$$^{68}_{32}\mathrm{Ge}_{36}$$

1 Decay Scheme

Ge-68 disintegrates by 100 % electron capture to the Ga-68 ground state which has a half-life of 67.7 min.
Le Ge-68 se désintègre à 100 % par capture électronique vers le niveau fondamental de Ga-68 qui a une période de 67,7 min.

2 Nuclear Data

$T_{1/2}(^{68}\mathrm{Ge})$	:	270,95	(16)	d
$T_{1/2}(^{68}\mathrm{Ga})$	:	1,1275	(10)	h
$Q^{+}(^{68}\mathrm{Ge})$	:	106	(6)	keV

2.1 Electron Capture Transitions

	Energy keV	Probability × 100	Nature	lg ft	P_K	P_L	P_M
$\epsilon_{0,0}$	106 (6)	100	Allowed	5	0,8639 (24)	0,1151 (23)	0,0196 (5)

3 Atomic Data

3.1 Ga

ω_K	:	0,517	(4)
$\bar{\omega}_L$	:	0,0123	(4)
n_{KL}	:	1,294	(4)

3.1.1 X Radiations

		Energy keV		Relative probability
X_K				
	$K\alpha_2$	9,22495		51,46
	$K\alpha_1$	9,25185		100
	$K\beta_3$	10,2644	}	
	$K\beta_1$	10,2605	}	
	$K\beta_5''$	10,3482	}	22,07
	$K\beta_2$	10,3664	}	
X_L				
	$L\ell$	0,957		
	$L\gamma$	– 1,297		

3.1.2 Auger Electrons

	Energy keV	Relative probability
Auger K		
KLL	7,71 – 8,07	100
KLX	8,89 – 9,25	29,1
KXY	10,05 – 10,37	2,12
Auger L	0,783 – 1,073	384

4 Electron Emissions

			Energy keV		Electrons per 100 disint.
e_{AL}	(Ga)		0,783 - 1,073		121,9 (4)
e_{AK}	(Ga)				41,7 (4)
		KLL	7,71 - 8,07	}	
		KLX	8,89 - 9,25	}	
		KXY	10,05 - 10,37	}	

5 Photon Emissions

5.1 X-Ray Emissions

		Energy keV		Photons per 100 disint.	
XL	(Ga)	0,957 — 1,297		1,52 (5)	
XKα_2	(Ga)	9,22495		13,24 (11)	} Kα
XKα_1	(Ga)	9,25185		25,74 (22)	}
XKβ_3	(Ga)	10,2644	}		
XKβ_1	(Ga)	10,2605	}	5,68 (5)	K$'\beta_1$
XKβ''_5	(Ga)	10,3482	}		
XKβ_2	(Ga)	10,3664	}		
XKβ_4	(Ga)		}		K$'\beta_2$

6 Main Production Modes

Ga − 69(p,2n)Ge − 68
Zn − 66(α,2n)Ge − 68
Ge − 70(p,t)Ge − 68
As − 68(EC)Ge − 68
After EC decay of As − 68, chemical separation of Ge − 68 from the parent nuclide.

7 References

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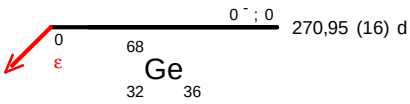
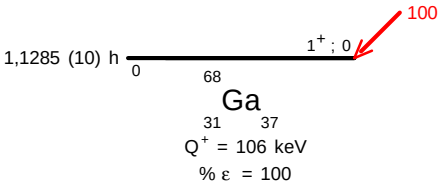

0 - ; 0
270,95 (16) d
0
ε
68
Ge
32
36


100
1,1285 (10) h
1+ ; 0
0
68
Ga
31
37
Q+ = 106 keV
% ε = 100