

## <sup>282</sup>Rg

In the 2010 paper “Synthesis of a new element with atomic number  $Z = 117$ ”, Oganessian et al. reported the first observation of <sup>282</sup>Rg (2010Og01). A <sup>249</sup>Bk target was bombarded with 252 MeV and 247 MeV <sup>48</sup>Ca beam from the Dubna U400 cyclotron to form <sup>293</sup>117 and <sup>294</sup>117 in (4n) and (3n) evaporation reactions, respectively. <sup>282</sup>Rg was populated by subsequent  $\alpha$ -decays. The residues were separated with a gas-filled recoil separator and implanted in a semiconductor detector array. Alpha particle decay and spontaneous fission events were recorded in this array and in eight detectors arranged in a box configuration around the implantation detector. “Despite the strong hindrance resulting in the relatively long half-life, SF is a principal decay mode of the odd-even nucleus <sup>281</sup>111. On the other hand, the heavier isotope <sup>282</sup>111 undergoes  $\alpha$  decay.” One chain involving <sup>282</sup>Rg was observed.

Adapted from reference (2013Th02)

2010Og01 Yu. Ts. Oganessian, F. Sh. Abdullin, P. D. Bailey, D. E. Benker *et al.*, Phys. Rev. Lett. **104**, 142502 (2010).

2013Th02 M. Thoennessen, At. Data Nucl. Data Tables **99**, 312 (2013).

Please cite this abstract as: “FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:[10.11578/frib/2279152](https://doi.org/10.11578/frib/2279152)”