

KU-72 (3.65m) CB+		KU-74 (51.8m) ECB+	KU-75 (1.643h) ECB+	KU-76 (STABLE)	KU-77 (2.9d) EC	KU-78 (STABLE)	KU-79 (STABLE)	KU-100 (STABLE)
Tc-91 (1.14m) CB+	Tc-92 (4.25m) ECB+	Tc-93 (2.75h) ECB+	Tc-94 (2.4h) EC	Tc-95m (61d) ECB+IT	Tc-96 (4.2d) EC	Tc-97 (2.6E+6y) EC	Tc-98 (4.2E+6y) B-	Tc-99 (2.111E+5y) B-
Mo-90 (5.56h) CB+	Mo-91 (15.49m) ECB+	Mo-92 (STABLE)	Mo-93 (4.0E+3y) EC	Mo-94 (STABLE)	Mo-95 (STABLE)	Mo-96 (STABLE)	Mo-97 (STABLE)	Mo-98 (STABLE)

TECHNETIUM-95M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Tc-95m
Atomic number (Z): 43
Mass number (A): 95
Neutron number (N): 52

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture, Internal transition
Half-life: 61.0 [d]
Decay constant: 1.3152×10^{-7} [1/s]
Daughters: Tc-95 (3.88%), Mo-95 (96.1%)
Radioactive daughters: Tc-95

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.01544 [MeV]
Mean photon energy: 0.68874 [MeV]
Air kerma rate constant, Γ_{10} : 3.631×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 3.648×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 2.474×10^{-15} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy $\cdot$ kg/Bq $\cdot$ s]

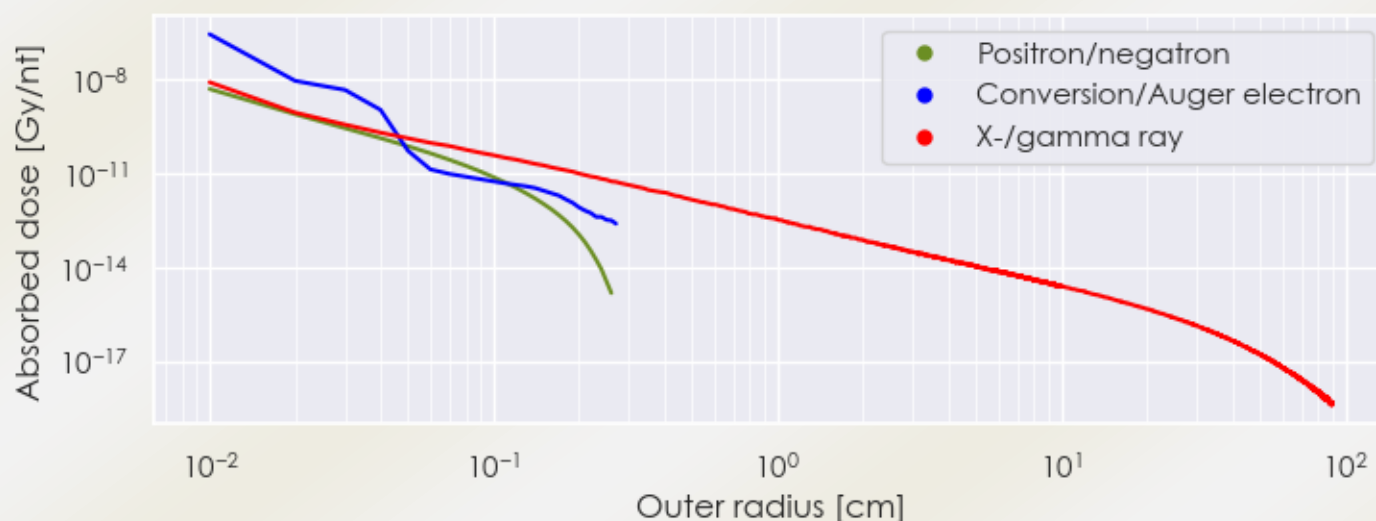
Equilibrium dose constant for betas/electrons, $\Delta_{\beta,\beta^+,e^-}$: 2.474×10^{-15} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.103×10^{-13} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

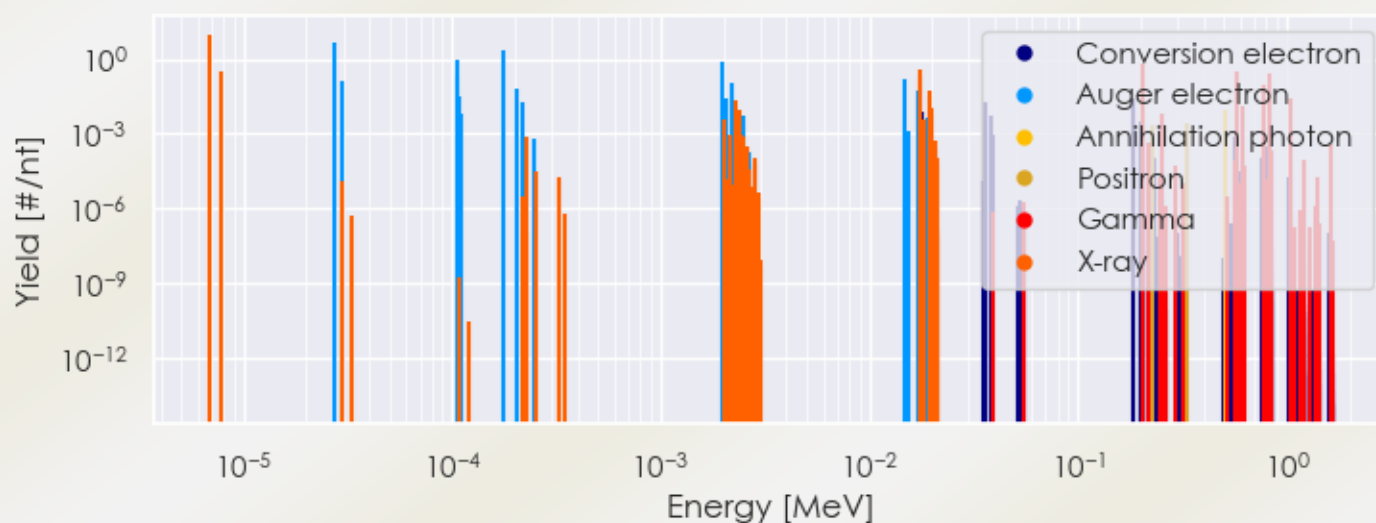
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Tc-95m DPK.csv

