^{40}Cl

^{40}Cl was discovered by Morinaga as reported in "Radioactive isotopes Cl^{40} and Ga^{74}" in 1956 (1956Mo39). Solid argon targets were irradiated with fast neutrons produced by bombarding a beryllium target with 10 MeV deuterons from the Purdue cyclotron. Gamma- and beta-rays were measured with a NaI scintillator and GM counter, respectively. "From both gamma-ray measurements with a NaI scintillator and beta-ray measurements with a GM counter, the half-life of this new activity was found to be about 1.4 min. Since Cl^{40} is the only unknown isotope which could be produced by irradiating argon and since moreover the energy of one of the gamma rays (1.46 Mev) coincides with the energy of the first excited state of A^{40}, this new activity is attributed to Cl^{40}."

Adapted from reference (2012Th10)

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