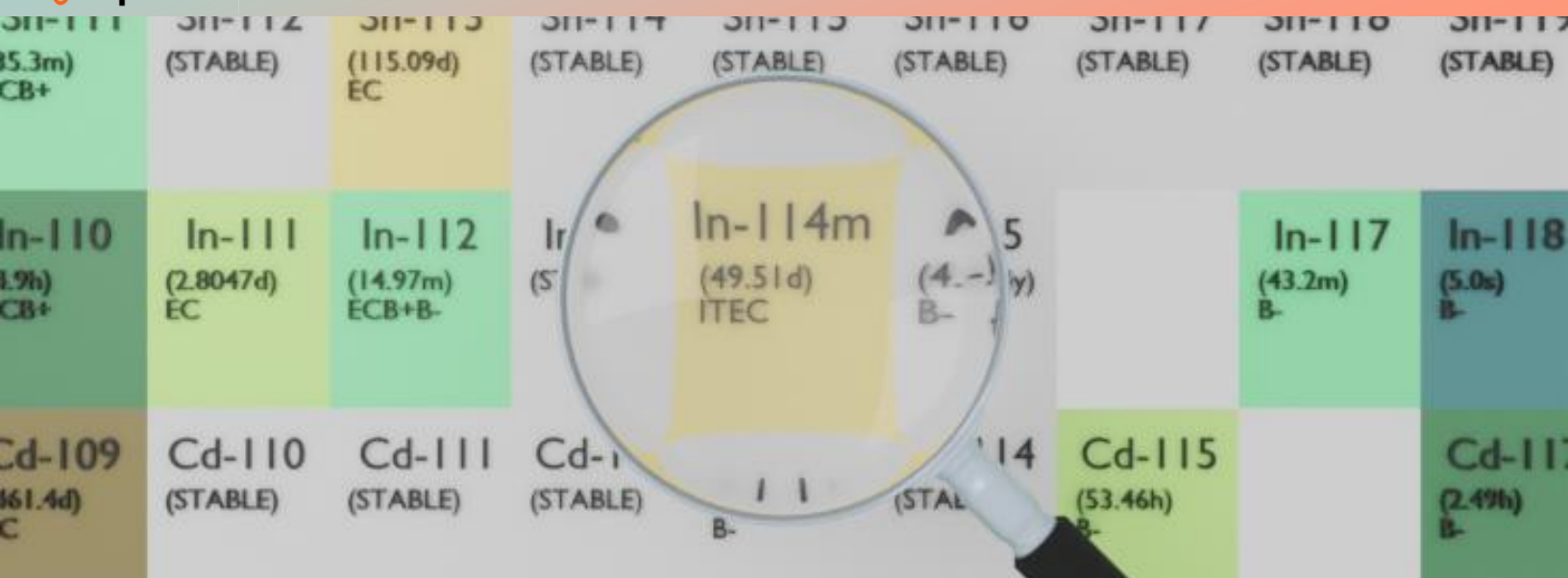




Sn-111 (5.3m) CB+	Sn-112 (STABLE)	Sn-113 (115.09d) EC	Sn-114 (STABLE)	Sn-115 (STABLE)	Sn-116 (STABLE)	Sn-117 (STABLE)	Sn-118 (STABLE)	Sn-119 (STABLE)
In-110 (1.9h) CB+	In-111 (2.8047d) EC	In-112 (14.97m) ECB+B-	In-113 (STABLE)	In-114m (49.51d) ITEC	In-115 (4.41y) B-	In-116 (6.07y) B-	In-117 (43.2m) B-	In-118 (5.0s) B-
Cd-109 (161.4d) EC	Cd-110 (STABLE)	Cd-111 (STABLE)	Cd-112 (STABLE)	Cd-113 (STABLE)	Cd-114 (STABLE)	Cd-115 (53.46h) B-	Cd-116 (STABLE)	Cd-117 (2.49h) B-

INDIUM-114M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: In-114m
Atomic number (Z): 49
Mass number (A): 114
Neutron number (N): 65

RADIOACTIVE DECAY

Decay modes: Electron capture, Internal transition
Half-life: 49.51 [d]
Decay constant: 1.6204×10^{-7} [1/s]
Daughters: In-114 (96.8%), Cd-114 (3.25%)
Radioactive daughters: In-114

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.145 [MeV]
Mean photon energy: 0.08041 [MeV]
Air kerma rate constant, Γ_{10} : 5.787×10^{-18} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 5.787×10^{-18} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 2.323×10^{-14} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy $\cdot$ kg/Bq $\cdot$ s]

