Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 181, 475 (2022)	1-Jan-2022

Q(β^-)=6420 *SY*; S(n)=2890 *SY*; S(p)=10440 *CA*; Q(α)=1470 *CA* 2021Wa16,2019Mo01

ΔQ(β^-)=300 (syst), ΔS(n)=420 (syst) (2021Wa16).

S(p) and Q(α) from 2019Mo01.

Q(β^-n)=1680 *360*, S(2n)=7550 *360* (syst, 2021Wa16), S(2p)=19970 (2019Mo01, calculated).

2010Al24: ^{213}Hg nuclide identified in ^{9}Be(^{238}U,X) reaction with a beam energy of 1 GeV/nucleon produced by the SIS synchrotron at GSI facility. Target=2500 mg/cm^2. The fragment residues were analyzed with the high resolving power magnetic spectrometer Fragment separator (FRS). The identification of nuclei was made on the basis of magnetic rigidity, velocity, time-of-flight, energy loss and atomic number of the fragments using two plastic scintillators and two multisampling ionization chambers. The FRS magnet was tuned to center on ^{210}Au, ^{216}Pb, ^{219}Pb, ^{227}At and ^{229}At nuclei along the central trajectory of FRS.

Unambiguous identification of nuclides required the separation of different charge states of the nuclei passing through the FRS. Through the measurement of difference in magnetic rigidity in the two sections of the FRS and the difference in energy loss in the two ionization chambers, the charge state of the transmitted nuclei was determined, especially, that of the singly charged (hydrogen-like) nuclei which preserved their charge in the current experimental setup. Measured production cross sections with 10% statistical and 20% systematic uncertainties.

Criterion established in 2010Al24 for acceptance of identification of a new nuclide: 1. number of events should be compatible with the corresponding mass and atomic number located in the expected range of positions at both image planes of the FRS spectrometer; 2. number of events should be compatible with >95% probability that at least one of the counts does not correspond to a charge-state contaminant. Comparisons of measured σ with model predictions using the computer codes COFRA and EPAX.

^{213}Hg Levels

E(level)	Comments
0	%β^-=100; %β^-n=? The β^- and delayed neutron decay are the only decay modes expected. Calculated %β^-n=4 (2019Mo01). E(level): it is assumed that the observed fragments correspond to nuclei in their ground state. From A/Z plot (figure 1 in 2010Al24), $\approx$ 35 events are assigned to ^{213}Hg. J$^\pi$: 9/2$^+$ from systematics (2021Ko07), and 5/2$^+$ predicted in 2019Mo01 calculations. T$_{1/2}$: Calculated value 10 s for β decay (2019Mo01), and systematic value of 15 s for β decay (2021Ko07). Production σ=0.546 nb (from e-mail reply of H. Alvarez-Pol to B. Singh (Dated: Oct 29, 2010), which also stated that further analysis was in progress). Production cross section measured in 2010Al24, values are given in figure 2, plot of σ versus mass number for Hg isotopes. Statistical uncertainty=10%, systematic uncertainty=20%.