

Energy levels and branching ratios [93Bh02].

⁷¹₃₃As

E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ, d)	$\mu b/sr$	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5 ⁻	143.5 $\langle 1 \rangle^-$	147.4 $\langle 3 \rangle^-$	506 3 ⁻	829 3 ⁻
0.0	5 ⁻	3	6.23	1200	65.3(2) h	74Be54						
143.49(7)	$\langle 1 \rangle^-$	1	2.20	6700	59(10) ns	74Be54		100				
147.41(4)	$\langle 3 \rangle^-$	1	incl	incl	0.85(25) ns	74Be54		100				
506.16(8)	3 ⁻	1	0.18	600		74Be54			21(11)	79(4)		
828.62(13)	3 ⁻	1	0.07	260		74Be54		x	8.5(6)	91(13)	x	
870.30(7)	$\langle 5 \rangle^-$	3	0.86	210		74Be54		70.5(5)	1.3(5)	28(1)	x	
924.57(7)	$\langle 7 \rangle$				2.1(17) ps			95(3)		5.5(15)	x	
977.87(5)	$\langle 3, 5 \rangle^-$							10.7(2)	3.4(9)	86(1)		
990.55(7)	$\langle 3, 5^- \rangle$							8.2(8)	24(2)	45(2)	22(4)	
1000.21(20)	9 ⁺	4	4.71	620	19.8(3) ns	74Be54		100				
1007(3)	1 ⁻ , 3 ⁻	1	0.16	580		74Be54						
1129.02(21)	3 ⁺ , 5 ⁺	2	0.32	720	<2 ps	74Be54		<14		100		
1242.62(4)	$\langle 3, 5 \rangle^-$							39.1(4)	7.5(7)	53.4(7)		
1264(7)	$\langle 5^-, 7^- \rangle$	$\langle 3 \rangle$	0.46	120		74Be54						
1284.76(16)										100		
1338.87(22)					0.55(17) ns			56(7)				
1412.69(7)	3 ⁻ , 5 ⁻	1	0.23	900		74Be54			19(2)	81(10)		
1443.10(7)	$\langle 3, 5^- \rangle$							12.7(6)	4.3(9)	28.8(6)	54.2(9)	
1463.06(8)	$\langle 3, 5^- \rangle$							24(3)	17(2)	34(2)	26(2)	
1471.19(12)										100		
1490(5)											100	
1537(5)	1 ⁺	0	0.06	880		74Be54				100		
1609(5)	1 ⁻ , 3 ⁻	1	0.02	60		74Be54						
1615.67(9)	3, 5, 7									100		
1714.5(3)	$\langle 13^+ \rangle$				4.0(4) ps							
1751.69(8)	$\langle 3, 5^- \rangle$							11(1)	13(3)	63(3)		
1904.7(3)	$\langle 11^+ \rangle$				2(1) ps							
1974(5)	7 ⁺ , 9 ⁺	4	2.78	640		74Be54						
1981.54(5)	3 ⁻ -7 ⁻							19.6(7)		60(1)		
2100.08(21)												
2166(10)	3 ⁺ , 5 ⁺	2	0.06	160		74Be54						
2305(10)	3 ⁺ , 5 ⁺	2	0.07	180		74Be54						
2360(5)												
2369.93(17)	3, 5, 7											
2429.22(9)	$\langle 3, 5^- \rangle$							10(2)	6(3)	19(2)		
2441(10)				120		74Be54						
2488(5)												
2506.89(13)	3, 5, 7							25(4)		47(4)		
2526(10)				160		74Be54						
2666(8)	3 ⁺ , 5 ⁺	2	0.31	970		74Be54						
2689.4(4)	$\langle 17^+ \rangle$				0.6(2) ps							
2749.0(4)												
2790.4(4)	$\langle 15^+ \rangle$				<21 ps							
2803(10)	1 ⁺	0	0.01	150		74Be54						
2892(10)	1 ⁺	0	0.02	260		74Be54						

(continued)

⁷¹₃₃As

E^*	$2J^\pi$	L	C^2S'	σ (τ ,d)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]				$(\tau$,d)	μ b/sr	Γ_{cm}	E_{f}^* : $2J_{\text{f}}^\pi$:	0.0 5 ⁻	143.5 $\langle 1 \rangle^-$	147.4 $\langle 3 \rangle^-$	506 3 ⁻	829 3 ⁻
2947(5)					70		74Be54					
2989.5(4)						0.43(4) ns						
3119(10)					170		74Be54					
3172.62(9)	3 ⁻ -7 ⁻							10(1)		3(1)		
3260(10)					380		74Be54					
3303(10)	3 ⁺ ,5 ⁺	2	0.10		280		74Be54					
3394(10)					400		74Be54					
3506(10)	3 ⁺ ,5 ⁺	2	0.15		430		74Be54					
3626(10)	5 ⁻ ,7 ⁻	3	1.14		490		74Be54					
3788.4(4)	$\langle 21^+ \rangle$					<0.7 ps						
3855(10)					260		74Be54					
3925(10)	1 ⁺	0	0.02		180		74Be54					
4070												
4186						4(+3-1) ps						
6621(5)								1	23		6	5
7018(5)								3		17	6	5
8694(11)	1 ⁺					35 keV						
9602(11)	1 ⁺					63 keV						
9687(11)	5 ⁺					21 keV						
			74Be54		74Be54		Ref.					

Energy levels and branching ratios [93Bh02]. Part 2

⁷¹₃₃As

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	870 $\langle 5 \rangle^-$	925 $\langle 7 \rangle$	978 $\langle 3,5 \rangle^-$	990.5 $\langle 3,5^- \rangle$	1000.2 9 ⁺	1007 1 ⁻ ,3 ⁻	1242.6 $\langle 3,5 \rangle^-$	1412.7 3 ⁻ ,5 ⁻	1443.1 $\langle 3,5^- \rangle$	1463.1 $\langle 3,5^- \rangle$
1242.62(4)	$\langle 3,5 \rangle^-$		x									
1338.87(22)				44(5)								
1714.5(3)	$\langle 13^+ \rangle$					100						
1751.69(8)	$\langle 3,5^- \rangle$				14(2)							
1904.7(3)	$\langle 11^+ \rangle$					100						
1981.54(5)	3 ⁻ 7 ⁻				20.8(7)							
2100.08(21)					100							
2369.93(17)	3,5,7		26(6)	74(9)								
2429.22(9)	$\langle 3,5^- \rangle$		7(4)	23(2)					34(2)			
2506.89(13)	3,5,7		7(2)		21(7)							
3172.62(9)	3 ⁻ 7 ⁻								12(2)	39(2)	26(2)	
6621(5)			5	3		8		6	4	6		1
7018(5)			6	5		9		7	4	5		3

Energy levels and branching ratios [93Bh02]. Part 3

⁷¹₃₃As

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	1471.2	1490	1537 1 ⁺	1609 1 ⁻ ,3 ⁻	1714.5 ⟨13 ⁺ ⟩	1904.7 ⟨11 ⁺ ⟩	1974 7 ⁺ ,9 ⁺	2360	2488	2666 3 ⁺ ,5 ⁺
2689.4(4)	⟨17 ⁺ ⟩						100					
2749.0(4)								100				
2790.4(4)	⟨15 ⁺ ⟩						100					
3172.62(9)	3 ⁻ -7 ⁻		10(2)									
6621(5)				7	3	6			2	4	1	4
7018(5)				5	1	6			3	4	1	4

Energy levels and branching ratios [93Bh02]. Part 4

⁷¹₃₃As

E^* [keV]	$2J^\pi$	Branching ratios in percentage					
		$E_f^*:$ $2J_f^\pi:$	2689.4 ⟨17 ⁺ ⟩	2790.4 ⟨15 ⁺ ⟩	2947	3788.4 ⟨21 ⁺ ⟩	
2989.5(4)			100				
3788.4(4)	⟨21 ⁺ ⟩		100				
4070						100	
4186				100			
6621(5)					4		
7018(5)					5		

Energy levels and branching ratios [89Ki02].

⁷²₃₃As

E^* [keV]	J^π	I_d (α ,d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					$E_f^*:$ $J_f^\pi:$	0 2 ⁻	45.8 1 ⁺	213.7 3 ⁺	288.4 ⟨2 ⁺ ⟩	309.8 4 ⁻	318.4 ⟨4 ⁺ ⟩	362.83 5 ^{⟨-⟩}
0	2 ⁻	14	26.0(1) h	94Fi01								
45.82(5)	1 ⁺	incl	10.7(3) ns	94Fi01		100						
213.70(5)	3 ⁺		85(5) ns		45(1)		55(1)					
288.43(6)	⟨2 ⁺ ⟩		2(1) ns		13(4)		75(22)	13(4)				
298.20(12)	⟨5⟩							100				
309.78(6)	4 ⁻		25(8) ns		32			68				
318.36(10)	⟨4 ⁺ ⟩		27(1) ns		3.7(13)			96(5)				
356.70(20)					[100]							
362.83(8)	5 ^{⟨-⟩}		<3.7 ns							100		
379.92(11)							100					
389.90(18)	0 ⁺ ,1 ⁺ ,2 ⁺						100					
414.26(7)	⟨3 ⁺ ⟩				100							
438.75(7)					59(12)		25(9)					16.0(14)
439.99(8)	⟨3 ⁺ ⟩							77			23	
482.52(11)							100					

(continued)

⁷²₃₃As

E^* [keV]	J^π	I_d (α, d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					E_f^* : J_f^π :	0 2 ⁻	45.8 1 ⁺	213.7 3 ⁺	288.4 $\langle 2 \rangle^+$	309.8 4 ⁻	318.4 $\langle 4^+ \rangle$	362.83 5 $\langle^- \rangle$
484.3(2)						100						
501.40(7)	$\langle 2^+ \rangle$					43(5)	40(4)		17(9)			
514.12(11)	$\langle 1 \rangle^+$						100					
525.42(8)	$\langle 3^- \rangle$					59(6)				41(6)		
559.04(8)						61(4)						
563.11(14)	7 $\langle^- \rangle$	43	88(1) ns	94Fi01								100
565.36(8)	1 ⁺ , 2 ⁺					52(4)	48(6)					
586.41(8)	$\langle 3 \rangle$					100	<25					
593.63(8)	$\langle 4 \rangle^-$											[53]
624.76(9)	$\langle 1^+ - 3^+ \rangle$								50(15)			
644.68(10)						<9	100					
650.28(9)									92(4)		<10	
662.99(12)												100
673.66(8)	$\langle 2 \rangle$					41(5)	59(15)					
708.13(22)												100
729.80(10)						56(10)				44(8)		
732.40(20)						100						
743.04(12)												
745.33(13)												100
747.03(21)							x	x	100			
794.03(22)						[100]						
800.0(3)						100						
802.08(9)												
813.57(14)											100	
828.47(15)	$\langle 6^+, 7^- \rangle$											
834.51(15)	6 $\langle^- \rangle$											42(14)
837.93(12)									100			
841.47(9)										<24		
866.90(11)												74(15)
903.46(12)									<37			
966.93(21)									100			
981.26(23)	8 $\langle^+ \rangle$											
1033.77(18)												
1067.93(22)												
1115.7(2)												
1179.27(18)												
1307.1(3)												
1346.7(2)	$\langle 7^- \rangle$	140		94Fi01								
1401.9(3)	9 $\langle^+ \rangle$	incl		94Fi01								
1665.96(21)	8 $\langle^- \rangle$											
1875.2(3)	10 $\langle^+ \rangle$		0.76(14) ps									
2134.11(25)	$\langle 9^- \rangle$											
2307.7(3)	11 $\langle^+ \rangle$	67	0.23(2) ps	94Fi01								
2326.6(5)	10 $\langle^- \rangle$	incl		94Fi01								
2517.2(3)	10 $\langle^- \rangle$	82		94Fi01								

(continued)

 $^{72}_{33}\text{As}$

E^* [keV]	J^π	I_d (α, d)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					E_f^* :	0	45.8	213.7	288.4	309.8	318.4	362.83
					J_f^π :	2^-	1^+	3^+	$\langle 2 \rangle^+$	4^-	$\langle 4^+ \rangle$	$5^{\langle - \rangle}$
2925.2(5)	$\langle 11^- \rangle$											
3044.2(4)	$\langle 11^- \rangle$											
3151.4(4)	$\langle 12^+ \rangle$		0.22(7) ps									
3446.1(4)	$12^{\langle - \rangle}$											
3504.9(4)	$13^{\langle + \rangle}$		0.17(5) ps									
4777.9(11)	$\langle 15^+ \rangle$		0.22(7) ps									
6088.1(12)			0.29(10) ps									
		94Fi01		Ref.								

Additional data on this isotope can be found in [99So09, 97SoZX, 96So10, 96Pa17, 94Do11].

For (α, d) reaction approximate values of the deuteron yield I_d in units counts per channel are from [94Fi01].

Energy levels and branching ratios [89Ki02]. Part 2

 $^{72}_{33}\text{As}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* :	389.90	414.26	439.99	484.3	501.40	525.42	559.04	563.11	593.63	650.28
		J_f^π :		$\langle 3 \rangle^+$	$\langle 3 \rangle^+$		$\langle 2^+ \rangle$	$\langle 3^- \rangle$		$7^{\langle - \rangle}$	$\langle 4^- \rangle$	
559.04(8)				38.8(15)								
593.63(8)				[47]								
624.76(9)	$\langle 1^+ - 3^+ \rangle$					50(5)						
650.28(9)					8(3)							
673.66(8)	$\langle 2 \rangle$		<74									
743.04(12)											[100]	
802.08(9)				43(4)				17(2)	40(40)			
828.47(15)	$\langle 6^+, 7^- \rangle$									[100]		
834.51(15)	$6^{\langle - \rangle}$									58(7)		
841.47(9)				38(5)	62(7)							
866.90(11)				26(7)								
981.26(23)	$8^{\langle + \rangle}$									93(8)		
1067.93(22)							100					
1115.7(2)												100
1346.7(2)	$\langle 7^- \rangle$									35(7)		

Energy levels and branching ratios [89Ki02]. Part 3

⁷²₃₃As

E^*	J^π	Branching ratios in percentage										
[keV]		$E^*_\text{f}:$ $J^\pi_\text{f}:$	673.66 $\langle 2 \rangle$	828.47 $\langle 6^+, 7^- \rangle$	834.51 $6^{\langle - \rangle}$	981.26 $8^{\langle + \rangle}$	1033.77	1346.66 $\langle 7^- \rangle$	1401.9 $9^{\langle + \rangle}$	1665.96 $8^{\langle - \rangle}$	1875.2 $10^{\langle + \rangle}$	2134.11 $\langle 9^- \rangle$
903.46(12)	$8^{\langle + \rangle}$	[100]										
981.26(23)				7.3(17)								
1033.77(18)				100								
1179.27(18)				100								
1307.1(3)							100					
1346.7(2)	$\langle 7^- \rangle$				65(33)							
1401.9(3)	$9^{\langle + \rangle}$					100						
1665.96(21)	$8^{\langle - \rangle}$				81(9)			19(5)				
1875.2(3)	$10^{\langle + \rangle}$					93(16)			7(5)			
2134.11(25)	$\langle 9^- \rangle$							81(11)		19(14)		
2307.7(3)	$11^{\langle + \rangle}$								34(7)		66(7)	
2326.6(5)	$10^{\langle - \rangle}$								100			
2517.2(3)	$10^{\langle - \rangle}$									72(9)		28(7)
3044.2(4)	$\langle 11^- \rangle$											69(11)
3151.4(4)	$\langle 12^+ \rangle$										78(20)	

Energy levels and branching ratios [89Ki02]. Part 4

⁷²₃₃As

E^* [keV]	J^π	Branching ratios in percentage						
		E_f^* : J_f^π :	2307.7 11 ⁽⁺⁾	2326.6 10 ⁽⁻⁾	2517.2 10 ⁽⁻⁾	3151.4 (12 ⁺)	3504.9 13 ⁽⁺⁾	4777.9 (15 ⁺)
2925.2(5)	(11 ⁻)			100				
3044.2(4)	(11 ⁻)				31(8)			
3151.4(4)	(12 ⁺)		22(10)					
3446.1(4)	12 ⁽⁻⁾				100			
3504.9(4)	13 ⁽⁺⁾		81(15)			19(9)		
4777.9(11)	(15 ⁺)						100	
6088.1(12)								100

Energy levels and branching ratios [04Si08].

