

Energy levels and branching ratios [92Fi02].

 **$^{183}_{77}\text{Ir}$** 

$E^*$	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\Gamma_{\text{cm}}$		$E^*_f:$ $2J^\pi_f:$	0.0 5 <sup>-</sup>	16.2 9 <sup>-</sup>	119.3	185.0 13 <sup>-</sup>	307.6 5 <sup>+</sup>
0.0	5 <sup>-</sup>	57(4) m							
16.2(4)	9 <sup>-</sup>				100				
119.3(8)	1 <sup>-</sup>		99Je03		100				
185.0(8)	13 <sup>-</sup>					100			
268.5	3 <sup>-</sup>		99Je03						
307.6(6)	[3 <sup>+</sup> ]		99Je03		x		x		
328.8(4)	7 <sup>-</sup>				56(4)	44(3)			
365.4	5 <sup>+</sup>		99Je03						
379.2	1 <sup>+</sup>		99Je03						
412.6(10)	7 <sup>+</sup>								100
418.4	5 <sup>+</sup>		99Je03						
470.3	3 <sup>+</sup>		99Je03						
470.5	7 <sup>+</sup>		99Je03						
494.0(13)	17 <sup>-</sup>							100	
504.7	11 <sup>-</sup>		99Je03						
524.4	3 <sup>-</sup>		99Je03						
542.6(10)	9 <sup>+</sup>								x
556.2	3 <sup>-</sup> , 5 <sup>-</sup>		99Je03						
586.5	5 <sup>+</sup>		99Je03						
597.0	7 <sup>+</sup>		99Je03						
645.5(4)	9 <sup>-</sup>				13(1)	57(4)			
667.9	1 <sup>-</sup>		99Je03						
695.6(11)	11 <sup>+</sup>								
776.3	1 <sup>-</sup> , 3 <sup>-</sup>		99Je03						
842.0	$\langle 11^- \rangle$		99Je03						
869.6(12)	13 <sup>+</sup>								
918.8(15)	21 <sup>-</sup>								
1059.6(13)	15 <sup>+</sup>								
1262.6(14)	17 <sup>+</sup>								
1426.8(16)	25 <sup>-</sup>								
1475.6(14)	19 <sup>+</sup>								
1691.6(15)	21 <sup>+</sup>								
1916.6(16)	23 <sup>+</sup>								
1977.7(18)	29 <sup>-</sup>								
2142.6(16)	25 <sup>+</sup>								
2388.6(17)	27 <sup>+</sup>								
2539.7(19)	33 <sup>-</sup>								
2635.6(18)	29 <sup>+</sup>								
2909.6(18)	31 <sup>+</sup>								
3119.4(20)	37 <sup>-</sup>								
3181.6(19)	33 <sup>+</sup>								
3481.6(19)	35 <sup>+</sup>								
3745.4(22)	41 <sup>-</sup>								
3774.6(20)	37 <sup>+</sup>								
4095.6(20)	39 <sup>+</sup>								

(continued)

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$E^*$ [keV]	$2J^\pi$	$T_{1/2}$ or Ref. $\Gamma_{\text{cm}}$	Branching ratios in percentage					
			$E_f^*:$ $2J_f^\pi:$	0.0 5 <sup>-</sup>	16.2 9 <sup>-</sup>	119.3	185.0 13 <sup>-</sup>	307.6 5 <sup>+</sup>
4401.6(21)	$\langle 41^+ \rangle$							
4440.4(24)	45 <sup>-</sup>							
4752.6(23)	$\langle 43^+ \rangle$							
5052.6(23)	$\langle 45^+ \rangle$							
5214(3)	49 <sup>-</sup>							
5434.6(25)	$\langle 47^+ \rangle$							
6064(3)	$\langle 53^- \rangle$							
6987(3)	$\langle 57^- \rangle$							

Additional data on this isotope can be found in [01Ro23, 90Kr06].

Data for this isotope are considered in vol. LB I/19C.

Energy levels and branching ratios [92Fi02]. Part 2

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$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	328.8 7 <sup>-</sup>	412.6 7 <sup>+</sup>	494.0 17 <sup>-</sup>	542.6 9 <sup>+</sup>	695.6 11 <sup>+</sup>	869.6 13 <sup>+</sup>	918.8 21 <sup>-</sup>	1059.6 15 <sup>+</sup>	1262.6 17 <sup>+</sup>	1426.8 25 <sup>-</sup>
542.6(10)	9 <sup>+</sup>			x								
645.5(4)	9 <sup>-</sup>		30(2)									
695.6(11)	11 <sup>+</sup>			x		x						
869.6(12)	13 <sup>+</sup>					x	x					
918.8(15)	21 <sup>-</sup>				100							
1059.6(13)	15 <sup>+</sup>						x	x				
1262.6(14)	17 <sup>+</sup>							x		x		
1426.8(16)	25 <sup>-</sup>								100			
1475.6(14)	19 <sup>+</sup>									x	x	
1691.6(15)	21 <sup>+</sup>										x	
1977.7(18)	29 <sup>-</sup>											100

Energy levels and branching ratios [92Fi02]. Part 3

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$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	1475.6 19 <sup>+</sup>	1691.6 21 <sup>+</sup>	1916.6 23 <sup>+</sup>	1977.7 29 <sup>-</sup>	2142.6 25 <sup>+</sup>	2388.6 27 <sup>+</sup>	2539.7 33 <sup>-</sup>	2635.6 29 <sup>+</sup>	2909.6 31 <sup>+</sup>	3119.4 37 <sup>-</sup>
1691.6(15)	21 <sup>+</sup>		x									
1916.6(16)	23 <sup>+</sup>		x	x								
2142.6(16)	25 <sup>+</sup>			x	x							
2388.6(17)	27 <sup>+</sup>				x		x					
2539.7(19)	33 <sup>-</sup>					100						
2635.6(18)	29 <sup>+</sup>						x	x				

(continued)

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$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $2J_f^\pi$ :	1475.6 19 <sup>+</sup>	1691.6 21 <sup>+</sup>	1916.6 23 <sup>+</sup>	1977.7 29 <sup>-</sup>	2142.6 25 <sup>+</sup>	2388.6 27 <sup>+</sup>	2539.7 33 <sup>-</sup>	2635.6 29 <sup>+</sup>	2909.6 31 <sup>+</sup>	3119.4 37 <sup>-</sup>
2909.6(18)	31 <sup>+</sup>							x		x		
3119.4(20)	37 <sup>-</sup>								100			
3181.6(19)	33 <sup>+</sup>									x	x	
3481.6(19)	35 <sup>+</sup>										x	
3745.4(22)	41 <sup>-</sup>											100

Energy levels and branching ratios [92Fi02]. Part 4

 **$^{183}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $2J_f^\pi$ :	3181.6 33 <sup>+</sup>	3481.6 35 <sup>+</sup>	3745.4 41 <sup>-</sup>	3774.6 37 <sup>+</sup>	4095.6 39 <sup>+</sup>	4401.6 <41 <sup>+</sup> >	4440.4 45 <sup>-</sup>	4752.6 <43 <sup>+</sup> >	5214 49 <sup>-</sup>	6064 <53 <sup>-</sup> >
3481.6(19)	35 <sup>+</sup>	x										
3774.6(20)	37 <sup>+</sup>	x		x								
4095.6(20)	39 <sup>+</sup>			x		x						
4401.6(21)	<41 <sup>+</sup> >					x	x					
4440.4(24)	45 <sup>-</sup>				100							
4752.6(23)	<43 <sup>+</sup> >						100					
5052.6(23)	<45 <sup>+</sup> >							100				
5214(3)	49 <sup>-</sup>								100			
5434.6(25)	<47 <sup>+</sup> >									100		
6064(3)	<53 <sup>-</sup> >										100	
6987(3)	<57 <sup>-</sup> >											100

Energy levels and branching ratios [89Fi11].

 **$^{184}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E_f^*$ : $J_f^\pi$ :	0.0 5 <sup>-</sup>	11.6	18.4	41.8 <6> <sup>-</sup>	70.7 4 <sup>-</sup>	111.0 <7> <sup>-</sup>	207.8 <8> <sup>-</sup>
0.0	5 <sup>-</sup>	3.09(3) h								
11.6(3)				100						
18.4(3)	<3 <sup>-</sup> -5 <sup>-</sup> >			x						
41.80(24)	<6> <sup>-</sup>			100						
70.75(9)	4 <sup>-</sup>	<300 ps		100						
111.0(4)	<7> <sup>-</sup>						100			
207.8(5)	<8> <sup>-</sup>								100	
225.65(11)	3 <sup>+</sup>	470(30) u		6.5(7)				93(9)		
232.6(7)	<5 <sup>+</sup> >									
237.16(21)	X <sup>+</sup>									
262.72(11)	3 <sup>-</sup>	<300 p						100		

(continued)

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$E^*$ [keV]	$J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E_f^*:$ $J_f^\pi:$	0.0 5 <sup>-</sup>	11.6	18.4	41.8 $\langle 6 \rangle^-$	70.7 4 <sup>-</sup>	111.0 $\langle 7 \rangle^-$	207.8 $\langle 8 \rangle^-$
293.28(12)	2 <sup>+</sup>	$\approx 1$ n								
295.55(20)	$\langle 2-4 \rangle^+$									
327.3(5)	$\langle 9 \rangle^-$								21(4)	79(10)
328.40(24)	$\langle 7 \rangle^+$	350(90) n		47(7)			53(20)			
342.72(11)	$\langle 1-3 \rangle^+$									
355.49(12)	2 <sup>-</sup>									
367.9(7)	$\langle 7 \rangle^+$									
428.25(13)	$\langle 0,1,2 \rangle^+$									
432.49(11)	2 <sup>+</sup>	$> 10$ n								
478.73(21)	X <sup>+</sup>									
481.4(3)	$\langle 8 \rangle^+$									
484.90(15)	$\langle 1,2,3 \rangle^+$									
485.5(5)	$\langle 10 \rangle^-$									20(3)
499.27(14)	$\langle 4^+ \rangle$			67(7)	13.2(12)	15.7(12)				
499.95(13)	$\langle 1,2,3 \rangle^-$									
504.81(13)	$\langle 1,2 \rangle^-$									
509.46(13)	$\langle 1,2 \rangle^+$									
519.40(13)	3 <sup>+</sup>							54(6)		
554.48(13)	2 <sup>+</sup>									
604.71(14)	$\langle 3^+, 4^+ \rangle$									
621.03(13)										
633.9(6)	$\langle 9^+ \rangle$									
639.02(14)	3 <sup>+</sup>							10(1)		
648.6(5)	$\langle 11 \rangle^-$									
658.8(3)	$\langle 9 \rangle^+$									
659.81(25)										
663.21(16)	$\langle 2,3,4 \rangle^+$									
792.6(2)										
814.8(2)	X <sup>+</sup>									
855.9(1)	2 <sup>+</sup>									
858.3(4)	$\langle 10 \rangle^+$									
874.1(2)	$\langle 1-3 \rangle^+$									
877.5(6)	$\langle 12 \rangle^-$									
903.8(1)	1 <sup>+</sup>									
910.1(2)	$\langle 1-3 \rangle^+$									
925.0(2)	$\langle 1-3 \rangle^+$									
942.6(1)	$\langle 0^+-2^+ \rangle$									
1030.7(6)	$\langle 11^+ \rangle$									
1065.2(1)	1 <sup>+</sup>									
1071.7(6)	$\langle 13^- \rangle$									
1076.0(4)	$\langle 11 \rangle^+$									
1086.6(1)	1 <sup>+</sup>									
1166.1(3)										
1223.1(3)										
1307.9(4)	$\langle 13^+ \rangle$									

(continued)

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$E^*$ [keV]	$J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E_{\text{f}}^*:$ $J_{\text{f}}^\pi:$	0.0 5 <sup>-</sup>	11.6	18.4	41.8 $\langle 6 \rangle^-$	70.7 4 <sup>-</sup>	111.0 $\langle 7 \rangle^-$	207.8 $\langle 8 \rangle^-$
1362.0(3)										
1377.9(6)	$\langle 14^- \rangle$									
1548.4(5)	$\langle 13^+ \rangle$									
1550.0(6)	$\langle 13^+ \rangle$									
1592.2(6)	$\langle 15^- \rangle$									
1792.4(5)	$\langle 14^+ \rangle$									
1977.3(6)	$\langle 16^- \rangle$									
2039.1(6)	$\langle 15^+ \rangle$									
2179.7(7)	$\langle 15^+ \rangle$									
2205.4(8)	$\langle 17^- \rangle$									
2291.3(6)	$\langle 16^+ \rangle$									
2556.8(7)	$\langle 17^+ \rangle$									
2656.2(9)	$\langle 18^- \rangle$									
2837.6(7)	$\langle 18^+ \rangle$									
2899.8(11)	$\langle 19^- \rangle$									
3138.2(7)	$\langle 19^+ \rangle$									

Energy levels and branching ratios [89Fi11]. Part 2

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$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_{\text{f}}^*:$ $J_{\text{f}}^\pi:$	225.6 3 <sup>+</sup>	232.6 ⟨5 <sup>+</sup> ⟩	237.2 X <sup>+</sup>	262.7 3 <sup>−</sup>	293.3 2 <sup>+</sup>	295.5	327.3 ⟨9⟩ <sup>−</sup>	328.4 ⟨7⟩ <sup>+</sup>	342.7	355.5 2 <sup>−</sup>
232.6(7)	⟨5 <sup>+</sup> ⟩		100									
237.16(21)	X <sup>+</sup>		100									
293.28(12)	2 <sup>+</sup>		100									
295.55(20)	⟨2−4⟩ <sup>+</sup>				100							
342.72(11)	⟨1−3⟩ <sup>+</sup>		74(7)				26(2)					
355.49(12)	2 <sup>−</sup>					100						
367.9(7)	⟨7⟩ <sup>+</sup>			100								
428.25(13)	⟨0,1,2⟩ <sup>+</sup>						33(3)				67(8)	
432.49(11)	2 <sup>+</sup>		16(1)			40(4)	39(4)				4(1)	
478.73(21)	X <sup>+</sup>							100				
481.4(3)	⟨8⟩ <sup>+</sup>									100		
485.5(5)	⟨10⟩ <sup>−</sup>								80(10)			
499.95(13)	⟨1,2,3⟩ <sup>−</sup>					24(2)						76(8)
504.81(13)	⟨1,2⟩ <sup>−</sup>										26(3)	74(8)
509.46(13)	⟨1,2⟩ <sup>+</sup>						82(8)				8(1)	
519.40(13)	3 <sup>+</sup>					26(3)	20(3)					
554.48(13)	2 <sup>+</sup>		36(3)				26(3)				38(4)	
604.71(14)	⟨3 <sup>+</sup> ,4 <sup>+</sup> ⟩							66(7)				
621.03(13)											95(10)	
639.02(14)	3 <sup>+</sup>				11(1)			14(1)				

(continued)

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$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E^*_f$ : $J^\pi_f$	225.6 $3^+$	232.6 $\langle 5^+ \rangle$	237.2 $X^+$	262.7 $3^-$	293.3 $2^+$	295.5	327.3 $\langle 9 \rangle^-$	328.4 $\langle 7 \rangle^+$	342.7	355.5 $2^-$
648.6(5)	$\langle 11 \rangle^-$								50(5)			
658.8(3)	$\langle 9 \rangle^+$									44(6)		
663.21(16)	$\langle 2,3,4 \rangle^+$		40(3)								60(7)	
874.1(2)	$\langle 1-3 \rangle^+$						35(3)				27(3)	
903.8(1)	$1^+$						9.7(7)					65(7)
925.0(2)	$\langle 1-3 \rangle^+$						41(4)					
1065.2(1)	$1^+$											32(4)
1086.6(1)	$1^+$											68(7)
1166.1(3)												100

Energy levels and branching ratios [89Fi11]. Part 3

 **$^{184}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ : $J_f^\pi$ :	367.9 $\langle 7 \rangle^+$	428.2	432.5 $2^+$	478.7 $X^+$	481.4 $\langle 8 \rangle^+$	484.9	485.5 $\langle 10 \rangle^-$	499.3 $\langle 4^+ \rangle$	499.9	504.8 $\langle 1,2 \rangle^-$
484.90(15)	$\langle 1,2,3 \rangle^+$				100							
499.27(14)	$\langle 4^+ \rangle$				3.6(12)							
509.46(13)	$\langle 1,2 \rangle^+$			9.8(10)								
604.71(14)	$\langle 3^+, 4^+ \rangle$									34(3)		
621.03(13)											4.7(23)	
633.9(6)	$\langle 9^+ \rangle$	100										
639.02(14)	$3^+$				18(1)					47(5)		
648.6(5)	$\langle 11 \rangle^-$								50(5)			
658.8(3)	$\langle 9 \rangle^+$						56(6)					x
659.81(25)												100
792.6(2)												100
814.8(2)	$X^+$										62(6)	
855.9(1)	$2^+$					3.9(6)		2.8(6)				
858.3(4)	$\langle 10 \rangle^+$						66(11)					
877.5(6)	$\langle 12 \rangle^-$								39(6)			
903.8(1)	$1^+$			2.8(3)	4.5(5)							2.6(3)
925.0(2)	$\langle 1-3 \rangle^+$			15.0(11)								
1065.2(1)	$1^+$			3.6(4)	14(1)							
1086.6(1)	$1^+$											0.99(14)

Energy levels and branching ratios [89Fi11]. Part 4

 **$^{184}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	509.5 $\langle 1,2 \rangle^+$	519.4 $3^+$	554.5 $2^+$	604.7 $\langle 3^+, 4^+ \rangle$	633.9 $\langle 9^+ \rangle$	639.0 $3^+$	648.6 $\langle 11 \rangle^-$	658.8 $\langle 9 \rangle^+$	659.8	663.2
814.8(2)	$X^+$										38(19)	
855.9(1)	$2^+$			21(2)		21(2)		51(5)				
858.3(4)	$\langle 10 \rangle^+$									34(5)		
874.1(2)	$\langle 1-3 \rangle^+$		37(3)									
877.5(6)	$\langle 12 \rangle^-$								61(6)			
903.8(1)	$1^+$		14.2(15)	0.82(7)								
910.1(2)	$\langle 1-3 \rangle^+$				100							
925.0(2)	$\langle 1-3 \rangle^+$		44(4)									
942.6(1)	$\langle 0^+-2^+ \rangle$											100
1030.7(6)	$\langle 11^+ \rangle$						100					
1071.7(6)	$\langle 13^- \rangle$								69(7)			
1076.0(4)	$\langle 11 \rangle^+$									69(10)		
1086.6(1)	$1^+$				6.2(5)							

Energy levels and branching ratios [89Fi11]. Part 5

 **$^{184}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	792.6 $X^+$	814.8 $X^+$	855.9 $2^+$	858.3 $\langle 10 \rangle^+$	877.5 $\langle 12 \rangle^-$	903.8 $1^+$	910.1	942.6	1030.7 $\langle 11^+ \rangle$	1071.7 $\langle 13^- \rangle$
903.8(1)	$1^+$			0.22(7)								
1065.2(1)	$1^+$				24(3)			22(3)		5.9(8)		
1071.7(6)	$\langle 13^- \rangle$						31(3)					
1076.0(4)	$\langle 11 \rangle^+$					31(5)						
1086.6(1)	$1^+$				11.7(11)			10.4(10)	1.55(14)	1.55(14)		
1223.1(3)				100								
1307.9(4)	$\langle 13^+ \rangle$					87(13)						
1362.0(3)			100									
1377.9(6)	$\langle 14^- \rangle$						47(7)					53(8)
1548.4(5)	$\langle 13^+ \rangle$										29(7)	
1550.0(6)	$\langle 13^+ \rangle$										100	
1592.2(6)	$\langle 15^- \rangle$											75(11)

Energy levels and branching ratios [89Fi11]. Part 6

 **$^{184}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	1076.0 $\langle 11 \rangle^+$	1307.9 $\langle 13^+ \rangle$	1377.9 $\langle 14^- \rangle$	1548.4 $\langle 13^+ \rangle$	1550.0 $\langle 13^+ \rangle$	1592.2 $\langle 15^- \rangle$	1792.4 $\langle 14^+ \rangle$	1977.3 $\langle 16^- \rangle$	2039.1 $\langle 15^+ \rangle$	2205.4 $\langle 17^- \rangle$
1307.9(4)	$\langle 13^+ \rangle$		13(3)									
1548.4(5)	$\langle 13^+ \rangle$		71(7)									

(continued)

 **$^{184}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	1076.0 $\langle 11 \rangle^+$	1307.9 $\langle 13 \rangle^+$	1377.9 $\langle 14 \rangle^-$	1548.4 $\langle 13 \rangle^+$	1550.0 $\langle 13 \rangle^+$	1592.2 $\langle 15 \rangle^-$	1792.4 $\langle 14 \rangle^+$	1977.3 $\langle 16 \rangle^-$	2039.1 $\langle 15 \rangle^+$	2205.4 $\langle 17 \rangle^-$
1592.2(6)	$\langle 15 \rangle^-$				25(5)							
1792.4(5)	$\langle 14 \rangle^+$			100								
1977.3(6)	$\langle 16 \rangle^-$				48(8)			52(5)				
2039.1(6)	$\langle 15 \rangle^+$					100						
2179.7(7)	$\langle 15 \rangle^+$						100					
2205.4(8)	$\langle 17 \rangle^-$							63(10)		37(4)		
2291.3(6)	$\langle 16 \rangle^+$								100			
2556.8(7)	$\langle 17 \rangle^+$										100	
2656.2(9)	$\langle 18 \rangle^-$									x		x
2899.8(11)	$\langle 19 \rangle^-$											x

Energy levels and branching ratios [89Fi11]. Part 7

 **$^{184}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage			
		$E_f^*:$ $J_f^\pi:$	2291.3 $\langle 16 \rangle^+$	2556.8 $\langle 17 \rangle^+$	2656.2 $\langle 18 \rangle^-$
2837.6(7)	$\langle 18 \rangle^+$		100		
2899.8(11)	$\langle 19 \rangle^-$				x
3138.2(7)	$\langle 19 \rangle^+$			100	

Energy levels and branching ratios [95Br04, 05Wu07].

