

Energy levels and branching ratios [02Ak06].

E^*

[keV]

J^π

$T_{1/2}$ or
 Γ_{cm}

0.0

42.13(5)

137(2)

0+X

288(6)

≈ 2800

0^+

2^+

4^+

6^+

162.8(2) d

40(15) ps

180(70) ns

Additional data on this isotope can be found in [72Va20].

Energy levels and branching ratios [02Ak06]. Part 2

E^*

[keV]

J^π

$E_{\text{f}}^*:$
 $J_{\text{f}}^\pi:$

Branching ratios in percentage

42.13(5)

137(2)

288(6)

2^+

4^+

6^+

x

x

137

4^+

x

Energy levels and branching ratios [81El08, 04Ak21].

E^*

[keV]

$2J^\pi$

L

σ (d,t)

$n\ell j$

$T_{1/2}$ or
 Γ_{cm}

Ref.

Branching ratios in percentage
 $E_{\text{f}}^*:$ 0.0
 $2J_{\text{f}}^\pi:$ 5^+

0.0

42(2)

87.4(1)

94(2)

94(2)

130(4)

153(2)

164(2)

187(11)

219(3)

228(3)

260(2)

530(3)

729(2)

769(2)

798(2)

842(2)

5^+

7^+

1^+

9^+

$\langle 3^+ \rangle$

$\langle 7^+ \rangle$

$\langle 9^+ \rangle$

$\langle 9^+ \rangle$

$\langle 1^- \rangle$

3,5

5

65(11)

4(2)

550(35)

4(2)

49(7)

44(7)

8(3)

8(3)

95(10)

18(6)

376(14)

174(17)

113(13)

19(7)

5+[622]

29.1(1) yr

1.08(3) μs

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

71Br27

100

(continued)

 $^{243}_{96}\text{Cm}$

E^*	$2J^\pi$	L	σ (d,t)	$n\ell j$	$T_{1/2}$ or	Ref.	Branching ratios in percentage	
[keV]		(d,t)	$\mu\text{b/sr}$		Γ_{cm}		E_{f}^* :	0.0
							$2J_{\text{f}}^\pi$:	5^+
860(4)	9		4(3)			71Br27		
892(2)			67(15)			71Br27		
904(3)			17(6)			71Br27		
930(4)			5(2)			71Br27		
973(2)			58(7)			71Br27		
1015(3)			25(8)			71Br27		
1023(2)	5		108(25)			71Br27		
1046(4)			22(6)			71Br27		
1136(2)			143(15)			71Br27		
1217(3)			16(8)			71Br27		
1222(4)			16(8)			71Br27		
1359(3)			20(5)			71Br27		
1367(4)			21(6)			71Br27		
1900(300)					42(6) ns			
			71Br27			Ref.		

4 bands of levels are shown in the recent compilation [04Ak21].

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

Energy levels and branching ratios [03Ak04].

 $^{244}_{96}\text{Cm}$

E^*	J^π	$T_{1/2}$ or
[keV]		Γ_{cm}
0.0	0^+	18.1(1) yr
42.96(1)	2^+	97(5) ps
142.35(1)	4^+	
296.211(11)	6^+	
501.786(12)	8^+	
970(4)	$\langle 2^+, 3^- \rangle$	
984.914(21)	0^+	
1020.76(3)	$\langle 2^+ \rangle$	
1038(6)	$\langle 2^+, 3^- \rangle$	
1040.188(12)	6^+	34(2) ms
1084.181(14)	$1, 2^+$	
1105.91(2)	$\langle 1, 2^- \rangle$	
1187(4)	$\langle 2^+, 3^- \rangle$	
0+X		>500 ns
0+Y		≤ 5 ps

Additional data on this isotope can be found in [72Va20].

Energy levels and branching ratios [03Ak04]. Part 2

²⁴⁴₉₆Cm

E^* [keV]	J^π	Branching ratios in percentage					
		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	42.965 2 ⁺	142.348 4 ⁺	296.211 6 ⁺	501.786 8 ⁺
42.96(1)	2 ⁺		x				
142.35(1)	4 ⁺			x			
296.211(11)	6 ⁺				x		
501.786(12)	8 ⁺					x	
984.914(21)	0 ⁺		x	x			
1020.76(3)	⟨2 ⁺ ⟩			x			
1040.188(12)	6 ⁺				29(8)	70(20)	0.7(2)
1084.181(14)	1,2 ⁺		65(22)	35(12)			
1105.91(2)	⟨1,2 ⁻ ⟩		13(7)	87(27)			

Energy levels and branching ratios [92Ak05, 96Ko29].

