



1 Decay Scheme

Ga-66 disintegrates 56 (4)% by beta plus and 44 (4)% by electron capture to Zn-66. Ga-66 emits gamma-rays up to 4800 keV and their emission probabilities are useful for the efficiency calibration of Ge detectors. *Le gallium 66 se désintègre vers le zinc 66, par émission bêta plus (56 (4)%) et capture électronique (44 (4)%). Les émissions gamma du gallium 66 (jusqu' à 4800 keV) sont utiles pour l'étalonnage de détecteurs au germanium.*

2 Nuclear Data

$$\begin{aligned}
T_{1/2}(^{66}\text{Ga}) &: 9,49 \quad (7) \quad \text{h} \\
Q^+(^{66}\text{Ga}) &: 5175 \quad (3) \quad \text{keV}
\end{aligned}$$

2.1 Electron Capture Transitions

	Energy keV	Probability × 100	Nature	lg <i>ft</i>	<i>P_K</i>	<i>P_L</i>	<i>P_M</i>
ε _{0,32}	169 (3)	0,00122 (15)		7,47	0,8742 (16)	0,1067 (13)	0,0178 (5)
ε _{0,31}	217 (3)	0,0020 (5)		7,48	0,8768 (16)	0,1046 (13)	0,0174 (5)
ε _{0,30}	309 (3)	0,047 (6)		6,42	0,8794 (15)	0,1024 (13)	0,0170 (5)
ε _{0,29}	325 (3)	0,033 (4)		6,62	0,8797 (15)	0,1021 (13)	0,0170 (5)
ε _{0,28}	369 (3)	2,27 (19)	Allowed	4,9	0,8804 (15)	0,1016 (13)	0,0169 (4)
ε _{0,27}	499 (3)	0,0015 (5)		8,35	0,8817 (15)	0,1005 (12)	0,0166 (4)
ε _{0,26}	537 (3)	0,0042 (10)		7,96	0,8820 (15)	0,1003 (12)	0,0166 (4)
ε _{0,25}	714 (3)	1,96 (17)	Allowed	5,54	0,8828 (15)	0,0996 (12)	0,0165 (4)
ε _{0,24}	880 (3)	6,2 (5)	Allowed	5,23	0,8833 (15)	0,0992 (12)	0,0164 (4)
ε _{0,23}	1089 (3)	1,67 (14)		5,99	0,8837 (15)	0,0988 (12)	0,0163 (4)
ε _{0,22}	1293 (3)	0,0014 (9)		9,2	0,8840 (15)	0,0986 (12)	0,0163 (4)
ε _{0,21}	1350 (3)	0,0030 (6)		8,92	0,8840 (15)	0,0986 (12)	0,0163 (4)
ε _{0,20}	1384 (3)	26,0 (21)	Allowed	5	0,8841 (15)	0,0985 (12)	0,0163 (4)
ε _{0,18}	1437 (3)	0,015 (6)		8,27	0,8841 (15)	0,0985 (12)	0,0163 (4)
ε _{0,13}	1743 (3)	0,39 (4)	1st forbidden	7,03	0,8843 (15)	0,0983 (12)	0,0162 (4)
ε _{0,12}	1748 (3)	0,0047 (11)	1st forbidden	8,95	0,8843 (15)	0,0983 (12)	0,0162 (4)
ε _{0,11}	1794 (3)	1,31 (11)	1st forbidden	6,53	0,8843 (15)	0,0983 (12)	0,0162 (4)
ε _{0,9}	1946 (3)	3,7 (3)	Allowed	6,14	0,8844 (15)	0,0982 (12)	0,0162 (4)

	Energy keV	Probability × 100	Nature	lg <i>ft</i>	<i>P_K</i>	<i>P_L</i>	<i>P_M</i>
ε _{0,5}	2348 (3)	0,0017 (3)		9,66	0,8846 (15)	0,0981 (12)	0,0162 (4)
ε _{0,3}	2803 (3)	0,038 (3)	Allowed	8,46	0,8847 (15)	0,0980 (12)	0,0162 (4)
ε _{0,0}	5175 (3)	0,47 (4)	Allowed	7,88	0,8850 (15)	0,0978 (12)	0,0161 (4)

