^{151}Gd

Hein and Voigt published "Radioactive isotopes of gadolinium" in 1950 reporting their observation of ^{151}Gd (1950He18). Eu_2O_3 targets were bombarded with 20 MeV deuterons from the Berkeley 60-in. cyclotron. Decay curves, absorption spectra, and γ-ray spectra were measured following chemical separation. "The 265-kev gamma-ray must be connected with the decay of Gd^{151}. Since this was the only γ-ray other than the 102-kev γ-ray of Gd^{153} the decay scheme of Gd^{151} is probably simple, like that of Gd^{153}. The ratio of intensities of the 102-kev γ-ray to the 265-kev γ-ray at different times, 590 days apart, was used with the 236-day half-life of the 102-kev γ-ray to calculate a half-life value of 150 days for Gd^{151}." Previously a 75 day half-life was assigned to either ^{151}Gd or ^{153}Gd with a tentative preference for ^{153}Gd (1948Kr07).

Adapted from reference (2013Ma01)

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Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"