⁷³₃₃As

E^*	$2J^\pi$	L	C^2S'	σ (τ ,d)	L	C^2S	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]				(τ ,d)		(d, τ)	$rel.$	Γ_{cm}		E^*_f :	0	67.0	84.3	254
				$\mu\text{b/sr}$						$2J^\pi_\text{f}$:	3^-	5^-	$\langle 1 \rangle^-$	$\langle 1 \rangle^-$
0	3^-	1	0.92	2600	1	2.36	100	80.30(6) d	76Sc13					
67.039(8)	5^-	3	5.33	770	3	2.0		4.95(7) ns	76Sc13	100				
84.34(3)	$\langle 1 \rangle^-$	1	0.67	2220	1	0.25			76Sc13	100				
253.99(2)	$\langle 1 \rangle^-$	1	0.47	1300	1	0.40	5		76Sc13	97(1)			2.8(2)	
393.43(1)	$\langle 3 \rangle^-$	1	0.17	440	1	0.37	24		76Sc13	85.4(9)	<0.5	8.7(2)	6.0(2)	

(continued)

⁷³As
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E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	L	C^2S	σ (p, t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage			
[keV]			(τ, d)	$\mu b/sr$		(d, τ)	rel.	Γ_{cm}		E_f^* : 0	67.0	84.3	254
										$2J_f^\pi$: 3^-	5^-	$\langle 1 \rangle^-$	$\langle 1 \rangle^-$
427.91(2)	9^+	4	2.42	370	4	0.90		$5.7 \mu s$	76Sc13	0.08(2)	100		
510.06(2)	$\langle 5 \rangle^+$	2	0.33	700	2	0.18			76Sc13	82(8)	15.7(9)		
574.57(3)	$\langle 1 \rangle^-$			30	1	0.03			83Ro08			9.4(2)	58(1)
577.90(2)	$\langle 5 \rangle^-$	3	0.13	incl	3	0.2	20		74Be54	58(7)	41(12)	<0.3	0.8(4)
628(5)													
655.47(2)	3^-				1	0.11	3		83Ro08	6.37(9)	4.7(3)	13.0(4)	67(1)
674(1)													
715(10)													
769.84(1)	$\langle 5 \rangle^-$	3	0.22	50	3	0.1			76Sc13	54(1)	32.6(5)	<1	8(1)
850.51(2)	$\langle 5 \rangle^-$									95(10)			1.6(9)
860.54(1)	$\langle 7 \rangle^-$				3	0.38	22		83Ro08	60(3)	37(2)		
886.11(5)	1^+	0	0.08	820	0	0.02			76Sc13				7(2)
929.0(2)	$\langle 9 \rangle^-$										100		
993.77(1)	$\langle 7 \rangle^-$						13.5	$0.57(20) ps$	76Ve05	42	33(2)		
1013.56(5)	$\langle 1 \rangle^-$												
1037.13(3)	$\langle 13 \rangle^+$							$8.3(6) ps$					
1077.75(5)	$\langle 3 \rangle^-$	1	0.05	170	1	0.16			76Sc13	60(1)	0.8(5)	7.7(1)	11(1)
1086.99(4)	$\langle 5 \rangle^-$	3	0.18	incl				$0.28(12) ps$	76Sc13	11(1)	21.0(4)	25(1)	21(2)
1178.05(2)	$\langle 7 \rangle^-$										89		
1188.8(1)	$\langle 3 \rangle^-$									24(8)			76(2)
1216.4(5)	$1^-, 3^-$	1	0.21	680	1	0.23			76Sc13		x		
1217.95(4)	$\langle 3 \rangle^+$			incl									
1221.29(2)	$\langle 7 \rangle^-$			incl				$0.35(8) ps$			76		
1275.14(7)	$\langle 7 \rangle^+$									3.0(5)	5(1)		
1293.1(1)	$\langle 11 \rangle^+$												
1293.37(3)	$\langle 7 \rangle^+$										4(2)		
1299.35(5)	$\langle 1^-, 3 \rangle^-$										22(1)	16(2)	10(3)
1302.20(7)	$\langle 5 \rangle^-$									50(1)			
1324.20(2)	$\langle 5 \rangle^+$	1+2	0.04	150					79Ra08	41			
1328.89(5)	$\langle 7, 9 \rangle^+$							$0.09(2) ps$					
1344.51(2)	$\langle 7 \rangle^-$				3	0.14			83Ro08	3(1)	36		
1400.9(10)													
1489.5(2)	$\langle 5 \rangle^+$							$0.3(1) ps$					
1544(5)													
1557.3(1)	$\langle 3^-, 5, 7 \rangle^-$												
1588.7(2)	$5^-, 7^-$	3	0.12	130					76Sc13		31(4)		48(4)
1592.1(11)	$\langle 3 \rangle^-$	1	0.03	incl	1	0.03	1.5		76Sc13				
1612.8(2)	$5^-, 7^-$				3	1.04			83Ro08		78(3)		
1649.7(3)	$\langle 1, 3, 5 \rangle^-$							$0.3(1) ps$				100	
1658.13(14)	$\langle 7-11 \rangle^-$												
1690(5)													
1706(5)													
1715.7(20)													
1755(5)													
1761.6(1)	$\langle 13 \rangle^+$												

(continued)

 $^{73}_{33}\text{As}$

E^* [keV]	$2J^\pi$	L	C^2S' (τ, d)	σ (τ, d) $\mu\text{b/sr}$	L	C^2S (d, τ)	σ (p, t) $rel.$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage			
										E_f^* : 0	67.0	84.3	254
										$2J_f^\pi$: 3^-	5^-	$\langle 1 \rangle^-$	$\langle 1 \rangle^-$
1796.5(3)												100	
1836													
1850.6(1)	$\langle 9 \rangle^+$	4	2.48	580				0.3(1) ps	76Sc13				
1861.1(11)				incl									
1876.7(2)	$\langle 1^- 7^- \rangle$			incl				0.065(14) ps					
1903.7(3)	$\langle 1^- 9^- \rangle$							0.26(6) ps					
1910.1(1)	$\langle 9^+, 11 \rangle$												
1949.8(2)	$\langle 17^+ \rangle$												
1962.2(2)	$\langle 3, 5, 7 \rangle$							0.5(1) ps					
1973.0(1)	$\langle 1^-, 3, 5^- \rangle$										24(6)	27(6)	49(6)
1975.4(1)	$\langle 7, 9, 11^+ \rangle$												
1977.6(2)	$\langle 1^- 7^- \rangle$							0.22(6) ps					
1981(7)	$1^-, 3^-$			180	1	0.08			83Ro08				
1982.5(1)	5^-	3	0.91	incl					74Be54	41(2)		11(6)	
2032(10)	1^+	0	0.02	360					76Sc13				
2039.3(2)	$\langle 13^- \rangle$												
2039.7(2)	$\langle 15^+ \rangle$												
2096(10)													
2125(3)													
2136(5)	$1^-, 3^-$			50	1	0.08			83Ro08				
2180.66(10)	$\langle 7, 9^+ \rangle$												
2211.59(18)	$\langle 1^-, 3, 5^- \rangle$										11(7)	7(4)	
2239(5)				100									
2311.6(1)	$\langle 7, 9^+ \rangle$			100									
2377(5)													
2386(10)	$3^+, 5^+$	2	0.13	480					79Ra08				
2415.40(22)													
2436(10)	$3^+, 5^+$	2	0.21	360					79Ra08				
2461(5)													
2475.49(20)	$\langle 11, 15 \rangle$												
2482.87(23)	$\langle 7, 9^+ \rangle$												
2484.8(1)	$\langle 3^- \rangle$	$\langle 1 \rangle$	0.03						76Sc13	11(4)		7(4)	
2552(10)	$3^+, 5^+$	2	0.08	250					76Sc13				
2584.09(11)	$\langle 7, 9^- \rangle$										31(6)		
2605(10)	1^+	0	0.02	200					76Sc13				
2622.7(11)													
2633(5)													
2716(10)	1^+	0	0.02	140					76Sc13				
2738(10)				incl									
2823(10)	X^+	2+4	0.18	100					76Sc13				
2847.8(3)	$\langle 17^- \rangle$												
2903(10)	$3^+, 5^+$	2	0.06	170					76Sc13				
2931(15)													
2965.0(3)	$\langle 21^+ \rangle$												
3003(15)													

(continued)

⁷³₃₃As

E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	L	C^2S	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]			(τ, d)	$\mu\text{b/sr}$		(d, τ)	rel.	Γ_{cm}		E_f^* :	0	67.0	84.3	254
										$2J_f^\pi$:	3 ⁻	5 ⁻	$\langle 1 \rangle^-$	$\langle 1 \rangle^-$
3050.4(3)														
3087(15)														
3157(15)	1 ⁺	0	0.03						79Ra08					
3203(15)														
3257(15)	5 ⁻ , 7 ⁻	3	0.43						79Ra08					
3294.4(3)									79Ra08					
3393(10)	$\langle 1^+ \rangle$	$\langle 0 \rangle$	0.09	440					74Be54					
3532(15)	X $\langle^- \rangle$	$\langle 1+3 \rangle$	0.44	400					79Ra08					
3610(15)														
3666(15)														
3724(15)														
3791(15)														
3880(15)														
3994(15)														
4082.9(4)														
4267(15)														
4470(15)														
4518(15)														
4600(15)														
4650(15)	1 ⁺	0	0.03						79Ra08					
4712(15)	3 ⁺ , 5 ⁺	2	0.07						79Ra08					
4780(15)														
4860(15)														
4900(15)	7 ⁺ , 9 ⁺	4	3.80						79Ra08					
4952(15)	3 ⁺ , 5 ⁺	2	0.18						79Ra08					
5010(15)														
5070(15)	1 ⁺	0+2	0.14						79Ra08					
5190(15)	3 ⁺ , 5 ⁺	2	0.13						79Ra08					
5278(15)	3 ⁺ , 5 ⁺	2	0.13						79Ra08					
7861.4(3)	$\langle 1^-, 3, 5^- \rangle$									11	9	7	5	
8988	$\langle 5 \rangle^+$													
9034														
9340	$\langle 3 \rangle^-$													
9364														
9478														
9532														
9634														
9685														
9764														
9818														
9858														
9887														
10016	$\langle 3 \rangle^-$													
10084														
10134														

(continued)

⁷³₃₃As

E^*	$2J^\pi$	L	C^2S'	σ (τ, d)	L	C^2S	σ (p,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]			(τ, d)	$\mu b/sr$		(d, τ)	rel.	Γ_{cm}		E_f^* :	0	67.0	84.3	254
										$2J_f^\pi$:	3 ⁻	5 ⁻	$\langle 1 \rangle^-$	$\langle 1 \rangle^-$
10203														
10262														
10583	1 ⁺													
10612	$\langle 5 \rangle^+$													
10681	1 ⁺													
			76Sc13			83Ro08	76Ve05		Ref.					
			79Ra08	74Be54					Ref.					

Additional data on this isotope can be found in [97SoZX, 97So08, 73VaZI].

Parameters C^2S for proton transfer reaction (τ, d) are from [76Sc13, 79Ra08], while the cross section are from [74Be54].

Energy levels and branching ratios [04Si08]. Part 2

⁷³₃₃As

E^*	$2J^\pi$	Branching ratios in percentage											
[keV]		E_f^* :	393	428	510	575	577.9	655.5	674	769.8	850.5	860.5	
		$2J_f^\pi$:	$\langle 3 \rangle^-$	9 ⁺	$\langle 5 \rangle^+$	$\langle 1 \rangle^-$	$\langle 5 \rangle^-$	3 ⁻		$\langle 5 \rangle^-$	$\langle 5 \rangle^-$	$\langle 7 \rangle^-$	
510.06(2)	$\langle 5 \rangle^+$		2.0(4)										
574.57(3)	$\langle 1 \rangle^-$		33(1)										
577.90(2)	$\langle 5 \rangle^-$		0.6(3)										
655.47(2)	3 ⁻		9.0(2)										
674(1)					100				<5				
769.84(1)	$\langle 5 \rangle^-$		5(1)				1(1)						
850.51(2)	$\langle 5 \rangle^-$		2.0(3)					1.3(8)					
860.54(1)	$\langle 7 \rangle^-$		2.7(3)				0.42(8)						
886.11(5)	1 ⁺		54		25(8)	14(4)							
993.77(1)	$\langle 7 \rangle^-$		15(2)		3(1)		5(1)			2			<1
1013.56(5)	$\langle 1 \rangle^-$							100					
1037.13(3)	$\langle 13 \rangle^+$			100									
1077.75(5)	$\langle 3 \rangle^-$		<5			20(4)							
1086.99(4)	$\langle 5 \rangle^-$		8.2(3)			3(1)		2(1)		6(2)		3(1)	
1178.05(2)	$\langle 7 \rangle^-$						7(2)			1.9(2)		2(1)	
1216.4(5)	1 ⁻ , 3 ⁻			x		x						x	
1217.95(4)	$\langle 3 \rangle^+$				66								
1221.29(2)	$\langle 7 \rangle^-$		3(1)				9(2)	3(1)		9(2)			
1275.14(7)	$\langle 7 \rangle^+$			36(3)	56.7(9)								
1293.1(1)	$\langle 11 \rangle^+$			98(12)									
1293.37(3)	$\langle 7 \rangle^+$			19(8)	73								
1299.35(5)	$\langle 1^-, 3 \rangle$					41(1)		10.3(8)					
1302.20(7)	$\langle 5^- \rangle$		16(1)		13.3(11)		12(4)	0.8(3)				8(4)	
1324.20(2)	$\langle 5^+ \rangle$		26(7)		33(6)								
1328.89(5)	$\langle 7, 9 \rangle^+$			79(1)	21(1)								
1344.51(2)	$\langle 7 \rangle^-$		3(1)				15(5)	18(3)		11(2)		3(1)	