 **$^{185}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E_f^*:$ $2J_f^\pi:$	0.0 $5^-$	5.8 $9^-$	135.3 $1^-$	158.6 $\langle 13 \rangle^-$	229.6 $3^+$	255.10 $3^-$	300.10 $\langle 7 \rangle^-$
0.0	$5^-$	14.4(1) h								
5.8(1)	$9^-$	5(1) ns		100						
135.3(1)	$1^-$	0.29(3) ns		100						
158.6(2)	$\langle 13 \rangle^-$				100					
229.6(1)	$3^+$	2.1(3) ns		99(4)		1.5(3)				
255.10(15)	$3^-$			78(8)		22.4(2)				
300.10(15)	$\langle 7 \rangle^-$			54(7)	46(7)					
332.7(2)	$\langle 1 \rangle^+$					97(14)		2.6(5)		
335.3(2)	$\langle 5 \rangle^+$			77				23(5)		
418.7(2)	$\langle 3 \rangle^+$									
442.3(4)	$\langle 3^+, 5^+ \rangle$			7.0(14)				56(10)		
448.83(16)	$\langle 17 \rangle^-$						100			
465.7(3)	$\langle 11 \rangle^-$				100		$\leq 58$			
496.9(3)	$\langle 7 \rangle^+$							95(10)		



(continued)

 **$^{185}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E^*_f:$ $2J^\pi_f:$	0.0 $5^-$	5.8 $9^-$	135.3 $1^-$	158.6 $\langle 13 \rangle^-$	229.6 $3^+$	255.10 $3^-$	300.10 $\langle 7 \rangle^-$
506.8(2)	$\langle 5^- \rangle$	21.5(20) ns		x					55(7)	45(7)
519.7(2)	$\langle 3^- \rangle$			x		64(6)			36(6)	
556.0(2)	$\langle 5^+ \rangle$									
646.6(3)	$\langle 11^- \rangle$				100		$\leq 10$			
648.7(3)	$\langle 3^+, 5^+, 7^+ \rangle$									
696.8(3)	$\langle 7^+ \rangle$									
720.3(2)	$1^-, 3^-$			$\leq 47$		40(7)			58(12)	
727.1(3)	$\langle 5^-, 7^-, 9^- \rangle$									[100]
755.97(16)	$\langle 15^- \rangle$						100			
801.4(4)	$\langle 5^-, 7, 9^- \rangle$			62(16)	38(11)					
852.3(3)	$\langle 9^- - 13^- \rangle$				42(6)		58(11)			
861.1(4)	$\langle 1^-, 3^-, 5^- \rangle$									
861.94(19)	$\langle 21^- \rangle$									
876.9(6)										100
881.1(4)	$\langle 9^+ \rangle$									
899.7(7)	$\langle 9^- - 13^- \rangle$									
900.5(5)	$\langle 11^-, 13^- \rangle$				60(9)		27(9)			
944.7(4)	$\langle 13^- \rangle$									
1016.7(4)										
1038.9(10)							70(18)			
1068.1(6)	$\langle 3^+ \rangle$							42(9)		
1086.6(3)	$\langle 11^+ \rangle$									
1103.1(6)										
1130.2(3)							100			
1136.1(5)										
1163.9(3)	$\langle 19^- \rangle$									
1170(1)										
1192.3(4)	$\langle 15^- \rangle$									
1211.0(4)										
1228.3(5)						x				
1259.7(5)										
1295.0(5)									74(17)	
1304.9(4)	$\langle 13^+ \rangle$									
1315.9(4)										
1352.8(4)										
1383.66(21)	$\langle 25^- \rangle$									
1511.0(4)										
1515.4(5)	$\langle 17^- \rangle$									
1531.3(3)	$\langle 15^+ \rangle$									
1582.6(5)										
1622.42(19)										
1625.5(5)								44(11)		
1670.9(4)										
1677.5(4)	$\langle 23 \rangle^-$									
1734.9(3)										

(continued)

 **$^{185}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E^*_f$ : $2J^\pi_f$ :	0.0 5 <sup>-</sup>	5.8 9 <sup>-</sup>	135.3 1 <sup>-</sup>	158.6 $\langle 13 \rangle^-$	229.6 3 <sup>+</sup>	255.10 3 <sup>-</sup>	300.10 $\langle 7 \rangle^-$
1745.9(5)	$\langle 17 \rangle^+$									
1779.3(6)	$\langle 19^- \rangle$									
1856.7(4)										
1900.65(18)										
1949.0(5)	$\langle 19^+ \rangle$									
1997.5(4)										
2001.37(23)	$\langle 29^- \rangle$									
2012.6(4)										
2130.9(8)										
2148.0(4)										
2154.5(6)	$\langle 21 \rangle^+$									
2157.2+X		120(20) ns								
2157.3(5)										
2183.0(5)										
2278.5(5)										
2282.9(4)	$\langle 27^- \rangle$									
2295.8+X										
2393.0(5)										
2514.3+X										
2597.5(6)										
2614.0+X		40(10) ns								
2702.3(6)	$\langle 33^- \rangle$									
2827.9(7)										
2940.4+X										
2962.9(5)	$\langle 31^- \rangle$									
3171.6+X										
3304.0+X										
3469.1(7)	$\langle 37^- \rangle$									
3630+X										
4264.9	$\langle 41^- \rangle$									
4292.0(9)										
5054.4	$\langle 45^- \rangle$									
	05Wu07									

Additional data on this isotope can be found in [05Wu07].

8 bands are assigned to excited states of this nucleus in [05Wu07].

Data for this isotope are considered in vol. LB I/19C.

Energy levels and branching ratios [95Br04, 05Wu07]. Part 2

 **$^{185}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	332.7 $\langle 1^+ \rangle$	335.3 $\langle 5^+ \rangle$	418.7 $\langle 3^+ \rangle$	442.3 $\langle 3^+, 5^+ \rangle$	448.83 $\langle 17^- \rangle$	465.7 $\langle 11^- \rangle$	496.9 $\langle 7^+ \rangle$	506.8 $\langle 5^- \rangle$	519.7 $\langle 3^- \rangle$	556.0 $\langle 5^+ \rangle$
418.7(2)	$\langle 3^+ \rangle$		[86(11)]	[14(3)]								
442.3(4)	$\langle 3^+, 5^+ \rangle$		27(3)	7(2)	3.3(4)							
496.9(3)	$\langle 7^+ \rangle$			5(3)								
556.0(2)	$\langle 5^+ \rangle$				61(6)	39(2)			x			
648.7(3)	$\langle 3^+, 5^+, 7^+ \rangle$			100					x			
696.8(3)	$\langle 7^+ \rangle$			27(8)	29(4)							44(3)
720.3(2)	$1^-, 3^-$										2.3(5)	
755.97(16)	$\langle 15^- \rangle$						$\leq 25$	x				
861.1(4)	$\langle 1^-, 3^-, 5^- \rangle$										[100]	
861.94(19)	$\langle 21^- \rangle$						100					
876.9(6)										$\leq 73$		
881.1(4)	$\langle 9^+ \rangle$											43(4)
900.5(5)	$\langle 11^-, 13^- \rangle$											
1038.9(10)									13(2) 30(12)			
1068.1(6)	$\langle 3^+ \rangle$		47(6)			11(2)						
1163.9(3)	$\langle 19^- \rangle$						69(6)					
1170(1)		x			x	x						
1211.0(4)										30(10)	28	
1228.3(5)										x		
1295.0(5)										26(7)		
1315.9(4)							48(6)					
1511.0(4)							71(6)					
1582.6(5)				50(10)	22(10)	28(10)						
1622.42(19)							74(4)					
1625.5(5)			43(11)								13(4)	
1734.9(3)							x					
1900.65(18)							87(4)					

Energy levels and branching ratios [95Br04, 05Wu07]. Part 3

 **$^{185}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	646.6 $\langle 11^- \rangle$	696.8 $\langle 7^+ \rangle$	720.3 $1^-, 3^-$	755.97 $\langle 15^- \rangle$	852.3	861.1	861.94 $\langle 21^- \rangle$	881.1 $\langle 9^+ \rangle$	899.7	900.5
881.1(4)	$\langle 9^+ \rangle$			57(6)								
899.7(7)	$\langle 9^-, 13^- \rangle$		100									
944.7(4)	$\langle 13^- \rangle$		100									
1016.7(4)			100								x	
1086.6(3)	$\langle 11^+ \rangle$			100					$\leq 54$			
1103.1(6)												100
1130.2(3)							$\leq 44$					
1163.9(3)	$\langle 19^- \rangle$					31(5)						
1192.3(4)	$\langle 15^- \rangle$		50(4)									

(continued)

 **$^{185}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E^*_f$ : $2J^\pi_f$ :	646.6 $\langle 11^- \rangle$	696.8 $\langle 7^+ \rangle$	720.3 $1^-, 3^-$	755.97 $\langle 15^- \rangle$	852.3	861.1	861.94 $\langle 21^- \rangle$	881.1 $\langle 9^+ \rangle$	899.7	900.5
1211.0(4)					43(6)							
1228.3(5)					x							
1304.9(4)	$\langle 13^+ \rangle$									56(6)		
1315.9(4)						52(12)						
1352.8(4)		100										
1383.66(21)	$\langle 25^- \rangle$								100			
1677.5(4)	$\langle 23^- \rangle$								x			
1856.7(4)									65(7)			
1900.65(18)						7.0(22)						
1997.5(4)								32(7)				
2148.0(4)									x			

Energy levels and branching ratios [95Br04, 05Wu07]. Part 4

 **$^{185}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E^*_f$ : $2J^\pi_f$ :	944.7 $\langle 13^- \rangle$	1016.7	1086.6 $\langle 11^+ \rangle$	1130.2	1163.9 $\langle 19^- \rangle$	1192.3 $\langle 15^- \rangle$	1304.9 $\langle 13^+ \rangle$	1383.66 $\langle 25^- \rangle$	1511.0	1515.4 $\langle 17^- \rangle$
1136.1(5)		100										
1192.3(4)	$\langle 15^- \rangle$	50(8)										
1259.7(5)			100									
1304.9(4)	$\langle 13^+ \rangle$				44(6)							
1511.0(4)						29(4)						
1515.4(5)	$\langle 17^- \rangle$	32(9)						68(6)				
1531.3(3)	$\langle 15^+ \rangle$				63(3)				37(3)			
1622.42(19)						18(3)	9(2)					
1670.9(4)					100							
1677.5(4)	$\langle 23^- \rangle$						x					
1734.9(3)							x					
1745.9(5)	$\langle 17^+ \rangle$								65(3)			
1779.3(6)	$\langle 19^- \rangle$							57(9)				43(9)
1997.5(4)											68(5)	
2001.37(23)	$\langle 29^- \rangle$									100		
2278.5(5)										100		
2282.9(4)	$\langle 27^- \rangle$									x		

Energy levels and branching ratios [95Br04, 05Wu07]. Part 5

 **$^{185}_{77}\text{Ir}$** 

$E^*$	$2J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ : $2J_f^\pi$ :	1531.3 $\langle 15^+ \rangle$	1622.42	1670.9	1677.5 $\langle 23^- \rangle$	1734.9	1745.9 $\langle 17^+ \rangle$	1779.3 $\langle 19^- \rangle$	1856.7	1900.65	1949.0 $\langle 19^+ \rangle$
1734.9(3)				x								
1745.9(5)	$\langle 17 \rangle^+$		35(3)									
1856.7(4)							35(3)					
1900.65(18)			6(3)		x							
1949.0(5)	$\langle 19 \rangle^+$							[100]				
2012.6(4)						$\leq 62$				100		
2130.9(8)									100			
2148.0(4)										x	x	
2154.5(6)	$\langle 21 \rangle^+$						x					x
2157.3(5)											100	
2183.0(5)										x		
2282.9(4)	$\langle 27 \rangle^-$				x							

Energy levels and branching ratios [95Br04, 05Wu07]. Part 6

 **$^{185}_{77}\text{Ir}$** 

$E^*$	$2J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*:$ $2J_f^\pi:$	2001.37 $\langle 29^- \rangle$	2012.6	2157+X	2157.3	2183.0	2282.9 $\langle 27^- \rangle$	2296+X	2393.0	2514+X	2614+X
<hr/>												
2157.2+X						100						
2183.0(5)				x								
2295.8+X					100							
2393.0(5)				52(8)			48(13)					
2514.3+X									100			
2597.5(6)						x				x		
2614.0+X									30(9)		70(4)	
2702.3(6)	$\langle 33 \rangle^-$	100										
2827.9(7)										100		
2940.4+X												100
2962.9(5)	$\langle 31 \rangle^-$	69(6)					31(6)					
3171.6+X												x
3304.0+X												x

Energy levels and branching ratios [95Br04, 05Wu07]. Part 7

 **$^{185}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage					
		$E_f^*$ : $2J_f^\pi$ :	2702.3 $\langle 33^- \rangle$	2940+X	3304+X	3469.1 $\langle 37^- \rangle$	4264.9 $\langle 41^- \rangle$
3171.6+X				x			
3304.0+X				x			

(continued)

 **$^{185}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	$E_f^*:$ $2J_f^\pi:$	2702.3 $\langle 33^- \rangle$	Branching ratios in percentage			
				2940+X	3304+X	3469.1 $\langle 37^- \rangle$	4264.9 $\langle 41^- \rangle$
3469.1(7) 3630+X	$\langle 37^- \rangle$		100		x		
4264.9 4292.0(9)	$\langle 41^- \rangle$					x 100	
5054.4	$\langle 45^- \rangle$						x

Energy levels and branching ratios [03Ba44].

 **$^{186}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	$E_f^*:$ $J_f^\pi:$	0.0 $5^+$	0.0+X $2^-$	Branching ratios in percentage				
						1.14+X $\langle 3 \rangle^+$	54.15+X $1^-, 2^-$	71.9+X	77.94+X $\langle 2 \rangle^+$	102.9+X
0.0	$5^+$	16.64(3) h								
0.0+X	$2^-$	1.90(5) h			x					
1.14+X	$\langle 3 \rangle^+$									
54.15+X	$1^-, 2^-$				100					
71.9+X	$\langle 2, 3, 4 \rangle^+$					100				
77.94+X	$\langle 2 \rangle^+$					100				
102.93+X	$\langle 2, 3, 4 \rangle^+$					100				
110.10+X	$\langle 2 \rangle^-$				17(2)	78(12)	5.3(9)			
117.5	$7^+$			100						
120.49+X	$\langle 1, 2 \rangle^+$					49(7)			51(7)	
137.3	$\langle 5^+ \rangle$			100						
167.2	$\langle 6^+ \rangle$			100						
182.1+X	$\langle 1^+, 2^+, 3^+ \rangle$								100	
194.48+X	$\langle 1, 2, 3 \rangle^+$								100	
204.76+X	$\langle 0, 1, 2 \rangle^+$									
206.5										
213.20+X	$\langle \leq 3 \rangle^-$				$\approx 15$		$\approx 74$			
225.50+X	$\langle 2 \rangle^+$					56(8)				
237.32+X	$\langle 0, 1 \rangle^+$								$\approx 81$	
246.5	$\langle 7^+ \rangle$									
252.56+X	$\langle \leq 4 \rangle$							72(11)		28(4)
259.64+X	$0^-, 1^-, 2^-$						$\approx 65$			
264.51+X	$\langle 1 \rangle^-$						82		14(2)	
312.7	$\langle 7^- \rangle$									
324.33+X	$\langle 2 \rangle^+$					100				
331.21+X	$\langle 0, 1 \rangle$						$\approx 47$		$\approx 36$	
334.50+X	$\langle 1 \rangle^-$					28(4)				
359.2	$9^+$									
363.4	$\langle 8^+ \rangle$									
396.6	$\langle 8^- \rangle$									
402.9	$\langle 8^+ \rangle$									

(continued)

 **$^{186}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E^*_f:$ $J^\pi_f:$	0.0 $5^+$	0.0+X $2^-$	1.14+X $\langle 3 \rangle^+$	54.15+X $1^-, 2^-$	71.9+X	77.94+X $\langle 2 \rangle^+$	102.9+X
419.75+X	$0^+, 1^+, 2^+$									
433.31+X	$\langle 1, 2 \rangle^+$					21(3)			$\approx 3.3$	
444.77+X	$\langle 1 \rangle^+$					$\approx 1.9$			71(11)	
446.63+X	$1^+, 2^+$					74(11)				
520.0	$\langle 9^+ \rangle$									
520.1	$\langle 9^- \rangle$									
570.67+X	$0^-, 1^-$						25(4)			
686.0	$\langle 10^- \rangle$									
689.44+X	$1^+$				83(12)		3.1(5)		6.8(10)	
704.8	$\langle 10^+ \rangle$									
714.21+X	$1^+$				24(4)					
719.3	$\langle 10^+ \rangle$									
721.8	$11^+$									
756.1	$\langle 10^- \rangle$									
772.2+X	$\langle 1 \rangle^+$									
869.8	$\langle 11^- \rangle$									
928.2	$\langle 11^+ \rangle$									
1036.4	$\langle 11^- \rangle$									
1117.3	$\langle 12^- \rangle$									
1131.8	$\langle 12^+ \rangle$									
1177.5	$\langle 12^+ \rangle$									
1195.9	$13^+$									
1300.0	$\langle 12^- \rangle$									
1338.1	$\langle 13^- \rangle$									
1449.7	$\langle 13^+ \rangle$									
1482.4										
1603.1	$\langle 13^- \rangle$									
1648.0	$\langle 14^+ \rangle$									
1674.1	$\langle 14^- \rangle$									
1749.0	$\langle 14^+ \rangle$									
1770.2	$15^+$									
1869.7	$\langle 14^- \rangle$									
1910.4	$\langle 15^- \rangle$									
1953.0										
2022.1										
2067.5	$\langle 15^+ \rangle$									
2220.9	$\langle 15^- \rangle$									
2252.1	$\langle 16^+ \rangle$									
2339.4	$\langle 16^- \rangle$									
2408.6	$\langle 16^+ \rangle$									
2422.8										
2433.0	$\langle 17^+ \rangle$									
2511.9										
2555.8	$\langle 16^- \rangle$									
2576.7	$\langle 17^- \rangle$									

(continued)

 **$^{186}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E_f^*$ : $J_f^\pi$ :	0.0 $5^+$	0.0+X $2^-$	1.14+X $\langle 3 \rangle^+$	54.15+X $1^-, 2^-$	71.9+X	77.94+X $\langle 2 \rangle^+$	102.9+X
2636.7										
2766.4	$\langle 17^+ \rangle$									
2862.5										
2882.1										
2930.7	$\langle 18^+ \rangle$									
2935.9	$\langle 17^- \rangle$									
3035.5										
3144.6	$\langle 18^+ \rangle$									
3170.8	$\langle 19^+ \rangle$									
3327.0	$\langle 19^- \rangle$									
3527.4	$\langle 19^+ \rangle$									
3657.6	$\langle 20^+ \rangle$									
3734.7										
3916.6	$\langle 20^+ \rangle$									
3963.3	$\langle 21^+ \rangle$									
4144.0	$\langle 21^- \rangle$									
4205.5										
4398.6	$\langle 22^+ \rangle$									
4566										
4785.6	$\langle 23^+ \rangle$									

Additional data on this isotope can be found in [97Ca01, 91Be25].

Data for this isotope are considered in vol. LB I/19C.

Energy levels and branching ratios [03Ba44]. Part 2

 **$^{186}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ : $J_f^\pi$ :	110.1+X $\langle 2 \rangle^-$	117.5 $7^+$	120.5+X $\langle 1,2 \rangle^+$	167.2 $\langle 6^+ \rangle$	182.1+X	194.5+X	204.8+X	206.5	213.2+X $\langle \leq 3 \rangle^-$	225.5+X $\langle 2 \rangle^+$
204.76+X	$\langle 0,1,2 \rangle^+$				[100]							
213.20+X	$\langle \leq 3 \rangle^-$	$\approx 12$										
225.50+X	$\langle 2 \rangle^+$				44(7)							
237.32+X	$\langle 0,1 \rangle^+$							$\approx 19$				
246.5	$\langle 7^+ \rangle$					x				x		
259.64+X	$0^-, 1^-, 2^-$	21(3)			$\approx 14$							
264.51+X	$\langle 1 \rangle^-$	4.3(7)										
312.7	$\langle 7^- \rangle$			x		x						
331.21+X	$\langle 0,1 \rangle$	$\approx 11$										
334.50+X	$\langle 1 \rangle^-$										$\approx 21$	
359.2	$9^+$			100								
363.4	$\langle 8^+ \rangle$					x						
402.9	$\langle 8^+ \rangle$			100								
419.75+X	$0^+, 1^+, 2^+$				$\approx 68$				9.2(14)			16(3)



(continued)

 **$^{186}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
		$E_f^*$ :	110.1+X	117.5	120.5+X	167.2	182.1+X	194.5+X	204.8+X	206.5	213.2+X	225.5+X
[keV]		$J_f^\pi$ :	$\langle 2 \rangle^-$	$7^+$	$\langle 1,2 \rangle^+$	$\langle 6^+ \rangle$					$\langle \leq 3 \rangle^-$	$\langle 2 \rangle^+$
433.31+X	$\langle 1,2 \rangle^+$					$\approx 2.7$		18(3)				
444.77+X	$\langle 1 \rangle^+$		3.9(6)		10.7(16)							13(2)
689.44+X	$1^+$		1.7(2)		0.30(5)				0.50(7)			0.132(20)

Energy levels and branching ratios [03Ba44]. Part 3

 **$^{186}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $J_f^\pi$ :	237.3+X $\langle 0,1 \rangle^+$	246.5 $\langle 7^+ \rangle$	252.6+X $\langle \leq 4 \rangle$	259.6+X	264.5+X $\langle 1 \rangle^-$	312.7 $\langle 7^- \rangle$	324.3+X $\langle 2 \rangle^+$	331.2+X $\langle 0,1 \rangle$	334.5+X $\langle 1 \rangle^-$	359.2 $9^+$
264.51+X	$\langle 1 \rangle^-$					x						
312.7	$\langle 7^- \rangle$			x								
324.33+X	$\langle 2 \rangle^+$		$< 5.8$									
331.21+X	$\langle 0,1 \rangle$		$\approx 7$			x						
334.50+X	$\langle 1 \rangle^-$					$\approx 42$	10(2)					
363.4	$\langle 8^+ \rangle$			x								
396.6	$\langle 8^- \rangle$							100				
419.75+X	$0^+, 1^+, 2^+$		$\approx 7$									
433.31+X	$\langle 1,2 \rangle^+$				54(8)							
444.77+X	$\langle 1 \rangle^+$		$\leq 1.9$			$\leq 2.9$						
446.63+X	$1^+, 2^+$				26(4)							
520.0	$\langle 9^+ \rangle$			x								
520.1	$\langle 9^- \rangle$							x				
570.67+X	$0^-, 1^-$					$\approx 21$	54(8)					
689.44+X	$1^+$		0.125(20)			$\approx 0.23$	0.18(2)		0.57(10)	0.31(5)	0.57(10)	
704.8	$\langle 10^+ \rangle$											x
714.21+X	$1^+$						8.8(14)					
719.3	$\langle 10^+ \rangle$											x
721.8	$11^+$											100

Energy levels and branching ratios [03Ba44]. Part 4

 **$^{186}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ : $J_f^\pi$ :	363.4 $\langle 8^+ \rangle$	396.6 $\langle 8^- \rangle$	402.9 $\langle 8^+ \rangle$	419.8+X	433.3+X $\langle 1,2 \rangle^+$	444.8+X $\langle 1 \rangle^+$	446.6+X $1^+, 2^+$	520.0 $\langle 9^+ \rangle$	520.1 $\langle 9^- \rangle$	686.0 $\langle 10^- \rangle$
520.0	$\langle 9^+ \rangle$	x										
520.1	$\langle 9^- \rangle$			x								
686.0	$\langle 10^- \rangle$			x								
689.44+X	$1^+$					0.43(7)	1.39(20)	0.25(3)	0.29(4)			
704.8	$\langle 10^+ \rangle$	x			x					x		

(continued)

 **$^{186}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ : $J_f^\pi$ :	363.4 $\langle 8^+ \rangle$	396.6 $\langle 8^- \rangle$	402.9 $\langle 8^+ \rangle$	419.8+X	433.3+X $\langle 1,2 \rangle^+$	444.8+X $\langle 1 \rangle^+$	446.6+X $1^+, 2^+$	520.0 $\langle 9^+ \rangle$	520.1 $\langle 9^- \rangle$	686.0 $\langle 10^- \rangle$
714.21+X	$1^+$						57(9)		9.7(14)			
719.3	$\langle 10^+ \rangle$				x					x		
756.1	$\langle 10^- \rangle$									x		x
772.2+X	$\langle 1 \rangle^+$						100					
869.8	$\langle 11^- \rangle$									x		x
928.2	$\langle 11^+ \rangle$										x	
1117.3	$\langle 12^- \rangle$											45(9)