²⁴⁵₉₆Cm

E^*	$2J^\pi$	σ (d,p)	σ (d,t)	$n\ell j$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\mu\text{b/sr}$	$\mu\text{b/sr}$		Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0.0 7 ⁺	54.8 9 ⁺	122 11 ⁺	253 5 ⁺	296 7 ⁺
0.0 ^a	7 ⁺	<10	10(2)	7[624]	8500(100) yr	71Br27						
54.81(5) ^a	9 ⁺	<10	20(5)	7[624]	≤0.10 ns	71Br27		x				
121.60(4) ^a	11 ⁺	<10	38(7)	7[624]		71Br27		61(6)	39(2)			
197.4(20)	13 ⁺			7[624]						x		
252.80(2) ^b	5 ⁺	18(9)	81(7)	5[622]		71Br27		99(7)	0.54(7)			
295.72(2) ^b	7 ⁺	<10	10(2)	5[622]		71Br27		36(2)	55(2)		9.6(5)	
350.64(4) ^b	9 ⁺	87(20)	312(35)	5[622]		71Br27				83(4)		17(12)
355.90(10)	1 ⁺	incl	395(40)		0.29(2) μs	71Br27					x	
361.4(4)	⟨3 ⁺ ⟩	incl										
388.18(5) ^c	9 ⁻			9[734]	0.450(20) ns	96Ko29		82(2)	17.2(5)	0.86(3)		0.403(13)
416.60(5) ^b	11 ⁺	<10	17(5)	5[622]		71Br27						
418.7(5)	⟨5 ⁺ ⟩											
431(2)	⟨7 ⁺ ⟩	<10	55(10)			71Br27						
442.84(5) ^c	11 ⁻			9[734]		96Ko29				64(4)		
498(2)	13 ⁺	<10	13(3)			71Br27						
509.0(2) ^c	13 ⁻			9[734]		96Ko29						
532(2)	⟨9 ⁺ ⟩	30(10)	116(15)			71Br27						
545(3)												
555(5)	⟨11 ⁺ ⟩	<10	10(3)			71Br27						
558(3)												
588(3)	⟨15 ⁻ ⟩	35(10)	28(4)			71Br27						
598(3)	⟨15 ⁺ ⟩											
633.60(11)	⟨3 ⁻ ⟩										100	
≈638												
643.65(6) ^d	⟨7 ⁻ ⟩			7[743]		96Ko29		22(8)	4.1(7)		30(4)	
660(5)		<10	<5			71Br27						
661.52(10)	5 ⁻										34(6)	66

(continued)

²⁴⁵Cm
96

E^*	$2J^\pi$	σ (d,p)	σ (d,t)	$n\ell j$	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\mu\text{b/sr}$	$\mu\text{b/sr}$		Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 7 ⁺	54.8 9 ⁺	122 11 ⁺	253 5 ⁺	296 7 ⁺
672(3)	$\langle 17^- \rangle$											
701.72(11) ^d	$\langle 9^- \rangle$			7[743]		96Ko29		≈ 35				65(5)
722(3)	$\langle 7^+ \rangle$											
735(3)												
740.9(2)	$\langle 1 \rangle^+$	162(35)	24(8)			71Br27					2.4(6)	
769.2(5)	$\langle 3^+ \rangle$	10(5)	<5			71Br27						
772(3)		<15	15(7)			71Br27						
772.4(4) ^d	11 ⁻			7[743]		96Ko29						
782(4)	$\langle 9^+ \rangle$	272(31)	24(10)			71Br27						
791(4)	$\langle 5^+ \rangle$	incl	24(10)			71Br27						
≈ 838												
≈ 848												
≈ 853	$\langle 11^+ \rangle$											
856(3)	$\langle 7^+ \rangle$	58(15)	12(2)			71Br27						
≈ 866	$\langle 13^- \rangle$											
891(4)	$\langle 9^+ \rangle$	73(15)	<5			71Br27						
902.5 ^e	$\langle 3-11 \rangle$					96Ko29						
908(5)		91(20)	10(3)			71Br27						
913(3)	$\langle 1^- \rangle$	incl	523(60)			71Br27						
≈ 936												
942(3)		85(15)	20(5)			71Br27						
956(2)	$\langle 3^-, 5^- \rangle$	<15	206(36)			71Br27						
971.25(4) ^e	$\langle 5-9 \rangle$					96Ko29						
980(5)		260(35)	25(7)			71Br27						
995(5)		incl	175(40)			71Br27						
≈ 1009												
1017(4)		169(26)	<10			71Br27						
1042(5)		126(22)	<10			71Br27						
1050(5)		incl	<10			71Br27						
1056(3)		<20	53(10)			71Br27						
1083(3)		<20	60(11)			71Br27						
1103(3)		<20	102(15)			71Br27						
1259(5)		50(25)	20(5)			71Br27						
1271(2)		74(18)	293(60)			71Br27						
1473(3)		<20	45(15)			71Br27						
2100(300)					13.2(18) ns							
		71Br27	71Br27			Ref.						

Additional data on this isotope can be found in [96Ko29].

5 bands (marked here a-e) are considered in [96Ko29].

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

Energy levels and branching ratios [92Ak05, 96Ko29]. Part 2

²⁴⁵Cm
₉₆

E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		E_f^* : $2J_f^\pi$:	350.64 9 ⁺	355.90 1 ⁺	361.4 <3 ⁺ >	388.18 9 ⁻	418.7 <5 ⁺ >	442.84 11 ⁻
388.18(5) ^c	9 ⁻		0.0183(9)					
416.60(5) ^b	11 ⁺		x					
442.84(5) ^c	11 ⁻					36(8)		
509.0(2) ^c	13 ⁻					x		x
633.60(11)	<3 ⁻ >				0.50(13)			
643.65(6) ^d	<7 ⁻ >					44(6)		
740.9(2)	<1 ⁺ >			98				
769.2(5)	<3 ⁺ >				≈27		73	

Energy levels and branching ratios [98Ar12].

