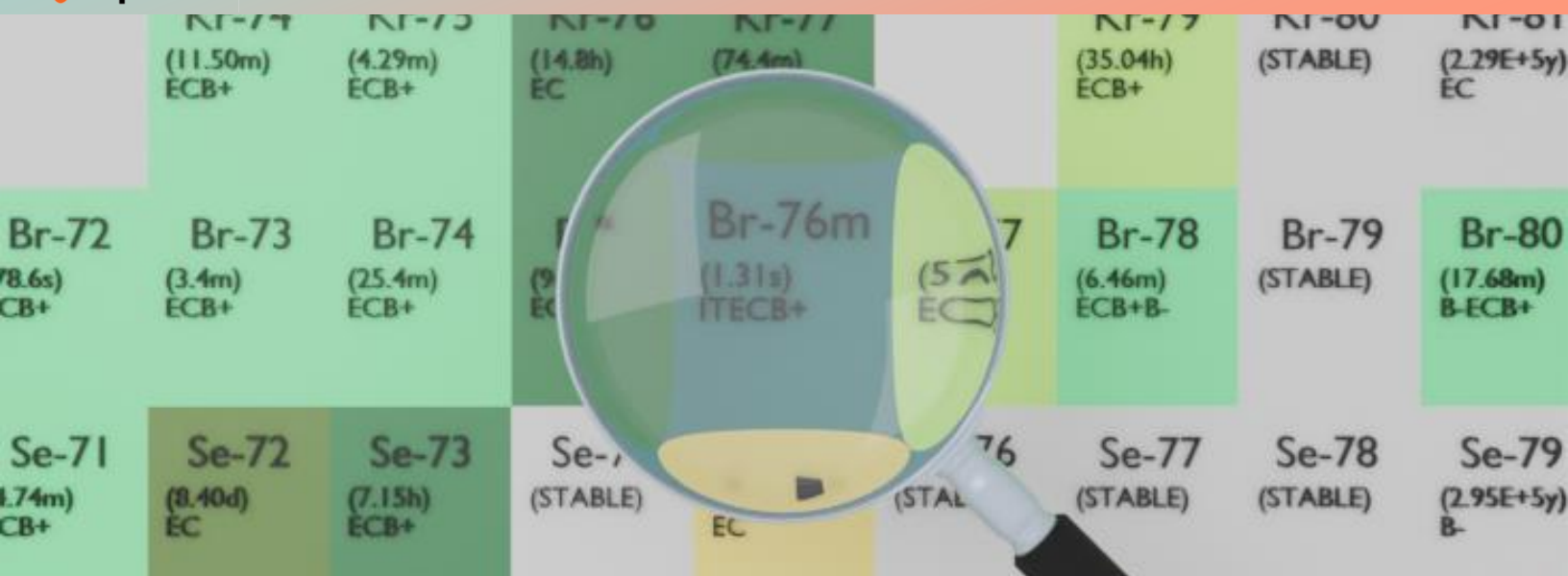




BROMINE-76M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Br-76m
Atomic number (Z): 35
Mass number (A): 76
Neutron number (N): 41

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture, Internal transition
Half-life: 1.31 [s]
Decay constant: 5.2912e-01 [1/s]
Daughters: Br-76 (99.7%), Se-76 (0.3%)
Radioactive daughters: Br-76

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.06902 [MeV]
Mean photon energy: 0.04328 [MeV]
Air kerma rate constant, Γ_{10} : 3.200e-17 [Gy·m²/Bq·s]
Air kerma coefficient, K_{air} : 3.211e-17 [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 1.106e-14 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy·kg/Bq·s]

