^{193}Os

Zingg reported the observation of ^{193}Os at the Physikalisches Institut der E.T.H. Zürich, in the 1940 paper "Die Isobarenpaare Cd-In, In-Sn, Sb-Te, Re-Os" (1940Zi01). Neutrons from a Ra-Be source irradiated osmium targets and X-rays were measured. "Weil beim Osmium die Isotopen der Massenzahlen A = 186, 187, 188, 189, 190 und 192 existieren, können durch langsame Neutronen nur die instabilen Kerne Os_{76}^{191} und Os_{76}^{193} entstehen, und weil Os_{76}^{192} das häufigste Isotop ist, wird man folgende Zuordnung treffen: T= 30 h $Os_{76}^{192} + n_0^1 \rightarrow Os_{76}^{193} \rightarrow Ir_{76}^{193} + e^-$, T = 10 d $Os_{76}^{190} + n_0^1 \rightarrow Os_{76}^{191} \rightarrow Ir_{76}^{191} + e^-$." [Because the existing osmium isotopes have mass numbers 186, 187, 188, 189, 190, and 192, only the unstable nuclei Os_{76}^{191} and Os_{76}^{193} will be produced and because Os_{76}^{192} is the most abundant isotope, the following assignment is made: T= 30 h $Os_{76}^{192} + n_0^1 \rightarrow Os_{76}^{193} \rightarrow Ir_{76}^{193} + e^-$, T = 10 d $Os_{76}^{190} + n_0^1 \rightarrow Os_{76}^{191} \rightarrow Ir_{76}^{191} + e^-$.] In 1935, Kurtchatow et al. reported an osmium half-life of 40 h without a mass assignment (1935Ku01).

Adapted from reference (2012Ro36)

1935Ku01 B. Kourtchatow, I. Kourtchatow, L. Myssovsky, and L. Roussinow, Compt. Rend. **200**, 1201 (1935).

1940Zi01 E. Zingg, Helv. Phys. Acta **13**, 219 (1940).

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"