²⁴⁶Cm
₉₆

E^* [keV]	J^π	σ (p,t) $\mu\text{b/sr}$	R (p,t)	σ (d,d')	σ (d,d')	σ (d,d')	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage			
									E_f^* : 0 J_f^π : 0 ⁺	42.8 2 ⁺	142.0 4 ⁺	294.9 6 ⁺
0	0 ⁺	170		79(4)·10 ³	17(1)·10 ³	11(1)·10 ³	4760(40) yr	72Ma15				
42.851(5)	2 ⁺	60		851(800)	4530(340)	4310(400)	121(2) ps	72Ma15	100			
142.01(2)	4 ⁺	19		217(27)	188(15)	156(10)		72Ma15		100		
294.9(2)	6 ⁺			48(7)	56(9)	57(6)		75Ya13			100	
499.8(8)	8 ⁺											100
841.68(2)	2 ⁻									100		
876.45(2)	3 ⁻			140(13)	82(5)	94(6)		75Ya13		61(2)	39(1)	
923.31(3)	<4 ⁻ >										98(8)	
981(2)	<5 ⁻ >			18(6)	13(6)	19(3)		75Ya13		≈50	≈50	
1051.1(9)	<6 ⁻ >											81(6)
1059(3)					5(2)	5(2)		75Ya13				
1078.85(2)	1 ⁻				11(2)	4(2)		75Ya13	68(3)	31.3(9)		
1104.86(2)	<2 ⁻ >									99.8(20)	0.003(3)	
1124.28(2)	2 ⁺								42(2)	56(8)	2.1(2)	
1128.02(2)	3 ⁻			148(13)	94(5)	75(5)		75Ya13		61(2)	38.5(12)	
1128.8(9)	<7 ⁻ >											≈67
1165.49(3)	<3 ⁺ >									69(3)	28(3)	
1174.74(7)	0 ⁺	16	0.12			8(3)		72Ma15	x	100		
1178.6(9)	<8 ⁻ >											
1210.53(5)	2 ⁺	13						72Ma15	31(5)	69(4)		
1219.98(11)	<4 ⁺ >									29(8)		71(25)
1221(2)				56(32)	34(4)	39(4)		75Ya13				
1249.77(2)	1 ⁻			24(11)	18(3)	26(3)		75Ya13	39(2)	39(2)		
1289.3(3)	0 ⁺								x			
1300.45(4)	<3 ⁻ >			160(67)	88(5)	71(6)		75Ya13		67(5)	21(2)	
1317.57(4)	<2 ⁺ >									100		
1340.20(6)					5(2)	8(3)		75Ya13		25(3)	75(4)	
1348.86(2)	1 ⁻								6.2(2)	0.32(5)		

(continued)

²⁴⁶Cm
₉₆

E^*	J^π	σ (p,t)	R	σ (d,d')	σ (d,d')	σ (d,d')	$T_{1/2}$ or	Ref.	Branching ratios in percentage			
[keV]		$\mu\text{b/sr}$	(p,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : 0	42.8	142.0	294.9
									J_f^π : 0 ⁺	2 ⁺	4 ⁺	6 ⁺
1366.63(2)	$\langle 2^- \rangle$									5(1)		
1379.23(7)	$\langle 4^+ \rangle$									72(5)	28(4)	
1397(3)	$\langle 5^- \rangle$				17(4)	17(4)		75Ya13				
1451.89(4)	1^+								35(2)	26(1)		
1478.43(4)	$\langle 2^+ \rangle$			29(9)	12(3)	7(2)		75Ya13		26(3)	19(2)	
1509.29(5)	$\langle 3^+ \rangle$								1.3(7)	13(2)	28(5)	
1525.93(2)	3^-			79(18)	74(6)	59(6)		75Ya13		1.3(1)	0.35(6)	
1573.74(5)	$\langle 1^+ \rangle$								66(3)	34(7)		
1593.69(2)	2^-									17(2)		
1601.24(3)	$\langle 3 \rangle^+$									1.8(2)	0.99(11)	
1604.17(3)	$\langle 1^- \rangle$				16(4)	13(2)		75Ya13	50(2)	47(2)		
1621.50(2)	3^-					8(2)		75Ya13		8.9(4)	26(1)	
1628.92(7)										71(36)	29(21)	
1633.53(3)	$\langle 2 \rangle^-$									79(6)		
1659.19(9)	$\langle 1^- \rangle$			22(9)	15(4)	16(2)		75Ya13	34(3)	8(2)		
1661.65(3)	$\langle 1^+ \rangle$								63(3)	32.3(13)		
1671.01(3)	$\langle 3^- \rangle$			42(11)	18(5)	27(3)		75Ya13		13.1(7)	53(3)	
1680.81(5)	2^+								0.64(13)	97(13)	0.8(3)	
1712.39(4)	$\langle 3^+ \rangle$									51(4)	49(4)	
1780.81(3)	2^+			27(11)	11(2)	13(4)		75Ya13	1.5(4)	41(3)		
1821.76(6)									6.2(13)	94(6)		
1836.73(6)	$2^+, 1^-$			26(4)	28(6)	21(4)		75Ya13	45(5)	3.5(12)		
1856.57(4)	$\langle 3^+ \rangle$									6.1(6)	4.9(5)	
1870.21(5)	$1, 2^+$								3.5(7)	67(5)		
1875.52(11)	$1, 2^+$								2.3(6)	1.3(7)		
1886.76(3)	$\langle 1^+ \rangle$								26(2)	18(2)		
1898.08(9)	$\langle 2^+ \rangle$								2(1)	8(3)	8(1)	
1901.33(6)	$2^+, 3$									3.5(6)	97(8)	
1906.12(14)	$2^+, 3, 4^+$									51(8)	49(11)	
1909.32(5)	$1^-, 2^+$				11(3)	5(2)		75Ya13	22(2)	78(12)		
1924.56(4)	$1, 2^+$								52(5)	48(5)		
1947.09(6)	$2^+, 3, 4^+$									15(2)	11(3)	
1965(4)				12(3)	13(3)	8(3)		75Ya13				
1983.35(13)	$\langle 1^+, 2^+ \rangle$								1.7(6)	3.0(6)		
2032.51(7)	$1, 2^+$								7(3)	7(1)		
2146.05(5)	$1, 2^+$								66(4)	34(3)		
2171.42(6)	$2^+, 3$									12(1)	11(1)	
		72Ma15	70Ma29	75Ya13	75Ya13	75Ya13		Ref.				

