

Adopted Levels, Gammas

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

$Q(\beta^-) = -4926$  24;  $S(n) = 8536$  24;  $S(p) = 1043$  24;  $Q(\alpha) = 5.24 \times 10^3$  4 [2012Wa38](#)

Note: Current evaluation has used the following Q record -4933 258500 301045 245240 50 [2003Au03](#).

 $^{176}\text{Ir}$  LevelsCross Reference (XREF) Flags

**A**  $^{180}\text{Au}$   $\alpha$  decay  
**B**  $^{149}\text{Sm}(^{31}\text{P}, 4n\gamma)$

| E(level) <sup>†</sup>      | J <sup>π</sup> #   | T <sub>1/2</sub> | XREF     | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------|--------------------|------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.0                        |                    | 8.7 s 5          |          | $\%E + \% \beta^+ = 96.9$ 6; $\% \alpha = 3.1$ 6<br>T <sub>1/2</sub> : weighted average of 9.2 s 7 ( <a href="#">2005Wa25</a> ), 8 s 1 ( <a href="#">1967Si02</a> ), 8 s 1 and 9 s 1 ( <a href="#">1990Bo19</a> ). In <a href="#">2005Wa25</a> , T <sub>1/2</sub> = 17.6 s 17 (607.2γ-t), 10.9 s 4 (135.0γ-t), 10.1 s 3 (260.3γ-t), 9.6 s 6 (346.9γ-t), 9.9 s 11 (1361.5γ-t), and 9.8 s 8 (1360γ-t) probably indicate the presence of a long lived isomer in $^{176}\text{Ir}$ with two component β-feeding to some levels in $^{176}\text{Os}$ .<br>$\% \alpha$ from <a href="#">1990Bo19</a> . Uncertainty has a 3 σ confidence level. Other value: $\% \alpha = 2.1$ 4 ( <a href="#">1986Ke03</a> ). |
| 0.0+x <sup>d</sup>         | (7 <sup>+</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0.0+y <sup>g</sup>         | (8 <sup>-</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0.0+z                      |                    |                  | <b>A</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 37+z <sup>‡</sup>          |                    | 6.9 ns 5         | <b>A</b> | T <sub>1/2</sub> : from αγ(t) <a href="#">1993Wa03</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 79+z <sup>‡</sup>          |                    |                  | <b>A</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 97.3+x <sup>@</sup> 2      | (8 <sup>-</sup> )  | 2.8 ns 3         | <b>B</b> | J <sup>π</sup> : 97.3γ E1 to (7 <sup>+</sup> ) state.<br>T <sub>1/2</sub> : From centroid shift technique ( $^{31}\text{P}, 4n\gamma$ ) ( <a href="#">2003Ba07</a> ). Time difference spectrum constructed with gates on transitions of band 1, detected in the Ge detectors as “start”, and 97 keV γ ray detected in the LEPS detectors as “stop”. In ( $^{31}\text{P}, 4n\gamma$ ) the half life is attributed to the head of band 1, however it is possible that the bandhead actually decays by unobserved transitions to another level that emits 97γ according to authors.                                                                                                                        |
| 131.0+y <sup>g</sup> 2     | (9 <sup>-</sup> )  |                  | <b>B</b> | J <sup>π</sup> : 131γ M1+E2 to (8 <sup>-</sup> ) state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 150.3+x <sup>d</sup> 2     | (8 <sup>+</sup> )  |                  | <b>B</b> | J <sup>π</sup> : 150.2γ (M1+E2) to (7 <sup>+</sup> ) state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 151.9+y <sup>g</sup>       | (10 <sup>-</sup> ) |                  | <b>B</b> | J <sup>π</sup> : 151.95γ E2 to (8 <sup>-</sup> ) state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 180.0+x <sup>a</sup>       | (5 <sup>+</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 197+z <sup>‡</sup>         |                    |                  | <b>A</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 218.2+x <sup>@</sup> 3     | (9 <sup>-</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 247.6+x <sup>a</sup> 6     | (6 <sup>+</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 269.7+x <sup>?</sup> c     | (5 <sup>+</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 305.0+y <sup>e</sup>       |                    |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 319.4+x <sup>d</sup> 2     | (9 <sup>+</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 342.8+x <sup>a</sup> 5     | (7 <sup>+</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 346.0+x <sup>&amp;</sup> 0 |                    |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 348.1+x <sup>c</sup> 7     | (6 <sup>+</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 359.0+x <sup>@</sup> 3     | (10 <sup>-</sup> ) |                  | <b>B</b> | J <sup>π</sup> : 140.5γ M1+E2 to (9 <sup>-</sup> ) state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 377.4+y <sup>g</sup> 2     | (11 <sup>-</sup> ) |                  | <b>B</b> | J <sup>π</sup> : 225.2γ M1+E2 to (10 <sup>-</sup> ) state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 447.3+y <sup>g</sup> 3     | (12 <sup>-</sup> ) |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 450.2+x <sup>?</sup> c 7   | (7 <sup>+</sup> )  |                  | <b>B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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**Adopted Levels, Gammas (continued)** $^{176}\text{Ir}$  Levels (continued)

| E(level) <sup>†</sup>     | J <sup>π</sup> #   | XREF | Comments                                                                                            |
|---------------------------|--------------------|------|-----------------------------------------------------------------------------------------------------|
| 469.1+x <sup>a</sup> 5    | (8 <sup>+</sup> )  | B    |                                                                                                     |
| 506.6+x <sup>d</sup> 2    | (10 <sup>+</sup> ) | B    | J <sup>π</sup> : 187.03 (M1+E2) to (9 <sup>+</sup> ) state. 356.4γ E2 to (8 <sup>+</sup> ) state.   |
| 520.2+x <sup>@</sup> 3    | (11 <sup>-</sup> ) | B    | J <sup>π</sup> : 160.9γ M1+E2 to (10 <sup>-</sup> ) state.                                          |
| 572.0+x <sup>c</sup> 6    | (8 <sup>+</sup> )  | B    |                                                                                                     |
| 583.5+x <sup>&amp;</sup>  |                    | B    |                                                                                                     |
| 588.1+y <sup>e</sup> 3    |                    | B    |                                                                                                     |
| 625.6+x <sup>a</sup> 5    | (9 <sup>+</sup> )  | B    |                                                                                                     |
| 705.8+x <sup>@</sup> 4    | (12 <sup>-</sup> ) | B    |                                                                                                     |
| 708.0+x <sup>d</sup> 2    | (11 <sup>+</sup> ) | B    | J <sup>π</sup> : 388.7γ (E2) to (9 <sup>+</sup> ) state.                                            |
| 711.0+x <sup>?c</sup> 6   | (9 <sup>+</sup> )  | B    |                                                                                                     |
| 730.5+y <sup>g</sup> 3    | (13 <sup>-</sup> ) | B    | J <sup>π</sup> : 283.2γ M1+E2 to (12 <sup>-</sup> ) state.                                          |
| 811.1+x <sup>a</sup> 5    | (10 <sup>+</sup> ) | B    | J <sup>π</sup> : 185.3γ M1+E2 to (9 <sup>+</sup> ) state.                                           |
| 817.5+x <sup>&amp;</sup>  |                    | B    |                                                                                                     |
| 863.0+y <sup>f</sup>      |                    | B    |                                                                                                     |
| 865.5+x <sup>?c</sup> 6   | (10 <sup>+</sup> ) | B    |                                                                                                     |
| 882.6+y <sup>g</sup> 3    | (14 <sup>-</sup> ) | B    | J <sup>π</sup> : 435.24γ E2 to (12 <sup>-</sup> ) state.                                            |
| 891.1+x <sup>10</sup>     |                    | B    |                                                                                                     |
| 912.3+x <sup>@</sup> 4    | (13 <sup>-</sup> ) | B    | J <sup>π</sup> : 206.27γ M1+E2 to (12 <sup>-</sup> ) state. 392.12γ E2 to (11 <sup>-</sup> ) state. |
| 923.3+x <sup>d</sup> 2    | (12 <sup>+</sup> ) | B    | J <sup>π</sup> : 215.18γ (M1+E2) to (11 <sup>+</sup> ) state.                                       |
| 926.7+y <sup>e</sup> 4    |                    | B    |                                                                                                     |
| 1013.3+x <sup>a</sup> 5   | (11 <sup>+</sup> ) | B    |                                                                                                     |
| 1022.7+x <sup>b</sup> 5   | (11 <sup>+</sup> ) | B    |                                                                                                     |
| 1043.5+x <sup>?c</sup> 13 | (11 <sup>+</sup> ) | B    |                                                                                                     |
| 1055.1+x <sup>&amp;</sup> |                    | B    |                                                                                                     |
| 1059.5+y 8                |                    | B    |                                                                                                     |
| 1061.0+x 0                |                    | B    |                                                                                                     |
| 1122.2+x <sup>b</sup> 4   | (12 <sup>+</sup> ) | B    |                                                                                                     |
| 1138.8+x <sup>@</sup> 4   | (14 <sup>-</sup> ) | B    |                                                                                                     |
| 1151.6+x <sup>d</sup> 3   | (13 <sup>+</sup> ) | B    | J <sup>π</sup> : 228γ M1+E2 to (12 <sup>+</sup> ) state.                                            |
| 1188.7+y <sup>g</sup> 3   | (15 <sup>-</sup> ) | B    | J <sup>π</sup> : 306γ M1+E2 to (14 <sup>-</sup> ) state.                                            |
| 1258.0+y <sup>f</sup>     |                    | B    |                                                                                                     |
| 1263.3+x <sup>b</sup> 3   | (13 <sup>+</sup> ) | B    | J <sup>π</sup> : 140.9γ M1+E2 to (12 <sup>+</sup> ) state.                                          |
| 1337.7+y <sup>e</sup> 5   |                    | B    |                                                                                                     |
| 1383.2+x <sup>@</sup> 4   | (15 <sup>-</sup> ) | B    |                                                                                                     |
| 1389.0+x <sup>d</sup> 3   | (14 <sup>+</sup> ) | B    |                                                                                                     |
| 1405.5+x <sup>b</sup> 3   | (14 <sup>+</sup> ) | B    | J <sup>π</sup> : 141.8γ M1+E2 to (13 <sup>+</sup> ) state.                                          |
| 1427.0+y <sup>g</sup> 4   | (16 <sup>-</sup> ) | B    | J <sup>π</sup> : 544.4γ E2 to (14 <sup>-</sup> ) state. Band member.                                |
| 1591.0+x <sup>b</sup> 3   | (15 <sup>+</sup> ) | B    | J <sup>π</sup> : 327.98γ E2 to (13 <sup>+</sup> ) state. Band member.                               |
| 1644.6+x <sup>@</sup> 4   | (16 <sup>-</sup> ) | B    | J <sup>π</sup> : 505.95γ E2 to (14 <sup>-</sup> ) state. Band member.                               |
| 1648.1+x <sup>d</sup> 3   | (15 <sup>+</sup> ) | B    | J <sup>π</sup> : 496.49γ E2 to (13 <sup>+</sup> ) state. Band member.                               |
| 1681.2+y <sup>f</sup> 5   |                    | B    |                                                                                                     |
| 1738.9+y <sup>g</sup> 4   | (17 <sup>-</sup> ) | B    |                                                                                                     |
| 1768.0+x <sup>b</sup> 3   | (16 <sup>+</sup> ) | B    | J <sup>π</sup> : 362.49γ E2 to (14 <sup>+</sup> ) state. Band member.                               |
| 1797.7+y <sup>e</sup> 13  |                    | B    |                                                                                                     |
| 1913.2+x <sup>d</sup> 4   | (16 <sup>+</sup> ) | B    |                                                                                                     |
| 1922.6+x <sup>@</sup> 4   | (17 <sup>-</sup> ) | B    |                                                                                                     |
| 2000.4+x <sup>b</sup> 3   | (17 <sup>+</sup> ) | B    | J <sup>π</sup> : 232.2γ M1+E2 to (16 <sup>+</sup> ) state. Band member.                             |

