

¹³²Te

In 1948, Katcoff et al. published the first identification of ¹³²Te in “Ranges in air and mass identification of plutonium fission fragments” (1948Ka09). Plutonium foils were irradiated with neutrons in the Los Alamos homogeneous pile. Fission recoils were stopped in a series of fourteen zapon lacquer films. Differential range curves were extracted, the films chemically separated and the activities measured with a Geiger-Müller tube. “In three separate experiments the range of fragments that result in 77-hr. Te was found to be greater than the range of those whose mass is known to be 133. This places an upper limit of 132 on the mass of 77-hr. Te, its 5-min. Sb parent, and its 2.4-hr. I daughter. Masses lower than 132 are ruled out because they are assigned to other well-known isotopes. These facts combined with some secondary considerations (e.g., fission yield) establish the mass assignment at 132.” A 78 h (1940Po02) half-life had been measured earlier without a mass assignment. Abelson first reported a 72 hr without a mass assignment (1939Ab05) and later assigned a 77 hr to either ¹³²Te, ¹³⁴Te, or ¹³⁶Te (1939Ab02). In 1944, Joliot had assigned a 77 h half-life to an isotope of tellurium with A>131 (1944Jo02). The track length of the 77-h tellurium fragment was measured by Suzor noting a mass assignment of 132 in brackets (1947Su26, 1947Su25).

Adapted from reference (2013Ka01)

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