

⁴⁶Sc

⁴⁶Sc was discovered in 1936 by Hevesy and Levi from the Institute of Theoretical Physics, Copenhagen, reported in the paper “The action of neutrons on the rare earth elements” (1936He02). Scandium was irradiated by a 200-300 mCi radon-beryllium source and the activity was measured following chemical separation. “The activities are due to the formation of ⁴⁶₂₁Sc and ⁴²₁₉K, respectively; the reaction leading to these products are $^{45}_{21}\text{Sc} + {}^1_0\text{n} = {}^{46}_{21}\text{Sc}$ and $^{45}_{21}\text{Sc} + {}^1_0\text{n} = {}^{42}_{19}\text{K} + \frac{4}{2}\alpha$. The mass numbers occurring in these equations follows from the fact that scandium has only one stable isotope, ⁴⁵₂₁Sc... The activity which cannot be separated from scandium is presumable due to ⁴⁶₂₁Sc; most of this activity decays with a period of about two months but a small part does not decay appreciably within a year or two.” A year earlier Hevesy reported a half-life of “some years” for ⁴⁶Sc (1935He06).

Adapted from reference (2011Me01)

- 1935He06 G. Hevesy, Kgl. Dan. Vidensk. Selsk. Mat. -Fys. Medd. **13**, No. 3 (1935).
- 1936He02 G. Hevesy and H. Levi, Kgl. Dan. Vidensk. Selsk. Mat. -Fys. Medd. **14**, No. 5 (1936).
- 2011Me01 D. Meierfrankenfeld, A. Bury, and M. Thoennessen, At. Data Nucl. Data Tables **97**, 134 (2011).

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