

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin, E. A. Mccutchan		NDS 151, 334 (2018)	30-Jun-2018

Q(β^-)=-11040 SY; S(n)=11.88×10³ 20; S(p)=-1448 10; Q(α)=7085 11 [2017Wa10](#)
 $\Delta Q(\beta^-)$ =300 ([2017Wa10](#)).
 S(2n)=21920 (syst) 300; S(2p)=50 30 ([2017Wa10](#)).
 Identification: ⁹⁶Ru(⁷⁸Kr,p2n); E=389 MeV, (α =171 implant)- α -6410 α (¹⁶⁷Ir) correlation ([1997Da07](#)); E=375 MeV, (α =171 implant)-p- α (¹⁷⁰Pt) correlation ([1999Po09](#)).
 Recent calculations of partial p and/or α T_{1/2} and/or Q value: [2018Zh02](#), [2017Bu14](#), [2017Sa54](#), [2016Li04](#), [2016Qi02](#), [2016Te03](#), [2016Wa26](#), [2016Zd01](#), [2015Sh03](#), [2014Ca27](#), [2014Gu28](#), [2014Wa16](#), [2014Zh39](#), [2012Qi03](#), [2012Ro17](#), [2011Pa02](#), [2011Ro36](#), [2011Sa60](#).

¹⁷¹Au Levels

Cross Reference (XREF) Flags

A ⁹⁶Ru(⁷⁸Kr,p2n γ)

E(level) [†]	J ^{π}	T _{1/2}	XREF	Comments
0.0	(1/2 ⁺)	22 μ s +3-2	A	%p=100 (2004Ke06) T _{1/2} : from 2004Ke06 . Others: 17 μ s +9-5 (1999Po09), 37 μ s +7-5 (2003Bb21). %p: from 2004Ke06 . Other: existence of a p decay branch is implied in 1997Da07 by observation of ¹⁷⁰ Pt α decay following unobserved ¹⁷¹ Au p decay. J ^{π} : configuration=(π s _{1/2}) (1999Po09 , 2004Ke06) based on consistency between proton partial T _{1/2} calculated for s _{1/2} orbital (using WKB approximation) and observed partial T _{1/2} ; analogous to low-lying structure of neighboring nuclides.
259 13	(11/2 ⁻)	1.04 ms 3	A	% α =60 6; %p=40 6 % α : weighted average of 66 4 (2004Ke06) and 54 4 (1997Da07). T _{1/2} : weighted average of 1.09 ms 3 (2004Ke06) and 1.014 ms 19 (2003Bb21). The value from 2004Ke06 is an average of 1.13 ms 5 from p(t) and 1.07 ms 3 from α (t) while the value from 2003Bb21 is combined from measured α and p branches. Other: 1.02 ms 10 (1997Da07). E(level): from E(p)=1694 6 to ¹⁷⁰ Pt g.s. from this level and E(p)=1437 12 from ¹⁷¹ Au(g.s.) to ¹⁷⁰ Pt g.s. in 2004Ke06 . Others: 250 16 (1999Po09), based on E(p)=1692 6 (1997Da07) and E(p)=1444 17 (1999Po09), respectively, for protons feeding the ¹⁷⁰ Pt g.s from this level and from the ¹⁷¹ Au g.s. Also, based on observed E(p) from this level compared with E(p) limits calculated for the (1/2 ⁺) level using 1 μ s ≤ T _{1/2} ≤ 30 μ s and the WKB barrier transmission approximation, 1997Da07 estimate E ≥ 100 keV and E ≤ 260 keV for the (11/2 ⁻) level. 1997Da07 obtain an independent estimate of E=220 110 for this state, based on trends of the (1/2 ⁺) to (11/2 ⁻) level-energy differences from ¹⁵¹ Tm to ¹⁶⁷ Ir. J ^{π} : configuration=(π h _{11/2}) (1997Da07 , 2004Ke06) based on comparison of proton partial T _{1/2} calculated for h _{11/2} orbital (using WKB approximation) with the observed value. An isomeric 11/2[505] level also occurs in ¹⁷³ Au At comparable energy (E=214 23, 1999Po09).
870 13			A	
1804 14			A	

[†] From E γ , except where noted.

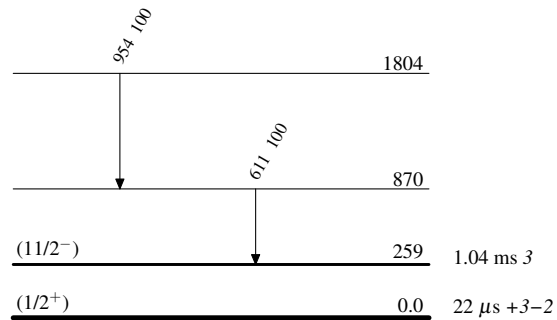
Adopted Levels, Gammas (continued) $\gamma(^{171}\text{Au})$

<u>$E_i(\text{level})$</u>	<u>E_γ^\dagger</u>	<u>I_γ</u>	<u>E_f</u>	<u>J_f^π</u>
870	611 3	100	259	(11/2 ⁻)
1804	954 5	100	870	

† From ($^{78}\text{Kr}, p2n\gamma$).

Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level



$^{171}_{79}\text{Au}_{92}$