^{142}Tb

"Decay studies of neutron deficient nuclei near the Z=64 subshell: ^{142}Dy, ^{140,142}Tb, ^{140,142}Gd, ^{140,142}Eu, ^{142}Sm and ^{142}Pm" was published in 1991 by Firestone et al. describing the observation of ^{142}Tb. (1991Fi03). A ^{92}Mo metal foil was bombarded with 261 MeV ^{54}Fe and 224 Mev ^{52}Cr beams from the Berkeley SuperHILAC accelerator. Reaction products were separated with the OASIS on-line facility and charged particles, γ-rays, X-rays and positrons were measured. "We have assigned 18 γ rays to the decay of ^{142}Tb^{g}. The γ-ray energies and intensities are summarized in [the table]... The intense 515.3-keV transition (resolved from the 511-keV annihilation peak using SAMPO) was analyzed as a two-component parent-daughter decay to extract a 597(17) ms half-life for ^{142}Tb^{g} decay." Also, the half-life of an isomeric state was measured to be 303(17) ms.

Adapted from reference (2013Ma01)

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