## $^{114}$Sn($^{6}$Li,3n$\gamma$) 1982Ga21

History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Jean Blachot | ENSDF | 1-Mar-2009 |

E($^{6}$Li) 23 to 36 MeV.
Enriched target.
Measured: $\gamma$, $\gamma\gamma$, $\gamma(\theta)$, $\gamma$(t), $\sigma$(E),Ge(Li) detectors. Earlier measurements from the same group 1977Fo03, 1977Go04, 1982Sh20, 1978GaZV.

### $^{117}$I Levels

| E(level) | J$^{\pi}$[†] | $T_{1/2}$ | Comments |
|---|---|---|---|
| 0 | (5/2$^+$) | | |
| 58 | (7/2$^+$) | | |
| 353[‡] | (9/2$^+$) | 12.1 ns *7* | $T_{1/2}$: from 1982Ga21, 1978GaZV. |
| 620 | (9/2$^+$) | | J$^{\pi}$: from systematic. |
| 654[‡] | (11/2$^+$) | | |
| 663[#] | (11/2$^-$) | | See Adopted Levels for the 11/2$^-$ bandhead level. |
| 972[‡] | (13/2$^+$) | | |
| 1000[#] | (15/2$^-$) | | |
| 1318[‡] | (15/2$^+$) | | |
| 1471[#] | (19/2$^-$) | | |
| 1686[‡] | (17/2$^+$) | | |
| 2075[#] | (23/2$^-$) | | |
| 2078[‡] | (19/2$^+$) | | J$^{\pi}$: from 1982Sh20. |
| 2807[#] | (27/2$^-$) | | |

[†] From Adopted Levels.
[‡] Band(A): proposed 9/2$^+$ band ($1g_{9/2}$).
[#] Band(B): proposed 11/2$^-$ band ($1h_{11/2}$).

### $\gamma$($^{117}$I)

| E$_\gamma$ | I$_\gamma$ | E$_i$(level) | J$_i^{\pi}$ | E$_f$ | J$_f^{\pi}$ | Mult.[†] | $\delta$ | Comments |
|---|---|---|---|---|---|---|---|---|
| 58.4 *3* | | 58 | (7/2$^+$) | 0 | (5/2$^+$) | | | Mult.: $A_1$=−0.03 *15*. |
| 294.8 *3* | 100 *10* | 353 | (9/2$^+$) | 58 | (7/2$^+$) | M1+(E2) | 0.05 *5* | B(M1)(W.u.)=6.6×10$^{-5}$ *10*; B(E2)(W.u.)=0.001 *+3−1*<br>Mult.: $A_2$=−0.11 *6* \$ $A_4$=−0.2 *2*. |
| 300.6 *3* | 60 *6* | 654 | (11/2$^+$) | 353 | (9/2$^+$) | M1+E2 | 0.14 *5* | Mult.: $A_2$=−0.02 *7*\$ $A_4$=−0.2 *2*. |
| 317.9 *3* | 35 *4* | 972 | (13/2$^+$) | 654 | (11/2$^+$) | M1+E2 | 0.10 *5* | Mult.: $A_2$=−0.07 *9*\$ $A_4$=−0.2 *2*. |
| 337.5 *3* | 66 *7* | 1000 | (15/2$^-$) | 663 | (11/2$^-$) | E2 | | Mult.: $A_2$=0.30 *8*\$ $A_4$=−0.09 *8*. |
| 346.3 *3* | 17 *2* | 1318 | (15/2$^+$) | 972 | (13/2$^+$) | M1+E2 | 0.14 *5* | Mult.: $A_2$=−0.02 *10*\$ $A_4$=−0.05 *20*. |
| 353.4 *3* | 8 *1* | 353 | (9/2$^+$) | 0 | (5/2$^+$) | | | |
| 368 *1* | | 1686 | (17/2$^+$) | 1318 | (15/2$^+$) | | | |
| 392 | | 2078 | (19/2$^+$) | 1686 | (17/2$^+$) | | | |
| 470.8 *3* | 38 *4* | 1471 | (19/2$^-$) | 1000 | (15/2$^-$) | E2 | | Mult.: $A_2$=0.29 *13*\$ $A_4$=−0.18 *10*. |
| 604 | | 2075 | (23/2$^-$) | 1471 | (19/2$^-$) | | | |
| 605 *1* | 32 *4* | 663 | (11/2$^-$) | 58 | (7/2$^+$) | | | E$_\gamma$: unresolved doublet in the single spectrum, evidence from coincidence data. |
| 619 | | 972 | (13/2$^+$) | 353 | (9/2$^+$) | | | |
| 619.7 *3* | 36 *4* | 620 | (9/2$^+$) | 0 | (5/2$^+$) | | | |

