

Energy levels and branching ratios [89Si20, 98Si31].

⁸⁹₄₂Mo

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		($^3\text{He}, ^6\text{He}$)	$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0.0 $\langle 9^+ \rangle$	119 $\langle 7^+ \rangle$	1001 $\langle 11^+ \rangle$	1016 $\langle 13^+ \rangle$	1646 $\langle 11^+ \rangle$
0.0	$\langle 9^+ \rangle$		0.051	2.1(1) m	80Pa02						
118.8(1)	$\langle 7^+ \rangle$						100				
387.5(2)	$\langle 1^- \rangle$			190(15) ms				100			
1000.7(1)	$\langle 11^+ \rangle$						100				
1016.4(1)	$\langle 13^+ \rangle$						100				
1253(15)											
1645.8(1)	$\langle 11^+ \rangle$						27(5)	62(6)		11(4)	
1740(15)			0.083		80Pa02						
2008.4(1)	$\langle 13^- \rangle$								25(3)	56(4)	19(3)
2096.4(1)	$\langle 17^+ \rangle$									100	
2110(15)											
2271.2(1)	$\langle 17^- \rangle$			1.14(8) ns							
2415.8(1)	$\langle 17^+ \rangle$									70.0(10)	
2454.5(2)	$\langle 17^- \rangle$			5.8(11) ps							
2583.7(1)	$\langle 21^+ \rangle$			9.49(21) ns							
3134.0(2)	$\langle 23^+ \rangle$			<1.1 ps							
3151.1(2)	$\langle 21^- \rangle$			1.8(+6-10) ps							
3558.4(2)	$\langle 25^+ \rangle$			<1.0 ps							
3701.8(2)	$\langle 23^- \rangle$										
3716.7(2)	$\langle 25^+ \rangle$			0.8(6) ps							
4069.0(2)	$\langle 25^- \rangle$			2.8(+6-3) ps							
4260.6(2)	$\langle 27^+ \rangle$			0.28(+7-14) ps							
4575.4(2)	$\langle 27^- \rangle$			0.69(+28-14) ps							
4649.1(2)	$\langle 29^+ \rangle$										
4980.7(2)	$\langle 29^+ \rangle$			<0.7 ps							
5170.9(2)	$\langle 29^- \rangle$			<0.76 ps							
5251.0(2)	$\langle 31^+ \rangle$			2.3(8) ps							
5340(25)											
5420.0(2)	$\langle 31^- \rangle$			<0.7 ps							
5480(25)											
5643.0(2)	$\langle 33^+ \rangle$			0.55(14) ps							
6436.4(2)	$\langle 35^- \rangle$			2.6(6) ps							
6470.6(3)	$\langle 35^+ \rangle$										
6755.9(3)	$\langle 37^+ \rangle$										
7590.1(3)	$\langle 39^- \rangle$			1.39(14) ps							

Additional data on this isotope can be found in [93We04, 93Ga19].

Energy levels and branching ratios [89Si20, 98Si31]. Part 2

⁸⁹₄₂Mo

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	2008.4 ⟨13 ⁻ ⟩	2096.4 ⟨17 ⁺ ⟩	2271.2 ⟨17 ⁻ ⟩	2415.8 ⟨17 ⁺ ⟩	2454.5 ⟨17 ⁻ ⟩	2583.7 ⟨21 ⁺ ⟩	3134.0 ⟨23 ⁺ ⟩	3151.1 ⟨21 ⁻ ⟩	3558.4 ⟨25 ⁺ ⟩	3701.8 ⟨23 ⁻ ⟩
2271.2(1)	⟨17 ⁻ ⟩		37(1)	63(1)								
2415.8(1)	⟨17 ⁺ ⟩			30.0(10)								
2454.5(2)	⟨17 ⁻ ⟩				100							
2583.7(1)	⟨21 ⁺ ⟩			56(1)		44(1)						
3134.0(2)	⟨23 ⁺ ⟩							100				
3151.1(2)	⟨21 ⁻ ⟩				96(1)		4(1)					
3558.4(2)	⟨25 ⁺ ⟩								100			
3701.8(2)	⟨23 ⁻ ⟩									100		
3716.7(2)	⟨25 ⁺ ⟩								100			
4069.0(2)	⟨25 ⁻ ⟩									77(2)		23(2)
4260.6(2)	⟨27 ⁺ ⟩										71(3)	

Energy levels and branching ratios [89Si20, 98Si31]. Part 3

⁸⁹₄₂Mo

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	3716.7 ⟨25 ⁺ ⟩	4069.0 ⟨25 ⁻ ⟩	4260.6 ⟨27 ⁺ ⟩	4575.4 ⟨27 ⁻ ⟩	4649.1 ⟨29 ⁺ ⟩	4980.7 ⟨29 ⁺ ⟩	5170.9 ⟨29 ⁻ ⟩	5251.0 ⟨31 ⁺ ⟩	5420.0 ⟨31 ⁻ ⟩	5643.0 ⟨33 ⁺ ⟩
4260.6(2)	⟨27 ⁺ ⟩		29(3)									
4575.4(2)	⟨27 ⁻ ⟩			100								
4649.1(2)	⟨29 ⁺ ⟩				100							
4980.7(2)	⟨29 ⁺ ⟩		37(4)		36(4)		27(3)					
5170.9(2)	⟨29 ⁻ ⟩			21(4)		79(4)						
5251.0(2)	⟨31 ⁺ ⟩				29(2)		20(2)	51(2)				
5420.0(2)	⟨31 ⁻ ⟩					35(3)			65(3)			
5643.0(2)	⟨33 ⁺ ⟩									100		
6436.4(2)	⟨35 ⁻ ⟩										100	
6470.6(3)	⟨35 ⁺ ⟩											100

Energy levels and branching ratios [89Si20, 98Si31]. Part 4

⁸⁹₄₂Mo

E^* [keV]	$2J^\pi$	Branching ratios in percentage	
		$E_f^*:$ $2J_f^\pi:$	6436.4 ⟨35 ⁻ ⟩
6755.9(3)	⟨37 ⁺ ⟩		6470.6 ⟨35 ⁺ ⟩
7590.1(3)	⟨39 ⁻ ⟩		100

Energy levels and branching ratios [97Br34].

⁹⁰₄₂Mo

E^*	J^π	σ (p,t)	L	ε	$T_{1/2}$ or	Ref.	E^*_f : J^π_f :	Branching ratios in percentage				
[keV]		μb	(p,t)	(p,t)	Γ_{cm}			0.0 0 ⁺	948 2 ⁺	1896 2 ⁺	2002 4 ⁺	2433 3 ⁻
0.0	0 ⁺	127	0	8.4	5.56(9) h	76Ka08						
947.97(9)	2 ⁺	51	2	3.8		76Ka08		100				
1896.48(14)	2 ⁺	9	2	0.85		76Ka08			100			
1979(5)	0 ⁺		0	0.71		76Ka08						
2002.06(12)	4 ⁺	24	4	1.08		76Ka08			100			
2432.58(17)	3 ⁻	54	3	0.34		76Ka08				100		
2450(5)	0 ⁺		0	1.2		76Ka08						
2528(5)	$\langle 2 \rangle$		$\langle 0 \rangle$	0.66		76Ka08						
2548.75(12)	5 ⁻	45	5	0.54	16(3) ps	76Ka08					100	
2613(5)	2 ⁺	26	2	1.22		76Ka08						
2706(5)												
2811.63(13)	6 ⁺										95(6)	
2859.14(13)	5 ⁻	62	5	0.41		76Ka08					≈ 23	
2874.73(15)	8 ⁺		$\langle 6 \rangle$	0.47	1.12(5) μs	76Ka08						
2901.18(20)												100
2946.82(14)												
3037.9(11)											100	
3074(7)	3 ⁻		3	0.089		76Ka08						
3106.11(16)	8 ⁺				4.9(13) ps							
3148(5)	2 ⁺		2	0.56		76Ka08						
3150.3(7)											100	
3185(7)												
3294.03(20)											35(3)	
3355(7)												
3367.31(14)	7 ⁻				<0.69 ps							
3446.15(20)	$\langle 7^- \rangle$											
3494(7)												
3514(7)												
3539.9(10)												
3659.65(16)	$\langle 7^- \rangle$											
3683(7)												
3736(7)												
3834(7)												
3936(7)												
4078.81(16)	10 ⁺				14.6(28) ps	01Wu01						
4094.8(7)											40(9)	
4175.9(9)		27										
4192.44(15)	10 ⁺				<3.5 ps	01Wu01						
4297.66(15)	9 ⁻				9.7(21) ps							
4357.7(11)											100	
4555.76(16)	12 ⁺				526(3) ps	01Wu01						
4594.17(25)	$\langle 9^- \rangle$											
4789.28(19)	10 ⁻											
4841.91(16)	11 ⁻				39(2) ps							
4895.04(19)	$\langle 11^- \rangle$											

(continued)

⁹⁰₄₂Mo

E^*	J^π	σ (p,t)	L	ε	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		μb	(p,t)	(p,t)	Γ_{cm}		E_{f}^* : J_{f}^π :	0.0 0 ⁺	948 2 ⁺	1896 2 ⁺	2002 4 ⁺	2433 3 ⁻
5377.13(17)	13 ⁺				1.0(3) ps	01Wu01						
5499.31(16)	$\langle 12^- \rangle$											
5624.90(17)	14 ⁺				2.7(1) ps	01Wu01						
5699.56(16)	13 ⁻				1.4(4) ps							
5863.64(17)												
5903.64(18)	14 ⁺				1.7(4) ps	01Wu01						
6064.80(19)												
6148.08(18)	15 ⁺				<0.3 ps	01Wu01						
6475.81(17)	14 ⁻				1.5(10) ps							
6643.02(17)	15 ⁻				1.3(1) ps							
6746.00(18)	16 ⁺				3.6(7) ps	01Wu01						
7170.86(19)												
7385.49(19)	16 ⁻				6.6(15) ps							
7514.91(19)	17 ⁻				7.4(3) ps							
7629.50(21)	$\langle 16^+ \rangle$											
8066.66(19)	17 ⁺				0.60(4) ps							
8123.45(20)	18 ⁻											
8281.76(22)												
8525.17(19)	18 ⁺				0.16(2) ps							
8616.74(20)	$\langle 17^+ \rangle$											
8678.34(23)	$\langle 19^- \rangle$											
9079.09(20)												
9136.49(19)	18 ⁺											
9318.91(20)	19 ⁻											
9443.78(20)	19 ⁺											
9739.27(20)	19 ⁺											
9787.84(21)	20 ⁺											
9994.94(22)	20 ⁻											
10235.00(20)	X ⁺				0.21(6) ps							
10477.23(21)	$\langle 20^+ \rangle$											
10537.81(25)	$\langle 21^- \rangle$											
10855.48(21)	21 ⁺				0.90(14) ps							
11135.63(21)	22 ⁺				<0.07 ps							
11269.2(8)	$\langle 21^- \rangle$											
11576.94(24)	$\langle 22^+ \rangle$											
12016.46(23)	23 ⁺				<1.2 ps							
12257.6(11)	$\langle 22^- \rangle$											
12383.5(3)	$\langle 23^- \rangle$											
14279.7(11)												
14412.0(11)	$\langle 25^- \rangle$											

(continued)

⁹⁰₄₂Mo

E^*	J^π	σ (p,t)	L	ε	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		μb	(p,t)	(p,t)	Γ_{cm}		E^*_f : J^π_f :	0.0 0 ⁺	948 2 ⁺	1896 2 ⁺	2002 4 ⁺	2433 3 ⁻
14486.5(11)	$\langle 25^+ \rangle$	71Mo32		76Ka08		Ref.						

Additional data on this isotope can be found in [01Wu01, 99Ma21, 92Ka27, 92Ar15, 91Gr18].

Enhancement factor $\varepsilon = d\sigma/d\Omega_{\text{exp}} / (d\sigma/d\Omega_{\text{DWBA}} 9.7 D_o^2)$, see definition of parameters and comparison of results for N=48 nuclei ⁹⁰Mo, ⁸⁸Zr and ⁸⁶Sr in [76Ka08].

The cross sections σ (p,t) were integrated from 10° to 50° [71Mo32].

Energy levels and branching ratios [97Br34]. Part 2

⁹⁰₄₂Mo

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	2548.75 5 ⁻	2811.63 6 ⁺	2859.14 5 ⁻	2874.73 8 ⁺	2946.82	3106.11 8 ⁺	3294.03	3367.31 7 ⁻	3659.65 $\langle 7^- \rangle$
2811.63(13)	6 ⁺		4.7(3)								
2859.14(13)	5 ⁻		77(8)								
2874.73(15)	8 ⁺			100							
2946.82(14)				[100]							
3106.11(16)	8 ⁺				100						
3294.03(20)				65(5)							
3367.31(14)	7 ⁻		76(5)	24(2)	≤10						
3446.15(20)	$\langle 7^- \rangle$		100								
3539.9(10)							100				
3659.65(16)	$\langle 7^- \rangle$				38(2)					62(4)	
4078.81(16)	10 ⁺							100			
4094.8(7)									60(9)		
4175.9(9)				100							
4192.44(15)	10 ⁺					97(14)		1.32(21)			
4297.66(15)	9 ⁻									97.0(70)	3.03(22)

Energy levels and branching ratios [97Br34]. Part 3

⁹⁰₄₂Mo

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	4078.81 10 ⁺	4192.44 10 ⁺	4297.66 9 ⁻	4555.76 12 ⁺	4789.28 10 ⁻	4841.91 11 ⁻	4895.04 $\langle 11^- \rangle$	5377.13 13 ⁺	5499.31 $\langle 12^- \rangle$
4192.44(15)	10 ⁺		1.77(31)								
4555.76(16)	12 ⁺		63(1)	37(3)							
4594.17(25)	$\langle 9^- \rangle$				100						
4789.28(19)	10 ⁻				100						
4841.91(16)	11 ⁻			33(7)	67(3)						
4895.04(19)	$\langle 11^- \rangle$						100				

(continued)

⁹⁰₄₂Mo

E^*	J^π	Branching ratios in percentage									
		$E^*_\text{f}:$	4078.81	4192.44	4297.66	4555.76	4789.28	4841.91	4895.04	5377.13	5499.31
[keV]		$J^\pi_\text{f}:$	10^+	10^+	9^-	12^+	10^-	11^-	$\langle 11^- \rangle$	13^+	$\langle 12^- \rangle$
5377.13(17)	13^+				100						
5499.31(16)	$\langle 12^- \rangle$							66(17)	34(5)		
5624.90(17)	14^+				44(2)					56(1)	
5699.56(16)	13^-				34(3)			66(4)			
5863.64(17)											100
5903.64(18)	14^+									100	
6064.80(19)											22.33(194)

Energy levels and branching ratios [97Br34]. Part 4

⁹⁰₄₂Mo

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	5624.90 14 ⁺	5699.56 13 [−]	5863.64 14 ⁺	5903.64 14 ⁺	6064.80 15 ⁺	6148.08 15 ⁺	6475.81 14 [−]	6643.02 15 [−]	6746.00 16 ⁺
6064.80(19)				77.7(194)							
6148.08(18)	15 ⁺		69(10)		31(5)						
6475.81(17)	14 [−]			85(10)	3.6(3)	12(3)					
6643.02(17)	15 [−]		30(5)	48(1)	3(1)				18(1)		
6746.00(18)	16 ⁺						100				
7170.86(19)			71(11)		29(6)						
7385.49(19)	16 [−]									100	
7514.91(19)	17 [−]									66(1)	23.4(10)
7629.50(21)	⟨16 ⁺ ⟩						26(4)				
8066.66(19)	17 ⁺						66(3)				20(7)
8281.76(22)							100				
8525.17(19)	18 ⁺										19(10)
8616.74(20)	⟨17 ⁺ ⟩						17(2)				35(6)
9136.49(19)	18 ⁺										26(6)

Energy levels and branching ratios [97Br34]. Part 5

⁹⁰₄₂Mo

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	7170.86 16 [−]	7385.49 16 [−]	7514.91 17 [−]	7629.50 ⟨16 ⁺ ⟩	8066.66 17 ⁺	8123.45 18 [−]	8281.76 18 ⁺	8525.17 18 ⁺	8616.74 ⟨17 ⁺ ⟩
7514.91(19)	17 [−]			11(3)							
7629.50(21)	⟨16 ⁺ ⟩	≈74									
8066.66(19)	17 ⁺	5.7(9)				8(1)					
8123.45(20)	18 [−]				100						
8525.17(19)	18 ⁺						81(2)				
8616.74(20)	⟨17 ⁺ ⟩	14(2)							35(6)		

(continued)

⁹⁰₄₂Mo

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	7170.86	7385.49	7514.91	7629.50	8066.66	8123.45	8281.76	8525.17	8616.74
			16^-		17^-	$\langle 16^+ \rangle$	17^+	18^-		18^+	$\langle 17^+ \rangle$
8678.34(23)	$\langle 19^- \rangle$							100			
9079.09(20)			100		<63						
9136.49(19)	18^+										74(11)
9318.91(20)	19^-				71(5)			10(2)			
9443.78(20)	19^+						2.3(9)			98(15)	
9739.27(20)	19^+						17(2)			13(3)	
9787.84(21)	20^+									30(4)	
9994.94(22)	20^-							14(3)			
10235.00(20)	X^+									49(7)	
10477.23(21)	$\langle 20^+ \rangle$									93(12)	

Energy levels and branching ratios [97Br34]. Part 6

⁹⁰₄₂Mo

E^*	J^π	Branching ratios in percentage									
[keV]		E^*_f : J^π_f :	8678.34 $\langle 19^- \rangle$	9079.09	9136.49 18^+	9318.91 19^-	9443.78 19^+	9739.27 19^+	9787.84 20^+	9994.94 20^-	10235.0 X^+
9318.91(20)	19^-		8(1)	11(3)							
9739.27(20)	19^+				70(3)						
9787.84(21)	20^+						70(11)				
9994.94(22)	20^-					86(5)					
10235.00(20)	X^+							51(7)			
10477.23(21)	$\langle 20^+ \rangle$							7(3)			
10537.81(25)	$\langle 21^- \rangle$		[100]								
10855.48(21)	21^+										93(4)
11269.2(8)	$\langle 21^- \rangle$		100								
11576.94(24)	$\langle 22^+ \rangle$								100		

Energy levels and branching ratios [97Br34]. Part 7

⁹⁰₄₂Mo

E^* [keV]	J^π	Branching ratios in percentage								
		E_f^* : J_f^π :	10477.2 20 ⁺	10537.8 21 ⁻	10855.5 21 ⁺	11135.6 22 ⁺	11269.2 21 ⁻	11576.9 22 ⁺	12016.5 23 ⁺	12383.5 23 ⁻
10855.48(21)	21 ⁺		7(2)							
11135.63(21)	22 ⁺				100					
12016.46(23)	23 ⁺				10.9(22)	87(12)		2.5(3)		
12257.6(11)	22 ⁻			100						
12383.5(3)	23 ⁻			67(9)			33(3)			
14279.7(11)									100	

(continued)

⁹⁰Mo
42

E^*	J^π	Branching ratios in percentage								
[keV]		E^*_f : J^π_f :	10477.2 $\langle 20^+ \rangle$	10537.8 $\langle 21^- \rangle$	10855.5 21^+	11135.6 22^+	11269.2 $\langle 21^- \rangle$	11576.9 $\langle 22^+ \rangle$	12016.5 23^+	12383.5 $\langle 23^- \rangle$
14412.0(11)	$\langle 25^- \rangle$									100
14486.5(11)	$\langle 25^+ \rangle$								100	

Energy levels and branching ratios [99Ba23].

⁹¹Mo
42

E^* [keV]	$2J^\pi$	L	C^2S (p,d)	L	C^2S (p,d)	C^2S (p,d)	σ (p,d) $\mu\text{b/sr}$	C^2S (p,d)	C^2S^{th} (p,d)	L (τ, α)	C^2S (τ, α)	S_N (τ, α)	$T_{1/2}$ or Γ_{cm}	Ref.
0	9^+	4	7.2	4	6.09	6.7	6700	9.23	10.0			9.1	15.49(1) m	76Ka08
653.01(9)	1^-	1	1.70	1	1.58	1.8	1800	2.09	6.0			2.7	64.6(6) s	76Ka08
1156.10(13)	3^-	1	2.27	1	1.76	2.4	5830	2.58	incl			3.0		76Ka08
1362.01(8)	5^+	2	0.084	2	0.12	0.10	380					weak		76Ka08
1414.11(13)	$13^{\langle + \rangle}$													
1531.9(2)	5^-	3	1.85	3	2.32	2.4	750	2.91	6.0			3.0		76Ka08
1564.92(9)														
1605.32(7)														
1639.95(8)	$\langle 7, 9^+ \rangle$													
1844(5)	$5^-, 7^-$	3	0.014											76Ka08
1902.49(7)	9^+	4	0.52	4	0.51	0.47	220	0.57	incl			0.9		76Ka08
2067.9(2)	$17^{\langle + \rangle}$													
2083.7(1)	3^-	1	0.16	1	0.16	0.14	380	0.20	incl					76Ka08
2201(6)														
2233.69(9)	9^+			4	0.068									93Hi12
2243														
2267.4(4)	$21^{\langle + \rangle}$												47(1) ns	
2279.6(4)	$\langle 17^- \rangle$												38(4) ns	
2302	$\langle 1^-, 9^+ \rangle$	1	0.08	4 +1	0.4 0.05	0.10	300			4	0.03			76Ka08
2345(4)	$\langle 7^+, 9^+ \rangle$	4				0.08	incl			4	0.16			76Ka08
2450.99(9)	9^+	4	0.055	4	0.10					4	0.03			76Ka08
2492.2(2)														
2537(4)	$3^+, 5^+$	2	0.014							2	0.01			76Ka08
2566(4)	$7^+, 9^+$	4	0.021			0.04	17			3	0.05			76Ka08
2624(6)														
2663(6)														
2690.4(1)	$\langle 3^- \rangle$									3	0.38			82Ma07
2716(4)	5^-	3	0.52	3	0.73	0.46	150	0.58	incl		incl			76Ka08
2716.44(7)	$\langle 7, 9^+ \rangle$													
2772(6)	$\langle 7^+, 9^+ \rangle$													
2781.1(1)	$\langle 7^+ - 11^+ \rangle$													
2818(4)	9^+	4	0.28	4	0.41	0.26	230			4	0.29			76Ka08
2851(6)	$9^-, 11^-$	5	0.047				incl			4	0.06			76Ka08

(continued)

⁹¹₄₂Mo

E^*	$2J^\pi$	L	C^2S	L	C^2S	C^2S	σ (p,d)	C^2S	C^2S^{th}	L	C^2S	S_N	$T_{1/2}$ or	Ref.
[keV]			(p,d)		(p,d)	(p,d)	$\mu\text{b/sr}$	(p,d)	(p,d)	(τ, α)	(τ, α)	(τ, α)	Γ_{cm}	
2867(6)	$9^-, 11^-$	5	0.17				incl							76Ka08
2883(4)	$1^-, 3^-$	1	0.086				incl			3	0.08			76Ka08
2887.5(1)	$\langle 7 \rangle$						incl							
2901	3^-			1	0.15	0.07	incl							93Hi12
2914(5)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$	0.12				incl							76Ka08
2940.1(4)	$\langle 23^+ \rangle$	$\langle 3 \rangle$	0.058										0.08 ps	76Ka08
2941(5)	$\langle 5^-, 7^- \rangle$													
2964(6)														
2984(6)														
3010(5)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$					30							
3031(6)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$								$\langle 1 \rangle$	0.04			82Ma07
3085(6)														
3126(6)	$\langle 1^-, 3^- \rangle$									$\langle 1 \rangle$	0.07			82Ma07
3162(6)														
3191(6)	3^-	1		1	0.079		30	0.15	incl					93Hi12
3230(6)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$								3	0.10			82Ma07
3307(6)														
3328(6)	$\langle 9^+ \rangle$	$\langle 2 \rangle$	0.008	4	0.27					1	0.03			76Ka08
3351(6)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$	0.16							3	0.12			76Ka08
3398(6)		[1]				0.08	170	0.11	incl					
3413(6)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$	0.016							3	0.12			76Ka08
3447(6)	7^-	$\langle 2 \rangle$	0.016	3	0.92			0.66	incl					76Ka08
3472(6)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$				0.10	190			1	0.06			76Ka08
3524(6)														
3545.5(4)	$\langle 25^+ \rangle$												0.11 ps	
3585(6)	$\langle 7^- \rangle$	$\langle 4 \rangle$	0.096	$\langle 3 \rangle$	0.20					3	0.13			76Ka08
3631(6)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$	0.022					0.11	incl	1	0.04			76Ka08
3645(6)	5^+			2	0.031		80							93Hi12
3696(6)														
3729(6)														
3759(6)														
3806(6)										4	0.09			82Ma07
3809.7(4)	$\langle 25^- \rangle$												17(3) ps	
3836(6)	$\langle 7^- \rangle$	[1]		3	0.34	0.10	180		incl	3	0.16			93Hi12
3930(6)	$\langle 9^+ \rangle$	$\langle 4 \rangle$	0.061											76Ka08
3956(6)	$\langle 7^- \rangle$	$\langle 3 \rangle$	0.076	$\langle 3 \rangle$	0.07									76Ka08
4022(6)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$	0.029				25		incl	3	0.22			76Ka08
4060(20)	$\langle 5^-, 7^- \rangle$	3								3	0.20			76Ka08
4069(6)	9^+	4	0.11	4	0.24									76Ka08
4091(6)														
4116(7)														
4133(6)	$5^-, 7^-$	3	0.073											76Ka08
4157(7)	$\langle 7^-, 9^+ \rangle$			3+4	0.14	0.21	80		incl					93Hi12
4186(7)														
4228(7)														

(continued)

⁹¹₄₂Mo

E^*	$2J^\pi$	L	C^2S	L	C^2S	C^2S	σ (p,d)	C^2S	C^2S^{th}	L	C^2S	S_N	$T_{1/2}$ or	Ref.
[keV]			(p,d)		(p,d)	(p,d)	$\mu\text{b/sr}$	(p,d)	(p,d)	(τ, α)	(τ, α)	(τ, α)	Γ_{cm}	
4258(7)														
4276(7)	$\langle 9^+ \rangle$	3	0.089	4	0.20		40		incl					76Ka08
4301(6)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$								3	0.11			76Ka08
4341.9(5)	$\langle 27^- \rangle$												0.20 ps	
4349(7)														
4385(7)	$\langle 5^-, 7^- \rangle$	3		3	0.13					3	0.06			93Hi12
4408(7)														
4432(7)		3								3	0.06			76Ka08
4445.1(4)	$25^{(+)}$													
4481	5^-			3	0.24		30		incl	3	0.05			93Hi12
4522(7)		3												76Ka08
4560(7)														
4577(7)														
4603(7)														
4643(7)	3^-			1	0.16	0.07	180		incl	3	0.06			93Hi12
4683(7)	$\langle 7^+, 9^+ \rangle$	$\langle 4 \rangle$								4	0.07			76Ka08
4707(7)														
4768(7)														
4780(7)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$				0.07	120		incl	1	0.05			76Ka08
4796	7^-			3	0.49									93Hi12
4815(7)														
4841(7)														
4869(7)										1	0.08			82Ma07
4899(7)														
4952.6(4)	$\langle 27^+ \rangle$													
4958.8(5)	$\langle 29^- \rangle$												0.12 ps	
5030(20)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$				0.08	160		incl	1	0.02			82Ma07
5130(20)		$\langle 1 \rangle$								1	0.03			82Ma07
5190(20)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$				0.07	190	0.09	incl	1	0.03			82Ma07
5230(20)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$								3	0.08			82Ma07
5243.3(6)	$\langle 31^- \rangle$												0.40 ps	
5295	7^-			3	0.26									93Hi12
5299.0(6)	$\langle 27, 31 \rangle$													
5340(20)	$1^-, 3^-$	1								1	0.02			82Ma07
5420(20)	7^-	3		3	0.54					3	0.06			93Hi12
5488.4(5)	$\langle 29^+ \rangle$													
5500(20)	$1^-, 3^-$	1				0.08	160		incl	1	0.05			82Ma07
5516	7^-			3	0.66									93Hi12
5690	$\langle 7^- \rangle$			$\langle 3 \rangle$	0.43									93Hi12
5796							70		incl					
5817.8(6)							70		incl					
5900(20)	X^-	1		3	0.69					1	0.05			93Hi12
5990(20)	$1^-, 3^-$	1				0.08	160		incl	1	0.03			82Ma07
6060(20)	7^-	3		3	0.58					3	0.10			93Hi12
6232.7(7)	$\langle 31^+ \rangle$													

(continued)

⁹¹₄₂Mo

E^*	$2J^\pi$	L	C^2S	L	C^2S	C^2S	σ (p,d)	C^2S	C^2S^{th}	L	C^2S	S_N	$T_{1/2}$ or	Ref.
[keV]			(p,d)		(p,d)	(p,d)	$\mu\text{b/sr}$	(p,d)	(p,d)	(τ, α)	(τ, α)	(τ, α)	Γ_{cm}	
6469.1(8)	$\langle 33^+ \rangle$													
6990(30)	9^+	4	0.26	4	0.23	0.20	100	0.20	incl					73Ko04
7120(30)	1^-	1	0.18	1	0.25	0.10	390	0.18	incl					82Ma07
8170	$\langle 5^- \rangle$	$\langle 3 \rangle$												81Du13
8340(30)	3^-	1	0.15	1	0.16	0.057	220	0.11	incl					82Ma07
8660(30)	3^-	1	0.33	1	0.26	0.13	450	0.11	incl					82Ma07
8870(30)	5^-	3	0.41	3	0.68	0.34	100	0.50	incl					81Du13
10150		3,4												
10400		3,4												
12420		3,4												
			76Ka08		93Hi12	73Mo03		73Ta07			82Ma07	69Ba21		Ref.
							73Mo03		73Ta07					Ref.

