

Adopted Levels, Gammas

| Type | Author | History | Citation | Literature Cutoff Date |
|-----------------|------------------------|---------|--------------------|------------------------|
| Full Evaluation | M. Shamsuzzoha Basunia | | NDS 102,719 (2004) | 1-Jun-2004 |

Q(β⁻)=-9.44×10³ 9; S(n)=1.125×10⁴ syst; S(p)=-6.1×10² 4; Q(α)=6577 8 [2012Wa38](#)

Note: Current evaluation has used the following Q record -9450 SY11320 syst-590 406562 15 [2003Au03](#).

ΔQ(β⁻)=110, ΔS(n)=110(syst).

¹⁷⁵Au Levels

Cross Reference (XREF) Flags

- A ¹⁷⁹Tl α decay (0.23 s)
- B ¹⁷⁹Tl α decay (1.5 ms)
- C ⁹⁴Mo(⁸⁴Sr,p2nγ)

| E(level) | J ^π † | T _{1/2} | XREF | Comments |
|----------|----------------------|------------------|------|--|
| 0.0 | (1/2 ⁺) | | A | J ^π : By analogy to ¹⁷¹ Au and ¹⁷³ Au (both 1/2 ⁺ , see 1999Po09). |
| 0.0+x | (11/2 ⁻) | 156 ms 5 | BC | %α=94 +6-25; %ε+%β ⁺ =6 +25-6 %α: From 1983Sc24 . J ^π : Favored alpha decay (HF≈2.1) to ¹⁷¹ Ir (J ^π =(11/2 ⁻)). T _{1/2} : Weighted average of 158 ms 3 (2002Ro17) and 143 ms 8 (2001Ko44). Others: 185 ms 30 (1996Pa01), 200 ms 22 (1983Sc24). |
| 887.5+x | (13/2 ⁻) | | C | |
| 976.7+x | (13/2 ⁺) | | C | (π13/2(606)) oblate configuration based on similarity to analogous π=+ sequences in heavier Tl nuclides (2001Ko44). |
| 1270.9+x | (17/2 ⁺) | | C | |
| 1593.8+x | (21/2 ⁺) | | C | |
| 1973.9+x | (25/2 ⁺) | | C | |
| 2422.1+x | (29/2 ⁺) | | C | |
| 2935.8+x | (33/2 ⁺) | | C | |
| 3509.8+x | (37/2 ⁺) | | C | |
| 4134.4+x | (41/2 ⁺) | | C | |
| 4778.1+x | (45/2 ⁺) | | C | |
| 5430.1+x | (49/2 ⁺) | | C | |

† From ⁹²Mo(⁸⁴Sr,p2nγ). Proposed spins and parities are consistent with the analysis of spectroscopic data on the daughter and grand-daughter nuclei, and systematics in heavier Au and Tl isotopes.

γ(¹⁷⁵Au)

| E _i (level) | J _i ^π | E _γ † | I _γ | E _f | J _f ^π | Mult. | Comments |
|------------------------|-----------------------------|------------------|----------------|----------------|-----------------------------|-------|--|
| 887.5+x | (13/2 ⁻) | 887.5 | 100 | 0.0+x | (11/2 ⁻) | | |
| 976.7+x | (13/2 ⁺) | 89.4 | | 887.5+x | (13/2 ⁻) | E1 | Mult.: From intensity balance at 888+x level in (⁸⁴ Sr,p2nγ). I _γ : From arrow width of Fig. 1 in (⁸⁴ Sr,p2nγ) (2001Ko44). |
| | | 976.7 | 100 | 0.0+x | (11/2 ⁻) | | |
| 1270.9+x | (17/2 ⁺) | 294.2 | 100 | 976.7+x | (13/2 ⁺) | | |
| 1593.8+x | (21/2 ⁺) | 322.9 | 100 | 1270.9+x | (17/2 ⁺) | | |
| 1973.9+x | (25/2 ⁺) | 380.1 | 100 | 1593.8+x | (21/2 ⁺) | | |
| 2422.1+x | (29/2 ⁺) | 448.2 | 100 | 1973.9+x | (25/2 ⁺) | | |
| 2935.8+x | (33/2 ⁺) | 513.7 | 100 | 2422.1+x | (29/2 ⁺) | | |
| 3509.8+x | (37/2 ⁺) | 574.0 | 100 | 2935.8+x | (33/2 ⁺) | | |
| 4134.4+x | (41/2 ⁺) | 624.6 | 100 | 3509.8+x | (37/2 ⁺) | | |