Additional data on this isotope can be found in [72Va20].

The values σ (p,t) were obtained in measurements at 60° with $E_p=17$ MeV [72Ma15].Ratio R of the cross section of the excited state to that of the ground state [70Ma29] is given.

Cross section of the (d,d') reaction was measured at 90°, 125° and 140° [75Ya13] (three corresponding columns in the Table).

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

Energy levels and branching ratios [98Ar12]. Part 2

 $^{246}_{96}\text{Cm}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	499.8 8 ⁺	841.68 2 ⁻	876.45 3 ⁻	923.31 $\langle 4 \rangle^-$	1051.1 $\langle 6^- \rangle$	1078.85 1 ⁻	1104.86 $\langle 2 \rangle^-$	1124.28 2 ⁺	1128.02 3 ⁻	1165.49 $\langle 3^+ \rangle$
876.45(2)	3 ⁻			≈0.1								
923.31(3)	$\langle 4 \rangle^-$			≈1.6	≈0.09							
1051.1(9)	$\langle 6^- \rangle$					≈19						
1078.85(2)	1 ⁻			0.36(2)								
1104.86(2)	$\langle 2 \rangle^-$			0.195(13)								
1128.02(2)	3 ⁻				0.11(2)							
1128.8(9)	$\langle 7^- \rangle$	33(7)										
1165.49(3)	$\langle 3^+ \rangle$				3.3(9)							
1178.6(9)	$\langle 8^- \rangle$	94					≈6					
1249.77(2)	1 ⁻		2.7(3)		5.5(4)			13(6)				
1300.45(4)	$\langle 3^- \rangle$				7(3)	5(2)						
1348.86(2)	1 ⁻		3.5(2)		1.88(9)			53(2)	35(2)			
1366.63(2)	$\langle 2^- \rangle$		13.7(5)			0.6(2)		24(1)	29(1)		27(1)	
1451.89(4)	1 ⁺		35(6)							2.3(8)		
1478.43(4)	$\langle 2^+ \rangle$		12(3)									
1509.29(5)	$\langle 3^+ \rangle$										3(1)	46(2)
1525.93(2)	3 ⁻		37(1)		23.4(8)	14.9(8)		0.08(6)	1.4(1)	16.9(5)	0.52(8)	3.6(1)
1593.69(2)	2 ⁻		51(2)		15.7(6)	0.5(2)		5.3(3)	5.7(2)	0.63(8)	1.58(13)	
1601.24(3)	$\langle 3 \rangle^+$		68(2)		22.5(8)	4.7(4)				2.2(16)		
1621.50(2)	3 ⁻		8(1)		27(1)	13(1)			1.1(3)		12.3(4)	1.6(2)
1633.53(3)	$\langle 2 \rangle^-$		9.8(19)					2.2(2)	2.3(2)		1.8(3)	
1659.19(9)	$\langle 1^- \rangle$								59(5)			
1661.65(3)	$\langle 1^+ \rangle$		1.0(6)									
1671.01(3)	$\langle 3^- \rangle$		4.3(9)			5.9(12)			10.2(6)		9.5(12)	2.9(5)
1780.81(3)	2 ⁺		28(2)		21.1(8)					4.3(10)		
1836.73(6)	2 ⁺ ,1 ⁻				52(21)							
1856.57(4)	$\langle 3^+ \rangle$									34(10)		
1875.52(11)	1,2 ⁺									96(35)		
1886.76(3)	$\langle 1^+ \rangle$		38(6)									
1898.08(9)	$\langle 2^+ \rangle$											82(24)

