^{194}Os

In 1951, Lindner reported the first observation of ^{194}Os in the paper "Characteristics of some radionuclides of tungsten, rhenium, and osmium formed by second-order thermal neutron capture" (1951Li19). Osmium targets were irradiated at Oak Ridge National Laboratory and chemically separated and the activity counted after several months. "Since the principal long-lived activity present in thermal-neutron activated osmium is the 97-day Os^{186}, the difficulty encountered in observing a second-order product such as Os^{194} is similar to that described for tungsten. Again, however, because Os^{194} would necessarily decay to the known 19-hour Ir^{194}, the elucidation of the parent through its radioactive daughter seemed the most feasible approach... An accurate value for the half-life of the Os^{194} has not thus far been feasible by this method because its very long half-life still renders errors in mounting and counting from sample to sample appreciable as compared with the fraction decayed. However, the half-life appears to be around 700 days. Since direct decay measurements of the osmium itself indicate that the shorter-lived Os^{185} is gradually giving way to Os^{194}, it will be possible within two years to observe the latter directly."

Adapted from reference (2012Ro36)

1951Li19 M. Lindner, Phys. Rev. **84**, 240 (1951).

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

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