2.2 β⁺ Transitions

	Energy keV	Probability × 100	Nature	lg <i>ft</i>
β _{0,20} ⁺	362 (3)	0,94 (8)	Allowed	5
β _{0,18} ⁺	415 (3)	0,0009 (3)		8,3
β _{0,13} ⁺	721 (3)	0,16 (2)	1st forbidden	7,03
β _{0,12} ⁺	726 (3)	0,0020 (5)	1st forbidden	8,9
β _{0,11} ⁺	772 (3)	0,70 (6)	1st forbidden	6,53
β _{0,9} ⁺	924 (3)	3,7 (3)	Allowed	6,14
β _{0,5} ⁺	1326 (3)	0,0053 (8)	1st forbidden	9,7
β _{0,3} ⁺	1781 (3)	0,30 (3)	Allowed	8,46
β _{0,0} ⁺	4153 (3)	50 (4)	Allowed	7,88

2.3 Gamma Transitions and Internal Conversion Coefficients

	Energy keV	P _{γ+ce} × 100	Multipolarity
γ _(-1,1) (Zn)	171,9 (2)	0,0104 (9)	
γ _{20,14} (Zn)	283,87 (3)	0,0036 (8)	
γ _{9,6} (Zn)	290,812 (6)	0,049 (4)	
γ _{23,18} (Zn)	347,775 (25)	0,0018 (6)	
γ _{25,23} (Zn)	375,388 (9)	0,0021 (6)	
γ _{20,11} (Zn)	410,179 (7)	0,065 (6)	
γ _{24,22} (Zn)	412,915 (14)	0,0034 (6)	
γ _{11,6} (Zn)	442,870 (7)	0,01554 (16)	
γ _{9,4} (Zn)	448,728 (10)	0,107 (9)	M1+E2
γ _{20,10} (Zn)	459,681 (9)	0,088 (8)	
γ _{13,6} (Zn)	494,334 (7)	0,0056 (9)	
γ _{3,2} (Zn)	499,590 (6)	0,0048 (12)	E2+M3
γ _{10,4} (Zn)	551,284 (13)	0,0070 (8)	
γ _{23,15} (Zn)	554,291 (18)	0,0045 (6)	
γ _{24,18} (Zn)	557,13 (5)	0,0061 (8)	M1+E2
γ _{20,9} (Zn)	562,237 (6)	0,0066 (8)	
γ _{20,8} (Zn)	578,541 (11)	0,059 (6)	