Additional data on this isotope can be found in [93Si14, 93Hi12, 73Mo03, 69Oh05].

Data in the second column are from the recent measurements with polarized protons [93Hi12].

Energy levels and branching ratios [99Ba23]. Part 2

⁹¹₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage											
		E_f^* :	0	653	1156	1362	1414	1565	1605	1640	1902.5	2067.9	
[keV]		$2J_f^\pi$:	9^+	1^-	3^-	5^+	$13^{\langle + \rangle}$			$\langle 7, 9^+ \rangle$	9^+	$17^{\langle + \rangle}$	
653.01(9)	1^-			100									
1156.10(13)	3^-				100								
1362.01(8)	5^+			99(4)		1.1(4)							
1414.11(13)	$13^{\langle + \rangle}$			100									
1531.9(2)	5^-				100								
1564.92(9)				100									
1605.32(7)				100									
1639.95(8)	$\langle 7, 9^+ \rangle$			94(3)		6.3(7)							
1902.49(7)	9^+			81(2)				15(2)	3.2(3)				
2067.9(2)	$17^{\langle + \rangle}$					100							
2083.7(1)	3^-				35(2)	65(4)							
2233.69(9)	9^+			56(2)				13(7)	31(6)				
2267.4(4)	$21^{\langle + \rangle}$												100
2279.6(4)	$\langle 17^- \rangle$												100
2450.99(9)	9^+			61(2)		2.6(2)			5.4(6)	22.7(14)	7.5(4)		
2492.2(2)				42(2)						58(8)			
2690.4(1)	$\langle 3 \rangle^-$				7.5(7)	35(1)	36(1)						
2716.44(7)	$\langle 7, 9 \rangle^+$			19.6(7)		7.6(3)			33(1)	9.9(7)	18(3)		
2781.1(1)	$\langle 7^+ - 11^+ \rangle$			74(3)							25.5(19)		
2887.5(1)	$\langle 7 \rangle$			57(2)		5.6(5)			28.4(13)		9.0(6)		

Energy levels and branching ratios [99Ba23]. Part 3

⁹¹₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage												
		E_f^* :	2083.7	2233.7	2267.4	2940.1	3545.5	3809.7	4341.9	4445.1	4952.6	4958.8	5488.4	6232.7
[keV]		$2J_f^\pi$:	3 ⁻	9 ⁺	21 ⁽⁺⁾	$\langle 23^+ \rangle$	$\langle 25^+ \rangle$	$\langle 25^- \rangle$	$\langle 27^- \rangle$	25 ⁽⁺⁾	$\langle 27^+ \rangle$	$\langle 29^- \rangle$	$\langle 29^+ \rangle$	$\langle 31^+ \rangle$
2450.99(9)	9 ⁺			0.64(7)										
2690.4(1)	$\langle 3 \rangle^-$	21(1)												
2716.44(7)	$\langle 7,9 \rangle^+$			11.4(8)										
2940.1(4)	$\langle 23^+ \rangle$				100									
3545.5(4)	$\langle 25^+ \rangle$					100								
3809.7(4)	$\langle 25^- \rangle$					89(3)	10.9(5)							
4341.9(5)	$\langle 27^- \rangle$							100						
4445.1(4)	25 ⁽⁺⁾			100										
4952.6(4)	$\langle 27^+ \rangle$					30(4)				70.4(11)				
4958.8(5)	$\langle 29^- \rangle$								100					
5243.3(6)	$\langle 31^- \rangle$											100		
5299.0(6)	$\langle 27,31 \rangle$											100		
5488.4(5)	$\langle 29^+ \rangle$						42(3)				58(2)			
5817.8(6)													100	
6232.7(7)	$\langle 31^+ \rangle$												100	
6469.1(8)	$\langle 33^+ \rangle$													100

Energy levels and branching ratios [00Bb11, 00Ga30].

⁹²₄₂Mo

E^* [keV]	J^π	L (p,p')	β_L (p,p')	Γ [meV]	L (p,t)	B^2	ε (p,t)	σ (p,t) μb	K	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	0 ⁺				0	1.0	1.3	246	1.60	Stable	73La04
1509.51(3)	2 ⁺	2	0.087	1.13(7)	2	1.0	0.3	10	0.68	0.35(2) ps	78KaZV
2282.62(3)	4 ⁺	4	0.060		4			7	2.12	>3.4 ps	78KaZV
2519.33(4)	0 ⁺				0	1.0	0.07,0.7	15	1.72	>3.4 ps	73La04
2526.88(4)	5 ⁻	5	0.084							1.55(4) ns	78KaZV
2612.37(5)	6 ⁺	6	0.045							1.53(4) ns	78KaZV
2634.2(15)	1										
2760.51(10)	8 ⁺	8								190(3) ns	78KaZV
2838.6(5)	1										
2849.85(5)	3 ⁻	3	0.173		3	2.33	0.5	15		0.27(+10-5) ps	78KaZV
2922.6(6)	1										
3006.84(5)	5 ⁻	5	0.019								78KaZV
3063.73(5)	4 ⁺ ,5 ⁻										
3091.38(5)	2 ⁺	2	0.055	11.3(8)				4		32.0(21) fs	77Me01
3368.51(5)	4 ⁺									>3.4 ps	
3382	6 ⁽⁻⁾										02Pa17
3384.5(8)	1										
3542.29(6)	2 ⁺	2	0.031		2	1.67	0.09	10		35(16) fs	78KaZV
3579.74(5)	3 ⁻	3	0.041							>0.21 ps	78KaZV
3620.96(7)	≤4									>0.21 ps	

(continued)

⁹²₄₂Mo

E^*	J^π	L	β_L	Γ	L	B^2	ε	σ (p,t)	K	$T_{1/2}$ or	Ref.
[keV]		(p,p')	(p,p')	[meV]	(p,t)		(p,t)	μb		Γ_{cm}	
3624.47(13)	7 ⁻										
3651.8(11)	$\langle 1 \rangle$										
3688.75(7)	4 ⁺	4	0.018							>0.69 ps	78KaZV
3753.2(8)											
3756.99(7)											
3814.53(5)										>0.48 ps	
3841.77(8)	0 ⁺	$\langle 0 \rangle$			0	1.0	3.5	70	3.20	>0.21 ps	73La04
3871.5(10)											
3876.55(6)	4 ⁺	4	0.031								78KaZV
3926.09(7)	2 ⁺	2	0.060	28(5)	2	1.67	0.14	16		10.4(13) fs	78KaZV
3944.62(18)	1			40(6)						6(4) fs	
3953.1(3)											
3963.1(1)	4 ⁺	4	0.013							>0.21 ps	78KaZV
3964.3(13)	$\langle 2 \rangle$										
4019.2(2)											
4115.69(10)											
4147.92(11)	$\langle 2^+-4^+ \rangle$				4	3.0	0.6	48	1.4,0.7		73La04
4150.31(8)		[4]	[0.1]								78KaZV
4159.38(11)	5 ⁻	5	0.049								78KaZV
4187.06(10)	$\langle 6^+ \rangle$	$\langle 6 \rangle$	0.034								78KaZV
4241.24(11)											
4251.3(3)	$\langle 9^- \rangle$										
4252.72(17)											
4280.55(7)											
4300(5)	2 ⁺				2	1.67	0.40	59	1.8,0.7		73La04
4307.53(7)	$\langle 3^-, 4^+ \rangle$										
4315.8(4)	5 ⁻	$\langle 5 \rangle$	0.063								78KaZV
4328.5(11)											
4345.84(11)											
4429.56(9)	$\langle 2^+-4^+ \rangle$										
4436.20(8)											
4455.05(12)											
4478.16(10)											
4483.25(19)					2	1.67	0.14				73La04
4486.2(4)	11 $\langle^- \rangle$									8.77(19) ns	
4493.9(1)	2 ⁺	$\langle 2 \rangle$	0.050					18			78KaZV
4509.6	4 ⁺										
4544.4(1)											
4554(7)	7 ⁻										
4573.3(2)	$\langle \leq 4 \rangle$										
4589.6(2)	$\langle 2^+ \rangle$										
4630.6(2)	1 $\langle^- \rangle$			145(56)						3.7(6) fs	
4652.6(3)	$\langle \leq 4 \rangle$										
4663.2(6)	1										
4685.0(3)	$\langle 6^- \rangle$										

(continued)

⁹²₄₂Mo

E^*	J^π	L	β_L	Γ	L	B^2	ε	σ (p,t)	K	$T_{1/2}$ or	Ref.
[keV]		(p,p')	(p,p')	[meV]	(p,t)		(p,t)	μb		Γ_{cm}	
4702.6(2)	$\langle \leq 4 \rangle$										
4725.2(3)	4^+	4	0.037								78KaZV
4734.1(3)											
4781.5(2)	$\langle \leq 4 \rangle$										
4849	$\langle 10^+ \rangle$										02Pa17
4874(7)											
4893.2(3)	4^+	4	0.037								78KaZV
4917.8(5)	7^+										
4924(7)	3^-				3			23	0.5		71Mo32
4936.1(6)	$\langle 1 \rangle$										
4944.7(10)	$\langle 1 \rangle$										
4949.0(2)	$\langle 2^+ - 4^+ \rangle$										
4971.4(4)	$\langle 1, 2^+ \rangle$										
4979	4										
5003.1(3)	$\langle 2 \rangle^+$									22(15) fs	
5007	$\langle 1^- \rangle$										
5076.6(3)	4^+	4	0.085								78KaZV
5088(6)	4^+	$\langle 4 \rangle$	0.060		4			25			78KaZV
5121.9(4)	$\langle 10^+ \rangle$									<0.7 ps	02Pa17
5150(5)	0^+				0	1.0	0.25				73La04
5151.5(4)	$10^- - 12^-$										
5174(7)											
5190(7)											
5271(7)											
5283.0(21)	$\langle 1 \rangle$										
5289(7)	$\langle 5^- \rangle$	$\langle 5 \rangle$	0.028								78KaZV
5312.5(11)											
5316(6)	3^-				3			54	0.46		73La04
5331.7(9)	$\langle 1 \rangle$										
5353(7)											
5388(7)											
5432(7)											
5451.6(9)	$\langle 1 \rangle$										
5462.8(5)	$\langle 7, 8 \rangle^+$										
5467(7)	$\langle 4^+ \rangle$	$\langle 4 \rangle$	0.024								78KaZV
5517(7)											
5527.4(5)	$\langle 1 \rangle$										
5601(7)											
5623.8(10)	$\langle 1 \rangle$										
5629.9(19)	1										
5631(7)	$2^+, 3^-$	[3]	0.06		3			20			78KaZV
5658(7)											
5679(7)											
5703.4(4)	1										
5710(7)											

(continued)

⁹²₄₂Mo

E^*	J^π	L	β_L	Γ	L	B^2	ε	σ (p,t)	K	$T_{1/2}$ or	Ref.
[keV]		(p,p')	(p,p')	[meV]	(p,t)		(p,t)	μb		Γ_{cm}	
5745(7)											
5784(7)	$\langle 3^-, 2^+ \rangle$	[3]	0.07								78KaZV
5789.1(3)	1										
5801.3(7)	$\langle 1 \rangle$	$\langle 0 \rangle$									78KaZV
5806(7)	$\langle 0^+ \rangle$										
5841.7(11)	1										
5844(7)	3^-				3			29	0.5,0.3		73La04
5862.2(4)	$\langle 12^+ \rangle$									35(3) ps	
5894(7)	$\langle 3^- \rangle$										
5950(7)	5^-				5			35	0.2,0.5		73La04
5981.4(4)	1										
6100(25)	$2^+, 4^+$				2,4			53			71Mo32
6125.92(20)	$1^{\langle - \rangle}$										
6184.3(25)	$\langle 2 \rangle$										
6191.52(20)	1^-										
6300.2(3)	1^-										
6329.9(11)	$\langle 1 \rangle$										
6362.7(6)	$\langle 1 \rangle$										
6377.6(3)	1^-										
6524.45(20)	1^-										
6550.3(5)	$\langle 12^- \rangle$									<0.7 ps	
6566.2(6)	1										
6606.4(3)	1^-										
6645.6(5)	$1^{\langle - \rangle}$										
6661.5(5)	$\langle 13^- \rangle$									22(3) ps	
6718.5(9)	$\langle 2^- \rangle$										
6761.4(4)	$1^{\langle - \rangle}$										
6787.3(4)	1^-										
6818.1(4)	1^-										
6883.1(4)	1^-										
6995.89(20)	1^-									0.38(5) fs	
7031.3(3)	1^-									0.57(12) fs	
7069.6(4)	1^-										
7076.9(12)	1										
7134	$\langle 14^+ \rangle$										02Pa17
7239.7(11)	$1^{\langle - \rangle}$										
7271.7(5)	X^-										
7279.0(11)	$\langle 2 \rangle$										
7312.4(6)	$\langle 14^- \rangle$									<1.4 ps	
7384.3(6)	1										
7394.4(4)	1										
7422.5(11)											
7447.2(16)											
7469.1(4)	$1^{\langle - \rangle}$									0.7(3) fs	
7486.6(5)	$1^{\langle - \rangle}$										

(continued)

⁹²₄₂Mo

E^*	J^π	L	β_L	Γ	L	B^2	ε	σ (p,t)	K	$T_{1/2}$ or	Ref.
[keV]		(p,p')	(p,p')	[meV]	(p,t)		(p,t)	μb		Γ_{cm}	
7518.4(6)	1 ⁻										
7573.6(7)	1										
7604.4(7)	$\langle 1 \rangle$										
7619.5(9)	$\langle 1 \rangle$										
7681.1(5)	1 ⁻										
7711.3(5)	1										
7731.7(5)	1 ⁻										
7782.3(9)	1										
7784.0(6)	$\langle 2 \rangle$										
7787.6(10)	$\langle 1 \rangle$										
7808.1(11)	1										
7831.4(13)											
7837.7(15)	$\langle 2 \rangle$										
7856.6(5)	1 ⁻										
7877.6(10)	$\langle 1 \rangle$									0.34(20) fs	
7881.8(5)	1										
7894.3(7)	1										
7919.4(10)	$\langle 1 \rangle$										
7931.4(9)	1										
7950(100)	$\langle 1^- \rangle$	1								0.70(5) MeV	00Bb11
7950.4(4)	1 ⁽⁺⁾										
7963.3(7)											
8007.0(14)	1 ⁻										
8042.0(12)	1										
8063.4(11)	1 ⁽⁻⁾									0.66(18) fs	
8088.1(10)	$\langle 2 \rangle$										
8096.4(10)	1										
8168.4(5)	1 ⁻										
8211.0(11)	1									0.42(12) fs	
8220.8(10)	$\langle 1 \rangle$										
8221.2(12)	$\langle 14 \rangle$										
8229.9(7)	1 ⁻										
8319.5(6)	1										
8355.1(16)	1										
8381.7(8)	$\langle 1 \rangle$										
8387.4(6)	15 ⁽⁺⁾									<1.4 ps	
8422.2(9)	X ⁽⁻⁾										
8486.5(14)	1										
8501.0(17)	1										
8553.0(13)	1										
8606.6(8)	$\langle 1 \rangle$										
8660.4(3)	1 ⁻										
8695.2(14)	1										
8763.4(5)	1										
8774.4(4)	1 ⁻										

(continued)

⁹²₄₂Mo

E^*	J^π	L	β_L	Γ	L	B^2	ε	σ (p,t)	K	$T_{1/2}$ or	Ref.
[keV]		(p,p')	(p,p')	[meV]	(p,t)		(p,t)	μb		Γ_{cm}	
8791.5(8)	$\langle 1 \rangle$										
8819.8(6)	1										
8834.3(20)	$\langle 1 \rangle$										
8902.5(9)	1										
8925.0(7)	$16^{(+)}$									<1.4 ps	
8926.3(15)	$\langle 1 \rangle$										
8955.5(6)	$1^{(-)}$										
9000(100)	$\langle 1^- \rangle$	1								1.1(1) MeV	00Bb11
9022.1(8)											
9096.6(6)	1^-										
9126.5(10)	1										
9187.0(8)	1										
9206.4(8)	$1^{(-)}$										
9237.4(8)	1										
9280.2(23)	$\langle 2 \rangle$										
9296(3)	$\langle 2 \rangle$										
9337.6(8)	1										
9359	$\langle 15^+ \rangle$										02Pa17
9360.9(7)	1										
9418.9(12)	$X^{(-)}$										
9443.2(8)	1										
9481.0(8)	$17^{(+)}$									<1.4 ps	
9502.8(8)	1										
9559.3(13)	$\langle 1 \rangle$										
9592.3(10)	$\langle 1^- \rangle$										
9646.7(13)	$\langle 1 \rangle$										
9691(3)											
9710.5(11)	1										
9827.0(17)	1										
9843.0(10)	$\langle 1 \rangle$										
10019	$\langle 16^+ \rangle$										02Pa17
10102.1	$\langle 18^+ \rangle$										02Pa17
10578	$\langle 17^+ \rangle$										02Pa17
11215	$\langle 18^+ \rangle$										02Pa17
14130(200)	2^+									4.6(3) MeV	
16220(200)	0^+									4.8(3) MeV	
16650(50)	1^-									4.14 MeV	
		00Bb11		77Me01	73La04		73La04	71Mo32	71Mo32		Ref.

Additional data on this isotope can be found in [02Pa17, 00Ga30, 00DeZY, 71Mo32, 66Ki04].

Abundance: 14.84(35) %.The cross sections σ (p,t) were integrated from 10° to 50° [71Mo32].The normalization parameters B^2 [73La04] and K [71Mo32] were used for comparison σ_{exp} and σ_{DWBA} .

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

Energy levels and branching ratios [00Bb11, 00Ga30]. Part 2

⁹²Mo
₄₂

E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	1509 2 ⁺	2283 4 ⁺	2520 0 ⁺	2527 5 ⁻	2612 6 ⁺	2760 8 ⁺	2849.8 3 ⁻	2922.6 <1>
1509.51(3)	2 ⁺		100								
2282.62(3)	4 ⁺			100							
2519.33(4)	0 ⁺			100							
2526.88(4)	5 ⁻				100						
2612.37(5)	6 ⁺				89.1(4)		10.9(8)				
2634.2(15)	<1>		100								
2760.51(10)	8 ⁺							100			
2838.6(5)	<1>		100								
2849.85(5)	3 ⁻			84(2)	16(2)						
2922.6(6)	<1>		100								
3006.84(5)	<5> ⁻						99(1)			1.0(5)	
3063.73(5)	<4 ⁺ , 5 ⁻ >						95(1)			5(1)	
3091.38(5)	2 ⁺		81(2)	19(2)							
3368.51(5)	4 ⁺			x	8.8(6)		41(2)				
3384.5(8)	<1>		100								
3542.29(6)	2 ⁺		14(5)	86(5)							
3579.74(5)	3 ⁻			14(1)	39(1)		47(2)				
3620.96(7)	<≤4>			100							
3624.47(13)	7 ⁻						100				
3651.8(11)	<1>		100								
3688.75(7)	4 ⁺			52(3)						48(3)	
3756.99(7)							100				
3814.53(5)				36(1)						43(1)	
3841.77(8)	0 ⁺			100							
3871.5(10)				100							
3876.55(6)	4 ⁺			73(1)	27(1)						
3926.09(7)	2 ⁺		65(5)	35(5)							
3944.62(18)	1		100								
3953.1(3)								100			
3963.1(1)	4 ⁺			24(3)						27(3)	
3964.3(13)	<2>		100								
4019.2(2)							x				
4115.69(10)					62(1)		38(1)				
4147.92(11)	<2 ⁺ -4 ⁺ >	x		54(1)	46(1)						
4150.31(8)					80(1)		20(1)				
4159.38(11)	5 ⁻						100				
4187.06(10)	<6 ⁺ >				53(1)						
4241.24(11)								100			
4307.53(7)	<3 ⁻ , 4 ⁺ >			43(1)						35(1)	
4315.8(4)	5 ⁻							100			
4328.5(11)									100		
4345.84(11)					x						
4429.56(9)	<2 ⁺ -4 ⁺ >			19(1)	45(1)					36(1)	
4436.20(8)					45(1)						
4455.05(12)					37(1)						

(continued)

 $^{92}_{42}\text{Mo}$

E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	1509 2 ⁺	2283 4 ⁺	2520 0 ⁺	2527 5 ⁻	2612 6 ⁺	2760 8 ⁺	2849.8 3 ⁻	2922.6 <1>
4478.16(10)					100						
4483.25(19)							100				
4493.9(1)	2 ⁺			100							
4509.6	4 ⁺			100							
4544.4(1)					100						
4573.3(2)	<≤4>			100							
4589.6(2)	<2 ⁺ >	x	x								
4630.6(2)	1<−>	90(8)	10(8)								
4652.6(3)	<≤4>		100								
4663.2(6)	1	100									
4685.0(3)	<6 ⁻ >					100					
4702.6(2)	<≤4>			100							
4781.5(2)	<≤4>			100							
4893.2(3)	4 ⁺			100							
4917.8(5)	7 ⁺							44(4)	56(5)		
4936.1(6)	<1>	100									
4944.7(10)	<1>	100									
4949.0(2)	<2 ⁺ −4 ⁺ >			x	x						
4971.4(4)	<1,2 ⁺ >			100							
5003.1(3)	<2> ⁺	69(23)	31(23)								
5076.6(3)	4 ⁺		100								
5121.9(4)	<10 ⁺ >								100		
5283.0(21)	<1>	100									
5312.5(11)									x		
5331.7(9)	<1>	100									
5451.6(9)	<1>	100									
5462.8(5)	<7,8> ⁺							48(8)	52(8)		
5527.4(5)	<1>	100									
5623.8(10)	<1>	100									
5629.9(19)	1	100									
5703.4(4)	1	100									
5789.1(3)	1	100									
5801.3(7)	<1>	100									
5841.7(11)	1	100									
5981.4(4)	1	100		x							
6125.92(20)	1<−>	100									
6184.3(25)	<2>	100									
6191.52(20)	1 ⁻	100									
6300.2(3)	1 ⁻	100									
6329.9(11)	<1>	100									
6362.7(6)	<1>	100									
6377.6(3)	1 ⁻	100		x							
6524.45(20)	1 ⁻	100									
6566.2(6)	1	100									
6606.4(3)	1 ⁻	100									

(continued)

 $^{92}_{42}\text{Mo}$

E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	1509 2 ⁺	2283 4 ⁺	2520 0 ⁺	2527 5 ⁻	2612 6 ⁺	2760 8 ⁺	2849.8 3 ⁻	2922.6 <1>
6645.6(5)	1<->		100								
6718.5(9)	<2->		100								
6761.4(4)	1<->		100								
6787.3(4)	1 ⁻		100								
6818.1(4)	1 ⁻		100								
6883.1(4)	1 ⁻		100								
6995.89(20)	1 ⁻		94(8)	6(8)							
7031.3(3)	1 ⁻		93(10)	7(10)							
7069.6(4)	1 ⁻		100								
7076.9(12)	1		100								
7239.7(11)	1<->		100								
7271.7(5)	X ⁻		100								
7279.0(11)	<2>		100								
7384.3(6)	1		100								
7394.4(4)	1		100								
7422.5(11)			100								
7447.2(16)			100								
7469.1(4)	1<->		66(16)			34(16)					
7486.6(5)	1<->		100								
7518.4(6)	1 ⁻		100								
7573.6(7)	1		100								
7604.4(7)	<1>		100								
7619.5(9)	<1>		100								
7681.1(5)	1 ⁻		100								
7711.3(5)	1		100								
7731.7(5)	1 ⁻		100								
7782.3(9)	1		100								
7784.0(6)	<2>		100								
7787.6(10)	<1>		100								
7808.1(11)	1		100								
7831.4(13)			100								
7837.7(15)	<2>		100								
7856.6(5)	1 ⁻		100								
7877.6(10)	<1>		30(10)								70(10)
7881.8(5)	1		100								
7894.3(7)	1		100								
7919.4(10)	<1>		100								
7931.4(9)	1		100								
7950.4(4)	1<+>		100								
7963.3(7)			100								
8007.0(14)	1 ⁻		100								
8042.0(12)	1		75(14)	25(14)							
8063.4(11)	1<->		100								
8088.1(10)	<2>		100								
8096.4(10)	1		100								

(continued)

 $^{92}_{42}\text{Mo}$

E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	1509 2 ⁺	2283 4 ⁺	2520 0 ⁺	2527 5 ⁻	2612 6 ⁺	2760 8 ⁺	2849.8 3 ⁻	2922.6 <1>
8168.4(5)	1 ⁻		100								
8211.0(11)	1		73(13)	27(13)							
8220.8(10)	<1>		100								
8229.9(7)	1 ⁻		100								
8319.5(6)	1		100								
8355.1(16)	1		100								
8381.7(8)	<1>		100								
8422.2(9)	X⁻		100								
8486.5(14)	1		100								
8501.0(17)	1		100								
8553.0(13)	1		100								
8606.6(8)	<1>		100								
8660.4(3)	1 ⁻		100								
8695.2(14)	1		100								
8763.4(5)	1		100								
8774.4(4)	1 ⁻		100								
8791.5(8)	<1>		100								
8819.8(6)	1		100								
8834.3(20)	<1>		100								
8902.5(9)	1		100								
8926.3(15)	<1>		100								
8955.5(6)	1⁻		100								
9022.1(8)			100								
9096.6(6)	1 ⁻		100								
9126.5(10)	1		100								
9187.0(8)	1		100								
9206.4(8)	1⁻		100								
9237.4(8)	1		100								
9280.2(23)	<2>		100								
9296(3)	<2>		100								
9337.6(8)	1		100								
9360.9(7)	1		100								
9418.9(12)	X⁻		100								
9443.2(8)	1		100								
9502.8(8)	1		100								
9559.3(13)	<1>		100								
9592.3(10)	<1 ⁻ >		100								
9646.7(13)	<1>		100								
9691(3)			100								
9710.5(11)	1		100								
9827.0(17)	1		100								
9843.0(10)	<1>		100								

Energy levels and branching ratios [00Bb11, 00Ga30]. Part 3

⁹²₄₂Mo

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	3006.87 $\langle 5^- \rangle$	3063.86 $\langle 4^+, 5^- \rangle$	3368.55 4^+	3579.78 3^-	3624.46 7^-	4251.3 $\langle 9^- \rangle$	4486.2 $\langle 11^- \rangle$	5121.9 $\langle 10^+ \rangle$	6550.3 $\langle 12^- \rangle$
3368.51(5)	4^+		10.6(6)	39.3(6)							
3753.2(8)				x	x						
3814.53(5)			x	x		21(1)					
3963.1(1)	4^+			49(4)	x						
4187.06(10)	$\langle 6^+ \rangle$			47(1)							
4251.3(3)	$\langle 9^- \rangle$						100				
4252.72(17)							100				
4280.55(7)					x						
4307.53(7)	$\langle 3^-, 4^+ \rangle$		22(1)								
4345.84(11)			x								
4436.20(8)			42(1)	13(1)							
4455.05(12)				63(1)							
4486.2(4)	$11^{\langle - \rangle}$							100			
4725.2(3)	4^+			100							
4734.1(3)					100						
5151.5(4)	$10^- - 12^-$								100		
5862.2(4)	$\langle 12^+ \rangle$									100	
6550.3(5)	$\langle 12^- \rangle$								100		
6661.5(5)	$\langle 13^- \rangle$										100

Energy levels and branching ratios [00Bb11, 00Ga30]. Part 4

⁹²₄₂Mo

E^* [keV]	J^π	Branching ratios in percentage					
		E_f^* : J_f^π :	6661.5 $\langle 13^- \rangle$	7312.4 $\langle 14^- \rangle$	8387.4 $\langle 15^- \rangle$	8924.0 $\langle 16^- \rangle$	9481.0 $\langle 17^- \rangle$
7312.4(6)	$\langle 14^- \rangle$		100				
8221.2(12)	$\langle 14 \rangle$		100				
8387.4(6)	$15^{\langle + \rangle}$			100			
8925.0(7)	$16^{\langle + \rangle}$				100		
9481.0(8)	$17^{\langle + \rangle}$					100	
10102.1	$\langle 18^+ \rangle$						100

Energy levels and branching ratios [97Ba13, 69Mo24, 77Bi02].