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**Adopted Levels, Gammas (continued)** $^{176}\text{Ir}$  Levels (continued)

| E(level) <sup>†</sup>    | J <sup>π</sup> #   | XREF | Comments                                                                                     |
|--------------------------|--------------------|------|----------------------------------------------------------------------------------------------|
| 2050.9+y <sup>g</sup> 4  | (18 <sup>-</sup> ) | B    | J <sup>π</sup> : 624γ E2 to (16 <sup>-</sup> ) state. Band member.                           |
| 2156.1+y <sup>f</sup> 5  |                    | B    |                                                                                              |
| 2190.8+x <sup>d</sup> 4  | (17 <sup>+</sup> ) | B    |                                                                                              |
| 2214.5+x <sup>b</sup> 3  | (18 <sup>+</sup> ) | B    | J <sup>π</sup> : 213.9γ M1+E2 to (17 <sup>+</sup> ) state. 446.6γ E2 to (16 <sup>+</sup> ).  |
| 2216.0+x <sup>@</sup> 5  | (18 <sup>-</sup> ) | B    |                                                                                              |
| 2318.9+y <sup>e</sup> 14 |                    | B    |                                                                                              |
| 2346.2+y <sup>h</sup> 5  | (19 <sup>-</sup> ) | B    |                                                                                              |
| 2360.0+y <sup>g</sup> 8  | (19 <sup>-</sup> ) | B    |                                                                                              |
| 2479.0+x <sup>d</sup> 4  | (18 <sup>+</sup> ) | B    |                                                                                              |
| 2482.4+x <sup>b</sup> 4  | (19 <sup>+</sup> ) | B    | J <sup>π</sup> : 267.8γ M1+E2 to (18 <sup>+</sup> ) state. 481.97γ E2 to (17 <sup>+</sup> ). |
| 2525.4+x <sup>@</sup> 5  | (19 <sup>-</sup> ) | B    |                                                                                              |
| 2672.4+y <sup>f</sup> 6  | (20 <sup>-</sup> ) | B    |                                                                                              |
| 2732.8+x <sup>b</sup> 4  | (20 <sup>+</sup> ) | B    | J <sup>π</sup> : 518.4γ E2 to (18 <sup>+</sup> ). Band member.                               |
| 2748.1+y <sup>g</sup> 6  | (20 <sup>-</sup> ) | B    |                                                                                              |
| 2778.5+x <sup>d</sup> 4  | (19 <sup>+</sup> ) | B    |                                                                                              |
| 2849.0+x <sup>@</sup> 5  | (20 <sup>-</sup> ) | B    |                                                                                              |
| 2892.2+y <sup>e</sup> 14 |                    | B    |                                                                                              |
| 2955.0+y <sup>h</sup> 5  | (21 <sup>-</sup> ) | B    |                                                                                              |
| 3032.4+x <sup>b</sup> 4  | (21 <sup>+</sup> ) | B    |                                                                                              |
| 3050.4+y <sup>g</sup> 8  | (21 <sup>-</sup> ) | B    |                                                                                              |
| 3087.7+x <sup>d</sup> 4  | (20 <sup>+</sup> ) | B    |                                                                                              |
| 3188.3+x <sup>@</sup> 6  | (21 <sup>-</sup> ) | B    |                                                                                              |
| 3253.0+y <sup>f</sup> 6  | (22 <sup>-</sup> ) | B    |                                                                                              |
| 3317.5+x <sup>b</sup> 4  | (22 <sup>+</sup> ) | B    |                                                                                              |
| 3406.0+x <sup>d</sup> 4  | (21 <sup>+</sup> ) | B    |                                                                                              |
| 3481.7+y <sup>g</sup> 8  | (22 <sup>-</sup> ) | B    |                                                                                              |
| 3518.0+y <sup>e</sup> 6  |                    | B    |                                                                                              |
| 3541.7+x <sup>@</sup> 7  | (22 <sup>-</sup> ) | B    |                                                                                              |
| 3611.3+y <sup>h</sup> 9  | (23 <sup>-</sup> ) | B    |                                                                                              |
| 3646.6+x <sup>b</sup> 4  | (23 <sup>+</sup> ) | B    |                                                                                              |
| 3734.8+x <sup>d</sup> 7  | (22 <sup>+</sup> ) | B    |                                                                                              |
| 3767.2+y <sup>g</sup> 10 | (23 <sup>-</sup> ) | B    |                                                                                              |
| 3883.0+y <sup>f</sup> 6  | (24 <sup>-</sup> ) | B    |                                                                                              |
| 3909.0+x <sup>@</sup> 5  | (23 <sup>-</sup> ) | B    |                                                                                              |
| 3965.3+x <sup>b</sup> 5  | (24 <sup>+</sup> ) | B    |                                                                                              |
| 4070.0+x <sup>d</sup> 4  | (23 <sup>+</sup> ) | B    |                                                                                              |
| 4197.8+y <sup>e</sup> 17 |                    | B    |                                                                                              |
| 4290.9+x <sup>@</sup> 10 | (24 <sup>-</sup> ) | B    |                                                                                              |
| 4318.8+y <sup>h</sup> 14 | (25 <sup>-</sup> ) | B    |                                                                                              |
| 4322.9+x <sup>b</sup> 7  | (25 <sup>+</sup> ) | B    |                                                                                              |
| 4413.0+x <sup>d</sup> 4  | (24 <sup>+</sup> ) | B    |                                                                                              |
| 4563.0+y <sup>f</sup> 6  | (26 <sup>-</sup> ) | B    |                                                                                              |
| 4673.2+x <sup>b</sup> 4  | (26 <sup>+</sup> ) | B    |                                                                                              |
| 4686.3+x <sup>@</sup> 14 | (25 <sup>-</sup> ) | B    |                                                                                              |
| 4930.0+y <sup>e</sup> 19 |                    | B    |                                                                                              |

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**Adopted Levels, Gammas (continued)** $^{176}\text{Ir}$  Levels (continued)

| E(level) <sup>†</sup>    | J <sup>π</sup> #   | XREF | E(level) <sup>†</sup>    | J <sup>π</sup> #   | XREF | E(level) <sup>†</sup> | J <sup>π</sup> #   | XREF |
|--------------------------|--------------------|------|--------------------------|--------------------|------|-----------------------|--------------------|------|
| 5059.9+x <sup>b</sup> 11 | (27 <sup>+</sup> ) | B    | 5505.7+x <sup>@</sup> 23 | (27 <sup>-</sup> ) | B    | 6710.0+x <sup>b</sup> | (31 <sup>+</sup> ) | B    |
| 5076.2+y <sup>h</sup> 18 | (27 <sup>-</sup> ) | B    | 5715+y <sup>e</sup> 3    |                    | B    | 6817+x <sup>@</sup> 4 | (30 <sup>-</sup> ) | B    |
| 5089.6+x <sup>@</sup> 16 | (26 <sup>-</sup> ) | B    | 5856.3+x <sup>b</sup> 19 | (29 <sup>+</sup> ) | B    | 7140+x <sup>b</sup> 3 | (32 <sup>+</sup> ) | B    |
| 5294.2+y <sup>f</sup> 11 | (28 <sup>-</sup> ) | B    | 5934+x <sup>@</sup> 3    | (28 <sup>-</sup> ) | B    |                       |                    |      |
| 5439.9+x <sup>b</sup> 11 | (28 <sup>+</sup> ) | B    | 6263.6+x <sup>b</sup> 17 | (30 <sup>+</sup> ) | B    |                       |                    |      |

<sup>†</sup> From ( $^{31}\text{P}, 4n\gamma$ ), except otherwise noted.<sup>‡</sup> From  $^{180}\text{Au}$   $\alpha$  decay (1993Wa03).