	Energy keV	P _{γ+ce} × 100	Multipolarity
γ _{11,4} (Zn)	600,786 (11)	0,0135 (14)	
γ _{23,13} (Zn)	653,576 (8)	0,0013 (5)	
γ _{23,12} (Zn)	658,578 (22)	0,0075 (10)	
γ _{25,20} (Zn)	670,249 (8)	0,0041 (7)	
γ _{14,5} (Zn)	680,56 (10)	0,0015 (4)	
γ _{20,7} (Zn)	686,083 (7)	0,252 (22)	
γ _{23,11} (Zn)	705,040 (8)	0,0038 (5)	
γ _{25,19} (Zn)	708,36 (5)	0,0087 (10)	
γ _{24,16} (Zn)	718,97 (5)	0,0099 (10)	
γ _{25,18} (Zn)	723,163 (26)	0,0034 (6)	
γ _{16,5} (Zn)	749,68 (7)	0,0014 (4)	
γ _{24,15} (Zn)	763,646 (15)	0,0089 (10)	
γ _{16,4} (Zn)	796,212 (29)	0,0029 (7)	
γ _{18,6} (Zn)	800,135 (24)	0,0010 (5)	
γ _{2,1} (Zn)	833,5365 (45)	5,9 (5)	M1+E2
γ _{20,6} (Zn)	853,049 (6)	0,076 (6)	M1+E2
γ _{9,3} (Zn)	856,532 (7)	0,111 (11)	
γ _{23,9} (Zn)	857,098 (7)	0,015 (5)	
γ _{24,13} (Zn)	862,931 (8)	0,0152 (14)	
γ _{24,12} (Zn)	867,933 (22)	0,0043 (6)	
γ _{23,8} (Zn)	873,402 (12)	0,0170 (18)	
γ _{25,16} (Zn)	885,002 (27)	0,0019 (5)	
γ _{4,2} (Zn)	907,393 (9)	0,0218 (23)	M1+E2
γ _{24,11} (Zn)	914,395 (8)	0,027 (3)	
γ _{25,15} (Zn)	929,679 (19)	0,0046 (7)	
γ _{5,2} (Zn)	953,93 (9)	0,00100 (13)	
γ _{25,14} (Zn)	954,123 (28)	0,0045 (7)	
γ _{24,10} (Zn)	963,897 (10)	0,0144 (16)	
γ _{23,7} (Zn)	980,944 (8)	0,048 (19)	
γ _{11,3} (Zn)	1008,590 (8)	0,059 (9)	
γ _{20,4} (Zn)	1010,965 (10)	0,027 (3)	
γ _{28,20} (Zn)	1015,076 (8)	0,012 (3)	
γ _{1,0} (Zn)	1039,2268 (20)	37 (3)	E2
γ _{13,3} (Zn)	1060,054 (8)	0,0155 (17)	
γ _{6,2} (Zn)	1065,309 (5)	0,0023 (5)	
γ _{24,9} (Zn)	1066,453 (7)	0,0024 (5)	
γ _{24,8} (Zn)	1082,757 (12)	0,0133 (13)	
γ _{26,15} (Zn)	1106,53 (24)	0,0012 (4)	
γ _{25,10} (Zn)	1129,930 (11)	0,0136 (13)	
γ _{28,17} (Zn)	1135,48 (6)	0,0047 (6)	
γ _{23,6} (Zn)	1147,910 (7)	0,078 (9)	M1+E2
γ _{24,7} (Zn)	1190,299 (8)	0,128 (13)	
γ _{30,17} (Zn)	1195,33 (9)	0,0009 (3)	
γ _{7,2} (Zn)	1232,275 (6)	0,50 (4)	
γ _{25,9} (Zn)	1232,486 (8)	0,056 (19)	
γ _{25,8} (Zn)	1248,790 (13)	0,0010 (3)	
γ _{28,15} (Zn)	1274,506 (19)	0,0070 (8)	
γ _{28,14} (Zn)	1298,950 (28)	0,0038 (5)	
γ _{23,4} (Zn)	1305,826 (11)	0,0040 (5)	
γ _{3,1} (Zn)	1333,125 (6)	1,17 (9)	E2
γ _{9,2} (Zn)	1356,121 (5)	0,36 (5)	
γ _{25,7} (Zn)	1356,332 (9)	0,122 (21)	
γ _{24,6} (Zn)	1357,265 (7)	0,16 (5)	M1+E2
γ _{26,9} (Zn)	1409,36 (14)	0,0016 (7)	
γ _{20,3} (Zn)	1418,769 (7)	0,61 (5)	
γ _{28,11} (Zn)	1425,255 (9)	0,0060 (7)	
γ _{30,13} (Zn)	1433,648 (20)	0,0018 (4)	
γ _{10,2} (Zn)	1458,680 (8)	0,096 (23)	M1+E2
γ _{29,11} (Zn)	1468,99 (3)	0,0014 (4)	

