^{167}Lu

Aron et al. discovered ^{167}Lu in "New neutron-deficient rare earth isotopes. Lutetium isotope with mass number 167" in 1958 (1958Ar59). Tantalum was bombarded with 660 MeV protons from the Dubna synchrocyclotron. A scintillation γ-spectrometer was used to measure γ-ray spectra following chemical separation. "In the spectrum of the thulium fraction separated simultaneously with the ytterbium from the lutetium fraction we observed the γ-lines characteristic of Tm^{167}. The intensity of the bright 207 kev γ-line fell off with a period of $\approx$10 days (the tabular value for the period of Tm^{167} is 9.6 days). Thus we have unquestionable evidence of the existence of a hitherto unknown lutetium isotope, namely Lu^{167}: $Lu^{167} \xrightarrow[T=55min]{E} Yb^{167} \xrightarrow[T=18min]{E} Tm^{167} \xrightarrow[T=9.6min]{E} Er^{167}$ (stable)." In the following year a 54 min half-life was reported independently (1959Ha09).

Adapted from reference (2012Gr19)

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