^{109}Cd

In "The Spallation Products of Antimony Irradiated with High Energy Particles" Lindner and Perlman discuss the identification of ^{109}Cd in 1950 (1950Li08). ^{109}Cd was produced by bombarding a thick antimony target with deuterons and α-particles from the Berkeley 134-inch cyclotron with energies of 190 MeV and 380 MeV, respectively. Decay curves were recorded and absorption measurements were performed following chemical separation. "This [The 330-day Cd^{109}] activity was apparent in the decay curve taken through beryllium soon after the 6.7-hr. Cd^{107} had disappeared. Ultimately it could be seen in the curve taken without absorber after the 42-day Cd^{115} had decayed. Identification was made certain by removal of its daughter, 40-sec. Ag^{109m}." The measured half-life was 330 days. In 1940, Krishnan had reported a half-life of approximately one year but could not determine whether it was ^{109}Cd or ^{107}Cd (1940Kr02). In 1945, Bradt et al. measured a half-life of 158(7) d and assigned it to either ^{109}Cd or ^{107}Cd (1945Br06). A year later they corrected the half-life to 330 days (1946Br07). At the same time Helmholz had assigned the 158 d activity to ^{109}Cd [1946He04], however, we do not credit him with the discovery because the half-life differs significantly from the correct value. The work by Lindner and Perlman was submitted in February 1950 and it should be mentioned that in May of 1950 Cork et al. reported a half-life of 250 d for ^{109}Cd (1950Co60) and in June of 1950 Gum and Pool measured a half-life of 470 days (1950Gu54).

Adapted from reference (2010Am04)

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