	Energy keV	P _{γ+ce} × 100	Multipolarity
γ _{11,2} (Zn)	1508,179 (6)	0,55 (4)	
γ _{24,4} (Zn)	1515,181 (11)	0,0062 (7)	
γ _{25,6} (Zn)	1523,298 (8)	0,0055 (7)	
γ _{30,10} (Zn)	1534,614 (22)	0,0057 (16)	
γ _{12,2} (Zn)	1554,64 (2)	0,0183 (18)	
γ _{13,2} (Zn)	1559,643 (6)	0,0219 (23)	
γ _{28,9} (Zn)	1577,313 (8)	0,0040 (7)	
γ _{14,2} (Zn)	1634,48 (3)	0,0035 (6)	
γ _{16,2} (Zn)	1703,61 (2)	0,0054 (19)	
γ _{23,3} (Zn)	1713,630 (8)	0,0243 (23)	
γ _{4,1} (Zn)	1740,930 (9)	0,029 (4)	M1+E2
γ _{5,1} (Zn)	1787,46 (5)	0,0089 (10)	(E1)
γ _{17,2} (Zn)	1797,96 (5)	0,0019 (5)	
γ _{28,6} (Zn)	1868,125 (8)	0,0027 (6)	
γ _{2,0} (Zn)	1872,740 (6)	0,0229 (24)	[E2]
γ _{6,1} (Zn)	1898,850 (5)	0,39 (3)	(M1+E2)
γ _{20,2} (Zn)	1918,358 (5)	1,99 (16)	M1+E2
γ _{30,6} (Zn)	1927,98 (2)	0,0022 (8)	
γ _{22,2} (Zn)	2009,659 (12)	0,0031 (7)	
γ _{28,4} (Zn)	2026,041 (12)	0,0026 (6)	
γ _{7,1} (Zn)	2065,811 (6)	0,031 (3)	
γ _{30,4} (Zn)	2085,898 (23)	0,0021 (15)	
γ _{25,3} (Zn)	2089,018 (9)	0,011 (3)	
γ _{8,1} (Zn)	2173,353 (10)	0,084 (8)	
γ _{9,1} (Zn)	2189,657 (5)	5,3 (4)	M1+E2
γ _{23,2} (Zn)	2213,219 (6)	0,131 (12)	M1+E2
γ _{26,3} (Zn)	2265,89 (14)	0,0014 (5)	
γ _{10,1} (Zn)	2292,213 (8)	0,0170 (18)	
γ _{11,1} (Zn)	2341,715 (6)	0,0032 (7)	
γ _{13,1} (Zn)	2393,179 (6)	0,23 (2)	E1
γ _{24,2} (Zn)	2422,574 (6)	1,88 (15)	M1+E2
γ _{28,3} (Zn)	2433,845 (9)	0,0074 (9)	
γ _{14,1} (Zn)	2468,02 (3)	0,0084 (10)	
γ _{15,1} (Zn)	2492,46 (2)	0,0222 (23)	
γ _{16,1} (Zn)	2537,14 (2)	0,0051 (12)	
γ _{25,2} (Zn)	2588,607 (7)	0,0263 (26)	M1+E2
γ _{17,1} (Zn)	2631,49 (5)	0,0029 (11)	
γ _{18,1} (Zn)	2698,98 (2)	0,0037 (7)	
γ _{19,1} (Zn)	2713,78 (4)	0,0062 (19)	
γ _{20,1} (Zn)	2751,894 (5)	22,7 (18)	(M1+E2)
γ _{4,0} (Zn)	2780,156 (16)	0,123 (10)	E2
γ _{21,1} (Zn)	2785,8 (3)	0,0030 (6)	
γ _{27,2} (Zn)	2802,8 (5)	0,0015 (4)	
γ _{22,1} (Zn)	2843,190 (12)	0,0017 (4)	
γ _{28,2} (Zn)	2933,434 (7)	0,213 (17)	M1+E2
γ _{29,2} (Zn)	2977,17 (3)	0,023 (3)	
γ _{30,2} (Zn)	2993,29 (2)	0,031 (4)	
γ _{23,1} (Zn)	3046,755 (6)	0,057 (5)	M1+E2
γ _{31,2} (Zn)	3085,4 (4)	0,0020 (5)	
γ _{8,0} (Zn)	3212,499 (19)	0,0019 (4)	
γ _{9,0} (Zn)	3228,884 (3)	1,51 (12)	M1+E2
γ _{24,1} (Zn)	3256,110 (6)	0,094 (8)	M1+E2
γ _{10,0} (Zn)	3331,440 (14)	0,0023 (30)	
γ _{11,0} (Zn)	3380,940 (6)	1,46 (12)	
γ _{25,1} (Zn)	3422,140 (7)	0,86 (7)	M1+E2
γ _{13,0} (Zn)	3432,406 (7)	0,288 (24)	
γ _(-1,4) (Zn)	3724,8 (10)	0,0024 (4)	
γ _{18,0} (Zn)	3738,21 (5)	0,0138 (13)	E0
γ _{28,1} (Zn)	3766,970 (7)	0,149 (13)	M1+E2

	Energy keV	P _{γ+ce} × 100	Multipolarity
γ _{20,0} (Zn)	3791,121 (8)	1,09 (9)	M1+E2
γ _(-1,3) (Zn)	3806,3 (10)	0,0024 (4)	
γ _{29,1} (Zn)	3810,70 (3)	0,0092 (11)	
γ _(-1,2) (Zn)	3827,5 (8)	0,0069 (10)	M1+E2
γ _{23,0} (Zn)	4085,982 (9)	1,27 (10)	
γ _{24,0} (Zn)	4295,337 (10)	3,8 (3)	
γ _{25,0} (Zn)	4461,370 (9)	0,84 (7)	
γ _{28,0} (Zn)	4806,197 (9)	1,86 (15)	
γ _{30,0} (Zn)	4866,05 (4)	0,0028 (3)	
γ _{32,0} (Zn)	5005,8 (3)	0,00124 (18)	

