## $^{12}$C(n,$\gamma$) E=th    **1982Mu14**

### History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | F. Ajzenberg-selove, J. H. Kelley and C. D. Nesaraja | NP A523, 1 (1991) | 1-Jul-1990 |

Target $J^\pi = 0^+$.

1982Mu14: measured E$\gamma$ and I$\gamma$, deduced S(n).

Evaluated S(n)=4946.31 keV (1995Au04).

### $^{13}$C Levels

| E(level)[†] | $J^{\pi}$[‡] | $T_{1/2}$[‡] | Comments |
|---|---|---|---|
| 0.0 | $1/2^-$ | stable | |
| 3089.446 $16$ | $1/2^+$ | 1.07 fs $10$ | |
| 3684.475 $17$ | $1/2^-$ | 1.10 fs $9$ | |
| (4946.3120 $23$) | $1/2^+$ | | $J^\pi$: from s-wave neutron capture. |

[†] From E$\gamma$ using least-squares fit to data.
[‡] From 1996FiZY, except as noted.

### $\gamma$($^{13}$C)

| E$_\gamma$[†] | I$_\gamma$[#@] | E$_i$(level) | $J^\pi_i$ | E$_f$ | $J^\pi_f$ |
|---|---|---|---|---|---|
| 595.013 $11$ | 0.24 $1$ | 3684.475 | $1/2^-$ | 3089.446 | $1/2^+$ |
| 1261.764[‡] $12$ | 32.36 $44$ | (4946.3120) | $1/2^+$ | 3684.475 | $1/2^-$ |
| 1856.716[‡] $12$ | 0.16 $1$ | (4946.3120) | $1/2^+$ | 3089.446 | $1/2^+$ |
| 3089.049 $20$ | 0.43 $2$ | 3089.446 | $1/2^+$ | 0.0 | $1/2^-$ |
| 3683.921 $23$ | 32.14 $64$ | 3684.475 | $1/2^-$ | 0.0 | $1/2^-$ |
| 4945.301[‡] $3$ | 67.47 $92$ | (4946.3120) | $1/2^+$ | 0.0 | $1/2^-$ |

[†] From 1996FiZY, except as noted.
[‡] From level energy differences.
[#] Intensities per 100 neutron captures from 1982Mu14.
[@] Intensity per 100 neutron captures.

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Level Scheme

Intensities: $I_\gamma$ per 100 neutron captures

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



$^{13}_{6}C_{7}$