# From rotational band structure, similar level spacings and decay patterns of neighboring nuclei and systematics.

<sup>@</sup> Band(A): Band 1:  $\pi 9/2[514] \otimes \nu 7/2[633]$ .<sup>&</sup> Band(B): Band 2.<sup>a</sup> Band(C): Band 3:  $\pi 1/2[541] \otimes \nu 5/2[512]$ .<sup>b</sup> Band(D): Band 4:  $\pi 1/2[660] \otimes \nu 7/2[633]$ .<sup>c</sup> Band(E): Band 5:  $\pi 9/2[514] \otimes \nu 1/2[521]$ .<sup>d</sup> Band(F): Band 6:  $\pi 9/2[514] \otimes \nu 5/2[512]$ .<sup>e</sup> Band(G): Band 7.<sup>f</sup> Band(H): Band 8.<sup>g</sup> Band(I): Band 9:  $\pi 1/2[541] \otimes \nu 7/2[633]$ .<sup>h</sup> Band(J): Band 10. $\gamma(^{176}\text{Ir})$ 

| E <sub>i</sub> (level) | J <sup>π</sup> <sub>i</sub> | E <sub>γ</sub> <sup>†</sup> | I <sub>γ</sub> <sup>†</sup> | E <sub>f</sub> | J <sup>π</sup> <sub>f</sub> | Mult. <sup>#</sup> | Comments                                                                                                                                                               |
|------------------------|-----------------------------|-----------------------------|-----------------------------|----------------|-----------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 37+z                   |                             | 37 <sup>‡</sup>             | 100                         | 0.0+z          |                             |                    |                                                                                                                                                                        |
| 79+z                   |                             | 42 <sup>‡</sup>             | 100                         | 37+z           |                             |                    |                                                                                                                                                                        |
| 97.3+x                 | (8 <sup>-</sup> )           | 97.26 3                     | 100                         | 0.0+x          | (7 <sup>+</sup> )           | E1                 | Mult.: From $\alpha(\text{exp})=0.80$ 15 (2002Zh13) and DCO ratio. DCO ratio 0.66 10 in 2002Zh13.<br>Tentatively placed to feed the (7 <sup>+</sup> ) level of band 6. |
| 131.0+y                | (9 <sup>-</sup> )           | 131.00 3                    | 100                         | 0.0+y          | (8 <sup>-</sup> )           | M1+E2              |                                                                                                                                                                        |
| 150.3+x                | (8 <sup>+</sup> )           | 150.18 3                    | 100                         | 0.0+x          | (7 <sup>+</sup> )           | (M1+E2)            |                                                                                                                                                                        |
| 151.9+y                | (10 <sup>-</sup> )          | 151.95 4                    | 100                         | 0.0+y          | (8 <sup>-</sup> )           | E2                 |                                                                                                                                                                        |
| 197+z                  |                             | 118 <sup>‡</sup>            |                             | 79+z           |                             |                    |                                                                                                                                                                        |
|                        |                             | 195 <sup>‡</sup>            |                             | 0.0+z          |                             |                    |                                                                                                                                                                        |
| 218.2+x                | (9 <sup>-</sup> )           | 120.74 3                    | 100                         | 97.3+x         | (8 <sup>-</sup> )           |                    |                                                                                                                                                                        |
| 247.6+x                | (6 <sup>+</sup> )           | 67.0 10                     | 100                         | 180.0+x        | (5 <sup>+</sup> )           |                    |                                                                                                                                                                        |
| 319.4+x                | (9 <sup>+</sup> )           | 168.84 3                    | 100 3                       | 150.3+x        | (8 <sup>+</sup> )           |                    |                                                                                                                                                                        |
|                        |                             | 319.69 4                    | 52.5 22                     | 0.0+x          | (7 <sup>+</sup> )           |                    |                                                                                                                                                                        |
| 342.8+x                | (7 <sup>+</sup> )           | 95.12 4                     | 100                         | 247.6+x        | (6 <sup>+</sup> )           |                    |                                                                                                                                                                        |
| 346.0+x                |                             | 129.45 10                   | 71 9                        | 218.2+x        | (9 <sup>-</sup> )           |                    |                                                                                                                                                                        |
|                        |                             | 248.64 12                   | 100 11                      | 97.3+x         | (8 <sup>-</sup> )           |                    |                                                                                                                                                                        |
| 348.1+x                | (6 <sup>+</sup> )           | 78.4 10                     | 100                         | 269.7+x?       | (5 <sup>+</sup> )           |                    |                                                                                                                                                                        |
| 359.0+x                | (10 <sup>-</sup> )          | 140.54 3                    | 100 3                       | 218.2+x        | (9 <sup>-</sup> )           | M1+E2              |                                                                                                                                                                        |
|                        |                             | 261.97 5                    | 28.8 14                     | 97.3+x         | (8 <sup>-</sup> )           |                    |                                                                                                                                                                        |
| 377.4+y                | (11 <sup>-</sup> )          | 225.18 4                    | 100 6                       | 151.9+y        | (10 <sup>-</sup> )          | M1+E2              |                                                                                                                                                                        |
|                        |                             | 246.15 6                    | 45 3                        | 131.0+y        | (9 <sup>-</sup> )           |                    |                                                                                                                                                                        |
| 447.3+y                | (12 <sup>-</sup> )          | 69.17 5                     | <7                          | 377.4+y        | (11 <sup>-</sup> )          |                    |                                                                                                                                                                        |
|                        |                             | 295.64 3                    | 100 3                       | 151.9+y        | (10 <sup>-</sup> )          |                    |                                                                                                                                                                        |
| 450.2+x?               | (7 <sup>+</sup> )           | 102.13 4                    | 100                         | 348.1+x        | (6 <sup>+</sup> )           |                    |                                                                                                                                                                        |
| 469.1+x                | (8 <sup>+</sup> )           | 126.12 4                    | 100 7                       | 342.8+x        | (7 <sup>+</sup> )           |                    |                                                                                                                                                                        |

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**Adopted Levels, Gammas (continued)**