3 Atomic Data

3.1 Zn

ω _K	:	0,486	(4)
ω _L	:	0,0108	(4)
n _{KL}	:	1,326	(4)

3.1.1 X Radiations

	Energy keV	Relative probability
X _K	Kα ₂	8,61587
	Kα ₁	8,63896
	Kβ ₁	9,5721 }
	Kβ ₅ ''	9,6499 }
		21,35
X _L	Lℓ	0,884
	Lβ	– 1,035

3.1.2 Auger Electrons

	Energy keV	Relative probability
Auger K		
KLL	7,21 – 7,55	100
KLX	8,31 – 8,63	28,3
KXY	9,39 – 9,65	2,01
Auger L	0,732 – 0,997	361,7

4 Electron Emissions

		Energy keV	Electrons per 100 disint.
e _{AL}	(Zn)	0,732 - 0,997	57,2 (16)
e _{AK}	(Zn)		20,6 (10)
	KLL	7,21 - 7,55	}
	KLX	8,31 - 8,63	}
	KXY	9,39 - 9,65	}
β ⁺ _{0,0}	max:	4153 (3)	50 (4)
β ⁺ _{0,0}	avg:	1904,1 (15)	
β ⁺ _{0,3}	max:	1781 (3)	0,30 (3)
β ⁺ _{0,3}	avg:	781,6 (14)	
β ⁺ _{0,5}	max:	1326 (3)	0,0053 (8)
β ⁺ _{0,5}	avg:	575,3 (14)	
β ⁺ _{0,9}	max:	924 (3)	3,7 (3)
β ⁺ _{0,9}	avg:	397,1 (14)	
β ⁺ _{0,11}	max:	772 (3)	0,70 (6)
β ⁺ _{0,11}	avg:	331,1 (13)	
β ⁺ _{0,12}	max:	726 (3)	0,0020 (5)
β ⁺ _{0,12}	avg:	311,1 (13)	
β ⁺ _{0,13}	max:	721 (3)	0,16 (2)
β ⁺ _{0,13}	avg:	308,9 (13)	
β ⁺ _{0,18}	max:	415 (3)	0,0009 (3)
β ⁺ _{0,18}	avg:	179,2 (13)	
β ⁺ _{0,20}	max:	362 (3)	0,94 (8)
β ⁺ _{0,20}	avg:	157,0 (13)	

5 Photon Emissions

5.1 X-Ray Emissions

		Energy keV	Photons per 100 disint.	
XL	(Zn)	0,884 — 1,035	0,597 (19)	
XK α_2	(Zn)	8,61587	5,8 (3)	} K α
XK α_1	(Zn)	8,63896	11,3 (6)	
XK β_1	(Zn)	9,5721 }	2,42 (12)	K' β_1

5.2 Gamma Emissions

	Energy keV	Photons per 100 disint.
$\gamma_{(-1,1)}(\text{Zn})$	171,9 (2)	0,0104 (9)
$\gamma_{20,14}(\text{Zn})$	283,87 (3)	0,0036 (8)
$\gamma_{9,6}(\text{Zn})$	290,8105 (11)	0,049 (4)
$\gamma_{23,18}(\text{Zn})$	347,77 (5)	0,0018 (6)
$\gamma_{25,23}(\text{Zn})$	375,398 (17)	0,0021 (6)
$\gamma_{20,11}(\text{Zn})$	410,178 (12)	0,065 (6)
$\gamma_{24,22}(\text{Zn})$	412,916 (16)	0,0034 (6)
$\gamma_{11,6}(\text{Zn})$	442,873 (14)	0,01554 (16)
$\gamma_{9,4}(\text{Zn})$	448,73 (2)	0,107 (9)
$\gamma_{20,10}(\text{Zn})$	459,683 (14)	0,088 (8)
$\gamma_{13,6}(\text{Zn})$	494,336 (13)	0,0056 (9)
$\gamma_{3,2}(\text{Zn})$	499,590 (6)	0,0048 (12)
$\gamma^{\pm}$	511	112 (8)
$\gamma_{10,4}(\text{Zn})$	551,284 (22)	0,0070 (8)
$\gamma_{23,15}(\text{Zn})$	554,28 (3)	0,0045 (6)
$\gamma_{24,18}(\text{Zn})$	557,13 (5)	0,0061 (8)
$\gamma_{20,9}(\text{Zn})$	562,241 (10)	0,0066 (8)
$\gamma_{20,8}(\text{Zn})$	578,540 (19)	0,059 (6)
$\gamma_{11,4}(\text{Zn})$	600,788 (21)	0,0135 (14)
$\gamma_{23,13}(\text{Zn})$	653,568 (14)	0,0013 (5)
$\gamma_{23,12}(\text{Zn})$	658,57 (3)	0,0075 (10)
$\gamma_{25,20}(\text{Zn})$	670,251 (14)	0,0041 (7)
$\gamma_{14,5}(\text{Zn})$	680,56 (10)	0,0015 (4)
$\gamma_{20,7}(\text{Zn})$	686,080 (6)	0,252 (22)
$\gamma_{23,11}(\text{Zn})$	705,031 (15)	0,0038 (5)
$\gamma_{25,19}(\text{Zn})$	708,36 (5)	0,0087 (10)
$\gamma_{24,16}(\text{Zn})$	718,97 (5)	0,0099 (10)
$\gamma_{25,18}(\text{Zn})$	723,17 (5)	0,0034 (6)
$\gamma_{16,5}(\text{Zn})$	749,68 (10)	0,0014 (4)