Energy levels and branching ratios [03Ba44]. Part 5

 **$^{186}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ : $J_f^\pi$ :	704.8 $\langle 10^+ \rangle$	719.3 $\langle 10^+ \rangle$	721.8 $11^+$	756.1 $\langle 10^- \rangle$	869.8 $\langle 11^- \rangle$	928.2 $\langle 11^+ \rangle$	1036.4 $\langle 11^- \rangle$	1117.3 $\langle 12^- \rangle$	1131.8 $\langle 12^+ \rangle$	1177.5 $\langle 12^+ \rangle$
928.2	$\langle 11^+ \rangle$		x	x								
1036.4	$\langle 11^- \rangle$					100						
1117.3	$\langle 12^- \rangle$						55(11)					
1131.8	$\langle 12^+ \rangle$		x	x	x							
1177.5	$\langle 12^+ \rangle$		x	x				x				
1195.9	$13^+$				100							
1300.0	$\langle 12^- \rangle$					35(7)			65(13)			
1338.1	$\langle 13^- \rangle$						63(13)			37(8)		
1449.7	$\langle 13^+ \rangle$							x				x
1482.4									100			
1603.1	$\langle 13^- \rangle$								x			
1648.0	$\langle 14^+ \rangle$										x	
1674.1	$\langle 14^- \rangle$									x		
1749.0	$\langle 14^+ \rangle$											x

Energy levels and branching ratios [03Ba44]. Part 6

 **$^{186}_{77}\text{Ir}$** 

$E^*$	$J^\pi$		Branching ratios in percentage									
[keV]		$E_f^*$ : $J_f^\pi$ :	1195.9 $13^+$	1300.0 $\langle 12^- \rangle$	1338.1 $\langle 13^- \rangle$	1449.7 $\langle 13^+ \rangle$	1482.4	1603.1 $\langle 13^- \rangle$	1648.0 $\langle 14^+ \rangle$	1674.1 $\langle 14^- \rangle$	1749.0 $\langle 14^+ \rangle$	1770.2 $15^+$
1603.1	$\langle 13^- \rangle$			x								
1648.0	$\langle 14^+ \rangle$	x										
1674.1	$\langle 14^- \rangle$				x							
1749.0	$\langle 14^+ \rangle$					x						
1770.2	$15^+$	100										
1869.7	$\langle 14^- \rangle$			x				x				

(continued)

 **$^{186}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E^*_f$ : $J^\pi_f$ :	1195.9 13 <sup>+</sup>	1300.0 (12 <sup>-</sup> )	1338.1 (13 <sup>-</sup> )	1449.7 (13 <sup>+</sup> )	1482.4	1603.1 (13 <sup>-</sup> )	1648.0 (14 <sup>+</sup> )	1674.1 (14 <sup>-</sup> )	1749.0 (14 <sup>+</sup> )	1770.2 15 <sup>+</sup>
1910.4	(15 <sup>-</sup> )				x					x		
1953.0							100					
2022.1				x				x				
2067.5	(15 <sup>+</sup> )					x					x	
2220.9	(15 <sup>-</sup> )							x				
2252.1	(16 <sup>+</sup> )								x			x
2339.4	(16 <sup>-</sup> )									x		
2408.6	(16 <sup>+</sup> )										x	
2422.8								x				
2433.0	(17 <sup>+</sup> )											100

Energy levels and branching ratios [03Ba44]. Part 7

 **$^{186}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E^*_f$ : $J^\pi_f$ :	1869.7 (14 <sup>-</sup> )	1910.4 (15 <sup>-</sup> )	1953.0	2022.1	2067.5 (15 <sup>+</sup> )	2220.9 (15 <sup>-</sup> )	2252.1 (16 <sup>+</sup> )	2339.4 (16 <sup>-</sup> )	2408.6 (16 <sup>+</sup> )	2422.8
2022.1			x									
2220.9	(15 <sup>-</sup> )		x									
2339.4	(16 <sup>-</sup> )			x								
2408.6	(16 <sup>+</sup> )						x					
2422.8			x			x		x				
2511.9					x	x						
2555.8	(16 <sup>-</sup> )		x					x				
2576.7	(17 <sup>-</sup> )			x						x		
2636.7								x				x
2766.4	(17 <sup>+</sup> )						x				x	
2930.7	(18 <sup>+</sup> )								x			
2935.9	(17 <sup>-</sup> )							x				
3144.6	(18 <sup>+</sup> )										100	

Energy levels and branching ratios [03Ba44]. Part 8

 **$^{186}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E^*_f$ : $J^\pi_f$ :	2433.0 (17 <sup>+</sup> )	2511.9	2555.8 (16 <sup>-</sup> )	2576.7 (17 <sup>-</sup> )	2636.7	2766.4 (17 <sup>+</sup> )	2862.5	2882.1	2930.7 (18 <sup>+</sup> )	3035.5
2636.7				x	x							
2862.5					x		x					
2882.1							100					
2930.7	(18 <sup>+</sup> )		x									

(continued)

 **$^{186}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*:$ $J_f^\pi:$	2433.0 $\langle 17^+ \rangle$	2511.9	2555.8 $\langle 16^- \rangle$	2576.7 $\langle 17^- \rangle$	2636.7	2766.4 $\langle 17^+ \rangle$	2862.5	2882.1	2930.7 $\langle 18^+ \rangle$	3035.5
2935.9	$\langle 17^- \rangle$				x							
3035.5									x	x		
3170.8	$\langle 19^+ \rangle$		100									
3327.0	$\langle 19^- \rangle$					100						
3527.4	$\langle 19^+ \rangle$							100				
3657.6	$\langle 20^+ \rangle$										100	
3734.7												100

Energy levels and branching ratios [03Ba44]. Part 9

 **$^{186}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage							
		$E_f^*:$ $J_f^\pi:$	3144.6 $\langle 18^+ \rangle$	3170.8 $\langle 19^+ \rangle$	3327.0 $\langle 19^- \rangle$	3657.6 $\langle 20^+ \rangle$	3734.7	3963.3 $\langle 21^+ \rangle$	4205.5
3916.6	$\langle 20^+ \rangle$		100						
3963.3	$\langle 21^+ \rangle$			100					
4144.0	$\langle 21^- \rangle$				100				
4205.5							100		
4398.6	$\langle 22^+ \rangle$					100			
4566									100
4785.6	$\langle 23^+ \rangle$							100	

Energy levels and branching ratios [91Fi02].

 **$^{187}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E_f^*:$ $2J_f^\pi:$	0.0 $3^+$	106.46 $1^+$	110.04 $5^+$	186.15 $9^-$	189.57 $3^+$	201.52 $5^-$	285.01 $7^+$
0.0	$3^+$	10.5(3) h								
106.46(3)	$1^+$	11.5(3) ns		100						
110.04(3)	$5^+$	120(15) ps		100						
186.15(4)	$9^-$	30.3(6) ms		96(32)		4.3(5)				
189.57(4)	$3^+$	22(10) ps		31(3)	65(6)	4.2(11)				
201.52(6)	$5^-$	0.84(8) ns		89(24)		10.6(11)				
285.01(5)	$7^+$			76(5)		24(2)				
311.65(5)	$5^+$	<30 ps		15.2(13)	16(2)	13(3)		56(5)		
350.44(22)	$13^-$						100			
388.80(7)	$1^-$	<69 ps		9.2(12)	31(5)			9.7(12)	50(6)	
433.81(9)	$11^-$	152(12) ns					100			
442.86(11)	$9^+$					93(10)				7.0(21)
471.16(8)	$7^+$					4.4(5)		42(9)		x

(continued)

 **$^{187}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E^*_f:$ $2J^\pi_f:$	0.0 3 <sup>+</sup>	106.46 1 <sup>+</sup>	110.04 5 <sup>+</sup>	186.15 9 <sup>-</sup>	189.57 3 <sup>+</sup>	201.52 5 <sup>-</sup>	285.01 7 <sup>+</sup>
486.35(7)	3 <sup>-</sup>			40(3)		12(1)			≈40	
486.46(11)	7 <sup>-</sup>					x	100			
620.35(17)	11 <sup>-</sup>						89(8)			
675.3(3)	17 <sup>-</sup>									
688.27(15)	9 <sup>+</sup>									14(3)
716.81(20)	⟨11 <sup>+</sup> ⟩									≈50
731.41(14)	5 <sup>-</sup>			20(10)					24(3)	
738.52(12)	⟨7 <sup>-</sup> ⟩									
764.36(20)	⟨13 <sup>-</sup> ⟩									
816.07(11)	⟨1,3,5 <sup>-</sup> ⟩			27(4)						
819.1(3)										
819.21(7)	3 <sup>+</sup>			26(3)	7(1)	37(3)		20(2)		
842.6(3)	⟨9 <sup>-</sup> ⟩									
897.55(18)	⟨11 <sup>+</sup> ⟩									
901.5(3)	⟨15 <sup>-</sup> ⟩									
903.07(20)	⟨13 <sup>+</sup> ⟩									
964.35(23)	⟨15 <sup>-</sup> ⟩									
995.3(3)	⟨11 <sup>-</sup> ⟩									
1001.9(3)	⟨3,5 <sup>+</sup> ⟩				72(11)	28(7)				
1008.85(21)	⟨13 <sup>-</sup> ⟩						60(10)			
1022.38(15)	⟨5 <sup>-</sup> ⟩									
1042.12(18)	⟨11 <sup>-</sup> ⟩									
1095.3(4)	⟨17 <sup>-</sup> ⟩									
1139.4(4)	21 <sup>-</sup>									
1159.32(24)	⟨15 <sup>-</sup> ⟩									
1192.3(3)										
1193.4(3)	⟨13 <sup>+</sup> ⟩									
1219.12(21)	⟨5 <sup>-</sup> ⟩									
1246.8(3)										
1255.54(22)	1 <sup>+</sup> ,3,5 <sup>+</sup>			47(7)	21(7)	33(7)				
1264.2(3)	⟨15 <sup>+</sup> ⟩									
1317.2(3)	19 <sup>-</sup>									
1321.5(3)	⟨17 <sup>-</sup> ⟩									
1352.79(25)	⟨17 <sup>-</sup> ⟩									
1442.7(3)	⟨15 <sup>+</sup> ⟩									
1472.4(4)	⟨17 <sup>+</sup> ⟩									
1523.3(3)	⟨19 <sup>-</sup> ⟩									
1560.8(3)										
1590.9(4)										
1636.7(4)										
1720.7(4)										
1721.9(5)	⟨25 <sup>-</sup> ⟩									
1847.6(4)	⟨23 <sup>-</sup> ⟩									
1900.9(4)	⟨19 <sup>+</sup> ⟩									
1993.0(3)	⟨21 <sup>-</sup> ⟩									

(continued)

 $^{187}_{77}\text{Ir}$ 

$E^*$ [keV]	$2J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage							
			$E^*_f$ : $2J^\pi_f$ :	0.0 $3^+$	106.46 $1^+$	110.04 $5^+$	186.15 $9^-$	189.57 $3^+$	201.52 $5^-$	285.01 $7^+$
2034.2(3)	$\langle 19^- \rangle$									
2130.7(5)	$\langle 21^+ \rangle$									
2225.2(4)										
2233.8(4)	$\langle 23^- \rangle$									
2260.4(4)	$\langle 23^- \rangle$									
2401.4(6)	$\langle 29^- \rangle$									
2468.1(6)	$\langle 27^- \rangle$									
2490.7(5)										
2505.7(6)										
2620.4(6)										
3152.2(6)	$\langle 33^- \rangle$									

Data for this isotope are considered in vol. LB I/19C.

Energy levels and branching ratios [91Fi02]. Part 2

 $^{187}_{77}\text{Ir}$ 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E^*_f$ : $2J^\pi_f$ :	311.65 $5^+$	350.44 $13^-$	388.80 $1^-$	433.81 $11^-$	442.86 $9^+$	471.16 $7^+$	486.35 $3^-$	486.46 $7^-$	620.35 $11^-$	675.3 $17^-$
471.16(8)	$7^+$		54(11)									
486.35(7)	$3^-$				9(2)							
620.35(17)	$11^-$			10.9(20)								
675.3(3)	$17^-$			100								
688.27(15)	$9^+$		52(6)					34(6)				
716.81(20)	$\langle 11^+ \rangle$						50(16)					
731.41(14)	$5^-$								23(10)	33(10)		
738.52(12)	$\langle 7^- \rangle$					100						
764.36(20)	$\langle 13^- \rangle$					100						
816.07(11)	$\langle 1,3,5 \rangle^-$				56(9)				18(2)			
819.1(3)						100						
819.21(7)	$3^+$		9(1)									
842.6(3)	$\langle 9^- \rangle$									56(12)	44(12)	
897.55(18)	$\langle 11^+ \rangle$						24(4)	37(7)				
901.5(3)	$\langle 15^- \rangle$			86(9)							x	13.9(20)
903.07(20)	$\langle 13^+ \rangle$						88(12)					
964.35(23)	$\langle 15^- \rangle$					71(7)						
1008.85(21)	$\langle 13^- \rangle$		x								$\approx 40$	
1022.38(15)	$\langle 5^- \rangle$								17(4)			
1042.12(18)	$\langle 11^- \rangle$					50(11)						
1139.4(4)	$21^-$											100
1246.8(3)				69(12)								31(6)
1317.2(3)	$19^-$											73(8)
1321.5(3)	$\langle 17^- \rangle$			43(6)								31(5)

Energy levels and branching ratios [91Fi02]. Part 3

**<sup>187</sup>Ir**  
**77**

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $2J_f^\pi$ :	688.27 9 <sup>+</sup>	716.81 ⟨11 <sup>+</sup> ⟩	738.52 ⟨7 <sup>-</sup> ⟩	764.36 ⟨13 <sup>-</sup> ⟩	819.1	897.55 ⟨11 <sup>+</sup> ⟩	901.5 ⟨15 <sup>-</sup> ⟩	903.07 ⟨13 <sup>+</sup> ⟩	964.35 ⟨15 <sup>-</sup> ⟩	995.3 ⟨11 <sup>-</sup> ⟩
897.55(18)	⟨11 <sup>+</sup> ⟩		39(8)									
903.07(20)	⟨13 <sup>+</sup> ⟩		12(4)	x								
964.35(23)	⟨15 <sup>-</sup> ⟩					29(7)						
995.3(3)	⟨11 <sup>-</sup> ⟩				100							
1022.38(15)	⟨5 <sup>-</sup> ⟩				≈83							
1042.12(18)	⟨11 <sup>-</sup> ⟩				16(3)	14(5)	20(3)					
1095.3(4)	⟨17 <sup>-</sup> ⟩										100	
1159.32(24)	⟨15 <sup>-</sup> ⟩										x	
1192.3(3)						53(12)						47(23)
1193.4(3)	⟨13 <sup>+</sup> ⟩		65(21)	18(5)				18(5)				
1219.12(21)	⟨5 <sup>-</sup> ⟩				100							
1264.2(3)	⟨15 <sup>+</sup> ⟩			100						x		
1317.2(3)	19 <sup>-</sup>								15(3)			
1321.5(3)	⟨17 <sup>-</sup> ⟩								26(4)			
1352.79(25)	⟨17 <sup>-</sup> ⟩					18(2)					80(26)	
1442.7(3)	⟨15 <sup>+</sup> ⟩							67(20)		33(7)		
1472.4(4)	⟨17 <sup>+</sup> ⟩									100		
1523.3(3)	⟨19 <sup>-</sup> ⟩										81(11)	
1560.8(3)											100	

Energy levels and branching ratios [91Fi02]. Part 4

**<sup>187</sup>Ir**  
**77**

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $2J_f^\pi$ :	1139.4 21 <sup>-</sup>	1159.32 ⟨15 <sup>-</sup> ⟩	1264.2 ⟨15 <sup>+</sup> ⟩	1317.2 19 <sup>-</sup>	1352.79 ⟨17 <sup>-</sup> ⟩	1472.4 ⟨17 <sup>+</sup> ⟩	1523.3 ⟨19 <sup>-</sup> ⟩	1721.9 ⟨25 <sup>-</sup> ⟩	1993.0 ⟨21 <sup>-</sup> ⟩	2034.2 ⟨19 <sup>-</sup> ⟩
1317.2(3)	19 <sup>-</sup>		12(4)									
1352.79(25)	⟨17 <sup>-</sup> ⟩			2.1(6)								
1523.3(3)	⟨19 <sup>-</sup> ⟩			7(5)			11(2)					
1560.8(3)				x								
1590.9(4)				100								
1636.7(4)				100								
1720.7(4)							100					
1721.9(5)	⟨25 <sup>-</sup> ⟩		100									
1847.6(4)	⟨23 <sup>-</sup> ⟩		100			x						
1900.9(4)	⟨19 <sup>+</sup> ⟩				100							
1993.0(3)	⟨21 <sup>-</sup> ⟩						49(25)		51(12)			
2034.2(3)	⟨19 <sup>-</sup> ⟩						100		x			
2130.7(5)	⟨21 <sup>+</sup> ⟩							100				
2225.2(4)												100
2233.8(4)	⟨23 <sup>-</sup> ⟩								100			
2260.4(4)	⟨23 <sup>-</sup> ⟩										100	x
2401.4(6)	⟨29 <sup>-</sup> ⟩									100		

(continued)

 $^{187}_{77}\text{Ir}$ 

$E^*$	$2J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ :	1139.4	1159.32	1264.2	1317.2	1352.79	1472.4	1523.3	1721.9	1993.0	2034.2
		$2J_f^\pi$ :	21 <sup>−</sup>	⟨15 <sup>−</sup> ⟩	⟨15 <sup>+</sup> ⟩	19 <sup>−</sup>	⟨17 <sup>−</sup> ⟩	⟨17 <sup>+</sup> ⟩	⟨19 <sup>−</sup> ⟩	⟨25 <sup>−</sup> ⟩	⟨21 <sup>−</sup> ⟩	⟨19 <sup>−</sup> ⟩
2468.1(6)	⟨27 <sup>−</sup> ⟩									100		
2505.7(6)										100		
2620.4(6)										100		

Energy levels and branching ratios [91Fi02]. Part 5

 $^{187}_{77}\text{Ir}$ 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*$ : $2J_f^\pi$ :									
2490.7(5)									2233.8 ⟨23 <sup>-</sup> ⟩		2401.4 ⟨29 <sup>-</sup> ⟩
3152.2(6)	⟨33 <sup>-</sup> ⟩								100		100

Energy levels and branching ratios [02Si10].

 $^{188}_{77}\text{Ir}$ 

$E^*$ [keV]	$J^\pi$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Branching ratios in percentage									
			$E_f^*$ : $J_f^\pi$ :	0.0 1 <sup>-</sup>	54.82 ⟨1,2 <sup>-</sup> ⟩	96.71 ⟨1,2 <sup>-</sup> ⟩	151.95 ⟨3 <sup>-</sup> ⟩	166.2 ⟨3 <sup>-</sup> ⟩	187.62 ⟨1 <sup>-</sup> ⟩	195.09 ⟨0,1 <sup>-</sup> ⟩		
0.0	1 <sup>-</sup>	41.5(5) h										
54.82(5)	⟨1,2 <sup>-</sup> ⟩	1.93(10) ns		100								
96.71(5)	⟨1,2 <sup>-</sup> ⟩	1.59(12) ns		25(12)	75(8)							
151.95(12)	⟨3 <sup>-</sup> ⟩				100	x						
166.2(1)	⟨3 <sup>-</sup> ⟩			100								
187.62(7)	⟨1 <sup>-</sup> ⟩	56(13) p		99(5)	1.3(3)							
195.09(5)	⟨0,1 <sup>-</sup> ⟩	51(10) p		88(4)	11(1)	1.6(2)						
211.2(1)	⟨3 <sup>-</sup> ⟩				35(3)	65(4)	x					
280.4(10)	⟨1,2 <sup>-</sup> ⟩			93(11)							≈7	
354.2(1)	⟨4 <sup>+</sup> ⟩						30(2)	6.9(6)				
435.8(2)	⟨5 <sup>-</sup> ⟩											
478.17(7)	1 <sup>+</sup>	≤150 p		13(2)	31(3)	54(3)				0.8(2)	0.8(2)	
492.0(1)	⟨6 <sup>+</sup> ⟩											
641.9(2)	⟨8 <sup>+</sup> ⟩											
674.9(3)	⟨8 <sup>-</sup> ,9 <sup>-</sup> ⟩											
708.1(2)	⟨8 <sup>-</sup> ,9 <sup>-</sup> ⟩											
877.8												
915.5												
923.5(2)	⟨8-11 <sup>-</sup> ⟩											
923.5+X		4.2(2) m										



Energy levels and branching ratios [02Si10]. Part 2

**<sup>188</sup>Ir**  
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$E^*$ [keV]	$J^\pi$	Branching ratios in percentage								
		$E_f^*$ : $J_f^\pi$ :	211.2 $\langle 3 \rangle^-$	280.4 $\langle 1,2 \rangle^-$	354.2 $\langle 4 \rangle^+$	435.8 $\langle 5 \rangle$	492.0 $\langle 6 \rangle^+$	641.9 $\langle 8^+ \rangle$	674.9 $\langle 8^-, 9^- \rangle$	708.1 $\langle 8^-, 9^- \rangle$
354.2(1)	$\langle 4 \rangle^+$		63(3)							
435.8(2)	$\langle 5 \rangle$				100					
478.17(7)	$1^+$			<0.42						
492.0(1)	$\langle 6 \rangle^+$				96(5)	4.0(4)				
641.9(2)	$\langle 8^+ \rangle$						100			
674.9(3)	$\langle 8^-, 9^- \rangle$							100		
708.1(2)	$\langle 8^-, 9^- \rangle$							100		
877.8									x	
915.5										x
923.5(2)	$\langle 8-11^- \rangle$									100

Energy levels and branching ratios [03Wu02].

