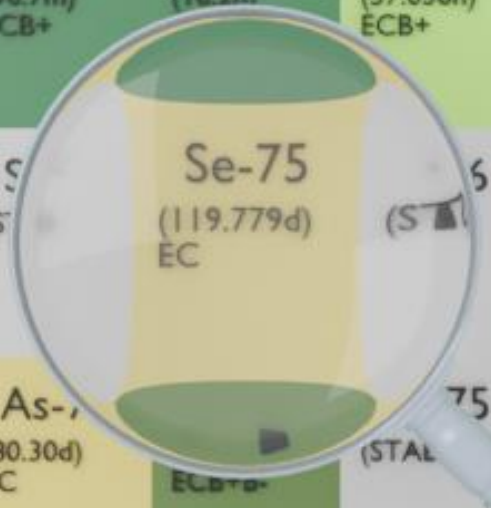




Bi-72 (78.6s) CB+	Bi-73 (3.4m) ECB+	Bi-74 (25.4m) ECB+	Bi-75 (96.7m) ECB+	Bi-76 (16.2h) (S)	Bi-77 (57.036h) ECB+	Bi-78 (6.46m) ECB+B-	Bi-79 (STABLE)	Bi-80 (17.68m) B-ECB+
Se-71 (1.74m) CB+	Se-72 (8.40d) EC	Se-73 (7.15h) ECB+	Se-74 (STABLE)	Se-75 (119.779d) EC	Se-76 (STABLE)	Se-77 (STABLE)	Se-78 (STABLE)	Se-79 (2.95E+5y) B-
As-70 (52.6m) CB+	As-71 (65.28h) ECB+	As-72 (26.0h) ECB+	As-73 (80.30d) EC	As-74 (STABLE)	As-75 (STABLE)	As-76 (1.0778d) B-	As-77 (38.83h) B-	As-78 (90.7m) B-

SELENIUM-75

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Se-75
Atomic number (Z): 34
Mass number (A): 75
Neutron number (N): 41

RADIOACTIVE DECAY

Decay modes: Electron capture
Half-life: 119.8 [d]
Decay constant: 6.6978×10^{-8} [1/s]
Daughters: As-75 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.01444 [MeV]
Mean photon energy: 0.38898 [MeV]
Air kerma rate constant, Γ_{10} : 4.246×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 4.246×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 2.314×10^{-15} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy $\cdot$ kg/Bq $\cdot$ s]

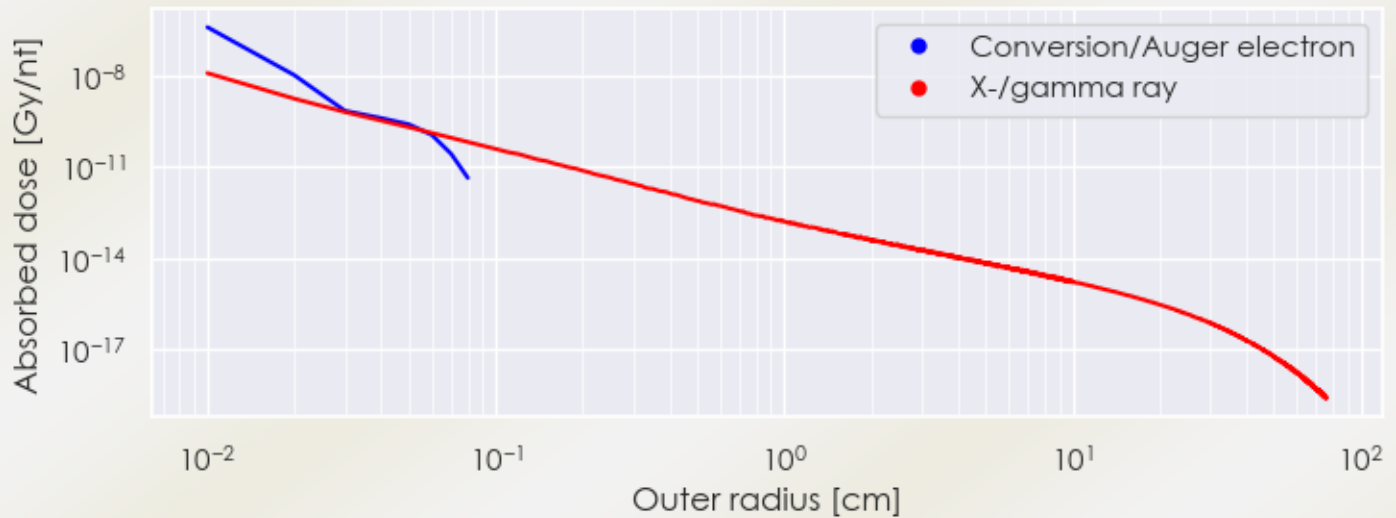
Equilibrium dose constant for betas/electrons, $\Delta_{\beta-, \beta+, e-}$: 2.314×10^{-15} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 6.232×10^{-14} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

