^{91}Y

^{91}Y was first correctly identified by Seelmann-Eggebert in "Über einige aktive Yttrium-Isotope" in 1943 (1943Se03). Zirconium was irradiated with fast Li/D neutrons and several yttrium activities were measured following chemical separation. "Es konnte festgestellt werden, daß das mit dem 57 Tage Yttrium isomere 50 Minuten-Yttrium der angeregte Zustand ist, und daß die Muttersubstanz dieser Isomeren, das 10 Stunden-Strontium, auch bei Bestrahlung des Zirkons mit schnellen Neutronen durch n,α Prozeß entsteht. Die Masse dieser Reihe ist daher 91." [It could be determined that the 50-min yttrium isomer of the 57-day yttrium corresponds to the excited state and that the 10-hour strontium mother substance of these isomers could also be produced in the n,α process by bombarding zirconium with fast neutrons. The mass of this chain is thus 91.] A 57(3) day half-life had been previously reported without a mass assignment (1940Ha21) and in 1941 it had been demonstrated that the 57 day and 50 min yttrium activities are isomeric, however, a mass assignment was still not possible (1941Go04).

Adapted from reference (2012Ny02)

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