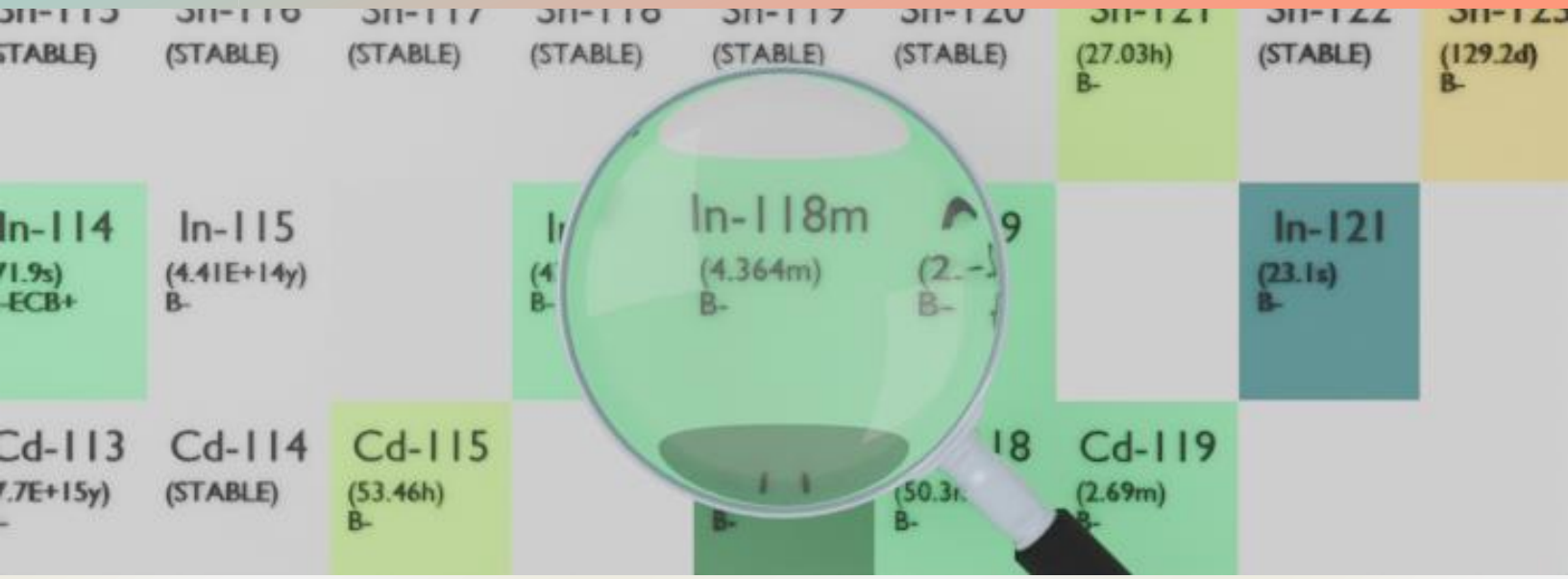


INDIUM-118M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: In-118m
Atomic number (Z): 49
Mass number (A): 118
Neutron number (N): 69

RADIOACTIVE DECAY

Decay modes: β-
Half-life: 4.364 [m]
Decay constant: 2.6472e-03 [1/s]
Daughters: Sn-118 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