| $\gamma(^{176}\text{Ir})$ (continued) |                    |                    |                    |           |                    |                    |
|---------------------------------------|--------------------|--------------------|--------------------|-----------|--------------------|--------------------|
| $E_i(\text{level})$                   | $J_i^\pi$          | $E_\gamma^\dagger$ | $I_\gamma^\dagger$ | $E_f$     | $J_f^\pi$          | Mult. <sup>#</sup> |
| 469.1+x                               | (8 <sup>+</sup> )  | 221.62 10          | 38 5               | 247.6+x   | (6 <sup>+</sup> )  |                    |
| 506.6+x                               | (10 <sup>+</sup> ) | 187.03 3           | 99 3               | 319.4+x   | (9 <sup>+</sup> )  | (M1+E2)            |
|                                       |                    | 356.42 3           | 100 3              | 150.3+x   | (8 <sup>+</sup> )  | E2                 |
| 520.2+x                               | (11 <sup>-</sup> ) | 160.88 3           | 100 3              | 359.0+x   | (10 <sup>-</sup> ) | M1+E2              |
|                                       |                    | 302.13 4           | 33.6 12            | 218.2+x   | (9 <sup>-</sup> )  |                    |
| 572.0+x                               | (8 <sup>+</sup> )  | 121.78 4           | 100 12             | 450.2+x?  | (7 <sup>+</sup> )  |                    |
|                                       |                    | 224.3 10           | 16.1 5             | 348.1+x   | (6 <sup>+</sup> )  |                    |
| 583.5+x                               |                    | 237.17 12          | 100                | 346.0+x   |                    |                    |
| 588.1+y                               |                    | 282.88 5           | 100                | 305.0+y   |                    |                    |
| 625.6+x                               | (9 <sup>+</sup> )  | 156.15 4           | 66 3               | 469.1+x   | (8 <sup>+</sup> )  |                    |
|                                       |                    | 283.11 4           | 100 5              | 342.8+x   | (7 <sup>+</sup> )  |                    |
| 705.8+x                               | (12 <sup>-</sup> ) | 185.36 3           | 100 3              | 520.2+x   | (11 <sup>-</sup> ) |                    |
|                                       |                    | 346.79 4           | 71 3               | 359.0+x   | (10 <sup>-</sup> ) |                    |
| 708.0+x                               | (11 <sup>+</sup> ) | 201.18 3           | 70 23              | 506.6+x   | (10 <sup>+</sup> ) |                    |
|                                       |                    | 388.76 3           | 100 3              | 319.4+x   | (9 <sup>+</sup> )  | (E2)               |
| 711.0+x?                              | (9 <sup>+</sup> )  | 139.01 4           | 100 8              | 572.0+x   | (8 <sup>+</sup> )  |                    |
|                                       |                    | 260.80 20          | 66 7               | 450.2+x?  | (7 <sup>+</sup> )  |                    |
| 730.5+y                               | (13 <sup>-</sup> ) | 283.18 4           | 100 4              | 447.3+y   | (12 <sup>-</sup> ) | M1+E2              |
|                                       |                    | 353.38 7           | 37 25              | 377.4+y   | (11 <sup>-</sup> ) |                    |
| 811.1+x                               | (10 <sup>+</sup> ) | 185.26 5           | 74 6               | 625.6+x   | (9 <sup>+</sup> )  | M1+E2              |
|                                       |                    | 341.99 7           | 100 8              | 469.1+x   | (8 <sup>+</sup> )  |                    |
| 817.5+x                               |                    | 233.88 8           | 100                | 583.5+x   |                    |                    |
| 865.5+x?                              | (10 <sup>+</sup> ) | 154.47 4           | 100 5              | 711.0+x?  | (9 <sup>+</sup> )  |                    |
|                                       |                    | 294.2 3            | 32 4               | 572.0+x   | (8 <sup>+</sup> )  |                    |
| 882.6+y                               | (14 <sup>-</sup> ) | 152.03 18          | 2.5 4              | 730.5+y   | (13 <sup>-</sup> ) |                    |
|                                       |                    | 435.24 3           | 100 3              | 447.3+y   | (12 <sup>-</sup> ) | E2                 |
| 891.1+x                               |                    | 544.69 21          | 100                | 346.0+x   |                    |                    |
| 912.3+x                               | (13 <sup>-</sup> ) | 206.27 3           | 100 3              | 705.8+x   | (12 <sup>-</sup> ) | M1+E2              |
|                                       |                    | 392.12 4           | 85 3               | 520.2+x   | (11 <sup>-</sup> ) | E2                 |
| 923.3+x                               | (12 <sup>+</sup> ) | 215.18 3           | 53.1 18            | 708.0+x   | (11 <sup>+</sup> ) | (M1+E2)            |
|                                       |                    | 416.79 3           | 100 3              | 506.6+x   | (10 <sup>+</sup> ) |                    |
| 926.7+y                               |                    | 338.53 5           | 52 2               | 588.1+y   |                    |                    |
|                                       |                    | 479.4 @ 10         | 100 5              | 447.3+y   | (12 <sup>-</sup> ) |                    |
| 1013.3+x                              | (11 <sup>+</sup> ) | 201.98 5           | 45 3               | 811.1+x   | (10 <sup>+</sup> ) |                    |
|                                       |                    | 387.85 4           | 100 5              | 625.6+x   | (9 <sup>+</sup> )  |                    |
| 1022.7+x                              | (11 <sup>+</sup> ) | 157.17 6           | 36 2               | 865.5+x?  | (10 <sup>+</sup> ) |                    |
|                                       |                    | 311.84 10          | 53 3               | 711.0+x?  | (9 <sup>+</sup> )  |                    |
|                                       |                    | 397.23 4           | 100 5              | 625.6+x   | (9 <sup>+</sup> )  |                    |
| 1043.5+x?                             | (11 <sup>+</sup> ) | 178.0 20           | 100                | 865.5+x?  | (10 <sup>+</sup> ) |                    |
| 1055.1+x                              |                    | 237.76 20          | 100                | 817.5+x   |                    |                    |
| 1059.5+y                              |                    | 612.16 12          | 100                | 447.3+y   | (12 <sup>-</sup> ) |                    |
| 1061.0+x                              |                    | 243.53 12          | 100                | 817.5+x   |                    |                    |
| 1122.2+x                              | (12 <sup>+</sup> ) | 78.5 10            | 17 8               | 1043.5+x? | (11 <sup>+</sup> ) |                    |
|                                       |                    | 99.30 10           | 92 17              | 1022.7+x  | (11 <sup>+</sup> ) |                    |
|                                       |                    | 108.92 5           | 100 17             | 1013.3+x  | (11 <sup>+</sup> ) |                    |
| 1138.8+x                              | (14 <sup>-</sup> ) | 226.24 3           | 72 2               | 912.3+x   | (13 <sup>-</sup> ) |                    |
|                                       |                    | 433.00 3           | 100 3              | 705.8+x   | (12 <sup>-</sup> ) |                    |
| 1151.6+x                              | (13 <sup>+</sup> ) | 228.04 4           | 41.1 14            | 923.3+x   | (12 <sup>+</sup> ) | M1+E2              |
|                                       |                    | 443.50 3           | 100                | 708.0+x   | (11 <sup>+</sup> ) |                    |
| 1188.7+y                              | (15 <sup>-</sup> ) | 306.01 4           | 70 3               | 882.6+y   | (14 <sup>-</sup> ) | M1+E2              |
|                                       |                    | 458.20 5           | 100 4              | 730.5+y   | (13 <sup>-</sup> ) |                    |
| 1258.0+y                              |                    | 395.35 6           | 100                | 863.0+y   |                    |                    |
| 1263.3+x                              | (13 <sup>+</sup> ) | 140.97 4           | 100 4              | 1122.2+x  | (12 <sup>+</sup> ) | M1+E2              |
|                                       |                    | 240.98 10          | 36.7 22            | 1022.7+x  | (11 <sup>+</sup> ) |                    |
| 1337.7+y                              |                    | 411.06 5           | 100                | 926.7+y   |                    |                    |

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**Adopted Levels, Gammas (continued)**

| $\gamma(^{176}\text{Ir})$ (continued) |                    |                    |                    |          |                    |                    |
|---------------------------------------|--------------------|--------------------|--------------------|----------|--------------------|--------------------|
| $E_i(\text{level})$                   | $J_i^\pi$          | $E_\gamma^\dagger$ | $I_\gamma^\dagger$ | $E_f$    | $J_f^\pi$          | Mult. <sup>#</sup> |
| 1383.2+x                              | (15 <sup>-</sup> ) | 244.16 3           | 60.2 22            | 1138.8+x | (14 <sup>-</sup> ) |                    |
|                                       |                    | 470.94 4           | 100 3              | 912.3+x  | (13 <sup>-</sup> ) |                    |
| 1389.0+x                              | (14 <sup>+</sup> ) | 237.46 4           | 29.2 10            | 1151.6+x | (13 <sup>+</sup> ) |                    |
|                                       |                    | 465.72 3           | 100 3              | 923.3+x  | (12 <sup>+</sup> ) |                    |
| 1405.5+x                              | (14 <sup>+</sup> ) | 141.87 4           | 26.6 12            | 1263.3+x | (13 <sup>+</sup> ) | M1+E2              |
|                                       |                    | 253.82 4           | 46.1 15            | 1151.6+x | (13 <sup>+</sup> ) |                    |
|                                       |                    | 283.6 3            | 21.9 12            | 1122.2+x | (12 <sup>+</sup> ) |                    |
|                                       |                    | 482.33 4           | 100 4              | 923.3+x  | (12 <sup>+</sup> ) |                    |
| 1427.0+y                              | (16 <sup>-</sup> ) | 237.0              |                    | 1188.7+y | (15 <sup>-</sup> ) |                    |
|                                       |                    | 544.40 3           | 100 3              | 882.6+y  | (14 <sup>-</sup> ) | E2                 |
| 1591.0+x                              | (15 <sup>+</sup> ) | 185.19 3           | 94 3               | 1405.5+x | (14 <sup>+</sup> ) |                    |
|                                       |                    | 201.80 7           | 24 1               | 1389.0+x | (14 <sup>+</sup> ) |                    |
|                                       |                    | 327.98 4           | 100 4              | 1263.3+x | (13 <sup>+</sup> ) | E2                 |
| 1644.6+x                              | (16 <sup>-</sup> ) | 260.92 4           | 36.7 14            | 1383.2+x | (15 <sup>-</sup> ) |                    |
|                                       |                    | 505.95 4           | 100 3              | 1138.8+x | (14 <sup>-</sup> ) | E2                 |
| 1648.1+x                              | (15 <sup>+</sup> ) | 259.42 4           | 43.1 23            | 1389.0+x | (14 <sup>+</sup> ) |                    |
|                                       |                    | 496.49 4           | 100 4              | 1151.6+x | (13 <sup>+</sup> ) | E2                 |
| 1681.2+y                              |                    | 422.53 7           | 100                | 1258.0+y |                    |                    |
| 1738.9+y                              | (17 <sup>-</sup> ) | 311.79 5           | 40.7 24            | 1427.0+y | (16 <sup>-</sup> ) |                    |
|                                       |                    | 550.19 5           | 100 4              | 1188.7+y | (15 <sup>-</sup> ) |                    |
| 1768.0+x                              | (16 <sup>+</sup> ) | 176.85 3           | 66.4 24            | 1591.0+x | (15 <sup>+</sup> ) |                    |
|                                       |                    | 362.49 3           | 100 3              | 1405.5+x | (14 <sup>+</sup> ) | E2                 |
|                                       |                    | 379.01 4           | 51.8 20            | 1389.0+x | (14 <sup>+</sup> ) |                    |
| 1797.7+y                              |                    | 460.00 20          | 100                | 1337.7+y |                    |                    |
| 1913.2+x                              | (16 <sup>+</sup> ) | 265.15 5           | 52 30              | 1648.1+x | (15 <sup>+</sup> ) |                    |
|                                       |                    | 523.96 6           | 100 40             | 1389.0+x | (14 <sup>+</sup> ) |                    |
| 1922.6+x                              | (17 <sup>-</sup> ) | 277.70 4           | 35.6 13            | 1644.6+x | (16 <sup>-</sup> ) |                    |
|                                       |                    | 539.41 4           | 100 3              | 1383.2+x | (15 <sup>-</sup> ) |                    |
| 2000.4+x                              | (17 <sup>+</sup> ) | 232.20 3           | 57.0 21            | 1768.0+x | (16 <sup>+</sup> ) | M1+E2              |
|                                       |                    | 409.51 3           | 100 4              | 1591.0+x | (15 <sup>+</sup> ) |                    |
| 2050.9+y                              | (18 <sup>-</sup> ) | 624.01 4           | 100                | 1427.0+y | (16 <sup>-</sup> ) | E2                 |
| 2156.1+y                              |                    | 474.71 7           | 100                | 1681.2+y |                    |                    |
| 2190.8+x                              | (17 <sup>+</sup> ) | 277.37 8           | 22.3 14            | 1913.2+x | (16 <sup>+</sup> ) |                    |
|                                       |                    | 542.82 5           | 100 4              | 1648.1+x | (15 <sup>+</sup> ) |                    |
| 2214.5+x                              | (18 <sup>+</sup> ) | 213.93 4           | 31.0 11            | 2000.4+x | (17 <sup>+</sup> ) | M1+E2              |
|                                       |                    | 446.65 3           | 100 3              | 1768.0+x | (16 <sup>+</sup> ) | E2                 |
| 2216.0+x                              | (18 <sup>-</sup> ) | 293.30 5           | 28.3 14            | 1922.6+x | (17 <sup>-</sup> ) |                    |
|                                       |                    | 571.34 4           | 100                | 1644.6+x | (16 <sup>-</sup> ) |                    |
| 2318.9+y                              |                    | 521.16 6           | 100                | 1797.7+y |                    |                    |
| 2346.2+y                              | (19 <sup>-</sup> ) | 295.88 9           | 44 3               | 2050.9+y | (18 <sup>-</sup> ) |                    |
|                                       |                    | 606.88 9           | 100 6              | 1738.9+y | (17 <sup>-</sup> ) |                    |
| 2360.0+y                              | (19 <sup>-</sup> ) | 309.46 10          | 16.3 15            | 2050.9+y | (18 <sup>-</sup> ) |                    |
|                                       |                    | 621.95 6           | 100 5              | 1738.9+y | (17 <sup>-</sup> ) |                    |
| 2479.0+x                              | (18 <sup>+</sup> ) | 288.43 6           | 39.6 19            | 2190.8+x | (17 <sup>+</sup> ) |                    |
|                                       |                    | 566.04 6           | 100 5              | 1913.2+x | (16 <sup>+</sup> ) |                    |
| 2482.4+x                              | (19 <sup>+</sup> ) | 267.82 4           | 48.3 15            | 2214.5+x | (18 <sup>+</sup> ) | M1+E2              |
|                                       |                    | 481.97 4           | 100 3              | 2000.4+x | (17 <sup>+</sup> ) | E2                 |
| 2525.4+x                              | (19 <sup>-</sup> ) | 309.25 5           | 25.2 14            | 2216.0+x | (18 <sup>-</sup> ) |                    |
|                                       |                    | 602.73 4           | 100 4              | 1922.6+x | (17 <sup>-</sup> ) |                    |
| 2672.4+y                              | (20 <sup>-</sup> ) | 516.25 7           | 70 5               | 2156.1+y |                    |                    |
|                                       |                    | 621.47 8           | 100 7              | 2050.9+y | (18 <sup>-</sup> ) |                    |
| 2732.8+x                              | (20 <sup>+</sup> ) | 250.38 4           | 20 1               | 2482.4+x | (19 <sup>+</sup> ) |                    |
|                                       |                    | 518.44 3           | 100 3              | 2214.5+x | (18 <sup>+</sup> ) | E2                 |
| 2748.1+y                              | (20 <sup>-</sup> ) | 697.14 7           | 100                | 2050.9+y | (18 <sup>-</sup> ) |                    |
| 2778.5+x                              | (19 <sup>+</sup> ) | 298.80 8           | 31.1 17            | 2479.0+x | (18 <sup>+</sup> ) |                    |
|                                       |                    | 587.88 6           | 100 4              | 2190.8+x | (17 <sup>+</sup> ) |                    |