(continued)

 $^{73}_{33}\text{As}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	393 $\langle 3 \rangle^-$	428 9^+	510 $\langle 5 \rangle^+$	575 $\langle 1 \rangle^-$	577.9 $\langle 5 \rangle^-$	655.5 3^-	674	769.8 $\langle 5 \rangle^-$	850.5 $\langle 5 \rangle^-$	860.5 $\langle 7 \rangle^-$
1400.9(10)				x								
1489.5(2)	$\langle 5^+ \rangle$				100							
1557.3(1)	$\langle 3^-, 5, 7^- \rangle$									24(1)		59(2)
1588.7(2)	$5^-, 7^-$						22(4)					
1592.1(11)	$\langle 3 \rangle^-$							x				
1612.8(2)	$5^-, 7^-$				22(3)							
1658.13(14)	$\langle 7-11^- \rangle$											31(3)
1761.6(1)	$\langle 13^+ \rangle$			49(3)								
1850.6(1)	$\langle 9 \rangle^+$			33(1)	16.7(5)							
1876.7(2)	$\langle 1-7^- \rangle$		100									
1903.7(3)	$\langle 1^--9^- \rangle$								68(3)	32		
1910.1(1)	$\langle 9^+, 11 \rangle$			37(2)								
1962.2(2)	$\langle 3, 5, 7 \rangle$				47(4)							
1975.4(1)	$\langle 7, 9, 11^+ \rangle$			32.7(10)								
1977.6(2)	$\langle 1-7^- \rangle$		100									
1982.5(1)	5^-		27(4)					21(6)				
2180.66(10)	$\langle 7, 9^+ \rangle$			36(3)	16(3)							
2311.6(1)	$\langle 7, 9^+ \rangle$			19(1)	12(3)							
2482.87(23)	$\langle 7, 9^+ \rangle$			33(11)	11(11)							
2484.8(1)	$\langle 3^- \rangle$		17(4)		38(4)	15(4)						
2584.09(11)	$\langle 7, 9^- \rangle$			31(6)								
7861.4(3)	$\langle 1^-, 3, 5^- \rangle$		9				8	10		6	3	

Energy levels and branching ratios [04Si08]. Part 3

 $^{73}_{33}\text{As}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	886.1 1^+	929.0 $\langle 9^- \rangle$	993.8 $\langle 7 \rangle^-$	1037.1 $\langle 13 \rangle^+$	1077.7 $\langle 3 \rangle^-$	1087.0 $\langle 5 \rangle^-$	1178.0 $\langle 7 \rangle$	1216.4 $1^-, 3^-$	1275.1 $\langle 7 \rangle^+$	1293.1 $\langle 11 \rangle^+$
1217.95(4)	$\langle 3 \rangle^+$		34(5)									
1293.1(1)	$\langle 11 \rangle^+$					1.9(3)						
1293.37(3)	$\langle 7 \rangle^+$				4(1)							
1344.51(2)	$\langle 7 \rangle^-$				10(1)							
1557.3(1)	$\langle 3^-, 5, 7^- \rangle$						17(1)					
1658.13(14)	$\langle 7-11^- \rangle$								69(7)			
1761.6(1)	$\langle 13^+ \rangle$					22(4)						29(1)
1850.6(1)	$\langle 9 \rangle^+$					2.1(2)					35(2)	13.0(5)
1910.1(1)	$\langle 9^+, 11 \rangle$					63(11)						
1949.8(2)	$\langle 17^+ \rangle$					100						
1962.2(2)	$\langle 3, 5, 7 \rangle$							53(4)				
1975.4(1)	$\langle 7, 9, 11^+ \rangle$										47(2)	20(2)
2039.3(2)	$\langle 13^- \rangle$			100								
2039.7(2)	$\langle 15^+ \rangle$					82(7)						18(2)

(continued)

 $^{73}_{33}\text{As}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	886.1 1^+	929.0 $\langle 9^- \rangle$	993.8 $\langle 7^- \rangle$	1037.1 $\langle 13 \rangle^+$	1077.7 $\langle 3 \rangle^-$	1087.0 $\langle 5 \rangle^-$	1178.0 $\langle 7 \rangle$	1216.4 $1^-, 3^-$	1275.1 $\langle 7 \rangle^+$	1293.1 $\langle 11 \rangle^+$
2180.66(10)	$\langle 7, 9^+ \rangle$								13(3)			36(25)
2211.59(18)	$\langle 1^-, 3, 5^- \rangle$						32(15)	50(20)				
2311.6(1)	$\langle 7, 9^+ \rangle$				3.7(6)						9.3(6)	34(1)
2415.40(22)												100
2484.8(1)	$\langle 3^- \rangle$						13(4)					
2584.09(11)	$\langle 7, 9^- \rangle$								12(6)		25(6)	
7861.4(3)	$\langle 1^-, 3, 5^- \rangle$									3		

Energy levels and branching ratios [04Si08]. Part 4

 $^{73}_{33}\text{As}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1299.3 $\langle 1^-, 3 \rangle$	1328.9 $\langle 7, 9 \rangle^+$	1592.1 $\langle 3 \rangle^-$	1658.1 $\langle 7-11^- \rangle$	1861.1	1949.8 $\langle 17^+ \rangle$	1975.4	2039.3 $\langle 13^- \rangle$	2039.7 $\langle 15^+ \rangle$	2965.0 $\langle 21^+ \rangle$
2311.6(1)	$\langle 7, 9^+ \rangle$			21.6(6)								
2475.49(20)	$\langle 11, 15 \rangle$					78(5)				22(3)		
2482.87(23)	$\langle 7, 9^+ \rangle$			56(11)								
2622.7(11)											100	
2847.8(3)	$\langle 17^- \rangle$									100		
2965.0(3)	$\langle 21^+ \rangle$							100				
3050.4(3)								100				
3294.4(3)											100	
4082.9(4)												100
7861.4(3)	$\langle 1^-, 3, 5^- \rangle$		9		11		1		6.6			

Energy levels and branching ratios [95Fa23].

 $^{74}_{33}\text{As}$

E^* [keV]	J^π	L	$(2J+1)C^2S$ (τ, d)	σ (τ, d) $\mu\text{b/sr}$	L	S_N (p, d)	I_d (α, d)	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	2^-	3	0.19	30	2	0.01	10	17.77(2) d	73Ro14
173.07(9)	$\langle 1 \rangle^-$			20					
183.07(7)	$\langle 3 \rangle^-$			incl				≤ 0.6 ns	
202.11(10)	$\langle 2 \rangle^-$				1	0.24			72Fo09
206.48(8)	$\langle 1 \rangle^+$					incl			72Fo09
259.29(9)	$\langle 4 \rangle^+$							26.8(5) ns	
267.36(10)	$\langle 3 \rangle^-$				4+2	1.1, 0.1			72Fo09
271.66(8)	$\langle 4 \rangle^-$	1+3	0.16, 0.58	300+90		incl		1.0(1) ns	73Ro14
278.36(11)	$\langle 2, 3 \rangle^+$							< 0.3 ns	
315.24(10)	$\langle 5 \rangle$							< 0.5 ns	

(continued)

⁷⁴₃₃As

E^*	J^π	L	$(2J+1)C^2S$	σ (τ, d)	L	S_N	I_d	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu\text{b/sr}$		(p, d)	(α, d)	Γ_{cm}	
332.1(3)	$\langle 3, 4 \rangle^-$	1+3	0.37, 1.35	680+210	4	1.48			73Ro14
335.50(9)	$\langle 5 \rangle$							<0.5 ns	
373.0(3)	$\langle 3, 4 \rangle$								
385.05(15)	$\langle 3, 4 \rangle$								
422.12(10)	$\langle 1 \rangle^-$			50					
425.92(12)	$\langle 2 \rangle^+$			incl				<0.3 ns	
446.76(14)	$\langle 2 \rangle^+$				1	0.06			72Fo09
447.7(3)	$\langle 3, 4 \rangle$								
465.29(13)	$\langle 0, 1 \rangle$								
507.58(17)	$\langle 1-4 \rangle$								
514.03(16)	$\langle \leq 3 \rangle$								
516.44(23)	$\langle 6 \rangle$								
526.16(14)	$\langle 1-4 \rangle$								
533.4(5)	$\langle 1-5 \rangle$								
547.10(22)	$\langle 6 \rangle$								
551.99(16)	$\langle 3 \rangle^-$	1	0.73	1370	4+2	1.2, 0.1			73Ro14
586.07(18)	$\langle \leq 3 \rangle^+$				1	0.09			72Fo09
595.72(23)	$\langle 7 \rangle$								
616.9(4)	$\langle \leq 4 \rangle$								
626.2(3)	$\langle \leq 3 \rangle^+$				3+1	0.2, 0.04			72Fo09
633.10(19)	$\langle \leq 4 \rangle^-$	1+3	0.11, 0.42	210+100					73Ro14
649.92(13)	$\langle 1-3 \rangle$								
683(5)	$\langle 6 \rangle^-$	1	0.27	510			74 incl		73Ro14
700.1(3)	$\langle 7 \rangle$								
701.5(4)	$\langle \leq 3 \rangle$								
716.3(4)	$\langle 1-4 \rangle$								
732.0(6)	$\langle \leq 4 \rangle^+$			10	3+1	1.2, 0.5			72Fo09
743.4(3)	$\langle 1, 2, 3 \rangle$								
753.50(16)	$\langle 1, 2, 3 \rangle$								
758.6(3)	$\langle 1-4 \rangle$								
776(5)	$3-6^-$	1+3	0.06, 0.20	120+50					73Ro14
802.4(6)	$\langle \leq 4 \rangle$								
819(5)									
831(5)	$\langle 3-6 \rangle^-$	1	0.26	680					73Ro14
845(5)	$\langle \leq 3 \rangle^+$				1	0.49			72Fo09
883(5)									
895(5)	$\langle \leq 3 \rangle^+$				1	0.19			72Fo09
903.3(6)	$\langle 3, 4 \rangle^-$	1	0.07	60					73Ro14
922(5)									
955(10)	X^-	3	0.12	30					73Ro14
958(10)	$X^{(+)}$				3+1	0.3, 0.1			
1007(10)	$\langle 3-6 \rangle^-$	1	0.08	210					73Ro14
1021(5)	$\langle \leq 3 \rangle^+$				1	0.22			72Fo09
1052(5)									
1099(5)					4+1	0.2, 0.03			72Fo09

(continued)

⁷⁴₃₃As

E^*	J^π	L	$(2J+1)C^2S$	σ (τ,d)	L	S_N	I_d	$T_{1/2}$ or	Ref.
[keV]			(τ,d)	$\mu\text{b/sr}$		(p,d)	(α,d)	Γ_{cm}	
1112(10)	9^+	4	1.08	140					73Ro14
1128.9(6)	$\langle \leq 4 \rangle$								
1159(5)									
1174(5)									
1207(5)									
1230(5)									
1265(5)									
1300(5)	$\langle \leq 3 \rangle^+$				1	0.11			72Fo09
1332(5)									
1372(5)	$\langle 1-3 \rangle^+$				3+1	0.4,0.2			72Fo09
1400(5)									
1431(5)	$\langle \leq 3 \rangle^+$				1	0.14			72Fo09
1471(10)	$\langle 3-6 \rangle^-$	1	0.02	50					73Ro14
1530(10)	$\langle 3-6 \rangle^-$	1+3	0.02,0.12	60+20					73Ro14
1627(10)	X^-	3	0.42	70					73Ro14
1676(15)									
1755(10)	X^-	3	0.30	50					73Ro14
1875(10)	$\langle \leq 3 \rangle^+$			200	1	0.09			72Fo09
1913(10)				100					
2061(10)	$\langle \leq 3 \rangle^+$			90	1	0.06			72Fo09
2108(10)	9^+	4	0.48	80			123		73Ro14
2194(10)	X^-	3	0.16	30					73Ro14
2720(30)							137		94Fi01
			73Ro14	73Ro14		72Fo09	94Fi01		Ref.

Additional data on this isotope can be found in [97SoZX, 95Al12].

For (α,d) reaction approximate values of the deuteron yield I_d in units counts per channel are from [94Fi01].

Energy levels and branching ratios [95Fa23]. Part 2

⁷⁴₃₃As

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* :	0.0	173	183	202	206	259	267.36	271.66	278.36	315.24
		J_f^π :	2^-	$\langle 1 \rangle^-$	$\langle 3 \rangle^-$	$\langle 2 \rangle^-$	$\langle 1 \rangle^+$	$\langle 4 \rangle^+$	$\langle 3 \rangle^-$	$\langle 4 \rangle^-$	$\langle 2,3 \rangle^+$	$\langle 5 \rangle$
173.07(9)	$\langle 1 \rangle^-$		100									
183.07(7)	$\langle 3 \rangle^-$		100									
202.11(10)	$\langle 2 \rangle^-$		100									
206.48(8)	$\langle 1 \rangle^+$		100									
259.29(9)	$\langle 4 \rangle^+$		<4		100							
267.36(10)	$\langle 3 \rangle^-$		85		15							
271.66(8)	$\langle 4 \rangle^-$		71		29							
278.36(11)	$\langle 2,3 \rangle^+$		32					68				
315.24(10)	$\langle 5 \rangle$							100				

(continued)

⁷⁴₃₃As

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	0.0 2 ⁻	173 ⟨1⟩ ⁻	183 ⟨3⟩ ⁻	202 ⟨2⟩ ⁻	206 ⟨1⟩ ⁺	259 ⟨4⟩ ⁺	267.36 ⟨3⟩ ⁻	271.66 ⟨4⟩ ⁻	278.36 ⟨2,3⟩ ⁺	315.24 ⟨5⟩
332.1(3)	⟨3,4⟩ ⁻		x		x							
335.50(9)	⟨5⟩									100		
373.0(3)	⟨3,4⟩				x				x	x		
385.05(15)	⟨3,4⟩		x	x	x	x						
422.12(10)	⟨1⟩ ⁻			16			84					
425.92(12)	⟨2⟩ ⁺		6	3							91	
446.76(14)	⟨2⟩ ⁺						50				50	
447.7(3)	⟨3,4⟩		100									
465.29(13)	⟨0,1⟩						100					
507.58(17)	⟨1-4⟩		x						x			
514.03(16)	⟨≤3⟩		68				24				8	
516.44(23)	⟨6⟩											100
526.16(14)	⟨1-4⟩		x						x			
533.4(5)	⟨1-5⟩				100							
551.99(16)	⟨3⟩ ⁻		16		6	<9	78					
586.07(18)	⟨≤3⟩ ⁺		47	16			37					
616.9(4)	⟨≤4⟩		100									
626.2(3)	⟨≤3⟩ ⁺		[100]									
633.10(19)	⟨≤4⟩ ⁻										100	
649.92(13)	⟨1-3⟩		12	16			30					
701.5(4)	⟨≤3⟩			27			73					
716.3(4)	⟨1-4⟩		56		44							
743.4(3)	⟨1,2,3⟩		26	30								
753.50(16)	⟨1,2,3⟩		x									
758.6(3)	⟨1-4⟩		30		30							
802.4(6)	⟨≤4⟩										100	

Energy levels and branching ratios [95Fa23]. Part 3

⁷⁴₃₃As

E^* [keV]	J^π	Branching ratios in percentage						
		$E_f^*:$ $J_f^\pi:$	335.50 ⟨5⟩	385.05 ⟨3,4⟩	422.12 ⟨1⟩ ⁻	425.92 ⟨2⟩ ⁺	516.44 ⟨6⟩	547.10 ⟨6⟩
547.10(22)	⟨6⟩		100					
595.72(23)	⟨7⟩						100	
626.2(3)	⟨≤3⟩ ⁺			x				
649.92(13)	⟨1-3⟩				16	26		
700.1(3)	⟨7⟩							100
732.0(6)	⟨≤4⟩ ⁺					100		
743.4(3)	⟨1,2,3⟩			44				
753.50(16)	⟨1,2,3⟩				x	x		
758.6(3)	⟨1-4⟩			40				

(continued)

⁷⁴₃₃As

E^*	J^π	Branching ratios in percentage						
[keV]		E_f^* : J_f^π :	335.50 $\langle 5 \rangle$	385.05 $\langle 3,4 \rangle$	422.12 $\langle 1 \rangle^-$	425.92 $\langle 2 \rangle^+$	516.44 $\langle 6 \rangle$	547.10 $\langle 6 \rangle$
903.3(6)	$\langle 3,4 \rangle^-$					100		
1128.9(6)	$\langle \leq 4 \rangle$					100		

Energy levels and branching ratios [99Fa05].