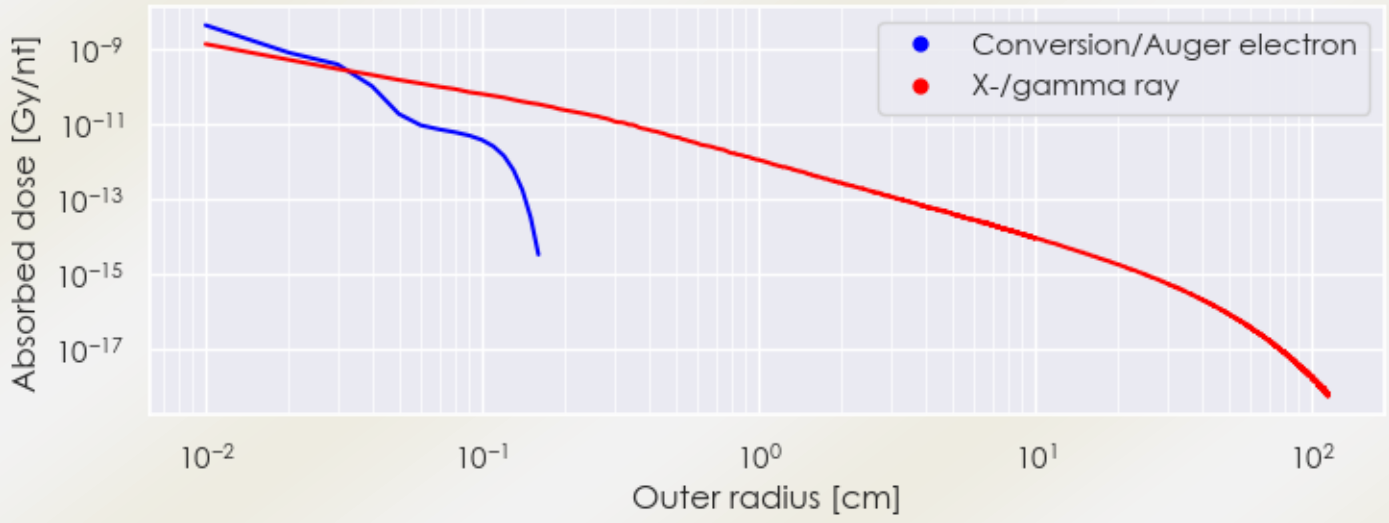
Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.67081 [MeV]
Mean photon energy: 2.77649 [MeV]
Air kerma rate constant, Γ_{10}: 9.705e-17 [Gy·m²/Bq·s]
Air kerma coefficient, K_{air}: 9.705e-17 [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (a and/or electrons), Δ_{wp}: 1.075e-13 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{a}: 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta-,\beta+,e-}$: 1.075e-13 [Gy·kg/Bq·s]
Equilibrium dose constant for photons, Δ_{p}: 4.448e-13 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

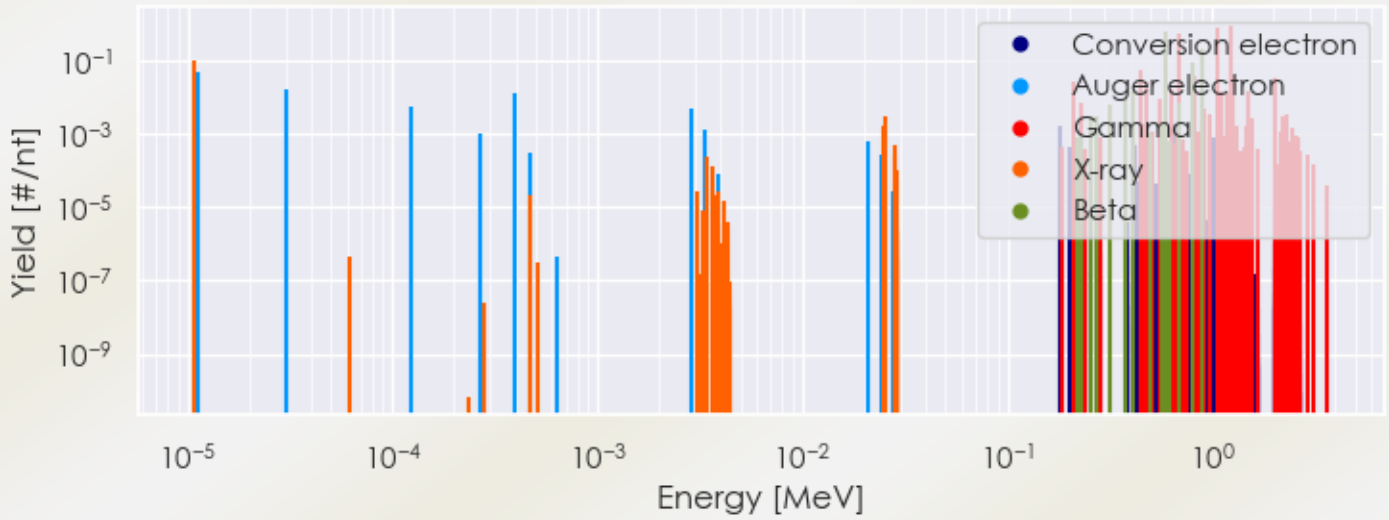
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/In-118m DPK.csv

