^{34}P

In 1945, ^{34}P was identified by Zünti and Bleuler from the E.T.H. Zürich as described in "Über zwei Aktivitäten S^{37} und P^{34}, die durch schnelle Neutronen in Chlor induziert werden" (1945Zu01). Fast neutrons produced by a tensator were used to bombard chlorine targets. Beta- and gamma-ray spectra were measured following chemical separation. "Da der n,α-Prozess bei Cl^{35} auf den bekannten langlebigen P^{32} führt, kann es sich nur um die Reaktion Cl^{37}(n,α)P^{34} handeln." [Because the n,α-process on Cl^{35} leads to the known longlived P^{32}, it can only be due to the reaction Cl^{37}(n,α)P^{34}.] The measured half-life was 12.4(2) s. Previously a 14.7 s half-life was reported to result from either ^{34}P or ^{37}S (1942Hu01), and a 12.7 s half-life was assigned to a phosphorus isotope with mass larger than 31 (1940Co02).

Adapted from reference (2012Th10)

1940Co02 D. R. Corson, K. R. MacKenzie, and E. Segre, Phys. Rev. **58**, 672 (1940).
1942Hu01 O. Huber, O. Lienhard, and H. Waffler, Helv. Phys. Acta **15**, 314 (1942).
1945Zu01 W. Zunti and E. Bleuler, Helv. Phys. Acta **18**, 263 (1945).
2012Th10 M. Thoennessen, At. Data Nucl. Data Tables **98**, 933 (2012).

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