

## <sup>132</sup>Sb

In 1956, Pappas and Wiles from the Chemical Institute of the University of Oslo identified <sup>132</sup>Sb in “New short-lived isotopes of tin found in fission” (1956Pa20). <sup>132</sup>Sb was produced via fission of uranium with thermal neutrons. Beta-decay curves were measured with an inverted externally quenched end-window Geiger-Müller tube following chemical separation. “The method of curve analysis used was to fit to the experimental points a constructed curve for the decay of the 23.1-min Sb<sup>131</sup>–25-min Te<sup>131</sup> pair, subtracting whatever long-lived background (as 4.6-h Sb<sup>129</sup>–70-min Te<sup>129</sup>) was necessary to obtain a reasonable fit. Construction of the curve was based on the genetic relationships shown in [the table], and on equal counting efficiency for antimony-131 and tellurium-131, as demonstrated earlier by Pappas. This constructed curve was then subtracted from the experimental points to give successively the 10-min (Sb<sup>130</sup>) and 2-min (Sb<sup>132</sup>) components.” Pappas and Wiles did not consider their measurements discoveries referring to internal reports (1951Co27, 1953Pa25) and a conference proceeding (1954Pa41). A 5 min half-life had been reported by Abelson first without a mass assignment (1939Ab05) and then later it was assigned to either <sup>132</sup>Sn, <sup>134</sup>Sb, or <sup>136</sup>Sb (1939Ab02).

Adapted from reference (2013Ka01)

- 1939Ab02 P. H. Abelson, Phys. Rev. **56**, 1 (1939).
- 1939Ab05 P. Abelson, Phys. Rev. **55**, 670 (1939).
- 1951Co27 G. B. Cook, AERE-C/R-729 (1951).
- 1953Pa25 A. C. Pappas, Thesis, University of Oslo (1953).
- 1954Pa41 A. C. Pappas, Z. Elektrochem. **58**, 620 (1954).
- 1956Pa20 A. C. Pappas and D. R. Wiles, J. Inorg. Nucl. Chem. **2**, 69 (1956).
- 2013Ka01 J. Kathawa, C. Fry, and M. Thoennessen, At. Data Nucl. Data Tables **99**, 22 (2013).

Please cite this abstract as: “FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152”