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

 $\gamma(^{175}\text{Au})$ (continued)

| <u>$E_i(\text{level})$</u> | <u>J_i^π</u> | <u>E_γ</u> [†] | <u>I_γ</u> | <u>E_f</u> | <u>J_f^π</u> |
|---------------------------------------|-----------------------------|---|------------------------------|-------------------------|-----------------------------|
| 4778.1+x | (45/2 ⁺) | 643.7 | 100 | 4134.4+x | (41/2 ⁺) |
| 5430.1+x | (49/2 ⁺) | 652.0 [‡] | 100 | 4778.1+x | (45/2 ⁺) |

[†] From $^{92}\text{Mo}(^{84}\text{Sr},\text{p}2\text{n}\gamma)$. The placement of transitions and levels was determined from the γ -ray coincidence relationships. Their ordering follows from the relative intensities within a given cascade.

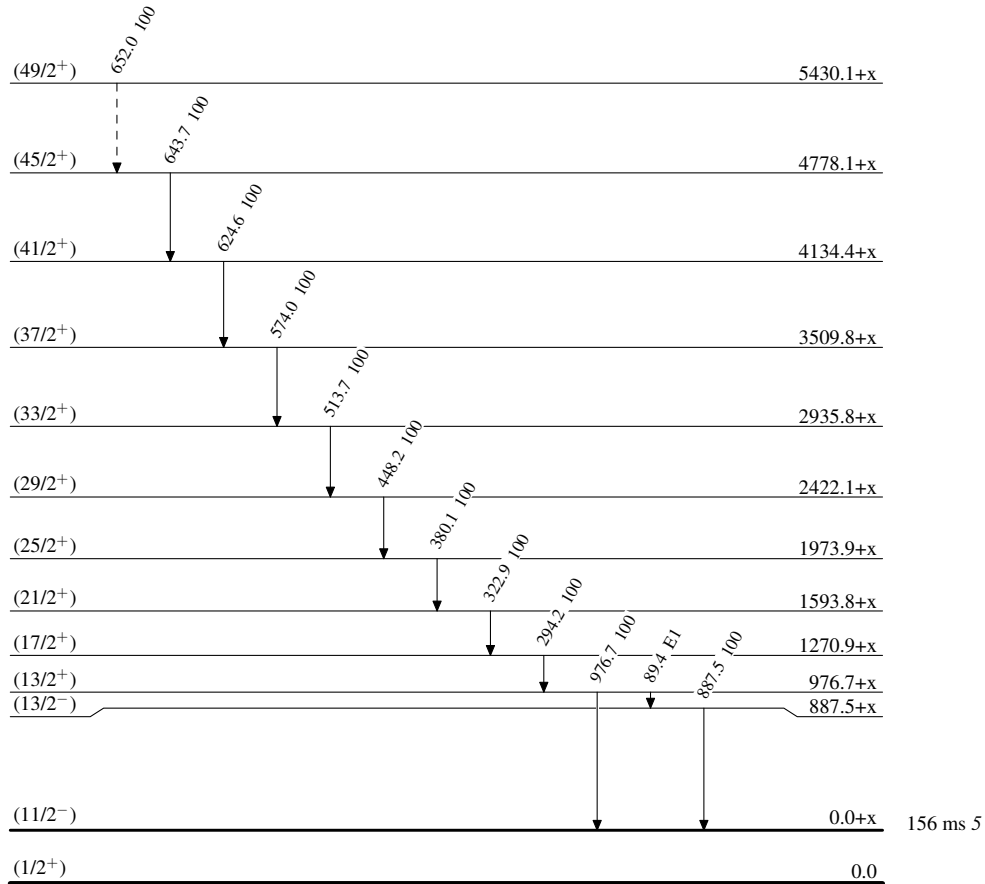
[‡] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain) $^{175}_{79}\text{Au}_{96}$