^{131}Ba

The observation of ^{131}Ba was published by Katcoff in the 1947 article "New Barium and Cesium Isotopes: 12.0d Ba^{131}, 10.2d Cs^{131}, and Long-Lived Ba^{133}" (1947Ka01). ^{131}Ba was produced by neutron irradiation of $BaCO_3$ in the Clinton Pile at Oak Ridge. The separation via fractional precipitation was probably performed at Argonne National Laboratory. "The Ba^{131} isotope decays predominantly by orbital electron capture with a half-life of 12.0 days, emitting gamma-radiations of about 0.26 Mev, 0.5 Mev, and roughly 1.2 Mev." Katcoff had first reported the result in a classified report (CC-3148) of the Plutonium Project which later on was included in the publication of the National Nuclear Energy Series (1951KaZU). Independently, Yu et al. had submitted their observation of a 11.7(3) d half-life (1947Yu01) for ^{131}Ba six months earlier than Katcoff. However, they were aware of the unpublished classified results which were made available in a collection of nuclear data by the Headquarters of the Manhattan Project (1946Ma02) and accepted the half-life of ^{131}Ba as known information. Thus we credit Katcoff with the first observation of ^{131}Ba.

Adapted from reference (2010Sh20)

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