Adopted Levels

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jun Chen and Ameenah R. Farhan	NDS 194,3 (2024)	8-Jan-2024

S(n)=14500 *syst*; S(p)=−1080 *syst*; Q(α)=−2350 *syst* 2021Wa16

Estimated uncertainties (2021Wa16): 420 for S(n), 370 for S(p), 580 for Q(α).

Q(ε)=16000 *300*, Q(εp)=11680 *300*, S(2p)=910 *300* (syst,2021Wa16). S(2n)=31950 (2019Mo01,theory).

2002Fa13, 2001Ki13, 2007WeZX: ^{76}Y produced and identified in fragmentation of ^{112}Sn beam at 1 GeV/nucleon on Be target at GSI facility, fragment separator. A total of two events were assigned to ^{76}Y. This work suggested the stability of ^{76}Y against proton emission.

2017Su26: ^{76}Y nuclide identified in ^{9}Be(^{124}Xe,X), E(^{124}Xe)=345 MeV/nucleon beam produced by the cascade operation of the RIBF accelerator complex of the linear accelerators RILAC and RILAC-II and the four cyclotrons, RRC, fRC, IRC, and SRC. Identification of ^{76}Y nuclei was made on the basis of magnetic rigidity, time-of-flight and energy loss (tof-Bρ-ΔE method) of the fragments using BigRIPS fragment separator, atomic number Z of fragment by tof and ΔE, and A/Q (atomic mass/charge state) of fragment by Bρ and tof. Time-of-flight was measured using thin plastic scintillators, ΔE by MUSIC ionization chambers, and Bρ by particle trajectory reconstructions. Measured A/Q versus Z distributions.

2019Si33: ^{76}Y nuclei were produced at RIBF-RIKEN facility using the same experimental arrangement as in 2017Su26, except that the β-counting system was wide-range active silicon-strip stopper array for β and ion detection (WAS3ABi). Measured half-life of the decay of ^{76}Y from (implanted ions)β-correlated decay curve.

Additional information 1.

Theoretical calculations: six primary references for structure and one for decay characteristics retrieved from the NSR database (www.nndc.bnl.gov/nsr/) are listed in this dataset under 'document' records.

^{76}Y Levels

E(level)	J^π	$T_{1/2}$	Comments
0	(1^-)	24 ms *+12−6*	%ε+%β^+=?; %εp=?; %p=? As shown in A/Q particle identification plot in Fig. 1 of 2019Si33, a larger number of events were assigned to ^{76}Y as compared to only two in the earlier work from RIBF-RIKEN (2017Su26). E(level): it is assumed that the observed decay events correspond to the ground state of ^{76}Y. J^π: proposed configurations: π5/2[422]⊗ν3/2[312] at a deformation after the crossing or π3/2[301]⊗ν3/2[431] before the crossing; however, $J^\pi=1^-$ for the g.s. of mirror nucleus favors the configuration after the crossing, and also consistent with Gallagher-Moszkowski (GM) rules (2019Si33). $T_{1/2}$: from (implanted ions)β-correlated decay curve for nine observed correlated events, and analysis by logarithmic binning (Schmidt) method (2019Si33).