

<sup>192</sup>Os(<sup>7</sup>Li, $\alpha$ 2n $\gamma$ ) **2011Fa07**

| Type            | Author                 | History | Citation          | Literature Cutoff Date |
|-----------------|------------------------|---------|-------------------|------------------------|
| Full Evaluation | M. Shamsuzzoha Basunia |         | NDS 143, 1 (2017) | 31-Mar-2017            |

<sup>7</sup>Li beam, E=44 MeV, impinging on an enriched 1.7 mg/cm<sup>2</sup> thick <sup>192</sup>Os target with 1.1 mg/cm<sup>2</sup> carbon backing. Used 14 Compton-suppressed HPGe detectors divided into three groups (at 90° 40° and 152°) for angular distribution measurements. Measured E $\gamma$ , I $\gamma$ ,  $\gamma\gamma$  coin,  $\gamma\gamma(\theta)$ . Deduced level scheme, spin and parity.

<sup>193</sup>Ir Levels

| E(level)              | J $\pi$ <sup>†</sup> | T <sub>1/2</sub> | Comments  |
|-----------------------|----------------------|------------------|---|
| 0.0                   | 3/2 <sup>+</sup>     |                  |   |
| 80.234 <sup>‡</sup> 7 | 11/2 <sup>-</sup>    | 10.53 d 4        | %IT=100<br>T <sub>1/2</sub> : From Adopted Levels.  |
| 469.2 <sup>#</sup> 5  | 13/2 <sup>-</sup>    |                  |   |
| 479.2 <sup>‡</sup> 5  | 15/2 <sup>-</sup>    |                  |   |
| 928.6 <sup>#</sup> 5  | 17/2 <sup>-</sup>    |                  |   |
| 1025.0 <sup>‡</sup> 6 | 19/2 <sup>-</sup>    |                  |   |
| 1357.0 7              | (19/2 <sup>-</sup> ) |                  |   |
| 1526.3 7              | (19/2 <sup>-</sup> ) |                  |   |
| 1591.3 <sup>#</sup> 6 | 21/2 <sup>-</sup>    |                  |   |
| 1713.8 <sup>‡</sup> 8 | 23/2 <sup>-</sup>    |                  |   |
| 1727.1 7              | (23/2 <sup>-</sup> ) |                  |   |
| 1892.7 <sup>‡</sup> 9 | (27/2 <sup>-</sup> ) |                  | J $\pi$ : (25/2 <sup>-</sup> ) in Adopted Levels. <a href="#">2012Dr02</a> (HI,xn $\gamma$ ) argue 178.9 $\gamma$ as a $\Delta$ J=1 transition. |

<sup>†</sup> proposed in [2011Fa07](#), on the basis of measured ADO ratios.

<sup>‡</sup> Band(A):  $\pi$ h<sub>11/2</sub> band, $\alpha=-1/2$ .

<sup>#</sup> Band(a):  $\pi$ h<sub>11/2</sub> band, $\alpha=+1/2$ .