⁹³₄₂Mo

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	S_{dp}	σ (d,p)	S_{dp}	S_{dt}	S_{dt}/S_{dp}	S_n^+	S_n^+	σ (p,d)	C^2S	C^2S	C^2S	Ref.
[keV]		(d,p)	$\mu\text{b/sr}$		$\mu\text{b/sr}$				(¹³ C, ¹² C)	(¹⁶ O, ¹⁵ O)	$\mu\text{b/sr}$	(p,d)	(d,t)	(τ, α)	
0	5^+	2	5900	0.84	9100	0.87	1.49	1.71	0.85	0.69	6700	1.25	1.24	1.1	77Bi02
943.34(9)	1^+	0	4650	0.64	3400	0.70	0.204	0.32	0.72	0.25	320	0.06	0.09		77Bi02

(continued)

⁹³₄₂Mo

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	S_{dp}	σ (d,p)	S_{dp}	S_{dt}	S_{dt}/S_{dp}	S_n^+	S_n^+	σ (p,d)	C^2S	C^2S	C^2S	Ref.
[keV]		(d,p)	$\mu\text{b/sr}$		$\mu\text{b/sr}$				(¹³ C, ¹² C)	(¹⁶ O, ¹⁵ O)	$\mu\text{b/sr}$	(p,d)	(d,t)	(τ, α)	
1363.10(3)	7 ⁺	4	314	0.26			0.076	0.29			140	0.19	$\langle 0.3 \rangle$	0.3	77Bi02
1477.15(3)	9 ⁺						0.686			0.11	930	0.46		0.9	77Bi02
1492.49(7)	3 ⁺	2	2620	0.50	4020	0.43	0.267	0.53			incl	0.18			69Mo24
1520.40(6)	7 ⁺	4	178	0.14			0.059	0.42			incl	0.05			69Mo24
1695.07(7)	5 ⁺	2	970	0.18	950	0.074									69Mo24
2142.02(7)	$\langle 5 \rangle^+$	2	323	0.053											69Mo24
2146.1	3 ⁺ , 5 ⁺														
2161.83(3)	13 ⁺														
2181.1(2)	3 ⁺				800	0.083									64Hj02
2247.09(5)	$\langle 11^+ \rangle$										900				
2304.11(6)	$\langle 11 \rangle^-$	$\langle 5 \rangle$	565	0.33	700	0.37				0.67	incl	0.24	0.13	0.3	77Bi02
2356.12(6)	$\langle 5^- \rangle$														
2398.4(1)	$\langle 5 \rangle^+$	2	278	0.043											69Mo24
2409.19(7)	$\langle 9 \rangle^+$										1790	[3.2]	2.62	3.8	77Bi02
2424.89(3)	21 ⁺										incl				
2429.69(8)	$\langle 17 \rangle^+$										incl				
2430.92(8)	$\langle 7^- \rangle$										incl				
2437(1)	1 ⁺	0	765	0.071	900	0.15					incl				69Mo24
2440.40(7)	$\langle 11^- \rangle$										incl				
2440.63(7)	$\langle 9^- \rangle$										incl				
2450.10(8)	$\langle 13^- \rangle$										incl				
2479.06(7)	$\langle 7^+ \rangle$														
2529(1)											1320				
2534.92(8)	$\langle 9 \rangle^+$										incl		1.95	2.6	77Bi02
2539.3(10)	1 ⁻ , 3 ⁻										incl				
2555											incl				
2572.85(8)	$\langle 15^- \rangle$										incl				
2619(15)	1 ⁻ , 3 ⁻												0.06		77Bi02
2641.76(8)	$\langle 15^+ \rangle$														
2644.6(2)	$\langle 3 \rangle^-$														
2667.91(7)	$\langle 13^+ \rangle$														
2670.1(4)	1 ⁺	0	100	0.009											69Mo24
2695(15)	7 ⁺ , 9 ⁺												0.09		77Bi02
2698.0(3)	$\langle 3 \rangle^-$										290				
2704.3(10)	1 ⁺	0	3640	0.32	1800	0.30					incl				69Mo24
2719.4(1)	$\langle 5^- \rangle$										incl				
2730.7(1)	$\langle 9^+ \rangle$										incl				
2742.7(8)	$\langle 1^+ \rangle$														
2755.22(8)	$\langle 11^- \rangle$														
2769.1(1)	$\langle 5^+ \rangle$														
2810.2(1)	$\langle 13^- \rangle$														
2821.08(9)	$\langle 9^+ \rangle$														
2821.8(4)	7, 9, 11														
2831.6(2)	$\langle 3^+ \rangle$														
2832.6(1)	$\langle 7^+ \rangle$														

(continued)

⁹³₄₂Mo

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	S_{dp}	σ (d,p)	S_{dp}	S_{dt}	S_{dt}/S_{dp}	S_n^+	S_n^+	σ (p,d)	C^2S	C^2S	C^2S	Ref.
[keV]		(d,p)	$\mu\text{b/sr}$		$\mu\text{b/sr}$				(¹³ C, ¹² C)	(¹⁶ O, ¹⁵ O)	$\mu\text{b/sr}$	(p,d)	(d,t)	(τ, α)	
2833.51(8)	$\langle 9^- \rangle$														
2834(5)															
2834.5(3)	$\langle 11^+ \rangle$														
2840.27(9)	$\langle 7^- \rangle$														
2842(1)	1^+	0	305	0.026											69Mo24
2851.9(1)	$\langle 5^- \rangle$										410				
2861.5(4)	$\langle 3^- \rangle$										incl		0.07		
2862.7(2)	$\langle 13^+ \rangle$										incl				
2881(1)	$\langle 1^+ - 5^+ \rangle$										incl				
2893(15)	$5^-, 7^-$	3	416	0.047	900	0.087					incl				69Mo24
2902.10(8)	$\langle 9^+ \rangle$														
2915.46(7)	$\langle 11^+ \rangle$														
2955.3(10)	$1^-, 3^-$										1000		0.20		77Bi02
2974.0(1)	$\langle 7^- \rangle$										incl				
2974.3(2)											incl				
3006(5)															
3024.4(2)	$\langle 5^+ - 9^+ \rangle$														
3025.9(4)	7, 9, 11														
3045	$7^+, 9^+$	4	72	0.047											69Mo24
3046.4(2)	$\langle 11^+ \rangle$														
3048.2(1)	$\langle 9^- \rangle$														
3057.0(19)	$\langle 15^+ \rangle$										1200				
3064(15)	$1^-, 3^-$										incl		0.24		77Bi02
3068.8(1)	$\langle 13^+ \rangle$										incl				
3084(5)											incl				
3100.9(1)	$\langle 9^- \rangle$										incl				
3118.6(2)	$\langle 13^- \rangle$														
3142.6(2)	$\langle 11^+ \rangle$														
3151.7(5)	$\langle 3^- \rangle$													$\langle 0.5 \rangle$	
3160(1)	$3^+, 5^+$	2	1090	0.20	1770	0.15									69Mo24
3161.3(10)	$\langle 7^- \rangle$														
3178.1(2)	$\langle 11^- \rangle$														
3199.7(2)	$\langle 7^- \rangle$														
3209.8(3)	$\langle 11^- \rangle$														
3220.5(6)	$\langle 3^- \rangle$										2800		0.61		77Bi02
3241.6(2)	$\langle 13^- \rangle$										incl				
3295(15)	$7^+, 9^+$												0.24	0.5	77Bi02
3298.2(6)	$\langle 3^- \rangle$														
3348.0(4)	$\langle 9^- \rangle$										600				
3379.1(3)	$\langle 11^- \rangle$														
3380(20)	$3^+, 5^+$												0.07		77Bi02
3395.1(20)	$\langle 7^- \rangle$														
3406.3(5)	$\langle 5^- \rangle$														
3436(3)	$\langle 5^- \rangle$														
3441(1)	$\langle 7^- \rangle$										900				

(continued)

⁹³₄₂Mo

E^*	$2J^\pi$	L	$d\sigma/d\Omega$	S_{dp}	σ (d,p)	S_{dp}	S_{dt}	S_{dt}/S_{dp}	S_n^+	S_n^+	σ (p,d)	C^2S	C^2S	C^2S	Ref.
[keV]		(d,p)	$\mu\text{b/sr}$		$\mu\text{b/sr}$				(¹³ C, ¹² C)	(¹⁶ O, ¹⁵ O)	$\mu\text{b/sr}$	(p,d)	(d,t)	(τ, α)	
3450(1)	3 ⁺ , 5 ⁺				1550	0.13					incl		0.22	0.5	77Bi02
3486.1(2)	$\langle 13^- \rangle$										incl				
3510(20)	7 ⁺ , 9 ⁺												0.42		77Bi02
3587(17)	7 ⁺ , 9 ⁺				1300								1.10	2.0	77Bi02
3590(20)	1 ⁻ , 3 ⁻				incl								0.15		77Bi02
3596(1)	3 ⁺ , 5 ⁺				incl	0.10									64Hj02
3650(20)	7 ⁺ , 9 ⁺												0.51		77Bi02
3710(1)	3 ⁺ , 5 ⁺				1050	0.083									64Hj02
3720(20)	1 ⁻ , 3 ⁻												0.11		77Bi02
3790(20)	1 ⁻ , 3 ⁻												0.06		77Bi02
3980(20)	1 ⁻ , 3 ⁻												0.12		77Bi02
3985(5)															
4070(20)	5 ⁻ , 7 ⁻												0.30		77Bi02
4159	$\langle 23 \rangle$														
4170															
4220	5 ⁺														
4240(20)	1 ⁻ , 3 ⁻														77Bi02
4370(20)	1 ⁻ , 3 ⁻														77Bi02
4378(5)															
4437	$\langle 27 \rangle$														
4450(25)	1 ⁻ , 3 ⁻												0.24		77Bi02
4520(20)	1 ⁻ , 3 ⁻												0.27		77Bi02
4630(30)	1 ⁻ , 3 ⁻												0.11		77Bi02
4710(30)	[5 ⁻]												0.32		77Bi02
4756(5)															
4780(30)	[9 ⁺]												0.19		77Bi02
4899	$\langle 25 \rangle$														
4938(5)															
5000(30)	1 ⁻ , 3 ⁻												0.10		77Bi02
5034(5)															
5070(30)													0.24		77Bi02
5150(30)	1 ⁻ , 3 ⁻												0.07		77Bi02
5586	$\langle 29 \rangle$														
6652	$\langle 31 \rangle$														
7027	$\langle 33 \rangle$														
7269	$\langle 35 \rangle$														
10890(30)	$\langle 9 \rangle^+$														
10940(30)	$\langle 1 \rangle^-$														
11590(30)	$\langle 3 \rangle^-$														
12220(30)	1 ⁻ , 3 ⁻														
12300(30)	5 ⁻ , 7 ⁻														

(continued)

⁹³₄₂Mo

E^*	L	$d\sigma/d\Omega$	S_{dp}	σ (d,p)	S_{dp}	S_{dt}	S_{dt}/S_{dp}	S_n^+	S_n^+	σ (p,d)	C^2S	C^2S	C^2S	Ref.
[keV]	(d,p)	$\mu\text{b/sr}$		$\mu\text{b/sr}$				(¹³ C, ¹² C)	(¹⁶ O, ¹⁵ O)	$\mu\text{b/sr}$	(p,d)	(d,t)	(τ, α)	
		69Mo24	69Mo24		64Hj02		70Di06			73Mo03				Ref.
					64Hj02		70Di06		73Zi04		73Mo03	77Bi02	72Fo14	Ref.

Additional data on this isotope can be found in [02Gr16, 99Ka60, 91Is05, 73Mo03, 72Ba49, 72Fo14, 72Is03, 70Di06, 69Oh05, 69Bo27].

Neutron-transfer data $d\sigma/d\Omega$ and S_{dp} from the (d,p)-reactions [69Mo24, 64Hj02] in the first columns are compared with data from other reactions: C^2S from the (p,d) and (d,t) reactions [77Bi02], S_{dt} and ratio S_{dt}/S_{dp} from [70Di06].

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

Energy levels and branching ratios [97Ba13, 69Mo24, 77Bi02]. Part 2

⁹³₄₂Mo

E^*	$2J^\pi$	σ (¹⁶ O, ¹⁵ O)	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]		$\mu\text{b/sr}$	(τ, α)	(p,d)	Γ_{cm}		E_f^* : 0	943.3	1363	1477	1492
							$2J_f^\pi$: 5 ⁺	1 ⁺	7 ⁺	9 ⁺	3 ⁺
0	5 ⁺	2640	2	1.28	4000(800) yr	77Bi02					
943.34(9)	1 ⁺	50		0.05	0.4(+11-2) ps	77Bi02	100				
1363.10(3)	7 ⁺	220	4	$\langle 0.3 \rangle$	104(8) fs	77Bi02	100				
1477.15(3)	9 ⁺	480	4	0.50	0.27(9) ps	77Bi02	99.3(1)		0.68(2)		
1492.49(7)	3 ⁺				13.9(21) fs	69Mo24	100				
1520.40(6)	7 ⁺				0.8(3) ps	69Mo24	100				
1695.07(7)	5 ⁺				75(10) fs	69Mo24	90.3(7)		7.0(5)		3
2142.02(7)	$\langle 5 \rangle^+$				0.12(+8-2) ps	69Mo24	86(3)		13.6(9)		
2146.1	3 ⁺ , 5 ⁺						100				
2161.83(3)	13 ⁺				46(6) ps					100	
2181.1(2)	3 ⁺				37(+15-10) fs	64Hj02	50(10)	35(8)			
2247.09(5)	$\langle 11^+ \rangle$				0.28(+9-6) ps				2.3(5)	98(2)	
2304.11(6)	$\langle 11^- \rangle$	2500	$\langle 5 \rangle$	0.22	0.36(+8-6) ps	77Bi02				100	
2356.12(6)	$\langle 5^- \rangle$				0.32(+13-8) ps		37(1)				13.7(11)
2398.4(1)	$\langle 5 \rangle^+$				21(3) fs	69Mo24	85(3)				15(3)
2409.19(7)	$\langle 9 \rangle^+$		4	2.99	0.47(+10-6) ps	77Bi02	60(2)			34(5)	
2424.89(3)	21 ⁺				6.85(7) h						
2429.69(8)	$\langle 17 \rangle^+$				3.53(18) ns						
2430.92(8)	$\langle 7^- \rangle$				0.121(17) ps		97.3(4)		2.7(2)		
2437(1)	1 ⁺					69Mo24		x			x
2440.40(7)	$\langle 11^- \rangle$				0.41(+15-0) ps					98.0(2)	
2440.63(7)	$\langle 9^- \rangle$								78(2)		
2450.10(8)	$\langle 13^- \rangle$				0.76(4) ns						
2479.06(7)	$\langle 7^+ \rangle$				34(4) fs		16(2)		40(1)	44(3)	
2529(1)											100
2534.92(8)	$\langle 9 \rangle^+$		4	1.97	69(+10-4) fs	77Bi02	20.7(8)		12.0(5)	54(2)	
2539.3(10)	1 ⁻ , 3 ⁻										100
2555											

(continued)

⁹³₄₂Mo

E^*	$2J^\pi$	σ ($^{16}\text{O}, ^{15}\text{O}$)	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\mu\text{b/sr}$	(τ, α)	(p,d)	Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0 5 ⁺	943.3 1 ⁺	1363 7 ⁺	1477 9 ⁺	1492 3 ⁺
2572.85(8)	$\langle 15^- \rangle$				<0.4 ns							
2619(15)	$1^-, 3^-$			0.08		77Bi02						
2641.76(8)	$\langle 15^+ \rangle$				<0.4 ns							
2644.6(2)	$\langle 3 \rangle^-$				0.09(+6-3) ps			100				
2667.91(7)	$\langle 13^+ \rangle$				>0.30 ps							
2670.1(4)	1 ⁺				22(+8-6) fs	69Mo24		100				
2695(15)	7 ⁺ , 9 ⁺			0.10		77Bi02						
2698.0(3)	$\langle 3 \rangle^-$				37(+28-15) fs			100				
2704.3(10)	1 ⁺				0.11(+6-4) ps	69Mo24		55(10)				35(8)
2719.4(1)	$\langle 5^- \rangle$				44(+8-6) fs			77(2)				
2730.7(1)	$\langle 9^+ \rangle$				114(+21-17) fs			94.7(5)				
2742.7(8)	$\langle 1^+ \rangle$				0.14(+17-5) ps			100				
2755.22(8)	$\langle 11^- \rangle$				>0.54 ps						12.0(6)	
2769.1(1)	$\langle 5^+ \rangle$				37(5) fs			61(2)		39(4)		
2810.2(1)	$\langle 13^- \rangle$				<0.4 ns							
2821.08(9)	$\langle 9^+ \rangle$				58(10) fs					51(2)	49(3)	
2821.8(4)	7, 9, 11						x					
2831.6(2)	$\langle 3^+ \rangle$				0.08(+10-4) ps							
2832.6(1)	$\langle 7^+ \rangle$										39(4)	
2833.51(8)	$\langle 9^- \rangle$				0.14(+22-5) ps							
2834(5)									60			
2834.5(3)	$\langle 11^+ \rangle$									100		
2840.27(9)	$\langle 7^- \rangle$				100(+24-17) fs			51(3)				
2842(1)	1 ⁺					69Mo24		53				
2851.9(1)	$\langle 5^- \rangle$				0.13(+140-6) ps							
2861.5(4)	$\langle 3 \rangle^-$			0.08				100				
2862.7(2)	$\langle 13^+ \rangle$											
2881(1)	$\langle 1^+ - 5^+ \rangle$							34(9)	34(9)	9(4)		
2893(15)	5 ⁻ , 7 ⁻					69Mo24						
2902.10(8)	$\langle 9^+ \rangle$				40(+7-3) fs			5.0(4)		46(2)	14(1)	
2915.46(7)	$\langle 11^+ \rangle$				0.18(+13-5) ps						7.1(10)	
2955.3(10)	1 ⁻ , 3 ⁻			0.28		77Bi02			100			
2974.0(1)	$\langle 7^- \rangle$				0.13(+4-2) ps			57(2)				
2974.3(2)										100		
3006(5)												
3024.4(2)	$\langle 5^+ - 9^+ \rangle$							29(3)			71(4)	
3025.9(4)	7, 9, 11							100				
3045	7 ⁺ , 9 ⁺					69Mo24						
3046.4(2)	$\langle 11^+ \rangle$									69(5)		
3048.2(1)	$\langle 9^- \rangle$				>38 fs							
3057.0(19)	$\langle 15^+ \rangle$											
3064(15)	1 ⁻ , 3 ⁻			0.32		77Bi02						
3068.8(1)	$\langle 13^+ \rangle$				>0.125 ps							
3084(5)												
3100.9(1)	$\langle 9^- \rangle$									28(2)	38(2)	

(continued)

⁹³₄₂Mo

E^*	$2J^\pi$	σ ($^{16}\text{O}, ^{15}\text{O}$)	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\mu\text{b/sr}$	(τ, α)	(p,d)	Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0 5 ⁺	943.3 1 ⁺	1363 7 ⁺	1477 9 ⁺	1492 3 ⁺
3118.6(2)	$\langle 13^- \rangle$											
3142.6(2)	$\langle 11^+ \rangle$											
3151.7(5)	$\langle 3 \rangle^-$		1					100				
3160(1)	3 ⁺ , 5 ⁺					69Mo24		27(9)		9(3)		36(9)
3161.3(10)	$\langle 7^- \rangle$							100				
3178.1(2)	$\langle 11^- \rangle$											
3199.7(2)	$\langle 7^- \rangle$							54(3)				
3209.8(3)	$\langle 11^- \rangle$											
3220.5(6)	$\langle 3 \rangle^-$			0.78		77Bi02		100				
3241.6(2)	$\langle 13^- \rangle$											
3295(15)	7 ⁺ , 9 ⁺		4	0.24		77Bi02						
3298.2(6)	$\langle 3 \rangle^-$							100				
3348.0(4)	$\langle 9^- \rangle$											
3379.1(3)	$\langle 11^- \rangle$											
3380(20)	3 ⁺ , 5 ⁺			0.08		77Bi02						
3395.1(20)	$\langle 7^- \rangle$							100				
3406.3(5)	$\langle 5^- \rangle$								100			
3436(3)	$\langle 5^- \rangle$							100				
3441(1)	$\langle 7^- \rangle$							100				
3450(1)	3 ⁺ , 5 ⁺		2	0.20		77Bi02		27	33			
3486.1(2)	$\langle 13^- \rangle$											
3510(20)	7 ⁺ , 9 ⁺			0.30		77Bi02						
3587(17)	7 ⁺ , 9 ⁺		4	1.06		77Bi02						
3590(20)	1 ⁻ , 3 ⁻			0.14		77Bi02						
3596(1)	3 ⁺ , 5 ⁺					64Hj02		47				19
3650(20)	7 ⁺ , 9 ⁺			0.38		77Bi02						
3710(1)	3 ⁺ , 5 ⁺					64Hj02		55				
3720(20)	1 ⁻ , 3 ⁻			0.07		77Bi02						
3790(20)	1 ⁻ , 3 ⁻			0.07		77Bi02						
3980(20)	1 ⁻ , 3 ⁻			0.16		77Bi02						
3985(5)								100				
4070(20)	5 ⁻ , 7 ⁻			0.28		77Bi02						
4159	$\langle 23 \rangle$											
4170												
4220	5 ⁺											
4240(20)	1 ⁻ , 3 ⁻			0.08		77Bi02						
4370(20)	1 ⁻ , 3 ⁻			0.11		77Bi02						
4378(5)								100				
4437	$\langle 27 \rangle$											
4450(25)	1 ⁻ , 3 ⁻			0.33		77Bi02						
4520(20)	1 ⁻ , 3 ⁻			0.35		77Bi02						
4630(30)	1 ⁻ , 3 ⁻			0.10		77Bi02						
4710(30)	[5 ⁻]			0.42		77Bi02						
4756(5)								100				
4780(30)	[9 ⁺]			0.12		77Bi02						

(continued)

⁹³₄₂Mo

E^*	$2J^\pi$	σ ($^{16}\text{O}, ^{15}\text{O}$)	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\mu\text{b/sr}$	(τ, α)	(p,d)	Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0 5 ⁺	943.3 1 ⁺	1363 7 ⁺	1477 9 ⁺	1492 3 ⁺
4899	$\langle 25 \rangle$											
4938(5)								100				
5000(30)	$1^-, 3^-$			0.09		77Bi02						
5034(5)								100				
5070(30)				0.20		77Bi02						
5150(30)	$1^-, 3^-$			0.05		77Bi02						
5586	$\langle 29 \rangle$											
6652	$\langle 31 \rangle$											
7027	$\langle 33 \rangle$											
7269	$\langle 35 \rangle$											
10890(30)	$\langle 9 \rangle^+$											
10940(30)	$\langle 1 \rangle^-$											
11590(30)	$\langle 3 \rangle^-$											
12220(30)	$1^-, 3^-$											
12300(30)	$5^-, 7^-$											
		73Zi04		77Bi02		Ref.						
			72Fo14			Ref.						

Energy levels and branching ratios [97Ba13, 69Mo24, 77Bi02]. Part 3

⁹³₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage									
[keV]		E_f^* : $2J_f^\pi$:	1520 7 ⁺	1695 5 ⁺	2142 $\langle 5 \rangle^+$	2146.1 3 ⁺ , 5 ⁺	2161.83 13 ⁺	2181.08 3 ⁺	2247.09 $\langle 11^+ \rangle$	2304.11 $\langle 11 \rangle^-$	2356.12 $\langle 5^- \rangle$
2181.1(2)	3 ⁺			15(3)							
2356.12(6)	$\langle 5^- \rangle$		49(1)								
2409.19(7)	$\langle 9 \rangle^+$								5.1(10)		
2424.89(3)	21 ⁺						100				
2429.69(8)	$\langle 17 \rangle^+$						100				
2437(1)	1 ⁺							x			
2440.40(7)	$\langle 11^- \rangle$						0.80(10)			1.20(10)	
2440.63(7)	$\langle 9^- \rangle$		21.8(17)								
2450.10(8)	$\langle 13^- \rangle$						3.1(3)		84.7(10)	5.0(5)	
2534.92(8)	$\langle 9 \rangle^+$								12.8(8)		
2572.85(8)	$\langle 15^- \rangle$						21.7(11)				
2641.76(8)	$\langle 15^+ \rangle$						71(4)				
2667.91(7)	$\langle 13^+ \rangle$						73(3)		26.6(17)		
2704.3(10)	1 ⁺							10(3)			
2719.4(1)	$\langle 5^- \rangle$			22.8(14)							
2730.7(1)	$\langle 9^+ \rangle$			5.3(5)							
2755.22(8)	$\langle 11^- \rangle$									88.0(11)	
2831.6(2)	$\langle 3^+ \rangle$				77(5)						
2832.6(1)	$\langle 7^+ \rangle$		61(2)								

(continued)

 $^{93}_{42}\text{Mo}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	1520 7^+	1695 5^+	2142 $\langle 5 \rangle^+$	2146.1 $3^+, 5^+$	2161.83 13^+	2181.08 3^+	2247.09 $\langle 11 \rangle^+$	2304.11 $\langle 11 \rangle^-$	2356.12 $\langle 5 \rangle^-$
2833.51(8)	$\langle 9^- \rangle$									19.5(12)	
2834(5)								40			
2840.27(9)	$\langle 7^- \rangle$			39(3)							10.2(13)
2842(1)	1^+			35							
2851.9(1)	$\langle 5^- \rangle$										60(5)
2862.7(2)	$\langle 13^+ \rangle$						100				
2881(1)	$\langle 1^+ - 5^+ \rangle$					14		9(3)			
2902.10(8)	$\langle 9 \rangle^+$		34(2)								
2915.46(7)	$\langle 11^+ \rangle$						32(1)		47(3)		
2974.0(1)	$\langle 7^- \rangle$		24(2)								
3046.4(2)	$\langle 11^+ \rangle$		31(5)								
3057.0(19)	$\langle 15^+ \rangle$						29(9)				
3100.9(1)	$\langle 9^- \rangle$									12(1)	
3160(1)	$3^+, 5^+$			18(5)		10					
3379.1(3)	$\langle 11^- \rangle$									60(4)	
3450(1)	$3^+, 5^+$							40			
3596(1)	$3^+, 5^+$				34						

Energy levels and branching ratios [97Ba13, 69Mo24, 77Bi02]. Part 4

 $^{93}_{42}\text{Mo}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	2398.35 $\langle 5 \rangle^+$	2409.19 $\langle 9 \rangle^+$	2424.89 21^+	2429.69 $\langle 17 \rangle^+$	2430.92 $\langle 7^- \rangle$	2437 1^+	2440.40 $\langle 11^- \rangle$	2440.63 $\langle 9^- \rangle$	2450.10 $\langle 13^- \rangle$
2450.10(8)	$\langle 13^- \rangle$								7.2		
2572.85(8)	$\langle 15^- \rangle$					2.6(4)					75.8(18)
2641.76(8)	$\langle 15^+ \rangle$					29.0(15)					
2810.2(1)	$\langle 13^- \rangle$								38.1(11)		
2831.6(2)	$\langle 3^+ \rangle$	23(2)									
2833.51(8)	$\langle 9^- \rangle$						24(2)		56.7(12)		
2842(1)	1^+							12			
2851.9(1)	$\langle 5^- \rangle$						40(5)				
2974.0(1)	$\langle 7^- \rangle$						19(2)				
3048.2(1)	$\langle 9^- \rangle$									91.9(11)	
3057.0(19)	$\langle 15^+ \rangle$					71(11)					
3118.6(2)	$\langle 13^- \rangle$										100
3142.6(2)	$\langle 11^+ \rangle$			100							
3178.1(2)	$\langle 11^- \rangle$								100		
3199.7(2)	$\langle 7^- \rangle$									46(3)	
3241.6(2)	$\langle 13^- \rangle$									84.2(19)	15.8(17)
3379.1(3)	$\langle 11^- \rangle$								40(4)		
3441(1)	$\langle 7^- \rangle$							x			

(continued)

⁹³₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage									
[keV]		$E_f^*:$ $2J_f^\pi:$	2398.35 $\langle 5 \rangle^+$	2409.19 $\langle 9 \rangle^+$	2424.89 21^+	2429.69 $\langle 17 \rangle^+$	2430.92 $\langle 7^- \rangle$	2437 1^+	2440.40 $\langle 11^- \rangle$	2440.63 $\langle 9^- \rangle$	2450.10 $\langle 13^- \rangle$
4159	$\langle 23 \rangle$				100						
4899	$\langle 25 \rangle$				100						

Energy levels and branching ratios [97Ba13, 69Mo24, 77Bi02]. Part 5

⁹³₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*:$ $2J_f^\pi:$	2529	2572.85 $\langle 15^- \rangle$	2641.76 $\langle 15^+ \rangle$	2667.91 $\langle 13^+ \rangle$	2704.3 1^+	2755.22 $\langle 11^- \rangle$	2831.56 $\langle 3^+ \rangle$	2881	3100.94 $\langle 9^- \rangle$	4159 $\langle 23 \rangle$
2810.2(1)	$\langle 13^- \rangle$			61.9(9)								
2915.46(7)	$\langle 11^+ \rangle$					14.1(10)						
3048.2(1)	$\langle 9^- \rangle$							8.1(11)				
3068.8(1)	$\langle 13^+ \rangle$				100							
3100.9(1)	$\langle 9^- \rangle$							22(2)				
3160(1)	$3^+, 5^+$						1					
3209.8(3)	$\langle 11^- \rangle$							20(2)	80(2)			
3348.0(4)	$\langle 9^- \rangle$							100				
3486.1(2)	$\langle 13^- \rangle$										100	
3710(1)	$3^+, 5^+$		25							20		
4437	$\langle 27 \rangle$											100

Energy levels and branching ratios [97Ba13, 69Mo24, 77Bi02]. Part 6

⁹³₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage				
[keV]		$E_f^*:$ $2J_f^\pi:$	4437 $\langle 27 \rangle$	4899 $\langle 25 \rangle$	5586 $\langle 29 \rangle$	7027 $\langle 33 \rangle$
5586	$\langle 29 \rangle$		25.8(5)	74(2)		
6652	$\langle 31 \rangle$				100	
7027	$\langle 33 \rangle$				100	
7269	$\langle 35 \rangle$					100

Energy levels and branching ratios [92Tu02, 06Ab37].

