

Adopted Levels, Gammas

| Type            | Author  | History Citation    | Literature Cutoff Date |
|-----------------|---------|---------------------|------------------------|
| Full Evaluation | S. Ohya | NDS 111,1619 (2010) | 20-Jan-2009            |

$Q(\beta^-) = -3771$  12;  $S(n) = 10570$  16;  $S(p) = 4172$  5;  $Q(\alpha) = -37$  10    [2012Wa38](#)

Note: Current evaluation has used the following Q record -3776    1210570    16 4172    4 -28    11    [2009AuZZ](#).

 $^{121}\text{I}$  LevelsCross Reference (XREF) Flags

|          |                                                    |          |                                                 |
|----------|----------------------------------------------------|----------|-------------------------------------------------|
| <b>A</b> | $^{121}\text{Xe}$ $\varepsilon$ decay              | <b>D</b> | $^{121}\text{Sb}(\text{}^3\text{He}, 3n\gamma)$ |
| <b>B</b> | $^{114}\text{Cd}(\text{}^{11}\text{B}, 4n\gamma)$  | <b>E</b> | $^{118}\text{Sn}(\text{}^6\text{Li}, 3n\gamma)$ |
| <b>C</b> | $^{96}\text{Zr}(\text{}^{30}\text{Si}, p4n\gamma)$ | <b>F</b> | $^{120}\text{Te}(\text{}^3\text{He}, d)$        |

