

# Recommended Nuclear Decay Data

## Co-57

Decay Mode: EC		Half-Life: (271.83 ± 0.08) d					[2]
Radiation Type		Energy (keV)		Intensity (%)		Ref.	
Auger-L		0.6	- 0.7	255	16	[3]	
Auger-K		5.37	- 7.10	106	3	[3]	
ce-K-1		7.31		70.2	4	[3]	
ce-LMN-1		13.56		7.57	24	[3]	
ce-K-2		114.95		1.63	10	[3]	
ce-LMN-2		129.36		0.18	1	[3]	
ce-K-3		129.36		1.43	4	[3]	
ce-LMN-3		135.62		0.172	15	[3]	
X-ray L		0.71		1.27	21	[2]	
X-ray K	Σ	6.48		57.9	8	[2]	
γ		14.41		9.16	15	[2]	
γ		122.06		85.60	17	[2]	
γ		136.47		10.68	8	[2]	
γ		230.40		0.00040	12	[2]	
γ		339.69		0.0037	11	[2]	
γ		352.33		0.0030	9	[2]	
γ		366.80		0.0012	4	[2]	
γ		570.09		0.016	5	[2]	
γ		692.41		0.149	10	[2]	
γ		706.54		0.0050	15	[2]	

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## ■ Decay Mode

$\alpha$	Alpha
$\beta^-$ , $\beta^+$	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
$\alpha$	Alpha particle
$\beta^-$ max, $\beta^+$ max	Beta particle (maximal energy)
$\beta^-$ av, $\beta^+$ av	Beta particle (average energy)
X-ray L	L X-ray
X-ray $K\alpha$ , $K\beta$	K X-rays
$\gamma$	Gamma ray
$\gamma$ Annih.	Annihilation radiation
$\Sigma$	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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