⁹⁴₄₂Mo

E^*	J^π	L	ε	σ (t,p)	L	$(2J+1)C^2S$	L	σ (d,t)	C^2S	L	ε	B^2	σ (p,t)	Ref.
[keV]		(t,p)	(t,p)	$\mu\text{b/sr}$		(τ ,d)	(d,t)	$\mu\text{b/sr}$	(d,t)		(p,t)	(p,t)	μb	
0.0*	0 ⁺	0	1.05	200	4	2.97(15)	2	4070	0.51	0	1.8	1.33	311	81Fl06
871.096(18)*	2 ⁺	2	1.14	200	4	4.5(6)	2	1520	0.25	2	0.18	1.67	18	75Bu04
					+2	0.27(7)								
1573.76(4)*	4 ⁺	4	0.88	89	4	2.03(45)	2	3240	0.66	4	0.6	3.00	33	81Fl06
					+2	0.49(14)								
1741.65(15)	0 ⁺	0	0.06	6			2	50	0.01					81Fl06
1864.31(5)	2 ⁺	2	0.11	15	4	0.38(22)	2	700	0.16	$\langle 2 \rangle$	0.06	1.67	6	81Fl06
					+2	0.14(7)								
2067.4(1)****	2 ⁺	2	0.58	102	4	2.78(15)	2	890	0.22	2	0.5	1.67	26	81Fl06
2121(5)														
2294.79(16)	4 ⁺	4	0.07		4	0.81(21)	2	1110	0.30	4	0.10	3.0	10	72Mo35
					+2	0.18(5)								
2322(2)	$\langle 6^+ \rangle$													
2393.02(6)	2 ⁺	2	0.01				0	30	0.005	2	0.035	1.67		81Fl06
2423.45(9)*	6 ⁺	6	8.7	5	4	2.54(90)	4	20	0.06					81Fl06
					+2	0.34(14)								
2533.87(12)	3 ⁻	3	0.54	60	1	0.19(13)	[3]	20	0.05	$\langle 5 \rangle$	0.20	3.67	32	81Fl06
2564.98(19)	4 ⁺	4	0.21	15	4	4.35(75)	2	60	0.02	4	0.11	3.0		81Fl06
					+2	0.18(13)								
2580(5)	$\langle 3^- \rangle$													
2610.6(2)**	$\langle 5^- \rangle$				1	4.35(27)								69Ca20
2703(5)	$\langle 3^- \rangle$													
2739.91(7)	1 ⁺													75Bu04
2767.61(19)	4 ⁺	4	0.14	16	4	4.14(40)								81Fl06
					+2	0.24(10)								
2780.5(2)***	$\langle 0^+ \rangle$													
2805.04(19)	3 ⁺						0	150	0.03					73Ho16
2834.91(24)	$\langle 4^- \rangle$				1	1.02(12)								69Ca20
2853(5)	$\langle 4^+ \rangle$													
2869.90(8)	2 ⁺	2	0.36	60	4	17.1(9)	2	110	0.04					73Ho16
2872.40(11)	6 ⁺					incl								69Ca20
2955.55(13)*	8 ⁺				4	27.9(12)								69Ca20
2960(5)	$\langle 4^+ \rangle$													
2965.41(6)	3 ⁺						0	190	0.04					73Ho16
2993.10(19)	2 ⁺						0	100	0.02					
3011.51(16)	3 ⁻	3	0.35	44	1	3.66(27)								81Fl06
3026.9(1)***	$\langle 3 \rangle$													
3032(5)	$\langle 4^+ \rangle$													
3072.4(2)***	$\langle 2,3^+ \rangle$													
3082.46(24)	$\langle 3^+ \rangle$													
3128.6(2)****	1 ⁺						2	50	0.02					73Ho16
3163.3(2)	$\langle 3^+ \rangle$													
3165.77(9)	6 ⁺	6	5.5	2										81Fl06
3171(10)	2 ⁺ , 3 ⁺						0	100	0.02					75Bu04
3201.11(23)	$\langle 4 \rangle$	4	0.27	26										81Fl06

(continued)

⁹⁴₄₂Mo

E^*	J^π	L	ε	σ (t,p)	L	$(2J+1)C^2S$	L	σ (d,t)	C^2S	L	ε	B^2	σ (p,t)	Ref.
[keV]		(t,p)	(t,p)	$\mu\text{b/sr}$		(τ ,d)	(d,t)	$\mu\text{b/sr}$	(d,t)		(p,t)	(p,t)	μb	
3243.2(5)***	$\langle 5^+ \rangle$													
3260.9(5)	1^-	1	0.016	9										81Fl06
3307.1(4)	$\langle 2 \rangle^+$													
3320(5)	0^+									0	0.75	1.0		73La04
3320.7(3)														
3331.7(2)***	3^+													
3339.54(17)	6^+													
3359.8(10)	$\langle 8^+ \rangle$													
3366.5(4)***	$\langle 3^+, 4 \rangle$													
3368.1(3)**	$\langle 7^- \rangle$													
3371.1(3)***	$\langle 2-4 \rangle$													
3376(3)	$\langle 4^+ \rangle$						4	40	0.20					73Ho16
3380(20)														06Ab37
3389.4(5)	$5\langle - \rangle$	$\langle 5 \rangle$		70						$\langle 5 \rangle$	0.05	3.0		88Ch29
3398.3(4)***	$\langle 3, 4 \rangle$													
3400.8(2)***	$[2^+]$	0		22			0	80	0.02	2	0.3,0.1			81Fl06
3429.1(9)														
3435(5)	$\langle 2^+ \rangle$													
3447.6(4)	$\langle 1, 2^+ \rangle$	2		20						$\langle 2 \rangle$				81Fl06
3448.7(4)***	5^+													
3456(5)	2^+													
3462(10)	$\langle 3 \rangle^-$						1	80	0.02					73Ho16
3511.86(14)	$1\langle + \rangle$													
3531.5(7)***	$\langle 1, 2^+ \rangle$													
3534.32(9)	2^+	2	0.53	88										81Fl06
3539(5)	$\langle 1^- \rangle$													
3588(5)	$\langle 2^+ \rangle$													
3588.6(5)***														
3602(11)	X^+						2	20	0.01					73Ho16
3604(5)	$\langle 3^- \rangle$													
3620(12)	$\langle 5^- \rangle$	$\langle 5 \rangle$	0.04											81Fl06
3627(5)	$\langle 3^- \rangle$													
3647(5)	$\langle 2 \rangle^+$						2	30	0.02					73Ho16
3693.4(5)***	$\langle 3, 4 \rangle$													
3700(5)	0^+									0	2.0	1.0	22	72Mo35
3707(5)	$\langle 4^+ \rangle$													
3714(10)		$\langle 3 \rangle$		17										81Fl06
3730(5)	$\langle 4^+ \rangle$													
3792.87(15)	2^+	2	0.11	22										81Fl06
3800(5)	3^-									3	0.2	2.3		73La04
3802(5)	$\langle 2^+ \rangle$													
3805.0(6)	$\langle 8, 10 \rangle$													
3847.3(7)	4^+	4	0.16	17										81Fl06
3866.8(4)	$\langle 9^+ \rangle$													
3869(5)	$\langle 5^- \rangle$													

(continued)

⁹⁴₄₂Mo

E^*	J^π	L	ε	σ (t,p)	L	$(2J+1)C^2S$	L	σ (d,t)	C^2S	L	ε	B^2	σ (p,t)	Ref.
[keV]		(t,p)	(t,p)	$\mu\text{b/sr}$		(τ ,d)	(d,t)	$\mu\text{b/sr}$	(d,t)		(p,t)	(p,t)	μb	
3892.16(7)	$\langle 1,2^+ \rangle$													
3895(12)														
3897.1(6)*	$\langle 10^+ \rangle$	$\langle 6 \rangle$		58										81Fl06
3897.5(10)***	$\langle 3^+,5^+ \rangle$													
3901(5)	$\langle 2^+ \rangle$													
3917(5)														
3928(5)	$\langle 2^+ \rangle$													
3932.4(7)***	$\langle 7^+ \rangle$													
3995(5)	2^+	2	0.41	84						2	0.3	5.0		81Fl06
4004(5)	$\langle 2^+ \rangle$			incl										88Ch29
4007.8(8)														
4024(5)	5^-	5	0.17											81Fl06
4062(5)	$\langle 3^- \rangle$													
4093(5)	4^+	4	0.30							2	0.8	5.0		75Bu04
4096.8(5)**	$\langle 9^- \rangle$													
4105.5(10)***														
4113(5)	$\langle 3^- \rangle$													92Pi08
4120(12)	$2^+,3^-$	2,3											20	72Mo35
4128(5)	$\langle 3^- \rangle$													92Pi08
4139(5)	2^+									2	0.3	5.0		73La04
4174(12)	6^+	6	3.9											81Fl06
4190.1(8)														
4191(5)	$\langle 2^+ \rangle$													
4191.5(6)*	$\langle 12^+ \rangle$													
4223(12)	4^+	4	0.087											81Fl06
4237.5(12)***														
4264.5(6)														
4293(12)														
4317(5)	$\langle 2^+ \rangle$													
4388(15)														
4436(12)														
4475(12)	$\langle 2^+ \rangle$	$\langle 2 \rangle$	0.14											81Fl06
4495.6(9)														
4499.3(6)														
4565(12)														
4602(5)														
4636(12)														
4729(15)														
4749.9(5)**	$\langle 11^- \rangle$													
4755(12)														
4804(12)														
4833(12)														
4886(12)														
4921(12)														
4975(12)														

(continued)

⁹⁴₄₂Mo

E^*	J^π	L	ϵ	σ (t,p)	L	$(2J+1)C^2S$	L	σ (d,t)	C^2S	L	ϵ	B^2	σ (p,t)Ref.
[keV]		(t,p)	(t,p)	$\mu\text{b/sr}$	(τ ,d)		(d,t)	$\mu\text{b/sr}$	(d,t)		(p,t)	(p,t)	μb
5059(15)													
5734.2(6)**	$\langle 13^- \rangle$												
5804.1(10)	$\langle 13^+ \rangle$												
6397.3(8)**	$\langle 14^- \rangle$												
6555.1(5)	$\langle 1,2^+ \rangle$												
6580.3(10)	$\langle 13^+ \rangle$												
6962.7(9)	$\langle 15^- \rangle$												
7021.2(9)**	$\langle 15^- \rangle$												
7067.6(11)	$\langle 13^+ \rangle$												
7518.0(9)	$\langle 16^- \rangle$												
7554.6(10)	$\langle 14^+ \rangle$												
7795.7(11)	$\langle 15^+ \rangle$												
7899.9(11)	$\langle 14^+ \rangle$												
8239.0(12)	$\langle 16^+ \rangle$												
8452.6(9)													
8614.6(11)	$\langle 15^+ \rangle$												
9030.2(12)	$\langle 17^+ \rangle$												
9162.8(12)	$\langle 16^+ \rangle$												
9209.9(13)**	$\langle 16^- \rangle$												
9956.0(11)	$\langle 16^+ \rangle$												
9979.1(15)	$\langle 17^+ \rangle$												
10052.3(14)													
10272.4(14)**	$\langle 17^- \rangle$												
10275.2(13)	$\langle 18^+ \rangle$												
11588.3(18)	$\langle 18^+ \rangle$												
13260	$\langle 6 \rangle^+$												
13303	3^+												
13321	$\langle 4 \rangle^+$												
13339	$\langle 5-7 \rangle^+$												
13373	$\langle 5 \rangle^+$												
13391													
13421													
13574	$\langle 4,5 \rangle^+$												
13601	$\langle 3 \rangle^+$												
13651													
13911													
14231													

(continued)

⁹⁴₄₂Mo

E^*	J^π	L	ε	σ (t,p)	L	$(2J+1)C^2S$	L	σ (d,t)	C^2S	L	ε	B^2	σ (p,t)	Ref.
[keV]		(t,p)	(t,p)	$\mu\text{b/sr}$		(τ ,d)		(d,t)	(d,t)		(p,t)	(p,t)	μb	
			81F106								73La04		72Mo35	Ref.
			88Ch29		69Ca20			73Ho16	73Ho16			73La04		Ref.

Additional data on this isotope can be found in [03Fr02, 02Vo03, 02Pi15, 01Uk01, 01Fr12, 01Fr04, 00Kn0A, 00Pi06, 00Li26, 99Ho27, 99Pi07, 92Pi08, 87Fr07, 77Fu03].

Abundance: 9.25(12) %.

* Level belongs to the yrast band [06Ab37].

** Level belongs to the negative parity band [06Ab37].

*** This level was introduced in [03Fr02], see there corrected E^* and J^π for other levels.

**** This state was strongly excited in NRF (Nuclear Resonance Fluorescence Method) experiment [03Fr02].

The enhancement factor $\varepsilon=(d\sigma/d\Omega)_{exp}/(9.7 \text{ N } (d\sigma/d\Omega)_{DWBA})$ serves as a spectroscopic factor of two-nucleon transfer reaction with the normalization factor $N=22$, see details and the interpretation of results in [81F106].

Parameters B^2 , K [73La04, 72Mo35] were used in σ_{DWBA} normalization.

Comparison between the calculated shell model E^* spectrum and experiment is given in [02Pi15].

Levels with $E^* \leq 13260$ keV are analogs of low-lying levels of ⁹⁴Nb [06Ab37].

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

Energy levels and branching ratios [92Tu02, 06Ab37]. Part 2

⁹⁴₄₂Mo

E^*	J^π	L	β_L	K	$I_{s,0}$	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]		(α, α')	(α, α')	(p,t)	[eVb]	Γ_{cm}		E_f^* : 0.0	871	1574	1864	
								J_f^π : 0 ⁺	2 ⁺	4 ⁺	2 ⁺	
0.0*	0 ⁺			2		Stable	81F106					
871.096(18)*	2 ⁺	2	0.14	0.25		2.88(4) ps	75Bu04	100				
1573.76(4)*	4 ⁺	4	0.09	0.43		5.0(7) ps	81F106		100			
1741.65(15)	0 ⁺						81F106			100		
1864.31(5)	2 ⁺	4	0.04	0.38		0.13(+7-3) ps	81F106	8(1)	92(1)			
2067.4(1)****	2 ⁺			0.44	0.91(10)	0.032(5) ps	81F106	10(1)	90(1)			
2121(5)												
2294.79(16)	4 ⁺						72Mo35				100	
2322(2)	(6 ⁺)											
2393.02(6)	2 ⁺						81F106	9(4)	91(3)			
2423.45(9)*	6 ⁺	6	0.04				81F106				100	
2533.87(12)	3 ⁻	3	0.15				81F106		49(1)	20(2)	15(2)	
2564.98(19)	4 ⁺						81F106				100	

(continued)

⁹⁴₄₂Mo

E^* [keV]	J^π	L (α, α')	β_L (α, α')	K (p,t)	$I_{s,0}$ [eVb]	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
								E_f^* : J_f^π :	0.0 0 ⁺	871 2 ⁺	1574 4 ⁺	1864 2 ⁺
2580(5)	$\langle 3^- \rangle$											
2610.6(2)**	$\langle 5^- \rangle$						69Ca20				100	
2703(5)	$\langle 3^- \rangle$											
2739.91(7)	1 ⁺	4	0.05		1.6(3)		75Bu04		38(4)	62(3)		
2767.61(19)	4 ⁺						81Fl06			100		
2780.5(2)***	$\langle 0^+ \rangle$											
2805.04(19)	3 ⁺						73Ho16			50(10)	50(10)	
2834.91(24)	$\langle 4^- \rangle$						69Ca20				100	
2853(5)	$\langle 4^+ \rangle$											
2869.90(8)	2 ⁺	2	0.03				73Ho16					
2872.40(11)	6 ⁺						69Ca20					
2955.55(13)*	8 ⁺					98(2) ns	69Ca20					
2960(5)	$\langle 4^+ \rangle$											
2965.41(6)	3 ⁺						73Ho16				40(10)	60(10)
2993.10(19)	2 ⁺											
3011.51(16)	3 ⁻	3	0.05				81Fl06			100		
3026.9(1)***	$\langle 3 \rangle$											
3032(5)	$\langle 4^+ \rangle$											
3072.4(2)***	$\langle 2, 3^+ \rangle$											
3082.46(24)	$\langle 3 \rangle^+$									100		
3128.6(2)****	1 ⁺				47(7)		73Ho16		86(9)			14(4)
3163.3(2)	$\langle 3 \rangle^+$								x			
3165.77(9)	6 ⁺						81Fl06				65(6)	
3171(10)	2 ⁺ , 3 ⁺	$\langle 0 \rangle$	0.02				75Bu04					
3201.11(23)	$\langle 4 \rangle$						81Fl06					
3243.2(5)***	$\langle 5^+ \rangle$											
3260.9(5)	1 ⁻				8(3)		81Fl06		60(10)	40(10)		
3307.1(4)	$\langle 2 \rangle^+$									100		
3320(5)	0 ⁺						73La04					
3320.7(3)												
3331.7(2)***	3 ⁺											
3339.54(17)	6 ⁺										3.7(7)	
3359.8(10)	$\langle 8^+ \rangle$											
3366.5(4)***	$\langle 3^+, 4 \rangle$											
3368.1(3)**	$\langle 7^- \rangle$											
3371.1(3)***	$\langle 2-4 \rangle$											
3376(3)	$\langle 4^+ \rangle$						73Ho16					
3380(20)							06Ab37					
3389.4(5)	5 $\langle - \rangle$						88Ch29					
3398.3(4)***	$\langle 3, 4 \rangle$											
3400.8(2)***	[2 ⁺]	4	0.05				81Fl06			100		
3429.1(9)												
3435(5)	$\langle 2^+ \rangle$											
3447.6(4)	$\langle 1, 2^+ \rangle$	4	0.04				81Fl06			100		

(continued)

⁹⁴₄₂Mo

E^* [keV]	J^π	L (α, α')	β_L (α, α')	K (p,t)	$I_{s,0}$ [eVb]	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
								E_f^* : J_f^π :	0.0 0 ⁺	871 2 ⁺	1574 4 ⁺	1864 2 ⁺
3448.7(4)***	5 ⁺											
3456(5)	2 ⁺											
3462(10)	$\langle 3 \rangle^-$						73Ho16					
3511.86(14)	1 $\langle + \rangle$				9(4)			100	x			
3531.5(7)***	$\langle 1, 2 \rangle^+$											
3534.32(9)	2 ⁺						81Fl06					
3539(5)	$\langle 1^- \rangle$											
3588(5)	$\langle 2^+ \rangle$											
3588.6(5)***												
3602(11)	X ⁺						73Ho16					
3604(5)	$\langle 3^- \rangle$											
3620(12)	$\langle 5^- \rangle$	5	0.04				81Fl06					
3627(5)	$\langle 3^- \rangle$											
3647(5)	$\langle 2 \rangle^+$						73Ho16					
3693.4(5)***	$\langle 3, 4 \rangle$											
3700(5)	0 ⁺						72Mo35					
3707(5)	$\langle 4^+ \rangle$											
3714(10)							81Fl06					
3730(5)	$\langle 4^+ \rangle$											
3792.87(15)	2 ⁺						81Fl06	36(14)				64(36)
3800(5)	3 ⁻						73La04					
3802(5)	$\langle 2^+ \rangle$											
3805.0(6)	$\langle 8, 10 \rangle$											
3847.3(7)	4 ⁺						81Fl06					
3866.8(4)	$\langle 9^+ \rangle$											
3869(5)	$\langle 5^- \rangle$											
3892.16(7)	$\langle 1, 2 \rangle^+$							83(52)	17(11)			
3895(12)												
3897.1(6)*	$\langle 10^+ \rangle$						81Fl06					
3897.5(10)***	$\langle 3^+, 5^+ \rangle$											
3901(5)	$\langle 2^+ \rangle$											
3917(5)												
3928(5)	$\langle 2^+ \rangle$											
3932.4(7)***	$\langle 7^+ \rangle$											
3995(5)	2 ⁺						81Fl06					
4004(5)	$\langle 2^+ \rangle$						88Ch29					
4007.8(8)												
4024(5)	5 ⁻						81Fl06					
4062(5)	$\langle 3^- \rangle$											
4093(5)	4 ⁺	4	0.04				75Bu04					
4096.8(5)**	$\langle 9^- \rangle$											
4105.5(10)***												
4113(5)	$\langle 3^- \rangle$						92Pi08					
4120(12)	2 ⁺ , 3 ⁻						72Mo35					
4128(5)	$\langle 3^- \rangle$						92Pi08					

(continued)

⁹⁴₄₂Mo

E^* [keV]	J^π	L (α, α')	β_L (α, α')	K (p,t)	$I_{s,0}$ [eVb]	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
								E_f^* : J_f^π :	0.0 0 ⁺	871 2 ⁺	1574 4 ⁺	1864 2 ⁺
4139(5)	2 ⁺						73La04					
4174(12)	6 ⁺						81Fl06					
4190.1(8)												
4191(5)	$\langle 2^+ \rangle$											
4191.5(6)*	$\langle 12^+ \rangle$											
4223(12)	4 ⁺						81Fl06					
4237.5(12)***												
4264.5(6)												
4293(12)												
4317(5)	$\langle 2^+ \rangle$											
4388(15)												
4436(12)												
4475(12)	$\langle 2^+ \rangle$						81Fl06					
4495.6(9)												
4499.3(6)												
4565(12)												
4602(5)												
4636(12)												
4729(15)												
4749.9(5)**	$\langle 11^- \rangle$											
4755(12)												
4804(12)												
4833(12)												
4886(12)												
4921(12)												
4975(12)												
5059(15)												
5734.2(6)**	$\langle 13^- \rangle$											
5804.1(10)	$\langle 13^+ \rangle$											
6397.3(8)**	$\langle 14^- \rangle$											
6555.1(5)	$\langle 1, 2^+ \rangle$							32		35(5)		5(2)
6580.3(10)	$\langle 13^+ \rangle$											
6962.7(9)	$\langle 15^- \rangle$											
7021.2(9)**	$\langle 15^- \rangle$											
7067.6(11)	$\langle 13^+ \rangle$											
7518.0(9)	$\langle 16^- \rangle$											
7554.6(10)	$\langle 14^+ \rangle$											
7795.7(11)	$\langle 15^+ \rangle$											
7899.9(11)	$\langle 14^+ \rangle$											
8239.0(12)	$\langle 16^+ \rangle$											
8452.6(9)												
8614.6(11)	$\langle 15^+ \rangle$											
9030.2(12)	$\langle 17^+ \rangle$											
9162.8(12)	$\langle 16^+ \rangle$											
9209.9(13)**	$\langle 16^- \rangle$											

$^{94}_{42}\text{Mo}$

E^*	J^π	L	β_L	K	$I_{s,0}$	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]		(α, α')	(α, α')	(p,t)	[eVb]	Γ_{cm}		E_f^* :	0.0	871	1574	1864
								J_f^π :	0^+	2^+	4^+	2^+
9956.0(11)	$\langle 16^+ \rangle$											
9979.1(15)	$\langle 17^+ \rangle$											
10052.3(14)												
10272.4(14)**	$\langle 17^- \rangle$											
10275.2(13)	$\langle 18^+ \rangle$											
11588.3(18)	$\langle 18^+ \rangle$											
13260	$\langle 6 \rangle^+$											
13303	3^+											
13321	$\langle 4 \rangle^+$											
13339	$\langle 5-7 \rangle^+$											
13373	$\langle 5 \rangle^+$											
13391												
13421												
13574	$\langle 4,5 \rangle^+$											
13601	$\langle 3 \rangle^+$											
13651												
13911												
14231												
					00Pi06		Ref.					
		75Bu04	72Mo35				Ref.					

 $^{94}_{42}\text{Mo}$

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	2068 2^+	2423 6^+	2611 $\langle 5 \rangle^-$	2873 $6^{\langle + \rangle}$	2955.6 $\langle 8^+ \rangle$	3320.8	3805.2	3896.9 $\langle 10^+ \rangle$	4189.7

2533.87(12)	3^-		16(2)								
2872.40(11)	6^+			96(8)	4(2)						
2955.55(13)*	8^+			92(10)		8(2)					
3165.77(9)	6^+			35(5)							
3320.7(3)							100				
3339.54(17)	6^+			96(5)							
3359.8(10)	$\langle 8^+ \rangle$			100							
3368.1(3)**	$\langle 7^- \rangle$				100						
3805.0(6)	$\langle 8, 10 \rangle$							100			
3866.8(4)	$\langle 9^+ \rangle$						99(17)		≈ 0.7		
3897.1(6)*	$\langle 10^+ \rangle$						100				
4007.8(8)							88(12)		12(5)		
4190.1(8)									5(2)	95(8)	
4495.6(9)										42(10)	58(5)
6555.1(5)	$\langle 1, 2^+ \rangle$		28(5)								

Energy levels and branching ratios [04Su22, 93Bu08].

⁹⁵₄₂Mo

E^*	$2J^\pi$	L	S_N	σ (d,p)	L	C^2S	L	C^2S	S_{dt}	σ (d,t)	S_{dt}/S_{dp}	L	C^2S	Ref.
[keV]		(d,p)	(d,p)	$\mu\text{b/sr}$	(p,d)	(p,d)		(p,d)		$\mu\text{b/sr}$			(τ, α)	
0.0	5 ⁺	2	0.59	4780	2	1.663	2	1.98	2.736	9137	4.6	$\langle 2 \rangle$	2.58	04Su22
204.117(2)	3 ⁺	2	0.019	90	2	0.044	2	0.05	0.076	178	4.0	$\langle 2 \rangle$	0.10	04Su22
765.805(6)	7 ⁺	4	0.18	234	4	0.813	4	0.88	0.985	130	5.5	4	0.45	04Su22
786.196(2)	1 ⁺	0	0.37	3280					0.165	777	0.4			
820.626(5)	3 ⁺	2	0.17	1620	2	0.115	2	0.16	0.240	427	1.1	$\langle 2 \rangle$	0.14	04Su22
947.68(2)	9 ⁺	4	0.06	76	4	0.152	4	0.26	0.705	86	12	4	0.22	04Su22
1039.267	1 ⁺	0	0.19	1190			2	0.18	0.208	884	1.0			
1056.76(1)	5 ⁺				2	0.150			0.197	404		$\langle 2 \rangle$	0.11	04Su22
1073.72(1)	7 ⁺													
1092(12)	3 ⁺ ,5 ⁺						4+2	0.05						04Su22
1302.6(1)	1 ⁺	0	0.004	52										
1324(7)	$\langle 3^+, 5^+ \rangle$													
1369.7(1)	$\langle 3^+ \rangle$				2	0.005	$\langle 1 \rangle$	0.02						04Su22
1376.0(2)	X ⁺	2	0.03	206										
1426.13(3)	$\langle 5^+ \rangle$	2	0.026	162	2	0.010	2	0.014	0.021	27	0.81			04Su22
1440.5(3)	$\langle 7^+ - 11^+ \rangle$													
1540.80(1)	11 ⁺						4	0.034						04Su22
1551.73(2)	$\langle 9^+ \rangle$													
1620.22(3)	3 ⁺	2	0.15	938	2	0.078	2	0.079	0.139	164	0.93			04Su22
1645.1(7)	7 ⁽⁺⁾													
1660.3(3)	$\langle \leq 5 \rangle$								0.024	37				
1666(8)	9 ⁺				4	0.217	4	0.35	0.48	88		4	0.19	04Su22
1683	7,9 ⁽⁺⁾													
1698(10)	1 ⁺	0	0.006	61			6							
1743.3(2)	$\langle 9 \rangle$													
1796.7(2)														
1808.2(2)	$\langle 7^+ \rangle$													
1879(12)	$\langle 9^+ \rangle$				4	0.098	4	0.11						04Su22
1916(5)	$\langle 9^+ \rangle$				4	0.315								04Su22
1937.9(2)	11 ⁻	55	0.26	472			5+2	0.33	0.32	24	1.2	5	0.39	04Su22
1963	3 ⁺ ,5 ⁺													
1984(15)	3 ⁺ ,5 ⁺	2	0.008	103			2	0.024	0.056	72	7.0			04Su22
2049	1 ⁺													
2050(15)	$\langle 3^+ \rangle$	2	0.10	689	2	0.037	2	0.03	0.099	90	0.99			04Su22
2058.9(2)	13 ⁽⁺⁾													
2066*	1 ⁺	0	0.097	1120										69Mo24
2067	$\langle 5^-, 7^- \rangle$								0.20	35				
2089	$\langle 3^+ \rangle$	2	0.055	386										
2130(15)	7 ⁺ ,9 ⁺	4	0.11	166	4	0.054	4	0.06						04Su22
2152(9)					$\langle 2 \rangle$	0.130								04Su22
2179(15)	$\langle 3^+ \rangle$	2	0.12	891	2	0.013	2	0.02	0.046	38	0.38			04Su22
2214(4)	1 ⁻ ,3 ⁻													
2223(6)	$\langle 1^- \rangle$	1			1	0.041	1+2	0.03	0.026	56				04Su22
2232.52(24)	$\langle 15^+ \rangle$													
2252	$\langle 3^+ \rangle$	2	0.05	362					0.044	34	0.88			

(continued)

⁹⁵₄₂Mo

E^*	$2J^\pi$	L	S_N	σ (d,p)	L	C^2S	L	C^2S	S_{dt}	σ (d,t)	S_{dt}/S_{dp}	L	C^2S	Ref.
[keV]		(d,p)	(d,p)	$\mu\text{b/sr}$	(p,d)	(p,d)		(p,d)		$\mu\text{b/sr}$			(τ, α)	
2301(2)	$1^-, 3^-$	1	0.006	45	1	0.315	1	0.33	0.352	611		$\langle 1 \rangle$	0.37	04Su22
2357	1^+	0	0.058	735			0+2	0.13						
2383	$\langle 3 \rangle^+$	2	0.036	273										04Su22
2396(10)	$\langle 3 \rangle^+$	2	0.040	309										
2417(2)	$7^+, 9^+$				4	1.359	4	1.81	1.75	233		4	1.30	04Su22
2491.9(20)	$\langle 3 \rangle^+$	2	0.006	48										
2501(15)	$\langle 7^+, 9^+ \rangle$						$\langle 4 \rangle$	0.18						04Su22
2518(2)	$7^+, 9^+$				4	0.978	4	1.18	1.30	166		4	0.92	04Su22
2544	$1^-, 3^-$	$\langle 1 \rangle$	0.023	173					0.05	44				
2580.5(3)	$\langle 17 \rangle^+$													
2602	1^+	0	0.055	730										
2611.91(18)														
2671														
2695	$\langle 3^+ \rangle$													
2711(3)	$1^-, 3^-$				1	0.174	1	0.22						04Su22
2725	$\langle 3^+ \rangle$	$\langle 2 \rangle$	0.018	148										
2731.9(5)	$X \langle + \rangle$	$\langle 2 \rangle$	0.006	53										
2744(4)	3^-				1	0.109								04Su22
2766*	$\langle 3^+ \rangle$	$\langle 2 \rangle$	0.025	212										69Mo24
2769(15)	$1^-, 3^-$						1	0.13						04Su22
2777*	$\langle 3^+ \rangle$	$\langle 2 \rangle$	0.017	148										69Mo24
2830	$\langle 3 \rangle^+$	2	0.036	262										
2843	$\langle 3 \rangle^+$	2	0.024	212										
2861(3)	$1^-, 3^-$				1	0.207	1	0.18						04Su22
2952(3)	$1^-, 3^-$				1	0.174	1	0.17						04Su22
3037(3)	3^-				1	0.370								04Su22
3060*	3^+	2	0.15	1370										69Mo24
3063(17)	$1^-, 3^-$				1		1	0.35						04Su22
3082*	1^+	0	0.019	277										69Mo24
3122(5)	9^+				4	0.087								04Su22
3164(4)	$\langle 3^- \rangle$				1	0.076								04Su22
3169*	$\langle 3^+ \rangle$	2	0.031	276			2	0.06						69Mo24
3226(3)	9^+				4	0.136								04Su22
3264(4)	$\langle 3^+ \rangle$				2	0.057	2	0.07						04Su22
3296(6)	3^-				1	0.065								04Su22
3310(20)*	3^+						2	0.04						77Bi02
3310(10)	$\langle 7^+, 9^+ \rangle$											$\langle 4 \rangle$	0.36	75Sc14
3354(3)	9^+				4	0.511	4	0.59						04Su22
3403(5)	3^-				1	0.196	1	0.20						04Su22
3464(2)	9^+				4	0.870	4	1.0				$\langle 4 \rangle$	0.81	04Su22
3506(9)	$7^+, 9^+$													
3521(3)	9^+				4	0.544	4	0.65				$\langle 4 \rangle$	0.25	04Su22
3601(4)	9^+				4	0.213	4	0.31						04Su22
3634.5(5)	$X \langle + \rangle$													
3698(13)														04Su22

(continued)

⁹⁵₄₂Mo

E^*	$2J^\pi$	L	S_N	σ (d,p)	L	C^2S	L	C^2S	S_{dt}	σ (d,t)	S_{dt}/S_{dp}	L	C^2S	Ref.
[keV]		(d,p)	(d,p)	$\mu\text{b/sr}$	(p,d)	(p,d)		(p,d)		$\mu\text{b/sr}$			(τ, α)	
3741(16)														04Su22
3985(8)	3^-				1	0.152	1	0.084						04Su22
4032(6)	$\langle 3^- \rangle$				1	0.174	1	0.14						04Su22
4070(20)	$1^-, 3^-$						1	0.15						04Su22
4154(6)	3^-				1	0.180	1	0.13						04Su22
4229(6)	5^+				2	0.117	1	0.12						04Su22
4299(6)	$\langle 3^- \rangle$				1	$\langle 0.184 \rangle$	1	0.12						04Su22
4394(17)	$\langle 3^- \rangle$				1	0.091	1	0.14						04Su22
4441(17)	3^-				1	0.098	1	0.09						04Su22
4486(17)	$\langle 3^- \rangle$				1	0.113	1	0.14						04Su22
4533(19)	$\langle 3^- \rangle$				1	0.087	1	0.13						04Su22
4560(20)	$3^+, 5^+$						2	0.03						04Su22
4630(30)	$\langle 3^+, 5^+ \rangle$						$\langle 2 \rangle$	0.02						04Su22
4738(12)	1^-				1	0.105	1	0.08						04Su22
4792(13)	$\langle 3^- \rangle$				1	0.061	1	0.04						04Su22
4860(12)	$\langle 3^- \rangle$				1	0.065								04Su22
4908(16)	$\langle 9^+ \rangle$				4	0.136								04Su22
4954(24)	9^+				4	0.136								04Su22
12100(30)	$\langle 9 \rangle^+$													
12360(30)	$\langle 1 \rangle^-$													
12940(30)	$\langle 3 \rangle^-$													
13150(30)	$\langle 5 \rangle^-$													
13370(30)	$\langle 3 \rangle^-$													
13430(30)	$\langle 5 \rangle^-$													
			69Mo24	69Mo24		04Su22	77Bi02	70Di06		70Di06	70Di06	75Sc14	Ref.	Ref.

