# $^{197}$Bi

$^{197}$Bi was identified by Tarantin et al. in the 1971 paper "Identification and study of the radioactive properties of bismuth isotopes with an electromagnetic mass separator in a heavy-ion beam" (1970Ta14). A 200 MeV $^{20}$Ne beam from the Dubna U-300 cyclotron bombarded a $^{181}$Ta target forming $^{197}$Bi in (4n) fusion-evaporation reactions. Recoil products were separated with an online mass separator and the subsequent $\alpha$ decay was measured with a semiconductor $\alpha$ counter. The $\alpha$-decay energies and half-lives are summarized in a table. The measured half-life was 9.5 min for a 5.81(2) MeV $\alpha$ decay. The observed decay corresponds to an isomer. Tarantin et al. did not consider this observation a discovery referring to an overview article by Eskola (1967Es05), who listed results for these isotopes based on a private communication by Siivola. The half-life of the $\beta$-decaying ground state of 560(30) s was measured by Vanhorenbeeck et al. 21 years later (1991Va09).

Adapted from reference (2013Fr04)


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