$\gamma(^{193}\text{Ir})$

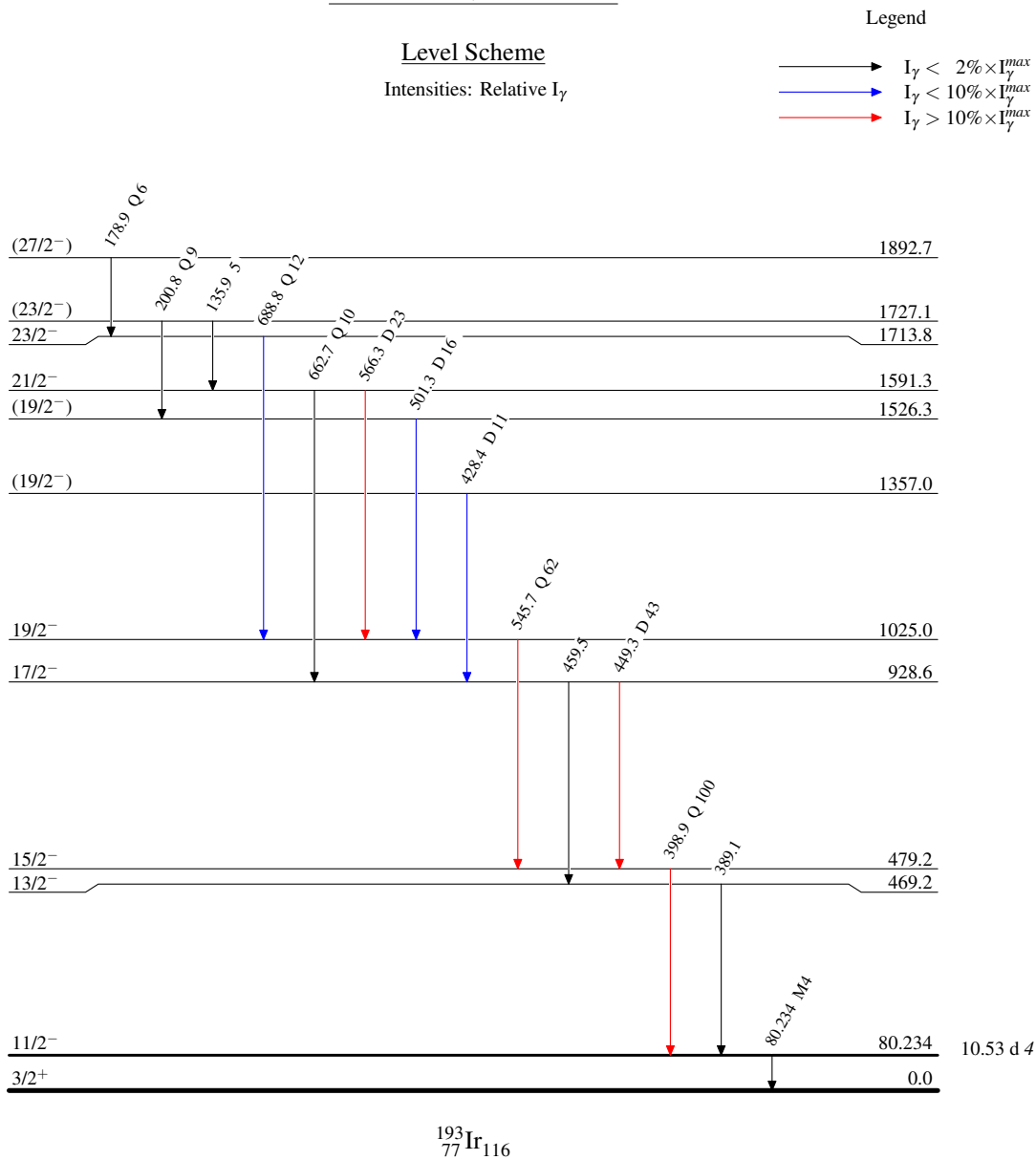
| E $\gamma$ <sup>†</sup> | I $\gamma$ | E <sub>i</sub> (level) | J $\pi$ <sub>i</sub> | E <sub>f</sub> | J $\pi$ <sub>f</sub> | Mult. <sup>‡</sup> | Comments  |
|-------------------------|------------|------------------------|----------------------|----------------|----------------------|--------------------|---|
| 80.234 7                |            | 80.234                 | 11/2 <sup>-</sup>    | 0.0            | 3/2 <sup>+</sup>     | M4                 | E $\gamma$ ,Mult.: From Adopted Gammas.   |
| 135.9 5                 | 5 1        | 1727.1                 | (23/2 <sup>-</sup> ) | 1591.3         | 21/2 <sup>-</sup>    |                    |   |
| 178.9 5                 | 6 1        | 1892.7                 | (27/2 <sup>-</sup> ) | 1713.8         | 23/2 <sup>-</sup>    | Q                  | R <sub>ADO</sub> =1.14 24.  |
| 200.8 5                 | 9 1        | 1727.1                 | (23/2 <sup>-</sup> ) | 1526.3         | (19/2 <sup>-</sup> ) | Q                  | R <sub>ADO</sub> =1.10 17.  |
| 389.1 5                 |            | 469.2                  | 13/2 <sup>-</sup>    | 80.234         | 11/2 <sup>-</sup>    |                    |   |
| 398.9 5                 | 100 7      | 479.2                  | 15/2 <sup>-</sup>    | 80.234         | 11/2 <sup>-</sup>    | Q                  | R <sub>ADO</sub> =1.17 11.  |
| 428.4 5                 | 11 1       | 1357.0                 | (19/2 <sup>-</sup> ) | 928.6          | 17/2 <sup>-</sup>    | D                  | R <sub>ADO</sub> =0.89 22.  |
| 449.3 5                 | 43 3       | 928.6                  | 17/2 <sup>-</sup>    | 479.2          | 15/2 <sup>-</sup>    | D                  | R <sub>ADO</sub> =0.98 8.   |
| 459.5 5                 |            | 928.6                  | 17/2 <sup>-</sup>    | 469.2          | 13/2 <sup>-</sup>    |                    |   |
| 501.3 5                 | 16 2       | 1526.3                 | (19/2 <sup>-</sup> ) | 1025.0         | 19/2 <sup>-</sup>    | D                  | R <sub>ADO</sub> =1.13 13.<br>Mult.: <a href="#">2011Fa07</a> note the R <sub>ADO</sub> value is consistent with non-stretched, $\Delta$ J=0, transition. |
| 545.7 5                 | 62 5       | 1025.0                 | 19/2 <sup>-</sup>    | 479.2          | 15/2 <sup>-</sup>    | Q                  | R <sub>ADO</sub> =1.18 12.  |
| 566.3 5                 | 23 2       | 1591.3                 | 21/2 <sup>-</sup>    | 1025.0         | 19/2 <sup>-</sup>    | D                  | R <sub>ADO</sub> =0.92 11.  |
| 662.7 5                 | 10 1       | 1591.3                 | 21/2 <sup>-</sup>    | 928.6          | 17/2 <sup>-</sup>    | Q                  | R <sub>ADO</sub> =1.10 23.  |
| 688.8 5                 | 12 1       | 1713.8                 | 23/2 <sup>-</sup>    | 1025.0         | 19/2 <sup>-</sup>    | Q                  | R <sub>ADO</sub> =1.10 16.  |