Additional data on this isotope can be found in [04Ch18, 01Ch90, 91Is05, 70Di06, 64Hj02].

Abundance: 15.92(13) %.

* given in the original work, not included in adopted values

Excitation energies from [69Mo24] was recalibrated by [70Di06], see [83Lu03].

In the left part of the Table (five columns) data on S_{dt} , S_{dp} and their ratio S_{dt}/S_{dp} are presented (from [70Di06]), while the standard parameters of the (d,p), (p,d) and (τ, α) reactions are given in the right part of the Table.

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

Energy levels and branching ratios [04Su22, 93Bu08]. Part 2

⁹⁵₄₂Mo

E^*	$2J^\pi$	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage						
[keV]			(d,t)	Γ_{cm}		E_f^* :	0.0	204.1	765.8	786.2	820.6	947.7
						$2J_f^\pi$:	5^+	3^+	7^+	1^+	3^+	9^+
0.0	5^+	2	2.54	Stable	04Su22							
204.117(2)	3^+	2	0.04	751(9) ps	04Su22		100					

(continued)

⁹⁵₄₂Mo

E^* [keV]	$2J^\pi$	L	C^2S (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage						
						E_f^* : $2J_f^\pi$:	0.0 5 ⁺	204.1 3 ⁺	765.8 7 ⁺	786.2 1 ⁺	820.6 3 ⁺	947.7 9 ⁺
765.805(6)	7 ⁺	4	0.89	4.4(7) ps	04Su22		100	0.013(1)				
786.196(2)	1 ⁺	0	0.17	4.3(3) ps			22.4(1)	77.6(1)				
820.626(5)	3 ⁺	2	0.16	0.6(1) ps	04Su22		78.6(1)	21.4(2)	<0.003			
947.68(2)	9 ⁺	4	0.18	2.5(1) ps	04Su22		100		0.18(5)			
1039.267	1 ⁺	0	0.18	0.3(1) ps			9.24(9)	88.6(7)		2.03(2)	0.14(1)	
1056.76(1)	5 ⁺	2	0.18	≤0.43 ps	04Su22		20.0(8)	47(1)			33(6)	
1073.72(1)	7 ⁺			0.3(1) ps			70.2(7)	5.9(1)	0.65(2)		22(22)	0.77(11)
1092(12)	3 ⁺ ,5 ⁺	4+2	0.05		04Su22							
1302.6(1)	1 ⁺						≤0.9	≤0.9		15(15)		
1324(7)	⟨3 ⁺ ,5 ⁺ ⟩			≤6.9 ns					37(4)			
1369.7(1)	⟨3 ⁺ ⟩	⟨1⟩	0.02	≤6.9 ns	04Su22		64(6)	36(4)				
1376.0(2)	X ⁺					x						
1426.13(3)	⟨5 ⁺ ⟩	2	0.014	≤6.9 ns	04Su22		0.3(2)	83(2)		17(2)		
1440.5(3)	⟨7 ⁺ –11⟩			≤6.9 ns			20(3)	44(4)	35(4)			
1540.80(1)	11 ⁺	4	0.018	≤6.9 ns	04Su22				41(4)			53(5)
1551.73(2)	⟨9 ⁺ ⟩						3.8(3)		27(2)			56(2)
1620.22(3)	3 ⁺	2	0.084		04Su22		73(4)	3.5(1)			2.8(10)	
1645.1(7)	7 ^{⟨+⟩}						46(23)	54(31)				
1660.3(3)	⟨≤5⟩						100					
1666(8)	9 ⁺	4	0.31		04Su22							
1683	7,9 ^{⟨+⟩}						100					
1698(10)	1 ⁺											
1743.3(2)	⟨9⟩			≤6.9 ns					51(6)			
1796.7(2)				≤6.9 ns							53(7)	
1808.2(2)	⟨7 ⁺ ⟩			≤6.9 ns							77(8)	
1879(12)	⟨9 ⁺ ⟩	4	0.084	≤6.9 ns	04Su22							
1916(5)	⟨9 ⁺ ⟩				04Su22							
1937.9(2)	11 [−]	5+2	0.24	≤6.9 ns	04Su22							
1963	3 ⁺ ,5 ⁺											
1984(15)	3 ⁺ ,5 ⁺	2	0.023		04Su22							
2049	1 ⁺											
2050(15)	⟨3 ⁺ ⟩	2	0.04		04Su22							
2058.9(2)	13 ^{⟨+⟩}			≤6.9 ns								88(9)
2066*	1 ⁺				69Mo24							
2067	⟨5 [−] ,7 [−] ⟩	⟨3⟩	0.20									
2089	⟨3 ⁺ ⟩											
2130(15)	7 ⁺ ,9 ⁺				04Su22							
2152(9)					04Su22							
2179(15)	⟨3 ⁺ ⟩	2	0.047		04Su22							
2214(4)	1 [−] ,3 [−]											
2223(6)	⟨1 [−] ⟩	1	0.03		04Su22							
2232.52(24)	⟨15 ⁺ ⟩			≤6.9 ns								
2252	⟨3 ⁺ ⟩	2	0.044									
2301(2)	1 [−] ,3 [−]	1	0.18		04Su22							
2357	1 ⁺											

(continued)

⁹⁵₄₂Mo

E^* [keV]	$2J^\pi$	L	C^2S (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage						
						$E_f^*:$ $2J_f^\pi:$	0.0 5 ⁺	204.1 3 ⁺	765.8 7 ⁺	786.2 1 ⁺	820.6 3 ⁺	947.7 9 ⁺
2383	$\langle 3 \rangle^+$				04Su22							
2396(10)	$\langle 3 \rangle^+$											
2417(2)	7 ⁺ , 9 ⁺	4	1.37		04Su22							
2491.9(20)	$\langle 3 \rangle^+$											
2501(15)	$\langle 7^+, 9^+ \rangle$				04Su22							
2518(2)	7 ⁺ , 9 ⁺	4	0.88		04Su22							
2544	1 ⁻ , 3 ⁻											
2580.5(3)	$\langle 17 \rangle^+$			≤6.9 ns								
2602	1 ⁺											
2611.91(18)				≤6.9 ns								
2671												
2695	$\langle 3^+ \rangle$											
2711(3)	1 ⁻ , 3 ⁻	1	0.15		04Su22							
2725	$\langle 3^+ \rangle$											
2731.9(5)	X ⁽⁺⁾			≤6.9 ns								
2744(4)	3 ⁻				04Su22							
2766*	$\langle 3^+ \rangle$				69Mo24							
2769(15)	1 ⁻ , 3 ⁻	1	0.11		04Su22							
2777*	$\langle 3^+ \rangle$				69Mo24							
2830	$\langle 3 \rangle^+$											
2843	$\langle 3 \rangle^+$											
2861(3)	1 ⁻ , 3 ⁻	1	0.12		04Su22							
2952(3)	1 ⁻ , 3 ⁻	1	0.13		04Su22							
3037(3)	3 ⁻				04Su22							
3060*	3 ⁺				69Mo24							
3063(17)	1 ⁻ , 3 ⁻	1	0.29		04Su22							
3082*	1 ⁺				69Mo24							
3122(5)	9 ⁺				04Su22							
3164(4)	$\langle 3^- \rangle$				04Su22							
3169*	$\langle 3^+ \rangle$	2	0.07		69Mo24							
3226(3)	9 ⁺				04Su22							
3264(4)	$\langle 3^+ \rangle$	2	0.07		04Su22							
3296(6)	3 ⁻				04Su22							
3310(20)*	3 ⁺	2			77Bi02							
3310(10)	$\langle 7^+, 9^+ \rangle$				75Sc14							
3354(3)	9 ⁺	4			04Su22							
3403(5)	3 ⁻	1	0.21		04Su22							
3464(2)	9 ⁺	4	0.99		04Su22							
3506(9)	7 ⁺ , 9 ⁺											
3521(3)	9 ⁺	4	0.63		04Su22							
3601(4)	9 ⁺	4	0.33		04Su22							
3634.5(5)	X ⁽⁺⁾			≤6.9 ns								
3698(13)					04Su22							
3741(16)					04Su22							
3985(8)	3 ⁻	1	0.065		04Su22							

(continued)

⁹⁵₄₂Mo

E^* [keV]	$2J^\pi$	L	C^2S (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage						
						E_f^* : $2J_f^\pi$:	0.0 5 ⁺	204.1 3 ⁺	765.8 7 ⁺	786.2 1 ⁺	820.6 3 ⁺	947.7 9 ⁺
4032(6)	$\langle 3^- \rangle$	1	0.12		04Su22							
4070(20)	$1^-, 3^-$	1	0.10		04Su22							
4154(6)	3^-	1	0.11		04Su22							
4229(6)	5^+	1	0.12		04Su22							
4299(6)	$\langle 3^- \rangle$	1	0.11		04Su22							
4394(17)	$\langle 3^- \rangle$	1	0.06		04Su22							
4441(17)	3^-	1	0.08		04Su22							
4486(17)	$\langle 3^- \rangle$	1	0.08		04Su22							
4533(19)	$\langle 3^- \rangle$	1	0.09		04Su22							
4560(20)	$3^+, 5^+$	2	0.04		04Su22							
4630(30)	$\langle 3^+, 5^+ \rangle$	$\langle 2 \rangle$	0.03		04Su22							
4738(12)	1^-	1	0.05		04Su22							
4792(13)	$\langle 3^- \rangle$	1	0.03		04Su22							
4860(12)	$\langle 3^- \rangle$				04Su22							
4908(16)	$\langle 9^+ \rangle$				04Su22							
4954(24)	9^+				04Su22							
12100(30)	$\langle 9^+ \rangle$											
12360(30)	$\langle 1^- \rangle$											
12940(30)	$\langle 3^- \rangle$											
13150(30)	$\langle 5^- \rangle$											
13370(30)	$\langle 3^- \rangle$											
13430(30)	$\langle 5^- \rangle$											
			77Bi02		Ref. Ref.							

Energy levels and branching ratios [04Su22, 93Bu08]. Part 3

⁹⁵₄₂Mo

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1039.3 1 ⁺	1056.8 5 ⁺	1073.7 7 ⁺	1302.6 1 ⁺	1324 $\langle 3^+, 5^+ \rangle$	1426.1 $\langle 5^+ \rangle$	1440.5	1540.8 11 ⁺	1551.7 $\langle 9^+ \rangle$	
1302.6(1)	1^+		≤ 6	85(21)								
1324(7)	$\langle 3^+, 5^+ \rangle$			42(5)	21(3)							
1540.80(1)	11^+				4.8(5)				1.6(2)			
1551.73(2)	$\langle 9^+ \rangle$			≤ 0.3	2.4(9)			1.9(2)	8.2(12)			
1620.22(3)	3^+			18(3)		2.0(7)						
1743.3(2)	$\langle 9 \rangle$						8.7(11)			40(5)		
1796.7(2)										47(7)		
1808.2(2)	$\langle 7^+ \rangle$									23(2)		
1879(12)	$\langle 9^+ \rangle$									100		
1937.9(2)	11^-									[26]		
2058.9(2)	$13^{(+)}$									6.0(10)		

(continued)

⁹⁵₄₂Mo

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	1039.3 1 ⁺	1056.8 5 ⁺	1073.7 7 ⁺	1302.6 1 ⁺	1324 ⟨3 ⁺ ,5 ⁺ ⟩	1426.1 ⟨5 ⁺ ⟩	1440.5	1540.8 11 ⁺	1551.7 ⟨9 ⁺ ⟩
2232.52(24)	⟨15 ⁺ ⟩									93(10)	
2611.91(18)										6.0(10)	

Energy levels and branching ratios [04Su22, 93Bu08]. Part 4

⁹⁵₄₂Mo

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	1743.3 ⟨9⟩	1796.7	1879 ⟨9 ⁺ ⟩	1937.9 11 ⁻	2058.9 13 ^{⟨+} ⟩	2232.5 ⟨15 ⁺ ⟩	2580.5 ⟨17 ⁺ ⟩	2731.9 X ^{⟨+} ⟩	
1937.9(2)	11 ⁻		[28]	[46]							
2058.9(2)	13 ^{⟨+} ⟩				6.0(10)						
2232.52(24)	⟨15 ⁺ ⟩						7.3(8)				
2580.5(3)	⟨17 ⁺ ⟩						3.1(3)	97(11)			
2611.91(18)						73(7)	21(2)				
2731.9(5)	X ^{⟨+} ⟩								100		
3634.5(5)	X ^{⟨+} ⟩										100

Energy levels and branching ratios [93Pe02].

⁹⁶₄₂Mo

E^* [keV]	J^π	L	S_N	σ (t,p) $\mu\text{b/sr}$	L	S_N	L	σ (p,t) (p,t)	L	S_α	$T_{1/2}$ or Γ_{cm}	Ref.
0.0 ^a	0 ⁺	0	1.69	442	0	1312	0	290	0	0.129	Stable	81Fl06
778.24(1) ^a	2 ⁺	2	0.73	165	2	19.8	2	33	2	0.031	3.7(1) ps	87Fr07
1147.94(14)	0 ⁺	0	0.02	3.3	0	0.21			0	0.022	61(8) ps	84Va14
1330(50)	0 ⁺											
1497.80(1) ^f	2 ⁺	2	0.03	2.5	2	1.19	2	16	2	0.015	0.8(1) ps	72Mo35
1625.92(2)	2 ⁺			19	4	1.49			2	0.004		87Fr07
1628.22(1) ^b	4 ⁺	4					2	23	4	0.017	1.2(2) ps	72Mo35
1869.59(1) ^f	4 ⁺	4	0.45	60	4	1.74	4	74	4	0.017	6(2) ps	81Fl06
1978.45(1) ^f	3 ⁺											
2095.59(13)	2 ⁺						2	11	2	0.006		72Mo35
2219.48(2)	4 ⁺											
2234.6(1)	3 ⁻	3	1.61	95	3	16.6	3	22		0.035		81Fl06
2398.8(10)												
2426.24(14)	2 ⁺	2	0.28	50	2	0.44						81Fl06
2438.51(1) ^f	5 ⁺											
2440.80(2) ^a	6 ⁺											
2476(8)	4 ⁺	4	0.06	7	4	1.53						81Fl06
2481.05(12)									2	0.018		84Va14

(continued)

⁹⁶₄₂Mo

E^*	J^π	L	S_N	σ (t,p)	L	S_N	L	σ (p,t)	L	S_α	$T_{1/2}$ or	Ref.
[keV]			(t,p)	$\mu\text{b/sr}$		(p,p')		(p,t)		(d, ⁶ Li)	Γ_{cm}	
2501.3(3)	$\langle 1 \rangle$						2	15				72Mo35
2540.40(9) ^f	$\langle 3^+ \rangle$	2	0.77	178								81Fl06
2594.28(5)	$\langle 3^+ \rangle$											
2611.4(8)									$\langle 2 \rangle$	0.014		84Va14
2624.54(22)	4^+	4	0.26	29	4	0.92	4	20				81Fl06
2700.00(11)												
2712.1*												
2734	$\langle 5^- \rangle$				$\langle 5 \rangle$	1.51						87Fr07
2734.41(10)	4^+											
2735.60(13)	$\langle 3, 4^+ \rangle$											
2742	0^+	0		16			0	22	$\langle 0 \rangle$	0.050		88Ch29
2755.16(2)	6^+	$\langle 5 \rangle$							$\langle 6 \rangle$	0.006		81Fl06
2786.85(19)	2^+	2		9								81Fl06
2790.29(14)					$\langle 3 \rangle$	1.11						87Fr07
2818.43(16)	4^+	4	0.26	41								81Fl06
2875.53(5)	$7^+, 6^+$				4.6	0.27						87Fr07
2975.16(13)	5^+											
2978.8(2) ^a	8^+											
2986.9(2)	$\langle 2^+ \rangle$				1,2	0.49						87Fr07
3007	0^+	0		78								88Ch29
3020(5)		5	0.11		4	2.28						81Fl06
3024.6(1)	2^+											
3053.15(18)	$\langle 4^+ \rangle$											
3087.3(3)	$4^+, 5^-$				4,5	0.24						87Fr07
3133.75(16)												
3178.4(4)	4^+			46								88Ch29
3182(5)	3^-			incl	3	1.22						87Fr07
3186.77(22)	4^+	4	0.26									81Fl06
3202.78(15)												
3241(12)	4^+	4	0.26	38								81Fl06
3283.9(3)	2^+	2	0.13	20	2,4	0.3						81Fl06
3334.95(20)	4^+	4	0.16	26	3,4	0.22						81Fl06
3370.0(4)	$\langle 8^+ \rangle$											
3375(10)	2^+	2	0.32	62								81Fl06
3416.66(19)	4^+			21								88Ch29
3418(12)	5^-	5	0.07									81Fl06
3420(80)	2^+											
3441.6(2)	4^+	4	0.10		4	0.89						81Fl06
3445.1(8)												
3472.8(6) ^e	$[7^+]$											
3473(10)	2^+	2	0.18	22								81Fl06
3551.6(3)	3^-			6	3	0.29						87Fr07
3556(10)	5^-	5	0.03									81Fl06
3597(5)	2^+											
3646(10)												

(continued)

⁹⁶₄₂Mo

E^*	J^π	L	S_N	σ (t,p)	L	S_N	L	σ (p,t)	L	S_α	$T_{1/2}$ or	Ref.
[keV]			(t,p)	$\mu\text{b/sr}$		(p,p')		(p,t)		(d, ⁶ Li)	Γ_{cm}	
3683(12)												
3690(80)	$\langle 2^+ \rangle$											
3694(5)	5^-				5	0.52						87Fr07
3709(12)	2^+	2	0.21									81Fl06
3736(5)	4^+	4	0.12		4	0.48						81Fl06
3787.5(5) ^d	$\langle 10^+ \rangle$											
3800(5)												
3847(12)												
3866(5)					$\langle 4 \rangle$	0.39						87Fr07
3916.2(7) ^e	$[7^+]$											
3965(5)	$\langle 4^+ \rangle$				$\langle 4 \rangle$	0.44						87Fr07
4038(5)	$\langle 3^- \rangle$				$\langle 3 \rangle$	0.34						87Fr07
4098(5)	4^+	4	0.32		4,3	0.5						81Fl06
4215(5)		4	0.15		$\langle 3 \rangle$	0.57						81Fl06
4245b	$[10]$											
4280(5)												
4469(5)												
4533.4(7)												
4584.3(7)												
4603(5)												
4714(12)	1^-	1										81Fl06
4795.5(9) ^c												
5131 ^b	12^+											
5640 ^d	13^+											
5654 ^c	13^+											
5811 ^b	14^+											
6300(50)	0^+											
6414 ^c	15^+											
6709 ^b	15^+											
7505 ^c	17^+											
7553 ^b												
8424 ^c	19^+											
9466 ^c	20^+											
9882*												

(continued)

⁹⁶₄₂Mo

E^*	J^π	L	S_N	σ (t,p)	L	S_N	L	σ (p,t)	L	S_α	$T_{1/2}$ or	Ref.
[keV]			(t,p)	$\mu\text{b/sr}$		(p,p')		(p,t)		(d, ⁶ Li)	Γ_{cm}	
			81Fl06			87Fr07				84Va14		Ref.
				88Ch29				72Mo35				Ref.

Additional data on this isotope can be found in [91Is05, 87Fr07, 83Va11].

Abundance: 16.68(2) %.

* New levels from [00Ch42] together with that marked by letters a,b,c,d,e,f.

The enhancement factor $\varepsilon=(d\sigma/d\Omega)_{\text{exp}}/(9.7 \text{ N } (d\sigma/d\Omega)_{DWBA})$ serves as a spectroscopic factor of two-nucleon transfer reaction with the normalization factor $N=22$, see details and the interpretation of results in [81Fl06].

Values S_N in the case of reactions (p,p') [87Fr07] and (p,t) [72Mo35] correspond to the normalized parameter $d\sigma/d\Omega$, σ in mbarn and σ in μbarn , respectively [93Pe02].

Comparison of experimental and theoretical $B(E2)$ and branching ratios are given in [00Ch42].

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

Energy levels and branching ratios [93Pe02]. Part 2

⁹⁶₄₂Mo

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	0.0 0 ⁺	778 2 ⁺	1148 0 ⁺	1498 2 ⁺	1626 2 ⁺	1628 4 ⁺	1870 4 ⁺	1978 3 ⁺	2095.6 2 ⁺	2219.5 4 ⁺
778.24(1) ^a	2 ⁺		100									
1147.94(14)	0 ⁺			100								
1497.80(1) ^f	2 ⁺		32(1)	68(1)								
1625.92(2)	2 ⁺		12(1)	87(4)		1.2(8)						
1628.22(1) ^b	4 ⁺			100								
1869.59(1) ^f	4 ⁺			88(3)		4.8(2)		6.8(4)				
1978.45(1) ^f	3 ⁺			72(1)		21.0(1)	3.0(1)	3.8(4)	0.2(1)			
2095.59(13)	2 ⁺			97(5)	3.1(7)							
2219.48(2)	4 ⁺			14(1)		32(2)	10(3)	29(3)	15(3)	<21		
2234.6(1)	3 ⁻			4(1)		45(3)	46(3)		4.4(4)			
2398.8(10)				100								
2426.24(14)	2 ⁺			59(5)		6(3)	35(3)					
2438.51(1) ^f	5 ⁺							16(4)	54(4)	26.3(14)		3.6(4)
2440.80(2) ^a	6 ⁺							100				
2481.05(12)				25(2)		8(1)		54(4)	13(1)			
2501.3(3)	$\langle 1 \rangle$			30(2)	54(4)	16(1)						
2540.40(9) ^f	$\langle 3^+ \rangle$			62(9)		26(3)	12(3)					
2594.28(5)	$\langle 3^+ \rangle$			13(1)		23(2)	26(2)	15(1)		22(2)		1.6(2)
2611.4(8)							48(19)	52(19)				
2624.54(22)	4 ⁺			94(11)								5.7(14)
2700.00(11)				20(3)		62(7)	14(4)					
2734.41(10)	4 ⁺						8(3)	59(3)	32(2)			
2735.60(13)	$\langle 3,4^+ \rangle$			41(3)		56(6)	1.6	1.6				
2755.16(2)	6 ⁺							74(4)	0.5(2)			2.0(2)

(continued)

 $^{96}_{42}\text{Mo}$

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	778 2 ⁺	1148 0 ⁺	1498 2 ⁺	1626 2 ⁺	1628 4 ⁺	1870 4 ⁺	1978 3 ⁺	2095.6 2 ⁺	2219.5 4 ⁺
2786.85(19)	2 ⁺			96(14)								
2790.29(14)				50(7)			42(4)					
2818.43(16)	4 ⁺					11(6)		89(6)				
2975.16(13)	5 ⁺							26(4)		22(2)		24(2)
2986.9(2)	$\langle 2^+ \rangle$			43(27)			32(13)				24(6)	
3024.6(1)	2 ⁺						30(5)	39(5)	17(5)	14(3)		
3053.15(18)	$\langle 4^+ \rangle$							81(11)				
3087.3(3)	4 ⁺ , 5 ⁻						29(12)	45(12)		14(6)	11(4)	
3133.75(16)							38(7)					14(4)
3178.4(4)	4 ⁺			95(14)								
3283.9(3)	2 ⁺			43(8)			48(8)					
3334.95(20)	4 ⁺						43(10)					
3416.66(19)	4 ⁺					52(21)					23(13)	
3441.6(2)	4 ⁺			70(11)			10(3)			13(6)		
3551.6(3)	3 ⁻							100				

Energy levels and branching ratios [93Pe02]. Part 3

 $^{96}_{42}\text{Mo}$

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	2234.6 3 ⁻	2426.2 2 ⁺	2438.5 5 ⁺	2440.8 6 ⁺	2481.1	2540.4 $\langle 3^+ \rangle$	2594.3 $\langle 3 \rangle^+$	2734 $\langle 5^- \rangle$	2734.4 4 ⁺	2755.2 6 ⁺
2700.00(11)								4.3(4)				
2734.41(10)	4 ⁺					0.9(3)						
2755.16(2)	6 ⁺				10.6(16)	12.9(24)						
2786.85(19)	2 ⁺								3.7(9)			
2790.29(14)			9(2)									
2875.53(5)	7 ⁺ , 6 ⁺					95(5)						4.9(10)
2975.16(13)	5 ⁺		22(4)					6.1(7)				
2978.8(2) ^a	8 ⁺					100						
3053.15(18)	$\langle 4^+ \rangle$			14(5)								4.6(11)
3133.75(16)								47(7)				
3178.4(4)	4 ⁺											4.6(18)
3186.77(22)	4 ⁺					40(34)	60(7)					
3202.78(15)			89(4)								11(4)	
3283.9(3)	2 ⁺		9(5)									
3334.95(20)	4 ⁺							57(10)				
3370.0(4)	$\langle 8^+ \rangle$					100						
3416.66(19)	4 ⁺					13(8)						
3441.6(2)	4 ⁺						6.8(17)					
3445.1(8)					100							
3472.8(6) ^c	[7 ⁺]					56(15)				44(17)		

Energy levels and branching ratios [93Pe02]. Part 4

⁹⁶₄₂Mo

E^* [keV]	J^π	$E_f^*:$ $J_f^\pi:$	2978.8 8 ⁺	3133.7	3186.8 4 ⁺	3370.0 ⟨8 ⁺ ⟩	3787.5 ⟨10 ⁺ ⟩	3916.2
Branching ratios in percentage								
3416.66(19)	4 ⁺			6.5(13)	5(3)			
3787.5(5) ^d	⟨10 ⁺ ⟩		100					
3916.2(7) ^c	[7 ⁺]					100		
4533.4(7)							100	
4584.3(7)							100	
4795.5(9) ^c								100

Energy levels and branching ratios [93Ar09].