Energy levels and branching ratios [98Ar12]. Part 3

 $^{246}_{96}\text{Cm}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1174.74 0 ⁺	1210.53 2 ⁺	1219.98 ⟨4 ⁺ ⟩	1249.77 1 [−]	1289.3 0 ⁺	1300.45 ⟨3 [−] ⟩	1340.20	1348.86 1 [−]	1366.63 ⟨2 [−] ⟩	1451.89 1 ⁺
1451.89(4)	1 ⁺	1.6(6)										
1478.43(4)	⟨2 ⁺ ⟩			5(3)		38(8)						
1509.29(5)	⟨3 ⁺ ⟩				8(2)							
1525.93(2)	3 [−]				0.08(5)							
1593.69(2)	2 [−]					1.60(6)		0.28(8)		0.4(3)	0.9(3)	
1601.24(3)	⟨3⟩ ⁺				0.16(5)							

(continued)

 $^{246}_{96}\text{Cm}$

E^*	J^π	Branching ratios in percentage									
[keV]	E_f^* : J_f^π :	1174.74 0 ⁺	1210.53 2 ⁺	1219.98 ⟨4 ⁺ ⟩	1249.77 1 [−]	1289.3 0 ⁺	1300.45 ⟨3 [−] ⟩	1340.20	1348.86 1 [−]	1366.63 ⟨2 [−] ⟩	1451.89 1 ⁺
<hr/>											
1604.17(3)	⟨1 [−] ⟩				3.2(5)						
1621.50(2)	3 [−]						2.1(1)				
1633.53(3)	⟨2 [−] ⟩		0.6(3)		2.8(3)			0.68(19)		0.8(4)	
1661.65(3)	⟨1 ⁺ ⟩	2.6(6)	0.7(3)								
1671.01(3)	⟨3 [−] ⟩			0.6(3)							
1680.81(5)	2 ⁺			1.9(8)							
1780.81(3)	2 ⁺									3.8(5)	
1856.57(4)	⟨3 ⁺ ⟩			0.27(7)							
1870.21(5)	1,2 ⁺					29(8)					
1886.76(3)	⟨1 ⁺ ⟩										18(6)
2032.51(7)	1,2 ⁺										57(15)

Energy levels and branching ratios [98Ar12]. Part 4

 $^{246}_{96}\text{Cm}$

E^* [keV]	J^π	Branching ratios in percentage					
		E_f^* : J_f^π :	1509.29 ⟨3 ⁺ ⟩	1593.69 2 ⁻	1621.50 3 ⁻	1661.65 ⟨1 ⁺ ⟩	1712.39 ⟨3 ⁺ ⟩
1856.57(4)	⟨3 ⁺ ⟩		54(3)				
1947.09(6)	2 ⁺ ,3,4 ⁺				74(13)		
1983.35(13)	⟨1 ⁺ ,2 ⁺ ⟩				68(8)		28(14)
2032.51(7)	1,2 ⁺					29(7)	
2171.42(6)	2 ⁺ ,3			77(20)			

Energy levels and branching ratios [92Ak04].

 $^{247}_{96}\text{Cm}$

E^* [keV]	$2J^\pi$	σ (d,p)	σ (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage		
						E_f^* : $2J_f^\pi$:	0.0 9 ⁻	227.0 5 ⁺
0.0	9 ⁻	<10	<3	1.56(5)·10 ⁷ yr	71Br27			
61.5(3)	11 ⁻		7(3)		71Br27		x	
135(5)	13 ⁻						x	
217(2)	15 ⁻	43(13)	38(10)		71Br27			
227.0(10)	5 ⁺	incl	66(15)	25(3) μs	71Br27		x	
266.0(3)	⟨7 ⁺ ⟩						x	
285.0(2)	⟨7 ⁺ ⟩	<20	5(3)		71Br27		x	
309(3)		<20	36(10)		71Br27			
318(3)	⟨9 ⁺ ⟩	87(26)	123(17)		71Br27			
336(5)		<20	24(10)		71Br27			
344(2)	⟨9 ⁺ ⟩	<20	87(13)		71Br27			

(continued)

