Adopted Levels

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113,1871 (2012)	15-Jun-2012

S(n)=9.00×10^3 *4*; S(p)=−7.2×10^2 *4*; Q(α)=7.70×10^3 *3* 2012Wa38

Note: Current evaluation has used the following Q record 9014 58 −686 57 *7696* 26 2011AuZZ.

Production: ^{144}Sm(^{51}V,3n), E=230 *1* MeV (mid-target); 96.47% ^{144}Sm target; recoils separated in flight by SHIP velocity filter then implanted into 16-strip Si position-sensitive detector; tof veto of beam particles; four-fold segmented Clover Ge detector; measured Eα (FWHM≈25 keV or 45-75 keV), Iα, Iγ, recoil-γ coin, recoil-α-γ coin (particle-γ Δt≤5 μs) (2006An04; see also 2005AnZY). Other: 2003Ke08.

Identification: observed α decays are correlated with known α decays from ^{188}Bi daughter isomers (2006An04).

Theory:

Calculations using Coulomb and proximity potential model: $T_{1/2}$, and HF for α decay from g.s. and isomer (2011Sa10).

^{192}At Levels

Cross Reference (XREF) Flags

A ^{144}Sm(^{51}V,3n)

E(level)	J$^\pi$	$T_{1/2}$ †	XREF	Comments
0.0+x	(9$^-$,10$^-$)	88 ms *6*	A	%α≤100 %α: Only α decay has been observed. Gross β decay theory calculations (1973Ta30) predict a partial β decay halflife of 3 s implying %α≈97. J$^\pi$: 7224α decay to a level in ^{188}Bi which is connected via an M1 γ to the (10$^-$) ^{188}Bi isomer is probably unhindered (2006An04), implying J$^\pi$(^{192}At; 0.0+x)=(9$^-$,10$^-$,11$^-$); the lowest-energy ^{192}At configurations are expected to result from coupling an $s_{1/2}$, $f_{7/2}$ or (possibly) $i_{13/2}$ proton to a $p_{3/2}$ or $i_{13/2}$ neutron and none of those multiplets includes an 11$^-$ state. Only the (π $2f_{7/2}$)⊗(ν $1i_{13/2}$) configuration multiplet includes 9$^-$ or 10$^-$ states so 2006An04 favor this configuration assignment, consistent with presence of π $f_{7/2}$ isomers in ^{191}At and ^{193}At.
0.0+y		11.5 ms *6*	A	%α≤100 %α: Only α decay has been observed. 7435α decay to ^{188}Bi level 101 keV above the (3$^+$) ^{188}Bi isomer is possibly unhindered (2006An04).

† From α(t) (2006An04).