⁷⁵₃₃As

E^*	$2J^\pi$	L	$(2J+1)C^2S$	σ (τ, d)	L	C^2S	$T_{1/2}$ or Γ_{cm}	Ref.
[keV]			(τ, d)	$\mu\text{b/sr}$		(d, τ)		
0.0	3^-	1	1.42	2050	1	1.15*	Stable	76Sc13
198.606(1)	1^-	1	0.19	280	1	0.12**	885(30) ps	83Ro08
264.658	3^-	$\langle 1 \rangle$	0.82	1200	1	0.73*	11.2(3) ps	76Sc13
279.543(1)	5^-	$\langle 3 \rangle$	5.45	440	3	3.25**	273(3) ps	76Sc13
303.924(1)	9^+	$\langle 4 \rangle$	4.93	620	4	1.23*	17.6(2) ms	76Sc13
400.658(1)	5^+	2	0.58	630	2	0.18*	1.67(5) ns	76Sc13
468.75(17)	$1^-, 3^-$	1	1.32	1950	1	0.44**		76Sc13
572.37(15)	5^-			60	3	0.25**	2.9(3) ps	83Ro08
585(7)	$1^-, 3^-$	1	0.03					76Sc13
617.69(12)	$1^-, 3^-$				1	0.12**		
821.66(13)	7^-	3	0.60	80	3	0.55*	3.0(3) ps	76Sc13
859.8(4)	1^+	0	0.10	580	0	0.017		76Sc13
865.0(4)	$\langle 1^--5^- \rangle$			incl			0.60(5) ps	
886.4(5)								
1043.4(6)	7^-	3,4	0.16,0.18					76Sc13
1063.3(5)	3^-							
1074.5(7)	3^-	1	0.18	420	1	0.22*	0.20(1) ps	76Sc13
1080.8(8)	$\langle 5^+ \rangle$							
1096.3(7)	$\langle 7,9^- \rangle$							
1100.2(6)	$\langle 1 \rangle$							
1126.7(6)	$\langle 1^+ \rangle$			70			1.0(1) ps	
1128.9(9)	$1^-, 3^-$	1	0.04	incl	1	0.06*		76Sc13
1172.0(6)	$\langle 11 \rangle$							
1203.6(6)	3^-	1	0.04	110	1	0.04*		76Sc13
1264(3)								
1302.3(7)	5^+	2	0.17	250				76Sc13
1309.4(4)	5^-				3	0.20*		83Ro08
1349.3(6)	3^-	1	0.09	280			0.13(2) ps	76Sc13
1370.8(7)	$\langle 3^- \rangle$						0.15(3) ps	
1420.2(5)	$\langle 5^- \rangle$	1	0.06	290				76Sc13
1430.5(6)	$3^{(+)}$	4	0.31	incl	$\langle 1 \rangle$	0.12*		76Sc13
1503.4(5)	$3^{(+)}$							
1579.8(7)	1^-							
1595(10)		2+4	0.19	80				76Sc13

(continued)

⁷⁵₃₃As

E^*	$2J^\pi$	L	$(2J+1)C^2S$	σ (τ, d)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu\text{b/sr}$		(d, τ)	Γ_{cm}	
1606.4(5)	3^-			incl	1	0.07*		83Ro08
1654.6(6)	$3^{(+)}$							
1660(10)	$5^-, 7^-$	3	0.50	90				74Be54
1684.2(5)	$\langle 3^- \rangle$			incl				
1687.9(6)	$1^{(-)}$			incl				
1691(9)	$5^-, 7^-$				3	0.61*		83Ro08
1765(7)				40				
1808(2)	$7^+, 9^+$	4	1.45	230				76Sc13
1843								
1873.5(5)	3^-				1	0.07*		83Ro08
1900.9(6)	$3, 5^+$	0	0.02	630				76Sc13
1909.2(7)	1^+			incl				
1928(10)	$5^-, 7^-$				3	1.15*		83Ro08
1942(10)	$1^-, 3^-$	1	0.10					76Sc13
1987.8(6)	1							
2001.0(5)	5							
2009.7(6)	$1^-, 3^+$							
2021.3(6)	$\langle 1^-, 3^+ \rangle$							
2061(3)								
2066.9(6)	$\langle 1^-, 3^+ \rangle$							
2098(3)								
2103.8(8)	$1^{(+)}$			160				
2111.1(5)	3^-	1	0.04	incl				76Sc13
2148.2(6)								
2159.8(10)	1^+							
2175.8(10)	1							
2210(10)	$5^-, 7^-$	3	0.69	90				76Sc13
2227.9(7)	$1^-, 3$			incl				
2239.5(7)	3			incl				
2258.6(10)	1			incl				
2296(5)	$5^-, 7^-$	3	1.36	270				76Sc13
2303.2(6)	$\langle 3^-, 5^+ \rangle$			incl				
2326.6(16)								
2358.2(18)								
2379.6(6)	3^-	1	0.04	160				76Sc13
2419.0(20)								
2446(10)	$1^-, 3^-$	1	0.04	150				76Sc13
2485(10)	$1^-, 3^-$	1	0.08	250				76Sc13
2503.4(6)	$\langle 1^-, 5^+ \rangle$							
2508.1(6)	$\langle 5^+, 7^- \rangle$							
2528(10)		0+1	0.02, 0.16	130				76Sc13
2570.9(6)	$\langle 5^+, 7^- \rangle$							
2586(5)		1+2	0.11, 0.06	540				76Sc13
2608.9(20)								
2663(4)				500				

(continued)

⁷⁵₃₃As

E^*	$2J^\pi$	L	$(2J+1)C^2S$	σ (τ, d)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu\text{b/sr}$		(d, τ)	Γ_{cm}	
2683(4)		0+2	0.03,0.08	incl				76Sc13
2798(5)								
2920(5)		0+2	0.01,0.06					76Sc13
2938(4)								
3046(10)	$1^-, 3^-$	1	0.06					76Sc13
3099(10)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$	0.10					76Sc13
3152(10)	$\langle 1^-, 5^+ \rangle$	1,2	0.06,0.06					76Sc13
3222(15)	$1^-, 3^-$	1	0.04					76Sc13
3308(10)		1+4	0.09,0.39					76Sc13
3355(10)		1+4	0.09,0.39					76Sc13
3414(15)		1+2	0.06,0.11					76Sc13
3460(15)		1+2	0.06,0.11					76Sc13
3565(15)	$\langle 1^-, 3^- \rangle$	$\langle 1 \rangle$						76Sc13
3608(10)	$\langle 3^+, 5^+ \rangle$	$\langle 2 \rangle$						76Sc13
3716(10)	$\langle 1^-, 5^+ \rangle$	$\langle 1, 2 \rangle$						76Sc13
3778(10)	$\langle 1^-, 5^+ \rangle$	$\langle 1, 2 \rangle$						76Sc13
3869(10)	$\langle 1^-, 5^+ \rangle$	$\langle 1, 2 \rangle$						76Sc13
3906(10)								
7646	$1^{(+)}$						1.3(4) fs	
10421(9)	$\langle 1^- \rangle$							
10639(10)	$\langle 9^+ \rangle$							
10668(9)	$\langle 1^- \rangle$							
10999(8)	$\langle 3^- \rangle$							
11027(8)	$\langle 3^+ \rangle$							
11092								
11118	$\langle 1^+ \rangle$							
11334(8)	$\langle 1^- \rangle$							
11570	$\langle 3^- \rangle$							
11842(7)	$\langle 5^+ \rangle$							
11871								
11884(7)								
11958(7)								
12108								
12273								
12411								
12657								
12782								
12953								
13068								

(continued)

⁷⁵₃₃As

E^*	$2J^\pi$	L	$(2J+1)C^2S$	$\sigma(\tau, d)$	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu\text{b/sr}$		(d, τ)	Γ_{cm}	
13282			76Sc13	74Be54		83Ro08		Ref.

Additional data on this isotope can be found in [97Lo10].

Abundance: 100 %.* Calculated for states with $L + 1/2$ [83Ro08, 99Fa05].** Calculated for states with $L - 1/2$ [83Ro08, 99Fa05]. C^2S for proton transfer reaction (τ, d) are from [76Sc13], while the cross section – from [74Be54].

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

⁷⁵₃₃As

E^*	$2J^\pi$	Branching ratios in percentage									
[keV]		E_f^* : $2J_f^\pi$:	0.0 3 ⁻	199 1 ⁻	265 3 ⁻	280 5 ⁻	304 9 ⁺	401 5 ⁺	469 1 ⁻ , 3 ⁻	572 5 ⁻	617.69 1 ⁻ , 3 ⁻
198.606(1)	1 ⁻		100								
264.658	3 ⁻		98.1(3)	1.85							
279.543(1)	5 ⁻		100	0.03(1)	≤0.005						
303.924(1)	9 ⁺		98.0(4)			2.0(1)					
400.658(1)	5 ⁺		12.8(1)		64(1)	19.0(4)	3.8(1)				
468.75(17)	1 ⁻ , 3 ⁻		99(4)	1.5(5)	<0.5						
572.37(15)	5 ⁻		92.2(3)	6.5(6)	0.4(1)	0.9(2)					
617.69(12)	1 ⁻ , 3 ⁻		28(4)	63(2)	7(1)	1.6(4)					
821.66(13)	7 ⁻		86(1)		0.6(2)	8(1)				5.5(8)	
859.8(4)	1 ⁺		32	14		15		39			
865.0(4)	⟨1 ⁻ -5 ⁻ ⟩		83	6		4	4			3	
886.4(5)					17	60				23	
1043.4(6)	7 ⁻						29	71			
1063.3(5)	3 ⁻		5		32	53				10	
1074.5(7)	3 ⁻		93	7							
1080.8(8)	⟨5 ⁺ ⟩				55						
1096.3(7)	⟨7, 9 ⁻ ⟩					100					
1100.2(6)	⟨1⟩		35				65				
1126.7(6)	⟨1 ⁺ ⟩		100								
1172.0(6)	⟨11⟩					47				53	
1203.6(6)	3 ⁻		70			8			22		
1302.3(7)	5 ⁺					76					
1309.4(4)	5 ⁻		19		41		13	8		13	
1349.3(6)	3 ⁻		67					19	14		
1370.8(7)	⟨3 ⁻ ⟩		47								
1420.2(5)	⟨5 ⁻ ⟩		13		8	44					
1430.5(6)	3 ⁽⁺⁾		43	7				21			
1503.4(5)	3 ⁽⁺⁾		9	57				9			
1579.8(7)	1 ⁻		11			89					

(continued)

⁷⁵₃₃As

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	0.0 3 ⁻	199 1 ⁻	265 3 ⁻	280 5 ⁻	304 9 ⁺	401 5 ⁺	469 1 ⁻ , 3 ⁻	572 5 ⁻	617.69 1 ⁻ , 3 ⁻
1606.4(5)	3 ⁻		59	18					14		9
1654.6(6)	3 ⁽⁺⁾		34							43	23
1684.2(5)	⟨3 ⁻ ⟩		20			19		15			22
1687.9(6)	1 ⁽⁻⁾		64		21						15
1873.5(5)	3 ⁻		14	30		33	17				
1900.9(6)	3, 5 ⁺		39			30	31				
1909.2(7)	1 ⁺				60	40					
1987.8(6)	1		23		17				49		
2001.0(5)	5		44		18			9			
2009.7(6)	1 ⁻ , 3 ⁺		36				30		26		
2021.3(6)	⟨1 ⁻ , 3 ⁺ ⟩		30		45						
2066.9(6)	⟨1 ⁻ , 3 ⁺ ⟩		22				24				
2103.8(8)	1 ⁽⁺⁾		43								
2111.1(5)	3 ⁻		9	38				28		25	
2148.2(6)			66		34						
2159.8(10)	1 ⁺		100								
2175.8(10)	1		x		x						
2227.9(7)	1 ⁻ , 3		50		50						
2239.5(7)	3		61								
2258.6(10)	1		100								
2303.2(6)	⟨3 ⁻ , 5 ⁺ ⟩		15								
2326.6(16)			69								
2358.2(18)			100								
2379.6(6)	3 ⁻		48								
2419.0(20)			100								
2503.4(6)	⟨1 ⁻ , 5 ⁺ ⟩		27							12	
2508.1(6)	⟨5 ⁺ , 7 ⁻ ⟩		34				27				
2570.9(6)	⟨5 ⁺ , 7 ⁻ ⟩		36				17				
2608.9(20)			100								
7646	1 ⁽⁺⁾		11.3(9)	1.5(3)	41(3)			x	9.7(8)	x	2.9(2)

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

⁷⁵₃₃As

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	821.66 7 ⁻	859.8 1 ⁺	865.0	886.4	1043.4 7 ⁻	1063.3 3 ⁻	1074.5 3 ⁻	1096.3 ⟨7, 9 ⁻ ⟩	1100.2 ⟨1⟩
1080.8(8)	⟨5 ⁺ ⟩					45					
1302.3(7)	5 ⁺						24				
1309.4(4)	5 ⁻				6						
1370.8(7)	⟨3 ⁻ ⟩		14								
1503.4(5)	3 ⁽⁺⁾		9								16
1684.2(5)	⟨3 ⁻ ⟩			12							

(continued)

