

Recommended Nuclear Decay Data

Ba-133

Decay Mode: EC		Half-Life: (3848 ± 6) d		[2]	
Radiation Type		Energy (keV)	Intensity (%)		Ref.
Auger-L		3.55	133	6	[4]
Auger-K		25.5	13.8	16	[4]
ce-K-1		17.18	10.6	4	[4]
ce-K-2		43.64	3.43	16	[4]
ce-K-3		45.01	45.2	10	[4]
ce-L-1		47.45	1.45	20	[4]
ce-MNO-1		51.94	0.44	20	[4]
ce-L-2		73.91	0.54	10	[4]
ce-L-3		75.28	7.37	23	[4]
ce-MNOP-3		79.5	2.02	14	[4]
ce-K-7		266.87	0.70	6	[4]
ce-K-8		320.03	1.31	4	[4]
ce-K-9		347.87	0.154	5	[4]
ce-L-8		350.30	0.218	7	[4]
X-ray L	Σ	4.53	14.5	13	[2]
X-ray K α	Σ	30.85	98.0	14	[2]
X-ray K β	Σ	35.1	23.0	5	[2]
γ		53.16	2.199	22	[2]
γ		79.62	2.62	6	[2]
γ		81.00	34.06	27	[2]
γ		160.61	0.646	8	[2]
γ		223.25	0.450	4	[2]
γ		276.40	7.164	22	[2]
γ		302.85	18.33	6	[2]
γ		356.02	62.05	19	[2]
γ		383.85	8.94	3	[2]

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■ Decay Mode

α	Alpha
β^- , β^+	Beta
EC	Electron capture
IT	Isomeric transition

■ Half-Life

s	Seconds
m	Minutes
h	Hours
d	Days
y	Years

■ Energy

All energies are given in keV.
Normally there are energies listed with an intensity $\geq 1\%$.

■ Radiation Type

Auger-L/K	L or K-shell auger electron
ce-K-1	K-shell conversion electron transition 1
ce-L-2	L-shell conversion electron transition 2
α	Alpha particle
β^- max, β^+ max	Beta particle (maximal energy)
β^- av, β^+ av	Beta particle (average energy)
X-ray L	L X-ray
X-ray $K\alpha$, $K\beta$	K X-rays
γ	Gamma ray
γ Annih.	Annihilation radiation
Σ	Signifies weighted mean energies and intensities

■ Intensity

Values are given in percent. The format used for the uncertainties in the listed values can be illustrated by the following examples:

$$1.2 \quad 56 \quad = \quad 1.2 \pm 5.6$$
$$1.23 \quad 56 \quad = \quad 1.23 \pm 0.56$$

■ References

- [1] PTB-6.11-97-1, Braunschweig, Oktober 1997
- [2] PTB-Ra-16/5, Braunschweig, Mai 2000
- [3] LMRI. Table de radionuclides. 1982 ff
- [4] NCRP Report No.58, 2nd Edition, February 1985
- [5] Table de Radionuclides, BNM-CEA/DTA/LPRI Commissariat à l'Énergie Atomique – France 1999
- [6] National Nuclear Data Center USA, Brookhaven National Laboratory Upton N.Y.
- [7] Table of Isotopes, 8th Edition, 1996
- [8] BNM-CEA/DTA/DAMRI Nuclear and Atomic Decay Data ; 19/12/98

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