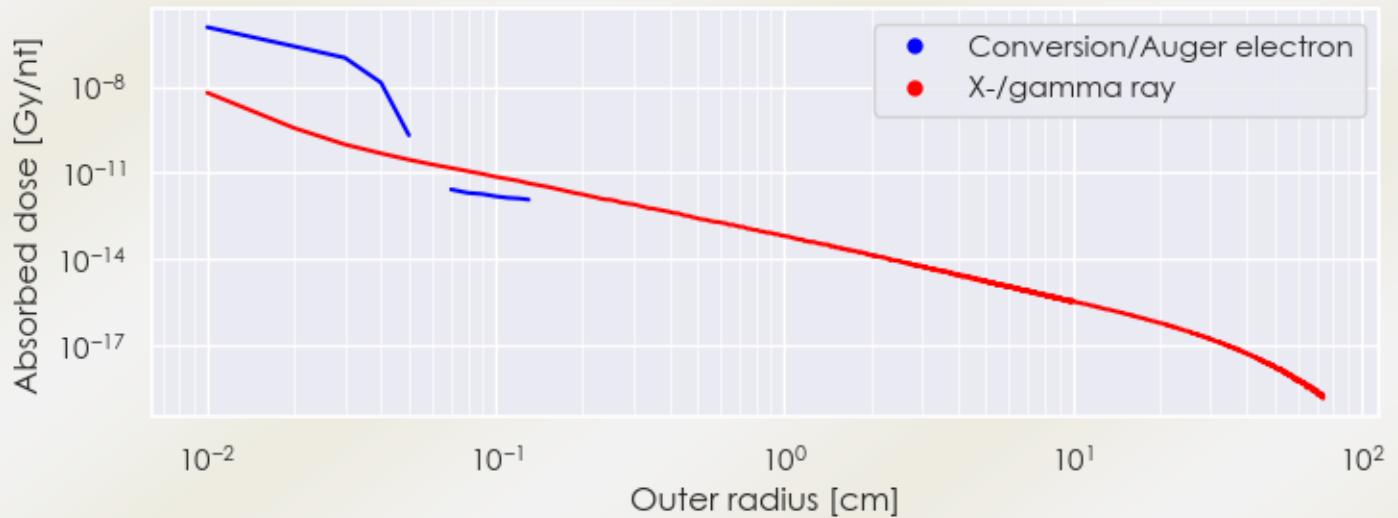
Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta^+, e^-}$: 2.323×10^{-14} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.288×10^{-14} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

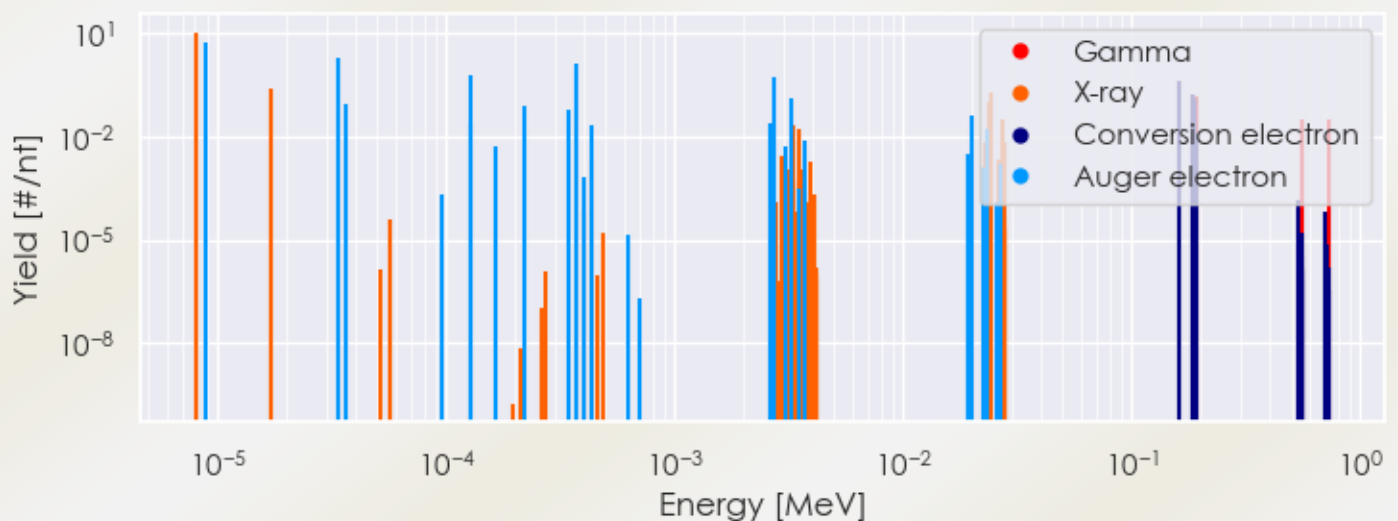
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/In-114m 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/In-114m 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/In-114m Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/In-114m%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# / n ^t] if > 0.01	Radiation type
8.13203e-06	1.060e+01	X-ray
1.71471e-05	2.431e-01	X-ray
3.27540e-03	2.037e-02	X-ray
3.48147e-03	1.587e-02	X-ray
2.31527e-02	1.266e-02	X-ray
2.39785e-02	9.774e-02	X-ray
2.41926e-02	1.834e-01	X-ray
2.72214e-02	1.636e-02	X-ray
2.72603e-02	3.177e-02	X-ray
1.90270e-01	1.556e-01	Gamma
5.58430e-01	3.242e-02	Gamma
7.25240e-01	3.242e-02	Gamma
8.84501e-06	5.260e+00	Auger electron
3.36377e-05	1.831e+00	Auger electron
3.67688e-05	8.595e-02	Auger electron
1.27610e-04	5.712e-01	Auger electron
1.27964e-04	2.507e-02	Auger electron
2.22445e-04	8.132e-02	Auger electron
3.45409e-04	5.984e-02	Auger electron
3.70307e-04	1.321e+00	Auger electron
4.33774e-04	2.153e-02	Auger electron
2.61115e-03	2.303e-02	Auger electron
2.73402e-03	5.193e-01	Auger electron
3.21253e-03	1.268e-01	Auger electron
2.00957e-02	3.994e-02	Auger electron
2.34091e-02	1.672e-02	Auger electron
1.62349e-01	3.978e-01	Conversion electron

1.86056e-01	3.724e-02	Conversion electron
1.86328e-01	1.605e-01	Conversion electron
1.86542e-01	1.277e-01	Conversion electron
1.89609e-01	6.924e-02	Conversion electron
1.90270e-01	1.318e-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