| E(level) <sup>b</sup>  | J $\pi$ <sup>d</sup>                                   | T <sub>1/2</sub> <sup>c</sup> | XREF   | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|--------------------------------------------------------|-------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.0 <sup>†</sup>       | 5/2 <sup>+</sup>                                       | 2.12 h 1                      | ABCDEF | % $\varepsilon$ +% $\beta^+$ =100<br>$\mu=2.3$ 1<br>J $\pi$ : from atomic beam J=5/2 ( <a href="#">1974EkZX</a> ). L=2 in ( $^3\text{He}, d$ ).<br>T <sub>1/2</sub> : from <a href="#">1965An05</a> . Others: 1.8 h ( <a href="#">1950Ma29</a> ), 2.1 h 1 ( <a href="#">1960Za07</a> )<br>2.07 h 9 ( <a href="#">1964BIZZ</a> ), 1.95 h 17 ( <a href="#">1965Bu03</a> ), 2.1 h 1 ( <a href="#">1968Jo02</a> ).<br>$\mu$ : NO/S ( <a href="#">2005St24</a> ); relative to $\mu=+2.742$ 1 for $^{131}\text{I}$ g.s. and<br>$\mu=+3.088$ 7 for $^{132}\text{I}$ g.s. |
| 95.71 10               | 1/2 <sup>+</sup>                                       | 8.3 ns 4                      | A D F  | J $\pi$ : L=0 in ( $^3\text{He}, d$ ).<br>T <sub>1/2</sub> : from (80 $\gamma$ + $\gamma^\pm$ + 843 $\gamma$ )(96 $\gamma$ )(t) ( <a href="#">1970Sc21</a> ).                                                                                                                                                                                                                                                                                                                                                                                                     |
| 132.81 <sup>†</sup> 10 | 7/2 <sup>+</sup>                                       | 0.35 ns 2                     | ABCDEF | J $\pi$ : L=4 in ( $^3\text{He}, d$ ). M1(+E2) $\gamma$ to 5/2 <sup>+</sup> g.s.<br>T <sub>1/2</sub> : from (600<E( $\gamma$ )<800)(ce 132.8 $\gamma$ )(t) ( <a href="#">1971Ho02</a> ).                                                                                                                                                                                                                                                                                                                                                                          |
| 175.84 11              | 3/2 <sup>+</sup>                                       | 0.32 ns 2                     | A D F  | J $\pi$ : L=2 in ( $^3\text{He}, d$ ). M1 $\gamma$ to 1/2 <sup>+</sup> .<br>T <sub>1/2</sub> : from $^{121}\text{Xe}$ $\varepsilon+\beta^+$ decay.                                                                                                                                                                                                                                                                                                                                                                                                                |
| 252.73 9               | 3/2 <sup>+</sup>                                       | 55 ps +10-15                  | A D    | J $\pi$ : M1(+E2) $\gamma$ 's to 5/2 <sup>+</sup> and 1/2 <sup>+</sup> .<br>T <sub>1/2</sub> : from $^{121}\text{Xe}$ $\varepsilon+\beta^+$ decay.                                                                                                                                                                                                                                                                                                                                                                                                                |
| 310.58 10              | 5/2 <sup>+</sup>                                       | 0.13 ns 3                     | A D    | J $\pi$ : M1(+E2) $\gamma$ 's to 5/2 <sup>+</sup> , 7/2 <sup>+</sup> ; M1 $\gamma$ to 3/2 <sup>+</sup> .<br>T <sub>1/2</sub> : from $^{121}\text{Xe}$ $\varepsilon+\beta^+$ decay.                                                                                                                                                                                                                                                                                                                                                                                |
| 433.56 <sup>‡</sup> 13 | (9/2) <sup>+</sup>                                     | 9.6 ns 4                      | AB DE  | J $\pi$ : E2 $\gamma$ to 5/2 <sup>+</sup> , M1+E2 $\gamma$ to 7/2 <sup>+</sup> ; J=9/2 is consistent with being<br>the band head of 9/2 <sup>+</sup> [404] orbital.<br>T <sub>1/2</sub> : unweighted average of 9.4 ns 4 ( <a href="#">1982Ga21</a> ), 9.5 ns 4<br>( <a href="#">1994Ko13</a> ) in $^{118}\text{Sn}(\text{}^6\text{Li}, 3n\gamma)$ , and 10.0 ns 4 in $^{121}\text{Sb}(\text{}^3\text{He}, 3n\gamma)$<br>( <a href="#">1982Ha46</a> ).                                                                                                            |
| 445.35 <sup>#</sup> 11 | (7/2) <sup>+</sup>                                     | <0.1 ns                       | ABCDE  | J $\pi$ : M1+E2 $\gamma$ to 5/2 <sup>+</sup> ; possible band head of g <sub>7/2</sub> band.<br>T <sub>1/2</sub> : upper limit was deduced from centroid shift in $\gamma$ -rf coincidence<br>in $^{118}\text{Sn}(\text{}^6\text{Li}, 3n\gamma)$ ( <a href="#">1994Ko13</a> ).                                                                                                                                                                                                                                                                                     |
| 529.30 <sup>†</sup> 13 | (9/2) <sup>+</sup>                                     |                               | ABCDE  | J $\pi$ : E2 $\gamma$ to 5/2 <sup>+</sup> , D $\gamma$ from (11/2) <sup>-</sup> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 649.85 13              | (9/2) <sup>+</sup>                                     |                               | ABCDE  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 748.26 <sup>‡</sup> 16 | (11/2) <sup>+</sup>                                    |                               | B DE   | T <sub>1/2</sub> : from recoil-distance in $^{114}\text{Cd}(\text{}^{11}\text{B}, 4n\gamma)$ ( <a href="#">1994Wa08</a> ); other:<br>0.35 ns 20 from $\gamma(t)$ in $^{118}\text{Sn}(\text{}^6\text{Li}, 3n\gamma)$ ( <a href="#">1994Ko13</a> ).<br>J $\pi$ : L=5 in ( $^3\text{He}, d$ ) and syst.                                                                                                                                                                                                                                                              |
| 801.5 <sup>†</sup> 4   | (11/2) <sup>+</sup>                                    |                               | BCDE   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 811.67 <sup>@</sup> 13 | (11/2) <sup>-</sup>                                    | 0.189 ns 7                    | BCDEF  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 906.00 19              |                                                        |                               | A      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 930.77 21              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    |                               | A F    | J $\pi$ : L=2 in ( $^3\text{He}, d$ ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 938.20 16              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    |                               | A      | J $\pi$ : $\gamma$ 's to 1/2 <sup>+</sup> , 7/2 <sup>+</sup> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 961.99 17              | 1/2 <sup>+</sup> , 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |                               | A F    | E(level): doublet in ( $^3\text{He}, d$ ).<br>J $\pi$ : L=0+2 in ( $^3\text{He}, d$ ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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**Adopted Levels, Gammas (continued)**