**<sup>189</sup>Ir**  
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$E^*$ [keV]	$2J^\pi$	$L$	$S_N$ (p,t)	$d\sigma/d\Omega$ $\mu\text{b/sr}$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Ref.	Branching ratios in percentage				
							$E_f^*$ : $2J_f^\pi$ :	0.0 $3^+$	94.3 $1^+$	114 $5^+$	176 $3^+$
0.0	$3^+$	0	1.00	469	13.2(1) d	78Lo07					
94.34(3)	$1^+$	2		4	11.4(3) ns	78Lo07		100			
113.832(23)	$5^+$	2		25	76(18) ps	78Lo07		100			
176.53(3)	$3^+$			6	22(10) ps	78Lo07		24.7(12)	73(6)	2.4(5)	
300.50(4)	$7^+$	2		16	<20 ps	78Lo07		63(3)		37.4(11)	
317.68(3)	$5^+$	2		3		78Lo07		35(2)	16.0(10)	5.1(5)	44(2)
372.17(4)	$11^-$				13.3(3) ms					77(6)	
453.93(15)	$9^+$			3		78Lo07				93(5)	
464.80(19)	$7^+$									51(6)	31(5)
539.74(8)								100			
563.76(19)	$\langle 7,9 \rangle^-$										
607.51(4)	$5^-$							84(33)		10.1(9)	5.1(9)
615.58(5)	$7^-$				0.18(2) ns						
644.29(6)	$\langle 3,5 \rangle^+$	2				78Lo07		64(4)		24(2)	
719.13(22)	$9^+$										
721.41(3)	$3^+$	0		7		78Lo07		38(2)	9.7(4)	23(4)	23.7(10)
737.01(18)	$13^-$										
741.8(3)	$\langle 11,13 \rangle^-$										
746.08(15)	$11^+$										
753(3)	$X^+$	2		11		78Lo07					
792.71(4)	$\langle 1,3 \rangle^+$							82(5)	13.0(13)	2.7(4)	2.7(4)
828.17(5)	$3^-$							30(5)	36(6)	7(2)	11(1)
831.86(21)	$\langle 9,11 \rangle^-$										
838.14(17)	$15^-$										
850.07(11)	$1,3,5^+$								61(9)		39(6)
899.5(3)	$\langle 11^+ \rangle$										

(continued)

 **$^{189}_{77}\text{Ir}$** 

$E^*$	$2J^\pi$	$L$	$S_N$	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]			(p,t)	$\mu\text{b/sr}$	$\Gamma_{\text{cm}}$		$E_f^*$ : $2J_f^\pi$ :	0.0 3 <sup>+</sup>	94.3 1 <sup>+</sup>	114 5 <sup>+</sup>	176 3 <sup>+</sup>
900.15(10)	$\langle 7,9 \rangle^-$										
902.65(7)	$\langle 1,3 \rangle^+$							9(2)	16(3)	22(11)	
912.21(6)	3 <sup>+</sup>	0	0.030	8		78Lo07		5(1)		23(2)	45(9)
918.45(20)	13 <sup>+</sup>										
924.76(8)	$\langle 3,5 \rangle^-$							61(5)		28(4)	
946.0(4)	X <sup>-</sup>										
948.6(3)											
958.67(7)	$\langle 3^-,5 \rangle$										14(2)
1052(3)	$\langle 3^+ \rangle$	$\langle 0 \rangle$				78Lo07					
1074.3(4)											
1101.1(4)	$\langle 15,17 \rangle^-$										
1106.38(7)	$\langle 3,5 \rangle^+$							39(4)	11(2)	18(3)	9(2)
1114.7(3)	X <sup>-</sup>										
1137.5(3)											
1175(3)				3		78Lo07					
1184.41(5)	5 <sup>-</sup>				<80 ps			0.49(8)		0.5(3)	1.32(19)
1203.26(6)	3 <sup>+</sup>	0	0.027	7		78Lo07			16(1)	5(1)	48(8)
1221.3(4)	X <sup>-</sup>										
1238.73(12)	$\langle 3^-,5,7^+ \rangle$										
1248(3)		0	0.093	16		78Lo07					
1248.8(3)	$\langle 13^+ \rangle$										
1268.64(22)	17 <sup>-</sup>										
1288.1(5)											
1296.53(21)	15 <sup>+</sup>										
1312.33(10)	$\langle 3^+,5,7^+ \rangle$							49(7)		14(3)	
1344.51(5)	$\langle 3^+,5^+ \rangle$			4		78Lo07		13(2)		15(2)	8(1)
1383.94(22)	19 <sup>-</sup>										
1396.0(7)											
1448.0(5)											
1451.58(10)	$\langle 5 \rangle^-$										
1468.99(12)											
1476.46(10)	1 <sup>+</sup> ,3,5 <sup>+</sup>							69(16)	9(5)	17(3)	4(1)
1481.9(3)	$\langle 17 \rangle^+$										
1500.19(7)	$\langle 1,3 \rangle^-$								17(2)		76(5)
1501.35(11)	$\langle 3^-,5^- \rangle$	0	0.073	13		78Lo07		50(8)		32(5)	
1536.88(13)								13(3)		43(9)	
1558.20(8)								11(5)		13(5)	11(11)
1571.67(7)	$\langle 3,5 \rangle^+$							9(1)	12(6)	27(3)	4(1)
1578.4(4)											
1609.1(5)	$\langle 19^-,21^- \rangle$										
1610.28(7)	$\langle 3,5 \rangle^-$							15(2)		13(7)	
1615.6(5)											
1622.82(11)	1 <sup>+</sup> ,3,5 <sup>+</sup>							8(3)	38(7)	10(2)	36(6)
1651.5(4)											
1656.5(5)											

(continued)

 **$^{189}_{77}\text{Ir}$** 

$E^*$	$2J^\pi$	$L$	$S_N$	$d\sigma/d\Omega$	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]			(p,t)	$\mu\text{b/sr}$	$\Gamma_{\text{cm}}$		$E_f^*$ : $2J_f^\pi$ :	0.0 3 <sup>+</sup>	94.3 1 <sup>+</sup>	114 5 <sup>+</sup>	176 3 <sup>+</sup>
1672.83(10)								x		10(5)	31(15)
1767.21(14)	3,5 <sup>+</sup>							38(4)	13(2)	36(5)	
1791.2(5)	17 <sup>-</sup> -21 <sup>-</sup>										
1802.25(8)	$\langle 5^- \rangle$							9(2)		7(2)	
1814.85(12)	$\langle 1,3 \rangle^-$							9(5)	16(3)		23(5)
1876.0(3)	$\langle 21^- \rangle$										
1910.8(3)	19 <sup>+</sup>										
1920.22(24)	19 <sup>+</sup>										
2060.3(3)	21 <sup>-</sup>										
2085.5(4)	23 <sup>-</sup>										
2109.4(5)	$\langle 21^- \rangle$										
2110.2(5)	$\langle 21^+ \rangle$										
2128.4(3)	23 <sup>+</sup>										
2249.0(5)	$\langle 23,25 \rangle^-$										
2333.2(5)	$\langle 25 \rangle^+$				3.7(2) ms						

Additional data on this isotope can be found in [78St09].

Data for this isotope are considered in vol. LB I/19C.

Energy levels and branching ratios [03Wu02]. Part 2

 **$^{189}_{77}\text{Ir}$** 

$E^*$	$2J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*:$ $2J_f^\pi:$	300 7 <sup>+</sup>	317.68 5 <sup>+</sup>	372.17 11 <sup>-</sup>	453.93 9 <sup>+</sup>	464.80 7 <sup>+</sup>	539.74	563.76 $\langle 7,9 \rangle^-$	607.51 5 <sup>-</sup>	615.58 7 <sup>-</sup>	644.29 $\langle 3,5 \rangle^+$
372.17(4)	11 <sup>-</sup>		23(4)									
453.93(15)	9 <sup>+</sup>		7.0(13)									
464.80(19)	7 <sup>+</sup>			18(3)								
563.76(19)	$\langle 7,9 \rangle^-$		88(6)			12(3)						
607.51(4)	5 <sup>-</sup>		0.9(2)									
615.58(5)	7 <sup>-</sup>				100							
644.29(6)	$\langle 3,5 \rangle^+$		12(3)									
719.13(22)	9 <sup>+</sup>		20(11)	42(9)			38(6)					
721.41(3)	3 <sup>+</sup>			5.8(3)								
737.01(18)	13 <sup>-</sup>				100							
741.8(3)	$\langle 11,13 \rangle^-$								100			
746.08(15)	11 <sup>+</sup>		81(10)			19(6)						
828.17(5)	3 <sup>-</sup>							6(1)			10(3)	
831.86(21)	$\langle 9,11 \rangle^-$				81(10)						19(4)	
838.14(17)	15 <sup>-</sup>				95(11)							
899.5(3)	$\langle 11^+ \rangle$					x	92(10)					
900.15(10)	$\langle 7,9 \rangle^-$				14(9)						86(9)	
902.65(7)	$\langle 1,3 \rangle^+$			21(3)								
912.21(6)	3 <sup>+</sup>			13(1)								

(continued)

 **$^{189}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	300 7 <sup>+</sup>	317.68 5 <sup>+</sup>	372.17 11 <sup>-</sup>	453.93 9 <sup>+</sup>	464.80 7 <sup>+</sup>	539.74	563.76 $\langle 7,9 \rangle^-$	607.51 5 <sup>-</sup>	615.58 7 <sup>-</sup>	644.29 $\langle 3,5 \rangle^+$
918.45(20)	13 <sup>+</sup>					98(17)						
924.76(8)	$\langle 3,5 \rangle^-$							11(2)				
946.0(4)	X <sup>-</sup>								100			
948.6(3)					100							
958.67(7)	$\langle 3^-, 5 \rangle$			13(4)						29(6)	x	27(6)
1106.38(7)	$\langle 3,5 \rangle^+$			13(8)								
1114.7(3)	X <sup>-</sup>				31(8)							11(6)
1184.41(5)	5 <sup>-</sup>									0.61(13)		97(4)
1203.26(6)	3 <sup>+</sup>			31(3)								
1238.73(12)	$\langle 3^-, 5, 7^+ \rangle$										100	
1312.33(10)	$\langle 3^+, 5, 7^+ \rangle$		37(7)									
1344.51(5)	$\langle 3^+, 5^+ \rangle$		15(2)	15(8)								
1451.58(10)	$\langle 5 \rangle^-$										100	
1500.19(7)	$\langle 1,3 \rangle^-$											7(2)
1558.20(8)				11(3)								8(3)
1571.67(7)	$\langle 3,5 \rangle^+$			47(3)								
1610.28(7)	$\langle 3,5 \rangle^-$			8(1)				27(13)		37(7)		
1622.82(11)	1 <sup>+</sup> , 3, 5 <sup>+</sup>			8(2)								
1767.21(14)	3, 5 <sup>+</sup>									13(3)		
1802.25(8)	$\langle 5^- \rangle$		41(6)							5(2)		8(2)

Energy levels and branching ratios [03Wu02]. Part 3

 **$^{189}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	719.13 9 <sup>+</sup>	721.41 3 <sup>+</sup>	737.01 13 <sup>-</sup>	741.8	746.08 11 <sup>+</sup>	792.71 $\langle 1,3 \rangle^+$	828.17 3 <sup>-</sup>	831.86 $\langle 9,11 \rangle^-$	838.14 15 <sup>-</sup>	899.5 $\langle 11^+ \rangle$
838.14(17)	15 <sup>-</sup>				5(1)							
899.5(3)	$\langle 11^+ \rangle$		8(4)									
902.65(7)	$\langle 1,3 \rangle^+$			33(5)								
912.21(6)	3 <sup>+</sup>			14(4)								
918.45(20)	13 <sup>+</sup>						2(1)					
946.0(4)	X <sup>-</sup>					x						
948.6(3)											x	
958.67(7)	$\langle 3^-, 5 \rangle$								17(5)			
1074.3(4)										100		
1101.1(4)	$\langle 15,17 \rangle^-$					100						
1106.38(7)	$\langle 3,5 \rangle^+$			11(2)								
1114.7(3)	X <sup>-</sup>									37(7)		
1137.5(3)					100							
1221.3(4)	X <sup>-</sup>					72(8)						
1248.8(3)	$\langle 13^+ \rangle$		67(17)				17(10)					17(10)
1268.64(22)	17 <sup>-</sup>				16(4)						84(11)	

(continued)

 **$^{189}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $2J_f^\pi$ :	719.13 9 <sup>+</sup>	721.41 3 <sup>+</sup>	737.01 13 <sup>-</sup>	741.8	746.08 11 <sup>+</sup>	792.71 $\langle 1,3 \rangle^+$	828.17 3 <sup>-</sup>	831.86 $\langle 9,11 \rangle^-$	838.14 15 <sup>-</sup>	899.5 $\langle 11^+ \rangle$
1296.53(21)	15 <sup>+</sup>						88(11)					
1344.51(5)	$\langle 3^+, 5^+ \rangle$			33(11)								
1383.94(22)	19 <sup>-</sup>										97(14)	
1501.35(11)	$\langle 3^-, 5^- \rangle$							18(4)				
1536.88(13)								44(7)				
1558.20(8)								20(4)				
1578.4(4)					32(10)							
1610.28(7)	$\langle 3, 5 \rangle^-$								x			
1672.83(10)				11(3)				47(8)				
1802.25(8)	$\langle 5^- \rangle$			30(4)								
1814.85(12)	$\langle 1, 3 \rangle^-$								52(8)			

Energy levels and branching ratios [03Wu02]. Part 4

 **$^{189}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $2J_f^\pi$ :	900.15 $\langle 7, 9 \rangle^-$	902.65 $\langle 1, 3 \rangle^+$	918.45 13 <sup>+</sup>	946.0 X <sup>-</sup>	958.67 $\langle 3^-, 5 \rangle$	1101.1	1114.7 X <sup>-</sup>	1137.5	1184.41 5 <sup>-</sup>	1221.3 X <sup>-</sup>
1114.7(3)	X <sup>-</sup>		21(4)									
1221.3(4)	X <sup>-</sup>					28(6)						
1288.1(5)						100						
1296.53(21)	15 <sup>+</sup>				12(2)							
1396.0(7)									100			
1448.0(5)									100			
1468.99(12)											100	
1481.9(3)	$\langle 17 \rangle^+$				100							
1558.20(8)				26(4)								
1578.4(4)										68(10)		
1609.1(5)	$\langle 19^-, 21^- \rangle$							100				
1610.28(7)	$\langle 3, 5 \rangle^-$					x						
1615.6(5)												100
1651.5(4)								100				

Energy levels and branching ratios [03Wu02]. Part 5

 **$^{189}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*$ : $2J_f^\pi$ :	1268.64 17 <sup>-</sup>	1296.53 15 <sup>+</sup>	1383.94 19 <sup>-</sup>	1481.9 $\langle 17 \rangle^+$	1876.0 $\langle 21^- \rangle$	1910.8 19 <sup>+</sup>	1920.22 19 <sup>+</sup>	2060.3 21 <sup>-</sup>	2085.5 23 <sup>-</sup>
1383.94(22)	19 <sup>-</sup>		3(1)								
1656.5(5)			100								

(continued)

 **$^{189}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*$ : $2J_f^\pi$ :	1268.64 $17^-$	1296.53 $15^+$	1383.94 $19^-$	1481.9 $\langle 17 \rangle^+$	1876.0 $\langle 21^- \rangle$	1910.8 $19^+$	1920.22 $19^+$	2060.3 $21^-$	2085.5 $23^-$
1791.2(5)	$17^- - 21^-$				100						
1876.0(3)	$\langle 21^- \rangle$		41(12)		59(8)						
1910.8(3)	$19^+$			81(14)		19(6)					
1920.22(24)	$19^+$			80(10)		20(3)					
2060.3(3)	$21^-$				23(10)			23(10)	54(19)		
2085.5(4)	$23^-$				92(17)		8(4)				
2109.4(5)	$\langle 21^- \rangle$				100						
2110.2(5)	$\langle 21^+ \rangle$					100					
2128.4(3)	$23^+$						28(5)	25(5)	47(7)	x	
2333.2(5)	$\langle 25 \rangle^+$										87(16)

Energy levels and branching ratios [03Wu02]. Part 6

 **$^{189}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	$E_f^*$ : $2J_f^\pi$ :	Branching ratios in percentage		
			2109.4 $\langle 21^- \rangle$	2128.4 $23^+$	
2249.0(5)	$\langle 23, 25 \rangle^-$			100	
2333.2(5)	$\langle 25 \rangle^+$		0.3(2)		13(5)

Energy levels and branching ratios [03Si05].

 **$^{190}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau$ ,d)	$L$	$\sigma$ ( $\alpha$ ,t)	$L$	$T_{1/2}$ or	Ref.
[keV]			(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	( $\tau$ ,d)	$\mu\text{b/sr}$	( $\alpha$ ,t)	$\Gamma_{\text{cm}}$	
0.0	$4^-$	3	0.10(1)	74(9)	3.7(9)	$\langle 2 \rangle$			11.78(10) d	95Ga04
22.46(4)	$\langle 6 \rangle^-$									
26.1(1)	$\langle 1^- \rangle$	1	0.09(1)	176(19)			7.3(9)	$\langle 2 \rangle$	1.120(3) h	95Ga04
36.15(3)	$\langle 4 \rangle^+$								$> 2 \mu\text{s}$	
38.1(2)	$\langle 3 \rangle^-$	5	0.32(2)	23(4)						95Ga04
82.59(2)	$\langle 3 \rangle^-$			560(70)	35(4)	$\langle 2 \rangle$	57(6)	$\langle 2 \rangle$	6(2) ns	95Ga04
83.3(10)	$\langle 2 \rangle^-$	1 +3	0.22(1) 0.22(6)	incl	incl					95Ga04 95Ga04
138.12(2)	$\langle 5^- \rangle$									
144.1(10)	$\langle 1 \rangle^-$	1	0.019(1)	37(5)	28(3)		25(3)	$\langle 0+2 \rangle$		95Ga04
168.38(3)	$\langle 4^- \rangle$									
170.53(3)	$\langle 5^+ \rangle$									
171.53(3)	$\langle 6 \rangle^+$								3.73(5) n	
173.8(2)	$\langle 1 \rangle^-$	1 +3	0.048(4) 0.32(3)	260(60)	6.0(14)	$\langle 2 \rangle$	11.8(14)	$\langle 2 \rangle$		95Ga04 95Ga04

(continued)

**<sup>190</sup>Ir**  
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$E^*$	$J^\pi$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau$ ,d)	$L$	$\sigma$ ( $\alpha$ ,t)	$L$	$T_{1/2}$ or	Ref.
[keV]			(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	( $\tau$ ,d)	$\mu\text{b/sr}$	( $\alpha$ ,t)	$\Gamma_{\text{cm}}$	
183.4(4)	$\langle 0 \rangle^-$	1	0.045(2)	90(12)	11.8(18)	$\langle 2 \rangle$	9.8(14)	$\langle 2 \rangle$		95Ga04
199.0(10)	$\langle 3 \rangle^-$	1	0.062(4)	140(16)	4.9(8)	$\langle 2 \rangle$	3.8(5)	$\langle 2 \rangle$		95Ga04
		+3	0.044(18)							95Ga04
210.3										
223.6(5)	$\langle 2 \rangle^-$	1	0.187(12)	477(50)	13.4(17)		8.5(10)	$\langle 0+2 \rangle$		95Ga04
		+3	0.31(5)							95Ga04
227.7(1)	$\langle 7 \rangle^+$								3.7(2) n	
232.8(1)	$\langle 7^- \rangle$									
241.7(6)	$1^- - 3^-$	1	0.005(1)	13(3)						95Ga04
		+3	0.010(4)							95Ga04
245.0(7)	$\langle 0-4 \rangle^-$				9.0(13)	$\langle 2 \rangle$	9.9(14)	$\langle 2 \rangle$		95Ga04
266.8(3)	$\langle 0-3 \rangle^-$	1	0.074(2)	121(14)						95Ga04
269.4(9)	$1^-, 2^-$				9.5(14)		5.7(8)	$\langle 0+2 \rangle$		95Ga04
278.9(3)	$1^- - 3^-$	1	0.038(4)	119(15)						95Ga04
		+3	0.088(18)							95Ga04
284.8(3)	$\langle 2 \rangle^-$	1	0.021(4)	49(10)	8.4(16)	$\langle 2 \rangle$	7.1(10)	$\langle 2 \rangle$		95Ga04
287.7(1)	$\langle 6^+ \rangle$									
313.2(5)	$\langle 2 \rangle^-$	1	0.018(2)	97(15)	16(2)	$\langle 2 \rangle$	31(4)	$\langle 2 \rangle$		95Ga04
		+3	0.134(13)							95Ga04
314.1(1)	$\langle 4^+ \rangle$									
317.6(1)	$\langle 5^- \rangle$								90(3) n	
331.7(4)	$\langle 1-5 \rangle^-$	3	0.089(4)	52(5)						95Ga04
332.4(1)	$\langle 6^+ \rangle$									
337.99(2)	$\langle 6^- \rangle$									
347.8(4)	$\langle 3 \rangle^-$	1	0.121(8)	282(30)						95Ga04
		+3	0.12(3)							95Ga04
351.44(3)	$\langle 6^+ \rangle$									
366.7(4)	$1^- - 3^-$	1	0.021(2)	39(8)						95Ga04
		+3	0.130(14)							95Ga04
369.4(1)	$\langle 7^+ \rangle$									
375.7(4)	$\langle 0-3 \rangle^-$	1	0.021(1)							95Ga04
376.4(1)	$\langle 11 \rangle^-$								3.087(12) h	
379.9(8)	$1^-, 2^-$				37(4)		25(4)	$\langle 0+2 \rangle$		95Ga04
386.0(1)	$\langle 5^+ \rangle$									
404.0(1)	$\langle 6^- \rangle$									
408.0(4)	$1^- - 3^-$	1	0.006(1)	29(4)						95Ga04
		+3	0.039(5)							95Ga04
415.1(1)	$\langle 5^- \rangle$									
426.7(4)	$\langle 0-3 \rangle^-$	1	0.027(1)	48(6)						95Ga04
430.7(13)	$1^-, 2^-$				6.3(9)		4.0(6)	$\langle 0+2 \rangle$		95Ga04
431.6(1)					incl					
440.9(1)	$\langle 7^+ \rangle$	5	0.87(11)	72(10)						95Ga04
		+3	<0.04							95Ga04
442.8(1)	$\langle 6 \rangle^-$						3.6(7)			95Ga04
444.5(1)	$\langle 8^+ \rangle$									

(continued)

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$E^*$	$J^\pi$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau$ ,d)	$L$	$\sigma$ ( $\alpha$ ,t)	$L$	$T_{1/2}$ or	Ref.
[keV]			(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	( $\tau$ ,d)	$\mu\text{b/sr}$	( $\alpha$ ,t)	$\Gamma_{\text{cm}}$	
447.5(10)	$\langle 5^- \rangle$									
448.51(3)	$\langle 7^+ \rangle$									
449.6(1)	$\langle 6^- \rangle$				8.7(24)					95Ga04
452.4(2)				16(6)						95Ga04
456.6(14)							4.1(13)	$\langle 2 \rangle$		95Ga04
463.6(1)	$\langle 8^+ \rangle$									
465.4(16)	$\langle 4^+ \rangle$				6.8(29)		19(3)	$\langle 4,5 \rangle$		95Ga04
475.1(1)	$\langle 8^- \rangle$									
478.5(5)	$\langle 1-5 \rangle^-$	3	0.166(8)	84(11)						95Ga04
479.5(1)										
485.8(5)	$\langle 0-3 \rangle^-$	1	0.140(5)	210(23)						95Ga04
496.4(5)	$\langle 0-3 \rangle^-$	1	0.096(3)	144(15)						95Ga04
498.2(9)	$1^-, 2^-$				2.4(14)		2.2(6)	$\langle 0+2 \rangle$		95Ga04
501.19(4)	$\langle 6^+ \rangle$									
510.9(5)	$\langle 0-3 \rangle^-$	1	0.128(4)	188(21)	4.1(7)		3.2(7)	$\langle 0+2 \rangle$		95Ga04
528.36(7)										
541.4(1)	$\langle 7^+ \rangle$									
542.9(10)	$\langle 5 \rangle^-$	3 +5	0.033(5) 0.23(6)	36(5)						95Ga04 95Ga04
551.0(9)	$1^-, 2^-$				4.7(9)	$\langle 0 \rangle$	1.9(4)	$\langle 0 \rangle$		95Ga04
557.12(11)										
566.66(8)	$\langle 7^- \rangle$									
574.37(4)	$\langle 8^+ \rangle$									
577.49(5)	$\langle 5^+ \rangle$									
588.68(4)	$7^+$									
589.4(6)	$\langle 0-3 \rangle^-$	1	0.157(5)	256(47)	3.1(16)	$\langle 2 \rangle$	5.0(6)	$\langle 2 \rangle$		95Ga04
602.7(6)	$\langle 1-5 \rangle^-$	3 + $\langle 1 \rangle$	0.71(3) <0.01	194(21)						95Ga04 95Ga04
603.2(1)	$\langle 6^- \rangle$				6.6(9)	$\langle 2 \rangle$				95Ga04
612.8(7)	$\langle 0-3 \rangle^-$	1	0.036(2)	155(17)						95Ga04
619.1(7)	$\langle 0-3 \rangle^-$	1	0.098(4)	42(6)						95Ga04
621.5(13)	$\langle 0-4 \rangle^-$						4.1(6)	$\langle 2 \rangle$		95Ga04
633.0(7)	$\langle 0-3 \rangle^-$	1	0.027(1)	15(4)						95Ga04
655.3(7)	$\langle 0-3 \rangle^-$	1	0.019(1)	25(4)						95Ga04
655.6(2)	$\langle 8^+ \rangle$									
657.3(1)										
661.4(1)	$\langle 7^- \rangle$									
669.0(7)	$1^- - 3^-$	1 +3	0.017(2) 0.123(11)	73(10)	4.5(7)	$\langle 2 \rangle$				95Ga04 95Ga04
670.8(13)	$\langle 0-4 \rangle^-$				incl		2.5(4)	$\langle 2 \rangle$		95Ga04
678.6(1)										
680.47(4)	$9^+$									
680.9										
684.7(7)	$\langle 0-3 \rangle^-$	1	0.105(4)	150(17)						95Ga04
693.02(20)										