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**Adopted Levels, Gammas (continued)** $\gamma(^{176}\text{Ir})$  (continued)

| $E_i(\text{level})$ | $J_i^\pi$          | $E_\gamma^\dagger$     | $I_\gamma^\dagger$ | $E_f$                       | $J_f^\pi$ |
|---------------------|--------------------|------------------------|--------------------|-----------------------------|-----------|
| 2849.0+x            | (20 <sup>-</sup> ) | 323.48 6               | 28 13              | 2525.4+x (19 <sup>-</sup> ) |           |
|                     |                    | 633.15 5               | 100 7              | 2216.0+x (18 <sup>-</sup> ) |           |
| 2892.2+y            |                    | 573.34 7               | 100                | 2318.9+y                    |           |
| 2955.0+y            | (21 <sup>-</sup> ) | 608.75 7               | 100                | 2346.2+y (19 <sup>-</sup> ) |           |
| 3032.4+x            | (21 <sup>+</sup> ) | 299.32 5               | 28.6 13            | 2732.8+x (20 <sup>+</sup> ) |           |
|                     |                    | 549.97 4               | 100 4              | 2482.4+x (19 <sup>+</sup> ) |           |
| 3050.4+y            | (21 <sup>-</sup> ) | 689.74 10              | 100                | 2360.0+y (19 <sup>-</sup> ) |           |
| 3087.7+x            | (20 <sup>+</sup> ) | 309.63 8               | 26.5 18            | 2778.5+x (19 <sup>+</sup> ) |           |
|                     |                    | 608.51 6               | 100 4              | 2479.0+x (18 <sup>+</sup> ) |           |
| 3188.3+x            | (21 <sup>-</sup> ) | 339.20 9               | 33.7 23            | 2849.0+x (20 <sup>-</sup> ) |           |
|                     |                    | 663.36 7               | 100 5              | 2525.4+x (19 <sup>-</sup> ) |           |
| 3253.0+y            | (22 <sup>-</sup> ) | 581.39 5               | 100                | 2672.4+y (20 <sup>-</sup> ) |           |
| 3317.5+x            | (22 <sup>+</sup> ) | 284.76 5               | 22.0 12            | 3032.4+x (21 <sup>+</sup> ) |           |
|                     |                    | 584.90 4               | 100 3              | 2732.8+x (20 <sup>+</sup> ) |           |
| 3406.0+x            | (21 <sup>+</sup> ) | 319.62 9               | 35 3               | 3087.7+x (20 <sup>+</sup> ) |           |
|                     |                    | 627.70 7               | 100 4              | 2778.5+x (19 <sup>+</sup> ) |           |
| 3481.7+y            | (22 <sup>-</sup> ) | 733.65 9               | 100                | 2748.1+y (20 <sup>-</sup> ) |           |
| 3518.0+y            |                    | 626.31 7               | 100                | 2892.2+y                    |           |
| 3541.7+x            | (22 <sup>-</sup> ) | 692.67 7               | 100                | 2849.0+x (20 <sup>-</sup> ) |           |
| 3611.3+y            | (23 <sup>-</sup> ) | 656.36 10              | 100                | 2955.0+y (21 <sup>-</sup> ) |           |
| 3646.6+x            | (23 <sup>+</sup> ) | 614.20 4               | 100                | 3032.4+x (21 <sup>+</sup> ) |           |
| 3734.8+x            | (22 <sup>+</sup> ) | 329.31 13              | 30 3               | 3406.0+x (21 <sup>+</sup> ) |           |
|                     |                    | 646.36 9               | 100 6              | 3087.7+x (20 <sup>+</sup> ) |           |
| 3767.2+y            | (23 <sup>-</sup> ) | 716.75 9               | 100                | 3050.4+y (21 <sup>-</sup> ) |           |
| 3883.0+y            | (24 <sup>-</sup> ) | 629.80 6               | 100                | 3253.0+y (22 <sup>-</sup> ) |           |
| 3909.0+x            | (23 <sup>-</sup> ) | 721.23 8               | 100                | 3188.3+x (21 <sup>-</sup> ) |           |
| 3965.3+x            | (24 <sup>+</sup> ) | 647.72 5               | 100                | 3317.5+x (22 <sup>+</sup> ) |           |
| 4070.0+x            | (23 <sup>+</sup> ) | 663.51 22              | 100                | 3406.0+x (21 <sup>+</sup> ) |           |
| 4197.8+y            |                    | 679.22 11              | 100                | 3518.0+y                    |           |
| 4290.9+x            | (24 <sup>-</sup> ) | 749.25 9               | 100                | 3541.7+x (22 <sup>-</sup> ) |           |
| 4318.8+y            | (25 <sup>-</sup> ) | 707.46 18              | 100                | 3611.3+y (23 <sup>-</sup> ) |           |
| 4322.9+x            | (25 <sup>+</sup> ) | 676.29 8               | 100                | 3646.6+x (23 <sup>+</sup> ) |           |
| 4413.0+x            | (24 <sup>+</sup> ) | 678.98 12              | 100                | 3734.8+x (22 <sup>+</sup> ) |           |
| 4563.0+y            | (26 <sup>-</sup> ) | 680.30 8               | 100                | 3883.0+y (24 <sup>-</sup> ) |           |
| 4673.2+x            | (26 <sup>+</sup> ) | 707.93 7               | 100                | 3965.3+x (24 <sup>+</sup> ) |           |
| 4686.3+x            | (25 <sup>-</sup> ) | 776.71 14              | 100                | 3909.0+x (23 <sup>-</sup> ) |           |
| 4930.0+y            |                    | 732.29 13              | 100                | 4197.8+y                    |           |
| 5059.9+x            | (27 <sup>+</sup> ) | 737.06 14              | 100                | 4322.9+x (25 <sup>+</sup> ) |           |
| 5076.2+y?           | (27 <sup>-</sup> ) | 757.42 <sup>@</sup> 19 | 100                | 4318.8+y (25 <sup>-</sup> ) |           |
| 5089.6+x            | (26 <sup>-</sup> ) | 798.60 16              | 100                | 4290.9+x (24 <sup>-</sup> ) |           |
| 5294.2+y            | (28 <sup>-</sup> ) | 730.52 14              | 100                | 4563.0+y (26 <sup>-</sup> ) |           |
| 5439.9+x            | (28 <sup>+</sup> ) | 766.74 13              | 100                | 4673.2+x (26 <sup>+</sup> ) |           |
| 5505.7+x            | (27 <sup>-</sup> ) | 819.7 3                | 100                | 4686.3+x (25 <sup>-</sup> ) |           |
| 5715+y              |                    | 785.4 3                | 100                | 4930.0+y                    |           |
| 5856.3+x            | (29 <sup>+</sup> ) | 796.38 24              | 100                | 5059.9+x (27 <sup>+</sup> ) |           |
| 5934+x              | (28 <sup>-</sup> ) | 845.0 <sup>@</sup> 4   | 100                | 5089.6+x (26 <sup>-</sup> ) |           |
| 6263.6+x            | (30 <sup>+</sup> ) | 823.67 22              | 100                | 5439.9+x (28 <sup>+</sup> ) |           |
| 6710.0+x            | (31 <sup>+</sup> ) | 853.7 10               | 100                | 5856.3+x (29 <sup>+</sup> ) |           |
| 6817+x              | (30 <sup>-</sup> ) | 883.00 <sup>@</sup> 22 | 100                | 5934+x (28 <sup>-</sup> )   |           |
| 7140+x              | (32 <sup>+</sup> ) | 876.62 40              | 100                | 6263.6+x (30 <sup>+</sup> ) |           |