| $^{121}\text{I}$ Levels (continued) |                                        |                               |      |                                                                                                                                                 |
|-------------------------------------|----------------------------------------|-------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| E(level) <sup>b</sup>               | J <sup>π</sup> <sup>d</sup>            | T <sub>1/2</sub> <sup>c</sup> | XREF | Comments                                                                                                                                        |
| 1006.53 17                          | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | A F  | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1031.3 <sup>#</sup> 3               | (11/2) <sup>+</sup>                    |                               | BCDE |                                                                                                                                                 |
| 1035.33 15                          | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | A F  | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1046.31 21                          |                                        |                               | A    |                                                                                                                                                 |
| 1076.81 <sup>‡</sup> 18             | (13/2) <sup>+</sup>                    |                               | B DE |                                                                                                                                                 |
| 1077.47 16                          | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | A    | J <sup>π</sup> : γ's to 1/2 <sup>+</sup> , 7/2 <sup>+</sup> .                                                                                   |
| 1094.16 21                          |                                        |                               | A    |                                                                                                                                                 |
| 1113 6                              | (3/2 <sup>+</sup> , 5/2 <sup>+</sup> ) |                               | F    | J <sup>π</sup> : L=(2) in ( <sup>3</sup> He,d).                                                                                                 |
| 1129.44 18                          |                                        |                               | A    |                                                                                                                                                 |
| 1134.0 <sup>†</sup> 4               | (13/2) <sup>+</sup>                    |                               | BCDE |                                                                                                                                                 |
| 1140 6                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | F    | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1186.31 21                          |                                        |                               | A    |                                                                                                                                                 |
| 1239.71 <sup>@</sup> 24             | (15/2) <sup>-</sup>                    |                               | BCDE |                                                                                                                                                 |
| 1254.58 22                          |                                        |                               | A    |                                                                                                                                                 |
| 1276.56 13                          | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | A F  | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1302.6 3                            |                                        |                               | A    |                                                                                                                                                 |
| 1326.2 <sup>&amp;</sup> 3           | (11/2) <sup>-</sup>                    | 58 ps 12                      | B D  | J <sup>π</sup> : D γ to (11/2) <sup>+</sup> .<br>T <sub>1/2</sub> : from recoil-distance in <sup>114</sup> Cd( <sup>11</sup> B,4nγ) (1994Wa08). |
| 1339.32 18                          |                                        |                               | A    |                                                                                                                                                 |
| 1385 6                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | F    | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1435.24 <sup>‡</sup> 20             | (15/2) <sup>+</sup>                    |                               | B DE |                                                                                                                                                 |
| 1466 6                              | 1/2 <sup>+</sup>                       |                               | F    | J <sup>π</sup> : L=0 in ( <sup>3</sup> He,d).                                                                                                   |
| 1557 6                              | 1/2 <sup>+</sup>                       |                               | F    | J <sup>π</sup> : L=0 in ( <sup>3</sup> He,d).                                                                                                   |
| 1558.5 3                            |                                        |                               | A    |                                                                                                                                                 |
| 1575.2 <sup>†</sup> 5               | (15/2) <sup>+</sup>                    |                               | B DE |                                                                                                                                                 |
| 1607 6                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | F    | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1679.94 25                          |                                        |                               | A    |                                                                                                                                                 |
| 1721.7 <sup>&amp;</sup> 4           | (13/2) <sup>-</sup>                    |                               | B D  |                                                                                                                                                 |
| 1746.8 <sup>#</sup> 4               | (15/2) <sup>+</sup>                    |                               | BCDE |                                                                                                                                                 |
| 1749 6                              | <sup>+</sup>                           |                               | F    | E(level): doublet in ( <sup>3</sup> He,d).<br>J <sup>π</sup> : L=2+0 in ( <sup>3</sup> He,d).                                                   |
| 1775 6                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | F    | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1780.9 <sup>@</sup> 4               | (19/2) <sup>-</sup>                    |                               | BCDE |                                                                                                                                                 |
| 1793.45 21                          | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | A F  | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1813.75 <sup>‡</sup> 22             | (17/2) <sup>+</sup>                    |                               | B DE |                                                                                                                                                 |
| 1847.0 7                            |                                        |                               | B    |                                                                                                                                                 |
| 1852 8                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | F    | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1864.4 <sup>†</sup> 5               | (17/2) <sup>+</sup>                    |                               | B DE |                                                                                                                                                 |
| 1885 8                              | 1/2 <sup>+</sup>                       |                               | F    | J <sup>π</sup> : L=0 in ( <sup>3</sup> He,d).                                                                                                   |
| 1907.65 22                          |                                        |                               | A    |                                                                                                                                                 |
| 1919 8                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | F    | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 1964.57 20                          | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | A F  | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 2022.9 3                            | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | A    | J <sup>π</sup> : γ's to 1/2 <sup>+</sup> , 7/2 <sup>+</sup> .                                                                                   |
| 2039 8                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>    |                               | F    | J <sup>π</sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                   |
| 2076.86 16                          |                                        |                               | A    |                                                                                                                                                 |
| 2080 8                              | 1/2 <sup>+</sup>                       |                               | F    | J <sup>π</sup> : L=0 in ( <sup>3</sup> He,d).                                                                                                   |
| 2132.1 <sup>&amp;</sup> 4           | (15/2) <sup>-</sup>                    |                               | B D  |                                                                                                                                                 |
| 2188.33 23                          |                                        |                               | A    |                                                                                                                                                 |
| 2201.7 11                           |                                        |                               | B    |                                                                                                                                                 |
| 2218.2 <sup>‡</sup> 3               | (19/2) <sup>+</sup>                    |                               | B DE |                                                                                                                                                 |

