^{78}Rb

Toeset et al. identified ^{78}Rb in the 1968 paper "The decay of rubidium-78 and rubidium-79" (1968To05). The synchrocyclotron at the Amsterdam Instituut voor Kernphysisch Onderzoek was used to bombard NH_4Br targets with 36−72 MeV ^{3}He. Gamma-ray spectra were measured with a Ge(Li) detector following chemical separation. "However, the main argument for concluding that we are dealing with ^{78}Rb is found in the γ-spectrum of the 6 minutes period. It is evident from these data that the lowest excited state in the nuclide produced by this decay process is at 455.2 keV, which is in excellent agreement with the observation at 0.45 MeV of the energy of the 2^+ level produced in ^{78}Kr by (α,α') coulomb excitation." This measurement corresponds to an isomeric state and an internal transition γ-ray of 103.36(10) keV populating (after a non-observed 8.6 keV transition) the ground state was reported four years later by de Boer et al. (1972De54). The ground state was measured for the first time also four years later by Nolte and Shida reporting a half-life of 17.5±2 min (1972No14).

Adapted from reference (2012Pa21)

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