^{180}Ta

"Artificial radioactivity of tantalum" was published in 1938 by Oldenberg, describing the observation of ^{180}Ta (1938Ol01). Tantalum was bombarded with fast neutrons produced by irradiating lithium with 5.5 MeV deuterons from the Berkeley cyclotron. Decay curves were measured with a Lauritsen electroscope following chemical separation. "Fast neutron bombardment excites, in addition, an 8.2 hour period with the emission of electrons, K radiation of Ta, and γ-rays. The process responsible for these effects is probably the capture of one neutron with the ejection of two neutrons. The product nucleus, Ta^{180}, goes over to Hf^{180} largely by K electron capture; in this process either γ rays are emitted or by their internal conversion extranuclear electrons ejected." Previously, Pool et al. reported a half-life without a mass assignment (1937Po04) and the 20 min half-life measured by Bothe and Gentner (1937Bo14) was incorrect.

Adapted from reference (2012Ro36)

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