⁹⁷₄₂Mo

E^*	$2J^\pi$	L	C^2S'	L	S_N	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)		(p,d)		(d,t)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5 ⁺	481 3 ⁺	658 7 ⁺	680 1 ⁺	719 5 ⁺
0.0	5 ⁺	2	1.33	2	2.6	2	3.15	Stable	74Me02						
480.90(6)	3 ⁺	⟨2⟩	0.034					12.9(19) ps	74Me02	100					
658.13(5)	7 ⁺	4	5.8	4	0.48			2.0(5) ps	75Bi10	100					
679.59(7)	1 ⁺	0	0.94	0	0.40	0	0.33	28.9(19) ps	75Vi06	100					
719.19(7)	5 ⁺	2	1.07	2	0.32	2	0.33	10(5) ps	75Vi06	74(3)	26(4)				
720.92(14)	3 ⁺		incl					4(+5-3) ps		100					
753(5)	⟨3 ⁺ ,5 ⁺ ⟩	⟨2⟩	0.035						74Me02						
795(5)	⟨1 ⁺ ⟩	⟨0⟩	0.012						74Me02						
888.00(10)	1 ⁺	0	0.042	0	0.04	0	0.03	2.7(9) ps	75Vi06	14(4)	86(5)				
993(5)	⟨3 ⁺ ,5 ⁺ ⟩	⟨2⟩	0.031						74Me02						
1024.4(1)	7 ⁺	4	0.90	4	0.20			0.55(12) ps	74Me02	97(3)	0.4(1)	2.9(4)			
1092.6(1)	3 ⁺							1.3(+16-7) ps		90	10(2)				
1116(5)	11 ⁻	5	0.36			5	0.49		75Vi06						
1116.7(1)	9 ⁺			4	0.44			1.20(8) ps		98(1)		1.3(5)		1.1(1)	
1120(10)	3 ⁺ ,5 ⁺					2	0.05		75Vi06						
1135(5)	7 ⁺ ,9 ⁺														
1264.9(4)	3 ⁺ ,5 ⁺	2	1.08						74Me02	100					
1268.6(1)	7 ⁺							0.53(20) ps		59(3)	21(3)			21(4)	
1270.7(3)	5 ⁺									40(7)	60(7)				
1284.6(1)	3 ⁺ ,5 ⁺	2	0.26	2	0.47	2	0.50	0.7(+5-6) ps	75Vi06	57(4)	43(27)				
1321.5(9)	3							<7 ns		100					
1409.5(2)	11 ⁺							<7 ns				100			
1436.9(2)	11 ⁻	5	3.35	5	0.3			2.5(3) ns	74Me02			10(3)			
1515.7(1)	9 ⁺			4	0.14			1.48(23) ps	75Bi10	67(3)	19(3)			14(7)	
1516.0(4)	3 ⁺ ,5 ⁺	2	0.09						74Me02	100					
1544.9(2)	7 ⁺ -11 ⁺							<7 ns							
1547.6(5)	1 ⁺	0	0.16						74Me02		100				
1556.6(7)	5 ⁻ ,7 ⁻	3	1.76						74Me02					100	
1563(4)	3 ⁺ ,5 ⁺	2	0.39	2	0.05				74Me02						
1565.6(3)	⟨7⟩							<7 ns		100					

(continued)

⁹⁷₄₂Mo

E^*	$2J^\pi$	L	C^2S'	L	S_N	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)		(p,d)		(d,t)	Γ_{cm}		$E_f^*:$ $2J_f^\pi:$	0.0 5 ⁺	481 3 ⁺	658 7 ⁺	680 1 ⁺	719 5 ⁺
1629.9(2)	7 ⁺	4	0.76					<7 ns	74Me02		18(4)	33(12)			19(6)
1697.9(5)	⟨9 ⁺ ⟩	⟨4⟩	0.18						74Me02				100		
1700.7(9)	⟨1 ⁺ ⟩	[0]	0.08				[0.3]		64Hj02		100				
1724.1(5)	3,5 ⁺	2	0.13						74Me02		100				
1727.5(2)	⟨5,7⟩										68				32
1758.3(10)	⟨1,3,5 ⁺ ⟩														
1762.5(6)	7 ⁺ ,9 ⁺	4	0.56						74Me02		100				
1782.9(1)	⟨11 ⁺ ⟩						[2.0]	<7 ns	64Hj02						
1786.6(5)	7 ⁺ ,9 ⁺	4	0.56						74Me02				x		
1790.3(5)	⟨1,3⟩										100				
1847.8(4)	⟨5,7⟩										43		57		
1848(5)		[0]	0.09						74Me02						
1921.0(4)	13 ⁺							<7 ns							
1930.2(3)	⟨3,5⟩													100	
1939.9(1)	⟨5 ⁺ ⟩							<7 ns					40(4)		
1958(5)	3 ⁺ ,5 ⁺	2	0.03	2+4	0.03				74Me02						
1961.6(4)	7 ⁺										59	41			
1986.1(8)	⟨3,5,7⟩										100				
1989.8(5)	⟨3,5⟩											100			
2002(5)	⟨7 ⁺ ,9 ⁺ ⟩	⟨4⟩	0.23						74Me02						
2002.3(4)	15 [−]														
2033.7(10)	1 ⁺	0	0.23						74Me02		100				
2040.9(4)	⟨9,11⟩														
2049.9(5)	⟨7,9⟩			[4]	0.61				75Bi10		100				
2055.0(9)	⟨5,7⟩						[2.1]		64Hj02		100				
2073.8(4)															
2092.1(9)	3 [−]			1	0.04				75Bi10		100				
2152.5(6)	3 ⁺ ,5 ⁺	2	1.02						74Me02		100				
2160.0(11)	⟨26,30 [−] ⟩														
2163.6(12)	3 ⁺ ,5 ⁺			2	0.08		[0.2]		64Hj02						
2197.3(2)															
2222(5)	3 ⁺ ,5 ⁺	2	0.062						74Me02						
2244.1(4)															
2258.0(4)	⟨9,11⟩														
2267(5)	1 [−] ,3 [−]			1	0.08				75Bi10						
2271.1(5)															
2278.7(5)	⟨3,5 ⁺ ⟩										100				
2315(5)	3 ⁺ ,5 ⁺	2	0.11						74Me02						
2331.2(12)	⟨7 ⁺ ⟩			⟨4⟩	0.12				75Bi10		100				
2347.6(12)	⟨1 [−] ,3 [−] ⟩	⟨1⟩	0.12						74Me02						
2357.4(4)															
2365.6(9)	⟨9 ⁺ ⟩										100				
2377.5(11)	5 ⁺	2	0.18						74Me02		100				
2388(7)	1 [−] ,3 [−]			1	0.39	⟨1⟩	0.47		75Vi06						
2409.8(10)	5 ⁺	2	0.060						74Me02		100				

(continued)

⁹⁷₄₂Mo

E^* [keV]	$2J^\pi$	L	C^2S' (d,p)	L	S_N (p,d)	L	C^2S (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
										E_f^* : $2J_f^\pi$:	0.0 5 ⁺	481 3 ⁺	658 7 ⁺	680 1 ⁺	719 5 ⁺
2429(5)	9 ⁻ ,11 ⁻	5	1.04						74Me02						
2434.0(4)	(15 ⁺)														
2460(20)	(1 ⁻ ,3 ⁻)	(1)	0.14						74Me02						
2462(5)	1 ⁺	0	0.086						74Me02						
2487(5)	3 ⁺ ,5 ⁺	2	0.039						74Me02						
2498.0(12)	(1,3,5 ⁺)														
2511.3(6)	9 ⁺	2	0.16	4	1.6				74Me02		100				
2512.9(5)	3 ⁺ ,5 ⁺										100				
2539(5)	7 ⁺ ,9 ⁺	4	0.92			4	1.52		75Vi06						
2551.0(11)	(17 ⁺)														
2557(5)	1 ⁺	0	0.082						74Me02						
2560.4(8)											51		49		
2564.4(12)	(1,3,5 ⁺)														
2578.2(15)	(1 ⁺ ,3,5 ⁺)										100				
2626.7(2)															
2643.1(8)	(3 ⁺ ,5 ⁺)														
2649.6(8)	(7 ⁺ ,9 ⁺)										59				
2650(5)	3 ⁺ ,5 ⁺	2	0.056						74Me02						
2677(5)	3 ⁺ ,5 ⁺	2	0.022						74Me02						
2697(5)	3 ⁺ ,5 ⁺	2	0.050						74Me02						
2707.8(5)															
2725.1(5)															
2745(5)	1 ⁻ ,3 ⁻	1	0.085	1	0.15				74Me02						
2772(5)	7 ⁺ ,9 ⁺	4	0.45						74Me02						
2793.5(8)	(1,3,5 ⁺)														
2813.6(5)															
2829.3(15)	(19 ⁺)														
2831(13)	1 ⁻ ,3 ⁻			1	0.06	1	0.2		75Vi06						
2833(5)	3 ⁺ ,5 ⁺	2	0.30						74Me02						
2858(5)	3 ⁺ ,5 ⁺	2	0.097						74Me02						
2875(15)	1 ⁻ ,3 ⁻			1	0.06				75Bi10						
2878(5)	3 ⁺ ,5 ⁺	2	0.091						74Me02						
2905.7(8)	3 ⁺ ,5 ⁺	2	0.057						74Me02		63				
2927(5)	(5 ⁻ ,7 ⁻)	(3)	0.13						74Me02						
2950(5)	3 ⁺ ,5 ⁺	2	0.12						74Me02						
2975(5)															
3008.2(10)	1 ⁻ ,3 ⁻			1	0.15				75Bi10						
3015(5)	3 ⁺ ,5 ⁺	2	0.10						74Me02						
3035(5)	(3 ⁺ ,5 ⁺)	(2)	0.088						74Me02						
3052(15)	1 ⁻ ,3 ⁻			1	0.26										
3074(5)	3 ⁺ ,5 ⁺	2	0.14						74Me02						
3096(5)															
3111(20)	1 ⁻ ,3 ⁻			1	0.16				75Bi10						
3119(5)															
3154(5)	1 ⁺	0	0.081						74Me02						

(continued)

⁹⁷₄₂Mo

E^* [keV]	$2J^\pi$	L	C^2S' (d,p)	L	S_N (p,d)	L	C^2S (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
										E_f^* :	0.0	481	658	680	719
										$2J_f^\pi$:	5 ⁺	3 ⁺	7 ⁺	1 ⁺	5 ⁺
3170(15)				4+1	0.30				75Bi10						
3192(5)															
3217(5)	3 ⁺ ,5 ⁺	2	0.28						74Me02						
3258(5)	1 ⁻ ,3 ⁻			1	0.13				75Bi10						
3293(5)															
3338(5)	7 ⁺ ,9 ⁺	4	0.41						74Me02						
3345(20)	1 ⁻ ,3 ⁻			1	0.20				75Bi10						
3370(5)	3 ⁺ ,5 ⁺	2	0.14						74Me02						
3391(5)	3 ⁺ ,5 ⁺	2	0.10						74Me02						
3406(15)	7 ⁺ ,9 ⁺			4	0.75				75Bi10						
3466(5)	$\langle 3^+,5^+ \rangle$	$\langle 2 \rangle$	0.047						74Me02						
3501(5)	3 ⁺ ,5 ⁺			2	0.07				75Bi10						
3547(5)	$\langle 7^+,9^+ \rangle$	$\langle 4 \rangle$	0.50						74Me02						
3567(5)	7 ⁺ ,9 ⁺	4	0.41	4	0.37				74Me02						
3596(5)															
3620(5)	3 ⁺ ,5 ⁺	2	0.065						74Me02						
3659(5)	7 ⁺ ,9 ⁺			4	0.29				75Bi10						
3682(5)															
3706(5)															
3734(5)	7 ⁺ ,9 ⁺			4	0.39				75Bi10						
3748.5(18)	$\langle 23^+ \rangle$														
3786(5)	$\langle 3^+,5^+ \rangle$	$\langle 2 \rangle$	0.12						74Me02						
3793(20)				4+1	0.17				75Bi10						
3892(5)															
3912(5)	$\langle 3^+,5^+ \rangle$	$\langle 2 \rangle$	0.17						74Me02						
3935(5)	$\langle 3^+,5^+ \rangle$	$\langle 2 \rangle$	0.058						74Me02						
3959(25)	1 ⁻ ,3 ⁻			1	0.10				75Bi10						
3983(5)	$\langle 3^+,5^+ \rangle$	$\langle 2 \rangle$	0.076						74Me02						
4025(5)															
4053(5)															
4073(25)	1 ⁻ ,3 ⁻			1	0.08				75Bi10						
4121(5)															
4144(5)	$\langle 3^+,5^+ \rangle$	$\langle 2 \rangle$	0.055						74Me02						
4254(25)	1 ⁻ ,3 ⁻			1	0.13				75Bi10						
4298(25)	1 ⁻ ,3 ⁻			1	0.08				75Bi10						
4423(25)	1 ⁻ ,3 ⁻			1	0.01				75Bi10						
4470(25)	1 ⁻ ,3 ⁻			1	0.09				75Bi10						
13030(30)	9 ⁺														
13790(30)	1 ⁻														
14260(30)															
14300(30)	1 ⁻ ,3 ⁻														
14340(30)	1 ⁻ ,3 ⁻														
14380(30)															

(continued)

⁹⁷₄₂Mo

E^*	$2J^\pi$	L	C^2S'	L	S_N	L	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)		(p,d)		(d,t)	Γ_{cm}		E_f^* :	0.0	481	658	680	719
										$2J_f^\pi$:	5 ⁺	3 ⁺	7 ⁺	1 ⁺	5 ⁺
14500(30)	5 ⁻		74Me02		75Bi10		75Vi06		Ref.						

Additional data on this isotope can be found in [04Ch18, 01Ch90, 01Bu01, 91Is05, 90Ha43, 72Is03, 69Oh05].

Abundance: 9.55(8) %.

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

Energy levels and branching ratios [93Ar09]. Part 2

⁹⁷₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage											
[keV]		E_f^* :	721	1024	1117	1264.9	1409.55	1436.90	1515.72	1565.6	1782.95	1921.0	
		$2J_f^\pi$:	3 ⁺	7 ⁺	9 ⁺	3 ⁺ ,5 ⁺	11 ⁺	11 ⁻	9 ⁺	⟨7⟩	⟨11 ⁺ ⟩	13 ⁺	
1436.9(2)	11 ⁻				90(3)								
1544.9(2)	7 ⁺ -11 ⁺				100								
1629.9(2)	7 ⁺		29(2)										
1782.9(1)	⟨11 ⁺ ⟩			57(4)	43(5)								
1921.0(4)	13 ⁺				100								
1939.9(1)	⟨5 ⁺ ⟩				60(6)								
2002.3(4)	15 ⁻							100					
2040.9(4)	⟨9,11⟩				100								
2073.8(4)									100				
2160.0(11)	⟨26,30 ⁻ ⟩							100					
2197.3(2)					50(16)		50(16)						
2244.1(4)					100								
2258.0(4)	⟨9,11⟩							100					
2271.1(5)										100			
2357.4(4)							100						
2434.0(4)	⟨15 ⁺ ⟩						100						
2626.7(2)							50(50)				50(50)		
2643.1(8)	⟨3 ⁺ ,5 ⁺ ⟩			100									
2649.6(8)	⟨7 ⁺ ,9 ⁺ ⟩						41						
2813.6(5)												100	
2905.7(8)	3 ⁺ ,5 ⁺					37							

Energy levels and branching ratios [93Ar09]. Part 3

⁹⁷₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage				
[keV]		E^*_f : $2J^\pi_f$:	2002.3 15 ⁻	2434.0 ⟨15 ⁺ ⟩	2551.0 ⟨17 ⁺ ⟩	2829.3 ⟨19 ⁺ ⟩
2551.0(11)	⟨17 ⁺ ⟩			100		
2707.8(5)			100			
2725.1(5)			100			
2829.3(15)	⟨19 ⁺ ⟩				100	
3748.5(18)	⟨23 ⁺ ⟩					100

Energy levels and branching ratios [03Si07].

⁹⁸₄₂Mo

E^* [keV]	J^π	L (t,p)	$d\sigma/d\Omega$ $\mu\text{b/sr}$	ε (t,p)	L (p,t)	σ (p,t) $\mu\text{b/sr}$	L	S_α (d, ⁶ Li)	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	0 ⁺	0	551	1.65	0	1296(31)	0	0.086	Stable	81Fl06
734.75(4)	0 ⁺	0	5	0.02	0	219(13)	0	0.030	21.8(9) ns	81Fl06
787.384(13)	2 ⁺	2	94	0.52	$\langle 2 \rangle$	74(8)	2	0.034	3.52(6) ps	81Fl06
1432.206(16)	2 ⁺	2	9		$\langle 2 \rangle$	2.4(4)	2	0.009	1.53(16) ps	81Fl06
1510.039(17)	4 ⁺	$\langle 4 \rangle$	5		$\langle 4+2 \rangle$	7.6(9)	4	0.003	2.53(5) ps	88Ch29
1758.48(3)	2 ⁺		6		$\langle 2 \rangle$	6.9(12)	2	0.011	1.42(6) ps	88Ch29
1871(2)	$\langle 2^+ \rangle$									
1880.85(17)	≤ 4									
1963.08(8)	0 ⁺	0	14	0.05	0	13.7(12)				81Fl06
2017.52(3)	3 ⁻	3	89	0.59	3	40.1(20)	3	0.030	65(7) ps	81Fl06
2037.53(7)	$\langle 0^+-2^+ \rangle$		50							88Ch29
2104.72(3)	$\langle 3^+ \rangle$									
2206.59(6)	2 ⁺	2		0.20	2	46(3)	2	0.006		81Fl06
2209(2)	0 ⁺			incl		incl				
2223.855(19)	4 ⁺	4	13	0.12						81Fl06
2240(2)	$\langle 4^+ \rangle$									
2333.44(3)	2 ⁺	2		0.37						81Fl06
2334(2)	$\langle 4^+ \rangle$	2	106	incl	2	35.6(16)				81Fl06
2343.61(3)	$\langle 6^+ \rangle$	6		incl			2	0.020	5.2(2) ps	84Va14
2350(2)	$\langle 2^+ \rangle$									
2369(2)	$\langle 2^+ \rangle$									
2418.34(9)	$\langle 2^+ \rangle$	2	15	0.05						81Fl06
2419.62(3)	$\langle 3^- \rangle$				3	3.1(5)				
2485.19(5)	$\langle 3^- \rangle$									
2506.36(3)	$\langle 3^-, 4^+ \rangle$				$\langle 3 \rangle$					
2509(2)	$\langle 1^- \rangle$									
2526.1(3)	$\langle 1^-, 2^+ \rangle$	2	44	0.15						81Fl06
2537(5)	$\langle 1^- \rangle$									
2561.93(14)	$\langle 2^- \rangle$									
2570.9(5)	$\langle 6, 7, 8 \rangle$									
2572.82(9)	$\langle 4^+ \rangle$	4	49	0.32	4	45(3)				81Fl06

(continued)

⁹⁸₄₂Mo

E^*	J^π	L	$d\sigma/d\Omega$	ε	L	σ (p,t)	L	S_α	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	(t,p)	(p,t)	$\mu\text{b/sr}$		(d, ⁶ Li)	Γ_{cm}	
2574.70(7)	$\langle 3^--5^- \rangle$									
2608.4(6)	0^+									
2619.97(16)	$\langle 1,2^+ \rangle$	0	44	0.16			0	0.015		81Fl06
2620.79(4)	$\langle 5^- \rangle$									
2644.7(4)	$\langle 1,2 \rangle$									
2678.87(3)	$\langle 4^+ \rangle$									
2700.70(13)	$\langle 2^+ \rangle$		13		2	16.8(19)				88Ch29
2733(5)	$\langle 2^+ \rangle$		21				2	0.007		88Ch29
2738.0(5)	$\langle 6,7,8 \rangle$									
2767.65(3)	$\langle 4^+ \rangle$									
2795.58(12)	$\langle 5^- \rangle$		28							88Ch29
2803(10)	$\langle 0^+ \rangle$						0	0.006		84Va14
2813.31(8)	$\langle 2^+ \rangle$		5							88Ch29
2836.82(6)	$\langle 4^+ \rangle$				4					
2854.7(3)	$\langle 6,7,8 \rangle$									
2855(5)	$\langle 4^+ \rangle$		42							88Ch29
2856.3(2)	$\langle 0^+ \rangle$									
2906(5)	$\langle 4^+ \rangle$		50							88Ch29
2915.5(3)	$\langle 2^+ \rangle$									
2962.3(2)	$\langle 3^- \rangle$									
2976.92(8)	$\langle 4^+ \rangle$		68		4	17.2(19)				88Ch29
3010.9(2)	$\langle 4^+ \rangle$		31							88Ch29
3020.46(7)	$\langle 5^- \rangle$									
3021.74(3)	$\langle 4^+ \rangle$				4	7.9(13)				73Sh09
3045.9(3)	$\langle 4^+ \rangle$		29							88Ch29
3050.94(5)	$\langle 4^+ \rangle$									
3067.73(7)	$\langle 3^- \rangle$				3	5.1(11)				73Sh09
3095.7(2)	$\langle 2^+ \rangle$		10							88Ch29
3096.75(13)	$\langle 7^- \rangle$									
3103.1(2)	$\langle 2^+,3,4 \rangle$									
3108.8(2)	$\langle 2^+,3,4 \rangle$				2	4.3(5)				73Sh09
3125(5)	$\langle 3^- \rangle$									
3152(5)	$\langle 2^+ \rangle$									
3155.6(2)	$\langle 4^+ \rangle$									
3165.89(5)	$\langle 4^+ \rangle$									
3195.53(17)	$\langle 3^-,4,5^- \rangle$		21							88Ch29
3208.98(12)	$\langle 3^- \rangle$									
3210.7(2)	$\langle 4^+ \rangle$									
3211.56(3)	$\langle 4^+ \rangle$				4	7.3(9)				73Sh09
3229.2(1)	$\langle 4^+-6^+ \rangle$									
3241.2(10)										
3263(5)	$\langle 1^- \rangle$		[22]							88Ch29
3265(10)	$\langle 0^+ \rangle$				0	19.9(14)				73Sh09
3271.8(2)	$\langle 8^+ \rangle$									
3276(5)	$\langle 3^-,4^+ \rangle$									

(continued)

⁹⁸₄₂Mo

E^*	J^π	L	$d\sigma/d\Omega$	ε	L	σ (p,t)	L	S_α	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	(t,p)	(p,t)	$\mu\text{b/sr}$		(d, ⁶ Li)	Γ_{cm}	
3296(10)	$\langle 2^+ \rangle$		60							88Ch29
3305(5)	$\langle 5^- \rangle$									
3326.4(1)	$\langle 4^+ \rangle$									
3344(5)	$\langle 2^+ \rangle$									
3366.1(3)										
3389(5)	$\langle 2^+ \rangle$									
3394.5(1)	$\langle 4^+ \rangle$									
3401.1(1)	$\langle 4^+ \rangle$									
3403.7(1)	$\langle 5,6 \rangle$									
3418.7(2)	$\langle 4^+ \rangle$									
3455.1(1)	$\langle 4^+ \rangle$									
3465.9(1)	$\langle 4^+ \rangle$									
3485(5)	$\langle 2^+ \rangle$									
3501.7(3)	$\langle 4^+ \rangle$									
3516.8(1)	$\langle 4^+ \rangle$									
3524(5)	$\langle 6^+ \rangle$									
3541.3(2)										
3547.5(1)	$\langle 4^+ \rangle$									
3554.9(1)										
3565.6(1)	$\langle 4^+ \rangle$									
3598.3(2)	$\langle 4^+ \rangle$									
3601.1(4)	$\langle 4^+-6 \rangle$									
3617.1(2)										
3620.1(2)	$\langle 3^-,4 \rangle$									
3623.5(1)	$\langle 4^+ \rangle$									
3639(5)	$\langle 4^+ \rangle$									
3657.2(4)	$\langle 6^+-9^- \rangle$									
3664(5)	$\langle 4^+ \rangle$									
3682(5)	$\langle 4^+ \rangle$									
3711.9(7)	$\langle 5^- \rangle$									
3723.7(3)	$\langle 4^+ \rangle$									
3737.7(1)	$\langle 4^+ \rangle$									
3757(5)	$\langle 5^- \rangle$									
3769.4(6)										
3777.9(1)	$\langle 4^+ \rangle$									
3793(5)	$\langle 5^- \rangle$									
3809.2(1)	$\langle 4-6^+ \rangle$									
3809.6(1)	$\langle 4,5^- \rangle$									
3824(5)										
3842.8(2)	$\langle 4-6 \rangle$									
3898(5)	$\langle 4^+ \rangle$									
3947.5(3)	$\langle 4^+ \rangle$									
3964.3(1)	$\langle 4^+-6 \rangle$									
3981.8(1)	$\langle 3^- \rangle$									
3998.6(1)	$\langle 5^- \rangle$									

(continued)

⁹⁸₄₂Mo

E^*	J^π	L	$d\sigma/d\Omega$	ε	L	σ (p,t)	L	S_α	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	(t,p)	(p,t)	$\mu\text{b/sr}$		(d, ⁶ Li)	Γ_{cm}	
4044(5)	$\langle 4^+ \rangle$									
4060.6(1)	$\langle 4-6^+ \rangle$									
4076.4(1)	$\langle 4-6^+ \rangle$									
4103.4(2)	$\langle 4^+ \rangle$									
4117(5)	$\langle 4^+, 5^- \rangle$									
4143(5)	$\langle 4^+ \rangle$									
4149.9(6)										
4177(5)	$\langle 3^- \rangle$									
4247(5)	$\langle 4^+ \rangle$									92Pi08
4356(10)										
4424.4(7)										
4440.7(8)										
4538.5(8)										
4610.1(9)										
7434(15)										
≈ 8800										
		81Fl06	88Ch29					84Va14		Ref.
				81Fl06		73Sh09				Ref.

Additional data on this isotope can be found in [05Ru14, 01Uk01, 99Ho27, 92Pi08, 91Is05, 90Pi14, 83Va11, 80Fl03].

Abundance: 24.13(31) %.

The enhancement factor $\varepsilon = (d\sigma/d\Omega)_{\text{exp}} / (9.7 \text{ N } (d\sigma/d\Omega)_{\text{DWBA}})$ serves as a spectroscopic factor of two-nucleon transfer reaction with the normalization factor N=22, see details and the interpretation of results in [81Fl06].

Properties of these 1^- , 3^- levels were discussed in [90Pi14].

