^{238}Th

In 1999, He et al. from the Institute of Modern Physics of the Chinese Academy of Sciences in Lanzhou, reported the observation of ^{238}Th in "Synthesis and identification of a new heavy neutron-rich isotope ^{238}Th" (1999He01). A natural uranium target was bombarded with a 60 MeV/u ^{18}O beam and ^{238}U was produced in a multi-nucleon transfer reactions from ^{238}U. X- and γ-ray spectra and decay curves were measured with two HPGe detectors following chemical separation. "Half-lives of 9.4$\pm$2.0 min for ^{238}Th and 2.1$\pm$0.4 min for ^{238}Pa were extracted from the data of [the figure] using a computer code for analyzing the decay of a radioactive series."

Adapted from reference (2013Fr03)

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