(continued)

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$E^*$	$J^\pi$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau$ ,d)	$L$	$\sigma$ ( $\alpha$ ,t)	$L$	$T_{1/2}$ or	Ref.
[keV]			(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	( $\tau$ ,d)	$\mu\text{b/sr}$	( $\alpha$ ,t)	$\Gamma_{\text{cm}}$	
694.1(9)	$1^-, 2^-$				3.2(9)		2.2(3)	$\langle 0+2 \rangle$		95Ga04
705.2(8)	$1^- - 3^-$	1 +3	0.011(1) 0.017(6)	21(4)						95Ga04 95Ga04
708.55(15)										
716.2(17)	$\langle 5^+ \rangle$				3.3(6)		9.1(11)	$\langle 4,5 \rangle$		95Ga04
719.32(4)	$\langle 8^+ \rangle$									
722.1(7)	$\langle 0-3 \rangle^-$	1	0.044(2)	75(10)						95Ga04
722.20(4)	$\langle 9^+ \rangle$									
727.4(10)	$\langle 6^- \rangle$									
738.06(5)	$\langle 9^- \rangle$									
741.6(13)	$\langle 0-4 \rangle^-$				6.5(9)	$\langle 2 \rangle$	8.5(12)	$\langle 2 \rangle$		95Ga04
743.5(7)	$\langle 0-3 \rangle^-$	1	0.053(2)	92(10)						95Ga04
747.07(15)										
753.82(5)	$\langle 8^+ \rangle$									
754.21(5)	$\langle 8^+ \rangle$									
755.7(8)	$1^- - 3^-$	1 +3	0.020(2) 0.020(2)	39(6)						95Ga04 95Ga04
759.1(9)					8.9(13)		34(5)	$\langle 4,5 \rangle$		95Ga04
772.5(11)	$\langle 3-7 \rangle^-$	5 + $\langle 1 \rangle$	0.34(5) <0.01	29(5)						95Ga04 95Ga04
776.17(5)	$\langle 7^+ \rangle$									
787.5(9)	$\langle 0-3 \rangle^-$	1	0.020(1)	36(5)						95Ga04
794.9(9)	$\langle 0-3 \rangle^-$	1	0.013(1)	16(4)						95Ga04
799.7(2)					10(3) incl					95Ga04
804.4(13)							19(2)	$\langle 3,4 \rangle$		95Ga04
806.2(9)	$1^- - 3^-$	1 +3	0.004(1) 0.014(4)	18(3)						95Ga04 95Ga04
807.4(1)										
818.7(18)							21(2)	$\langle 4,5 \rangle$		95Ga04
823.6(9)	$1^- - 3^-$	1 +3	0.006(1) 0.035(5)	24(5)	8.8(12)					95Ga04 95Ga04
831.56(6)										
834.99(5)	$\langle 7^- \rangle$									
835.9(9)	$1^- - 3^-$	1 +3	0.011(1) 0.020(7)	19(4)						95Ga04 95Ga04
843.5(9)	$1^- - 3^-$	1 +3	0.009(1) 0.053(7)	32(6)	10.1(13)	$\langle 2 \rangle$				95Ga04 95Ga04
847.3(10)	$\langle 0-4 \rangle^-$						11(1)	$\langle 2 \rangle$		95Ga04
851.0(2)	$\langle 9^+ \rangle$									
862.0(10)	$1^- - 3^-$	1 +3	0.004(1) 0.012(1)	14(4)						95Ga04 95Ga04
867.7(2)					8(1) incl					95Ga04
867.8(1)					incl					
868.8(10)							14(2)	$\langle 2,3 \rangle$		95Ga04
891.3(9)					10.6(13)		42(6)	$\langle 4,5 \rangle$		95Ga04

(continued)

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$E^*$	$J^\pi$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau$ ,d)	$L$	$\sigma$ ( $\alpha$ ,t)	$L$	$T_{1/2}$ or	Ref.
[keV]			(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	( $\tau$ ,d)	$\mu\text{b/sr}$	( $\alpha$ ,t)	$\Gamma_{\text{cm}}$	
902.1(10)	$\langle 1-5 \rangle^-$	3	0.025(2)	11(3)						95Ga04
917.68(21)										
924.6(9)					14.4(16)		22(4)	$\langle 3,4 \rangle$		95Ga04
929.4(10)	$1^- - 3^-$	1	0.020(2)	47(5)						95Ga04
		+3	0.052(10)							95Ga04
942.12(6)	$\langle 9^+ \rangle$									
948.85(5)	$\langle 10^+ \rangle$									
960.1(10)	$1^- - 3^-$	1	0.011(2)	20(4)						95Ga04
		+3	0.011(6)							95Ga04
966.78(21)										
971.2(10)	$1^- - 3^-$	1	0.006(1)	22(5)						95Ga04
		+3	0.037(6)							95Ga04
993.2(11)	$1^- - 3^-$	1	0.008(1)	51(7)						95Ga04
		+3	0.123(9)							95Ga04
1005.5(10)	$\langle 7^- \rangle$									
1006.4(14)	$1^- - 3^-$	1	0.007(1)	15(3)						95Ga04
		+3	0.015(5)							95Ga04
1014.8(14)	$\langle 0-3 \rangle^-$	1	0.008(1)	15(3)						95Ga04
1017.1(1)										
1026.8(14)	$1^- - 3^-$	1	0.006(1)	30(5)						95Ga04
		+3	0.047(6)							95Ga04
1034.4(16)	$\langle 1-5 \rangle^-$	3	0.047(3)	17(3)						95Ga04
1035.5(1)	$\langle 10^- \rangle$									
1045.6(2)										
1062.9(18)				11(3)						95Ga04
1082.8(12)				8(3)						95Ga04
1092.4(15)				13(3)						95Ga04
1099.1(1)										
1101.3(2)	$\langle 11^+ \rangle$									
1113.2(1)	$\langle 8^+ \rangle$									
1115.6(17)				10(3)						95Ga04
1135.9(19)				6(4)						95Ga04
1143.0(18)				13(5)						95Ga04
1175.8(1)										
1181.0(1)	$\langle 11^+ \rangle$									
0+X										

Additional data on this isotope can be found in [00Ga03, 93Ga13].

Cross sections of the (d,t), ( $\tau$ ,d) and ( $\alpha$ ,t) reactions were measured, respectively, at 45°, 35° and 50° [95Ga04].

Energy levels and branching ratios [03Si05]. Part 2

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$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $J_f^\pi$ :	0.0 4 <sup>-</sup>	22.5 6 <sup>-</sup>	26.1 1 <sup>-</sup>	36.1 4 <sup>+</sup>	82.6 3 <sup>-</sup>	83.3 2 <sup>-</sup>	138.1 5 <sup>-</sup>	168.4 4 <sup>-</sup>	170.5 5 <sup>+</sup>	171.5 6 <sup>+</sup>
22.46(4)	6 <sup>-</sup>		100									
26.1(1)	1 <sup>-</sup>		100									
36.15(3)	4 <sup>+</sup>		100									
82.59(2)	3 <sup>-</sup>		100									
83.3(10)	2 <sup>-</sup>				100							
138.12(2)	5 <sup>-</sup>		100									
144.1(10)	1 <sup>-</sup>				100							
168.38(3)	4 <sup>-</sup>						100					
170.53(3)	5 <sup>+</sup>					100						
171.53(3)	6 <sup>+</sup>					100						
199.0(10)	3 <sup>-</sup>				73(2)			27(1)				
227.7(1)	7 <sup>+</sup>			64(2)								36(2)
232.8(1)	7 <sup>-</sup>			100								
287.7(1)	6 <sup>+</sup>					47(1)					27(1)	26(1)
314.1(1)	4 <sup>+</sup>					100						
317.6(1)	5 <sup>-</sup>									100		
332.4(1)	6 <sup>+</sup>										26.8(8)	73.2(15)
337.99(2)	6 <sup>-</sup>		42(1)						58(1)			
351.44(3)	6 <sup>+</sup>										28.1(10)	71.9(18)
369.4(1)	7 <sup>+</sup>										<22	65.5(12)
386.0(1)	5 <sup>+</sup>					24(1)					35(2)	41(1)
404.0(1)	6 <sup>-</sup>								100			
415.1(1)	5 <sup>-</sup>									100		
442.8(1)	6 <sup>-</sup>								100			
463.6(1)	8 <sup>+</sup>											64(5)
557.12(11)									x			
574.37(4)	8 <sup>+</sup>											64.6(14)
693.02(20)									x			

Energy levels and branching ratios [03Si05]. Part 3

**<sup>190</sup>Ir**  
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$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $J_f^\pi$ :	199.0 3 <sup>-</sup>	210.3	227.7 7 <sup>+</sup>	232.8 7 <sup>-</sup>	287.7 6 <sup>+</sup>	314.1 4 <sup>+</sup>	317.6 5 <sup>-</sup>	332.4 6 <sup>+</sup>	338.0 6 <sup>-</sup>	351.4 6 <sup>+</sup>
369.4(1)	7 <sup>+</sup>				34.5(9)							
376.4(1)	11 <sup>-</sup>				100							
431.6(1)						100						
440.9(1)	7 <sup>+</sup>						100					
444.5(1)	8 <sup>+</sup>				100							
447.5(10)	5 <sup>-</sup>		100									
449.6(1)	6 <sup>-</sup>								100			
452.4(2)						x						

(continued)

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$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $J_f^\pi$ :	199.0 $\langle 3 \rangle^-$	210.3	227.7 $\langle 7 \rangle^+$	232.8 $\langle 7^- \rangle$	287.7 $\langle 6^+ \rangle$	314.1 $\langle 4^+ \rangle$	317.6 $\langle 5^- \rangle$	332.4 $\langle 6^+ \rangle$	338.0 $\langle 6^- \rangle$	351.4 $\langle 6^+ \rangle$
475.1(1)	$\langle 8^- \rangle$					[100]						
479.5(1)						100						
528.36(7)						100						
541.4(1)	$\langle 7^+ \rangle$									x		100
542.9(10)	$\langle 5^- \rangle$	100										
566.66(8)	$\langle 7^- \rangle$										x	
574.37(4)	$\langle 8^+ \rangle$				35.4(10)							
577.49(5)	$\langle 5^+ \rangle$							100				
588.68(4)	$7^+$									58.8(14)		41(2)
603.2(1)	$\langle 6^- \rangle$								27(2)			
657.3(1)											x	
678.6(1)							49.3(12)					
680.9			x									
708.55(15)				x								
738.06(5)	$\langle 9^- \rangle$					32.4(13)						
747.07(15)						x						
753.82(5)	$\langle 8^+ \rangle$				100							
799.7(2)						x						
867.7(2)				x								

Energy levels and branching ratios [03Si05]. Part 4

**<sup>190</sup>Ir**  
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$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $J_f^\pi$ :	369.4 $\langle 7^+ \rangle$	386.0 $\langle 5^+ \rangle$	404.0 $\langle 6^- \rangle$	415.1 $\langle 5^- \rangle$	440.9 $\langle 7^+ \rangle$	444.5 $\langle 8^+ \rangle$	447.5 $\langle 5^- \rangle$	448.5 $\langle 7^+ \rangle$	449.6 $\langle 6^- \rangle$	463.6 $\langle 8^+ \rangle$
463.6(1)	$\langle 8^+ \rangle$		36.3(11)									
501.19(4)	$\langle 6^+ \rangle$			100								
566.66(8)	$\langle 7^- \rangle$				x							
603.2(1)	$\langle 6^- \rangle$					73(3)						
655.6(2)	$\langle 8^+ \rangle$						x					
661.4(1)	$\langle 7^- \rangle$										100	
678.6(1)				x						50.7(11)		
680.47(4)	$9^+$							[100]				
708.55(15)										x		
719.32(4)	$\langle 8^+ \rangle$									100		
722.20(4)	$\langle 9^+ \rangle$		34.4(12)									65.6(15)
727.4(10)	$\langle 6^- \rangle$								100			
754.21(5)	$\langle 8^+ \rangle$							49(3)				
807.4(1)		x						100				
867.8(1)								100				
917.68(21)								x				

(continued)

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$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*$ : $J_f^\pi$ :	369.4 $\langle 7^+ \rangle$	386.0 $\langle 5^+ \rangle$	404.0 $\langle 6^- \rangle$	415.1 $\langle 5^- \rangle$	440.9 $\langle 7^+ \rangle$	444.5 $\langle 8^+ \rangle$	447.5 $\langle 5^- \rangle$	448.5 $\langle 7^+ \rangle$	449.6 $\langle 6^- \rangle$	463.6 $\langle 8^+ \rangle$
948.85(5)	$\langle 10^+ \rangle$							x				
966.78(21)								x				

Energy levels and branching ratios [03Si05]. Part 5

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$E^*$	$J^\pi$	Branching ratios in percentage												
[keV]		$E^*_f$ : $J^\pi_f$ :	475.1 $\langle 8^- \rangle$	501.2 $\langle 6^+ \rangle$	542.9 $\langle 5^- \rangle$	574.4 $\langle 8^+ \rangle$	588.7 $7^+$	603.2 $\langle 6^- \rangle$	655.6 $\langle 8^+ \rangle$	680.5 $9^+$	708.5	722.2 $\langle 9^+ \rangle$	776.2 $\langle 7^+ \rangle$	807.4
738.06(5)	$\langle 9^- \rangle$		68(3)											
747.07(15)			x											
754.21(5)	$\langle 8^+ \rangle$			51(5)										
776.17(5)	$\langle 7^+ \rangle$			100										
799.7(2)		x												
831.56(6)				100										
834.99(5)	$\langle 7^- \rangle$							100						
851.0(2)	$\langle 9^+ \rangle$								100					
942.12(6)	$\langle 9^+ \rangle$						100							
948.85(5)	$\langle 10^+ \rangle$									100				
1005.5(10)	$\langle 7^- \rangle$				100									
1017.1(1)						100								
1035.5(1)	$\langle 10^- \rangle$		100											
1045.6(2)											100			
1099.1(1)												100		
1101.3(2)	$\langle 11^+ \rangle$											x		
1113.2(1)	$\langle 8^+ \rangle$												100	
1175.8(1)														100
1181.0(1)	$\langle 11^+ \rangle$									x				

Energy levels and branching ratios [95Br38].

 **$^{191}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	$L$ $(\tau, d)$	$C^2S$ $(\tau, d)$	$\sigma$ ( $\tau, d$ ) $\mu\text{b/sr}$	$C^2S$ $(\alpha, t)$	$\sigma$ ( $\alpha, t$ ) $\mu\text{b/sr}$	$L$ $(p, t)$	$S_N$ $rel.$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Ref.
0.0	$3^+$	2	1.40	38	[1.4]	72	0	100	Stable	78Lo07
82.420(12)	$1^+$	0	0.80	33	0.62	32			4.08(7) ns	71Pr13
129.415(13)	$5^+$	2	0.08	2.8	0.08	4.8			123(4) ps	71Pr13
171.24(5)	$11^-$	5	0.08	19		61			4.94(3) s	71Pr13
178.943(14)	$3^+$	2	incl	incl		incl			39(6) ps	71Pr13
343.36(5)	$\langle 7^+ \rangle$	4	0.38	13	0.26	13			20(1) ps	89Br09

(continued)

**<sup>191</sup><sub>77</sub>Ir**

$E^*$	$2J^\pi$	$L$	$C^2S$	$\sigma$ ( $\tau, d$ )	$C^2S$	$\sigma$ ( $\alpha, t$ )	$L$	$S_N$	$T_{1/2}$ or	Ref.
[keV]		( $\tau, d$ )	( $\tau, d$ )	$\mu b/sr$	( $\alpha, t$ )	$\mu b/sr$	(p, t)	$rel.$	$\Gamma_{cm}$	
351.139(20)	$\langle 5^+ \rangle$	2	1.58	incl	0.42	incl			17(2) ps	89Br09
390.77(10)	$7^-$	3	0.08	2.6	0.06	3.5			240(20) ps	71Pr13
502.84(5)	$\langle 9^+ \rangle$								9.6(5) ps	
504.42(7)	$\langle 7^+ \rangle$									
538.859(19)	$3^+$						0		10.2(7) ps	78Lo07
556.76(9)	$\langle 13^- \rangle$									
588.06(7)	$3^+, 5^+$	2	0.50	18	0.52	20			0.9(1) ps	71Pr13
591.45(12)	$\langle 15^- \rangle$			incl		incl				
614										
624.09(4)	$\langle 1^+ \rangle$								>12 ps	
653.97(11)	$\langle 9^- \rangle$									
659.24(11)	$\langle 3^- \rangle$								<0.12 ns	
686.40(7)	$\langle 7^+ \rangle$	4	0.06	1.0	0.08	1.0			2.7(2) ps	71Pr13
747.81(5)	$\langle 5^+ \rangle$									
762.55(5)	$3^+$						0	1.3		78Lo07
800.14(10)	$\langle 5^- \rangle$									
812.54(18)	$\langle 9^+ \rangle$									
816.89(15)										
825.40(15)										
832.43(16)	$\langle 11^+ \rangle$								2.8(5) ps	
877.90(9)	$\langle 9^-, 11^+ \rangle$	5,6	2.92*	27	3.30*	87				71Pr13
918.79(15)	$\langle 11^- \rangle$									
928.1(3)										
935.60(17)	$\langle 7^+ \rangle$									
946.54(20)										
963.6(3)										
977.47(11)	$\langle 7^- \rangle$			11		6.3				71Pr13
991.52(18)	$\langle 11^+ \rangle$									
1004.1(3)	$\langle 13^+ \rangle$									
1034	$1^+$	0	0.36	19	0.34	3.5				71Pr13
1036.69(10)	$\langle 17^- \rangle$									
1053.12(11)										
1070	$3^+$	2		6.9		3.5	0	1.3		71Pr13
1127.4(5)										
1130										
1135.1(3)				incl		incl				71Pr13
1138		1,2		incl		incl				71Pr13
1206.1(5)										
1207.30(13)	$\langle 9^- \rangle$									
1210.5(5)										
1253.3(5)				5.9		<1				71Pr13
1297.80(19)										
1359		4,5		2.9		2.6				71Pr13
1393										
1397.8(5)	$\langle 13^+ \rangle$									

(continued)

**<sup>191</sup>Ir**  
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$E^*$	$2J^\pi$	$L$	$C^2S$	$\sigma$ ( $\tau, d$ )	$C^2S$	$\sigma$ ( $\alpha, t$ )	$L$	$S_N$	$T_{1/2}$ or	Ref.
[keV]		( $\tau, d$ )	( $\tau, d$ )	$\mu b/sr$	( $\alpha, t$ )	$\mu b/sr$	( $p, t$ )	<i>rel.</i>	$\Gamma_{cm}$	
1401.0(4)										
1418.9(3)	$\langle 15^+ \rangle$									
1422.22(13)										
1433		3,4		8.3		3.0				71Pr13
1449	$1^-, 3^-$	1	0.12	8.3	0.18	2.3				71Pr13
1461	$3^+$						0	5.9		78Lo07
1507										
1520	$5^-, 7^-$	3	2.26	104	1.70	51				71Pr13
1596	$3^+$						0	4.5		78Lo07
1600.6(10)	$\langle 17^+ \rangle$									
1613				16						71Pr13
1642				20						71Pr13
1646.3(7)										
1652.0(11)										
1660				10						71Pr13
1681.0(7)										
1711				10						71Pr13
2047+X									5.5(7) s	
2047.1(15)										
2112.9(11)	$\langle 19^+ \rangle$									
2312.6(14)	$\langle 21^+ \rangle$									
				71Pr13		71Pr13				Ref.

*Abundance:* 37.3(2) %.\* assuming  $L=5$ ;  $C^2S=3.32$  and  $3.30$ , respectively, for the ( $\tau, d$ ) and ( $\alpha, t$ ) reactions if  $L=6$  [71Pr13]

Data for this isotope are considered in vol. LB I/19C.