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**Adopted Levels, Gammas (continued)**

| $^{121}\text{I}$ Levels (continued) |                                            |                               |      |                                                                                                                                                                                                                                                                                    |
|-------------------------------------|--------------------------------------------|-------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E(level) <sup>b</sup>               | J <sup><math>\pi</math></sup> <sup>d</sup> | T <sub>1/2</sub> <sup>c</sup> | XREF | Comments                                                                                                                                                                                                                                                                           |
| 2220.49 18                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2223.69 22                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2286.1 7                            |                                            |                               | B    |                                                                                                                                                                                                                                                                                    |
| 2350 8                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>        | 80 ns 12                      | F    | J <sup><math>\pi</math></sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                                                                                                                                       |
| 2353.0 3                            | (21/2)                                     |                               | D    | $\mu$ =+12.6 11<br>J <sup><math>\pi</math></sup> : T <sub>1/2</sub> is compatible with mult.=M1 or E2, for the 134.8 $\gamma$ , thus J=21/2 is suggested.<br>T <sub>1/2</sub> : from $\gamma$ (t) in <sup>121</sup> Sb( <sup>3</sup> He,3n $\gamma$ ).<br>$\mu$ : DPAD (2005St24). |
| 2375 8                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>        | 9.0 $\mu$ s 14                | F    | J <sup><math>\pi</math></sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                                                                                                                                       |
| 2376.9 4                            |                                            |                               | E    | T <sub>1/2</sub> : $\gamma$ (t) in <sup>118</sup> Sn( <sup>6</sup> Li,3n $\gamma$ ).                                                                                                                                                                                               |
| 2426.1 @ 5                          | (23/2) <sup>-</sup>                        |                               | BCDE |                                                                                                                                                                                                                                                                                    |
| 2441.0 † 6                          | (19/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                                                                                                                                                                    |
| 2465.5 4                            | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>        |                               | A F  | J <sup><math>\pi</math></sup> : L=2 in ( <sup>3</sup> He,d).                                                                                                                                                                                                                       |
| 2569.9 & 5                          | (17/2 <sup>-</sup> )                       |                               | B    |                                                                                                                                                                                                                                                                                    |
| 2588.90 18                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2621.9 # 5                          | (19/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                                                                                                                                                                    |
| 2641.8 ‡ 3                          | (21/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                                                                                                                                                                    |
| 2684.9 11                           |                                            |                               | B    |                                                                                                                                                                                                                                                                                    |
| 2689.91 25                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2728.9 † 5                          | (21/2 <sup>+</sup> )                       |                               | B DE |                                                                                                                                                                                                                                                                                    |
| 2739.20 23                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2762 8                              | 1/2 <sup>+</sup>                           |                               | F    | J <sup><math>\pi</math></sup> : L=0 in ( <sup>3</sup> He,d).                                                                                                                                                                                                                       |
| 2777.0 9                            |                                            |                               | B    |                                                                                                                                                                                                                                                                                    |
| 2780.74 20                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2797.57 21                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2809.9 4                            | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>        |                               | A    | J <sup><math>\pi</math></sup> : $\gamma$ 's to 1/2 <sup>+</sup> , 7/2 <sup>+</sup> .                                                                                                                                                                                               |
| 2822.3 4                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2830.6 3                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2847.5? 3                           |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2858.9 11                           |                                            |                               | B    |                                                                                                                                                                                                                                                                                    |
| 2892.8 3                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2904.5 3                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 2934 8                              |                                            |                               | F    |                                                                                                                                                                                                                                                                                    |
| 2994.1 3                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 3023.5 & 6                          | (19/2 <sup>-</sup> )                       |                               | B    |                                                                                                                                                                                                                                                                                    |
| 3067.98 22                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 3084.8 ‡ 4                          | (23/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                                                                                                                                                                    |
| 3097.3 4                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 3105.6 † 6                          | (23/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                                                                                                                                                                    |
| 3112.7 3                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 3158.1 4                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 3158.9 15                           |                                            |                               | B    |                                                                                                                                                                                                                                                                                    |
| 3160.0 3                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 3166.73 20                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 3194.32 19                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 3229.8 3                            |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |
| 3248.5 6                            |                                            |                               | B    |                                                                                                                                                                                                                                                                                    |
| 3272.0 13                           |                                            |                               | B    |                                                                                                                                                                                                                                                                                    |
| 3273.5 @ 5                          | (27/2 <sup>-</sup> )                       |                               | BCDE |                                                                                                                                                                                                                                                                                    |
| 3281.1 11                           |                                            |                               | B    |                                                                                                                                                                                                                                                                                    |
| 3353.9 15                           |                                            |                               | B    |                                                                                                                                                                                                                                                                                    |
| 3398.49 23                          |                                            |                               | A    |                                                                                                                                                                                                                                                                                    |

