

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 107,791 (2006)	15-Sep-2005

$Q(\beta^-) = -6.62 \times 10^3$ 4; $S(n) = 9.05 \times 10^3$ 6; $S(p) = -1. \times 10^1$ 4; $Q(\alpha) = 6558$ 7 [2012Wa38](#)

Note: Current evaluation has used the following Q record -6760 SY9170 SY140 SY6558 7 [2003Au03](#).

$\Delta Q(\beta^-) = 110$ (syst), $\Delta S(n) = 110$ (syst), $\Delta S(p) = 110$ (syst) [2003Au03](#).

 ^{176}Au LevelsCross Reference (XREF) Flags

A $^{94}\text{Mo}(^{84}\text{Sr}, \text{pn}\gamma)$

E(level) [†]	J ^π	T _{1/2}	XREF	Comments
0.0				
0.0+x	(3 ⁻)	1.05 s 1	A	$\% \alpha = ?$; $\% \varepsilon + \% \beta^+ = ?$ J ^π : ^{176}Au 's 6282α decays from this isomeric state to the 4.4 s state, which is assigned a spin of 3 based on beta decay feeding to the 2 ⁺ and 4 ⁺ states of the yrast band in ^{172}Os (1992Sc16). Following 5520α from the ^{172}Ir to the excited state of ^{168}Re and coincident 123γ E1 transition, a spin of (3 ⁻) is assigned for the 1.05 s isomeric state in 2004GoZZ . Possible configuration $\pi 1/2[411] + \nu 7/2[503]$. T _{1/2} : From α(t) in $^{94}\text{Mo}(^{84}\text{Sr}, \text{pn}\gamma)$ (2004GoZZ). Others: 0.83 s 14 [from $\tau = 1.2$ s 2 in 1999Da18], 1.00 s 20 (1990SeZW), 0.84 s +17-14 (2002Ro17), 1.25 s 30 (1975Ca06 – determined from 6260α(t) – this Eα is not present in other reports). α decay is reported in 2004GoZZ , 2002Ro17 , 1975Ca06 ; and β ⁺ /ε decay in 1999Da18 . From feeding pattern into the ^{176}Pt levels from ^{176}Au β ⁺ /ε decay, it is concluded that ^{176}Au may have more than one β-decaying states.
0.0+y	(9 ⁺)	1.36 s 2	A	J ^π : Assigned in $^{94}\text{Mo}(^{84}\text{Sr}, \text{pn}\gamma)$ (2004GoZZ) based on the strong beta decay feeding assumption from this state to the 8 ⁺ state in ^{176}Pt (1999Da18). Possible configuration $\pi 11/2[505] + \nu 7/2[503]$. T _{1/2} : From weighted average of 6080α(t), 6117α(t), and sum line of 6220 keV (t) [6080+212-K, 6117+175-K] in $^{94}\text{Mo}(^{84}\text{Sr}, \text{pn}\gamma)$ (2004GoZZ).
92.4+y 3			A	
205.0+x 10			A	
210.0+x 10			A	
272.92+y 20			A	
283.0+x 10			A	
295.60+y 20			A	
360.0+x 10			A	
447.2+y 11			A	
453.9+y 5			A	
475.0+y 3			A	
618.8+y 3			A	
630.6+y 11			A	
648.2+y 3			A	
655.8+y 3			A	
677.5+y 3			A	
705.0+y 11			A	
780.4+y 4			A	
843.1+y 4			A	
911.7+y 4			A	
936.4+y 3			A	
1087.4+y 6			A	
1094.2+y 11			A	
1288.4+y 4			A	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{176}Au Levels (continued)

<u>E(level)[†]</u>	<u>XREF</u>
1316.2+y 4	A
1522+y?	A
1799.2+y 5	A

[†] From a least squares fit to the gamma ray energy, assuming $\Delta E=1$ keV for γ -rays without uncertainty.