Continued on next page (footnotes at end of table)

## $^{114}$Sn($^{6}$Li,3n$\gamma$) 1982Ga21 (continued)

### $\gamma(^{117}I)$ (continued)

| $E_\gamma$ | $I_\gamma$ | $E_i$(level) | $J_i^\pi$ | $E_f$ | $J_f^\pi$ |
|---|---|---|---|---|---|
| 663.1 *3* | 42 *5* | 663 | $(11/2^-)$ | 0 | $(5/2^+)$ |
| 664 | | 1318 | $(15/2^+)$ | 654 | $(11/2^+)$ |
| 714‡ *1* | | 1686 | $(17/2^+)$ | 972 | $(13/2^+)$ |
| 732 | | 2807 | $(27/2^-)$ | 2075 | $(23/2^-)$ |
| 760 | | 2078 | $(19/2^+)$ | 1318 | $(15/2^+)$ |

† From $\gamma(\theta)$.
‡ Placement of transition in the level scheme is uncertain.

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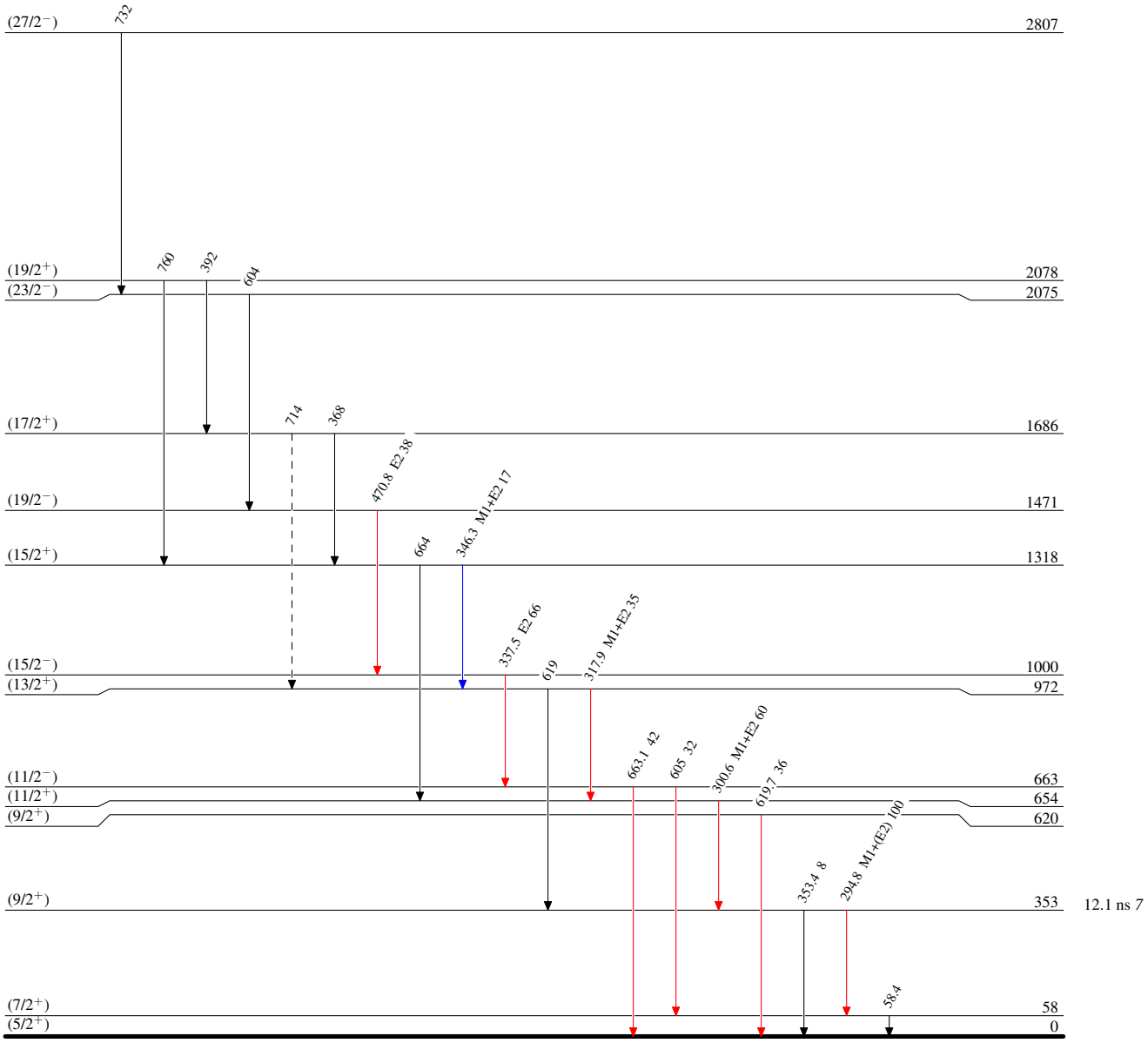
Level Scheme