Energy levels and branching ratios [95Br38]. Part 2

**<sup>191</sup>Ir**  
**<sub>77</sub>**

$E^*$	$2J^\pi$	Branching ratios in percentage									
[keV]	$E_f^*:$ $2J_f^\pi:$	0.0 $3^+$	82.4 $1^+$	129 $5^+$	171 $11^-$	179 $3^+$	343 $\langle 7^+ \rangle$	351.139 $\langle 5 \rangle^+$	390.77 $7^-$	502.84 $\langle 9 \rangle^+$	
82.420(12)	$1^+$	100									
129.415(13)	$5^+$	100	0.0093(7)								
171.24(5)	$11^-$			100							
178.943(14)	$3^+$	23.4(11)	76(4)	0.9(2)							
343.36(5)	$\langle 7^+ \rangle$	61(4)		38.9(10)							
351.139(20)	$\langle 5 \rangle^+$	38(1)	19(1)	1.3(1)		41(2)					
390.77(10)	$7^-$				100						
502.84(5)	$\langle 9 \rangle^+$			92(2)			8.3(5)				
504.42(7)	$\langle 7^+ \rangle$			28(6)		20(2)	35(4)	16(2)			
538.859(19)	$3^+$	42(2)	10.7(5)	27(1)		19(1)	0.010(3)	1.3(1)			
556.76(9)	$\langle 13^- \rangle$				100						

(continued)

 **$^{191}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	0.0 $3^+$	82.4 $1^+$	129 $5^+$	171 $11^-$	179 $3^+$	343 $\langle 7^+ \rangle$	351.139 $\langle 5 \rangle^+$	390.77 $7^-$	502.84 $\langle 9 \rangle^+$
588.06(7)	$3^+, 5^+$		74(4)		24(4)			1.8(4)			
591.45(12)	$\langle 15^- \rangle$					100					
624.09(4)	$\langle 1^+ \rangle$		72(4)	19(2)	3.1(3)		2.9(3)				
653.97(11)	$\langle 9^- \rangle$					40(4)				60(8)	
659.24(11)	$\langle 3^- \rangle$		1.6(2)	12.2(9)			5.9(6)			80(8)	
686.40(7)	$\langle 7^+ \rangle$		43(2)		57(2)						
747.81(5)	$\langle 5^+ \rangle$		1.8(4)		4.0(15)		24(2)	5(2)	4.7(15)		
762.55(5)	$3^+$		4.5(6)	2.6(5)	9.1(9)		29(2)		3.6(9)		
800.14(10)	$\langle 5^- \rangle$									56(7)	
812.54(18)	$\langle 9^+ \rangle$							17(3)	50(5)		
816.89(15)						100					
825.40(15)					100						
832.43(16)	$\langle 11^+ \rangle$							$\approx 67$			33(3)
877.90(9)	$\langle 9^-, 11^+ \rangle$							44(7)			56
918.79(15)	$\langle 11^- \rangle$					x				15(4)	
928.1(3)					x						x
935.60(17)	$\langle 7^+ \rangle$		76(10)		24(5)						
946.54(20)					19(2)			28(5)			
977.47(11)	$\langle 7^- \rangle$									x	
991.52(18)	$\langle 11^+ \rangle$										x
1004.1(3)	$\langle 13^+ \rangle$										x
1053.12(11)								7(2)			17(5)
1135.1(3)										13.2(13)	
1207.30(13)	$\langle 9^- \rangle$										21(5)
1297.80(19)									70(10)		
1401.0(4)											x

Energy levels and branching ratios [95Br38]. Part 3

 **$^{191}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	504.42 $\langle 7^+ \rangle$	538.859 $3^+$	556.76 $\langle 13^- \rangle$	591.45 $\langle 15^- \rangle$	624.09 $\langle 1^+ \rangle$	653.97 $\langle 9^- \rangle$	659.24 $\langle 3^- \rangle$	686.40 $\langle 7^+ \rangle$	800.14 $\langle 5^- \rangle$
624.09(4)	$\langle 1^+ \rangle$			3.1(4)							
747.81(5)	$\langle 5^+ \rangle$			61(4)							
762.55(5)	$3^+$			42(5)			9(6)				
800.14(10)	$\langle 5^- \rangle$								44(4)		
812.54(18)	$\langle 9^+ \rangle$		33(3)								
918.79(15)	$\langle 11^- \rangle$							85(8)			
928.1(3)				x							
946.54(20)			24(1)							28(4)	
963.6(3)					x	x					
977.47(11)	$\langle 7^- \rangle$								x		100



(continued)

**<sup>191</sup>Ir**  
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$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	504.42 $\langle 7^+ \rangle$	538.859 $3^+$	556.76 $\langle 13^- \rangle$	591.45 $\langle 15^- \rangle$	624.09 $\langle 1^+ \rangle$	653.97 $\langle 9^- \rangle$	659.24 $\langle 3^- \rangle$	686.40 $\langle 7^+ \rangle$	800.14 $\langle 5^- \rangle$
991.52(18)	$\langle 11^+ \rangle$		x								
1036.69(10)	$\langle 17^- \rangle$				x	x					
1053.12(11)										76(12)	
1127.4(5)						100					
1135.1(3)								54(6)			
1207.30(13)	$\langle 9^- \rangle$									30(11)	
1210.5(5)								<85			
1253.3(5)								72(7)			
1297.80(19)			30(10)								
1401.0(4)									x	x	
1422.22(13)					[100]						

Energy levels and branching ratios [95Br38]. Part 4

**<sup>191</sup>Ir**  
**77**

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage								
		$E_f^*:$ $2J_f^\pi:$	812.54 $\langle 9^+ \rangle$	832.43 $\langle 11^+ \rangle$	877.90	918.79 $\langle 11^- \rangle$	963.6	977.47 $\langle 7^- \rangle$	991.52 $\langle 11^+ \rangle$	1004.1 $\langle 13^+ \rangle$
991.52(18)	$\langle 11^+ \rangle$		x							
1004.1(3)	$\langle 13^+ \rangle$			x						
1135.1(3)						33(4)				
1206.1(5)								100		
1207.30(13)	$\langle 9^- \rangle$			x				50(6)		
1210.5(5)					100					
1253.3(5)						28(4)				
1397.8(5)	$\langle 13^+ \rangle$		8.0(16)						92(44)	
1418.9(3)	$\langle 15^+ \rangle$			x						x
1600.6(10)	$\langle 17^+ \rangle$									100

Energy levels and branching ratios [95Br38]. Part 5

**<sup>191</sup>Ir**  
**77**

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage					
		$E_f^*:$ $2J_f^\pi:$	1036.69 $\langle 17^- \rangle$	1127.4	1418.9 $\langle 15^+ \rangle$	1600.6 $\langle 17^+ \rangle$	1652.0
1646.3(7)				100			
1652.0(11)				100			
1681.0(7)				100			
2047.1(15)							x
2112.9(11)	$\langle 19^+ \rangle$				100		
2312.6(14)	$\langle 21^+ \rangle$					100	

Energy levels and branching ratios [98Ba61].

**<sup>192</sup>Ir**  
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$E^*$	$J^\pi$	$L$	$S_N$	$d\sigma/d\Omega$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau,\alpha$ )	$\sigma$ (p, $\alpha$ )	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)		(d,t)	(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\Gamma_{\text{cm}}$	
0.0	4 <sup>+</sup>									73.827(13) d	
12.984(14)	⟨6 <sup>+</sup> ⟩										
16.050(23)	⟨6 <sup>-</sup> ⟩										
56.720(5)	1 <sup>-</sup>	1	0.058(3)		1,3	≈0.1***			7	1.45(5) m	94Ga05
66.830(20)	⟨4 <sup>-</sup> ⟩	3	<0.1		3	0.216(8)		23		15(4) ns	94Ga05
72(2)									8		94Ga05
84.275(3)	3 <sup>-</sup>	5	<0.25		5	0.55(4)		9		1.9(4) ns	94Ga05
104.776(5)	⟨1 <sup>-</sup> ⟩				1	0.061(2)			4	17.4(26) n	94Ga05
115.56(1)**	⟨2 <sup>-</sup> ⟩				1,3	0.38(2)		9			94Ga05
118.782(2)**	3 <sup>-</sup>				1,3	0.39(9)				>15 n	94Ga05
122.5(10)											
128.744(6)	⟨0 <sup>-</sup> ⟩				1	0.039(2)			4		94Ga05
131(2)											
139.942(18)	⟨5 <sup>+</sup> ⟩										
143.556(6)	⟨1 <sup>-</sup> ⟩				1	0.010		19			94Ga05
144.904(5)	⟨5 <sup>+</sup> ⟩	[1]	<0.02		[3]	0.027		incl			94Ga05
168.14(12)	⟨11 <sup>-</sup> ⟩									241(9) yr	
173.2(9)											
178(2)									14		94Ga05
192.935(6)	⟨2 <sup>-</sup> ⟩	1	0.075(3)		1	0.114(3)					94Ga05
193.511(5)	⟨1 <sup>+</sup> ⟩									2.7(6) n	
202.9(8)	≤3										
212.808(5)	⟨1,2 <sup>-</sup> ⟩	1	0.109(4)		1	0.093(3)		2	15		94Ga05
216.905(4)	⟨4 <sup>+</sup> ⟩										
223.352(24)	⟨6 <sup>+</sup> ⟩								24		94Ga05
225.918(6)	⟨2 <sup>-</sup> ⟩				1,3	0.066					94Ga05
226.261(7)	⟨≤2 <sup>-</sup> ⟩	1	0.041(2)			incl					94Ga05
235.760(6)	⟨1 <sup>-</sup> ⟩										
239.770(6)	⟨1 <sup>-</sup> ⟩	1,3	0.07,0.21								94Ga05
240.902(5)	⟨2 <sup>-</sup> ⟩				1	0.089(3)		20	9		94Ga05
256.8(2)	⟨4,5 <sup>-</sup> ⟩	3	0.431(15)		1,3	0.51(3)					94Ga05
265.160(8)	⟨0 <sup>-</sup> ⟩				1	0.026					94Ga05
267.128(6)	⟨3 <sup>-</sup> ⟩				3	0.021					94Ga05
277.1(10)	⟨1 <sup>+</sup> ,2 <sup>+</sup> ⟩								20		94Ga05
277.993(5)	⟨4 <sup>-</sup> ⟩				5	0.34(5)					94Ga05
284.215(5)	⟨2,3 <sup>+</sup> ⟩							21			94Ga05
288.403(6)	⟨2 <sup>-</sup> ⟩				1	0.173(5)					94Ga05
292.381(13)	⟨2 <sup>-</sup> ⟩							22	10		94Ga05
310.999(6)	2 <sup>-</sup>				1	0.066(3)					94Ga05
319.883(8)	⟨2 <sup>-</sup> ⟩	1	0.178(5)		1,3	0.144(10)		9	15		94Ga05
331.08(1)**	⟨2 <sup>-</sup> ⟩	1	0.164(6)		1	0.159(5)					94Ga05
331.76(1)**	⟨1 <sup>-</sup> ⟩										
341(2)											
351.690(4)	⟨2 <sup>+</sup> ⟩								9		94Ga05
365.653(7)	⟨2 <sup>-</sup> ,3 <sup>-</sup> ⟩				1	0.037		4			94Ga05

(continued)

 **$^{192}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	$L$	$S_N$	$d\sigma/d\Omega$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau,\alpha$ )	$\sigma$ (p, $\alpha$ )	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)		(d,t)	(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\Gamma_{\text{cm}}$	
366.730(8)	$\langle 2 \rangle^-$	1	0.054(2)		3	0.245					94Ga05
368.353(7)	$\langle 2 \rangle^-$										
380.3(6)											
389.720(9)	$\langle 2 \rangle^-$	1,3	0.02,0.17								94Ga05
392.351(7)	$\langle 1-3 \rangle^-$										
407.3(10)								26	95		94Ga05
415.038(10)	$1^- - 3^-$	1	0.047(2)		1,3	0.02,0.05					94Ga05
418.141(7)	$\langle 3^+, 4^+ \rangle$										
426(2)									26		94Ga05
439.3(5)	$1^- - 3^-$	1	0.034(2)								94Ga05
440.87(1)	$\langle 3^+ \rangle$										
444.5(4)	$0^- - 3^-$				1	0.050(2)					94Ga05
451.25(1)	$\langle 1, 2 \rangle^-$	1,3	0.02,0.07		1,3	0.01,0.17					94Ga05
471.1(3)	$1^- - 3^-$	1	0.050(3)		1,3	0.04,0.19			38		94Ga05
480.4(9)								59			94Ga05
489.5(2)	$1^- - 3^-$				1,3	0.03,0.12			19		94Ga05
508.99(1)	$\langle 2, 3 \rangle^-$	1	0.126(5)		1,3	0.05,0.09					94Ga05
513.20(1)	$\langle 4^+ \rangle$										
516.7(4)	$1^- - 3^-$	1	0.066(3)		1,3	0.03,0.11					94Ga05
529.17(1)	$\langle 1^- \rangle$							20	35		94Ga05
530.27(1)	$1^- - 3^-$	1	0.034(2)		1,3	0.02,0.12		incl			94Ga05
537.3(4)											
543.6(2)	$0^- - 3^-$	1	0.036(2)		1	0.022(2)			30		94Ga05
559.5(8)											
570(2)								20	100		94Ga05
582.1(3)	$1^- - 3^-$	1	0.026(2)		1,3	0.02,0.07					94Ga05
585.5(2)											
602.9(2)	$0^- - 3^-$				1	0.019(1)			35		94Ga05
615.0(6)	$0^- - 3^-$	1	0.035(2)		1	0.014(1)					94Ga05
628.5(4)	$1^- - 3^-$	1	0.035(2)		1,3	0.01,0.21			22		94Ga05
633.7(3)											
645.1(7)	$0^- - 3^-$	1	0.018(1)		1	0.101(3)			30		94Ga05
657.8(11)		1	0.025(2)								94Ga05
663.3(2)					1,3	0.05,0.04					94Ga05
670.64(1)	$\langle 4^+ \rangle$										
681.0(6)	$1^- - 3^-$				1,3	0.04,0.05			31		94Ga05
686.5(6)	$1^- - 3^-$	1	0.021(2)		1,3	0.01,0.13					94Ga05
702.2(5)	$0^- - 3^-$	1	0.035(2)		1	0.042(2)			20		94Ga05
707.9(8)											
713.6(6)	$0^- - 3^-$				1	0.112(4)					94Ga05
719.5(7)*									36		94Ga05
734.0(6)											
738.9(6)	$1^- - 3^-$				1,3	0.05,0.05					94Ga05
749.5(3)											
751.9(8)	$0^- - 3^-$				1	0.118(4)					94Ga05

(continued)

 **$^{192}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	$L$	$S_N$	$d\sigma/d\Omega$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau,\alpha$ )	$\sigma$ (p, $\alpha$ )	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)		(d,t)	(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\Gamma_{\text{cm}}$	
766.7(2)	$1^- - 3^-$				1,3	0.01,0.02					94Ga05
777.8(6)	$0^- - 3^-$				1	0.023(1)					94Ga05
787.6(10)											
791.1(9)	$0^- - 3^-$				1	0.024(1)					94Ga05
797.1(4)											
813.3(4)	$1^- - 3^-$				1,3	0.05,0.12					94Ga05
822.0(3)											
825.0(9)	$1^- - 3^-$				1,3	0.03,0.22					94Ga05
841.2(3)	$0^- - 3^-$				1	0.054(2)					94Ga05
850.9(5)	$0^- - 3^-$				1	0.138(5)					94Ga05
865.3(7)	$0^- - 3^-$				1	0.042(2)					94Ga05
870.6(5)											
874.1(17)	$1^- - 3^-$				1,3	0.32,0.21					94Ga05
884.6(5)	$1^- - 3^-$				1,3	0.06,0.40					94Ga05
893.7(3)											
902.8(23)	$1^- - 3^-$				1,3	0.02,0.11					94Ga05
914.5(3)											
918.0(21)	$1^- - 3^-$				1,3	0.01,0.05					94Ga05
937.4(4)	$0^- - 3^-$				1	0.013(1)					94Ga05
944.4(6)											
950.0(5)											
962.3(18)											
967.2(22)	$0^- - 3^-$				1	0.017(1)					94Ga05
977.9(3)											
999.3(4)											
1003.5(4)					1	0.015(1)					94Ga05
1013.7(4)	$0^- - 3^-$				1	0.031(2)					94Ga05
1024(2)	$1^- - 3^-$				1,3	0.03,0.05					94Ga05
1031.2(3)											
1045.6(7)											
1050.6(3)	$1^- - 3^-$				1,3	0.01,0.07					94Ga05
1059.9(3)											
1068.8(3)											
1075.0(6)											
1088.5(9)											
1092.8(9)											
1107.0(3)											
1112.5(5)											
1131.2(7)											
1144.5(7)											
1151.6(9)											
1155.8(4)											
1160.4(7)											
1169.4(4)											
1177.7(3)											

(continued)

**<sup>192</sup>Ir**  
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$E^*$	$J^\pi$	$L$	$S_N$	$d\sigma/d\Omega$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau,\alpha$ )	$\sigma$ (p, $\alpha$ )	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)		(d,t)	(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\Gamma_{\text{cm}}$	
1195.2(6)											
1204.7(3)											
1212.1(3)											
1217.2(4)											
1226.1(4)											
1232.1(6)											
1242.9(4)											
1249.0(5)											
1254.9(4)											
1259.2(4)											
1265.2(5)											
1273(2)											
1281.9(7)											
1290.4(8)											
1299.4(4)											
1304.1(5)											
1323.0(4)											
1331.1(3)											
1338.8(6)											
1343.3(8)											
1348.3(5)											
1359.8(6)											
1365.9(7)											
1372.0(6)											
1380.0(8)											
1387.4(8)											
1396.4(5)											
1409.0(9)											
1418.3(3)											
1432.5(4)											
1436.7(8)											
1441.7(9)											
1448.0(3)											
1463.9(4)											
1469.2(6)											
1486.0(6)											
1494.6(10)											
1501.8(10)											
1514.4(7)											
1529.9(4)											
1534.8(4)											
1552.2(6)											
1558.0(9)											
1563.7(7)*											95Va41
1570.7(7)											

(continued)

**<sup>192</sup>Ir**  
**77**

$E^*$	$J^\pi$	$L$	$S_N$	$d\sigma/d\Omega$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau,\alpha$ )	$\sigma$ (p, $\alpha$ )	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)		(d,t)	(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\Gamma_{\text{cm}}$	
1573.0(6)*											95Va41
1586.0(10)											
1593.0(19)*											95Va41
1596.3(10)											
1600.6(9)*											95Va41
1607.6(6)											
1625.5(6)											
1634.1(14)											
1640.8(13)											
1647.8(9)											
1658.3(7)											
1666.6(6)											
1676.1(7)											
1691.7(7)											
1700.9(6)*											95Va41
1702.3(7)											
1734.8(7)*											95Va41
1773.7(7)*											95Va41
1798.3(19)*											95Va41
1802.4(5)*											95Va41
1857.2(6)*											95Va41
1878.8(24)*											95Va41
1885.5(7)*											95Va41
1907.8(15)*											95Va41
1911.4(7)*											95Va41
1932.5(7)*											95Va41
1936.7(7)*											95Va41
1942.0(14)*											95Va41
1998.5(6)*											95Va41
2008.0(13)*											95Va41
2040.4(11)*											95Va41
2045.9(16)*											95Va41
2051.8(9)*											95Va41
2065.3(38)*											95Va41
2077.8(9)*											95Va41
2088.1(17)*											95Va41
2101.7(13)*											95Va41
2146.4(7)*											95Va41
2158.5(19)*											95Va41
2176.5(11)*											95Va41
2218.1(15)*											95Va41
2237.8(9)*											95Va41
2307.9(20)*											95Va41
2355.8(7)*											95Va41
2380.1(7)*											95Va41

(continued)

 **$^{192}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	$L$	$S_N$	$d\sigma/d\Omega$	$L$	$S_N$	$\sigma$ (d,t)	$\sigma$ ( $\tau,\alpha$ )	$\sigma$ (p, $\alpha$ )	$T_{1/2}$ or	Ref.
[keV]		(d,p)	(d,p)		(d,t)	(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\Gamma_{\text{cm}}$	
2401.8(16)*											95Va41
2435.0(7)*											95Va41
2446.1(11)*											95Va41
2461.5(17)*											95Va41
2530.2(19)*											95Va41
2651.9(7)*											95Va41
2861.2(11)*											95Va41 Ref.

Additional data on this isotope can be found in [94Ga05, 91Ke10, 95Va41].

\*  $E_M^*$  intermediate state introduced in ( $n_{\text{thermal}}, \gamma\gamma$ ) measurements [95Va42].

\*\* Unresolved doublet [94Ga05, 91Ke10, 98Ba61]

\*\*\*  $S_N$  is obtained [94Ga05] by comparison of  $\sigma$  (d,t) with the DWBA theory ( $N=3.33$ ).

Energy levels and branching ratios [98Ba61]. Part 2

 **$^{192}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ : $J_f^\pi$ :	0.0 4 <sup>+</sup>	12.9 <6 <sup>+</sup> >	16.0 <6 <sup>-</sup> >	56.7 1 <sup>-</sup>	84.3 3 <sup>-</sup>	104.8 <1> <sup>-</sup>	115.6 <2> <sup>-</sup>	118.8 3 <sup>-</sup>	128.7 <0> <sup>-</sup>	139.9 <5 <sup>+</sup> >
12.984(14)	<6 <sup>+</sup> >		100									
56.720(5)	1 <sup>-</sup>		100									
66.830(20)	<4> <sup>-</sup>		91(7)		9.2(5)							
84.275(3)	3 <sup>-</sup>		100									
104.776(5)	<1> <sup>-</sup>					100						
115.56(1)**	<2> <sup>-</sup>					100						
118.782(2)**	3 <sup>-</sup>	96(12)					4.1(3)					
128.744(6)	<0> <sup>-</sup>	12(6)				69(17)		19.2(12)				
139.942(18)	<5 <sup>+</sup> >			100								
143.556(6)	<1> <sup>-</sup>					95(19)		3.0(3)	2.1(2)			
144.904(5)	<5 <sup>+</sup> >	100										
168.14(12)	<11> <sup>-</sup>			100								
192.935(6)	<2> <sup>-</sup>					86(10)	2.5(7)		9(3)			
193.511(5)	<1> <sup>+</sup>					21(2)		40(4)	38(8)			
212.808(5)	<1,2> <sup>-</sup>					27(3)		67(5)				
216.905(4)	<4> <sup>+</sup>	100										
223.352(24)	<6> <sup>+</sup>			<100>								
225.918(6)	<2> <sup>-</sup>					65(7)		5.7(11)	19(2)	8(2)		
226.261(7)	<≤2> <sup>-</sup>					100						
235.760(6)	<1> <sup>-</sup>					91(7)					9(3)	
239.770(6)	<1> <sup>-</sup>										98(10)	
240.902(5)	<2> <sup>-</sup>							<100>				
265.160(8)	<0> <sup>-</sup>					100						
267.128(6)	<3> <sup>-</sup>								82(8)			

(continued)

 **$^{192}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ : $J_f^\pi$ :	0.0 $4^+$	12.9 $\langle 6^+ \rangle$	16.0 $\langle 6^- \rangle$	56.7 $1^-$	84.3 $3^-$	104.8 $\langle 1 \rangle^-$	115.6 $\langle 2 \rangle^-$	118.8 $3^-$	128.7 $\langle 0 \rangle^-$	139.9 $\langle 5^+ \rangle$
277.993(5)	$\langle 4 \rangle^-$						100					
288.403(6)	$\langle 2 \rangle^-$					19(2)		31(4)	20(2)			
292.381(13)	$\langle 2 \rangle^-$		[31(9)]						[46(9)]			
310.999(6)	$2^-$					28(3)	4.7(10)	60(5)	7(2)			
319.883(8)	$\langle 2 \rangle^-$							46(6)		41(11)	13(6)	
331.08(1)**	$\langle 2 \rangle^-$						4(1)	67(5)	7(1)	2(1)		
331.76(1)**	$\langle 1 \rangle^-$					15(3)			31(4)		13(2)	
351.690(4)	$\langle 2 \rangle^+$		92(11)				5.3(6)			1.7(4)		
366.730(8)	$\langle 2 \rangle^-$					10(3)		77(8)				
368.353(7)	$\langle 2 \rangle^-$					10(2)	49(4)	37(4)				
389.720(9)	$\langle 2 \rangle^-$						[20(4)]	[49(6)]				
392.351(7)	$\langle 1-3 \rangle^-$								23(3)	8(2)		
415.038(10)	$1^- - 3^-$					25(8)			15(5)			
418.141(7)	$\langle 3^+, 4^+ \rangle$		49(7)				28(4)					8.7(10)
451.25(1)	$\langle 1, 2 \rangle^-$										35(7)	
489.5(2)	$1^- - 3^-$					67(10)		14(4)				

