

²⁴⁷Pu

The 1983 article “Identification of ²⁴⁶Pu, ²⁴⁷Pu, ^{246m}Am, and ²⁴⁷Am and determination of their half-lives” by Popov et al. identified ²⁴⁷Pu ([1983Po14](#)). Plutonium targets were irradiated with neutrons in a high-flux SM-2 reactor in Dimitrovgrad, Russia. Gamma-ray, X-ray, and alpha-particle spectra were measured with a DGDK-30A Ge(Li)-detecting block, a BDRK-2-25 Si(Li) detector and a DKP s.d.-50 surface barrier Si(Au) detector, respectively, following chemical separation. In addition, the isotopic composition was measured with the MI 1201 mass spectrometer. “As was noted above, in the plutonium fraction, after reaching equilibrium, a decrease in the intensity of the γ lines 226 and 285 keV, belonging to ²⁴⁷Am, was observed. The curve of the decay of the nuclei of the parent substance is presented in [the figure]. The half-life, calculated according to these data, is 2.27 ± 0.23 days. In our opinion, the parent nuclide is ²⁴⁷Pu, from which ²⁴⁷Am is formed according to the reaction $^{247}\text{Pu} \xrightarrow{\beta^-} 2.27 \text{ days } ^{247}\text{Am} \xrightarrow{\beta^-} 23 \text{ min.}$ ”

Adapted from reference ([2013Fr02](#))

[1983Po14](#) Yu. S. Popov, P. A. Privalova, G. A. Timofeev, V. B. Mishenev *et al.*, *Sov. Radiochemistry* **25**, 458 (1984).

[2013Fr02](#) C. Fry and M. Thoennessen, *At. Data Nucl. Data Tables* **99**, 96 (2013).

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