^{182}Tl

The identification of ^{182}Tl was reported in 1991 by Bouldjedri et al. in "Identification and decay of ^{182}Tl" (1991Bo22). A thorium carbide target was bombarded with 600 MeV protons. ^{182}Tl was produced in spallation reactions and identified with the CERN/ISOLDE facility. Charged particles and γ rays were measured with a surface barrier Si and a Ge(Li) detector, respectively. Following the β decay of ^{182}Tl γ transitions in ^{182}Hg were measured: "Four γ transitions in ^{182}Hg corresponding to the $8^+ \rightarrow 6^+ \rightarrow 4^+ \rightarrow 2^+ \rightarrow 0^+$ sequence have been observed. From the decay curves of the main γ rays we deduced the weighted value for the half-life of $T_{1/2}$ = 3.1±1.0 s." This half-life corresponds to an isomeric state and the ground state half-life of 1.9(1) s was first reported by Van Beveren 25 years later (2016Va01). A previous tentative assignment of an α decay to ^{182}Tl (1986Ke03) was incorrect.

Adapted from reference (2013Fr04)

1986Ke03 J. G. Keller, K. H. Schmidt, F. P. Hessberger, G. Munzenberg *et al.*, Nucl. Phys. A **452**, 173 (1986).

1991Bo22 A. Bouldjedri, A. Astier, R. Beraud, R. Duffait *et al.*, Z. Phys. A **339**, 311 (1991).

2013Fr04 C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 365 (2013).

2016Va01 C. Van Beveren, A. N. Andreyev, A. E. Barzakh, T. E. Cocolios *et al.*, J. Phys. G **43**, 025102 (2016).

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