Energy levels and branching ratios [98Ba61]. Part 3

 **$^{192}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	Branching ratios in percentage										
[keV]		$E_f^*$ : $J_f^\pi$ :	143.6 $\langle 1 \rangle^-$	144.9 $\langle 5^+ \rangle$	192.9 $\langle 2 \rangle^-$	193.5 $\langle 1 \rangle^+$	212.8 $\langle 1, 2 \rangle^-$	225.9 $\langle 2 \rangle^-$	226.3 $\langle \leq 2^- \rangle$	235.8 $\langle 1^- \rangle$	240.9 $\langle 2 \rangle^-$	265.2 $\langle 0^- \rangle$
192.935(6)	$\langle 2 \rangle^-$		2.66(16)									
193.511(5)	$\langle 1 \rangle^+$		1.08(7)									
212.808(5)	$\langle 1, 2 \rangle^-$		7(2)									
225.918(6)	$\langle 2 \rangle^-$				1.99(11)							
239.770(6)	$\langle 1 \rangle^-$						1.93(14)					
240.902(5)	$\langle 2 \rangle^-$		<4.8									
267.128(6)	$\langle 3 \rangle^-$						12.6(7)				5.4(2)	
284.215(5)	$\langle 2, 3 \rangle^+$					100						
288.403(6)	$\langle 2 \rangle^-$		23(4)		7(1)							
292.381(13)	$\langle 2 \rangle^-$								[22(11)]			
331.08(1)**	$\langle 2 \rangle^-$		12(1)				4(1)	4(1)				
331.76(1)**	$\langle 1 \rangle^-$		6(2)			26(3)					10(2)	
351.690(4)	$\langle 2 \rangle^+$					1.2(4)						
365.653(7)	$\langle 2^-, 3^- \rangle$							46(7)				
366.730(8)	$\langle 2 \rangle^-$		6.8(12)					6.2(18)				
389.720(9)	$\langle 2 \rangle^-$		[14(4)]									
392.351(7)	$\langle 1-3 \rangle^-$				6(2)			10(2)	38(4)		11(2)	
415.038(10)	$1^- - 3^-$										24(5)	
418.141(7)	$\langle 3^+, 4^+ \rangle$			10(1)								
451.25(1)	$\langle 1, 2 \rangle^-$				22(5)						<76	



(continued)

 **$^{192}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	143.6 $\langle 1 \rangle^-$	144.9 $\langle 5^+ \rangle$	192.9 $\langle 2 \rangle^-$	193.5 $\langle 1 \rangle^+$	212.8 $\langle 1,2 \rangle^-$	225.9 $\langle 2 \rangle^-$	226.3 $\langle \leq 2^- \rangle$	235.8 $\langle 1^- \rangle$	240.9 $\langle 2 \rangle^-$	265.2 $\langle 0^- \rangle$
508.99(1)	$\langle 2,3 \rangle^-$		17(3)		55(28)					<18		
529.17(1)	$\langle 1^- \rangle$								51(8)			49(6)

Energy levels and branching ratios [98Ba61]. Part 4

 **$^{192}_{77}\text{Ir}$** 

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	267.1 $\langle 3 \rangle^-$	284.2 $\langle 2,3 \rangle^+$	288.4 $\langle 2 \rangle^-$	292.4 $\langle 2 \rangle^-$	311.0 $2^-$	319.9 $\langle 2 \rangle^-$	331.1 $\langle 2 \rangle^-$	368.4 $\langle 2 \rangle^-$	418.1 $\langle 3^+, 4^+ \rangle$	440.9 $\langle 3^+ \rangle$
365.653(7)	$\langle 2^-, 3^- \rangle$		54(8)									
368.353(7)	$\langle 2 \rangle^-$		4(1)									
389.720(9)	$\langle 2 \rangle^-$		[17(5)]			<28						
392.351(7)	$\langle 1-3 \rangle^-$							4(2)				
415.038(10)	$1^- - 3^-$						15(5)		21(10)			
418.141(7)	$\langle 3^+, 4^+ \rangle$			4.0(10)								
440.87(1)	$\langle 3^+ \rangle$			100								
451.25(1)	$\langle 1,2 \rangle^-$				13(3)		30(5)					
489.5(2)	$1^- - 3^-$					19(4)		<30				
508.99(1)	$\langle 2,3 \rangle^-$		6.8(13)		2.6(8)			6.3(13)	9(2)	3(2)		
513.20(1)	$\langle 4^+ \rangle$										46(9)	54(17)
530.27(1)	$1^- - 3^-$								[100]			
670.64(1)	$\langle 4^+ \rangle$										51(8)	49(8)

Energy levels and branching ratios [98Ar07, 06Ac01].

 **$^{193}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	$L$	$C^2S$	$\sigma$ ( $\tau, d$ )	$C^2S$	$\sigma$ ( $\alpha, t$ )	$L$	$C^2S$	$\sigma$ ( $d, \tau$ )	$S_N$	$\sigma$ ( $t, \alpha$ )	$A_\gamma$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Ref.
		( $\tau, d$ )	( $\tau, d$ )	$\mu\text{b/sr}$	( $\alpha, t$ )	$\mu\text{b/sr}$	( $d, \tau$ )	( $d, \tau$ )		( $t, \alpha$ )	$\mu\text{b/sr}$			
0.0 <sup>a</sup>	$3^+$	2	1.34	36	[1.34]	91	2	1.17		1.6	115	-0.69(3)	Stable	81Iw01
73.045(5) <sup>b</sup>	$1^+$			43		117	0	0.43		0.5(3)	161		6.09(15) ns	81Iw01
80.239(6)	$11^-$									4.0	incl		10.53(4) d	
138.94(1) <sup>a</sup>	$5^+$	2	0.08	1.5	0.08	4.0	2	0.09		0.12	8.5	-0.02(11)	78(4) ps	81Iw01
180.07(1) <sup>b</sup>	$3^+$	2	0.10	2.8	0.10	6.4	2	0.09		0.11	6.7	-0.26(14)	58(6) ps	81Iw01
299.40(1)	$7^-$	3	0.08	2.5	0.06	3.3	3	0.03		0.15	11	+0.39(9)	0.19(3) ns	81Iw01
357.77(1) <sup>a</sup>	$7^+$	4	1.3*		0.5*					0.22	32		20(3) ps	
361.86(1) <sup>b</sup>	$5^+$	2	0.3*	11	0.3*	19	2	0.25		0.27	incl		32(4) ps	81Iw01
460.53(1)	$3^+$						2	0.87		1.1	83	-0.52(4)	15(3) ps	81Iw01
469.39(1)	$\langle 13^- \rangle$													
478.99(1)	$\langle 15^- \rangle$													
516.41(1) <sup>b</sup>	$\langle 7^+ \rangle$													

(continued)

 **$^{193}_{77}\text{Ir}$** 

$E^*$	$2J^\pi$	$L$	$C^2S$	$\sigma(\tau, d)$	$C^2S$	$\sigma(\alpha, t)$	$L$	$C^2S$	$S_N$	$\sigma(t, \alpha)$	$A_\gamma$	$T_{1/2}$ or	Ref.
[keV]		( $\tau, d$ )	( $\tau, d$ )	$\mu\text{b/sr}$	( $\alpha, t$ )	$\mu\text{b/sr}$	( $d, \tau$ )	( $d, \tau$ )	( $t, \alpha$ )	$\mu\text{b/sr}$		$\Gamma_{\text{cm}}$	
521.93(1) <sup>a</sup>	$\langle 9 \rangle^+$											10.4(6) ps	
557.44(1)	$\langle 1 \rangle^+$									142		34(8) ps	
559.30(1)	$5^+$	2	0.50	18	0.52	32	2	1.15	1.8	incl	+0.31(3)	1.08(16) ps	81Iw01
563.40(1)	$\langle 9^- \rangle$												
598.23(1)	$3^-$											2.8(+28-9) ps	
620.99(1)	$7^+$	4	0.06	1.1	0.04	1.0	4	0.24	0.45		-0.61(9)	5.1(10) ps	81Iw01
695.13(1)	$5^+$						2	0.5*	0.55	44	+0.30(6)		81Iw01
712.17(1)	$3^+$						2	0.7*	0.33	29	-0.88(5)	15(14) ps	81Iw01
740.38(1)	$5^-$												
806.90(1)	$\langle 5 \rangle^+$												
828.92(9)	$\langle 9^- \rangle$									7.6	+0.12(14)		83Ci01
832.89(1)	$\langle 11^- \rangle$										incl		
838.92(1) <sup>b</sup>	$\langle 9^+ \rangle$												
848.93(6)	$5^+$			1.7		2.1	2	0.56	0.91	77	+0.35(4)		81Iw01
849.08(1)	$1^+ - 5^{(+)}$									incl			
857.03(1) <sup>a</sup>	$\langle 11 \rangle^+$											4.2(4) ps	
874.28(1)	$3^+, 5^+$						2	0.56		6.5	-0.14(14)		81Iw01
892.270(11)	$\langle 9^+ \rangle$												
918.37(1)	$\langle 7^- \rangle$												
930.43(2)	$\langle 17^- \rangle$												
964.43(8)	$1^+$						0	0.41					81Iw01
972.87(1)	$\langle 5^+ \rangle$			13		12				207			71Pr13
975.33(1)	$\langle 11^- \rangle$								6.9		+0.31(3)		83Ci01
1009.35(1)	$\langle 11^+ \rangle$												
1019.59(1) <sup>b</sup>	$\langle 11^+ \rangle$												
1035.46(1) <sup>a</sup>	$\langle 13 \rangle^+$										+0.21(17)		83Ci01
1035.86(3)	$3^+ - 7^+$									2.7			
1038.06(1)	$\langle 3^+, 5^+ \rangle$												
1065.89(6)	$1^+ - 5^+$									12.0	-0.32		83Ci01
1076.47(8)	$\langle 3^+ \rangle$			3.2		5.6							71Pr13
1077.93(9)	$3^-, 5^-$									17	+0.18(7)		83Ci01
1126													
1131.2(1)	$5^-$	3			0.12	5.7				5.0			71Pr13
1145.62(1)	$\langle 9 \rangle^-$	5	2.66	19	2.62	65				incl			71Pr13
1163(3)	$\langle 13 \rangle^+$	6	0.88	5.5	1.00	26				incl			71Pr13
1168.1(1)	$\langle 13^- \rangle$												
1169.16(1)	$\langle 11^+ \rangle$												
1193													
1201(3)	$1^-, 3^-$	1		11		4.4				9.9			71Pr13
1250.42(8)	$\langle 3, 5 \rangle^+$									5.5			
1286	$5^-, 7^-$	3		5.2		4.5				2.4			71Pr13
1344(10)										$\approx 2$			
1398(10)										6.7			
1407				2.2		1.1							71Pr13
1438.43(1) <sup>b</sup>	$\langle 13^+ \rangle$												

(continued)

**<sup>193</sup>Ir**  
**77**

$E^*$	$2J^\pi$	$L$	$C^2S$	$\sigma$ ( $\tau, d$ )	$C^2S$	$\sigma$ ( $\alpha, t$ )	$L$	$C^2S$	$\sigma$ ( $d, \tau$ )	$S_N$	$\sigma$ ( $t, \alpha$ )	$A_\gamma$	$T_{1/2}$ or	Ref.
[keV]		( $\tau, d$ )	( $\tau, d$ )	$\mu b/sr$	( $\alpha, t$ )	$\mu b/sr$	( $d, \tau$ )	( $d, \tau$ )		( $t, \alpha$ )	$\mu b/sr$		$\Gamma_{cm}$	
1459.97(1) <sup>a</sup>	$\langle 15 \rangle^+$													
1511.71(1)	$\langle 3^+ \rangle$									0.22	21	−0.16(9)		83Ci01
1552(10)											8.1			
1583(10)											≈3			
1609(5)											18			
1639(5)											13			
1650.5(13) <sup>a</sup>	$\langle 17^+ \rangle$													
1690(5)											10			
1698(3)	$3^+ - 7^-$			14		8.8								71Pr13
1744(5)											12			
1759(3)	$\langle 3 \rangle^-$	1	0.10	12	0.30	7.5								71Pr13
1820(3)	$\langle 7 \rangle^-$	3	1.44	66	1.22	43								71Pr13
1826(5)											105	+0.06(4)		83Ci01
1866(5)											32	+0.18(7)		83Ci01
1898(5)											42	+0.25(6)		83Ci01
1935(5)	$\langle 5^+ \rangle$									0.35	37	+0.13(7)		83Ci01
1970(3)				11										71Pr13
1999(3)				11										71Pr13
2029				7										71Pr13
2179(10) <sup>a</sup>	$\langle 19^+ \rangle$													
2404 <sup>a</sup>	$\langle 21^+ \rangle$													
				71Pr13		71Pr13				06Ac01	78Ya03	83Ci01		Ref.

Additional data on this isotope can be found in [06Ac01, 97Dr04, 85Zh10, 81Ci02].

*Abundance:* 62.7(2) %.\* If the entire cross section is assumed to be of the assigned  $L$  [71Pr13, 98Ar07]. $a, b$  – bands of excited states built on  $3/2^+$ [402] and  $1/2^+$ [400] orbitals [78Ya03], see other 5 bands assigned to the levels of this nucleus in [06Ac01].

Data for this isotope are considered in vol. LB I/19C.

Energy levels and branching ratios [98Ar07, 06Ac01]. Part 2

**<sup>193</sup>Ir**  
**77**

$E^*$	$2J^\pi$	Branching ratios in percentage									
		$E_f^*$ :	0.0	73.044	80.240	138.942	180.068	299.400	357.769	361.858	460.535
[keV]		$2J_f^\pi$ :	$3^+$	$1^+$	$11^-$	$5^+$	$3^+$	$7^-$	$7^+$	$5^+$	$3^+$
73.045(5) <sup>b</sup>	$1^+$		100								
80.239(6)	$11^-$		100								
138.94(1) <sup>a</sup>	$5^+$		100								
180.07(1) <sup>b</sup>	$3^+$		22.3(8)	78(2)		x					
299.40(1)	$7^-$				100						
357.77(1) <sup>a</sup>	$7^+$		62(2)			38(6)					
361.86(1) <sup>b</sup>	$5^+$		44(2)	21.7(8)			34(1)				
460.53(1)	$3^+$		52(2)	16(2)		17.1(10)	15(2)			0.22(3)	

(continued)

 **$^{193}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	0.0 3 <sup>+</sup>	73.044 1 <sup>+</sup>	80.240 11 <sup>-</sup>	138.942 5 <sup>+</sup>	180.068 3 <sup>+</sup>	299.400 7 <sup>-</sup>	357.769 7 <sup>+</sup>	361.858 5 <sup>+</sup>	460.535 3 <sup>+</sup>
469.39(1)	$\langle 13^- \rangle$				100						
478.99(1)	$\langle 15^- \rangle$				100						
516.41(1) <sup>b</sup>	$\langle 7^+ \rangle$		$\leq 20$			53(3)	33(9)			13(2)	
521.93(1) <sup>a</sup>	$\langle 9^+ \rangle$					91(3)			9.4(5)		
557.44(1)	$\langle 1^+ \rangle$		77(4)	10.0(7)		3.4(6)	4.2(5)				5.8(5)
559.30(1)	5 <sup>+</sup>		70(3)	2.0(3)		24.8(9)	2.2(3)		0.53(15)	0.7(2)	
563.40(1)	$\langle 9^- \rangle$				39(3)			61(3)			
598.23(1)	3 <sup>-</sup>		0.31(15)	9.2(6)			3.3(7)	87(4)			
620.99(1)	7 <sup>+</sup>		39(2)			52(2)			6.8(4)	3(1)	
695.13(1)	5 <sup>+</sup>		3.4(5)			5.9(12)	24(10)		1.4(9)	3.3(9)	59(3)
712.17(1)	3 <sup>+</sup>		4.0(6)	2.0(3)		5.2(8)	21(2)			1.9(6)	58(2)
740.38(1)	5 <sup>-</sup>					8(2)	1.5(5)	51(3)		1.0(2)	
806.90(1)	$\langle 5^+ \rangle$	x		4.5(9)		57(5)	4.5(5)		30(2)	3.2(4)	
828.92(9)	$\langle 9^- \rangle$				100						
832.89(1)	$\langle 11^- \rangle$				<20			42(2)			
838.92(1) <sup>b</sup>	$\langle 9^+ \rangle$									74(3)	
848.93(6)	5 <sup>+</sup>		62(6)	6(3)		26(2)					
849.08(1)	1 <sup>+</sup> -5 <sup>+</sup>									39(4)	61(13)
857.03(1) <sup>a</sup>	$\langle 11^+ \rangle$								75(2)		
874.28(1)	3 <sup>+</sup> , 5 <sup>+</sup>		63(6)	1.1(5)		3.6(6)			8(4)	5(3)	15(2)
892.270(11)	$\langle 9^+ \rangle$					21(6)			37(3)		
918.37(1)	$\langle 7^- \rangle$							29(2)			
964.43(8)	1 <sup>+</sup>			81(7)			19(2)				
972.87(1)	$\langle 5^+ \rangle$		14(5)	29(4)					20(3)	21(4)	
1035.86(3)	3 <sup>+</sup> -7 <sup>+</sup>						11(7)		68(9)		
1038.06(1)	$\langle 3^+, 5^+ \rangle$						25(10)		26(5)	38(6)	
1065.89(6)	1 <sup>+</sup> -5 <sup>+</sup>			11(7)			62(9)			22(4)	
1076.47(8)	$\langle 3^+ \rangle$					23(4)			77(8)		
1077.93(9)	3 <sup>-</sup> , 5 <sup>-</sup>							93(9)			
1131.2(1)	5 <sup>-</sup>					27(16)	73(12)				
1169.16(1)	$\langle 11^+ \rangle$								9(3)		
1250.42(8)	$\langle 3, 5^+ \rangle$								48(6)	52(5)	

Energy levels and branching ratios [98Ar07, 06Ac01]. Part 3

 **$^{193}_{77}\text{Ir}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	469.387 $\langle 13^- \rangle$	478.991 $\langle 15^- \rangle$	516.414 $\langle 7^+ \rangle$	521.926 $\langle 9^+ \rangle$	557.442 $\langle 1^+ \rangle$	559.301 5 <sup>+</sup>	563.405 $\langle 9^- \rangle$	598.227 3 <sup>-</sup>	620.990 7 <sup>+</sup>
695.13(1)	5 <sup>+</sup>							3.1(5)			
712.17(1)	3 <sup>+</sup>						8.0(11)				
740.38(1)	5 <sup>-</sup>									38(3)	
832.89(1)	$\langle 11^- \rangle$								58(2)		

(continued)

 **$^{193}\text{Ir}$   
 $_{77}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*$ : $2J_f^\pi$ :	469.387 $\langle 13^- \rangle$	478.991 $\langle 15^- \rangle$	516.414 $\langle 7 \rangle^+$	521.926 $\langle 9 \rangle^+$	557.442 $\langle 1 \rangle^+$	559.301 $5^+$	563.405 $\langle 9^- \rangle$	598.227 $3^-$	620.990 $7^+$
838.92(1) <sup>b</sup>	$\langle 9^+ \rangle$				23.9(10)			1.7(3)			
848.93(6)	$5^+$							$\approx 7$			
857.03(1) <sup>a</sup>	$\langle 11 \rangle^+$					25(5)					
874.28(1)	$3^+, 5^+$						3.4(10)				
892.270(11)	$\langle 9^+ \rangle$					24(6)					17(1)
918.37(1)	$\langle 7^- \rangle$								9(2)	6.6(10)	
930.43(2)	$\langle 17^- \rangle$			100							
972.87(1)	$\langle 5^+ \rangle$										13(1)
975.33(1)	$\langle 11^- \rangle$		33(3)	67(7)							
1009.35(1)	$\langle 11^+ \rangle$		15(3)		85(9)						
1019.59(1) <sup>b</sup>	$\langle 11^+ \rangle$				100						
1035.46(1) <sup>a</sup>	$\langle 13 \rangle^+$					95(9)					
1038.06(1)	$\langle 3^+, 5^+ \rangle$					11.4(9)					
1065.89(6)	$1^+ - 5^+$										5(3)
1145.62(1)	$\langle 9 \rangle^-$								15(3)		
1168.1(1)	$\langle 13^- \rangle$		40(16)								
1169.16(1)	$\langle 11^+ \rangle$				8(3)	43(3)					31(2)
1511.71(1)	$\langle 3^+ \rangle$						43(8)				

Energy levels and branching ratios [98Ar07, 06Ac01]. Part 4

 **$^{193}\text{Ir}$   
 $_{77}$** 

$E^*$ [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*$ : $2J_f^\pi$ :	695.135 $5^+$	740.383 $5^-$	832.895 $\langle 11^- \rangle$	838.919 $\langle 9^+ \rangle$	849.083 $1^+ - 5^{\langle + \rangle}$	857.027 $\langle 11 \rangle^+$	874.281 $3^+, 5^+$	892.270 $\langle 9^+ \rangle$	918.366 $\langle 7^- \rangle$
918.37(1)	$\langle 7^- \rangle$			56(3)							
972.87(1)	$\langle 5^+ \rangle$			3.1(3)							
1035.46(1) <sup>a</sup>	$\langle 13 \rangle^+$							4.8(10)			
1035.86(3)	$3^+ - 7^+$		21(16)								
1077.93(9)	$3^-, 5^-$			7(3)							
1145.62(1)	$\langle 9 \rangle^-$										85(6)
1168.1(1)	$\langle 13^- \rangle$				$\approx 60$						
1169.16(1)	$\langle 11^+ \rangle$							4.1(10)		6.1(9)	
1438.43(1) <sup>b</sup>	$\langle 13^+ \rangle$					100					
1459.97(1) <sup>a</sup>	$\langle 15 \rangle^+$							86(10)			
1511.71(1)	$\langle 3^+ \rangle$						23(3)		25(2)		

Energy levels and branching ratios [98Ar07, 06Ac01]. Part 5

**<sup>193</sup>Ir**  
**77**

$E^*$	$2J^\pi$	$E_f^*$ : $2J_f^\pi$ :	972.875 $\langle 5^+ \rangle$	Branching ratios in percentage 1019.59 $\langle 11^+ \rangle$	1035.47 $\langle 13^+ \rangle$	1459.97 $\langle 15^+ \rangle$	1650.5 $\langle 17^+ \rangle$
[keV]							
1459.97(1) <sup>a</sup>	$\langle 15^+ \rangle$			13.6(21)	x		
1511.71(1)	$\langle 3^+ \rangle$		9(1)				
1650.5(13) <sup>a</sup>	$\langle 17^+ \rangle$				x		
2179(10) <sup>a</sup>	$\langle 19^+ \rangle$					x	
2404 <sup>a</sup>	$\langle 21^+ \rangle$						x

Energy levels and branching ratios [98Ba85, 96Br26, 06Si17].