SUMMARY SPECTRA (PLOT)

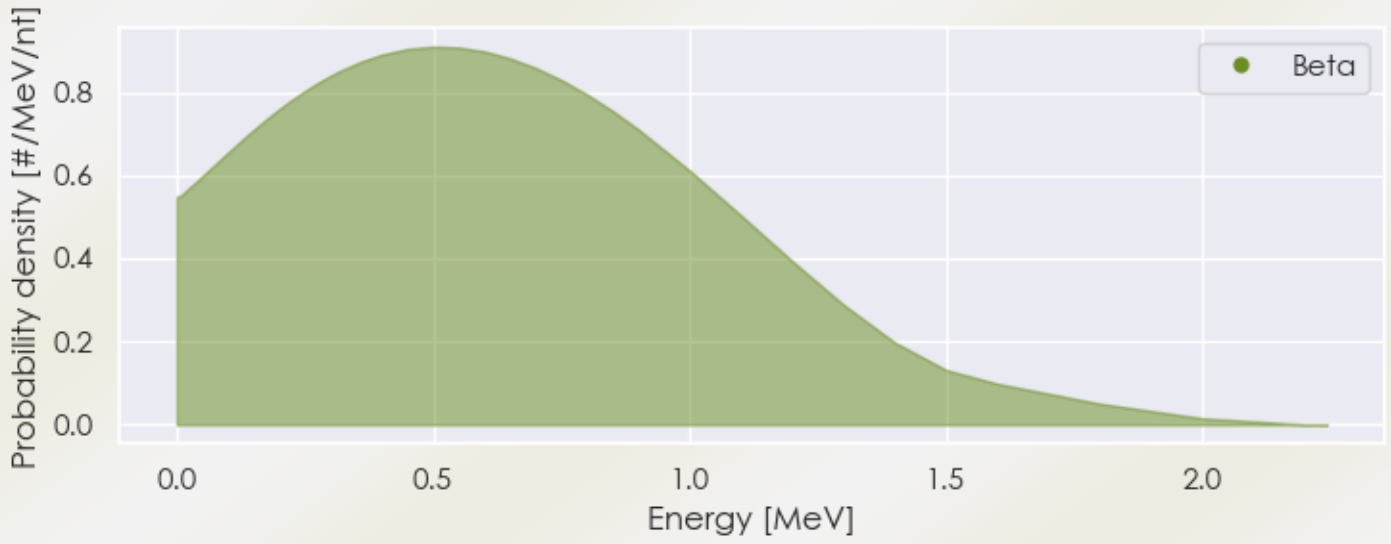
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/In-118m Summary Spectrum.csv

BETA SPECTRA (PLOT)

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



Download tabulated beta spectra file here: www.mirdsoft.org/products/MIRDspecs/In-118m Beta 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-118m Summary Spectrum.csv

Energy [MeV]	Yield [#/nt] if > 0.01	Radiation type
1.08542e-05	1.043e-01	X-ray
2.08520e-01	2.602e-02	Gamma
4.45980e-01	5.530e-02	Gamma
4.74570e-01	2.880e-02	Gamma
6.35400e-01	1.699e-02	Gamma
6.38610e-01	1.315e-02	Gamma
6.83060e-01	5.434e-01	Gamma
8.13200e-01	3.725e-02	Gamma
1.05065e+00	8.102e-01	Gamma

1.09500e+00	1.440e-02	Gamma
1.09820e+00	1.536e-02	Gamma
1.17352e+00	1.373e-02	Gamma
1.22964e+00	9.600e-01	Gamma
1.25918e+00	3.830e-02	Gamma
1.50410e+00	1.584e-02	Gamma
2.04277e+00	3.485e-02	Gamma
4.09213e-01	1.551e-02	Beta
5.86673e-01	6.369e-01	Beta
7.99250e-01	8.731e-02	Beta
8.94376e-01	2.260e-01	Beta
1.13300e-05	5.155e-02	Auger electron
3.03736e-05	1.771e-02	Auger electron
3.96165e-04	1.295e-02	Auger 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/SNMMI-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6