2069.6*	$1^-, 3^-$		68		32							
2082.8**					100							
2136.9*	$\langle 1,3 \rangle$		100									
2141.3*	$1^-, 3^-$		75		25							
2170**	$1^-, 3^-$				35	44						
2243.2*	$\langle 1^-, 3^- \rangle$		100									
2248.9*			100									
2273.5**					100							
2350.4**					100							
2379.3**					100							
2389.8*			100									
2394.5**					100							
2444.6**					100							
2454.8*	$\langle 1^-, 3^- \rangle$		53		47							
2461.1						100						
2472.2*			100									
2479.8**	$\langle 1^-, 3^- \rangle$				26	74						
2504.2*			100									
2513.9*			100									
2533*			100									
2632.5*			100									
2653.0						100						
2664.3**					100							
2671.9**					100							
2700.0						100						
2708.3						100						
2731.4**	$\langle 1^-, 3^- \rangle$				40	60						
2737.3*			100									
2742.2**	$\langle 1^-, 3^- \rangle$		39		61							
2744.7						100						
2786.3*			100									
2806.9**					100							
2849.5						100						
2854.1*			100									
2883.3*			100									
2888.9*	$\langle 1^-, 3^- \rangle$		100									
2898.5						100						
2942.5						100						
2947.4**					100							
2978.8*	$\langle 1^-, 3^- \rangle$		55			45						

Energy levels and branching ratios [03Ko33]. Part 3

 $^{177}_{70}\text{Yb}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage								
		$E_f^*:$ $2J_f^\pi:$	866.6 $\langle 1,3 \rangle$	997.8 $\langle 1,3 \rangle$	1055.9 $\langle 21^+ \rangle$	1208.8 $\langle 3^-, 5^+ \rangle$	1308.5 $\langle 23^+ \rangle$	1319.7 $\langle 1^-, 3^- \rangle$	1358.6 $\langle 3 \rangle^-$	1592.1 $\langle 1,3 \rangle$
1308.5(12)	$\langle 23^+ \rangle$				x					
1358.6(7)	$\langle 3 \rangle^-$		x							
1416.4(8)	$\langle 1,3 \rangle$		100							
1576.0	$\langle 25^+ \rangle$				x		x			
1657.7(8)	$1^-, 3^-$		72							
1700.5(5)*	$1^-, 3^-$		10			62				
1920(1)*	$\langle 1^- \rangle$							21		36
2021(1)	$\langle 1,3 \rangle$								63	
2067.3(12)	$\langle 1,3 \rangle$			100						
2162(1)	$\langle 3 \rangle^+$					100				
2170**	$1^-, 3^-$							21		

Energy levels [94Br18, 95St17].

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E^* [keV]	J^π	L (t,p)	C^2S (t,p)	$d\sigma/d\Omega$ (t,p)	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	0^+	0	1.0	219	74(3) m	88Br21
84(3)	2^+	2		obsc		83Bu03
278(3)	4^+	4		17		83Bu03
342						
578.1	6^+			≈ 3		95St17
981.3	8^+					95St17
1221(3)	$\langle 2^+ \rangle$	2		16		83Bu03
1315(3)	0^+	0	0.56	100		88Br21
1335				≈ 4		83Bu03
1387	$\langle 2^+ \rangle$			9		83Bu03
1402(9)		2		12		83Bu03
1436				4		83Bu03
1447						
1483.5	10^+					95St17
1564(8)	$\langle 4^+ \rangle$			16		83Bu03
1662						
1705				5		83Bu03
1813				5		83Bu03
1869				4		83Bu03
1971(8)				20		83Bu03
2079.5	12^+					95St17
≈ 2111				≤ 3		83Bu03
2126(8)	$[0^+]$			33		83Bu03
2351				13		83Bu03
2371				11		83Bu03

(continued)						¹⁷⁸ ₇₀ Yb
<i>E</i> [*]	<i>J</i> ^π	<i>L</i>	<i>C</i> ² <i>S</i>	<i>dσ/dΩ</i>	<i>T</i> _{1/2} or	Ref.
[keV]		(t,p)	(t,p)	(t,p)	<i>Γ</i> _{cm}	
2387(12)	14 ⁺	⟨4⟩		19		83Bu03
2405				20		83Bu03
2692(10)		⟨4⟩		≈30		83Bu03
2769.5						95St17
2899(10)		3		obsc		83Bu03
2996(13)		⟨4⟩				
3037(10)		1				
			88Br21			Ref.