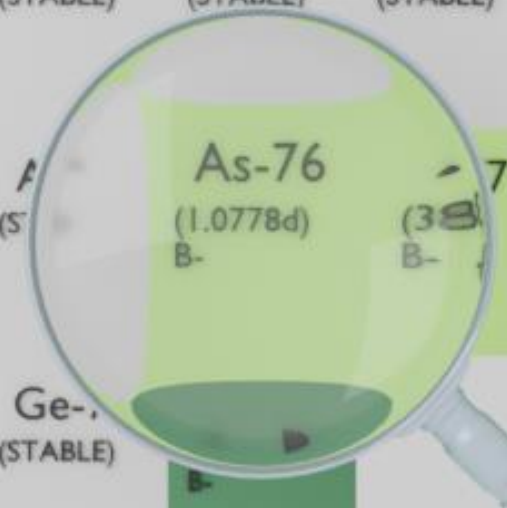




Se-73 (7.15h) CB+	Se-74 (STABLE)	Se-75 (119.779d) EC	Se-76 (STABLE)	Se-77 (STABLE)	Se-78 (STABLE)	Se-79 (2.95E+5y) B-	Se-80 (STABLE)	Se-81 (18.45m) B-
As-72 (26.0h) CB+	As-73 (80.30d) EC	As-74 (17.77d) ECB+B-	As-76 (1.0778d) B-	As-77 (38.9h) B-	As-78 (90.7m) B-	As-79 (9.01m) B-		
Ge-71 (11.43d) C	Ge-72 (STABLE)	Ge-73 (STABLE)	Ge-74 (STABLE)	Ge-75 (STABLE)	Ge-76 (B-)	Ge-77 (11.30h) B-	Ge-78 (88m) B-	

ARSENIC-76

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: As-76
Atomic number (Z): 33
Mass number (A): 76
Neutron number (N): 43

RADIOACTIVE DECAY

Decay modes: β^-
Half-life: 1.078 [d]
Decay constant: $7.4434\text{e-}06$ [1/s]
Daughters: Se-76 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 1.06699 [MeV]
Mean photon energy: 0.41658 [MeV]
Air kerma rate constant, Γ_{10} : $1.525\text{e-}17$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Air kerma coefficient, K_{air} : $1.525\text{e-}17$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $1.710\text{e-}13$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]

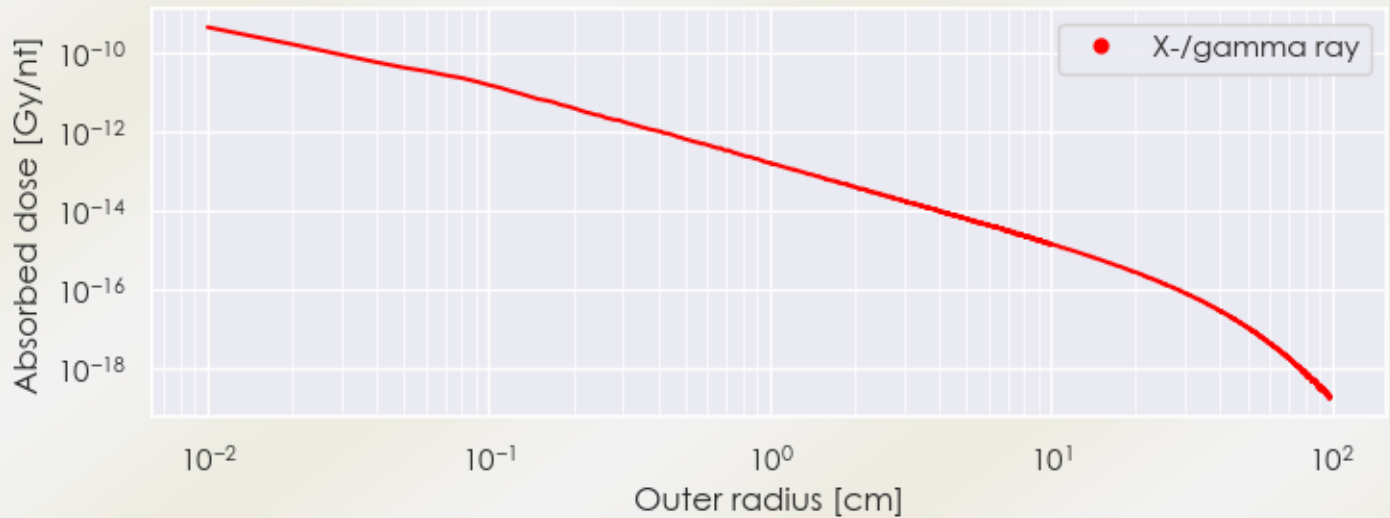
Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta+, e-}$: 1.710×10^{-13} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 6.674×10^{-14} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

