Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 156, 70 (2019)	31-Jan-2019

Q(β^-)=200 *SY*; S(n)=5020 *SY*; S(p)=3630 *SY*; Q(α)=8950 *50* 2017Wa10
Estimated uncertainties (2017Wa10): ΔQ(β^-)=860, ΔS(n)=930, ΔS(p)=800.
S(2n)=11250 *820* (syst, 2017Wa10). S(2p)=9180 (theory, 1997Mo25).
2010Og01, 2011Og04: ^{274}Bh from α decay chain: ^{294}Ts → ^{290}Mc → ^{286}Nh → ^{282}Rg → ^{278}Mt → ^{274}Bh. ^{294}Ts formed and identified in reaction ^{249}Bk(^{48}Ca,3n), E=247 MeV at FLNR-JINR-Dubna using Dubna gas-filled recoil separator (DGFRS). Measured Eα, half-lives, α-α correlations. One decay chain was assigned to the decay of ^{294}Ts. See details in ^{294}Ts Adopted Levels.
2012Og06, 2013Og04, 2013Og01: ^{274}Bh formed in the decay chain of ^{294}Ts as above in 2011Og04. See details in ^{294}Ts Adopted Levels. Three decay chains were reported.
2014Kh04: ^{274}Bh from α decay chain: ^{294}Ts → ^{290}Mc → ^{286}Nh → ^{282}Rg → ^{278}Mt → ^{274}Bh; ^{294}Ts formed and identified in reaction ^{249}Bk(^{48}Ca,3n),E=252.1, 254.0, 258.0 MeV at GSI using Gas-filled Trans-Actinide Separator and Chemistry Apparatus (TASCA). Four decay chains were assigned to the decay of ^{294}Ts, but only two reported in the paper. See details for ^{294}Ts Adopted Levels.
One EVR-α-SF correlated decay chain reported by 2011Og04, three by 2013Og04 and 2012Og06, and two by 2014Kh04, all starting with the decay of ^{294}Ts and ending in SF-decaying ^{270}Db nuclide in Dubna work (2013Og04, 2011Og04) and in SF-decaying ^{266}Lr in GSI work (2014Kh04). 2011Og07 and 2012OgZZ are also related reports for the Dubna work. See Adopted Levels for ^{294}Ts for details of above three studies.
For theoretical studies, consult Nuclear Science References (NSR) database at NNDC, BNL for 44 primary references dealing with the half-lives and other aspects of nuclear structure in this mass region.

^{274}Bh Levels

Cross Reference (XREF) Flags

A ^{278}Mt α decay (4.5 s)

E(level)	$T_{1/2}$	XREF	Comments
0	44 s *+34−13*	A	%α≈100; %SF=? Only the α decay mode observed. E(level): the observed α activity is assumed to correspond to the ground state of ^{274}Bh. J^π: 1^-,2^- from Ω(proton)=1/2$^-$, Ω(neutron)=3/2$^+$ (1997Mo25,theory). $T_{1/2}$: from 2017Og01 and 2015Og05 reviews. Measurements: 53 s *+250−24* (2010Og01,2011Og04); 54 s *+65−19* (2013Og04, 2012Og06, from three events out of a total of four observed); 30 s *+54−12* (2014Kh04, also 42 s *+34−13* by combining their data with those from 2013Og04). Eα=8.73-8.84 MeV (2017Og01 and 2015Og05 reviews) from α decay of ^{274}Bh. Measurements: 8.80 MeV *10* (2010Og01,2011Og04); 8760 *50* (2012Og06,2013Og04, from a total of four events); 8.84 MeV *3* (2014Kh04).