^{216}Fr

In the 1970 article "Production and decay properties of protactinium isotopes of mass 222 to 225 formed in heavy-ion reactions," Borggreen et al. identified ^{216}Fr (1970Bo13). The Berkeley heavy-ion linear accelerator (HILAC) was used to bombard ^{208}Pb and ^{205}Tl targets with ^{19}F and ^{22}Ne beams forming ^{224}Pa and ^{223}Pa in (3n) and (4n) fusion-evaporation reactions, respectively. ^{216}Fr was then populated by subsequent α-decay. Recoil products were deposited by a helium gas stream on a metal surface located in front of a gold surface-barrier detector which recorded the subsequent α decay. "Francium-216 appears to emit a single α group of 9.005$\pm$0.010 MeV which fits smoothly on the francium curve in [the figure]... The time-parameter information associated with the data sorting displayed in [the figure] yielded a 0.70$\pm$0.02 μsec half-life for ^{216}Fr... "

Adapted from reference (2013Fr09)

1970Bo13 J. Borggreen, K. Valli, and E. K. Hyde, Phys. Rev. C **2**, 1841 (1970).
2013Fr09 C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 497 (2013).

Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"