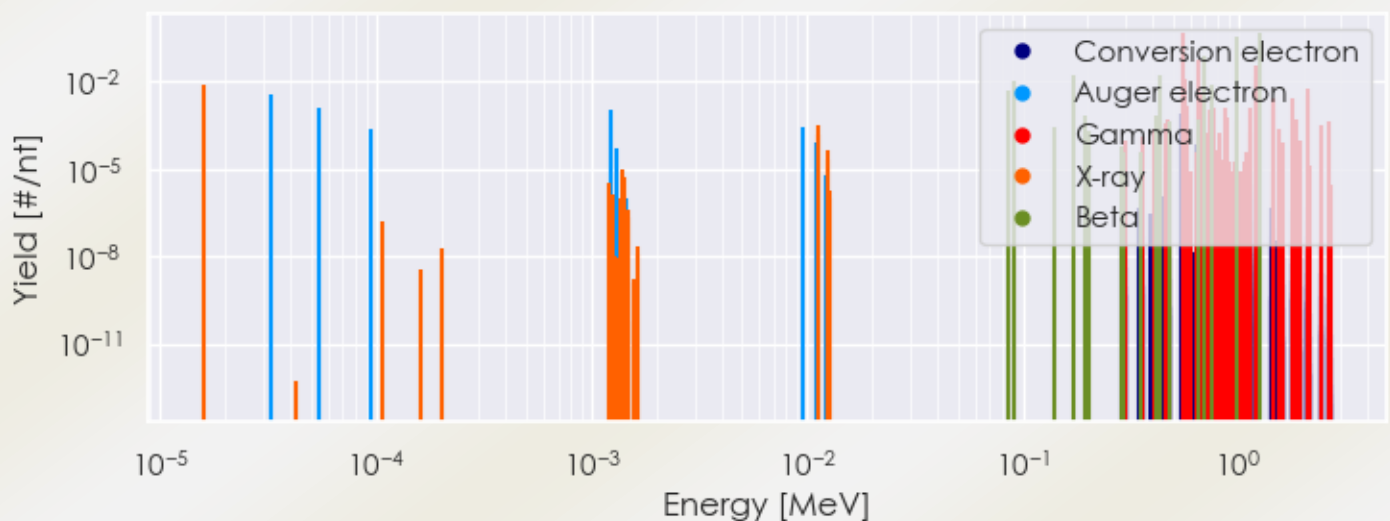
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



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

SUMMARY SPECTRA (PLOT)

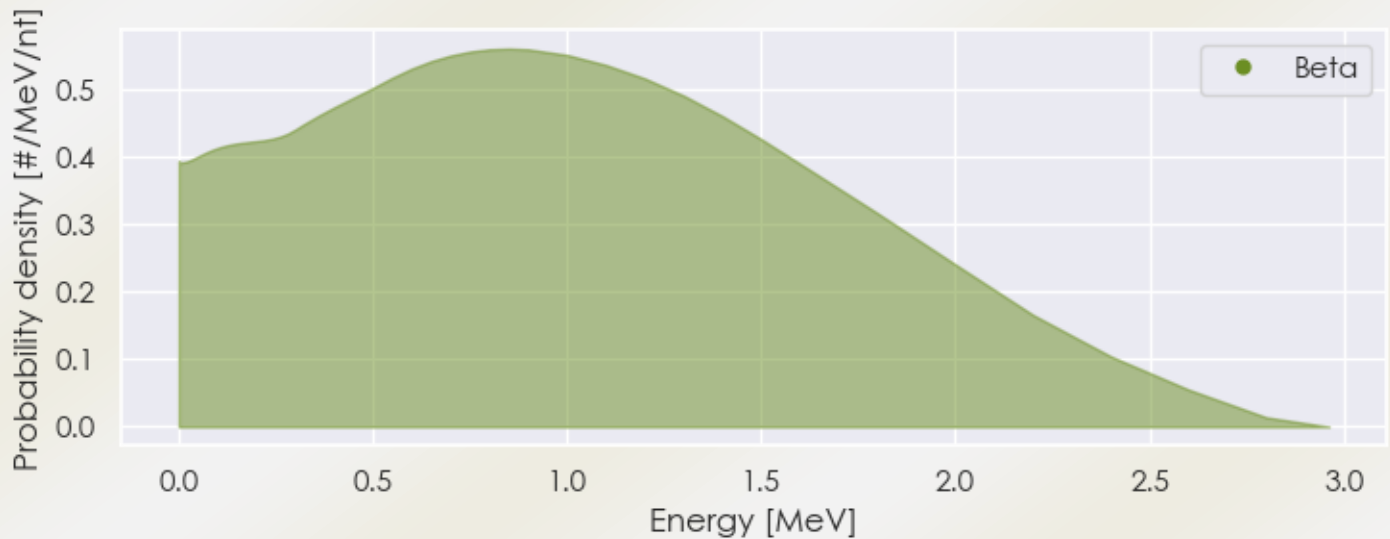
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



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

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
5.59100e-01	4.500e-01	Gamma
5.63230e-01	1.201e-02	Gamma
6.57050e-01	6.165e-02	Gamma
1.21292e+00	1.440e-02	Gamma
1.21608e+00	3.420e-02	Gamma
1.22852e+00	1.215e-02	Gamma
9.04467e-02	1.032e-02	Beta
1.71079e-01	1.693e-02	Beta
4.33361e-01	1.773e-02	Beta
6.88418e-01	7.512e-02	Beta

9.92929e-01	3.526e-01	Beta
1.26366e+00	5.108e-01	Beta

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