<sup>†</sup> From ( $^{31}\text{P},4\text{n}\gamma$ ), except otherwise noted.  $E_\gamma$ : Uncertainties are statistical only. Systematic uncertainty is 0.2 keV.<sup>‡</sup> From  $^{180}\text{Au}$   $\alpha$  decay (1993Wa03).

Continued on next page (footnotes at end of table)

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**Adopted Levels, Gammas (continued)**

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$\gamma(^{176}\text{Ir})$  (continued)

# Assigned by evaluator from DCO ratio and level scheme in ( $^{31}\text{P}, 4n\gamma$ ), except otherwise noted.

@ Placement of transition in the level scheme is uncertain.

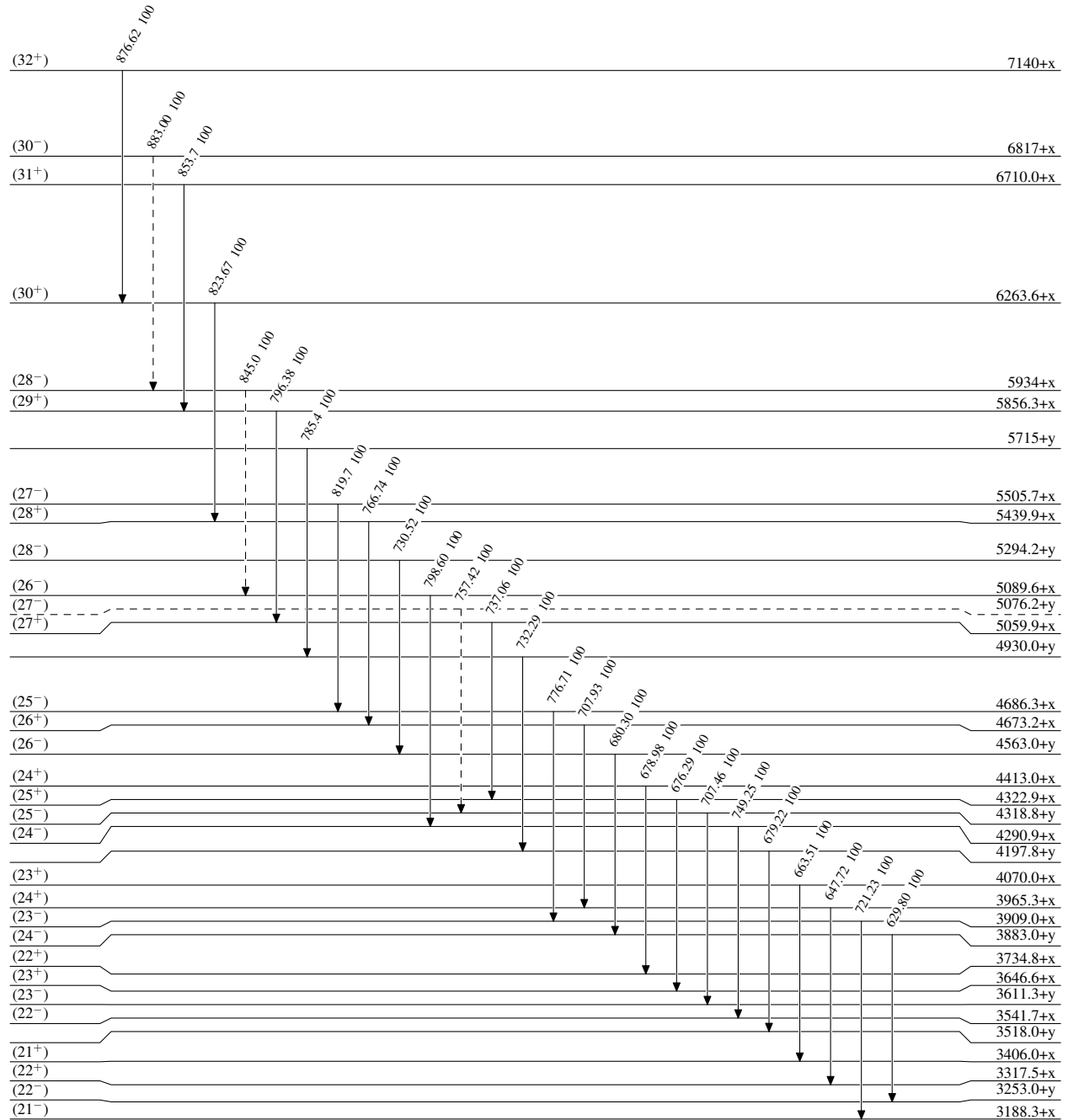


Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

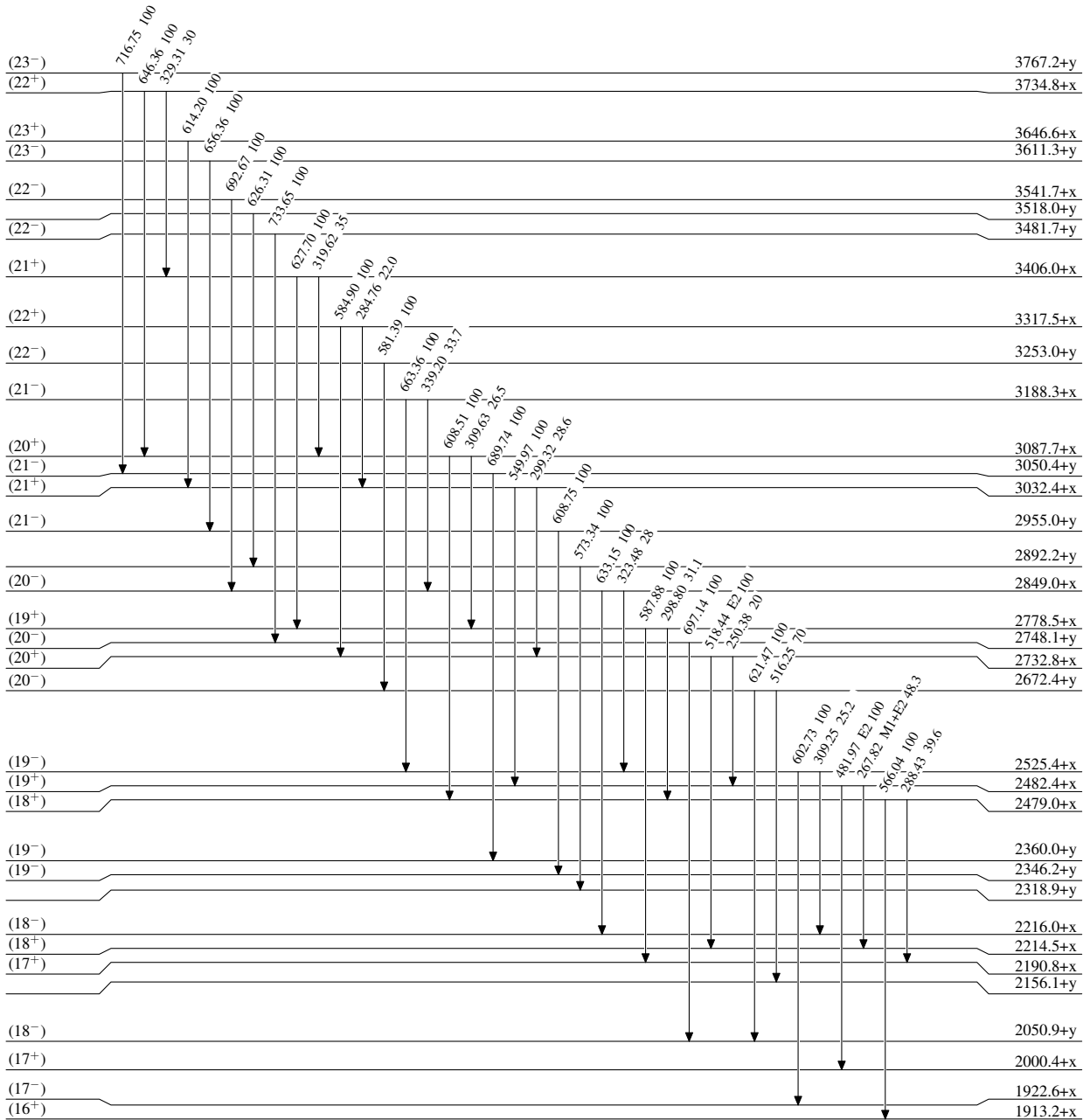
-----►  $\gamma$  Decay (Uncertain)