	Energy keV	Photons per 100 disint.
$\gamma_{24,15}(\text{Zn})$	763,64 (3)	0,0089 (10)
$\gamma_{16,4}(\text{Zn})$	796,21 (5)	0,0029 (7)
$\gamma_{18,6}(\text{Zn})$	800,13 (5)	0,0010 (5)
$\gamma_{2,1}(\text{Zn})$	833,5324 (21)	5,9 (5)
$\gamma_{20,6}(\text{Zn})$	853,038 (8)	0,076 (6)
$\gamma_{9,3}(\text{Zn})$	856,527 (10)	0,111 (11)
$\gamma_{23,9}(\text{Zn})$	857,093 (9)	0,015 (5)
$\gamma_{24,13}(\text{Zn})$	862,926 (13)	0,0152 (14)
$\gamma_{24,12}(\text{Zn})$	867,93 (3)	0,0043 (6)
$\gamma_{23,8}(\text{Zn})$	873,392 (21)	0,0170 (18)
$\gamma_{25,16}(\text{Zn})$	885,00 (5)	0,0019 (5)
$\gamma_{4,2}(\text{Zn})$	907,390 (19)	0,0218 (23)
$\gamma_{24,11}(\text{Zn})$	914,388 (14)	0,027 (3)
$\gamma_{25,15}(\text{Zn})$	929,68 (3)	0,0046 (7)
$\gamma_{5,2}(\text{Zn})$	953,93 (9)	0,00100 (13)
$\gamma_{25,14}(\text{Zn})$	954,12 (7)	0,0045 (7)
$\gamma_{24,10}(\text{Zn})$	963,892 (15)	0,0144 (16)
$\gamma_{23,7}(\text{Zn})$	980,934 (13)	0,048 (19)
$\gamma_{11,3}(\text{Zn})$	1008,588 (12)	0,059 (9)
$\gamma_{20,4}(\text{Zn})$	1010,957 (19)	0,027 (3)
$\gamma_{28,20}(\text{Zn})$	1015,081 (18)	0,012 (3)
$\gamma_{1,0}(\text{Zn})$	1039,220 (3)	37 (3)
$\gamma_{13,3}(\text{Zn})$	1060,051 (11)	0,0155 (17)
$\gamma_{6,2}(\text{Zn})$	1065,305 (9)	0,0023 (5)
$\gamma_{24,9}(\text{Zn})$	1066,450 (12)	0,0024 (5)
$\gamma_{24,8}(\text{Zn})$	1082,75 (2)	0,0133 (13)
$\gamma_{26,15}(\text{Zn})$	1106,53 (24)	0,0012 (4)
$\gamma_{25,10}(\text{Zn})$	1129,923 (18)	0,0136 (13)
$\gamma_{28,17}(\text{Zn})$	1135,47 (9)	0,0047 (6)
$\gamma_{23,6}(\text{Zn})$	1147,896 (10)	0,078 (9)
$\gamma_{24,7}(\text{Zn})$	1190,287 (7)	0,128 (13)
$\gamma_{30,17}(\text{Zn})$	1195,32 (9)	0,0009 (3)
$\gamma_{7,2}(\text{Zn})$	1232,264 (8)	0,50 (4)
$\gamma_{25,9}(\text{Zn})$	1232,480 (15)	0,056 (19)
$\gamma_{25,8}(\text{Zn})$	1248,779 (22)	0,0010 (3)
$\gamma_{28,15}(\text{Zn})$	1274,50 (3)	0,0070 (8)
$\gamma_{28,14}(\text{Zn})$	1298,95 (7)	0,0038 (5)
$\gamma_{23,4}(\text{Zn})$	1305,807 (21)	0,0040 (5)
$\gamma_{3,1}(\text{Zn})$	1333,112 (5)	1,17 (9)
$\gamma_{9,2}(\text{Zn})$	1356,104 (9)	0,36 (5)
$\gamma_{25,7}(\text{Zn})$	1356,320 (15)	0,122 (21)
$\gamma_{24,6}(\text{Zn})$	1357,250 (12)	0,16 (5)
$\gamma_{26,9}(\text{Zn})$	1409,35 (24)	0,0016 (7)
$\gamma_{20,3}(\text{Zn})$	1418,754 (5)	0,61 (5)
$\gamma_{28,11}(\text{Zn})$	1425,25 (2)	0,0060 (7)
$\gamma_{30,13}(\text{Zn})$	1433,63 (4)	0,0018 (4)
$\gamma_{10,2}(\text{Zn})$	1458,662 (12)	0,096 (23)