 $\gamma(^{176}\text{Au})$

<u>E_i(level)</u>	<u>E_{γ}</u> [†]	<u>I_{γ}</u> [†]	<u>E_f</u>	<u>J_f^{π}</u>	<u>Comments</u>
92.4+y	(93)	100	0.0+y	(9 ⁺)	
205.0+x	205	100	0.0+x	(3 ⁻)	
210.0+x	210	100	0.0+x	(3 ⁻)	
272.92+y	180.5 2	100 11	92.4+y		
	272.9 2	72 11	0.0+y	(9 ⁺)	
283.0+x	283	100	0.0+x	(3 ⁻)	
295.60+y	295.6 2	100	0.0+y	(9 ⁺)	
360.0+x	360	100	0.0+x	(3 ⁻)	
453.9+y	453.9 5	100	0.0+y	(9 ⁺)	
475.0+y	202.1 2	100	272.92+y		I _{γ} : doublet.
618.8+y	323.2 2	100	295.60+y		
630.6+y	335.3	100	295.60+y		
648.2+y	201	100 14	447.2+y		I _{γ} : doublet.
	352.6 2	74 10	295.60+y		
655.8+y	360.2 2	100	295.60+y		
677.5+y	381.9 2	100	295.60+y		
705.0+y	230	100	475.0+y		
780.4+y	132.2 2	100 7	648.2+y		
	(484.7 5)	22 11	295.60+y		
843.1+y	368.1 2	100	475.0+y		
911.7+y	(263.6 2)	100 15	648.2+y		
	616.0 5	68 14	295.60+y		
936.4+y	640.8 2	100	295.60+y		
1087.4+y	431.6 5	100	655.8+y		
1094.2+y	446	100	648.2+y		
1288.4+y	445.3 2	100	843.1+y		E _{γ} : doublet.
1316.2+y	473.1 2	100	843.1+y		
1522+y?	434 [‡]	100	1087.4+y		
1799.2+y	510.8 2	100	1288.4+y		

[†] From $^{94}\text{Mo}(^{84}\text{Sr},\text{pn}\gamma)$ (2004GoZZ).

