^{205}Fr

In 1964, Griffioen and MacFarlane reported the identification of ^{205}Fr in the paper "Alpha-decay properties of some francium isotopes near the 126-neutron closed shell" (1964Gr04). ^{197}Au, ^{203,205}Tl, and ^{208}Pb targets were bombarded with ^{16}O, ^{12}C, and ^{11}B beams with energies up to 10.38 MeV/amu from the Berkeley HILAC. Recoil products were collected on a catcher foil which was positioned in front of gold surface-barrier detector which measured subsequent α decay. "Fr^{205} and Fr^{204}: ... Since it follows the excitation function for the 6.91-MeV group, this would identify this group as the parent of At^{201} namely, Fr^{205}. The assignment of the 7.02-MeV group to Fr^{204} is based on the excitation-function data and on alpha decay systematics." The measured half-life was 3.7(4) s.

Adapted from reference (2013Fr09)

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