Adopted Levels

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. M. Baglin[1], E. A. Mccutchan[2], S. Basunia[1]	NDS 153, 1 (2018)	1-Oct-2018

S(n)=10035 *SY*; S(p)=1472 *12*; Q(α)=7177 *15* 2017Wa10
ΔS(n)=360 (2017Wa10).
S(2p)=336 (syst) *204*; Q(εp)=11053 (syst) *198* (2017Wa10).
Production: ^{96}Ru(^{78}Kr,p3n), E(^{78}Kr)=385 MeV; tof and energy-loss gas detector and position-sensitive focal plane detector; observed correlated recoil-proton-α decay chain; measured $T_{1/2}$, %α, %p for ^{170}Au (2004Ke06; presumed to supersede 2002LeZZ,2002KeZZ). Also produced In ^{96}Ru(^{78}Kr,p3n), E(^{78}Kr)=400 MeV (2002Ma61).
α and proton decay. Theory: 2017Se07, 2017Wa04, 2017Zh03, 2016Is07, 2016Li04, 2016Qi02, 2016Te03, 2016Zd01, 2015Sh03, 2014Wa16, 2014Zh39, 2013Ha09.

^{170}Au Levels

E(level)	J^π	$T_{1/2}$[†]	Comments
0.0	(2^-)	0.29 ms *+5−4*	%p=89 *10* (2004Ke06); %α=11 *10* (2004Ke06) J^π: unhindered α decay to (2^-) ^{166}Ir. The likely g.s. orbital for ^{171}Au and ^{173}Au is (π $s_{1/2}$), but In ^{166}Ir the proton occupies the $d_{3/2}$ orbital; analysis of ^{170}Au p decay data indicates Δl=2 transition to $(7/2^-)$ ^{169}Pt (2004Ke06).
285 *13*	(9^+)	0.62 ms *+5−4*	%α=42 *5* (2004Ke06); %p=58 *5* (2004Ke06) E(level): based on Eα=7107 *6* from this level to E=172 *6* level In ^{166}Ir and Eα=7001 *10* for ^{170}Au(g.s.) to ^{166}Ir(g.s.) transition (2004Ke06). E=282 *13* based on E(p)=1743 *6* and 1463 *12*, respectively, for proton decay to ^{169}Pt(g.s.) from this level and from ^{170}Au(g.s.) (2004Ke06). J^π: $h_{11/2}$ proton emission observed from level (2004Ke06, 2002Ma61). Unhindered α decay to (9^+) ^{166}Ir. Configuration probably includes (π 11/2[505]) orbital (As In isomeric ^{171}Au and ^{173}Au), possibly coupled to $f_{7/2}$ neutron (As In isomeric ^{166}Ir). $T_{1/2}$: other value: 0.57 ms *+31−15* (2002Ma61).

[†] From 2004Ke06.