

²⁶⁵Rf

Ellison et al. described the discovery of ²⁶⁵Rf in 2010 in “New superheavy element isotopes: ²⁴²Pu(⁴⁸Ca, 5n)²⁸⁵114” (2010EI06). ²⁴²PuO₂ targets were bombarded with a 247 MeV ⁴⁸Ca beams from the Berkeley 88-in. cyclotron and ²⁸⁵114 was produced in (5n) fusion-evaporation reactions. ²⁶⁵Rf was populated by subsequent α decay. Residues were separated with the Berkeley Gas-Filled Separator BGS and detected in multiwire proportional counters and silicon strip detectors. Subsequent radioactive decay events were recorded in the strip detectors and additional silicon chips forming a five-sided box. “The decay chain terminated 152 seconds later with a 208.1 MeV SF-like event... interpreted as the SF of ²⁶⁵₁₀₄Rf.” A single decay chain was observed. A previously reported observation of ²⁶⁵Rf (1999Ni03) was later retracted (2002Ni10).

Adapted from reference (2013Th02)

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2010EI06 P. A. Ellison, K. E. Gregorich, J. S. Berryman, D. L. Bleuel *et al.*, Phys. Rev. Lett. **105**, 182701 (2010).
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