	Energy keV	Photons per 100 disint.
$\gamma_{29,11}(\text{Zn})$	1468,97 (5)	0,0014 (4)
$\gamma_{11,2}(\text{Zn})$	1508,158 (7)	0,55 (4)
$\gamma_{24,4}(\text{Zn})$	1515,162 (20)	0,0062 (7)
$\gamma_{25,6}(\text{Zn})$	1523,279 (15)	0,0055 (7)
$\gamma_{30,10}(\text{Zn})$	1534,60 (4)	0,0057 (16)
$\gamma_{12,2}(\text{Zn})$	1554,62 (3)	0,0183 (18)
$\gamma_{13,2}(\text{Zn})$	1559,627 (10)	0,0219 (23)
$\gamma_{28,9}(\text{Zn})$	1577,308 (20)	0,0040 (7)
$\gamma_{14,2}(\text{Zn})$	1634,46 (7)	0,0035 (6)
$\gamma_{16,2}(\text{Zn})$	1703,59 (5)	0,0054 (19)
$\gamma_{23,3}(\text{Zn})$	1713,602 (12)	0,0243 (23)
$\gamma_{4,1}(\text{Zn})$	1740,904 (16)	0,029 (4)
$\gamma_{5,1}(\text{Zn})$	1787,44 (9)	0,0089 (10)
$\gamma_{17,2}(\text{Zn})$	1797,94 (9)	0,0019 (5)
$\gamma_{28,6}(\text{Zn})$	1868,105 (20)	0,0027 (6)
$\gamma_{2,0}(\text{Zn})$	1872,740 (6)	0,0229 (24)
$\gamma_{6,1}(\text{Zn})$	1898,823 (8)	0,39 (3)
$\gamma_{20,2}(\text{Zn})$	1918,329 (5)	1,99 (16)
$\gamma_{30,6}(\text{Zn})$	1927,96 (4)	0,0022 (8)
$\gamma_{22,2}(\text{Zn})$	2009,628 (16)	0,0031 (7)
$\gamma_{28,4}(\text{Zn})$	2026,016 (25)	0,0026 (6)
$\gamma_{7,1}(\text{Zn})$	2065,778 (7)	0,031 (3)
$\gamma_{30,4}(\text{Zn})$	2085,86 (4)	0,0021 (15)
$\gamma_{25,3}(\text{Zn})$	2088,985 (13)	0,011 (3)
$\gamma_{8,1}(\text{Zn})$	2173,319 (15)	0,084 (8)
$\gamma_{9,1}(\text{Zn})$	2189,616 (6)	5,3 (4)
$\gamma_{23,2}(\text{Zn})$	2213,181 (9)	0,131 (12)
$\gamma_{26,3}(\text{Zn})$	2265,84 (24)	0,0014 (5)
$\gamma_{10,1}(\text{Zn})$	2292,171 (13)	0,0170 (18)
$\gamma_{11,1}(\text{Zn})$	2341,673 (11)	0,0032 (7)
$\gamma_{13,1}(\text{Zn})$	2393,129 (7)	0,23 (2)
$\gamma_{24,2}(\text{Zn})$	2422,525 (7)	1,88 (15)
$\gamma_{28,3}(\text{Zn})$	2433,807 (18)	0,0074 (9)
$\gamma_{14,1}(\text{Zn})$	2467,97 (7)	0,0084 (10)
$\gamma_{15,1}(\text{Zn})$	2492,42 (3)	0,0222 (23)
$\gamma_{16,1}(\text{Zn})$	2537,09 (5)	0,0051 (12)
$\gamma_{25,2}(\text{Zn})$	2588,553 (13)	0,0263 (26)
$\gamma_{17,1}(\text{Zn})$	2631,44 (9)	0,0029 (11)
$\gamma_{18,1}(\text{Zn})$	2698,92 (5)	0,0037 (7)
$\gamma_{19,1}(\text{Zn})$	2713,73 (5)	0,0062 (19)
$\gamma_{20,1}(\text{Zn})$	2751,835 (5)	22,7 (18)
$\gamma_{4,0}(\text{Zn})$	2780,095 (16)	0,123 (10)
$\gamma_{21,1}(\text{Zn})$	2785,7 (3)	0,0030 (6)
$\gamma_{27,2}(\text{Zn})$	2802,8 (5)	0,0015 (4)
$\gamma_{22,1}(\text{Zn})$	2843,130 (16)	0,0017 (4)
$\gamma_{28,2}(\text{Zn})$	2933,358 (9)	0,213 (17)
$\gamma_{29,2}(\text{Zn})$	2977,08 (4)	0,023 (3)