⁷⁵₃₃As

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	821.66 7 ⁻	859.8 1 ⁺	865.0	886.4	1043.4 7 ⁻	1063.3 3 ⁻	1074.5 3 ⁻	1096.3 ⟨7,9 ⁻ ⟩	1100.2 ⟨1⟩
1873.5(5)	3 ⁻		6								
2001.0(5)	5		8			11		10			
2009.7(6)	1 ⁻ ,3 ⁺									8	
2103.8(8)	1 ^{⟨+} ⟩			57							
2239.5(7)	3				22						
2303.2(6)	⟨3 ⁻ ,5 ⁺ ⟩		39	28						18	
2379.6(6)	3 ⁻		38								
2503.4(6)	⟨1 ⁻ -5 ⁺ ⟩					40					
2570.9(6)	⟨5 ⁺ ,7 ⁻ ⟩						22				
7646	1 ^{⟨+} ⟩								5.7(5)		

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

⁷⁵₃₃As

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	1126.7 ⟨1 ⁺ ⟩	1128.9 1 ⁻ ,3 ⁻	1172.0 ⟨11⟩	1203.6 3 ⁻	1264	1302.3 5 ⁺	1309.4 5 ⁻	1349.3 3 ⁻	1420.2 ⟨5 ⁻ ⟩
1370.8(7)	⟨3 ⁻ ⟩			39							
1420.2(5)	⟨5 ⁻ ⟩				35						
1430.5(6)	3 ^{⟨+} ⟩		29								
1684.2(5)	⟨3 ⁻ ⟩		12								
2021.3(6)	⟨1 ⁻ ,3 ⁺ ⟩		25								
2066.9(6)	⟨1 ⁻ ,3 ⁺ ⟩							26	28		
2508.1(6)	⟨5 ⁺ ,7 ⁻ ⟩			22							
2570.9(6)	⟨5 ⁺ ,7 ⁻ ⟩										25
7646	1 ^{⟨+} ⟩			6.8(5)		2.1(2)	1.4(3)			0.9(2)	

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

⁷⁵₃₃As

E^* [keV]	$2J^\pi$	Branching ratios in percentage								
		$E_f^*:$ $2J_f^\pi:$	1430.5 3 ^{⟨+} ⟩	1503.4 3 ^{⟨+} ⟩	1606.4 3 ⁻	1687.9 1 ^{⟨-} ⟩	1843	1873.5 3 ⁻	2021.3 ⟨1 ⁻ ,3 ⁺ ⟩	2066.9 ⟨1 ⁻ ,3 ⁺ ⟩
1987.8(6)	1					11				
2239.5(7)	3							17		
2326.6(16)					31					
2379.6(6)	3 ⁻								14	
2503.4(6)	⟨1 ⁻ -5 ⁺ ⟩			21						
7646	1 ^{⟨+} ⟩		7.1(6)	1.2(2)	1.2(2)		0.1(1)	2.5(2)		0.5(2)

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

⁷⁵₃₃As

E^*	$2J^\pi$			Branching ratios in percentage						
		E_f^* :	2098	2148.2	2175.8	2227.9	2485	2570.9	2586	2683
[keV]		$2J_f^\pi$:			1	1 ⁻ ,3	1 ⁻ ,3 ⁻	$\langle 5^+,7^- \rangle$		
2508.1(6)	$\langle 5^+,7^- \rangle$			17						
7646	1 ⁽⁺⁾		1.8(4)		0.9(2)	1.0(2)	x	x	0.5(2)	x

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

⁷⁶₃₃As

E^*	J^π	L	S'	C^2S'	σ (d,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]			(d,p)	(d,p)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : 0.0	44.4	86.8	120.3	122.2
								J_f^π : 2 ⁻	$\langle 1 \rangle^+$	$\langle 1 \rangle^+$	$\langle 1 \rangle^+$	$\langle 1 \rangle^-$
0.0	2 ⁻	2	0.01	0.22	8	26.2(1) h	75Le06					
44.425(1)	$\langle 1 \rangle^+$	1+3	0.15,0.28	0.36	320	1.84 μs	75Le06	100				
86.787(1)	$\langle 1 \rangle^+$	1+3	0.19,0.34	0.42	360		75Le06	100				
120.258(1)	$\langle 1 \rangle^+$	1+3	0.05,0.13		20		75Le06	82(6)	18(2)			
122.248(1)	$\langle 1 \rangle^-$				incl			100				
165.048(1)	$\langle 3 \rangle^-$	4	0.55	0.83	30		75Le06	100				
203.542(1)	$\langle 0,1 \rangle^+$	[2+4]		0.02+1.33	60		76Mo32		3.9(4)	90(8)	6.4(4)	
211.146(1)	$\langle 4 \rangle^-$	2+4	0.15,0.86		incl		75Le06	26(1)				
264.807(1)	$\langle 1,2 \rangle^+$	3	0.19				75Le06	18	33(1)	48(3)		
280.302(1)	$\langle 1,2 \rangle^+$	[1+3]		0.06+1.83	170		76Mo32	100				
286.017(1)	$\langle 3,4 \rangle^-$	4	0.81	incl	incl		75Le06					
292.557(2)	$\langle 2-4 \rangle^-$			incl	incl							
300.460(1)	$\langle 2,3 \rangle$			incl	incl			20(1)	15.3(2)			
308.319(1)	$\langle 2 \rangle^+$	1+3	0.11,0.18	incl	incl		75Le06	4.5(3)	50(1)	16.2(3)	22.3(5)	5.5(3)
328.478(1)	$\langle 3,4 \rangle^-$											
352.361(2)	$\langle 3 \rangle^-$							42(6)				
363.906(1)	$\langle 1^-, 2^- \rangle$	3+4	0.38,0.44	0.77	50		75Le06	40(3)	4	5		17(1)
366.228(1)	$\langle 2-5 \rangle$											
377.383(1)	$\langle 2,3,4 \rangle^-$											
401.833(1)	$\langle 1,2 \rangle^+$	1+3	0.11,0.21	0.12	110		75Le06		35(2)	5.1(3)	46(2)	
436.802(1)	$\langle 1,2,3 \rangle^-$	2	0.07	0.15	90		75Le06	17(2)				
447.170(2)	$\langle 1,2 \rangle^+$	1+3	0.05,0.20	incl	incl		75Le06		53(4)	27(3)	16(2)	
457.349(2)	$\langle 2^-, 3 \rangle$							17(1)				
460.2(2)		2	0.07				75Le06	x				
471.000(1)	$\langle 2 \rangle^-$							57(1)	27(2)			
479.295(2)	$\langle 2-5 \rangle^-$	4	1.18				75Le06					
499.580(2)	$\langle 1^+, 2^+ \rangle$			0.02+3.0	120		76Mo32	5(2)		16(2)	30(2)	
505.204(2)	$\langle 2,3 \rangle^+$			incl	incl				18(1)	9		
508.687(1)	$\langle 2-6 \rangle^-$	0+2	0.025	incl	incl		75Le06					
517.579(1)	$\langle 1^+, 2^+ \rangle$	1+3	0.02,0.26	incl	incl		75Le06		85(3)	5.8(9)		2.9(3)
519.608(2)	$\langle 1^-, 2, 3^+ \rangle$									12(2)	52(5)	
544.023(2)	$\langle 2,3 \rangle^-$							11(2)				
550.435(2)	$\langle 1^-, 2^- \rangle$									35(2)		26(2)
553.5(2)	$\langle 1,2,3 \rangle$							65(6)				

(continued)

⁷⁶₃₃As

E^* [keV]	J^π	L	S' (d,p)	C^2S' (d,p)	σ (d,p) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								E^*_f : J^π_f :	0.0 2^-	44.4 $\langle 1 \rangle^+$	86.8 $\langle 1 \rangle^+$	120.3 $\langle 1 \rangle^+$	122.2 $\langle 1 \rangle^-$
600.2(3)	$\langle \leq 3 \rangle$												
609.970(4)	$\langle 1, 2, 3^+ \rangle$	1+4	0.02, 0.20				75Le06	14(3)	74(4)				
624.6(3)	$\langle \leq 4 \rangle$							x					
628.744(1)	$\langle 1, 2, 3^- \rangle$							7.2(6)					6.6(15)
637.249(3)	$\langle 1^+, 2^+ \rangle$	[3]		1.08	70		76Mo32				80(6)	7(2)	
640.122(10)	$\langle 1^-, 2^- \rangle$	0+2	0.01, 0.03				75Le06	35(7)					60(7)
669.115(4)	$\langle 1^+, 2^+ \rangle$							66(10)					
681.0(7)	$\langle \leq 4 \rangle$				20		76Mo32	100					
686.128(4)	$\langle 1-4 \rangle$	$\langle 2 \rangle$	0.04		incl		75Le06						
703.248(5)	$\langle 1-4 \rangle$												
707.94(8)	$\langle \leq 3 \rangle$												
715.8(9)	$\langle 1-3 \rangle^+$	1+3	0.02, 0.03				75Le06						
727.82(5)	$\langle \leq 3 \rangle$												
734.390(2)	$\langle \leq 4 \rangle^-$				60		76Mo32						
741.458(9)	$\langle \leq 3 \rangle$												
742.9(8)	$\langle \leq 4 \rangle$							x					
744.945(4)	$\langle 1^+, 2^+ \rangle$	1+3	0.04, 0.18				75Le06					54(3)	
751.8(4)	$\langle 0^-, 1, 2 \rangle$							23	11	37			29
756.574(2)	$\langle 0^+, 3^+ \rangle$												
774.408(7)	$\langle 1-3 \rangle^+$	1+3	0.05, 0.22		80		75Le06				51(16)		
785.833(5)	$\langle \leq 3 \rangle$							x					
793.570(3)	$\langle 1-3 \rangle^+$	1+3	0.03, 0.15				75Le06				62(10)		
802.452(10)	$\langle 1^--3^+ \rangle$												
863.35(13)	$\langle 1-3 \rangle^+$	1+3	0.05, 0.21		70		75Le06				100		
893.811(8)	$\langle 1^--3^+ \rangle$												
909.125(11)	$\langle 1, 2 \rangle^+$	1	0.06				75Le06				52(26)		
924.756(8)	$\langle \leq 3^- \rangle$				110		76Mo32			55(17)			
935.376(8)	$\langle \leq 3 \rangle$	1+3	0.08, 0.35		incl		75Le06	x			52(9)		
939.750(5)	$\langle 1, 2, 3 \rangle$				incl								
947.90(24)	$\langle \leq 3 \rangle$												
958.393(4)	$\langle \leq 3 \rangle$												
964.1(3)	$\langle \leq 3 \rangle$												
970.98(8)	$\langle \leq 3 \rangle$							100					
985.526(12)	$\langle 1-3 \rangle^+$	1+3	0.03, 0.13				75Le06			68(6)			
1013.8(6)	$\langle \leq 3 \rangle$										100		
1023.17(4)	$\langle 1^+, 2^+ \rangle$				140		76Mo32						
1026.2(6)	$\langle 1^+, 2^+ \rangle$				incl								
1034.206(10)	$\langle 1-3 \rangle^+$	1+3	0.07, 0.28		incl		75Le06			19			
1064.485(7)	$\langle 1^+, 2^+ \rangle$												33(1)
1089.9(5)	$\langle \leq 3 \rangle$	1+3	0.08, 0.17		140		75Le06						
1097.30(5)	$\langle \leq 3 \rangle$				incl								
1105.48(4)	$\langle \leq 3 \rangle$												
1124.98(6)	$\langle \leq 3 \rangle$												
1148.40(6)	$\langle \leq 3 \rangle$												
1156.56(14)	$\langle \leq 3^- \rangle$	0+2	0.01, 0.03				75Le06						

(continued)

⁷⁶₃₃As

E^* [keV]	J^π	L	S' (d,p)	C^2S' (d,p)	σ (d,p) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								E_f^* : J_f^π :	0.0 2 ⁻	44.4 $\langle 1 \rangle^+$	86.8 $\langle 1 \rangle^+$	120.3 $\langle 1 \rangle^+$	122.2 $\langle 1 \rangle^-$
1185.75(4)	$\langle \leq 3 \rangle$				30		76Mo32						
1201.97(20)	$\langle \leq 3 \rangle$				incl								
1230(10)													
1244.70(19)	$\langle \leq 3 \rangle$				30		76Mo32						
1260.10(23)	$\langle \leq 3 \rangle$												
1269.07(4)	$\langle \leq 3^- \rangle$												
1301.03(4)	$\langle \leq 3 \rangle$												
1309.38(17)	$\langle \leq 3 \rangle$												
1314.55(12)	$\langle \leq 3 \rangle$												
1322.21(7)	$\langle \leq 3 \rangle$												
1341.89(4)	$\langle \leq 3 \rangle$												
1352.37(8)	$\langle \leq 3 \rangle$												
1358.43(7)	$\langle \leq 3 \rangle$												
1369.3(4)	$\langle \leq 3 \rangle$				20		76Mo32						
1385.59(14)	$\langle \leq 3 \rangle$				incl								
1397.34(14)	$\langle \leq 3 \rangle$	0+2	0.02,0.04				75Le06						
1404.0(3)	$\langle \leq 3 \rangle$												
1422.32(13)	$\langle \leq 3 \rangle$												
1443.84(5)	$\langle \leq 3 \rangle$	[1+3]			380		76Mo32						
1450.87(9)	$\langle \leq 3 \rangle$	0+2	0.01,0.23		incl		75Le06						
1458.89(9)	$\langle \leq 3 \rangle$												
1473.65(20)	$\langle \leq 3 \rangle$												
1477.7(4)	$\langle \leq 3 \rangle$	0+2	0.02,0.04				75Le06						
1494.35(10)	$\langle \leq 3 \rangle$												
1498.9(11)	$\langle \leq 3 \rangle$												
1512.18(7)	$\langle \leq 3 \rangle$												
1520.2(3)	$\langle \leq 3 \rangle$												
1524.8(3)	$\langle \leq 3 \rangle$												
1541.74(4)	$\langle \leq 3 \rangle$												
1550.45(5)	$\langle \leq 3 \rangle$	0+2	0.02,0.05		140		75Le06						
1571.34(4)	$\langle \leq 3 \rangle$												
1584.0(3)	$\langle \leq 3 \rangle$												
1597.6(6)	$\langle \leq 3 \rangle$												
1605.17(10)	$\langle \leq 3 \rangle$												
1630.52(5)	$\langle \leq 3 \rangle$				20		76Mo32						
1638.03(5)	$\langle \leq 3 \rangle$												
1644.37(6)	$\langle \leq 3 \rangle$												
1652.67(4)	$\langle \leq 3 \rangle$	0+2	0.03,0.07		30		75Le06						
1664.75(4)	$\langle \leq 3 \rangle$				incl								
1673.34(9)	$\langle \leq 3 \rangle$				incl								
1682.81(12)	$\langle \leq 3 \rangle$												
1694.6(5)	$\langle \leq 3 \rangle$												
1699.03(11)	$\langle \leq 3 \rangle$												
1704.32(19)	$\langle \leq 3 \rangle$												
1713.58(20)	$\langle \leq 3 \rangle$												

(continued)

⁷⁶₃₃As

E^*	J^π	L	S'	C^2S'	σ (d,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	(d,p)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* :	0.0	44.4	86.8	120.3	122.2
								J_f^π :	2^-	$\langle 1 \rangle^+$	$\langle 1 \rangle^+$	$\langle 1 \rangle^+$	$\langle 1 \rangle^-$
1715.6(6)	$\langle \leq 3 \rangle$	0	0.06				75Le06						
1727.19(10)	$\langle \leq 3 \rangle$				150		76Mo32						
1748.36(5)	$\langle \leq 3 \rangle$				incl								
1759.58(7)	$\langle \leq 3 \rangle$												
1782.53(13)	$\langle \leq 3 \rangle$				30		76Mo32						
1788.10(23)	$\langle \leq 3 \rangle$				incl								
1794.62(4)	$\langle \leq 3 \rangle$												
1801.55(18)	$\langle \leq 3 \rangle$												
1821(10)													
1830(10)													
1849(10)													
1872(10)	$\langle 1^-, 2^- \rangle$	0	0.05				75Le06						
1885(10)	$\langle 1^-, 2^- \rangle$	0	0.04				75Le06						
1928(10)													
1960(10)													
1988(10)													
2004(10)													
2032(10)													
2067(10)													
2114(10)													
2136(10)													
2147(10)													
2206(10)													
2239(10)													
2272(10)													
2306(10)													
2338(10)													
2366(10)													
2392(10)													
2419(10)													
2446(10)													
2485(10)													
2505(10)													
			75Le06	76Mo32	76Mo32		Ref.						