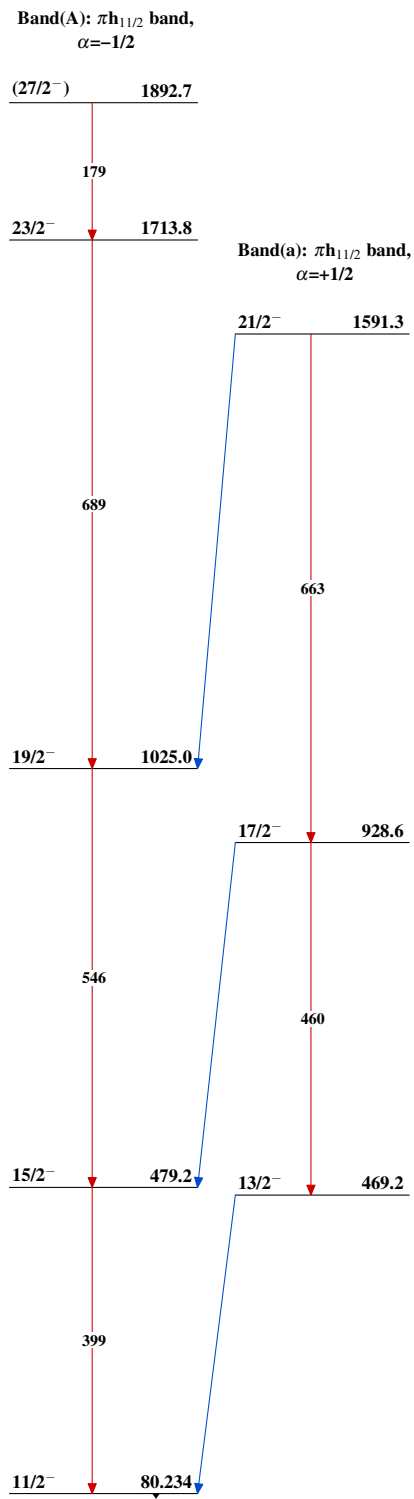
<sup>†</sup> Placement based on  $\gamma$ - $\gamma$  coincidence, sum of  $\gamma$ -ray energies, and relative intensities.  $\gamma$ -ray energy uncertainties are noted as within 0.5 keV. Evaluator assigns 0.5 keV for all.

Continued on next page (footnotes at end of table)

$^{192}\text{Os}(^7\text{Li},\alpha 2n\gamma)$  2011Fa07 (continued) $\gamma(^{193}\text{Ir})$  (continued)

‡ from  $R_{\text{ADO}}(\gamma) = I_\gamma(35^\circ)/I_\gamma(90^\circ)$  ratios. Stretched,  $\Delta J=2$ , quadrupole transitions assumed for  $R_{\text{ADO}}$  values larger than unity and dipole transitions for less than 1.0 in 2011Fa07.

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