$^{246}_{96}\mathrm{Cm}_{150}$

1 Decay Scheme

Cm-246 disintegrates by alpha emissions (99,97385 %) and spontaneous fission (0,02615 %). The strongest alpha decay branch of 79,17 (22) % populates the Pu-242 ground state, while the first (44,545 keV) and the second (147,35 keV) excited states of Pu-242 are populated with intensities of 20,81 % and 0,020 %, respectively.
Le curium 246 se désintègre par émission alpha et par fission spontanée dans une proportion p(FS) = 0,02615 %.
L'émission alpha a lieu vers le niveau excité de 44,5 keV et le niveau fondamental du plutonium 242.
Le nombre moyen n(FS) de neutrons émis par transformation nucléaire de curium 246 est :
n(FS) = p(FS) × $\bar{\nu}$ = 0,0771
où $\bar{\nu}$ = 2,948 est le nombre moyen de neutrons émis par fission spontanée.

2 Nuclear Data

$T_{1/2}(^{246}\mathrm{Cm})$	:	4723	(27)	a
$T_{1/2}(^{242}\mathrm{Pu})$	:	3,73	(3)	10^5 a
$Q^{\alpha}(^{246}\mathrm{Cm})$	:	5476,7	(9)	keV

2.1 α Transitions

	Energy keV	Probability × 100	F
$\alpha_{0,2}$	5329,2 (10)	0,020 (2)	500
$\alpha_{0,1}$	5432,0 (9)	20,81 (22)	2,05
$\alpha_{0,0}$	5476,5 (9)	79,17 (22)	1

2.2 Gamma Transitions and Internal Conversion Coefficients

	Energy keV	$P_{\gamma+ce}$ × 100	Multipolarity	α_L	α_M	α_T
$\gamma_{1,0}$(Pu)	44,545 (9)	20,82 (22)	E2	542 (16)	151,4 (45)	746 (22)
$\gamma_{2,1}$(Pu)	102,8 (1)	0,020 (2)	E2	10,06 (30)	2,82 (8)	13,86 (42)

3 Atomic Data

3.1 Pu

ω_K : 0,971 (4)
$\bar{\omega}_L$: 0,521 (20)
n_{KL} : 0,790 (5)

3.1.1 X Radiations

		Energy keV		Relative probability
X_K				
	$K\alpha_2$	99,525		63,17
	$K\alpha_1$	103,734		100
	$K\beta_3$	116,244	}	
	$K\beta_1$	117,228	}	
	$K\beta_5''$	117,918	}	36,70
	$K\beta_2$	120,54	}	
	$K\beta_4$	120,969	}	12,74
	$KO_{2,3}$	121,543	}	
X_L				
	$L\ell$	12,125		
	$L\alpha$	14,083 – 14,279		
	$L\eta$	16,334		
	$L\beta$	16,499 – 19,331		
	$L\gamma$	20,708 – 21,984		

3.1.2 Auger Electrons

	Energy keV	Relative probability
Auger K		
KLL	75,263 – 85,357	100
KLX	92,607 – 103,729	60,6
KXY	109,93 – 121,78	9,18
Auger L	6,12 – 22,99	

4 α Emissions

	Energy keV	Probability × 100
$\alpha_{0,2}$	5242,5 (10)	0,020 (2)
$\alpha_{0,1}$	5343,7 (9)	20,81 (22)
$\alpha_{0,0}$	5387,5 (9)	79,17 (22)

