^{200}Fr

In the 1995 article "New α-decaying neutron deficient isotopes ^{197}Rn and ^{200}Fr," Morita et al. announced the identification of ^{200}Fr (1995Mo14). A 186 MeV ^{36}Ar beam from the RIKEN ring cyclotron bombarded a ^{169}Tm target forming ^{200}Fr in (5n) fusion-evaporation reactions. Reaction products were separated with the gas-filled recoil separator GARIS and implanted in a position-sensitive silicon detector which also measured subsequent α decay. "The α-decay energies (half-lives) of ^{197}Rn, ^{197m}Rn and ^{200}Fr have been determined to be 7261$\pm$30 keV (51^{+35}_{-15} ms), 7370$\pm$30 keV (18^{+9}_{-5} ms), and 7500$\pm$30 keV, (570^{+270}_{-140} ms), respectively." Although the reported half-life for ^{200}Fr is larger than the correct value of 49.6(21) ms (2023Ko27) we credit Morita et al. with the discovery of ^{200}Fr because they measured the correct decay energy and correlated the events with known properties of the daughter nucleus ^{196}At. Three months later Enquist et al. (1996En02) independently reported a half-life of 19^{+13}_{-6} ms.

Adapted from reference (2013Fr09)

1995Mo14 K. Morita, Y. H. Pu, J. Feng, M. G. Hies *et al.*, Z. Phys. A **352**, 7 (1995).
1996En02 T. Enqvist, P. Armbruster, K. Eskola, M. Leino *et al.*, Z. Phys. A **354**, 9 (1996).
2013Fr09 C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 497 (2013).
2023Ko27 F. G. Kondev, Nucl. Data Sheets **192**, 1 (2023).

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