Dose point kernel source: **Graves, et al. Medical Physics. 2019 Nov.; 46(11):5284-5293.**

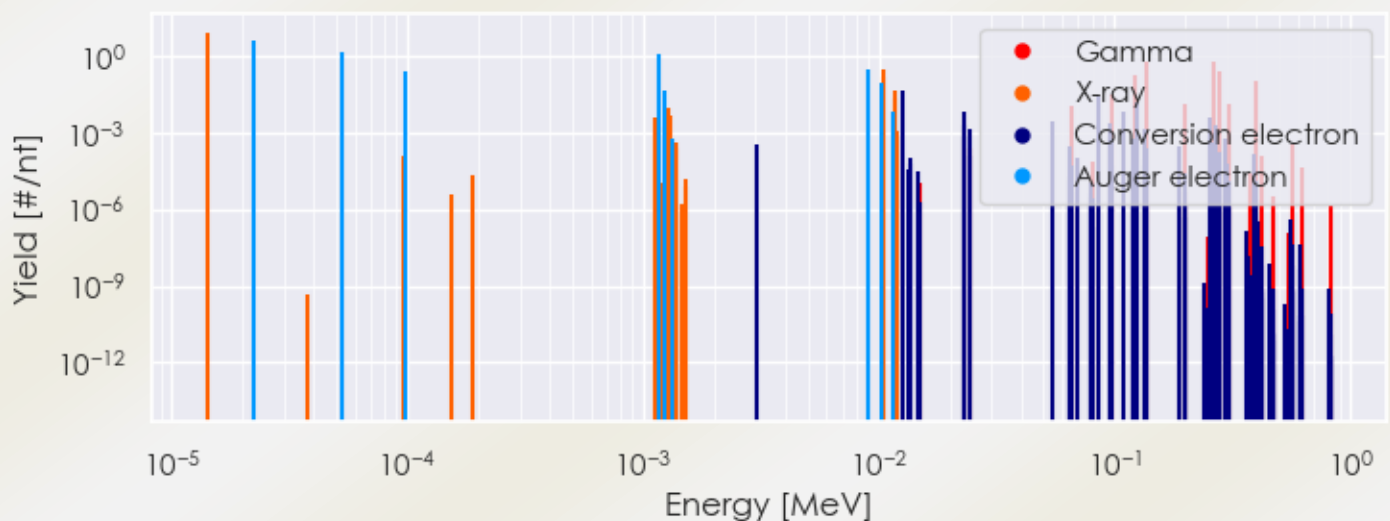
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Se-75 DPK.csv

SUMMARY SPECTRA (PLOT)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Se-75 Summary Spectrum.csv

TABULATED DATA

SUMMARY SPECTRA (TABLE)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**

Note: Radiations with yield < 0.01 are excluded from the table, but are available in the linked *.csv data.

Download tabulated summary spectra file here: [www.mirdsoft.org/products/MIRDspecs/Se-75 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Se-75%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [#]/nt] if > 0.01	Radiation type
1.42086e-05	8.882e+00	X-ray
1.04633e-02	1.634e-01	X-ray
1.05007e-02	3.165e-01	X-ray
1.16800e-02	2.160e-02	X-ray
1.16852e-02	4.219e-02	X-ray
6.60518e-02	1.112e-02	Gamma
9.67340e-02	3.420e-02	Gamma
1.21116e-01	1.720e-01	Gamma
1.36000e-01	5.825e-01	Gamma
1.98606e-01	1.478e-02	Gamma
2.64658e-01	5.890e-01	Gamma
2.79542e-01	2.499e-01	Gamma
3.03924e-01	1.316e-02	Gamma
4.00657e-01	1.147e-01	Gamma
2.23274e-05	4.187e+00	Auger electron
5.24624e-05	1.544e+00	Auger electron
9.87300e-05	2.589e-01	Auger electron
1.15652e-03	1.291e+00	Auger electron
1.22349e-03	4.580e-02	Auger electron
9.06608e-03	3.321e-01	Auger electron
1.02994e-02	9.430e-02	Auger electron
1.25525e-02	4.481e-02	Conversion electron
8.49050e-02	2.648e-02	Conversion electron
1.24171e-01	1.544e-02	Conversion electron

USEFUL LINKS

Isotope decay characteristics are periodically updated as better measurements can be made - changes that may not be reflected on this page. Please see useful links:

National Nuclear Data Center (NNDC): <https://www.nndc.bnl.gov/nudat3/mird/>

International Atomic Energy Agency (IAEA) Livechart: <https://www-nds.iaea.org/relnsd/vcharthtml/VChartHTML.html>

REFERENCE LINKS

ICRP Report 107: <https://www.icrp.org/publication.asp?id=ICRP%20Publication%20107>

Graves et al. Dose Point Kernels: <https://doi.org/10.1002/mp.13789>

MIRD Decay Schemes 2nd Edition: https://sites.snmmi.org/SNMML-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6