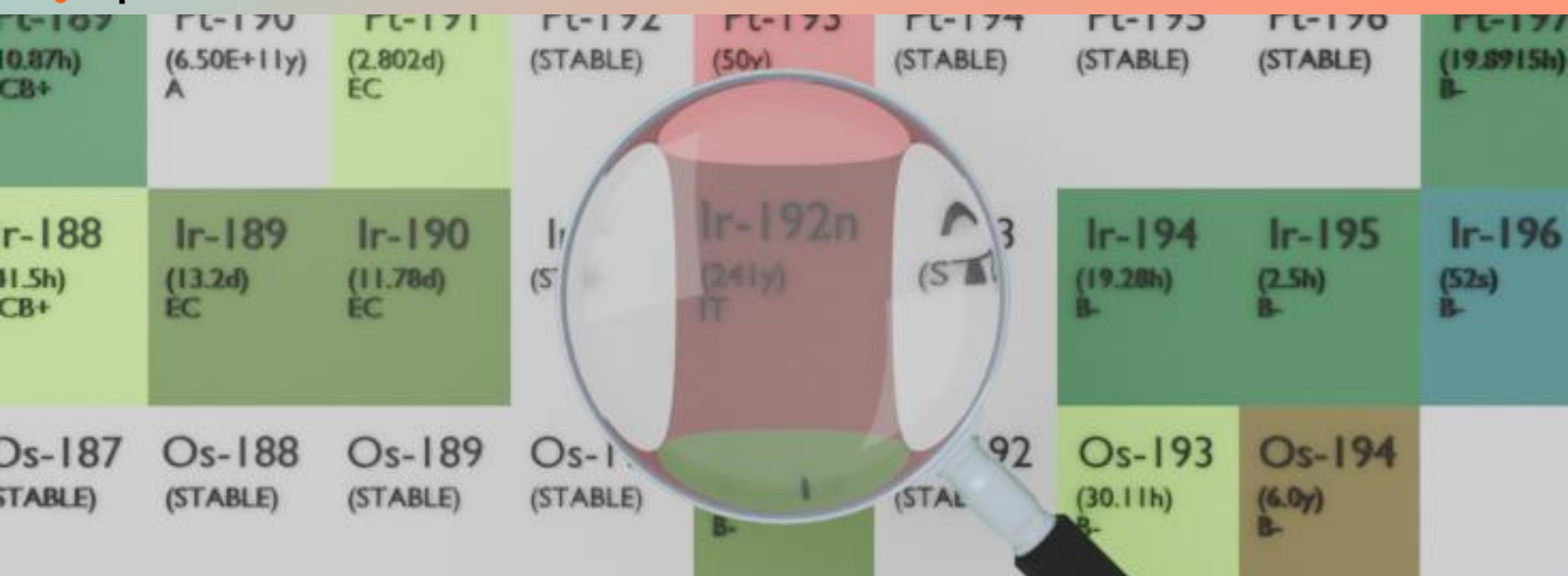




Pt-189 (10.87h) CB+	Pt-190 (6.50E+11y) A	Pt-191 (2.802d) EC	Pt-192 (STABLE)	Pt-193 (50y)	Pt-194 (STABLE)	Pt-195 (STABLE)	Pt-196 (STABLE)	Pt-197 (19.8915h) B-
Ir-188 (11.5h) CB+	Ir-189 (13.2d) EC	Ir-190 (11.78d) EC	Ir-191 (STABLE)	Ir-192n (241y) IT	Ir-193 (STABLE)	Ir-194 (19.28h) B-	Ir-195 (2.5h) B-	Ir-196 (52s) B-
Os-187 (STABLE)	Os-188 (STABLE)	Os-189 (STABLE)	Os-190 (STABLE)	Os-191 (STABLE)	Os-192 (STABLE)	Os-193 (30.11h) B-	Os-194 (6.0y) B-	

IRIDIUM-192N

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ir-192n
Atomic number (Z): 77
Mass number (A): 192
Neutron number (N): 115

RADIOACTIVE DECAY

Decay modes: Internal transition
Half-life: 241.0 [y]
Decay constant: $9.1141\text{e-}11$ [1/s]
Daughters: Ir-192 (100.0%)
Radioactive daughters: Ir-192

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.16166 [MeV]
Mean photon energy: 0.00657 [MeV]
Air kerma rate constant, Γ_{10} : $1.509\text{e-}17$ [Gy·m²/Bq·s]
Air kerma coefficient, K_{air} : $1.509\text{e-}17$ [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $2.590\text{e-}14$ [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy·kg/Bq·s]