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**Adopted Levels, Gammas (continued)**

| $^{121}\text{I}$ Levels (continued) |                                            |                               |      |                                                                                                                                             |
|-------------------------------------|--------------------------------------------|-------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------|
| E(level) <sup>b</sup>               | J <sup><math>\pi</math></sup> <sup>d</sup> | T <sub>1/2</sub> <sup>c</sup> | XREF | Comments                                                                                                                                    |
| 3438.6 8                            |                                            |                               | B    |                                                                                                                                             |
| 3471.9 12                           |                                            |                               | B    |                                                                                                                                             |
| 3487.2 & 9                          | (21/2 <sup>-</sup> )                       |                               | B    |                                                                                                                                             |
| 3496.9 † 12                         | (25/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                             |
| 3511.3 <sup>a</sup> 6               | (23/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                             |
| 3518.2 # 6                          | (23/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                             |
| 3533.1 ‡ 4                          | (25/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                             |
| 3583.4 6                            | (25/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                             |
| 3604.1 11                           |                                            |                               | B    |                                                                                                                                             |
| 3638.9 12                           |                                            |                               | B    |                                                                                                                                             |
| 3677.1 † 7                          |                                            |                               | B    |                                                                                                                                             |
| 3684.1 11                           |                                            |                               | B    |                                                                                                                                             |
| 3704.9 <sup>a</sup> 6               | (25/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                             |
| 3763.2 6                            | (27/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                             |
| 3929.1 15                           |                                            |                               | B    |                                                                                                                                             |
| 3965.6 ‡ 5                          | (27/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                             |
| 4006.6 <sup>a</sup> 6               | (27/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                             |
| 4096.9 18                           |                                            |                               | B    |                                                                                                                                             |
| 4098.9 15                           |                                            |                               | B    |                                                                                                                                             |
| 4164.4 @ 6                          | (31/2 <sup>-</sup> )                       |                               | BC   |                                                                                                                                             |
| 4233.9 † 15                         | (29/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                             |
| 4322.1 <sup>a</sup> 6               | (29/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                             |
| 4377.1 † 11                         | (29/2 <sup>+</sup> )                       |                               | B    |                                                                                                                                             |
| 4381.5 12                           |                                            |                               | B    |                                                                                                                                             |
| 4436.5 12                           |                                            |                               | B    |                                                                                                                                             |
| 4531.1 † 12                         |                                            |                               | B    |                                                                                                                                             |
| 4635.9 15                           |                                            |                               | B    |                                                                                                                                             |