 $^{247}_{96}\text{Cm}$

E^*	$2J^\pi$	σ (d,p)	σ (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage		
[keV]						E^*_f :	0.0	227.0
						$2J^\pi_f$:	9^-	5^+
370(5)		<20	9(4)		71Br27			
381(5)	$\langle 11^+ \rangle$	<20	24(7)		71Br27			
398(4)		<20	20(8)		71Br27			
403.6(10)	1^+	164(40)	66(11)		71Br27			x
417(6)			16(6)		71Br27			
433(2)	$\langle 3^+ \rangle$							
439(3)		168(40)	40(20)		71Br27			
449(2)	$\langle 5^+ \rangle$	124(25)	18(6)		71Br27			
479(8)								
506(3)	$\langle 1^+ \rangle$	<20	83(25)		71Br27			
518.0(11)	$\langle 7^+ \rangle$	77(15)	293(40)		71Br27			x
520(2)	$\langle 3^+ \rangle$	incl	incl					
550(2)	$\langle 9^+ \rangle$	77(15)	22(10)		71Br27			
582(6)		<20	23(8)		71Br27			
584(3)		incl	incl					
592(2)		70(20)	54(13)		71Br27			
604(3)	$\langle 7^+ \rangle$	<20	20(8)		71Br27			
668(5)		114(27)	7(3)		71Br27			
687(5)		89(25)	16(7)		71Br27			
699(2)	$\langle 9^+ \rangle$		75(15)		71Br27			
749(5)		250(100)	<4		71Br27			
784(4)		217(49)	<4		71Br27			
803(5)		114(45)	<4		71Br27			
819(4)		346(65)	<4		71Br27			
856(5)		115(40)	<4		71Br27			
897(5)		104(40)	<4		71Br27			
947(2)		<40	74(18)		71Br27			
957(2)		<40	308(40)		71Br27			
988(5)		<40	35(10)		71Br27			
1001(2)		<40	157(42)		71Br27			
1044(3)		<40	41(10)		71Br27			
1064(3)		<40	48(14)		71Br27			
1079(3)		<40	109(20)		71Br27			
1091(3)		<40	51(15)		71Br27			
1159(3)			43(10)		71Br27			
1182(3)			58(15)		71Br27			
1199(4)			27(10)		71Br27			
1239(5)		<40	30(10)		71Br27			
1247(5)		<40	30(10)		71Br27			
1271(3)		<40	48(15)		71Br27			
1283(3)		<40	187(26)		71Br27			
1317(3)		217(50)	37(10)		71Br27			
1356(3)			26(13)		71Br27			
1364(4)			37(10)		71Br27			
1372(4)			43(15)		71Br27			

(continued)

 $^{247}_{96}\text{Cm}$

E^*	$2J^\pi$	σ (d,p)	σ (d,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage		
[keV]				Γ_{cm}		E_f^* :	0.0	227.0
						$2J_f^\pi$:	9^-	5^+
1512(6)		<50 71Br27	30(10) 71Br27		71Br27 Ref.			

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

Energy levels and branching ratios [99Ak02, 93Pi07].

 $^{248}_{96}\text{Cm}$

E^*	J^π	σ (d,d')	σ (d,d')	σ (d,d')	σ (d,d')	R	$T_{1/2}$ or	Ref.
[keV]		$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,d')	Γ_{cm}	
0.0	0^+	$79(4) \cdot 10^3$	$56 \cdot 10^3$	$17(1) \cdot 10^3$	$11 \cdot 10^3$	4.9	$348000(6000)$ yr	
43.40(3)	2^+	$9640(1000)$	8680	$4590(280)$	4178	2.1	124(5) ps	
143.6(4)	4^+	$373(40)$	194	$245(18)$	231	0.8	78(22) ps	
298.1(5)	6^+	$52(13)$	29	$76(7)$	57	0.5	33(8) ps	
505.0(5)	8^+		2		1		13.2(16) ps	
760.7(5)	10^+						9.4(15) ps	
1049(2)	$\langle 2^+ \rangle$		84		55	1.5	≥ 1.24 ps	
1049	$\langle 1^- \rangle$	$136(18)$	incl	$68(5)$	incl			
1061.3(5)	12^+						3.9(4) ps	
1084	0^+							
1094(2)	3^-	$204(11)$		$148(8)$	116	1.2		
1126(3)	$\langle 2^+ \rangle$		5		3			
1143(2)	$\langle 4^+ \rangle$	$47(10)$	28	$37(4)$	26	1.1		
1172(3)	$\langle 5^- \rangle$	$9(5)$	7	$31(4)$	27	0.3		
1222(3)	$\langle 4^+ \rangle$	$18(8)$		$24(4)$	≈ 8			
1235(2)	$\langle 3^- \rangle$	$126(18)$	57	$62(5)$	64	0.9		
1302(3)	$\langle 3^- \rangle$	$92(41)$		$37(6)$	40			
1314(3)					4			
1353(3)			3		10	0.3		
1394(3)			5		2			
1402.5(6)	14^+						$1.69(+6-17)$ ps	
1435(3)			6		12	0.5		
1464(4)			3					
1482(2)	$\langle 3^- \rangle$	$63(5)$	38	$48(6)$	49	0.8		
1509(3)			2		6			
1547(4)			10					
1649(3)		$27(10)$	13	$23(6)$	14	0.9		
1680	$\langle 11^- \rangle$							
1779.6(6)	16^+						$1.47(13)$ ps	
1883(3)		$40(7)$		$22(6)$				
1938(4)		$13(3)$		$20(3)$				
1938	$\langle 13^- \rangle$							
1969(4)		$13(7)$		$6(3)$				

(continued)

²⁴⁸₉₆Cm

E^*	J^π	σ (d,d')	σ (d,d')	σ (d,d')	σ (d,d')	R	$T_{1/2}$ or	Ref.
[keV]		$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,d')	Γ_{cm}	
2000(4)				25(10)				
2187.7(6)	18 ⁺						0.98(+17-11) ps	
2238	$\langle 15^- \rangle$							
2574	$\langle 17^- \rangle$							
2621.5(7)	20 ⁺						0.71(12) ps	
2944	$\langle 19^- \rangle$							
3077.2(7)	22 ⁺						0.42(9) ps	
3344	$\langle 21^- \rangle$							
3552.4(8)	24 ⁺						0.4(+15-2) ps	
3772	$\langle 23^- \rangle$							
4048.2(9)	26 ⁺							
4564.5(12)	28 ⁺							
		75Ya13	75Th11					Ref.