5 Electron Emissions

		Energy keV	Electrons per 100 disint.
e_{AL}	(Pu)	6,12 - 22,99	7,20 (21)
e_{AK}	(Pu)		
	KLL	75,263 - 85,357 }	
	KLX	92,607 - 103,729 }	
	KXY	109,93 - 121,78 }	
$ec_{1,0\ L}$	(Pu)	21,441 - 26,488	15,1 (6)
$ec_{1,0\ M}$	(Pu)	38,612 - 40,770	4,22 (17)
$ec_{1,0\ N}$	(Pu)	42,986 - 44,121	1,161 (47)
$ec_{2,1\ L}$	(Pu)	79,7 - 84,7	0,0135 (15)
$ec_{2,1\ M}$	(Pu)	96,9 - 99,0	0,00378 (41)
$ec_{2,1\ N}$	(Pu)	101,2 - 102,4	0,00104 (11)

6 Photon Emissions

6.1 X-Ray Emissions

	Energy keV	Photons per 100 disint.
XL (Pu)	12,125 — 21,984	7,95 (24)

6.2 Gamma Emissions

	Energy keV	Photons per 100 disint.
$\gamma_{1,0}$(Pu)	44,545 (9)	0,0279 (8)
$\gamma_{2,1}$(Pu)	102,8 (1)	0,00134 (14)

7 Main Production Modes

$\mathrm{Cm-245(n,\gamma)Cm-246}$ $\quad \sigma$: 15,2 (12) barns

$\mathrm{Cf-250}(\alpha)\mathrm{Cm-246}$

Possible impurities : $\mathrm{Cf-250}$, $\mathrm{T_{1/2}} = 13{,}08$ a

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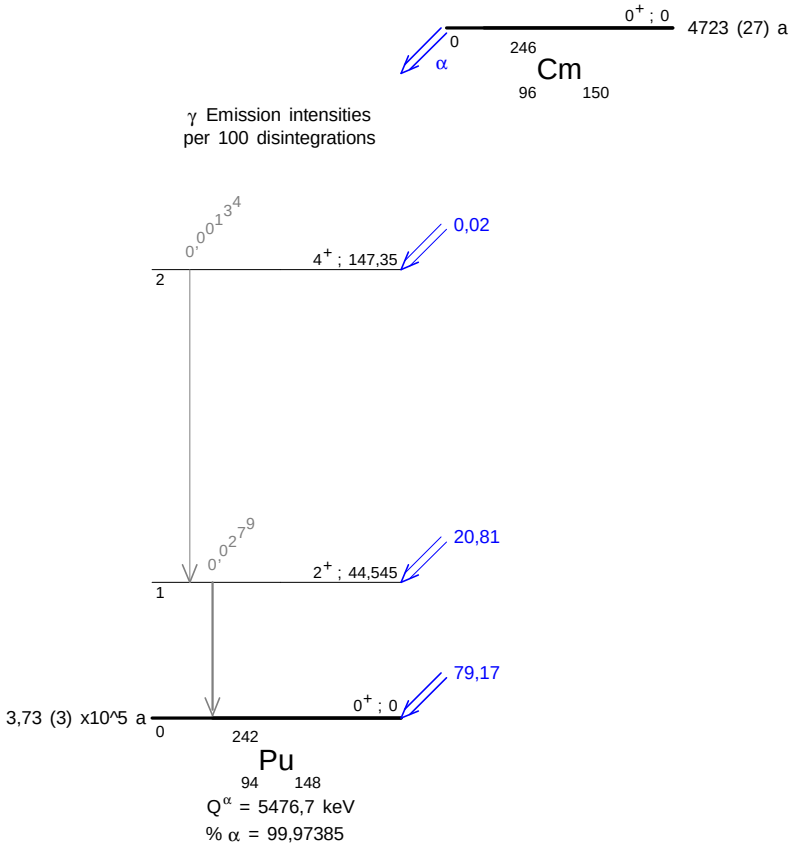
0+ ; 0
4723 (27) a
0
α
246
Cm
96
150
γ Emission intensities
per 100 disintegrations
0,02
4+ ; 147,35
2
20,81
2+ ; 44,545
1
79,17
0+ ; 0
3,73 (3) x10^5 a
0
242
Pu
94
148
Q^α = 5476,7 keV
% α = 99,97385