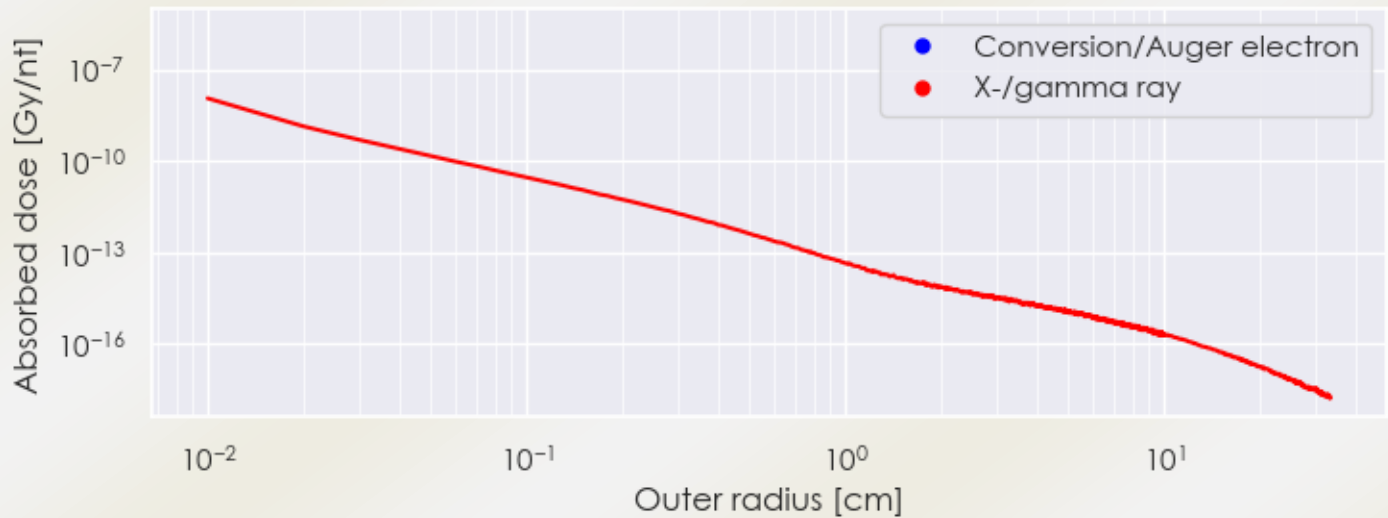
Equilibrium dose constant for betas/electrons, $\Delta_{\beta-, \beta+, e-}$: 1.106×10^{-14} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 6.934×10^{-15} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

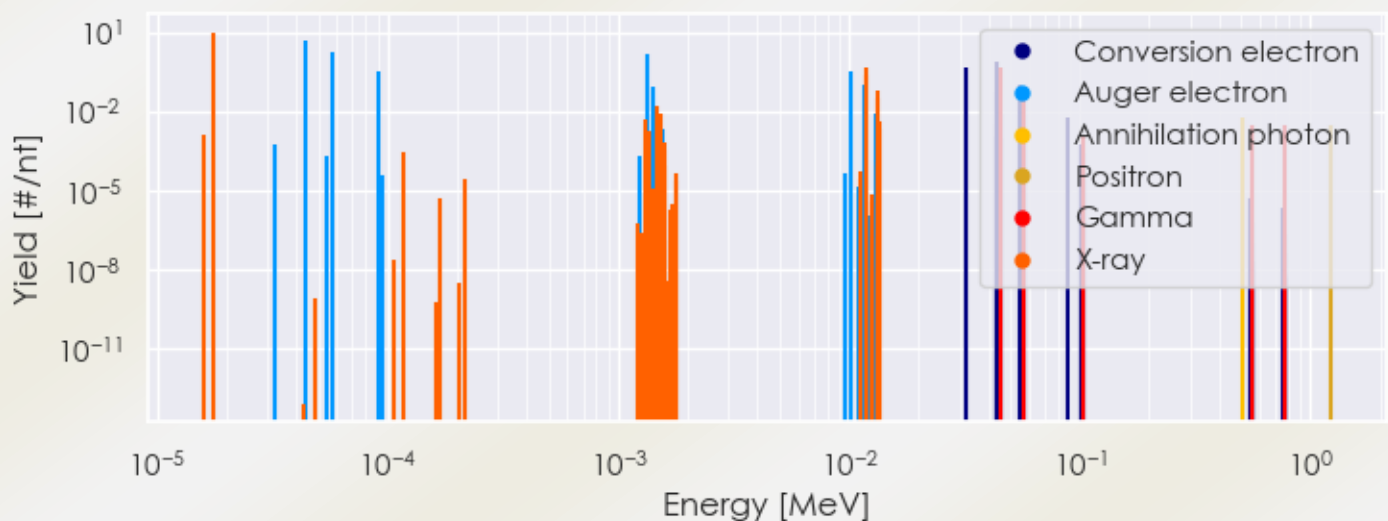
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Br-76m DPK.csv