Additional data on this isotope can be found in [02Sa38, 90Ho10].

Parameters C^2S and cross section for neutron transfer reaction (d,p) are from [75Le06, 76Mo32].

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

⁷⁶₃₃As

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	165.0 $\langle 3 \rangle^-$	203.5 $\langle 0,1 \rangle^+$	211.1 $\langle 4 \rangle^-$	264.8 $\langle 1,2 \rangle^+$	280.3 $\langle 1,2 \rangle^+$	286.0 $\langle 3,4 \rangle^-$	292.6	300.5 $\langle 2,3 \rangle$	308.3 $\langle 2 \rangle^+$	328.5 $\langle 3,4 \rangle^-$
211.146(1)	$\langle 4 \rangle^-$		74(4)									
286.017(1)	$\langle 3,4 \rangle^-$				100							
292.557(2)	$\langle 2-4 \rangle^-$		93(9)		7.5(7)							
300.460(1)	$\langle 2,3 \rangle$		65(3)									
308.319(1)	$\langle 2 \rangle^+$		1.3(2)									
328.478(1)	$\langle 3,4 \rangle^-$				100							
352.361(2)	$\langle 3 \rangle^-$		14		44(6)							
363.906(1)	$\langle 1^-, 2^- \rangle$		34									
366.228(1)	$\langle 2-5 \rangle$		20(1)		70(6)			10(1)				
377.383(1)	$\langle 2,3,4 \rangle^-$							100				
401.833(1)	$\langle 1,2 \rangle^+$					14(1)						
436.802(1)	$\langle 1,2,3 \rangle^-$		24(2)							60(5)		
447.170(2)	$\langle 1,2 \rangle^+$						4.9(5)					
457.349(2)	$\langle 2^-, 3 \rangle$				50(1)					33(4)		
460.2(2)		x	x									
471.000(1)	$\langle 2 \rangle^-$				2.0(3)		1.1(3)		2.5(2)	1.4(2)	8.3(9)	
479.295(2)	$\langle 2-5 \rangle^-$		30(2)		9(1)			16(1)	15(1)	24(1)		
499.580(2)	$\langle 1^+, 2^+ \rangle$			17(1)		12(1)					4(1)	
505.204(2)	$\langle 2,3 \rangle^+$		48(5)							6		
508.687(1)	$\langle 2-6 \rangle^-$				60(2)			4(1)				19(1)
517.579(1)	$\langle 1^+, 2^+ \rangle$						6.1(3)					
519.608(2)	$\langle 1^-, 2, 3^+ \rangle$		16(2)				12(1)					7(1)
544.023(2)	$\langle 2,3 \rangle^-$		50(4)							8		
550.435(2)	$\langle 1^-, 2^- \rangle$						21(1)	18(3)				
553.5(2)	$\langle 1,2,3 \rangle$										35(3)	
609.970(4)	$\langle 1,2,3^+ \rangle$										12(1)	
686.128(4)	$\langle 1-4 \rangle$		26(3)						41(5)			
703.248(5)	$\langle 1-4 \rangle$											22(6)
741.458(9)	$\langle \leq 3 \rangle$						33(2)					
744.945(4)	$\langle 1^+, 2^+ \rangle$					29(2)						
774.408(7)	$\langle 1-3 \rangle^+$						30(3)				19(3)	
785.833(5)	$\langle \leq 3 \rangle$			61(2)								
893.811(8)	$\langle 1^--3^+ \rangle$										37(6)	
909.125(11)	$\langle 1,2 \rangle^+$					32(6)					16(5)	
935.376(8)	$\langle \leq 3 \rangle$			28(6)								
1026.2(6)	$\langle 1^+, 2^+ \rangle$		100									
1034.206(10)	$\langle 1-3 \rangle^+$										28(6)	

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

⁷⁶₃₃As

E^*	J^π	Branching ratios in percentage										
[keV]		E_{f}^* : J_{f}^π :	352.4 $\langle 3 \rangle^-$	363.9 $\langle 1^-, 2^- \rangle$	366.2 $\langle 2-5 \rangle$	377.4	401.8 $\langle 1, 2 \rangle^+$	436.8	447.2 $\langle 1, 2 \rangle^+$	457.3 $\langle 2^-, 3 \rangle$	471.0 $\langle 2 \rangle^-$	479.3 $\langle 2-5 \rangle^-$
479.295(2)	$\langle 2-5 \rangle^-$					5(1)						
499.580(2)	$\langle 1^+, 2^+ \rangle$			17(10)								
505.204(2)	$\langle 2, 3 \rangle^+$		20(1)									
508.687(1)	$\langle 2-6 \rangle^-$				14(1)	3(1)						
544.023(2)	$\langle 2, 3 \rangle^-$		8(2)	23								
553.5(2)	$\langle 1, 2, 3 \rangle$						<65					
624.6(3)	$\langle \leq 4 \rangle$										x	
628.744(1)	$\langle 1, 2, 3^- \rangle$										86(7)	
637.249(3)	$\langle 1^+, 2^+ \rangle$							13(3)				
640.122(10)	$\langle 1^-, 2^- \rangle$							6(1)				
703.248(5)	$\langle 1-4 \rangle$			27(6)								
734.390(2)	$\langle \leq 4 \rangle^-$										11.3(12)	
741.458(9)	$\langle \leq 3 \rangle$								22(4)			44(4)
744.945(4)	$\langle 1^+, 2^+ \rangle$						16(1)					
756.574(2)	$\langle 0^+, 3^+ \rangle$						12(4)					
785.833(5)	$\langle \leq 3 \rangle$						39(4)					
793.570(3)	$\langle 1-3 \rangle^+$										23(7)	
802.452(10)	$\langle 1^- - 3^+ \rangle$			35(3)								
893.811(8)	$\langle 1^- - 3^+ \rangle$			37(6)								
924.756(8)	$\langle \leq 3^- \rangle$								26(3)		20(2)	
939.750(5)	$\langle 1, 2, 3 \rangle$										26(1)	
958.393(4)	$\langle \leq 3 \rangle$										25(4)	28(4)
1034.206(10)	$\langle 1-3 \rangle^+$						35(6)					18(2)
1064.485(7)	$\langle 1^+, 2^+ \rangle$					21(11)				13(3)		

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

⁷⁶₃₃As

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	499.6 $\langle 1^+, 2^+ \rangle$	505.2 $\langle 2, 3 \rangle^+$	508.7 $\langle 2-6 \rangle^-$	517.6 $\langle 1^+, 2^+ \rangle$	519.6	544.0 $\langle 2, 3 \rangle^-$	550.4 $\langle 1^-, 2^- \rangle$	628.7	734.4 $\langle \leq 4 \rangle^-$	744.9 $\langle 1^+, 2^+ \rangle$
669.115(4)	$\langle 1^+, 2^+ \rangle$							<8	34(2)			
686.128(4)	$\langle 1-4 \rangle$							34(2)				
703.248(5)	$\langle 1-4 \rangle$			20(2)				31(4)				
734.390(2)	$\langle \leq 4 \rangle^-$				89(3)							
742.9(8)	$\langle \leq 4 \rangle$					x						
756.574(2)	$\langle 0^+, 3^+ \rangle$					88(40)						
793.570(3)	$\langle 1-3 \rangle^+$						15(1)					
802.452(10)	$\langle 1^--3^+ \rangle$			65(27)								
893.811(8)	$\langle 1^--3^+ \rangle$		26(4)									
935.376(8)	$\langle \leq 3 \rangle$									19(1)		
939.750(5)	$\langle 1, 2, 3 \rangle$		21(1)							47(3)		6(2)
958.393(4)	$\langle \leq 3 \rangle$									17(2)	30(1)	

(continued)

⁷⁶₃₃As

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	499.6 $\langle 1^+, 2^+ \rangle$	505.2 $\langle 2, 3 \rangle^+$	508.7 $\langle 2-6 \rangle^-$	517.6 $\langle 1^+, 2^+ \rangle$	519.6	544.0 $\langle 2, 3 \rangle^-$	550.4 $\langle 1^-, 2^- \rangle$	628.7	734.4 $\langle \leq 4 \rangle^-$	744.9 $\langle 1^+, 2^+ \rangle$
985.526(12)	$\langle 1-3 \rangle^+$					32(1)						
1064.485(7)	$\langle 1^+, 2^+ \rangle$										26(3)	

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

⁷⁶₃₃As

E^*	J^π	E_f^* : J_f^π :	Branching ratios in percentage	
[keV]			756.6 $\langle 0^+, 3^+ \rangle$	909.1 $\langle 1, 2 \rangle^+$
1034.206(10)	$\langle 1-3 \rangle^+$			<7
1064.485(7)	$\langle 1^+, 2^+ \rangle$		7(1)	

Energy levels and branching ratios [97Fa12].

⁷⁷₃₃As

E^*	$2J^\pi$	L	$(2J+1)C^2S$	σ (τ, d)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu\text{b/sr}$		(d, τ)	Γ_{cm}	
0.0	3^-	1	1.06	970	1	1.17	38.83(5) h	76Sc13
194.75(2)	3^-	1	0.07	1050	1	0.05	7.4(3) ns	76Sc13
215.48(2)	3^-	1	0.81	incl	1	0.84	<0.3 ns	76Sc13
264.42(1)	5^-	3	2.15	220	3	3.36*	0.304(3) ns	76Sc13
475.44(2)	9^+	4	3.73	270	4	0.73	114.0 μs	76Sc13
503.88(17)	$1^-, 3^-$	1	0.82	1000	1	0.33*		76Sc13
614.49(2)	3^-				1	0.05		
631.81(1)	5^+	2	0.46	340			60(6) ps	76Sc13
634.40(2)	$5^+, 7^-$			incl	2	0.14		
784.72(2)	$5^-, 7^-$			40	3	0.27		
875.21(2)	$3^-, 5, 7^-$							
889.06(4)	$3^-, 5, 7^-$							
1048.4(2)	$\langle 13^+ \rangle$							
1052(4)	$1^-, 3^-$	1	0.20	300	1	0.20		76Sc13
1058.74(4)	$\langle 9^- \rangle$			incl				
1158(5)	1^+	0	0.03					76Sc13
1164.98(7)	$5^-, 7^-$				3	0.19		
1189.78(2)	7^-	3	0.47	180			<0.2 ns	76Sc13
1201.26(4)	1^+			incl	0	0.015		
1221.21(3)	$\langle 11^+ \rangle$							
1279.96(4)	$\langle \leq 7 \rangle$							
1319.69(3)	$5^-, 7^-$				3	0.23		
1345.13(5)	$\langle 3^-, 5, 7^- \rangle$							

(continued)

⁷⁷₃₃As

E^*	$2J^\pi$	L	$(2J+1)C^2S$	σ (τ, d)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu\text{b/sr}$		(d, τ)	Γ_{cm}	
1350.23(9)	$\langle 3^-, 5, 7^- \rangle$							
1397.3(3)	$\langle 5^-, 7^- \rangle$							
1398.56(2)	$\langle 7^+ \rangle$							
1457.65(2)	$\langle 5, 7^- \rangle$					weak		
1528.32(2)	5^+	2	0.12					76Sc13
1538.79(2)	$\langle 1^+, 3, 5^+ \rangle$							
1560.65(2)	5^+						<0.1 ns	
1573.73(2)	$\langle 3, 5, 7^- \rangle$					weak		
1604.68(8)	$1^{(-)}, 3^{(-)}$				1	0.24		
1617(5)	$\langle 1, 3 \rangle^-$	1+3	0.1+0.2					76Sc13
1654(5)		1+4	0.1+0.2	170				76Sc13
1676.5(1)	$1^{(-)}, 3^{(-)}$				$\langle 1 \rangle$	0.18		
1732.8(1)	$\langle 3^-, 5^+ \rangle$							
1736.7(2)	$\langle 13^+ \rangle$							
1760(10)								
1837.71(7)	$\langle \leq 7 \rangle$							
1888.4(2)	$\langle 15^+ \rangle$							
1929.9(4)								
1971.06(2)	$\langle 7^+, 9^+ \rangle$	0+4	0.01+1.2	160				76Sc13
2000.14(2)	5^+			incl				
2000.3(3)	$\langle 17^+ \rangle$							
2110.88(2)	$\langle 5^+, 7^+ \rangle$	0+2	0.03+0.04	230				76Sc13
2124(1)								
2195.4(6)	$\langle 1^-, 3^- \rangle$	1	0.07	110				76Sc13
2335(10)	$\langle 1^-, 3^- \rangle$	1	0.05	110				76Sc13
2341.66(2)	$\langle 5, 7^- \rangle$							
2354.07(2)	$\langle 7^- \rangle$							
2424.27(6)	$\langle 7^- \rangle$			110				
2463.2(1)	$\langle 5, 7, 9^+ \rangle$							
2512.8(3)								
2513.27(4)	$\langle 7^- \rangle$							
2516(10)	$\langle 7^+, 9^+ \rangle$	4	0.55	100				76Sc13
2543.88(7)	$\langle 5, 7^- \rangle$			incl				
2584.9(4)	$\langle 13^- \rangle$							
2623(10)		1+4	0.05+0.14	90+50				76Sc13
2655(5)	$\langle 1^-, 3^- \rangle$	1	0.15	330				76Sc13
2745.2(4)	$\langle 15^- \rangle$							
2750(10)	$\langle 3^+, 5^+ \rangle$	2	0.07	110				76Sc13
2846(10)				120				
2934(10)	$X^{(+)}$	2+4	0.04+0.19	190				76Sc13
3002.7(4)	$\langle 17^- \rangle$							
3009(5)		3,4	0.13,0.19	incl				76Sc13
3086(10)		1+4	0.08+0.22	250				76Sc13
3118(5)	$\langle 3^+, 5^+ \rangle$	$\langle 2 \rangle$	0.04	incl				76Sc13
3150.9(4)	$\langle 21^+ \rangle$							