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

Energy levels and branching ratios [03Si07]. Part 2

⁹⁸₄₂Mo

E^*	J^π	Branching ratios in percentage										
		E_f^* : 0.0	735	787	1432	1510	1758	2018	2105	2206.59	2223.86	
[keV]		J_f^π : 0^+	0^+	2^+	2^+	4^+	2^+	3^-	$\langle 3^+ \rangle$	2^+	4^+	
734.75(4)	0^+	x										
787.384(13)	2^+	100	0.0019(1)									
1432.206(16)	2^+	45(1)	2.7(3)	52								
1510.039(17)	4^+			100	0.0005(1)							
1758.48(3)	2^+	3.7(4)	54(1)	39(2)	3.1(3)	0.09(2)						
1880.85(17)	≤ 4			92(11)	8(4)							
1963.08(8)	0^+			70(4)	30(4)							
2017.52(3)	3^-	13(1)	< 0.9	67	< 0.2	2.7(3)	17(1)					
2037.53(7)	$\langle 0^+-2^+ \rangle$			100								
2104.72(3)	$\langle 3^+ \rangle$			51(2)	44(2)	5(2)						

(continued)

⁹⁸Mo
42

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	735 0 ⁺	787 2 ⁺	1432 2 ⁺	1510 4 ⁺	1758 2 ⁺	2018 3 ⁻	2105 (3 ⁺)	2206.59 2 ⁺	2223.86 4 ⁺
2206.59(6)	2 ⁺		<3		88(12)	<5	<1.2	12(5)				
2223.855(19)	4 ⁺				12.3(2)	38.0	44(1)	3(1)	3(2)			
2333.44(3)	2 ⁺				54(1)	14(2)	28(4)	3.4(4)				0.5(1)
2343.61(3)	(6 ⁺)						100					
2418.34(9)	(2 ⁺)				≈50	50(9)						
2419.62(3)	(3 ⁻)				25(1)	13(1)	42(1)	12(1)	5(1)	1		2
2485.19(5)	(3 ⁻)				39(2)	19(4)	14(2)	15(4)	1.2(11)	8(3)		
2506.36(3)	(3 ⁻ ,4 ⁺)						52(1)			x	0.7(3)	1.0(2)
2526.1(3)	(1 ⁻ ,2 ⁺)					100						
2561.93(14)	(2 ⁻)				82(4)			7(6)	11(3)			
2572.82(9)	(4 ⁺)				38(3)	12(6)		22(5)	22(3)			
2574.70(7)	(3 ⁻ -5 ⁻)						65(4)		25(4)			10(4)
2608.4(6)	0 ⁺				100							
2619.97(16)	(1,2 ⁺)		21(10)		53(4)	26(4)						
2620.79(4)	(5 ⁻)						63(1)		37(3)			
2644.7(4)	(1,2)		<54			100						
2678.87(3)	(4 ⁺)						61(1)					2.8(1)
2700.70(13)	(2 ⁺)				[93]						[7]	
2767.65(3)	(4 ⁺)				42	16.0(3)	12	0.6(5)	0.4(1)	2.2(6)	≈1	7
2795.58(12)	(5 ⁻)						100					
2836.82(6)	(4 ⁺)						4(3)					
2915.5(3)	(2 ⁺)				100							
2962.3(2)	(3 ⁻)						46(14)		54(14)			
2976.92(8)	(4 ⁺)				7(3)		61(2)					5(1)
3010.9(2)	(4 ⁺)				100							
3020.46(7)	(5 ⁻)						<57		19(7)			
3021.74(3)	(4 ⁺)				2.8(2)	2.2(2)	76(1)	1.9(3)	1.4(6)	1.1(3)	0.6(3)	9.4(5)
3045.9(3)	(4 ⁺)				31(15)			69(21)				
3050.94(5)	(4 ⁺)				1.4(3)	8(1)	75(1)					
3067.73(7)	(3 ⁻)											27(4)
3095.7(2)	(2 ⁺)						100					
3108.8(2)	(2 ⁺ ,3,4)						32(20)		68(20)			
3155.6(2)	(4 ⁺)									38(31)		
3165.89(5)	(4 ⁺)				10(1)		35(2)	13(3)		10(1)		
3195.53(17)	(3 ⁻ ,4,5 ⁻)								53(23)			
3208.98(12)	(3 ⁻)								<67			38(9)
3210.7(2)	(4 ⁺)								76(22)			
3211.56(3)	(4 ⁺)				1.3(4)		81(1)		4.5(2)	0.3(2)		
3229.2(1)	(4 ⁺ -6 ⁺)						25(4)					
3326.4(1)	(4 ⁺)				1.9(2)		13(1)	3(1)	2(1)	7(1)		14(1)
3366.1(3)												100
3394.5(1)	(4 ⁺)				2.8(2)		76(1)	3.0(2)	2.4(8)	2.8(5)		
3418.7(2)	(4 ⁺)				17(6)		83(28)					
3455.1(1)	(4 ⁺)				3.7(4)	9(1)	80(1)					
3465.9(1)	(4 ⁺)						39(4)					

(continued)

⁹⁸Mo
42

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	0.0 0 ⁺	735 0 ⁺	787 2 ⁺	1432 2 ⁺	1510 4 ⁺	1758 2 ⁺	2018 3 ⁻	2105 (3 ⁺)	2206.59 2 ⁺	2223.86 4 ⁺
3501.7(3)	(4 ⁺)				100							
3516.8(1)	(4 ⁺)				4(1)		12(2)	5(1)	4(2)		14(2)	
3547.5(1)	(4 ⁺)				14(1)		14(1)			10(3)		47(3)
3554.9(1)					100							
3565.6(1)	(4 ⁺)						10(3)			8(3)		55(3)
3620.1(2)	(3 ⁻ , 4)								20(10)	80(20)		
3623.5(1)	(4 ⁺)				4	3	25(3)			14(1)	8(2)	6(1)
3711.9(7)	(5 ⁻)						100					
3723.7(3)	(4 ⁺)				0.9(3)							
3777.9(1)	(4 ⁺)						100					
3809.2(1)	(4-6 ⁺)						100					
3809.6(1)	(4, 5 ⁻)								71(6)			
3842.8(2)	(4-6)						100					
3981.8(1)	(3 ⁻)						77(8)			23(15)		
3998.6(1)	(5 ⁻)						77(8)					
4060.6(1)	(4-6 ⁺)						100					
4076.4(1)	(4-6 ⁺)						100					
4103.4(2)	(4 ⁺)					100						

Energy levels and branching ratios [03Si07]. Part 3

⁹⁸Mo
42

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	2333.44 2 ⁺	2334 (4 ⁺)	2343.61 (6 ⁺)	2419.62 (3 ⁻)	2506.36 (3 ⁻ , 4 ⁺)	2572.82 (4 ⁺)	2574.70	2619.97 (1, 2 ⁺)	2620.79 (5 ⁻)	2678.87 (4 ⁺)
2485.19(5)	(3 ⁻)		4(1)									
2506.36(3)	(3 ⁻ , 4 ⁺)		36(4)		0.5(3)	10(1)						
2570.9(5)	(6, 7, 8)				100							
2572.82(9)	(4 ⁺)		6(2)									
2678.87(3)	(4 ⁺)		0.3(1)		33(1)		2.8(3)					
2738.0(5)	(6, 7, 8)				100							
2767.65(3)	(4 ⁺)		15(1)			2.9(3)					1.7(6)	
2813.31(8)	(2 ⁺)				100		x				<33	
2836.82(6)	(4 ⁺)				18(4)		18(2)					61(2)
2854.7(3)	(6, 7, 8)				96(13)			4(2)				
2856.3(2)	(0 ⁺)											100
2976.92(8)	(4 ⁺)					27(17)						
3020.46(7)	(5 ⁻)				21(4)						61(4)	
3021.74(3)	(4 ⁺)		4.7(3)									
3050.94(5)	(4 ⁺)		10(2)			1.8(7)	3.6(10)					
3067.73(7)	(3 ⁻)										73(5)	
3096.75(13)	(7 ⁻)				10(2)						81(4)	
3155.6(2)	(4 ⁺)				44(31)							

(continued)

⁹⁸₄₂Mo

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2333.44 2 ⁺	2334 ⟨4 ⁺ ⟩	2343.61 ⟨6 ⁺ ⟩	2419.62 ⟨3 ⁻ ⟩	2506.36 ⟨3 ⁻ ,4 ⁺ ⟩	2572.82 ⟨4 ⁺ ⟩	2574.70	2619.97 ⟨1,2 ⁺ ⟩	2620.79 ⟨5 ⁻ ⟩	2678.87 ⟨4 ⁺ ⟩
3165.89(5)	⟨4 ⁺ ⟩					8(2)						
3208.98(12)	⟨3 ⁻ ⟩											62(19)
3210.7(2)	⟨4 ⁺ ⟩			24(23)								
3211.56(3)	⟨4 ⁺ ⟩	6.6(2)			2.2(4)	0.3(2)				3.2(2)		
3229.2(1)	⟨4 ⁺ -6 ⁺ ⟩			67(9)								
3241.2(10)												100
3271.8(2)	⟨8 ⁺ ⟩			100								
3326.4(1)	⟨4 ⁺ ⟩	33(1)			17(1)	8(1)						
3394.5(1)	⟨4 ⁺ ⟩	2.8(2)								2.2(5)		8(5)
3401.1(1)	⟨4 ⁺ ⟩			98(8)								
3455.1(1)	⟨4 ⁺ ⟩	6(3)			2.2(11)							
3465.9(1)	⟨4 ⁺ ⟩			33(9)		28(9)						
3516.8(1)	⟨4 ⁺ ⟩	3(1)			2(1)							
3541.3(2)												100
3547.5(1)	⟨4 ⁺ ⟩		<17	15(3)								
3598.3(2)	⟨4 ⁺ ⟩			80(20)								
3601.1(4)	⟨4 ⁺ -6⟩			53(13)								47(20)
3617.1(2)				100								
3623.5(1)	⟨4 ⁺ ⟩	6(3)				6(2)			19(2)			4(1)
3723.7(3)	⟨4 ⁺ ⟩		6(2)									
3737.7(1)	⟨4 ⁺ ⟩			56(8)								
3809.6(1)	⟨4,5 ⁻ ⟩									29(9)		
3947.5(3)	⟨4 ⁺ ⟩											100
3964.3(1)	⟨4 ⁺ -6⟩			80(16)								20(8)
3998.6(1)	⟨5 ⁻ ⟩										23(15)	

Energy levels and branching ratios [03Si07]. Part 4

⁹⁸₄₂Mo

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2700.70 $\langle 2^+ \rangle$	2767.65 $\langle 4^+ \rangle$	2795.58 $\langle 5^- \rangle$	2813.31 $\langle 2^+ \rangle$	2836.82 $\langle 4^+ \rangle$	2855 $\langle 4^+ \rangle$	2976.92 $\langle 4^+ \rangle$	3050.94 $\langle 4^+ \rangle$	3096.75 $\langle 7^- \rangle$	3165.89 $\langle 4^+ \rangle$
3021.74(3)	$\langle 4^+ \rangle$			0.3(2)								
3096.75(13)	$\langle 7^- \rangle$							9(4)				
3103.1(2)	$\langle 2^+, 3, 4 \rangle$			100								
3155.6(2)	$\langle 4^+ \rangle$	19(10)										
3165.89(5)	$\langle 4^+ \rangle$								24(4)			
3195.53(17)	$\langle 3^-, 4, 5^- \rangle$				47(7)							
3211.56(3)	$\langle 4^+ \rangle$			0.4(2)								
3229.2(1)	$\langle 4^+ - 6^+ \rangle$					8(4)						
3403.7(1)	$\langle 5, 6 \rangle$										92(5)	
3516.8(1)	$\langle 4^+ \rangle$						12(2)					43(2)
3565.6(1)	$\langle 4^+ \rangle$									27(8)		

(continued)

⁹⁸Mo
42

E^*	J^π	Branching ratios in percentage										
		E_f^* :	2700.70	2767.65	2795.58	2813.31	2836.82	2855	2976.92	3050.94	3096.75	3165.89
[keV]		J_f^π :	$\langle 2^+ \rangle$	$\langle 4^+ \rangle$	$\langle 5^- \rangle$	$\langle 2^+ \rangle$	$\langle 4^+ \rangle$	$\langle 4^+ \rangle$	$\langle 4^+ \rangle$	$\langle 4^+ \rangle$	$\langle 7^- \rangle$	$\langle 4^+ \rangle$
3623.5(1)	$\langle 4^+ \rangle$									5(3)		
3723.7(3)	$\langle 4^+ \rangle$						4(3)					
3737.7(1)	$\langle 4^+ \rangle$						44(8)					
3769.4(6)											100	

Energy levels and branching ratios [03Si07]. Part 5

⁹⁸Mo
42

E^* [keV]	J^π	Branching ratios in percentage								
		E_f^* : J_f^π :	3211.56 $\langle 4^+ \rangle$	3271.8 $\langle 8^+ \rangle$	3401.13 $\langle 4^+ \rangle$	3403.75 $\langle 5,6 \rangle$	3657.2 $\langle 6^+-9^- \rangle$	3769.4	4149.9	4440.7
3401.1(1)	$\langle 4^+ \rangle$		1.9(15)							
3403.7(1)	$\langle 5,6 \rangle$		8.3(3)							
3598.3(2)	$\langle 4^+ \rangle$					20(10)				
3657.2(4)	$\langle 6^+-9^- \rangle$			[100]						
3723.7(3)	$\langle 4^+ \rangle$		88(29)							
3809.2(1)	$\langle 4-6^+ \rangle$				<23					
3809.6(1)	$\langle 4,5^- \rangle$				<8					
4149.9(6)				100						
4424.4(7)						100				
4440.7(8)									100	
4538.5(8)								100		
4610.1(9)										100

Energy levels and branching ratios [94Pe15].

⁹⁹Mo
42

E^*	$2J^\pi$	ε	σ (d,t)	S_{dt}	S_{dp}	S_{dt}/S_{dp}	S_{dt}	σ (d,p)	C^2S	C^2S	C^2S	C^2S	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$					$\mu\text{b/sr}$	(p,d)	(p,d)	(p,d)	(τ, α)	Γ_{cm}	
0.0	1^+	0.34	2800	0.385	0.67	0.57	0.25	7490	0.15	0.30	0.14		65.94(1) h	70Di06
97.785(3)	5^+	1.04	14090	3.164	0.21	15	2.25	2440	1.90	1.84	1.80	2.79	15.5(2) μs	70Di06
235.508(8)	7^+	0.06	595	2.77	0.42	6.6	1.37	622	1.32	1.39	1.75	1.79	0.87(15) ns	70Di06
351.24(4)	3^+		466	0.147	0.11	1.3	0.19	723	0.07	0.06	0.16			03Hi01
525.197(15)	1^+	0.02	3317	0.506	0.042	12	0.167	524	0.19					70Di06
548.68(6)	3^+	0.06	2636	0.901	0.43	2.1	0.406	2980		0.33	0.55			70Di06
615.08(10)	5^+	0.02	1855	0.503	0.018	28	0.227	226	0.30	0.24	0.32	0.48		70Di06
631.77(9)	3^+	0.03												81Fl06
684.5(4)	11^-		180	1.08	0.14	7.7	0.527	260		0.50	1.20	0.87	0.76(6) μs	70Di06
697.97(17)	$\langle 7^+ \rangle$	0.18					0.052							69Mo24
752.4(3)	$3^+, 5^+$		235	0.538	0.22			355						70Di06

(continued)

⁹⁹₄₂Mo

E^*	$2J^\pi$	ε	σ (d,t)	S_{dt}	S_{dp}	S_{dt}/S_{dp}	S_{dt}	σ (d,p)	C^2S	C^2S	C^2S	C^2S	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$					$\mu\text{b/sr}$	(p,d)	(p,d)	(p,d)	(τ, α)	Γ_{cm}	
754.00(14)	$7^{(+)}$						0.179	incl		0.07	0.10			75Bi10
792.84(12)	3^+		465	0.176	0.021	2.5	0.069	206	0.13	0.06	0.08			70Di06
867.1												0.26		75Sc14
890.32(20)	3^+		342	0.136	0.092	1.5	0.034	757		0.07	0.06	incl		70Di06
905.42(15)	1^+	0.07	844	0.166	0.021	7.9	0.064	276	0.06					70Di06
905.6(2)	9^+	incl						66						
924(12)	$3^+, 5^+$				0.008									70Di06
944.69(10)	5^+		1001	0.313	0.054		0.164	545	0.16	0.15	0.22			70Di06
1025.64(10)	$\langle 3^+, 5^+ \rangle$													
1030(3)	3^-				0.048		0.020	401						70Di06
1048.5	7^+						0.036			0.26				75Bi10
1142.8	7													
1148(3)	$5^-, 7^-$						0.019							69Mo24
1165.4	15^-													
1167.44(21)	5^+	0.16					0.035		0.15	0.10	0.08			03Hi01
1196.0														
1197.76(22)	3^+						0.033							69Mo24
1254.2(5)	5^+						0.019	120						69Mo24
1261	1^+				0.008				0.01					70Di06
1273.8														
1280.4(5)														
1283.0(4)														
1313.4	11^+													
1342.5	$\langle 7^+ \rangle$								0.25	0.10				03Hi01
1352.6(6)	$\langle 7^+ \rangle$													
1354.2(3)														
1367.8														
1382.6(4)	$3^+, 5^+$													
1400.5	$\langle 5, 7 \rangle$													
1404.8	$\langle 17 \rangle$													
1442.0(4)	$\langle 3, 5 \rangle^+$	0.06						51						81Fl06
1449.8														
1455.3(21)	$1-5^+$													
1464.5	$\langle 9^+ \rangle$	0.08												81Fl06
1466.5(12)	$1, 3, 5^+$	incl												
1472.3	$\langle 11^+ \rangle$													
1493.50(24)	5^+						0.032		0.08	0.10	0.10	0.26		03Hi01
1533.1(21)	$3^+, 5^+$	0.03						181						81Fl06
1536.7	$\langle 7^+ \rangle$	incl						incl						
1545(3)	5^+						0.043		0.20	0.13	0.15			03Hi01
1560.57(22)	$1, 3, 5^+$													
1571.1(4)	$1, 3, 5^+$	0.007												81Fl06
1580(3)	3^+						0.021							69Mo24
1618(10)	$\langle 3^-, 7^- \rangle$													
1634.8(21)	$3^+, 5^+$	0.03										0.38		81Fl06

(continued)

⁹⁹₄₂Mo

E^*	$2J^\pi$	ε	σ (d,t)	S_{dt}	S_{dp}	S_{dt}/S_{dp}	S_{dt}	σ (d,p)	C^2S	C^2S	C^2S	C^2S	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$					$\mu\text{b/sr}$	(p,d)	(p,d)	(p,d)	(τ, α)	Γ_{cm}	
1637(12)	9 ⁻ , 11 ⁻									0.07				75Bi10
1661.1(25)														
1675.7	$\langle 9^+ \rangle$													
1680.0	$\langle 13^+ \rangle$													
1682.2(4)	$\langle 3^+, 5^+ \rangle$													
1710.2(19)	3 ⁺ , 5 ⁺								0.08	0.05	0.05			03Hi01
1722	1 ⁻ , 3 ⁻													
1741.5(21)														
1755	3 ⁺ , 5 ⁺													
1778	5 ⁻ , 7 ⁻											0.40		75Sc14
1799(7)	7 ⁺ , 9 ⁺									0.17	0.10			75Bi10
1828(10)	X ⁺	0.05												81Fl06
1845														
1858.0	19 ⁻													
1865(10)														
1884.9	$\langle 15^- \rangle$													
1893.39(16)	$\langle 1^-, 3^- \rangle$						0.043		0.06	0.12	0.11			03Hi01
1909(10)	1 ⁻ , 3 ⁻									0.27				75Bi10
1931.6(12)	1 ⁺	0.04			0.018		0.05							81Fl06
1934(12)	7 ⁺ , 9 ⁺	incl								0.19				75Bi10
1949.5(21)	1 ⁺													
1965	1 ⁺													
2000(15)														
2024(15)	3 ⁻ –7 ⁻	0.04												81Fl06
2055.5(21)	3 ⁻ , 5 ⁻	0.08							0.03					03Hi01
2078	9 ⁻ , 11 ⁻											0.69		75Sc14
2103(20)	7 ⁺ , 9 ⁺													
2134.47(18)	1 ⁻ , 3 ⁻								0.07					03Hi01
2160(3)	7 ⁺ , 9 ⁺						0.645		1.65	1.02	1.00			03Hi01
2179.5(25)									0.24	0.28	0.26			03Hi01
2218.5(25)	5 ⁻						0.049							69Mo24
2220.9	$\langle 17^- \rangle$													
2232.2	$\langle 15 \rangle$													
2299.5(25)														
2318.5(21)														
2340.24(24)	1, 3								0.23	0.06	1.00			03Hi01
2410.0	$\langle 17^+ \rangle$													
2436(10)	1 ⁻ , 3 ⁻								0.30	0.24	0.20			03Hi01
2441.6	$\langle 13 \rangle$													
2482(3)	1 ⁺													
2517(3)	7 ⁺ , 9 ⁺													
2531(12)	1 ⁻ , 3 ⁻													
2594.5(12)	1 ⁻ , 3 ⁻								0.18	0.10				03Hi01
2641.2(1)	$\langle 3 \rangle^-$								0.07	0.09				03Hi01
2686.9(2)	$\langle 3 \rangle^-$													

(continued)

⁹⁹₄₂Mo

E^*	$2J^\pi$	ε	σ (d,t)	S_{dt}	S_{dp}	S_{dt}/S_{dp}	S_{dt}	σ (d,p)	C^2S	C^2S	C^2S	C^2S	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$					$\mu\text{b/sr}$	(p,d)	(p,d)	(p,d)	(τ, α)	
2729.9(3)	$\langle 3 \rangle^-$								0.07	0.13			03Hi01
2785.7(2)	$1^-, 3^-$								0.06	0.10			03Hi01
2797(15)	$3^+, 5^+$									0.04			75Bi10
2851.6(3)	$1^-, 3^-$												
2870(15)	$1^-, 3^-$												
2925(15)	$1^-, 3^-$								0.18	0.17			03Hi01
2944.1(6)	$1, 3$												
2990(15)	$\langle 1^-, 3^- \rangle$												
3066(15)	$3^+, 5^+$												
3130(15)	$\langle 7^+, 9^+ \rangle$												
3214(20)	$7^+, 9^+$												
3260(20)													
3305(20)	$\langle 1^-, 3^- \rangle$												
3358(20)	$1^-, 3^-$												
3397(20)	$\langle 1^-, 3^- \rangle$												
3483(20)	$7^+, 9^+$												
3623(25)	$\langle 1^-, 3^- \rangle$												
3666(20)	$7^+, 9^+$												
3707(25)													
3753(20)	$1^-, 3^-$												
3817(20)	$7^+, 9^+$												
3918(25)													
4002(25)	$1^-, 3^-$												
4062(25)	$1^-, 3^-$												
4140(25)	$1^-, 3^-$												
4179(25)	$1^-, 3^-$												
4241(25)	$1^-, 3^-$												
			70Di06	70Di06	69Mo24		82Ha41		03Hi01	75Bi15	75Bi15		Ref.
		81Fl06				70Di06		69Mo24				75Sc14	Ref.

Additional data on this isotope can be found in [03Hi01, 97Lh01, 82Ha41, 78Ba18, 70Di06, 72Is03].

The enhancement factor $\varepsilon = (d\sigma/d\Omega)_{exp} / (9.7 \text{ N } (d\sigma/d\Omega)_{DWBA})$ serves as a spectroscopic factor of two-nucleon transfer reaction with the normalization factor $N=22$, see details and the interpretation of results in [81Fl06].

Experimental data $d\sigma/d\Omega$ in the first column and $S_{dt}=S_n^-$ from the (d,t) reaction [70Di06] are compared with $S_{dp}=S_n^+$; their ratio S_{dt}/S_{dp} from [70Di06] is given in the separate column.

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

Energy levels and branching ratios [94Pe15]. Part 2

⁹⁹₄₂Mo

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	0.0 1 ⁺	97.8 5 ⁺	235.5 7 ⁺	351.2 3 ⁺	525.2 1 ⁺	548.7 3 ⁺	615.1 5 ⁺	631.8 3 ⁺	684.5 11 ⁻
97.785(3)	5 ⁺		100								
235.508(8)	7 ⁺			100							
351.24(4)	3 ⁺		42.1(16)	57.9(6)							
525.197(15)	1 ⁺		58(3)	30(2)		12.0(17)					
548.68(6)	3 ⁺		20.0(9)	71(4)		9.0(13)					
615.08(10)	5 ⁺			≤51	20.8(17)	79(6)					
631.77(9)	3 ⁺		65(4)	27(3)		8(3)					
684.5(4)	11 ⁻				100						
697.97(17)	⟨7 ⁺ ⟩			81(11)	19(7)						
752.4(3)	3 ⁺ , 5 ⁺				100						
754.00(14)	7 ⁽⁺⁾			100	≤65						
792.84(12)	3 ⁺		42(16)	44(14)		14(4)					
867.1					x	x			x		
890.32(20)	3 ⁺		32.3(4)	43(5)		8.2(11)	16.4(11)				
905.42(15)	1 ⁺		57(5)			43(3)					
905.6(2)	9 ⁺			80(6)	9.5(10)						
944.69(10)	5 ⁺		17.9(11)	38(2)		13.7(10)		31(9)			
1025.64(10)	⟨3 ⁺ , 5 ⁺ ⟩		15.4(9)	35(2)		28(1)	11(1)			5.3(7)	
1048.5	7 ⁺				23(4)	51(4)		x	26(3)		
1142.8	7				100						
1165.4	15 ⁻										100
1167.44(21)	5 ⁺			80(6)						20(11)	
1197.76(22)	3 ⁺		9(7)	51.3(5)			40(9)				
1254.2(5)	5 ⁺					100					
1273.8									100		
1280.4(5)					100						
1283.0(4)					36(14)				64(7)		
1313.4	11 ⁺				87(6)						
1342.5	⟨7 ⁺ ⟩				100						
1382.6(4)	3 ⁺ , 5 ⁺				32(8)				68(8)		
1400.5	⟨5, 7⟩				100						
1442.0(4)	⟨3, 5⟩ ⁺					100					
1449.8									x		
1464.5	⟨9 ⁺ ⟩			x	53(4)						
1493.50(24)	5 ⁺			10(3)	90(9)						
1571.1(4)	1, 3, 5 ⁺					100					
1637(12)	9 ⁻ , 11 ⁻				100						
1682.2(4)	⟨3 ⁺ , 5 ⁺ ⟩				100						
1893.39(16)	⟨1 ⁻ , 3 ⁻ ⟩		14(2)			23(2)	11(1)	3(2)			
2134.47(18)	1 ⁻ , 3 ⁻		56(4)			11(2)					
2340.24(24)	1, 3		37(9)							15(5)	
2641.2(1)	⟨3⟩ ⁻		47(3)	10.1(8)		1.6(5)		2.6(2)	3.4(3)	6.6(5)	
2686.9(2)	⟨3⟩ ⁻		46(4)	8(3)		11(2)				12(1)	
2729.9(3)	⟨3⟩ ⁻		52(8)	9(3)		13(3)				26(2)	
2785.7(2)	1 ⁻ , 3 ⁻		27(4)			4(1)		36(4)			

(continued)

⁹⁹₄₂Mo

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	0.0 1 ⁺	97.8 5 ⁺	235.5 7 ⁺	351.2 3 ⁺	525.2 1 ⁺	548.7 3 ⁺	615.1 5 ⁺	631.8 3 ⁺	684.5 11 ⁻
2851.6(3)	1 ⁻ , 3 ⁻		89(5)	1.3(5)		1.3(5)	6.3(8)	2.1(10)			
2944.1(6)	1, 3					76(16)					

Energy levels and branching ratios [94Pe15]. Part 3

⁹⁹₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage								
[keV]		$E_f^*:$ $2J_f^\pi:$	698.0 $\langle 7^+ \rangle$	752.4 $3^+, 5^+$	754.0 $7^{(+)}$	792.8 3^+	890.3 3^+	905.4 1^+	905.6 9^+	944.7 5^+
905.6(2)	9^+		10.4(10)							
1025.64(10)	$\langle 3^+, 5^+ \rangle$				5.4(4)					
1196.0			100							
1313.4	11^+								13.1(20)	
1352.6(6)	$\langle 7 \rangle^+$		100							
1354.2(3)					100					
1367.8					100					
1464.5	$\langle 9^+ \rangle$		47(5)							
1472.3	$\langle 11^+ \rangle$		x						x	
1536.7	$\langle 7^+ \rangle$				100					
1675.7	$\langle 9^+ \rangle$				100					
1680.0	$\langle 13^+ \rangle$								100	
1893.39(16)	$\langle 1^-, 3^- \rangle$			4(2)			12(2)	14(2)		19(1)
2134.47(18)	$1^-, 3^-$			6.2(10)					9.9(10)	
2641.2(1)	$\langle 3 \rangle^-$					1.7(2)		7.2(7)		10.1(9)
2686.9(2)	$\langle 3 \rangle^-$					7(2)				
2785.7(2)	$1^-, 3^-$					33(3)				

Energy levels and branching ratios [94Pe15]. Part 4

⁹⁹₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage							
[keV]		$E_f^*:$ $2J_f^\pi:$	1025.6 $\langle 3^+, 5^+ \rangle$	1165.4 15^-	1167.4 5^+	1283.0	1354.2	1560.6 $1, 3, 5^+$	1680.0 $\langle 13^+ \rangle$
1404.8	$\langle 17 \rangle$			100					
1560.57(22)	$1, 3, 5^+$		100						
1858.0	19^-			100					
1884.9	$\langle 15^- \rangle$			100					
2134.47(18)	$1^-, 3^-$		10.9(7)				6.2(17)		
2220.9	$\langle 17^- \rangle$			100					
2232.2	$\langle 15 \rangle$			100					
2340.24(24)	$1, 3$		48(4)						

(continued)

⁹⁹Mo
₄₂

E^* [keV]	$2J^\pi$	Branching ratios in percentage							
		$E_f^*:$ $2J_f^\pi:$	1025.6 $\langle 3^+, 5^+ \rangle$	1165.4 15^-	1167.4 5^+	1283.0	1354.2	1560.6 $1, 3, 5^+$	1680.0 $\langle 13^+ \rangle$
2410.0	$\langle 17^+ \rangle$								100
2441.6	$\langle 13 \rangle$								100
2641.2(1)	$\langle 3 \rangle^-$				5.9(4)			3.6(2)	
2686.9(2)	$\langle 3 \rangle^-$							15(1)	
2944.1(6)	1,3					24(13)			

Energy levels and branching ratios [97Si09].