| 4662.9 18                           |                                            |                               | B    |                                                                                                                                             |
| 4676.8 <sup>a</sup> 6               | (31/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                             |
| 4921.9? 21                          |                                            |                               | B    |                                                                                                                                             |
| 5001.5 <sup>a</sup> 6               | (33/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                             |
| 5040.8 @ 6                          | (35/2 <sup>-</sup> )                       |                               | BC   |                                                                                                                                             |
| 5255.5 15                           |                                            |                               | B    |                                                                                                                                             |
| 5338.3 <sup>a</sup> 6               | (35/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                             |
| 5432.6 6                            | (39/2 <sup>-</sup> )                       | 263 ps 22                     | BC   | Probable admixture of non-collective configuration= $((\pi 1h_{11/2})(\pi 1g_{9/2})^{+2}(\nu 1h_{11/2})^{+2}_{8+})$ , $J^{\pi}=39/2^{-}$ .  |
| 5655.7 <sup>a</sup> 6               | (37/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                             |
| 6245.4 6                            | (41/2 <sup>-</sup> )                       |                               | BC   |                                                                                                                                             |
| 6537.9 6                            | (43/2 <sup>-</sup> )                       |                               | BC   | Probable admixture of non-collective configuration= $((\pi 1h_{11/2})(\pi 1g_{9/2})^{+2}(\nu 1h_{11/2})^{+2}_{10+})$ , $J^{\pi}=43/2^{-}$ . |
| 6793.2 6                            | (41/2 <sup>+</sup> )                       |                               | C    |                                                                                                                                             |
| 7206.0 6                            | (43/2 <sup>-</sup> )                       |                               | BC   |                                                                                                                                             |
| 7446.5 6                            | (45/2 <sup>+</sup> )                       |                               | BC   |                                                                                                                                             |
| 7516.0 6                            | (47/2 <sup>-</sup> )                       |                               | C    |                                                                                                                                             |
| 8135.2 6                            | (49/2 <sup>+</sup> )                       |                               | C    |                                                                                                                                             |
| 8776.2 7                            | (51/2)                                     |                               | C    |                                                                                                                                             |
| 8895.2 7                            | (51/2 <sup>-</sup> )                       |                               | C    |                                                                                                                                             |
| 9030.6 7                            | (53/2)                                     |                               | C    |                                                                                                                                             |
| 9239.2 7                            | (55/2 <sup>-</sup> )                       |                               | C    | Probable admixture of non-collective configuration= $((\pi 1h_{11/2})(\pi 1g_{9/2})^{+2}(\nu 1h_{11/2})^{+4}_{16+})$ , $J^{\pi}=55/2^{-}$ . |
| 9501.0 7                            |                                            |                               | C    |                                                                                                                                             |

Continued on next page (footnotes at end of table)

**Adopted Levels, Gammas (continued)** $^{121}\text{I}$  Levels (continued)

| E(level) <sup>b</sup> | XREF | Comments                  |
|-----------------------|------|---------------------------|
| 10283.8 7             | C    |                           |
| 10471.7 7             | C    |                           |
| 10632.3 7             | C    |                           |
| 10911.9 7             | C    |                           |
| 11142.8 7             | C    |                           |
| x                     | B    | Additional information 1. |
| x+495.0 10            | B    |                           |
| x+1124.0 15           | B    |                           |
| x+1868.0 18           | B    |                           |
| x+2705.0 20           | B    |                           |

<sup>†</sup> Band(A):  $2d_{5/2}$  (g.s.).

<sup>‡</sup> Band(B):  $9/2^+$  [404].

# Band(C):  $1g_{7/2}$ .

@ Band(D):  $1h_{11/2}$  or  $1/2^-$  [550].

& Band(E):  $11/2^-$  [505].

<sup>a</sup> Band(F): 3quasi-particle state on  $23/2^+$ . probable configuration= $((\pi 1h_{11/2})(\nu 1h_{11/2})(\nu 1g_{7/2}))$ .

<sup>b</sup> E(levels) with  $\Delta E \leq 0.1$  keV are from  $^{121}\text{Xe}$   $\varepsilon + \beta^+$  decay if excited; E(levels) with  $\Delta E \leq 1.0$  keV and forming band structures are from  $^{121}\text{Sb}(^3\text{He}, 3n\gamma)$ ,  $^{118}\text{Sn}(^6\text{Li}, 3n\gamma)$ ,  $^{114}\text{Cd}(^{11}\text{B}, 4n\gamma)$  and  $^{96}\text{Zr}(^{30}\text{Si}, p4n\gamma)$ ; E(levels) from  $(^3\text{He}, d)$  have  $\Delta E = 4-6$  keV.