Intensities: Relative $I_\gamma$

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- $\gamma$ Decay (Uncertain)




$^{117}_{53}I_{64}$

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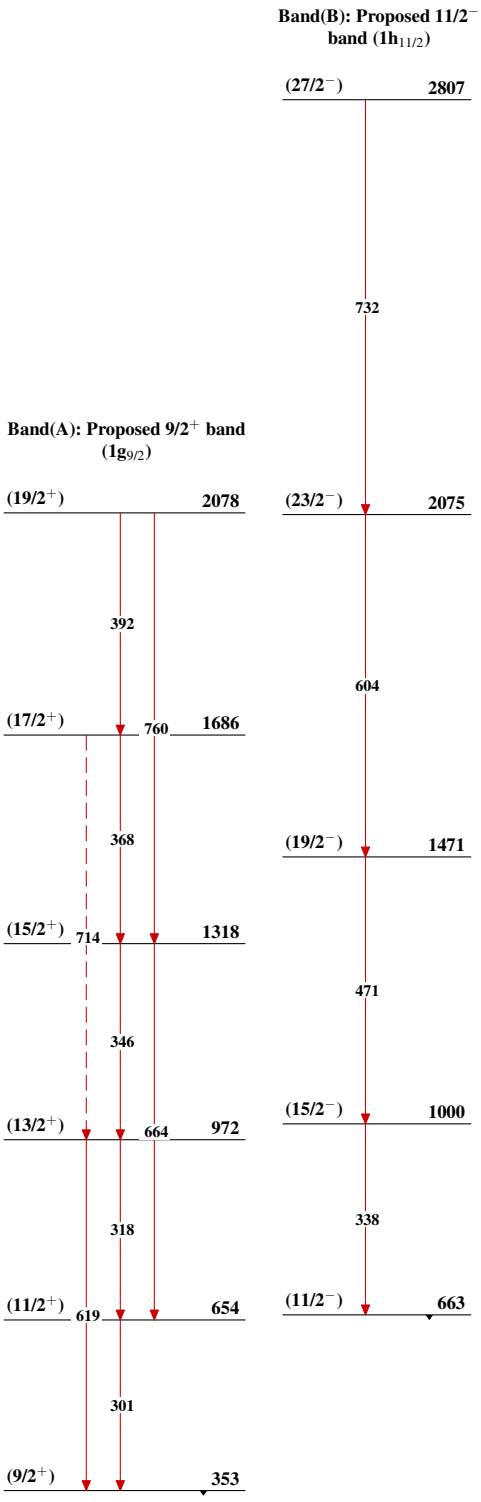


$^{117}_{53}I_{64}$