

¹⁹⁸Tl

¹⁹⁸Tl was discovered in 1949 by Orth et al. as reported in “Radioactive thallium isotopes produced from gold” (1949Or01). The Berkeley 60-inch cyclotron was used to irradiate gold targets with 38 MeV ⁴He beams to form ¹⁹⁸Tl in (α ,3n). Decay curves were recorded following chemical separation. “The maximum yields of 1.8-hour, 7-hour, and 27-hour thallium were obtained at 38 Mev, 28 Mev, and 20 Mev, respectively. The thresholds were in the same decreasing order but were not well defined by these experiments. These data suggest (α ,3n), (α ,2n), and (α ,n) reactions leading to Tl¹⁹⁸, Tl¹⁹⁹, and Tl²⁰⁰, respectively.” The reported half-life of 1.8 h for ¹⁹⁸Tl corresponds to an isomer and the 5 h half-life of the ground state was observed four years later by Bergström et al. (1953Be79).

Adapted from reference (2013Fr04)

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