0.0

8.7 s 5

**Adopted Levels, Gammas****Level Scheme (continued)**

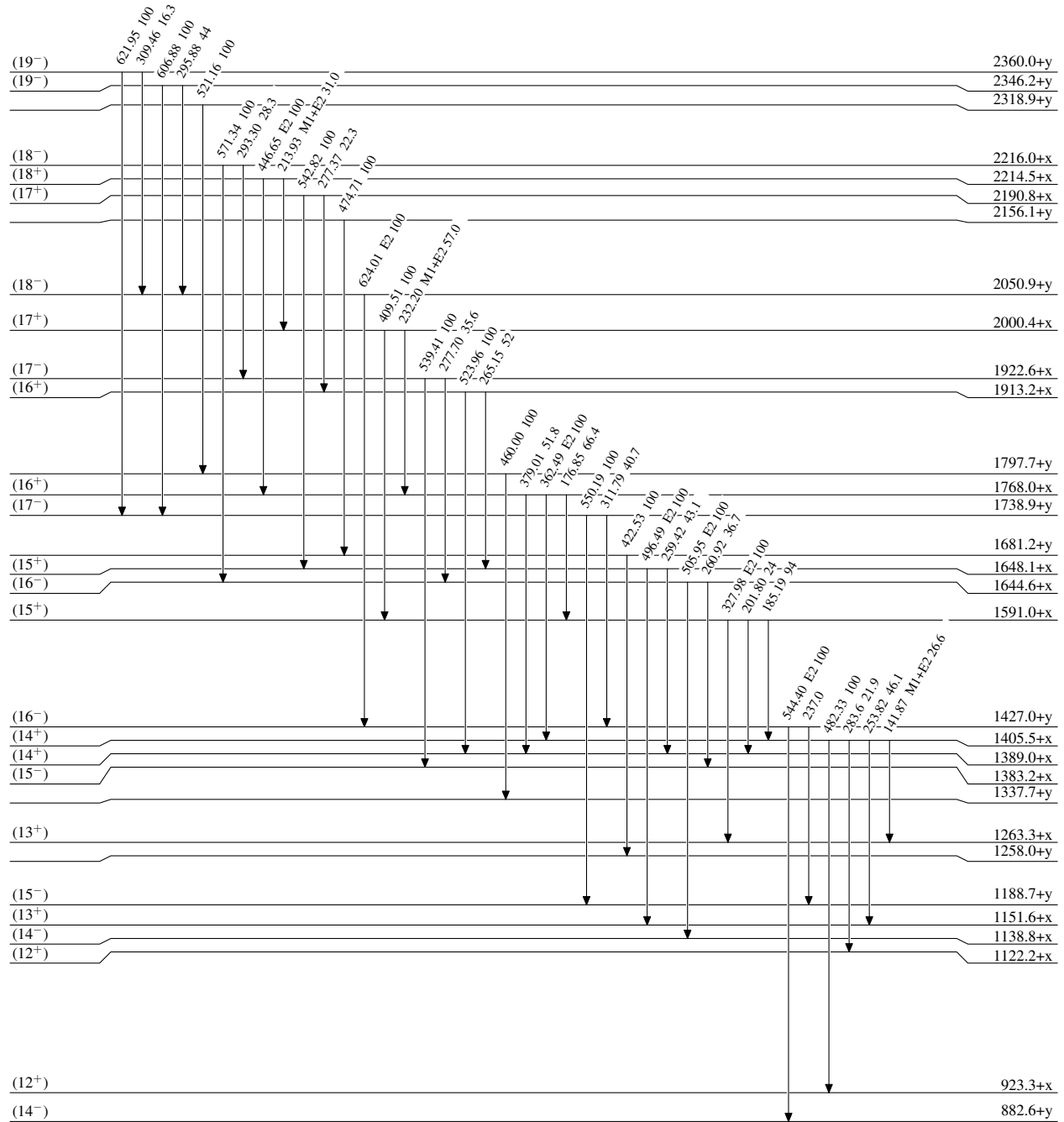
Intensities: Relative photon branching from each level