(continued)

⁷⁷₃₃As

E^*	$2J^\pi$	L	$(2J+1)C^2S$	σ (τ, d)	L	C^2S	$T_{1/2}$ or	Ref.
[keV]			(τ, d)	$\mu\text{b/sr}$		(d, τ)	Γ_{cm}	
3190(10)		0	0.02	230				74Be54
3258(10)		1+4	0.01+0.08	incl				76Sc13
3312(10)	$\langle 3^+, 5^+ \rangle$	2	0.04					76Sc13
3363.6(5)	$\langle 19^- \rangle$							
3376(10)		1+4	0.03+0.20					76Sc13
3483(10)	$\langle 1^+ \rangle$	0	0.02	170				76Sc13
3559(10)	$\langle 1^-, 3^- \rangle$	1	0.13	430				76Sc13
3593(10)	$X^{(+)}$	0+2	0.01+0.04					76Sc13
3633(15)	$\langle 1^+ \rangle$	0	0.02					76Sc13
3676(15)	$X^{(+)}$	0+4	0.01+0.13					76Sc13
3742(15)	$\langle 1^+ \rangle$	0	0.01					76Sc13
3770(15)	$X^{(+)}$	2+4	0.04+0.14					76Sc13
3835(15)	$X^{(+)}$	0+4	0.01+0.13					76Sc13
3855.6(5)	$\langle 21^- \rangle$							
3885(15)		0+1	0.02+0.02					76Sc13
3960(15)	$X^{(+)}$	0+2	0.01+0.04					76Sc13
4022(20)	$\langle 1^+ \rangle$	0	0.01					76Sc13
4102(20)	$\langle 3^+, 5^+ \rangle$	2	0.05					76Sc13
4192(20)		1+3	0.02+0.21					76Sc13
4325(20)	$X^{(+)}$	0+2	0.02+0.03					76Sc13
4456.2(7)	$\langle 25^+ \rangle$							
12070(7)	$\langle 1^- \rangle$							
12128(7)	$\langle 9^+ \rangle$							
12426(5)	$\langle 5^+ \rangle$							
12544(5)	$\langle 3^- \rangle$							
12804(5)	$\langle 5^+ \rangle$							
12924(5)								
13094(14)								
13243(9)								
13439(12)	$\langle 1^+ \rangle$							
13697(12)								
			76Sc13	74Be54		83Ro08		Ref.

Additional data on this isotope can be found in [00Ke08].

* For $J=L - 1/2$; for other levels an assumption $J=L + 1/2$ was used [97Fa12]. C^2S for proton transfer reaction (τ, d) are from [76Sc13], while the cross section – from [74Be54].

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

⁷⁷₃₃As

E^* [keV]	$2J^\pi$	E_f^* : $2J_f^\pi$:	0.0 3 ⁻	195 3 ⁻	215 3 ⁻	Branching ratios in percentage						
						264 5 ⁻	475 9 ⁺	503.9 1 ⁻ ,3 ⁻	614.5 3 ⁻	631.8 5 ⁺	634.4 5 ⁺ ,7 ⁻	784.7 5 ⁻ ,7 ⁻
194.75(2)	3 ⁻		100									
215.48(2)	3 ⁻		100									
264.42(1)	5 ⁻		100									
475.44(2)	9 ⁺		3.12(6)			97(3)						
503.88(17)	1 ⁻ ,3 ⁻		100									
614.49(2)	3 ⁻		27(3)	67(2)	5.2(2)	0.91(6)						
631.81(1)	5 ⁺		16.0(4)		50(1)	32.1(8)	1.84(5)					
634.40(2)	5 ⁺ ,7 ⁻		90(3)				10.0(5)					
784.72(2)	5 ⁻ ,7 ⁻		80(2)			18(2)					2.3(7)	
875.21(2)	3 ⁻ ,5,7 ⁻		86(3)	4.3(1)	3.4(1)	6.7(2)						
889.06(4)	3 ⁻ ,5,7 ⁻		2.6(1)		25(2)	34(1)					39(1)	
1048.4(2)	⟨13 ⁺ ⟩						100					
1058.74(4)	⟨9 ⁻ ⟩					100						
1164.98(7)	5 ⁻ ,7 ⁻		26(1)	13(4)		61(1)						
1189.78(2)	7 ⁻				x	3.0(3)	30(1)			67(1)		
1201.26(4)	1 ⁺		27(1)	4.5(2)	33(1)					26.3(6)		
1221.21(3)	⟨11 ⁺ ⟩						100					
1279.96(4)	⟨≤7⟩		97(2)						2.7(3)			
1319.69(3)	5 ⁻ ,7 ⁻		56(1)		6.3(3)	x			19.9(4)		12(1)	0.2(1)
1345.13(5)	⟨3 ⁻ ,5,7 ⁻ ⟩				x	89(2)			7.6(4)			
1350.23(9)	⟨3 ⁻ ,5,7 ⁻ ⟩			42(2)	58(2)							
1397.3(3)	⟨5 ⁻ ,7 ⁻ ⟩		100									
1398.56(2)	⟨7 ⁺ ⟩						25.6(1)			29(1)		3.3(3)
1457.65(2)	⟨5,7 ⁻ ⟩				8.7(2)	56(1)			4.6(1)	1.0(2)	13.1(2)	12(1)
1528.32(2)	5 ⁺		1.8(1)		13	32(1)	1.2		13.8(3)	4.6(1)		6.7(2)
1538.79(2)	⟨1 ⁺ ,3,5 ⁺ ⟩		9.6(3)		1.09(4)				x	64(1)		
1560.65(2)	5 ⁺						84(2)		0.43(2)	14.5(3)	0.9(1)	0.21(1)
1573.73(2)	⟨3,5,7 ⁻ ⟩		35(1)		1.57(6)	26.2(6)			3.8(1)		15.4(4)	5.2(1)
1604.68(8)	1 ^{⟨-⟩} ,3 ^{⟨-⟩}		57(3)	28(1)	1.9(4)	4.1(5)		1.9(5)	6.3(7)			
1676.5(1)	1 ^{⟨-⟩} ,3 ^{⟨-⟩}		70(4)	20(1)	2.7(6)	3.0(8)		1.8(7)	2.2(6)			
1837.71(7)	⟨≤7⟩			33(3)								
1971.06(2)	⟨7 ⁺ ,9 ⁺ ⟩						19.9(4)			2.74(6)		1.5
2000.14(2)	5 ⁺		7.0(2)		0.10(1)	0.11(1)			0.10(1)	42(4)		1.60(3)
2110.88(2)	⟨5 ⁺ ,7 ⁺ ⟩					8.1(2)				4	10.7(2)	1.7(1)
2195.4(6)	⟨1 ⁻ ,3 ⁻ ⟩								x			x
2341.66(2)	⟨5,7 ⁻ ⟩		21		9.0(1)	10			6.6(1)	13.6(3)		0.5
2354.07(2)	⟨7 ⁻ ⟩		0.4(1)			30(1)	3.2(1)			4.5(1)	35(1)	5.0(2)
2424.27(6)	⟨7 ⁻ ⟩						4(1)		20(3)	26(1)		4(1)
2463.2(1)	⟨5,7,9 ⁺ ⟩									74(3)	26(7)	
2513.27(4)	⟨7 ⁻ ⟩					7(1)	26(1)			6(1)		
2543.88(7)	⟨5,7 ⁻ ⟩				22(1)	8(1)			26(1)	24(1)		6(4)

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

⁷⁷As
33

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	875.2 3 ⁻ -7 ⁻	889.1 3 ⁻ ,5,7 ⁻	1048.4 ⟨13 ⁺ ⟩	1058.7 ⟨9 ⁻ ⟩	1165.0 5 ⁻ ,7 ⁻	1189.8 7 ⁻	1201.3 1 ⁺	1221.2 ⟨11 ⁺ ⟩	1280.0 ⟨≤7⟩	1319.7 5 ⁻ ,7 ⁻
1201.26(4)	1 ⁺		9(3)									
1319.69(3)	5 ⁻ ,7 ⁻		3.2(1)	1.91(10)								
1345.13(5)	⟨3 ⁻ ,5,7 ⁻ ⟩		3.0(2)									
1397.3(3)	⟨5 ⁻ ,7 ⁻ ⟩					x						
1398.56(2)	⟨7 ⁺ ⟩							35(1)		6.7(2)		
1457.65(2)	⟨5,7 ⁻ ⟩							5(4)				
1528.32(2)	5 ⁺			1.5				25(1)				
1538.79(2)	⟨1 ⁺ ,3,5 ⁺ ⟩								15.6(4)			10(10)
1560.65(2)	5 ⁺		0.35(3)									
1573.73(2)	⟨3,5,7 ⁻ ⟩		12.3(3)									
1732.8(1)	⟨3 ⁻ ,5 ⁺ ⟩		40(1)						60(1)			
1736.7(2)	⟨13 ⁺ ⟩									100		
1837.71(7)	⟨≤7⟩										≈67	
1888.4(2)	⟨15 ⁺ ⟩				93(10)					≈7		
1929.9(4)					71(29)					≈29		
1971.06(2)	⟨7 ⁺ ,9 ⁺ ⟩							41(1)		35.3(6)		
2000.14(2)	5 ⁺		1.48(3)					28.5(6)	0.60(1)			
2000.3(3)	⟨17 ⁺ ⟩				100							
2110.88(2)	⟨5 ⁺ ,7 ⁺ ⟩						1.4(1)	3.2(1)				
2124(1)						100						
2195.4(6)	⟨1 ⁻ ,3 ⁻ ⟩						x					
2341.66(2)	⟨5,7 ⁻ ⟩		2.7(3)	5.4(1)				8.7(2)			6.7(1)	0.3
2354.07(2)	⟨7 ⁻ ⟩		11(1)	5.2(5)		5.2(5)						
2424.27(6)	⟨7 ⁻ ⟩					x		15(1)				
2513.27(4)	⟨7 ⁻ ⟩			2.2(5)		16						
2543.88(7)	⟨5,7 ⁻ ⟩							14(1)				
2584.9(4)	⟨13 ⁻ ⟩									100		
2745.2(4)	⟨15 ⁻ ⟩				38(19)							

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

⁷⁷As
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1345.1	1398.6 ⟨7 ⁺ ⟩	1457.6 ⟨5,7 ⁻ ⟩	1528.3 5 ⁺	1538.8	1560.6 5 ⁺	1736.7 ⟨13 ⁺ ⟩	1837.7 ⟨≤7⟩	1888.4 ⟨15 ⁺ ⟩	2000.3 ⟨17 ⁺ ⟩
2000.14(2)	5 ⁺		0.16(1)				15.9(3)	2.54(5)				
2110.88(2)	⟨5 ⁺ ,7 ⁺ ⟩			37(1)		35(1)						
2341.66(2)	⟨5,7 ⁻ ⟩		4.7(1)		0.7	5.8(1)	1.3			3.1(1)		
2424.27(6)	⟨7 ⁻ ⟩				20(6)							
2512.8(3)											100	
2513.27(4)	⟨7 ⁻ ⟩			43(2)	x							
2745.2(4)	⟨15 ⁻ ⟩								31(19)			
3150.9(4)	⟨21 ⁺ ⟩											100

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

⁷⁷₃₃As

E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		E_f^* : $2J_f^\pi$:	2110.9 $\langle 5^+, 7^+ \rangle$	2584.9 $\langle 13^- \rangle$	2745.2 $\langle 15^- \rangle$	3002.7 $\langle 17^- \rangle$	3150.9 $\langle 21^+ \rangle$	3363.6 $\langle 19^- \rangle$
2424.27(6)	$\langle 7^- \rangle$		11					
2745.2(4)	$\langle 15^- \rangle$			31(6)				
3002.7(4)	$\langle 17^- \rangle$				100			
3363.6(5)	$\langle 19^- \rangle$					100		
3855.6(5)	$\langle 21^- \rangle$							100
4456.2(7)	$\langle 25^+ \rangle$						100	

Energy levels and branching ratios [91Ra06].

⁷⁸₃₃As

E^* [keV]	J^π	σ (t, τ) $\mu\text{b/sr}$	L (d, α)	σ (d, α) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage	
							E_f^* : J_f^π :	0.0 2 ⁻
0.0	2 ⁻	0.30	3	14	90.7(2) m	79Aj02		
207(3)		1.8		10		79Aj02		
277.3(3)	1 ⁺		0+2	27		77Mo13	100	
293.9(5)	1 ⁺						100	
367(6)		0.92		8		79Aj02		
459(4)				22				
504(3)	0 ⁻ -2 ⁻		1	3		77Mo13		
536(4)	1 ⁺		0+2	8		77Mo13		
617(5)	0 ⁻ -2 ⁻	3.1	1	46		79Aj02		
664(6)		4.1		24		79Aj02		
752(6)	0 ⁻ -2 ⁻	0.92	1	19		79Aj02		
848(6)	$\langle 0^- - 2^- \rangle$		$\langle 1 \rangle$	13		77Mo13		
891(7)				9		77Mo13		
939(9)				7		77Mo13		
967(14)	1 ⁺		0+2	6		77Mo13		
1007(7)				5		77Mo13		
1072(4)	1 ⁺		0	5		77Mo13		
1103(8)				15		77Mo13		
1131(7)				9		77Mo13		
1178(13)				11		77Mo13		
1273(10)				12		77Mo13		
1355(30)								
1428(20)								
1480(20)								
1558(20)		0.84				79Aj02		
1626(20)								
1710(25)								
1757(30)								
1875(30)								
1973(20)								

(continued)

⁷⁸₃₃As

E^*	J^π	σ (t, τ)	L	σ (d, α)	$T_{1/2}$ or	Ref.	Branching ratios in percentage	
[keV]		$\mu\text{b/sr}$	(d, α)	$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* :	0.0
							J_{f}^π :	2 ⁻
2068(20)								
2285(20)								
2383(30)								
		79Aj02		77Mo13		Ref.		

Additional data on this isotope can be found in [96Do10].

Energy levels and branching ratios [02Si13].