	Energy keV	Photons per 100 disint.
$\gamma_{30,2}(\text{Zn})$	2993,21 (3)	0,031 (4)
$\gamma_{23,1}(\text{Zn})$	3046,684 (9)	0,057 (5)
$\gamma_{31,2}(\text{Zn})$	3085,4 (4)	0,0020 (5)
$\gamma_{8,0}(\text{Zn})$	3212,499 (19)	0,0019 (4)
$\gamma_{9,0}(\text{Zn})$	3228,800 (6)	1,51 (12)
$\gamma_{24,1}(\text{Zn})$	3256,021 (9)	0,094 (8)
$\gamma_{10,0}(\text{Zn})$	3331,351 (14)	0,0023 (30)
$\gamma_{11,0}(\text{Zn})$	3380,850 (6)	1,46 (12)
$\gamma_{25,1}(\text{Zn})$	3422,040 (8)	0,86 (7)
$\gamma_{13,0}(\text{Zn})$	3432,309 (7)	0,288 (24)
$\gamma_{(-1,4)}(\text{Zn})$	3724,8 (10)	0,0024 (4)
$\gamma_{18,0}(\text{Zn})$	3738,10 (5)	0,0138 (13)
$\gamma_{28,1}(\text{Zn})$	3766,850 (9)	0,149 (13)
$\gamma_{20,0}(\text{Zn})$	3791,004 (8)	1,09 (9)
$\gamma_{(-1,3)}(\text{Zn})$	3806,3 (10)	0,0024 (4)
$\gamma_{29,1}(\text{Zn})$	3810,59 (5)	0,0092 (11)
$\gamma_{(-1,2)}(\text{Zn})$	3827,5 (8)	0,0069 (10)
$\gamma_{23,0}(\text{Zn})$	4085,853 (9)	1,27 (10)
$\gamma_{24,0}(\text{Zn})$	4295,187 (10)	3,8 (3)
$\gamma_{25,0}(\text{Zn})$	4461,202 (9)	0,84 (7)
$\gamma_{28,0}(\text{Zn})$	4806,007 (9)	1,86 (15)
$\gamma_{30,0}(\text{Zn})$	4865,87 (4)	0,0028 (3)
$\gamma_{32,0}(\text{Zn})$	5005,6 (3)	0,00124 (18)

6 Main Production Modes

$$\left\{ \begin{array}{l} \text{Zn} - 66(\text{p},\text{n})\text{Ga} - 66 \\ \text{Possible impurities : Ga} - 68 \text{ (68min) and Ga} - 67 \text{ (3,3d)} \\ \text{Cu} - 63(\alpha,\text{n})\text{Ga} - 66 \end{array} \right.$$

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