¹⁰⁰Mo
₄₂

E^* [keV]	J^π	L (t,p)	S_N (t,p)	σ (t,p) $\mu\text{b/sr}$	σ (t,p) $\mu\text{b/sr}$	L	S_α (d, ⁶ Li)	Ref.	Branching ratios in percentage					
									$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	535 2 ⁺	695 0 ⁺	1064 2 ⁺	1136 4 ⁺
0.0	0 ⁺	0	1.41	639	440	0	0.093	81Fl06						
535.57(3)	2 ⁺	2	0.22	71	53.5	2	0.029	81Fl06	100					
695.12(3)	0 ⁺	0	0.20	117	80	0	0.017	81Fl06	x	100				
1063.79(3)	2 ⁺	2	0.03	13				81Fl06	27(1)	72(1)	1.2(1)			
1136.11(5)	4 ⁺	4	0.02	7				81Fl06		100				
1463.91(3)	2 ⁺	2	0.05	12				81Fl06		40(1)	55(1)	3.2(6)	1.9(8)	
1504.64(5)	0 ⁺	0	0.01	5				81Fl06		72(6)		28(2)		
1607.37(4)	3 ⁺							01Su11		39(1)		52(4)	9(1)	
1766.5(1)	$\langle 2^+ \rangle$										x	100		
1771.46(4)	4 ⁺							01Su11				65(1)	35(2)	
1846.9(4)	6 ⁺							01Su11					100	
1908.30(5)	3 ⁻	3		86	53			81Fl06	3.1(7)	31(3)		66		
1977.34(6)	$\langle 1, 2^+ \rangle$										33(2)	17(5)	26(1)	
2037.49(10)	0 ⁺	0	0.09	42				81Fl06			94(7)			
2042.77(7)	$\langle 2 \rangle^+$								23(3)	10(2)		24(2)		
2082(10)														
2086.31(15)	0 ⁺	$\langle 0, 1 \rangle$	0.03	43				81Fl06		10(1)		69(8)		
2103.17(11)	4 ⁺	$\langle 4 \rangle$	0.08					81Fl06		35(2)			50(2)	
2156(2)*	1 ⁻													
2189.54(15)	$\langle \leq 4 \rangle$	0		9				81Fl06		80(6)		20(4)		
2201.09(8)	$\langle 2^- \rangle$									46(4)		54(4)		
2286.46(17)	2 ⁺	2	0.06	24				81Fl06		76(5)				
2288.8	$\langle 4, 5 \rangle$							01Su11						
2309.7	4 ⁺							01Su11						
2320.3(3)	$\langle \leq 4 \rangle$	0		17				81Fl06				69(6)		
2339(2)*	$\langle 5^- \rangle$													
2369.66(10)	3 ⁻	3	0.04	19				81Fl06		36(6)		64(8)		
2396(2)	$\langle 1^- \rangle$		0.14	22				81Fl06		100				
2416.68(20)	4 ⁺			51				01Su11						84(6)
2432(2)*	1 ⁻													
2464(20)	4 ⁺													

(continued)

 $^{100}_{42}\text{Mo}$

E^*	J^π	L	S_N	σ (t,p)	σ (t,p)	L	S_α	Ref.	Branching ratios in percentage					
[keV]		(t,p)	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(d, ^6Li)		E_f^* :	0.0	535	695	1064	1136
									J_f^π :	0 ⁺	2 ⁺	0 ⁺	2 ⁺	4 ⁺
2514(5)	$\langle 4^+ \rangle$	2		85				81Fl06						
2527(5)	$\langle 2^+ \rangle$													
2564.25(16)	$\langle 4^+ \rangle$					4	0.012	84Va14					21(7)	43(7)
2580.9(2)	$\langle 1, 2^+ \rangle$											44(7)	56(11)	
2607(5)*	$4^+, 5^-$			23										
2626.5(11)	$\langle 8^+ \rangle$													
2628(5)	$\langle 2^+ \rangle$													
2652.5	$\langle 4, 5 \rangle^+$			47				01Su11						
2659(5)*	$\langle 1^- \rangle$			incl										
2662.6(3)		2	0.13	incl				81Fl06					100	
2725(5)														
2738.0(2)	$\langle 2^+ \rangle$	2	0.11	38				81Fl06			65(7)		35(7)	
2747(5)	$\langle 4^+ \rangle$					[4]	0.048	84Va14						
2807(5)	$\langle 4^+ \rangle$	4	0.10	28				81Fl06						
2822.22(12)	$\langle 2^+ \rangle$													
2838(5)	[4]	$\langle 4 \rangle$	0.08			[6]	0.051	81Fl06						
2858(5)	$\langle 3^- \rangle$													
2901(5)	$\langle 4^+ \rangle$													
2924(5)	$\langle 4^+ \rangle$	$\langle 4 \rangle$	0.14					81Fl06						
2935(1)	$\langle 4^+ \rangle$												100	
2961.2(3)	$\langle 2^+ \rangle$												100	
2970.3(4)	$\langle 4^+ \rangle$										74(6)		21(7)	
2984(5)	$\langle 6^+ \rangle$													
2996.3(2)														
3004(1)														
3021(5)	$\langle 4^+ \rangle$													
3039(1)	$\langle 4^+ \rangle$	4,5						81Fl06						
3041(5)*	$\langle 5^- \rangle$													
3042.2(6)													100	
3053.7(2)	$\langle \leq 4 \rangle$												100	
3062.6(3)	$\langle \leq 4 \rangle$										62(9)			
3068(5)*	$\langle 5^- \rangle$													
3070.2(4)	$\langle \leq 3 \rangle$										100			
3085(5)	$\langle 4^+ \rangle$	2	0.08					81Fl06						
3112(5)	$\langle 3^- \rangle$													
3129.6(4)	$\langle \leq 4 \rangle$													
3140(5)	$\langle 1^- \rangle$													
3154(5)	$\langle 3^- \rangle$													
3172(5)	$\langle 3^- \rangle$													
3190(5)	$\langle 4^+ \rangle$													
3217(5)*	$\langle 1^- \rangle$													
3237(5)	$\langle 3^- \rangle$													
3265(5)	$\langle 3^- \rangle$													
3282(5)	$\langle 3^- \rangle$													
3294(5)	$\langle 2^+ \rangle$													

(continued)

¹⁰⁰₄₂Mo

E^*	J^π	L	S_N	σ (t,p)	σ (t,p)	L	S_α	Ref.	Branching ratios in percentage					
[keV]		(t,p)	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(d, ^6Li)		E_f^* : J_f^π :	0.0 0 $^+$	535 2 $^+$	695 0 $^+$	1064 2 $^+$	1136 4 $^+$
3311(5)														
3324(5)														
3354(15)	$\langle 2^+ \rangle$	2	0.08					97Si09						
3365.9(15)	$\langle 10^+ \rangle$													
3376(5)	$\langle 3^- \rangle$													
3406(5)	$\langle 4^+ \rangle$													
3437(5)*	$\langle 5^- \rangle$													
3448(5)	$\langle 0^+ \rangle$													
3468(5)	$\langle 2^+ \rangle$													
3479(5)	$\langle 2^+ \rangle$													
3529(5)	$\langle 3^- \rangle$													
3537(5)	$\langle 2^+ \rangle$													
3557(5)	$\langle 3^- \rangle$													
3557(15)	$\langle 2^+ \rangle$	2	0.04					97Si09						
3586(5)														
3595(5)	$\langle 3^- \rangle$													
3606(5)	$\langle 4^+ \rangle$													
3626.0								01Su11						
3646.8								01Su11						
3652(5)*	$\langle 5^- \rangle$													
3682(5)	$\langle 5^- \rangle$													
3718(5)	$\langle 4^+ \rangle$													
3726(5)	$\langle 3^- \rangle$													
3743(5)	$\langle 4^+ \rangle$													
3747(5)*	$\langle 5^- \rangle$													
3773(5)	$\langle 3^- \rangle$													
3797(5)	$\langle 4^+ \rangle$													
3810(5)	$\langle 4^+ \rangle$													
3823(5)	$\langle 5^- \rangle$													
3894(5)														
3915(5)														
3925(5)	$\langle 2^+ \rangle$													
3947(5)														
4026(5)	$\langle 3^- \rangle$													
4043(5)	$\langle 4^+ \rangle$													
4062.3(18)	$\langle 12^+ \rangle$													
4158(5)	$\langle 3^- \rangle$													
4205(5)	$\langle 2^+ \rangle$													
4243(5)														
4260(5)	$\langle 3^- \rangle$													
5187(2)	1									54(8)	46(7)			
6419(2)	1 $^-$							73Mo30		69(10)	0.8(4)	0.6(3)	8(2)	
6518(2)	1 $^-$							73Mo30		46(7)	15(2)	5(1)	4(1)	
7638(1)	1 $^-$							73Mo30		42(6)	42(6)		6(1)	

(continued)

¹⁰⁰₄₂Mo

E^*	J^π	L	S_N	σ (t,p)	σ (t,p)	L	S_α	Ref.	Branching ratios in percentage					
[keV]		(t,p)	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$		(d, ⁶ Li)		E_f^* :	0.0	535	695	1064	1136
									J_f^π :	0 ⁺	2 ⁺	0 ⁺	2 ⁺	4 ⁺
			81Fl06 97Si09	88Ch29	73Ta06		84Va14	Ref. Ref.						

Additional data on this isotope can be found in [05Ru14, 01Su11, 97Re08, 97Ko62, 92Pi08, 90Pi14, 88Ry02, 87Fr07, 84Pi01, 83Va11, 73Mo30, 73Ta06, 66Ki04].

Abundance: 9.63(23) %.

* Properties of these 1⁻, 5⁻ levels were discussed in [90Pi14].

The enhancement factor $\varepsilon=(d\sigma/d\Omega)_{exp}/(9.7 \text{ N } (d\sigma/d\Omega)_{DWBA})$ serves as a spectroscopic factor of two-nucleon transfer reaction with the normalization factor N=22, see details and the interpretation of results in [81Fl06].

Parameters of the (p,p'), (d,d') and (α , α') reactions can be found in [97Si09].

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

Energy levels and branching ratios [97Si09]. Part 2

¹⁰⁰₄₂Mo

E^*	J^π	Γ_\circ	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		[meV]	Γ_cm		E^*_f : J^π_f :	1464 2 ⁺	1607 ⟨3 ⁺ ⟩	1847 ⟨6 ⁺ ⟩	1977.34 ⟨1,2 ⁺ ⟩	2037.49 0 ⁺	2042.77 ⟨2⟩ ⁺	2103.17 4 ⁺
0.0	0 ⁺		1.00(10)·10 ¹⁹ yr	81Fl06								
535.57(3)	2 ⁺		12.6(2) ps	81Fl06								
695.12(3)	0 ⁺		1.62(4) ns	81Fl06								
1063.79(3)	2 ⁺		6.6(5) ps	81Fl06								
1136.11(5)	4 ⁺		3.8(2) ps	81Fl06								
1463.91(3)	2 ⁺		2.9(7) ps	81Fl06								
1504.64(5)	0 ⁺			81Fl06								
1607.37(4)	3 ⁺			01Su11								
1766.5(1)	⟨2 ⁺ ⟩											
1771.46(4)	4 ⁺		2.5(4) ps	01Su11								
1846.9(4)	6 ⁺		1.20(17) ps	01Su11								
1908.30(5)	3 [−]		14(3) ps	81Fl06								
1977.34(6)	⟨1,2 ⁺ ⟩					24(6)						
2037.49(10)	0 ⁺			81Fl06		6.2(8)						
2042.77(7)	⟨2⟩ ⁺					34(3)	8(2)					
2082(10)												
2086.31(15)	0 ⁺			81Fl06		21(4)						
2103.17(11)	4 ⁺			81Fl06		15(2)						
2156(2)*	1 [−]											
2189.54(15)	⟨≤4⟩			81Fl06								
2201.09(8)	⟨2 [−] ⟩											
2286.46(17)	2 ⁺			81Fl06		24(3)						
2288.8	⟨4,5⟩			01Su11								
2309.7	4 ⁺			01Su11								
2320.3(3)	⟨≤4⟩			81Fl06		31(12)						

(continued)

 $^{100}_{42}\text{Mo}$

E^* [keV]	J^π	Γ_o [meV]	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					E_f^* : J_f^π :	1464 2 ⁺	1607 3 ⁺	1847 6 ⁺	1977.34 1,2 ⁺	2037.49 0 ⁺	2042.77 2 ⁺	2103.17 4 ⁺
2339(2)*	5 ⁻											
2369.66(10)	3 ⁻			81Fl06								
2396(2)	1 ⁻			81Fl06								
2416.68(20)	4 ⁺			01Su11		16(11)						
2432(2)*	1 ⁻											
2464(20)	4 ⁺											
2514(5)	4 ⁺			81Fl06								
2527(5)	2 ⁺											
2564.25(16)	4 ⁺			84Va14								36(7)
2580.9(2)	1,2 ⁺											
2607(5)*	4 ⁺ , 5 ⁻											
2626.5(11)	8 ⁺		0.58(9) ps				100					
2628(5)	2 ⁺											
2652.5	4,5 ⁺			01Su11								
2659(5)*	1 ⁻											
2662.6(3)				81Fl06								
2725(5)												
2738.0(2)	2 ⁺			81Fl06								
2747(5)	4 ⁺			84Va14								
2807(5)	4 ⁺			81Fl06								
2822.22(12)	2 ⁺					100						
2838(5)	4			81Fl06								
2858(5)	3 ⁻											
2901(5)	4 ⁺											
2924(5)	4 ⁺			81Fl06								
2935(1)	4 ⁺											
2961.2(3)	2 ⁺											
2970.3(4)	4 ⁺						5(4)					
2984(5)	6 ⁺											
2996.3(2)						100						
3004(1)							100					
3021(5)	4 ⁺											
3039(1)	4 ⁺			81Fl06			100					
3041(5)*	5 ⁻											
3042.2(6)												
3053.7(2)	≤4											
3062.6(3)	≤4					38(9)						
3068(5)*	5 ⁻											
3070.2(4)	≤3											
3085(5)	4 ⁺			81Fl06								
3112(5)	3 ⁻											
3129.6(4)	≤4					100						
3140(5)	1 ⁻											
3154(5)	3 ⁻											
3172(5)	3 ⁻											

(continued)

 $^{100}_{42}\text{Mo}$

E^*	J^π	Γ_\circ	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		[meV]	Γ_cm		E_f^* :	1464	1607	1847	1977.34	2037.49	2042.77	2103.17
					J_f^π :	2^+	$\langle 3^+ \rangle$	$\langle 6^+ \rangle$	$\langle 1,2^+ \rangle$	0^+	$\langle 2 \rangle^+$	4^+
3190(5)	$\langle 4^+ \rangle$											
3217(5)*	$\langle 1^- \rangle$											
3237(5)	$\langle 3^- \rangle$											
3265(5)	$\langle 3^- \rangle$											
3282(5)	$\langle 3^- \rangle$											
3294(5)	$\langle 2^+ \rangle$											
3311(5)												
3324(5)												
3354(15)	$\langle 2^+ \rangle$			97Si09								
3365.9(15)	$\langle 10^+ \rangle$											
3376(5)	$\langle 3^- \rangle$											
3406(5)	$\langle 4^+ \rangle$											
3437(5)*	$\langle 5^- \rangle$											
3448(5)	$\langle 0^+ \rangle$											
3468(5)	$\langle 2^+ \rangle$											
3479(5)	$\langle 2^+ \rangle$											
3529(5)	$\langle 3^- \rangle$											
3537(5)	$\langle 2^+ \rangle$											
3557(5)	$\langle 3^- \rangle$											
3557(15)	$\langle 2^+ \rangle$			97Si09								
3586(5)												
3595(5)	$\langle 3^- \rangle$											
3606(5)	$\langle 4^+ \rangle$											
3626.0				01Su11								
3646.8				01Su11								
3652(5)*	$\langle 5^- \rangle$											
3682(5)	$\langle 5^- \rangle$											
3718(5)	$\langle 4^+ \rangle$											
3726(5)	$\langle 3^- \rangle$											
3743(5)	$\langle 4^+ \rangle$											
3747(5)*	$\langle 5^- \rangle$											
3773(5)	$\langle 3^- \rangle$											
3797(5)	$\langle 4^+ \rangle$											
3810(5)	$\langle 4^+ \rangle$											
3823(5)	$\langle 5^- \rangle$											
3894(5)												
3915(5)												
3925(5)	$\langle 2^+ \rangle$											
3947(5)												
4026(5)	$\langle 3^- \rangle$											
4043(5)	$\langle 4^+ \rangle$											
4062.3(18)	$\langle 12^+ \rangle$											
4158(5)	$\langle 3^- \rangle$											
4205(5)	$\langle 2^+ \rangle$											
4243(5)												

(continued)

 $^{100}_{42}\text{Mo}$

E^*	J^π	Γ_\circ	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		[meV]	Γ_{cm}		E^*_f : J^π_f :	1464 2 ⁺	1607 3 ⁺	1847 6 ⁺	1977.34 1,2 ⁺	2037.49 0 ⁺	2042.77 2 ⁺	2103.17 4 ⁺
<hr/>												
4260(5)	3 [−]											
5187(2)	1											
6419(2)	1 [−]	25(8)	50(35) meV	73Mo30					4(1)	13(3)		
6518(2)	1 [−]	72(68)	0.18(10) eV	73Mo30		13(2)					11(2)	
7638(1)	1 [−]	40(5)	0.14(4) eV	73Mo30		2				2	2	
		73Mo30		Ref.								
				Ref.								

Energy levels and branching ratios [97Si09]. Part 3

 $^{100}_{42}\text{Mo}$

E^*	J^π	Branching ratios in percentage					
[keV]		E_f^* : J_f^π :	2626.5 8 ⁺	2628 2 ⁺	3068 5 ⁻	3070.2 ≤3	3365.9 10 ⁺
3365.9(15)	10 ⁺		100				
4062.3(18)	12 ⁺						100
6419(2)	1 ⁻			5(1)			
6518(2)	1 ⁻					8(1)	
7638(1)	1 ⁻			2(1)	2		

Energy levels and branching ratios [98Bl03].

 $^{101}_{42}\text{Mo}$

E^*	$2J^\pi$	L	S'	L	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)		(t,d)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 1 ⁺	13.5 3 ⁺	57.0 5 ⁺	171 5 ⁺	238 3 ⁺ ,5 ⁺
0.0	1 ⁺	0	0.42	0	0.33(6)	14.61(3) m	90Ha43						
13.497(9)	3 ⁺	2		3*	0.017(6)	226(7) ns	90Ha43	100					
57.02(1)	5 ⁺	2	0.25	2	0.120(1)	133(70) ns	90Ha43	5.3(8)	95(7)				
170.96(1)	5 ⁺	2					90Ha43		94(1)	6.1(4)			
237.73(2)	3 ⁺ ,5 ⁺	2					90Ha43	1.1(7)	3.3(8)	96(2)			
240.5(10)	7 ⁺	4		4			90Ha43			100			
271(1)	9 ⁻ ,11 ⁻	5		5	0.17(2)		90Ha43						
289.53(2)	3 ⁺	2	0.12	2	0.070(7)		90Ha43	9.5(18)	80(2)	3(1)	7.5(4)		
293.79(3)	1 ⁺ ,3,5 ⁺							29(7)	53(1)	18(2)	0.6(3)		
294.59(2)	1 ⁺	0					90Ha43	24(2)	25(1)	51(1)	0.2(1)		
315(3)	7,9 ⁺	3,4					90Ha43					100	
318.86(2)	5 ⁺								63(6)		3.5(8)	34(1)	
351.59(2)	3 ⁺	2		2	0.20(2)		90Ha43	32(2)	2.3(5)	62(5)	3.3(8)		
449(1)	1 ⁺			0	0.024(6)								
454.55(4)	5 ⁺	2					90Ha43	10(5)	61(6)	5(3)	13(6)	7(2)	

(continued)

¹⁰¹₄₂Mo

E^*	$2J^\pi$	L	S'	L	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)		(t,d)	Γ_{cm}		$\frac{E_f^*}{2J_f^\pi}$:	0.0 1 ⁺	13.5 3 ⁺	57.0 5 ⁺	171 5 ⁺	238 3 ⁺ ,5 ⁺
479.78(4)	3 ⁺	2	0.11	2	0.096(6)		90Ha43		34(12)	53(4)	2(2)		
540.05(4)	1 ⁺	0		0	0.033(1)		90Ha43		35(7)	61(4)			
563.5(10)	9 ⁻ ,11 ⁻	5					90Ha43						
567.55(3)	5 ⁺	2		2	0.036(1)		90Ha43		45(5)	12(8)			19(1)
568.85(6)	1 ⁺	0					90Ha43			58(4)		14(9)	6(1)
583.39(12)	7 ⁺ ,9 ⁺	4		4	0.061(1)		90Ha43					100	
586.47(12)	1,3,5 ⁺								74(7)				
626.36(5)	7,9 ⁺												100
709.98(3)	⟨1 ⁺ ⟩	0					90Ha43					25(6)	
797.16(8)	1 ⁺ ,3,5									31(7)	11(8)	18(7)	11(4)
810.60(6)	⟨1 ⁻ ,3 ⁻ ⟩	⟨1⟩					90Ha43		37(2)		9(6)	27(10)	
823.09(5)	1 ⁺ -5 ⁺								72(18)			11(2)	
830.43(7)	7 ⁺ ,9 ⁺	4		4	0.060(7)		90Ha43						
854.07(8)	1 ⁺ -5 ⁺								18(3)	12(3)	21(2)	16(1)	
867.78(8)	3 ⁺ ,5 ⁺	2		2	0.026(4)		90Ha43					83(17)	9(5)
902.84(3)	1 ⁺ -5 ⁺	0,2					90Ha43		13(1)				8(3)
909.83(8)	3 ⁺ ,5 ⁺										44(3)		
914.19(13)	7 ⁺ ,9 ⁺	4		4	0.037(6)		90Ha43						
974.78(8)	1,3,5										48(19)		43(6)
984.17(7)	3 ⁺	2		2	0.086(1)		90Ha43			74(16)	26(13)		
1011.01(6)	⟨1 ⁺ ⟩	⟨0⟩					90Ha43			4.3(9)			
1047.05(21)	1 ⁺	0		0	0.086(4)		90Ha43						
1054.34(14)	1,3,5								68(5)				
1098.99(13)	1,3									16(6)	74(12)		
1109.23(7)	3 ⁺	2		2	0.030(4)		90Ha43				28(2)		
1116.86(12)	3,5												
1199.41(6)	1-7												
1229.84(8)	3,5								18(2)				
1281.22(11)	3,5												
1291.25(9)	3 ⁻	1		1	0.054(6)		90Ha43					20(3)	
1334(5)	5 ⁻	3		3	0.073(17)		90Ha43						
1349.71(9)													
1447.28(9)	3,5								10(2)				
1459.5(12)	9 ⁻ ,11 ⁻	5		5	0.050(6)		90Ha43						
1559.9(10)													
1620.0(10)													
1636.3(10)													
1687.1(10)													
1699.8(10)													
1847.2(10)													
1861.2(10)													
1978.6(13)													
2110.3(10)													

Additional data on this isotope can be found in [05Re11, 91Se08, 90Ha43].

* Value L disagrees with the value adopted in evaluation [98B103].

Energy levels and branching ratios [98Bl03]. Part 2

¹⁰¹₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	289 3 ⁺	294 1 ⁺ ,3,5 ⁺	295 1 ⁺	315 7,9 ⁺	318.9 ⟨5⟩ ⁺	351.6 3 ⁺	454.5 5 ⁺	479.8 3 ⁺	540.0 1 ⁺	567.5 5 ⁺
351.59(2)	3 ⁺					1.0(3)						
454.55(4)	5 ⁺		4(1)									
479.78(4)	3 ⁺		3(2)	8(2)								
540.05(4)	1 ⁺							4(2)				
567.55(3)	5 ⁺		23(4)									
568.85(6)	1 ⁺			22(6)								
586.47(12)	1,3,5 ⁺				26(15)							
709.98(3)	⟨1 ⁺ ⟩		23(3)	12(6)				18(2)		11(2)		
797.16(8)	1 ⁺ ,3,5		12(3)							17(11)		
810.60(6)	⟨1 ⁻ ,3 ⁻ ⟩							23(13)	3(2)			
823.09(5)	1 ⁺ -5 ⁺									17(4)		
854.07(8)	1 ⁺ -5 ⁺			13(6)				17(7)	2(1)			
902.84(3)	1 ⁺ -5 ⁺				34(6)		39(5)					5.4(7)
909.83(8)	3 ⁺ ,5 ⁺		9(2)								31(15)	
914.19(13)	7 ⁺ ,9 ⁺		40(3)	17(4)								
1011.01(6)	⟨1 ⁺ ⟩				86(5)		10.2(7)					
1047.05(21)	1 ⁺							100				
1054.34(14)	1,3,5				21(9)							
1109.23(7)	3 ⁺				6(1)		10(3)	10(3)			24(2)	
1116.86(12)	3,5							62(17)				
1199.41(6)	1-7									83(9)		17(2)
1229.84(8)	3,5		38(4)									
1281.22(11)	3,5						32(3)					
1291.25(9)	3 ⁻						53(3)					
1349.71(9)							100					
1447.28(9)	3,5		19(2)		17(2)		4(1)			33(4)		

Energy levels and branching ratios [98Bl03]. Part 3

¹⁰¹₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*:$ $2J_f^\pi:$	568.8 1 ⁺	583.4 7 ⁺ ,9 ⁺	626.4 7,9 ⁺	710.0 ⟨1 ⁺ ⟩	810.6 ⟨1 ⁻ ,3 ⁻ ⟩	823.1	830.4 7 ⁺ ,9 ⁺	854.1	867.8 3 ⁺ ,5 ⁺	914.2 7 ⁺ ,9 ⁺
709.98(3)	⟨1 ⁺ ⟩		10(3)									
830.43(7)	7 ⁺ ,9 ⁺				100							
867.78(8)	3 ⁺ ,5 ⁺				8(2)							
909.83(8)	3 ⁺ ,5 ⁺		9(2)	7(2)								
914.19(13)	7 ⁺ ,9 ⁺				43(20)							
974.78(8)	1,3,5					9(4)						
1054.34(14)	1,3,5							11(5)				
1098.99(13)	1,3										7(4)	
1109.23(7)	3 ⁺										3.5(7)	
1116.86(12)	3,5					31(12)						7(4)

(continued)

¹⁰¹₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	568.8 1 ⁺	583.4 7 ⁺ ,9 ⁺	626.4 7,9 ⁺	710.0 ⟨1 ⁺ ⟩	810.6 ⟨1 ⁻ ,3 ⁻ ⟩	823.1	830.4 7 ⁺ ,9 ⁺	854.1	867.8 3 ⁺ ,5 ⁺	914.2 7 ⁺ ,9 ⁺
1229.84(8)	3,5				15(3)			20(8)				
1281.22(11)	3,5			22(14)								15(9)
1291.25(9)	3 ⁻		17(4)							4(2)		
1447.28(9)	3,5						4.0(7)		4.3(7)			

Energy levels and branching ratios [98Bl03]. Part 4

¹⁰¹₄₂Mo

E^*	$2J^\pi$	Branching ratios in percentage								
		E_f^* :	974.8	984.2	1011.0	1047.0	1054.3	1109.2	1116.9	1281.2
[keV]		$2J_f^\pi$:	1,3,5	3 ⁺	⟨1 ⁺ ⟩	1 ⁺	1,3,5	3 ⁺	3,5	3,5
1098.99(13)	1,3		3(1)							
1109.23(7)	3 ⁺			18(1)						
1229.84(8)	3,5				9(4)					
1281.22(11)	3,5					25(6)			6(3)	
1291.25(9)	3 [−]							5.3(8)		
1447.28(9)	3,5						6(3)			2(1)

Energy levels and branching ratios [98De15].

¹⁰²₄₂Mo

E^* [keV]	J^π	L (t,p)	ε (t,p)	σ (t,p) $\mu\text{b/sr}$	σ (t,p) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								E_f^* : J_f^π :	0.0 0 ⁺	297 2 ⁺	698 0 ⁺	744 4 ⁺	848 2 ⁺
0.0	0 ⁺	0	1.28	310	337	11.3(2) m	72Ca10						
296.597(12)	2 ⁺	2	0.28	40	54.8	125(4) ps	72Ca10	100					
698.188(18)	0 ⁺	0	0.60	162	164	28(11) ps	72Ca10	x	100				
743.74(6)	4 ⁺	⟨4⟩		7.6		12.5(25) ps	72Ca10		100				
848.06(3)	2 ⁺	2	0.12	32	19		72Ca10	33(2)	67(17)				
1245.58(9)	⟨3 ⁺ ⟩		0.04	10					84(9)				16(3)
1249.75(9)	2 ⁺	2	incl	incl			72Ca10	27(9)	36(9)	18(5)	9(5)	9(5)	9(5)
1327.92(10)	6 ⁺				30						100		
1334(5)	0 ⁺	0	0.11	46	incl		72Ca10						
1398.43(8)	⟨4 ⁺ ⟩								18(5)			42(3)	39(2)
1616.89(12)									50(11)			11(6)	
1747.77(12)									27(6)			73(15)	
1869.83(13)												18(5)	59(13)
1881(5)	3 ⁻	3	0.16	25	37.7		72Ca10						
2018.82(14)	8 ⁺					1.8(3) ps							
2120(5)				5.5			72Ca10						
2239(5)	⟨4 ⁺ ⟩	⟨4⟩		8.9			72Ca10						

(continued)

 $^{102}_{42}\text{Mo}$

E^*	J^π	L	ε	σ (t,p)	σ (t,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(t,p)	(t,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* : J_{f}^π :	0.0 0 ⁺	297 2 ⁺	698 0 ⁺	744 4 ⁺	848 2 ⁺
2321(8)	2 ⁺	2		8.3			72Ca10						
2389(8)				17			72Ca10						
2418.12(25)	$\langle 10^+ \rangle$			6.0			72Ca10						
2480.98(8)	$\langle 3^+ \rangle$								8.9(12)			3.0(7)	59(7)
2504(10)				17			72Ca10						
2523(10)				23			72Ca10						
2545(10)				7.6			72Ca10						
2617(10)				10			72Ca10						
2667(10)				6.5			72Ca10						
2705(10)	2 ⁺	2	0.10	14			72Ca10						
2745(10)				≈ 7			72Ca10						
2790.2(5)	10 ⁺					1.03(18) ps							
2855(10)				10			72Ca10						
2875(10)	2 ⁺			75			72Ca10						
2972(10)				36			72Ca10						
3011(10)	2 ⁺			7.3			72Ca10						
3632.2(5)	12 ⁺					0.66(12) ps							
			81Fl06	72Ca10	73Ta06		Ref.						

Additional data on this isotope can be found in [91Ho16, 80Fl03, 73Ta06, 73Ya03].

The enhancement factor $\varepsilon = (d\sigma/d\Omega)_{\text{exp}} / (9.7 \text{ N } (d\sigma/d\Omega)_{DWBA})$ serves as a spectroscopic factor of two-nucleon transfer reaction with the normalization factor N=22, see details and the interpretation of results in [81Fl06].

Energy levels and branching ratios [98De15]. Part 2

 $^{102}_{42}\text{Mo}$

E^*	J^π	Branching ratios in percentage								
[keV]		E_f^* : J_f^π :	1246 $\langle 3^+ \rangle$	1250 2 ⁺	1328 6 ⁺	1398.43 $\langle 4^+ \rangle$	1616.89	1747.77	2018.82 8 ⁺	2790.2 10 ⁺
1616.89(12)				39(11)						
1869.83(13)			23(5)							
2018.82(14)	8 ⁺				100					
2418.12(25)	$\langle 10^+ \rangle$								100	
2480.98(8)	$\langle 3^+ \rangle$		20(3)	2.1(4)		2.5(4)	2.5(4)	2.1(4)		
2790.2(5)	10 ⁺								100	
3632.2(5)	12 ⁺									x