SUMMARY SPECTRA (PLOT)

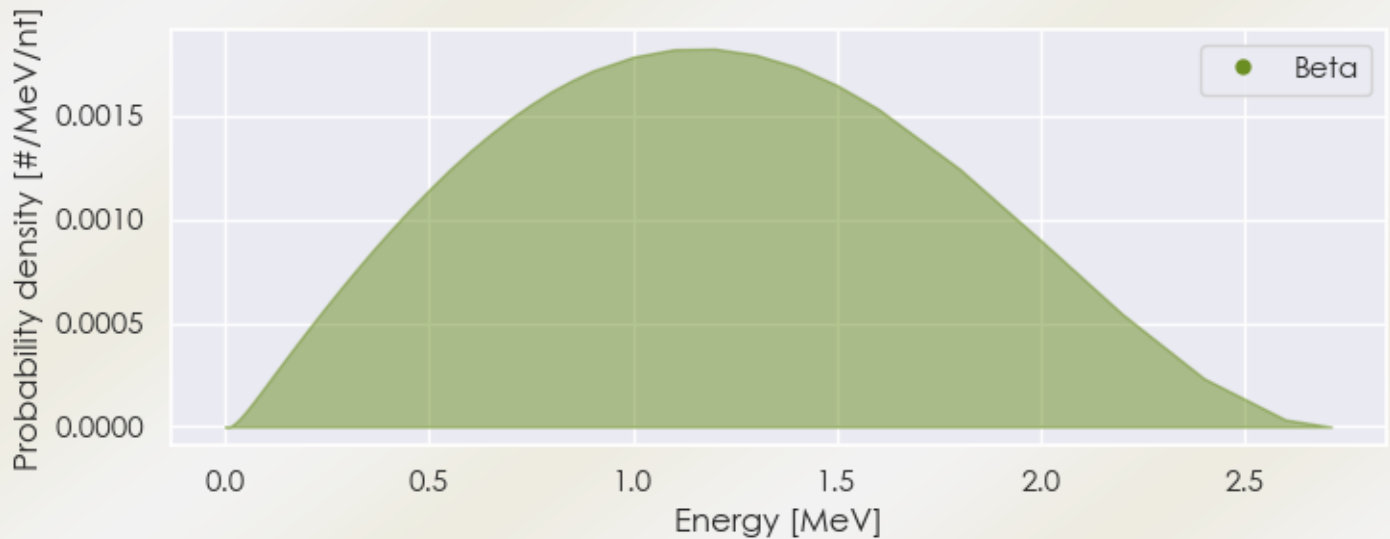
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Br-76m 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/Br-76m 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/Br-76m Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.75893e-05	1.004e+01	X-ray
1.47515e-03	1.516e-02	X-ray
1.18329e-02	2.193e-01	X-ray
1.18814e-02	4.235e-01	X-ray
1.32432e-02	3.025e-02	X-ray
1.32502e-02	5.903e-02	X-ray
4.54800e-02	4.835e-01	Gamma
5.71100e-02	9.073e-02	Gamma
4.38571e-05	4.518e+00	Auger electron
5.77097e-05	1.745e+00	Auger electron

9.07436e-05	3.112e-01	Auger electron
1.32091e-03	1.500e+00	Auger electron
1.41188e-03	8.906e-02	Auger electron
1.02029e-02	3.509e-01	Auger electron
1.16354e-02	1.073e-01	Auger electron
3.20450e-02	4.576e-01	Conversion electron
4.36750e-02	7.416e-01	Conversion electron
4.37108e-02	4.797e-02	Conversion electron
5.53408e-02	9.493e-02	Conversion electron
5.55564e-02	1.351e-02	Conversion electron
5.69252e-02	1.961e-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