**<sup>194</sup>Ir**  
**77**

$E^*$	$J^\pi$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$\sigma$ (d,p)	$S_{dp}$	$L$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$L$	$I_\alpha$	$T_{1/2}$	Ref.
[keV]		rel.u.	rel.u.	mb/sr		(d,p)	rel.u.	rel.u.	(d, $\alpha$ )	(d, $\alpha$ )		
0.0	1 <sup>-</sup>	168	133(13)	26(8)	0.027(2)	1	98	55			19.28(13) h	
43.119(1)	0 <sup>-</sup>	138	118(14)	32(5)	0.030(2)	1	89	50	1	80		
82.336(1)	1 <sup>-</sup>											
84.285(1)	2 <sup>-</sup>	975	850(70)	192(23)	0.197(6)	1	560	343	1,3	480		
112.232(1)	2 <sup>-</sup>	955	685(60)	185(23)	0.164(5)	1	555	333	1,3	290		
138.688(1)	1 <sup>-</sup>	203	137(18)	37(6)	0.031(2)	1	62	5	$\langle 1 \rangle$			
143.592(1)	0 <sup>-</sup>											
147.072(2)	4 <sup>+</sup>											
148.934(1)	$\langle 2,3 \rangle^-$	610	430(40)	97(13)	0.218(9)	3	340	193	1,3		31.85(24) ms	
160.998(1)	1 <sup>-</sup>	490	448(40)	102(29)	0.095(4)	1	314	179				
161.5	$\langle 5^+ \rangle$								4,6	320		06Si17
184.688(2)	3 <sup>-</sup>											
189.7(12)*												
190.0+x	10,11										171(11) d	
192.7(1)		20	18(5)				10	10				
195.527(1)	2 <sup>-</sup>								1,3	140		
245.111(1)	3 <sup>-</sup>	89	63(9)	24(4)	0.044(3)	1	47	30	$\langle 1 \rangle$			
245.492(2)	0 <sup>-</sup>											
254.161(1)	2 <sup>-</sup>		77(11)	29(5)	0.025(7)	1			1,3	160		
270.918(2)	3,4 <sup>+</sup>									350		
278.505(2)	2 <sup>-</sup>	475	303(28)	98(13)	0.082(3)	1	345	208				
296.631(2)	4 <sup>-</sup>	1030	570(50)	109(13)	0.221(9)	3	565	287	3,5	120		
308.974(1)	1 <sup>-</sup>											
314.053(2)	2 <sup>-</sup>		70(10)						1,3	70		
337.531(2)	1 <sup>-</sup>		118(19)	47(9)	0.012(3)	1			1,3			
337.649(2)	2 <sup>-</sup>	195	incl	incl			114	62				
347.050(2)	3 <sup>-</sup>	455	370(40)	89(13)	0.079(3)	1	240	156	$\langle 3 \rangle$	100		
371.277(7)	3 <sup>-</sup>											
377.009(3)	3 <sup>-</sup>	1010	740(60)	196(26)	0.168(5)	1	645	359				
389.199(6)*	$\langle \leq 3 \rangle$											
390.963(2)	1,2,3 <sup>-</sup>											

(continued)

 **$^{194}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$\sigma$ (d,p)	$S_{\text{dp}}$	$L$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$L$	$I_\alpha$	$T_{1/2}$	Ref.
[keV]		rel.u.	rel.u.	mb/sr		(d,p)	rel.u.	rel.u.	(d, $\alpha$ )	(d, $\alpha$ )		
393.00(12)*		20	18(8)				16	11	2,4	150		
407.019(3)	$\langle 3 \rangle^+$								2,4			
413.059(5)	$\langle 3 \rangle^+$											
419.611(3)	$3^-$											
422.15(16)*		306	204(19)	24(12)	0.029(2)	1	145	87				
422.824(3)*	$0-3^-$											
423.727(2)	$2^-$											
434.080(3)*	$1^-, 2^-$	66	31(7)	9(4)	0.025	$\langle 3 \rangle$	33	27	1,3	180		
436.296(2)	$2^-$											
467.209(3)	$2-4^-$	33	28(5)	8(2)			23	17	1,3			
489.649(3)	$2^-$	195	114(9)	28(7)			90	64	1,3	260		
501.812(3)	$2^-$	75	41(6)				34	22				
502.897(3)*	$X^{(-)}$											
503.369(6)*	$0-3^-$											
518.578(3)	$2^+$											
519.519(3)	$\langle 3 \rangle^+$											
522.5(4)*		68	17(3)				10	9				
524.202(8)	$\langle 3 \rangle^+$											
542.591(2)	$\langle 2 \rangle^+$											
545.4(2)**		217	119(9)	20(4)			105	62	1,3	699		
557.8(4)**		39	19(4)	5(2)			20	11				
572.4**		15	23(7)				33	5				
579.142(5)**	$\leq 3^-$	94	94(8)	23(5)	0.019(1)	1	61	46				
591.9(4)		15	39(5)				27	12	1,3	190		
600.1(6)												
605.7(2)			64(6)									06Si17
619.9(4)			63(6)							80		06Si17
639.6(2)			74(7)	13(3)					4,6	150		
644.94(1)*												
656.4(2)			77(8)									06Si17
661(3)										200		06Si17
667.5(4)			66(7)						3,5	250		
677.5(2)			94(9)	21(4)								
680.9(9)												06Si17
690.1(12)									$\langle 1 \rangle$			
694.5(5)			31(4)									06Si17
698.8(8)												06Si17
707.7(4)			40(5)							100		06Si17
719.1(4)			26(4)							200		
721.8(7)												06Si17
746.3(3)			50(6)							560		06Si17
751.4(7)												
759.0(4)			56(7)	17(7)								06Si17
765.4(10)												
772.6(4)			41(6)									06Si17

(continued)

 **$^{194}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$\sigma$ (d,p)	$S_{\text{dp}}$	$L$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$L$	$I_\alpha$	$T_{1/2}$	Ref.
[keV]		rel.u.	rel.u.	mb/sr		(d,p)	rel.u.	rel.u.	(d, $\alpha$ )	(d, $\alpha$ )		
775.6(6)												
785.0(7)												06Si17
799.7(8)			11(3)									06Si17
802.0(10)												
805.7(9)												06Si17
808.7(3)			88(10)									06Si17
819.2(3)			68(9)	23(7)								06Si17
834.2(9)			15(4)									
853.8(4)			27(5)									06Si17
861.9(8)												
872.4(3)			63(13)									06Si17
877.3(10)			45(12)	16(4)								06Si17
881.9(7)												
888.0(1)			10(4)									
897.4(5)			34(5)									
908.2(6)			17(4)									
921.2(5)			17(3)									
926.7(9)												06Si17
934.0(8)			20(6)									
937.9(8)												
948.1(2)			283(23)									
957.1(7)												
965.9(7)			31(7)									06Si17
969.3(16)												
976.2(7)												
994.9(6)												
1001.2(4)			55(8)									06Si17
1008.4(7)												
1029.6(23)			130(14)									06Si17
1038.6(6)												
1044.5(8)			27(7)									06Si17
1052.4(9)												
1060.3(7)												
1062.5(4)			42(6)									06Si17
1074.0(3)			114(12)									
1087.5(3)			54(9)									
1095.6(7)			25(7)									
1099.2(7)												06Si17
1105.8(4)			41(5)									06Si17
1115.2(6)			40(6)									
1122.1(4)			35(5)									06Si17
1134.5(4)			55(6)									
1146.7(3)			58(6)									
1161.7(3)			24(6)									06Si17
1174.4(10)												06Si17



(continued)

 **$^{194}_{77}\text{Ir}$** 

$E^*$	$J^\pi$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$\sigma$ (d,p)	$S_{\text{dp}}$	$L$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$L$	$I_\alpha$	$T_{1/2}$	Ref.
[keV]		rel.u.	rel.u.	mb/sr		(d,p)	rel.u.	rel.u.	(d, $\alpha$ )	(d, $\alpha$ )		
1179.6(3)			37(4)									
1191.4(12)												
1198.1(24)			117(11)									06Si17
1211.3(7)			51(7)									
1222.7(4)			81(9)									06Si17
1227.5(6)												
1234.6(6)			37(6)									06Si17
1239.6(7)												
1249.8(5)			41(6)									06Si17
1258.5(7)			59(7)									
1272.1(7)												
1281.6(9)												
1288.1(17)												
1312.0(5)												
1323.9(9)												
1332.3(8)												
1352.9(7)												
1368.7(15)												
1377(3)												
1389.2(7)												
1401.0(7)												
1423.4(7)												
1440(4)												
1446(3)												
1454.3(8)												
1467.0(7)												
1482.2(7)												
1489.5(7)												
1507.0(21)												
1520.8(11)												
1542.4(7)												
1561.5(7)												
1572.0(7)												
1579.4(7)												
1594.3(7)												
1605.0(9)												
1612.2(7)												
1624.4(7)												
1631.8(13)												
1641.9(10)												
1654.2(10)												
1666.2(11)												
1672.1(10)												
1684.8(14)												
1695.4(14)												

(continued)

**<sup>194</sup>Ir  
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$E^*$	$J^\pi$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$\sigma$ (d,p)	$S_{dp}$	$L$	$d\sigma/d\Omega$	$d\sigma/d\Omega$	$L$	$I_\alpha$	$T_{1/2}$	Ref.
[keV]		rel.u.	rel.u.	mb/sr		(d,p)	rel.u.	rel.u.	(d, $\alpha$ )	(d, $\alpha$ )		
1702.5(9)		06Si17	98Ba42	94Ga30	06Si17	06Si17		98Ba42		06Si17 02WiZU		Ref. Ref.

Additional data on this isotope can be found in [98Ba85, 98Ba42, 94KoZQ, 94Ga30, 93Ko59].

\* This level is absent in the level scheme given in [98Ba85, 06Si17].

\*\* This level and some others were introduced [98Ba85] from the results of  $\sigma$  (d,p) measurements.

Presented relative cross sections of the (d,p) reaction were measured at 20°, 30° (given with uncertainties), 40° and 50°, respectively [98Ba42, 98Ba85].

Absolute values  $\sigma$  (d,p) (at 45°) and  $S_{dp}=d\sigma/d\Omega_{exp}/Nd\sigma/d\Omega_{DWBA}$  with  $N=1.55$  are from [94Ga30].

Relative intensity of  $\alpha$ -particles from the (d, $\alpha$ ) reaction [02WiZU] was estimated in [06Si17].

3 bands of levels are considered in [06Si17].

Energy levels and branching ratios [98Ba85, 96Br26, 06Si17]. Part 2

**<sup>194</sup>Ir  
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$E^*$	$J^\pi$	Branching ratios in percentage									
		$E_f^*$ :	0.0	43	82	84	112	138	143	147	148
[keV]		$J_f^\pi$ :	1 <sup>-</sup>	0 <sup>-</sup>	1 <sup>-</sup>	2 <sup>-</sup>	2 <sup>-</sup>	1 <sup>-</sup>	0 <sup>-</sup>	4 <sup>+</sup>	3 <sup>-</sup>
43.119(1)	0 <sup>-</sup>		100								
82.336(1)	1 <sup>-</sup>		74.3	25.7							
84.285(1)	2 <sup>-</sup>		99.6	0.4							
112.232(1)	2 <sup>-</sup>		97.8		2.0	0.3					
138.688(1)	1 <sup>-</sup>		44.9	44.7	2.7	6.9	0.8				
143.592(1)	0 <sup>-</sup>		94.2		5.8						
147.072(2)	4 <sup>+</sup>					94.9	5.1				
148.934(1)	(2,3) <sup>-</sup>		89.2		10.8						
160.998(1)	1 <sup>-</sup>		45.1	46.3	6.1		2.3	0.3			
184.688(2)	3 <sup>-</sup>		85.8			12.0					2.2
195.527(1)	2 <sup>-</sup>		26.8	47.2	6.3	4.3	5.1	8.6			1.6
245.111(1)	3 <sup>-</sup>		15.1		25.7	36.3	18.8				3.3
245.492(2)	0 <sup>-</sup>		100								
254.161(1)	2 <sup>-</sup>				4.6	14.6		45.1			
270.918(2)	3,4 <sup>+</sup>									100	
278.505(2)	2 <sup>-</sup>		89.6			2.3	4.6	0.9			1.2
296.631(2)	4 <sup>-</sup>					63.2	11.5				
308.974(1)	1 <sup>-</sup>		46.6		16.0		0.8	1.8	22.1		
314.053(2)	2 <sup>-</sup>		31.0		4.5						
337.531(2)	1 <sup>-</sup>		51.4	6.2				12.3	17.8		0.6
337.649(2)	2 <sup>-</sup>			34.1	29.9		9.6				4.7
347.050(2)	3 <sup>-</sup>		13.5				66.9				8.5
371.277(7)	3 <sup>-</sup>										34.0
377.009(3)	3 <sup>-</sup>					3.7	74.1				11.4

(continued)

**<sup>194</sup>Ir**  
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$E^*$ [keV]	$J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	0.0 1 <sup>-</sup>	43 0 <sup>-</sup>	82 1 <sup>-</sup>	84 2 <sup>-</sup>	112 2 <sup>-</sup>	138 1 <sup>-</sup>	143 0 <sup>-</sup>	147 4 <sup>+</sup>	148 3 <sup>-</sup>
389.199(6)*	$\langle \leq 3 \rangle$		53(12)	21(4)				17(4)			
390.963(2)	1,2,3 <sup>-</sup>		81.0					15.3			
407.019(3)	$\langle 3 \rangle^+$					5.7				25.5	
419.611(3)	3 <sup>-</sup>							3.6			
422.824(3)*	0-3 <sup>-</sup>		9.2(14)			8(2)	83(2)				
423.727(2)	2 <sup>-</sup>		2.8				19.9			4.1	
434.080(3)*	1 <sup>-</sup> ,2 <sup>-</sup>			86(2)							8.7(7)
436.296(2)	2 <sup>-</sup>		4.2		35.6		2.2	2.9	2.7		
467.209(3)	2-4 <sup>-</sup>			6.5		9.1			3.4		
489.649(3)	2 <sup>-</sup>				19.8	17.2	7.6	3.3	4.4		
501.812(3)	2 <sup>-</sup>					2.6	6.7	4.1			
502.897(3)*	X <sup>(-)</sup>			$\langle 100 \rangle$							
503.369(6)*	0-3 <sup>-</sup>			100							
518.578(3)	2 <sup>+</sup>				2.5					87.1	
519.519(3)	$\langle 3 \rangle^+$									12.3	
524.202(8)	$\langle 3 \rangle^+$						68.1				
542.591(2)	$\langle 2 \rangle^+$				39.5	20.7	1.7				

Energy levels and branching ratios [98Ba85, 96Br26, 06Si17]. Part 3

**<sup>194</sup>Ir**  
**77**

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	161 1 <sup>-</sup>	184 3 <sup>-</sup>	195 2 <sup>-</sup>	245.1 3 <sup>-</sup>	245.4 0 <sup>-</sup>	254 2 <sup>-</sup>	270 3,4 <sup>+</sup>	278 2 <sup>-</sup>	296 4 <sup>-</sup>
245.111(1)	3 <sup>-</sup>				0.9						
254.161(1)	2 <sup>-</sup>		33.3	2.4							
278.505(2)	2 <sup>-</sup>		1.4								
296.631(2)	4 <sup>-</sup>			11.3				13.9			
308.974(1)	1 <sup>-</sup>		3.7	1.4	7.6						
314.053(2)	2 <sup>-</sup>		58.2	3.6		2.8					
337.531(2)	1 <sup>-</sup>		5.0		3.0		3.6				
337.649(2)	2 <sup>-</sup>		12.9	4.0				4.2		0.6	
347.050(2)	3 <sup>-</sup>			7.6	3.5						
371.277(7)	3 <sup>-</sup>								66.0		
377.009(3)	3 <sup>-</sup>		3.0	0.7		5.2		1.8			
389.199(6)*	$\langle \leq 3 \rangle$		$\leq 72$		9(4)						
390.963(2)	1,2,3 <sup>-</sup>							3.7			
407.019(3)	$\langle 3 \rangle^+$								68.7		
413.059(5)	$\langle 3 \rangle^+$								100		
419.611(3)	3 <sup>-</sup>				32.5			63.9			
423.727(2)	2 <sup>-</sup>		16.5		11.9			28.8		13.3	
434.080(3)*	1 <sup>-</sup> ,2 <sup>-</sup>		5(1)				$\leq 1.1$				
436.296(2)	2 <sup>-</sup>		39.3		4.6	1.2	1.1	6.2			

(continued)

**<sup>194</sup>Ir**  
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$E^*$ [keV]	$J^\pi$	Branching ratios in percentage									
		$E_f^*$ : $J_f^\pi$ :	161 1 <sup>-</sup>	184 3 <sup>-</sup>	195 2 <sup>-</sup>	245.1 3 <sup>-</sup>	245.4 0 <sup>-</sup>	254 2 <sup>-</sup>	270 3,4 <sup>+</sup>	278 2 <sup>-</sup>	296 4 <sup>-</sup>
467.209(3)	2-4 <sup>-</sup>		3.7	3.5	59.0					0.8	2.2
489.649(3)	2 <sup>-</sup>			5.8				12.4		9.1	
501.812(3)	2 <sup>-</sup>		75		3.5			4.6			
518.578(3)	2 <sup>+</sup>			1.1	1.0				1.9		
519.519(3)	$\langle 3 \rangle^+$							7.0	66.8		
524.202(8)	$\langle 3 \rangle^+$								19.2		
542.591(2)	$\langle 2 \rangle^+$							5.8	28.3		
579.142(5)**	$\leq 3^-$		100								
644.94(1)*				100							

Energy levels and branching ratios [98Ba85, 96Br26, 06Si17]. Part 4

**<sup>194</sup>Ir**  
**77**

$E^*$ [keV]	$J^\pi$	Branching ratios in percentage									
		$E_f^*$ : $J_f^\pi$ :	308 1 <sup>-</sup>	314 2 <sup>-</sup>	337.5 1 <sup>-</sup>	337.6 2 <sup>-</sup>	371 3 <sup>-</sup>	377 3 <sup>-</sup>	390 1-3 <sup>-</sup>	407 $\langle 3 \rangle^+$	413 $\langle 3 \rangle^+$
423.727(2)	2 <sup>-</sup>			2.6							
467.209(3)	2-4 <sup>-</sup>		3.6			2.5		5.6			
489.649(3)	2 <sup>-</sup>		7.7	3.2	3.0	2.3			4.2		
501.812(3)	2 <sup>-</sup>		0.8					2.3			
518.578(3)	2 <sup>+</sup>		1.4		1.8	2.1	1.0				
519.519(3)	$\langle 3 \rangle^+$						3.6			10.3	
524.202(8)	$\langle 3 \rangle^+$										12.8
542.591(2)	$\langle 2 \rangle^+$				2.8						1.2

Energy levels and branching ratios [99Zh11].

**<sup>195</sup>Ir**  
**77**

$E^*$ [keV]	$2J^\pi$	$S_N$	$A_\gamma$	$C^2S$	$\sigma$ (t, $\alpha$ ) $\mu\text{b/sr}$	$S_N$	$T_{1/2}$ or $\Gamma_{\text{cm}}$	Ref.	Branching ratios in percentage					
									$E_f^*$ : $2J_f^\pi$ :	0.0 3 <sup>+</sup>	69.2 1 <sup>+</sup>	175 5 <sup>+</sup>	233 3 <sup>+</sup>	286 3 <sup>+</sup>
0.0 <sup>a</sup>	3 <sup>+</sup>	2.1	-0.61(3)		165	0.64	2.5(2) h	83Ci01						
69.181(1) <sup>b</sup>	1 <sup>+</sup>	0.75	+0.03(5)		82	0.25		83Ci01	100					
100(5)	11 <sup>-</sup>	4.3	+0.35(3)		134	1.54	3.8(2) h	83Ci01	x					
175.221(2) <sup>a</sup>	5 <sup>+</sup>	0.12	+0.38(13)		13	0.05		83Ci01	100					
233.512(2) <sup>b</sup>	3 <sup>+</sup>	0.33	-0.31(8)		29	0.11		83Ci01	34.1(16)	66(3)				
286.521(2)	3 <sup>+</sup>	0.49	-0.62(8)		40	0.12		83Ci01	78(3)	11.4(9)	10.5(9)			
394(5) <sup>a</sup>	$\langle 7 \rangle^+$		+0.26(11)		16	0.24		83Ci01						
412.038(4) <sup>b</sup>	$\langle 5 \rangle^+$		+0.22(5)		48	0.17		83Ci01	36(1)	35(1)			30(2)	
428.627(4)	1 <sup>+</sup> , 3 <sup>+</sup>								35(1)	65(3)				
499.50(4)	5 <sup>+</sup>	1.5	+0.20(4)		136	0.52		83Ci01	x					

(continued)

**<sup>195</sup>Ir**  
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$E^*$	$2J^\pi$	$S_N$	$A_\gamma$	$C^2S$	$\sigma$ (t, $\alpha$ )	$S_N$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(d, $\tau$ )		(d, $\tau$ )	$\mu\text{b/sr}$	(t, $\alpha$ )	$\Gamma_{\text{cm}}$		$E_f^*$ : $2J_f^\pi$ :	0.0 3 <sup>+</sup>	69.2 1 <sup>+</sup>	175 5 <sup>+</sup>	233 3 <sup>+</sup>	286 3 <sup>+</sup>
539.21(1)	3 <sup>+</sup>	0.24	−0.66(9)		21			83Ci01		40(7)				60(3)
581.79(1)	5 <sup>+</sup>	0.75	+0.20(5)		62			83Ci01		48(9)		52(3)		
626(5)					2.7									
720(5)	11 <sup>−</sup>	3.2	+0.25(4)		82			83Ci01						
760.37(4)	5 <sup>+</sup>	0.58	+0.31(6)		53			83Ci01		100				
776.05(1)	3 <sup>+</sup> ,5 <sup>+</sup>											44(8)	21(3)	21(2)
860.94(5)										68(12)				32(7)
878(5)	5 <sup>+</sup>	0.27	+0.18(9)		28			83Ci01						
912(5)			−0.17(20)		2.9			83Ci01						
943.75(2)	1 <sup>+</sup> −5 <sup>+</sup>										19(5)		18(5)	38(4)
960(5)			+0.35(16)		4.8			83Ci01						
994(5)	11 <sup>−</sup>	1.9	+0.17(6)	1.95	40			87La07						
1017.2(1)	1 <sup>+</sup>	0.74	−0.13(5)		95			83Ci01						
1050(5)	11 <sup>−</sup>	1.8	+0.30(5)		42			83Ci01						
1107(5)			−0.55(23)		3.6			83Ci01						
1165(5)	3 <sup>+</sup>	0.34	−0.49(8)		28			83Ci01						
1229(5)			+0.44(16)		5.9			83Ci01						
1365(5)			−0.44(16)		6.8			83Ci01						
1413(5)			+0.01(8)		26			83Ci01						
1438(5)			+0.37(13)		12			83Ci01						
1510(5)			+0.12(6)		47			83Ci01						
1562(2)	⟨11 <sup>−</sup> ⟩	1.1	+0.17(9)		23			83Ci01						
1601(5)	11 <sup>−</sup>	1.3	−0.03(8)		26			83Ci01						
1640(5)			−0.03(12)		13			83Ci01						
1708(5)	⟨3 <sup>+</sup> ,5 <sup>+</sup> ⟩		+0.14(6)		37			83Ci01						
1724					16			78Ya03						
1760(5)			+0.33(9)		13			83Ci01						
1785(5)			−0.06(10)		17			83Ci01						
1835(5)			+0.43(9)		22			83Ci01						
5508.7(3)														
5693.0(2)														
5797.3(2)														
5875.8(3)														
6001.9(1)														
6008.0(2)														
					78Ya03	78Ya03		Ref.						

Additional data on this isotope can be found in [85Zh10, 81Ci02].

a,b - bands of excited states built on 3/2<sup>+</sup>[402] and 1/2<sup>+</sup>[400] orbitals [78Ya03].

Data for this isotope are considered in vol. LB I/19C.

Energy levels and branching ratios [99Zh11]. Part 2			<sup>195</sup> <sub>77</sub> Ir
<i>E</i> <sup>*</sup>	2 <i>J</i> <sup>π</sup>	Branching ratios in percentage	
[keV]		<i>E</i> <sub>f</sub> <sup>*</sup> : 2 <i>J</i> <sub>f</sub> <sup>π</sup> :	429 X <sup>+</sup>
776.05(1)	3 <sup>+</sup> ,5 <sup>+</sup>		14(2)
943.75(2)	1 <sup>+</sup> -5 <sup>+</sup>		25(3)