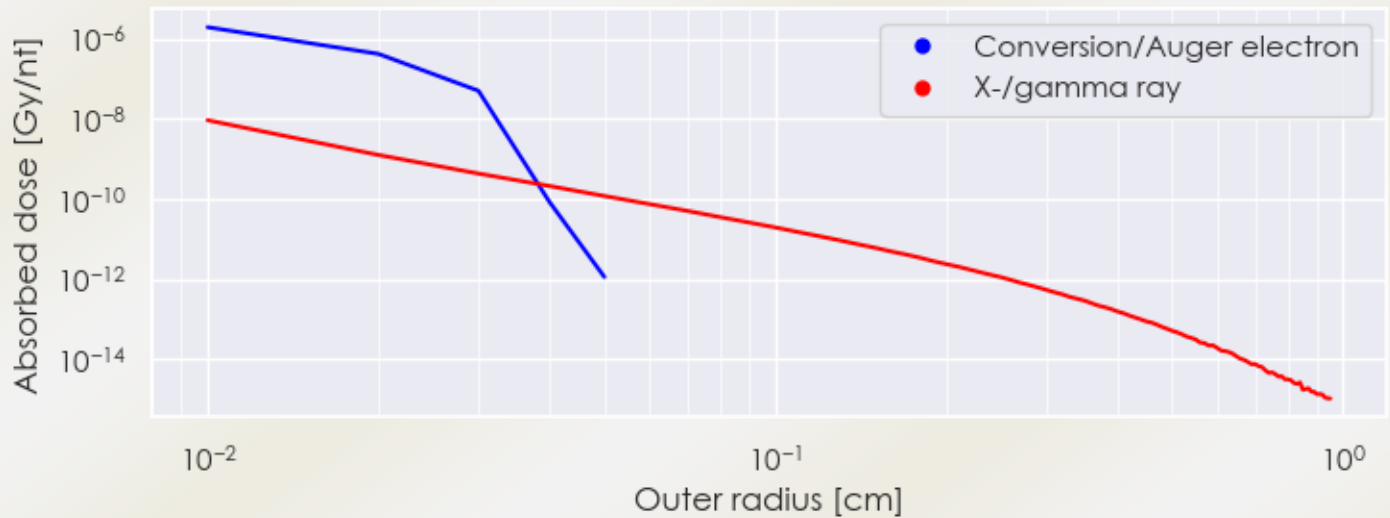
Equilibrium dose constant for betas/electrons, $\Delta_{\beta-\beta+,e-}$: 2.590×10^{-14} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.053×10^{-15} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

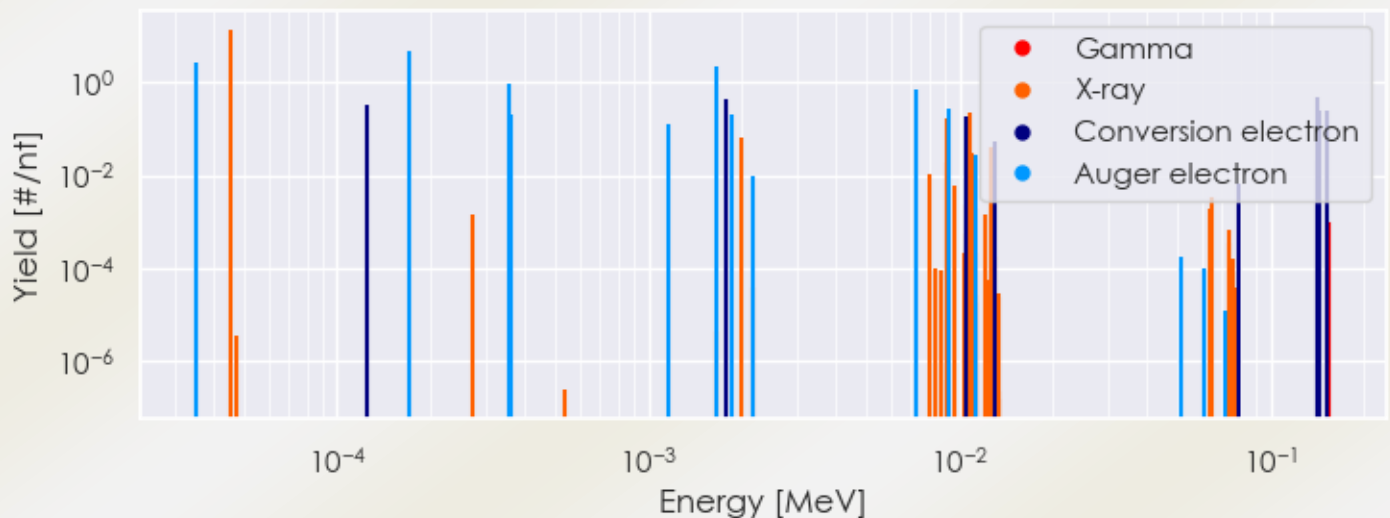
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Ir-192n 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/Ir-192n 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/Ir-192n Summary Spectrum.csv

Energy [MeV]	Yield [# / n _t] if > 0.01	Radiation type
4.56435e-05	1.405e+01	X-ray
1.99926e-03	6.666e-02	X-ray
8.06832e-03	1.099e-02	X-ray
9.09081e-03	1.898e-02	X-ray
9.16921e-03	1.673e-01	X-ray
1.07358e-02	2.168e-01	X-ray
1.09194e-02	3.063e-02	X-ray
1.25485e-02	4.182e-02	X-ray
3.53589e-05	2.651e+00	Auger electron
1.25001e-04	3.284e-01	Conversion electron
1.71558e-04	4.646e+00	Auger electron
3.59247e-04	9.715e-01	Auger electron
3.59802e-04	2.054e-01	Auger electron
1.15526e-03	1.234e-01	Auger electron
1.65134e-03	2.252e+00	Auger electron
1.77000e-03	4.251e-01	Conversion electron
1.85678e-03	2.003e-01	Auger electron
7.24111e-03	6.861e-01	Auger electron
9.22145e-03	2.792e-01	Auger electron
1.04450e-02	1.918e-01	Conversion electron
1.12320e-02	2.780e-02	Auger electron
1.29840e-02	5.465e-02	Conversion electron
1.41764e-01	2.120e-02	Conversion electron
1.42301e-01	4.714e-01	Conversion electron
1.43946e-01	2.488e-01	Conversion electron
1.52621e-01	2.507e-01	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