Cross section of (d,d') reaction was measured at 90° and 125° [75Ya13, 75Th11], see Supplement. (d,d') measured at 90° and 125° [75Ya13, 75Th11] are given, respectively, in four columns of the Table, the ratio between σ (d,d') at two these angles was used in [75Th11] for J^π estimation. Data for this isotope are considered in vol. LB I/18C.

Energy levels and branching ratios [99Ak02, 93Pi07]. Part 2

²⁴⁸₉₆Cm

E^*	J^π	Branching ratios in percentage										
		E_f^* :	0.0	43.40	143.6	298.1	505.0	760.7	1061.3	1402.5	1680	1779.6
[keV]		J_f^π :	0 ⁺	2 ⁺	4 ⁺	6 ⁺	8 ⁺	10 ⁺	12 ⁺	14 ⁺	$\langle 11^- \rangle$	16 ⁺
43.40(3)	2 ⁺		x									
143.6(4)	4 ⁺			x								
298.1(5)	6 ⁺				x							
505.0(5)	8 ⁺					x						
760.7(5)	10 ⁺						x					
1061.3(5)	12 ⁺							x				
1402.5(6)	14 ⁺								x			
1680	$\langle 11^- \rangle$								x			
1779.6(6)	16 ⁺									x		
1938(4)										x	x	
2187.7(6)	18 ⁺											x
2238	$\langle 15^- \rangle$											x

Energy levels and branching ratios [99Ak02, 93Pi07]. Part 3

²⁴⁸₉₆Cm

E^* [keV]	J^π	$E_f^*:$ $J_f^\pi:$	Branching ratios in percentage									
			1938	2187.7 18 ⁺	2238 ⟨15 ⁻ ⟩	2574 ⟨17 ⁻ ⟩	2621.5 20 ⁺	2944 ⟨19 ⁻ ⟩	3077.2 22 ⁺	3344 ⟨21 ⁻ ⟩	3552.4 24 ⁺	4048.2 26 ⁺
2238	⟨15 ⁻ ⟩		x									
2574	⟨17 ⁻ ⟩			x	x							
2621.5(7)	20 ⁺			x								
2944	⟨19 ⁻ ⟩					x						
3077.2(7)	22 ⁺						x					
3344	⟨21 ⁻ ⟩							x				
3552.4(8)	24 ⁺								x			
3772	⟨23 ⁻ ⟩									x		
4048.2(9)	26 ⁺										x	
4564.5(12)	28 ⁺											x

Energy levels and branching ratios [99Ar21, 82Ho07].

²⁴⁹₉₆Cm

E^* [keV]	$2J^\pi$	σ (d,p) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.
0	1 ⁽⁺⁾	171(33)	64.15(3) m	71Br27
26.228(7)	3 ⁽⁺⁾	13(5)		71Br27
48.203(9)	5 ⁽⁺⁾	110(19)		71Br27
48.758(17)	⟨7 ⁺ ⟩	incl	23 μs	82Ho07
110(1)	⟨9 ⁺ ⟩	202(25)		71Br27
110.154(10)	⟨7 ⁺ ⟩	incl		
146(3)	⟨9 ⁺ ⟩	45(11)		71Br27
208.001(6)	⟨3 ⁺ ⟩	80(30)		71Br27
220(5)	⟨9 ⁺ ⟩	20(10)		71Br27
242.008(21)	⟨5 ⁺ ⟩	67(15)		71Br27
289.006(16)	⟨7 ⁺ ⟩	175(35)		71Br27
300(5)	⟨11 ⁺ ⟩	incl		
306.8(6)	1,3			
350(1)	⟨9 ⁺ ⟩	79(18)		71Br27
470.211(8)	⟨3 ⁻ ⟩	138(28)		71Br27
494.485(3)	⟨1 ⁻ ⟩			82Ho07
498(3)	⟨7 ⁻ ⟩	240(48)		71Br27
529.623(22)	⟨5 ⁺ ⟩	60(20)		71Br27
546.859(9)	⟨5 ⁻ ⟩	70(23)		71Br27
575(3)		80(25)		71Br27
578.417(12)	⟨7 ⁺ ⟩			82Ho07
593	⟨15 ⁻ ⟩			
634(2)		23(5)		71Br27
664		81(20)		71Br27
688(2)				
690.5(6)				

(continued)