⁷⁹₃₃As

E^*	$2J^\pi$	L	σ (α ,p)	S_{N}	L	C^2S	L	C^2S	$n\ell j$	σ (t, α)	$T_{1/2}$ or	Ref.
[keV]		(α ,p)	<i>rel.</i>	(α ,p)	(d, τ)	(d, τ)	(t, α)	(t, α)	(t, α)	$\mu\text{b/sr}$	Γ_{cm}	
0.0	3 ⁻	1	1.25	2.2	1	1.97	1	1.30	2p3/2	1950	9.01(15) m	80Ro09
100.45(5)	$\langle 1^- \rangle$		0.11		1	0.34	1	0.23	2p3/2	450		83Ro08
109.58(4)	$\langle 3^- \rangle$									incl		
230.57(4)	$\langle 5^- \rangle$	3	0.49	3.0	3	4.07	3	2.29	1f5/2	2600		83Mo09
499(2)	$\langle 1^- \rangle$	1	0.69	1.2	1	0.25	$\langle 1 \rangle$	0.24	2p3/2	370		83Mo09
603.69(4)	$\langle 1,3 \rangle$		0.17									
634.06(4)	$\langle 5,7 \rangle$		0.05									
772.81(6)	$\langle 9^+ \rangle$	4	0.83	3.6	4	1.08	4	0.53	1g9/2	640	0.87 μs	80Ro09
875.16(4)	$\langle \leq 7 \rangle$		0.05									
1012.03(8)	$\langle 5^+ \rangle$		0.06									
1016(5)	$\langle 3^- \rangle$						1	0.04	2p3/2	41		83Mo09
1048(4)	$\langle 1^- \rangle$	$\langle 1 \rangle$	0.10	0.18	1	0.09	1,3	0.03,0.1	2p3/2+1f5/2	90		80Ro09
1143(3)	$\langle 5^- \rangle$		0.10				3	0.22	1f5/2	200		83Mo09
1411.98(6)			0.05									80Ro09
1434(4)			0.10				3,0	0.1,0.03	1f5/2+3s1/2	880		83Mo09
1490.23(8)												
1496.89(10)	$\langle 5^+-9^+ \rangle$											
1505.96(5)	$\langle 3^- \rangle$				1	0.10	1	0.07	2p3/2	44		83Ro08
1517.89(8)												
1710(6)			0.07				1,3	0.07,0.1	2p3/2+1f5/2	84		83Mo09
1811(5)	$\langle 9^+ \rangle$	4	0.26	1.3			4	0.09	1g9/2	94		80Ro09
1869.42(6)	$\langle 1^-,3^- \rangle$		0.08									80Ro09
1890.36(5)	$\langle 5^+-9^+ \rangle$	1	0.18	0.4	1	0.37						83Ro08
1895(4)	$\langle 1^- \rangle$						1	0.33	2p3/2	300		83Mo09
1942(8)			0.05									80Ro09
1964.84(9)	$\langle 9^+ \rangle$	4	0.23	1.2			4	0.07	1g9/2	88		80Ro09
2056(4)	$\langle 3^- \rangle$				$\langle 1 \rangle$	0.21	1	0.14	2p3/2	170		83Ro08
2128(10)	$\langle 1^+ \rangle$						$\langle 0 \rangle$	0.01	3s1/2	46		83Mo09
2219(7)							1,3	0.17,0.4	2p3/2+1f5/2	230		83Mo09
2329(13)							3,0	0.1,0.01	1f5/2+3s1/2	31		83Mo09
2553(3)	1 ⁺						0	0.02	3s1/2	49		83Mo09

(continued)

⁷⁹₃₃As

E^*	$2J^\pi$	L	σ (α ,p)	S_N	L	C^2S	L	C^2S	$n\ell j$	σ (t, α)	$T_{1/2}$ or	Ref.
[keV]		(α ,p)	rel.	(α ,p)	(d, τ)	(d, τ)	(t, α)	(t, α)	(t, α)	μ b/sr	Γ_{cm}	
2636(13)	1^+						0	0.03	3s1/2	79		83Mo09
2835(9)							3,0	0.1,0.04	1f5/2+3s1/2	92		83Mo09
2945(13)							$\langle 3 \rangle$	0.53	1f5/2	340		83Mo09
3071(10)		$\langle 5 \rangle^-$					3	1.10	1f5/2	1100		83Mo09
3166(10)							4,0	0.02,0.1	3s1/2+1g9/2	53		83Mo09
3332(8)										230		83Mo09
3479(10)										107		83Mo09
			80Ro09									Ref.
				80Ro09		83Ro08		83Mo09	83Mo09	83Mo09		Ref.

Spectroscopic strengths S_N for the (α ,p) reaction are given relative to that for ⁷¹Ga ground state [80Ro09, 02Si13]; parameters of this triton transfer reaction are often similar to those of proton transfer reaction (τ ,d) [80Ro09].

Values S_N for the (α ,p) reaction are normalized ratios between experimental $d\sigma/d\Omega$ and calculated by DWBA, they are spectroscopic strength of triton transfer similar to the proton spectroscopic factor if two neutrons could be considered as a $J=0$ pair [80Ro09].

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

⁷⁹₃₃As

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	0.0 3 ⁻	100 $\langle 1^- \rangle$	110 $\langle 3 \rangle^-$	231 $\langle 5 \rangle^-$	604 $\langle 1,3 \rangle$	634.1 $\langle 5,7 \rangle$	772.8 $\langle 9 \rangle^+$	875.2 $\langle \leq 7 \rangle$	1012.0 $\langle 5^+ \rangle$	1517.9
100.45(5)	$\langle 1^- \rangle$		100									
109.58(4)	$\langle 3 \rangle^-$		100									
230.57(4)	$\langle 5 \rangle^-$		100									
603.69(4)	$\langle 1,3 \rangle$		34(3)	66								
634.06(4)	$\langle 5,7 \rangle$		76		24(2)							
772.81(6)	$\langle 9 \rangle^+$					100						
875.16(4)	$\langle \leq 7 \rangle$		28(2)		43(2)	29(4)						
1012.03(8)	$\langle 5^+ \rangle$				24(2)	76(5)						
1411.98(6)						73	27(2)					
1490.23(8)						100						
1496.89(10)	$\langle 5^+ - 9^+ \rangle$										100	
1505.96(5)	$\langle 3 \rangle^-$		76(4)		18(1)	3.4(2)		2.9(2)				
1517.89(8)									100			
1869.42(6)	$\langle 1^-, 3^- \rangle$		72				28(2)					
1890.36(5)	$\langle 5^+ - 9^+ \rangle$							33(2)	33(2)	33(2)		
1964.84(9)	$\langle 9 \rangle^+$								46(4)			54

Energy levels and branching ratios [92Si19, 05Si20].

 $^{80}_{33}\text{As}$

E^*	J^π	L	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.
[keV]		(t, τ)	$\mu\text{b/sr}$	Γ_{cm}	
0.0	1^+		0.35	15.2(2) s	79Aj02
243(10)			1.5		79Aj02
265.35(6)	1^+				
310.65(6)	≤ 3				
360.82(5)	$\langle \leq 3 \rangle$		0.60		79Aj02
470(15)			0.62		79Aj02
517(15)					
649(15)			3.0		79Aj02
680.26(5)	1^+		0.4		79Aj02
805(20)			0.9		79Aj02
910(20)			1.3		79Aj02
937.05(6)	1^+				
949(20)			1.4		79Aj02
1045(20)					
1170(20)			0.61		79Aj02
1270(30)					
1310(30)					
1385(30)					
1494(25)			1.4		79Aj02
1616(25)					
1690(25)					
1790(25)					
1873.1(2)	1^+				
			79Aj02		Ref.

Additional data on this isotope can be found in [05Lu07].

Energy levels and branching ratios [92Si19, 05Si20]. Part 2

 $^{80}_{33}\text{As}$

E^*	J^π	Branching ratios in percentage				
[keV]		$E_f^*:$ $J_f^\pi:$	0.0 1^+	265.35 1^+	310.65 $\langle \leq 3 \rangle$	360.82 $\langle \leq 3 \rangle$
265.35(6)	1^+		100			
310.65(6)	≤ 3		100			
360.82(5)	$\langle \leq 3 \rangle$		100			
680.26(5)	1^+		62(4)	9.5(9)	17(1)	12(1)
937.05(6)	1^+		77(5)		16(2)	7.0(5)
1873.1(2)	1^+		100			

Energy levels and branching ratios [96Ba89].

⁸¹₃₃As

E^*	$2J^\pi$	L	C^2S	L	C^2S	σ (t, α)	$n\ell j$	$T_{1/2}$ or	Ref.
[keV]			(d, τ)		(t, α)	$\mu\text{b/sr}$		Γ_{cm}	
0	3^-	1	2.17	1	1.37	1680	2p3/2	33.3(8) s	83Ro08
93.10(5)	$1^- - 5^-$								
290.40(4)	$\langle 3 \rangle^-$	1+3	0.1+0.4	1,3	0.1,0.2	105	2p3/2+1f5/2		83Ro08
335.96(4)	$\langle 5 \rangle^-$	3	5.0	3	2.75	2200	1f5/2	<0.7 ns	83Ro08
737.72(4)	$\langle 5^- \rangle$			3	0.12	27	1f5/2		82Mo04
758.42(7)	$\langle 3^+, 5^- \rangle$			4	0.07	32	1g9/2		82Mo04
864.29(15)									
1015(4)	$1^-, 3^-$			1	0.07	55	2p3/2		82Mo04
1042.00(7)	$\langle 7^- \rangle$					43			82Mo04
1083.39(9)	$\langle 3^+, 5, 7^- \rangle$								
1128.98(8)	$\langle 7, 9, 11^- \rangle$					46			82Mo04
1195.04(9)									
1496(5)	$1^-, 3^-$			1	0.24	290	2p3/2		82Mo04
1613(5)	1^+			0	0.08	250	3s1/2		82Mo04
1613.55(10)						incl			
1672(4)	$\langle 5^-, 7^- \rangle$			$\langle 3 \rangle$	0.18	120	1f5/2		82Mo04
1870.0(4)	$\langle 1, 3 \rangle$								
1879(8)	$7^+, 9^+$			4	0.04	30	1g9/2		82Mo04
1914.95(15)	$\langle 7, 9^- \rangle$								
2077(13)	$X^{\langle - \rangle}$			1,3	0.1,0.2	110	2p3/2+1f5/2		82Mo04
2142.10(10)	$\langle 7^+, 9^+ \rangle$								
2250.87(23)									
≈ 2518						11			82Mo04
2624.53(7)	$\langle 7^+ \rangle$								
2723(9)	$1^-, 3^-$			1	0.07	86	2p3/2		82Mo04
2758.28(9)	$\langle 7^+ - 11^+ \rangle$								
2862.47(17)	$\langle 1^-, 3 \rangle$								
2912.07(16)	$\langle 3^- \rangle$								
2965.92(10)	$\langle 7^+ \rangle$								
2999(3)	$1^-, 3^-$			1	0.01	20	2p3/2		82Mo04
3098(6)	$5^-, 7^-$			3	0.72	410	1f5/2		82Mo04
3136.27(13)	$\langle 3^+ \rangle$								
3195.48(20)	$\langle 3^+ \rangle$								
3290.4	$\langle 7^+ - 11^+ \rangle$								
3306(9)						300			82Mo04
3368.4(3)	$\langle 1, 3 \rangle$								
3480(7)	1^+			0	0.02	73	3s1/2		82Mo04
3531.1(10)	$\langle 1^-, 3 \rangle$								
3562.73(15)	$\langle 1^+, 3^+ \rangle$								
3596(12)	1^+			0	0.03	230	3s1/2		82Mo04
3742(9)						140			82Mo04
3818(12)	$1^-, 3^-$			1	0.04	34	2p3/2		82Mo04
3914(8)	$\langle 1^+, 5^-, 7^- \rangle$			0,3	0.4,0.1	180	1f5/2+3s1/2		82Mo04

(continued)

⁸¹₃₃As

E^*	$2J^\pi$	L	C^2S	L	C^2S	σ (t, α)	$n\ell j$	$T_{1/2}$ or	Ref.
[keV]			(d, τ)		(t, α)	$\mu\text{b/sr}$		Γ_{cm}	
3995(7)	$\langle 1^+, 5^-, 7^- \rangle$		83Ro08	0,3	0.4,0.1 82Mo04	200 82Mo04	1f5/2+3s1/2 82Mo04		82Mo04 Ref.

Parameter C^2S for the (t, α) reaction is defined by $\sigma(\text{exp}) = N \times C^2S \times \sigma(\text{DWBA}) / (2J + 1)$ [96Ba89].

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

⁸¹₃₃As

E^*	$2J^\pi$	Branching ratios in percentage									
[keV]		E_f^* : $2J_f^\pi$:	0 3 ⁻	93.1	290 $\langle 3 \rangle^-$	336 $\langle 5 \rangle^-$	738 $\langle 5^- \rangle$	758 $\langle 3^+, 5^- \rangle$	864 $\langle 7^- \rangle$	1042	1083.4 1129.0
93.10(5)	1 ⁻ -5 ⁻		100								
290.40(4)	$\langle 3 \rangle^-$		34(2)	66(2)							
335.96(4)	$\langle 5 \rangle^-$		96(3)	3.9(4)							
737.72(4)	$\langle 5^- \rangle$		73(2)		27(1)						
758.42(7)	$\langle 3^+, 5^- \rangle$		54(3)	21	25(3)						
864.29(15)				100							
1042.00(7)	$\langle 7^- \rangle$				52(4)	48(4)					
1083.39(9)	$\langle 3^+, 5, 7^- \rangle$		17(4)	8(4)	30	44(3)					
1128.98(8)	$\langle 7, 9, 11^- \rangle$					94	6.5(6)				
1195.04(9)						100					
1613.55(10)							100				
1870.0(4)	$\langle 1, 3 \rangle$		65						35(8)		
1914.95(15)	$\langle 7, 9^- \rangle$							100			
2142.10(10)	$\langle 7^+, 9^+ \rangle$								15(2)	23.5(14)	62(5)
2624.53(7)	$\langle 7^+ \rangle$					2.4(3)			13.3(9)		42(1)
2758.28(9)	$\langle 7^+ - 11^+ \rangle$										23(2)
2862.47(17)	$\langle 1^-, 3 \rangle$					59(6)		41(6)			
2912.07(16)	$\langle 3^- \rangle$						81(6)		18.9		
2965.92(10)	$\langle 7^+ \rangle$					19(2)	6.6(13)	9.9(13)		61(2)	
3136.27(13)	$\langle 3^+ \rangle$		12(2)		21(3)	42(5)		25(8)			
3195.48(20)	$\langle 3^+ \rangle$		39		14(2)	≈ 7.3		≈ 7.3	33(3)		
3531.1(10)	$\langle 1^-, 3 \rangle$					100					
3562.73(15)	$\langle 1^+, 3^+ \rangle$		65(5)	35(4)							

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

 $^{81}_{33}\text{As}$

E^*	$2J^\pi$	Branching ratios in percentage						
[keV]	$E_f^*:$ $2J_f^\pi:$	1195.0	1613.5	1914.9 $\langle 7,9^- \rangle$	2142.1 $\langle 7^+,9^+ \rangle$	2250.9	2624.5 $\langle 7^+ \rangle$	2912.1 $\langle 3^- \rangle$
2250.87(23)			100					
2624.53(7)	$\langle 7^+ \rangle$	16.8(9)		10(2)	16(2)			
2758.28(9)	$\langle 7^+-11^+ \rangle$		40(3)		9(2)	7(2)	22(2)	
2965.92(10)	$\langle 7^+ \rangle$		3.3					
3290.4	$\langle 7^+-11^+ \rangle$						100	
3368.4(3)	$\langle 1,3 \rangle$							100