SUMMARY SPECTRA (PLOT)

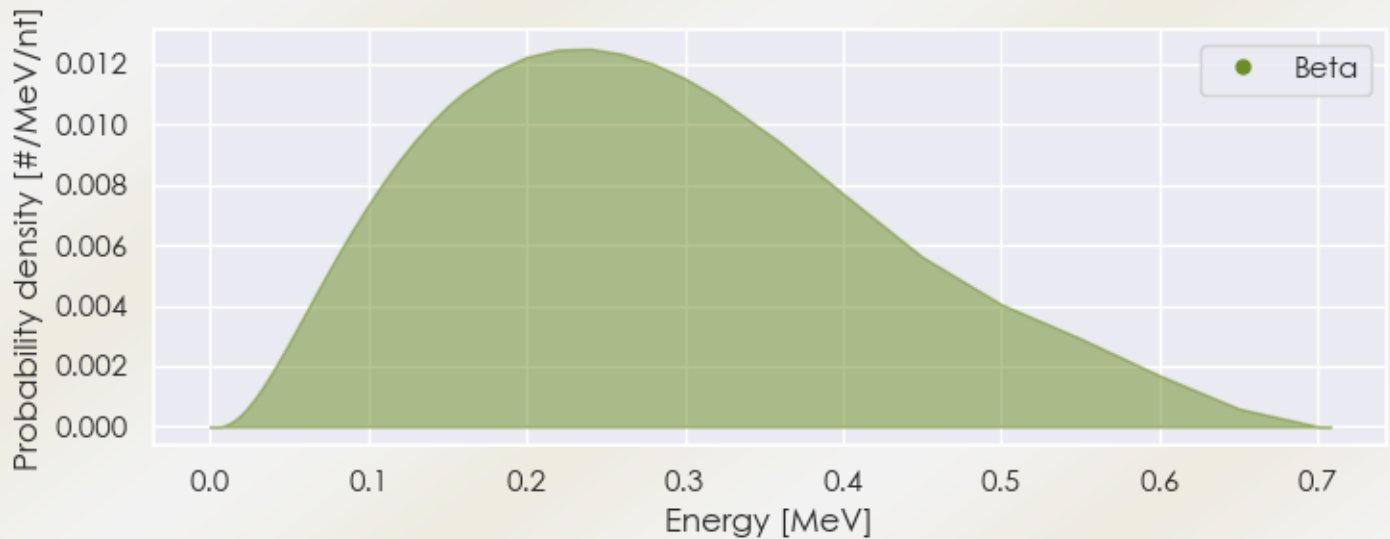
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Tc-95m 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/Tc-95m 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/Tc-95m Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
6.84801e-06	9.991e+00	X-ray
7.87444e-06	3.162e-01	X-ray
2.28400e-03	2.062e-02	X-ray
1.73355e-02	1.899e-01	X-ray
1.74440e-02	3.619e-01	X-ray
1.95554e-02	2.949e-02	X-ray
1.95734e-02	5.740e-02	X-ray
1.99225e-02	1.049e-02	X-ray
2.04117e-01	6.325e-01	Gamma
5.82082e-01	2.996e-01	Gamma

6.16490e-01	1.284e-02	Gamma
7.86198e-01	8.659e-02	Gamma
8.20624e-01	4.712e-02	Gamma
8.35149e-01	2.663e-01	Gamma
1.03926e+00	2.777e-02	Gamma
2.73601e-05	4.627e+00	Auger electron
2.93687e-05	1.385e-01	Auger electron
1.06652e-04	8.801e-01	Auger electron
1.06858e-04	1.965e-01	Auger electron
1.09057e-04	2.928e-02	Auger electron
1.76247e-04	2.108e+00	Auger electron
2.04048e-04	6.995e-02	Auger electron
2.18190e-04	2.020e-02	Auger electron
1.95198e-03	8.394e-01	Auger electron
2.03956e-03	2.693e-02	Auger electron
2.20130e-03	1.189e-01	Auger electron
1.47064e-02	1.448e-01	Auger electron
1.69714e-02	5.362e-02	Auger electron
3.62224e-02	1.724e-02	Conversion electron
1.84152e-01	2.860e-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/SNMMI-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6