 $^{249}_{96}\text{Cm}$

E^*	$2J^\pi$	σ (d,p)	$T_{1/2}$ or	Ref.
[keV]		$\mu\text{b/sr}$	Γ_{cm}	
772.77(4)	$\langle 3^- \rangle$			82Ho07
818.875(15)	$\langle 5^- \rangle$			82Ho07
858.977(18)	$\langle 1^-, 3 \rangle$			82Ho07
870(4)		60(20)		71Br27
917.50(4)	$\langle 1^- \rangle$	128(28)		82Ho07
963.06(4)	$\langle 3^- \rangle$			82Ho07
971.12(4)	$\langle 5^- \rangle$			82Ho07
1011.3(6)	$\langle 1, 3 \rangle$			
1030(7)		160(40)		71Br27
1047.76(4)	$1^-, 3^-$			82Ho07
1153.57(10)	$\langle 1^-, 3 \rangle$			82Ho07
1175.90(5)	$1^-, 3^-$			82Ho07
1203.7(4)	$\langle 1, 3 \rangle$	80(20)		71Br27
1263.3(6)	$\langle 1, 3 \rangle$			
1269.31(14)	$1^-, 3^-$			82Ho07
1314.4(5)	$\langle 1, 3 \rangle$			
1353(7)		190(40)		71Br27
1382(7)		60(15)		71Br27
1528(7)		120(30)		71Br27
1550(7)		180(45)		71Br27
1560				
1570(7)		120(30)		71Br27
1650(7)		120(30)		71Br27
1898				
4713.45(11)	1^+			82Ho07
		71Br27		Ref.

Additional data on this isotope can be found in [99Ah01, 82Ho07].

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

Energy levels and branching ratios [99Ar21, 82Ho07]. Part 2

 $^{249}_{96}\text{Cm}$

E^*	$2J^\pi$	Branching ratios in percentage								
		E^*_i :	0	26.2	48.2	48.7	110	208	242	289.006
[keV]		$2J^\pi_f$:	$1^{\langle+ \rangle}$	$3^{\langle+ \rangle}$	$5^{\langle+ \rangle}$	$\langle 7^+ \rangle$	$\langle 7^+ \rangle$	$\langle 3^+ \rangle$	$\langle 5^+ \rangle$	$\langle 7^+ \rangle$
26.228(7)	$3^{\langle+ \rangle}$		x							
110(1)	$\langle 9^+ \rangle$					x				
110.154(10)	$\langle 7^+ \rangle$			x						
208.001(6)	$\langle 3^+ \rangle$		32(4)	21(4)	18(4)	20(5)	9(1)			
242.008(21)	$\langle 5^+ \rangle$		17(2)		49(7)	34(8)				
289.006(16)	$\langle 7^+ \rangle$				61(11)	39(6)				
470.211(8)	$\langle 3^- \rangle$		44(10)	3.6(12)	53(9)					
494.485(3)	$\langle 1^- \rangle$		56(12)	44(8)						

(continued)

 $^{249}_{96}\text{Cm}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage								
		$E_f^*:$ $2J_f^\pi:$	0 $1^{(+)}$	26.2 $3^{(+)}$	48.2 $5^{(+)}$	48.7 $\langle 7^+ \rangle$	110 $\langle 7^+ \rangle$	208 $\langle 3^+ \rangle$	242 $\langle 5^+ \rangle$	289.006 $\langle 7^+ \rangle$
529.623(22)	$\langle 5^+ \rangle$							24(16)		76(13)
546.859(9)	$\langle 5^- \rangle$							16(4)		61(19)
578.417(12)	$\langle 7^+ \rangle$						100			
772.77(4)	$\langle 3^- \rangle$		20(5)		36(12)				16(2)	
858.977(18)	$\langle 1^-, 3 \rangle$			82(14)						
917.50(4)	$\langle 1^- \rangle$			52(16)						
963.06(4)	$\langle 3^- \rangle$		36(9)		64(13)					
971.12(4)	$\langle 5^- \rangle$						81(20)			
1153.57(10)	$\langle 1^-, 3 \rangle$			71(13)						
1175.90(5)	$1^-, 3^-$		46(9)					32(9)		
1269.31(14)	$1^-, 3^-$		100							

Energy levels and branching ratios [99Ar21, 82Ho07]. Part 3

 $^{249}_{96}\text{Cm}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	470.211 $\langle 3^- \rangle$	494.485 $\langle 1^- \rangle$	529.623 $\langle 5^+ \rangle$	546.859 $\langle 5^- \rangle$	578.417 $\langle 7^+ \rangle$	818.875 $\langle 5^- \rangle$	917.50 $\langle 1^- \rangle$	963.06 $\langle 3^- \rangle$	971.12 $\langle 5^- \rangle$
546.859(9)	$\langle 5^- \rangle$		24(5)								
772.77(4)	$\langle 3^- \rangle$		15(5)	5(2)		7(2)					
818.875(15)	$\langle 5^- \rangle$		58(15)			18(10)	24(5)				
858.977(18)	$\langle 1^-, 3 \rangle$					18(4)					
917.50(4)	$\langle 1^- \rangle$		18(6)	30(8)							
971.12(4)	$\langle 5^- \rangle$				19(6)						
1047.76(4)	$1^-, 3^-$							10(1)	49(13)	21(4)	20(4)
1153.57(10)	$\langle 1^-, 3 \rangle$		10(4)			10(3)					9.6(10)
1175.90(5)	$1^-, 3^-$		22(6)								

Energy levels [01Ak11].

 $^{250}_{96}\text{Cm}$

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}
0.0	0^+	≈ 8300 yr
43(5)	2^+	