^{180}Os

The discovery of ^{180}Os was reported in the 1967 paper "The decay of the isotope Os^{180}" by Belyaev et al. (1966Be41). Tm_2O_3 targets were bombarded with 100 MeV ^{14}N from the Dubna U-150 cyclotron and ^{180}Os was formed in the fusion-evaporation reaction ^{169}Tm(^{15}N,4n). Gamma-ray spectra were measured with a NaI(Tl) crystal following chemical separation. "In our measurements we observed γ lines having the same energy, 105 and 510 keV, and an intense 880-keV γ line. This gives grounds for assuming that the observed 21-minute activity is connected with the decay of the isotope Os^{180}, which, taking into account the time necessary to separate the osmium ($\sim$1 hour), is in radioactive equilibrium with the daughter rhenium, that is, $Os^{180} \xrightarrow{21\ min} Re^{180} \xrightarrow{2.4\ min}$." Previously a 23 min half-life had been tentatively assigned to ^{181}Os (1958Fo47) and was later reassigned to ^{180}Os (1966Ho16).

Adapted from reference (2012Ro36)

1958Fo47 J. S. Foster, J. W. Hilborn, and L. Yaffe, Can. J. Phys. **36**, 555 (1958).

1966Be41 B. N. Belyaev, V. I. Gudov, A. V. Kalyamin, L. M. Krizhanskii, and O. M. Lilova, Soviet J. Nucl. Phys. **4**, 163 (1967).

1966Ho16 K. J. Hofstetter and P. J. Daly, Phys. Rev. **152**, 1050 (1966).

2012Ro36 R. Robinson and M. Thoennessen, At. Data Nucl. Data Tables **98**, 911 (2012).

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