0.0 8.7 s 5

**Adopted Levels, Gammas****Level Scheme (continued)**

Intensities: Relative photon branching from each level



0.0

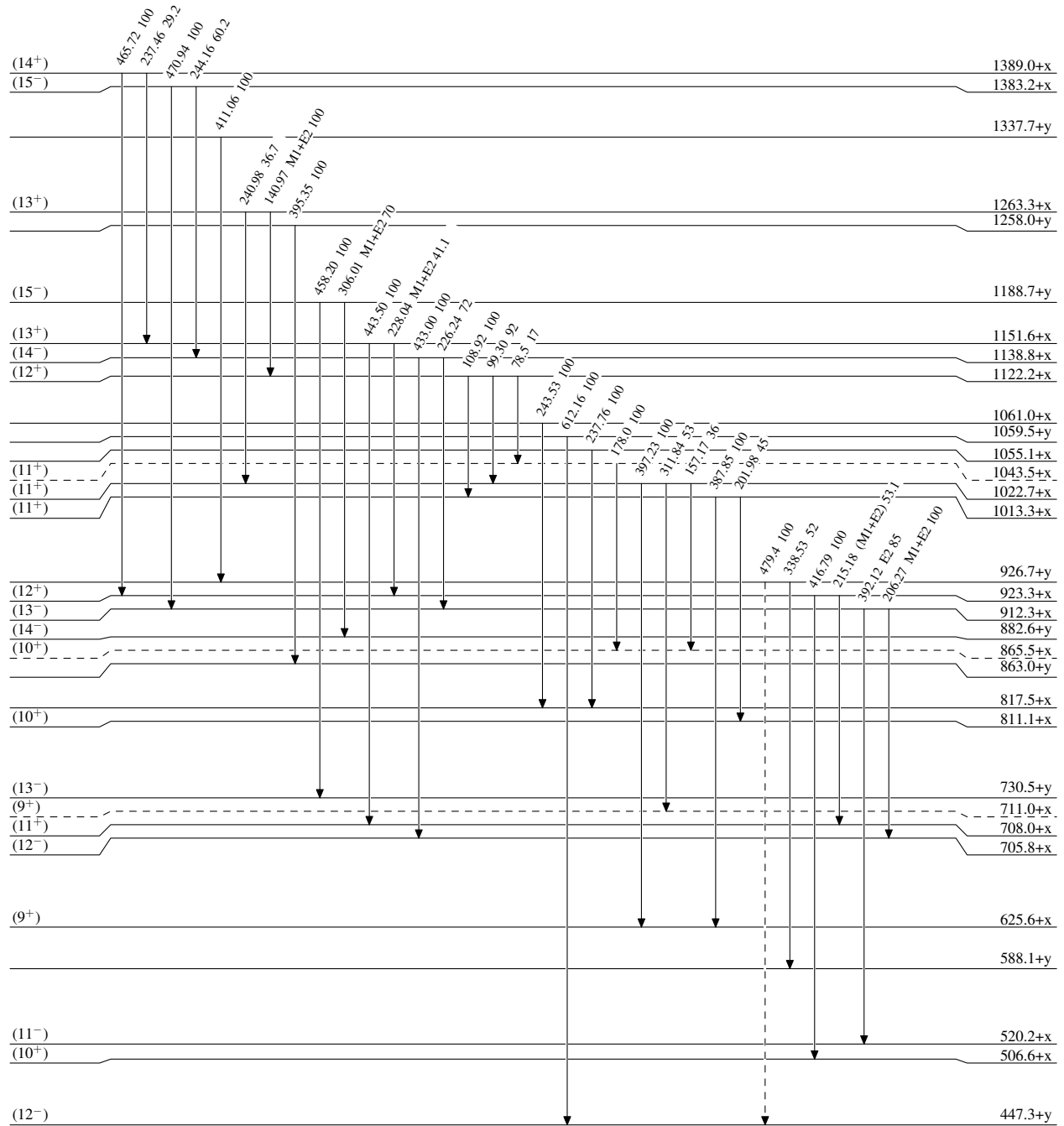
8.7 s 5

**Adopted Levels, Gammas**

Legend

**Level Scheme (continued)**

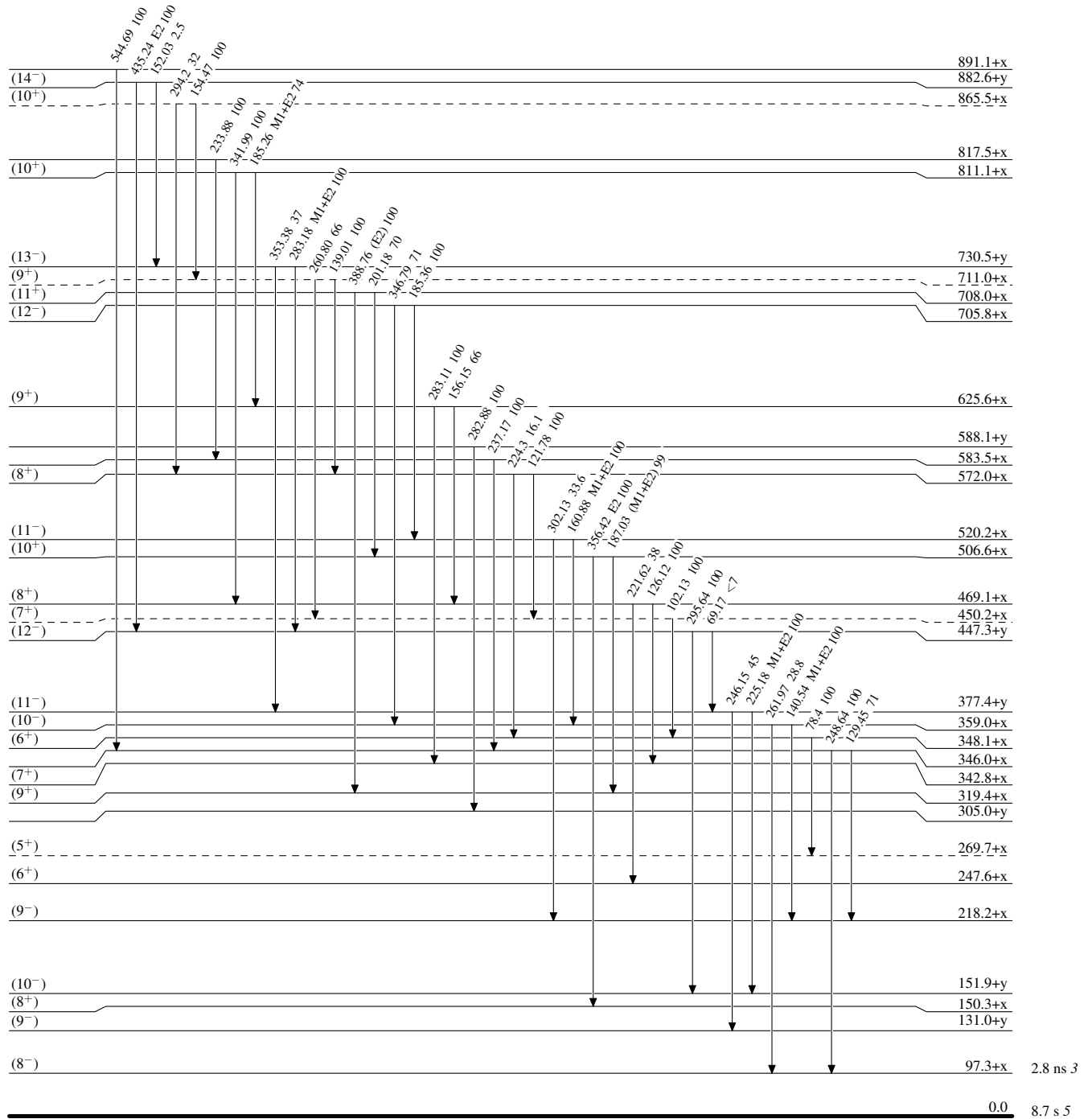
Intensities: Relative photon branching from each level

-----►  $\gamma$  Decay (Uncertain)

0.0 8.7 s 5

**Adopted Levels, Gammas****Level Scheme (continued)**

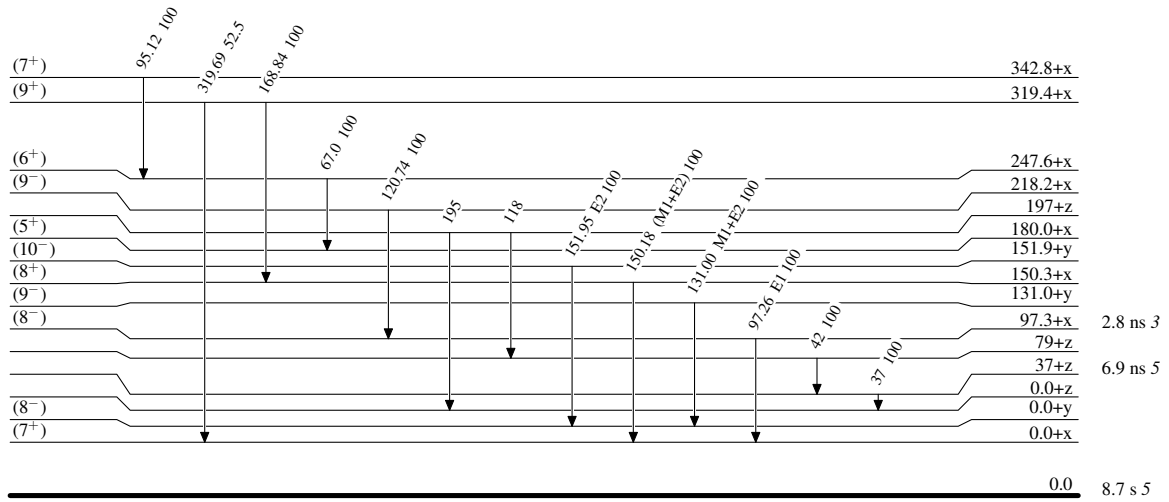
Intensities: Relative photon branching from each level

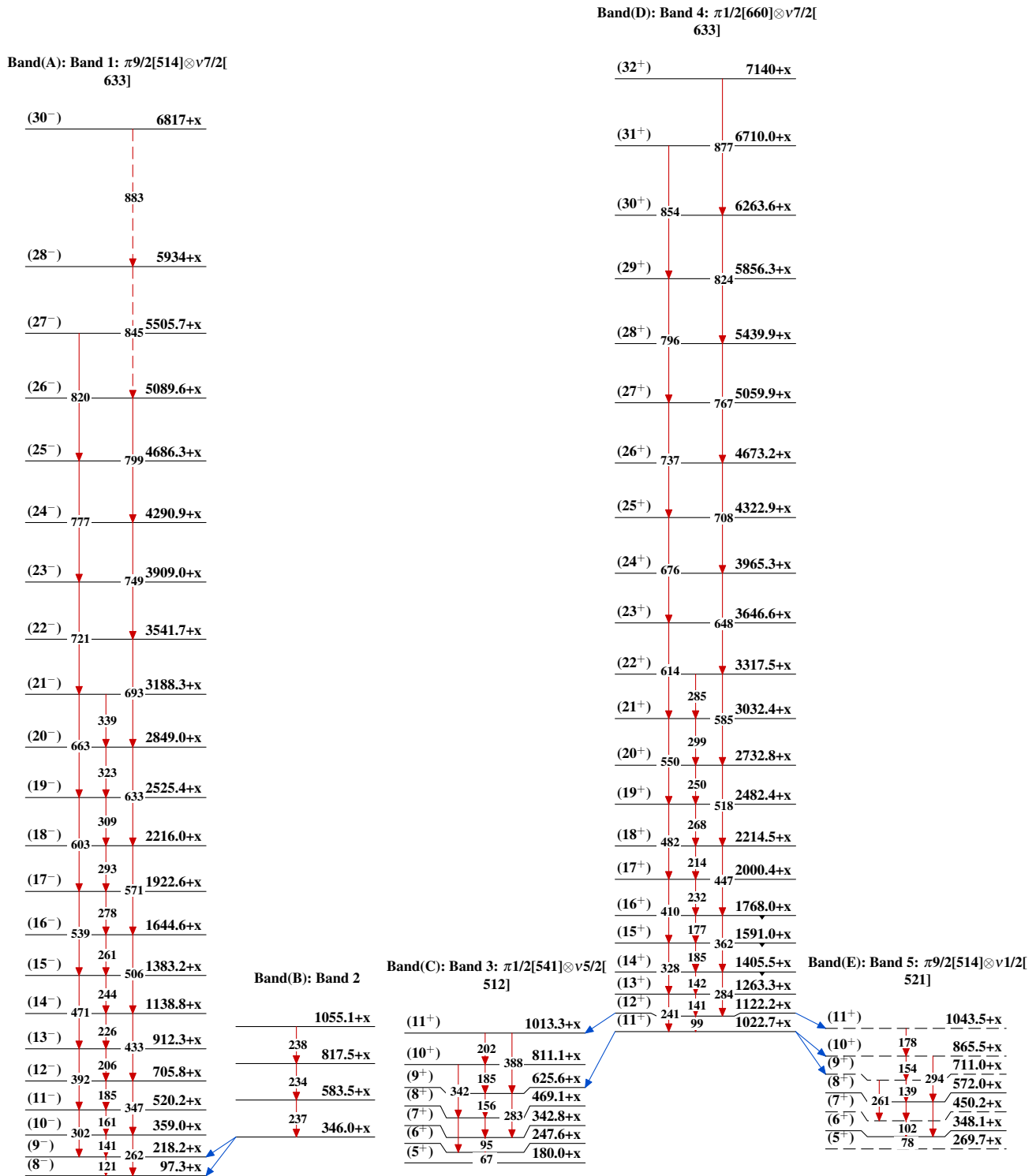


### Adopted Levels, Gammas

#### Level Scheme (continued)

Intensities: Relative photon branching from each level


 $^{176}_{77}\text{Ir}_{99}$

Adopted Levels, Gammas

Adopted Levels, Gammas (continued)