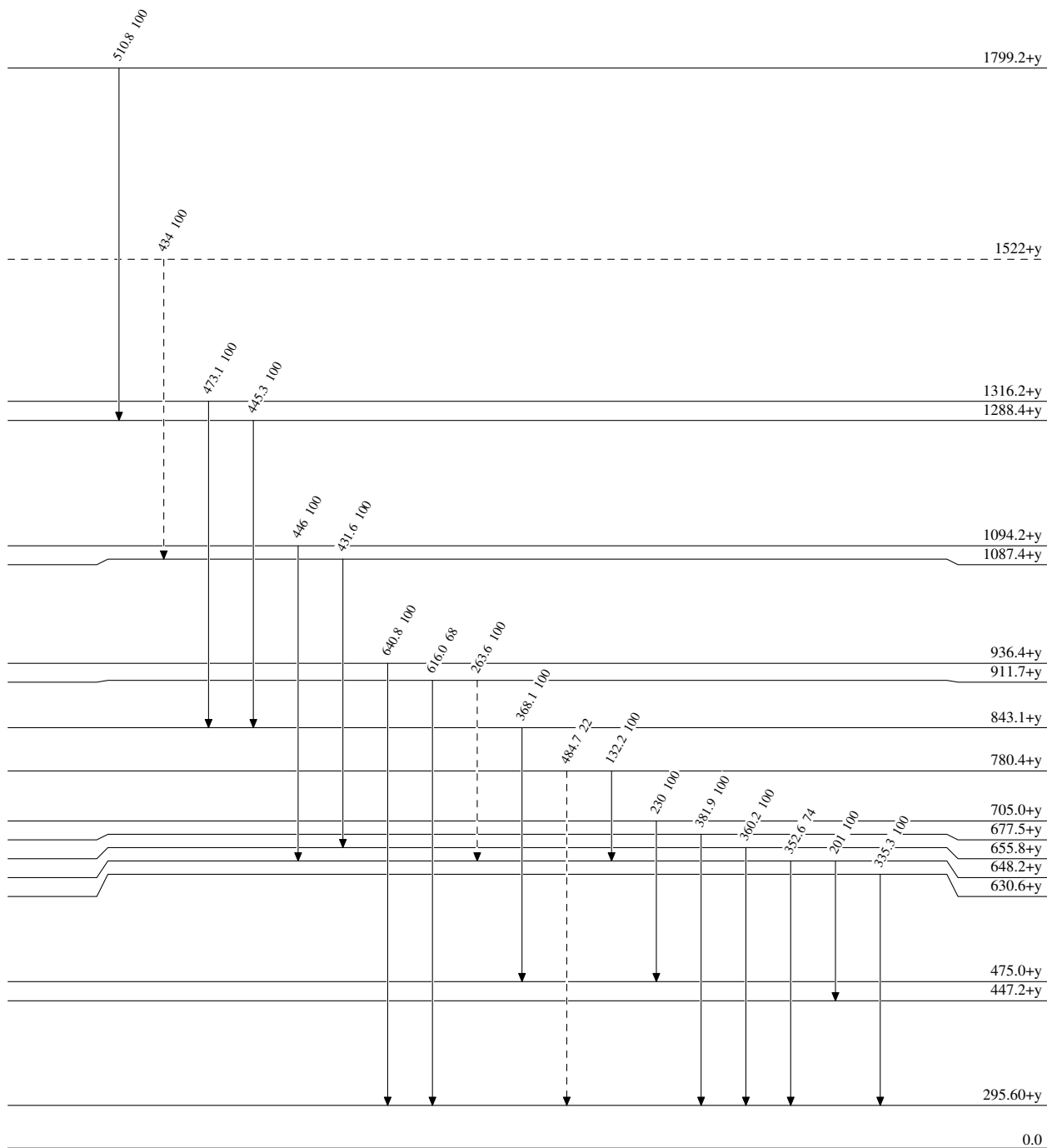
[‡] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

 - - - - - ► γ Decay (Uncertain)

 $^{176}_{79}\text{Au}_{97}$

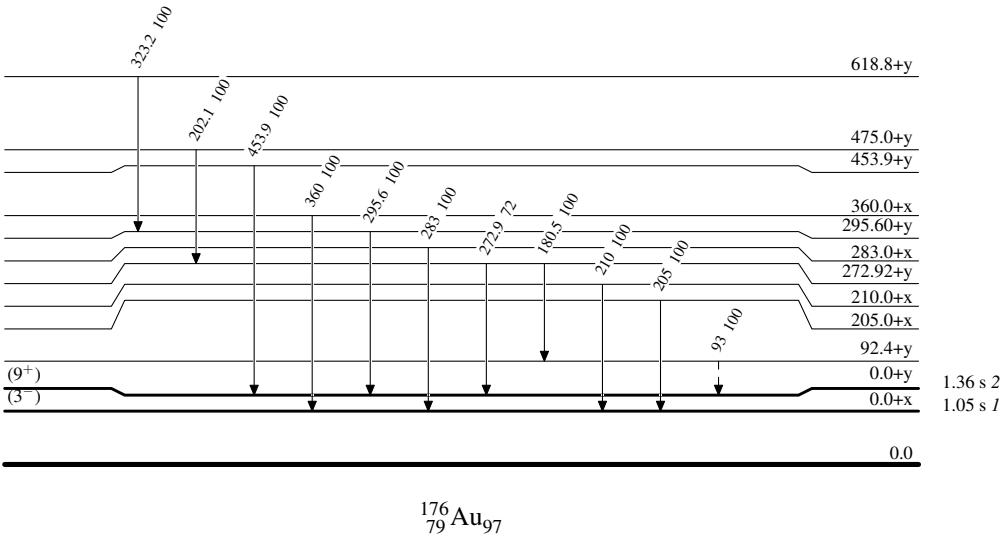
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)



$^{176}_{79}\text{Au}_{97}$