<sup>c</sup>  $T_{1/2}$  are from  $\gamma\gamma(t)$  (1970Sc21),  $\gamma\text{-ce}(t)$  (1971Ho02) both in  $^{121}\text{Xe}$   $\varepsilon$  decay; from recoil-distance method in  $^{114}\text{Cd}(^{11}\text{B}, 4n\gamma)$  (1994Wa08); and from centroid shift method in beam-delayed  $\gamma$  coin (1982Ga21, 1994Ko13).

<sup>d</sup> From rotational band based on shell model configurations; band structures evidenced from M1, M1+E2(D(+Q)) cascades, and E2(Q) cross over transitions, and available information in in-beam studies,  $^{121}\text{Sb}(^3\text{He}, 3n\gamma)$ ,  $^{118}\text{Sn}(^6\text{Li}, 3n\gamma)$ ,  $^{114}\text{Cd}(^{11}\text{B}, 4n\gamma)$  and  $^{96}\text{Zr}(^{30}\text{Si}, p4n\gamma)$ .

Adopted Levels, Gammas (continued)

| $\gamma(^{121}\text{La})$ |                  |                    |                     |        |                  |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|------------------|--------------------|---------------------|--------|------------------|--------------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $E_i(\text{level})$       | $J_i^\pi$        | $E_\gamma^\dagger$ | $I_\gamma^\ddagger$ | $E_f$  | $J_f^\pi$        | Mult. <sup>#</sup> | $\delta^@$ | $\alpha^\&$ | Comments                                                                                                                                                                                                                                                                                                                                                                                              |
| 95.71                     | 1/2 <sup>+</sup> | 95.7 2             | 100 8               | 0.0    | 5/2 <sup>+</sup> | E2                 |            | 2.05 4      | $\alpha(\text{K})=1.372\ 22$ ; $\alpha(\text{L})=0.540\ 9$ ; $\alpha(\text{M})=0.1143\ 20$ ; $\alpha(\text{N}+..)=0.0241\ 4$<br>$\alpha(\text{N})=0.0220\ 4$ ; $\alpha(\text{O})=0.00205\ 4$<br>B(E2)(W.u.)=78 4                                                                                                                                                                                      |
| 132.81                    | 7/2 <sup>+</sup> | 132.8 2            | 100 8               | 0.0    | 5/2 <sup>+</sup> | M1(+E2)            | -0.03 +9-5 | 0.337 6     | $\alpha(\text{K})=0.289\ 5$ ; $\alpha(\text{L})=0.0378\ 8$ ; $\alpha(\text{M})=0.00761\ 16$ ; $\alpha(\text{N}+..)=0.00172\ 4$<br>$\alpha(\text{N})=0.00154\ 3$ ; $\alpha(\text{O})=0.000180\ 4$<br>B(M1)(W.u.)=(0.0201 12); B(E2)(W.u.)=(0.7 +45-7)<br>$\delta$ : average of -0.06 2 (1992Li01), +0.02 4 (1982Ha46), 0.00 5<br>(1982Ga21); other; <0.2 from $\alpha(\text{L})\text{exp}$ (1972Mu03). |
| 175.84                    | 3/2 <sup>+</sup> | 80.1 2             | 56.7 45             | 95.71  | 1/2 <sup>+</sup> | M1                 |            | 1.410 10    | B(M1)(W.u.)=0.030 4<br>$\alpha(\text{K})=1.211\ 19$ ; $\alpha(\text{L})=0.159\ 3$ ; $\alpha(\text{M})=0.0321\ 5$ ; $\alpha(\text{N}+..)=0.00725\ 12$<br>$\alpha(\text{N})=0.00649\ 11$ ; $\alpha(\text{O})=0.000758\ 12$                                                                                                                                                                              |
|                           |                  | 175.8 3            | 100 15              | 0.0    | 5/2 <sup>+</sup> | M1(+E2)            | 0.42 42    | 0.168 23    | $\alpha(\text{K})=0.142\ 15$ ; $\alpha(\text{L})=0.021\ 7$ ; $\alpha(\text{M})=0.0043\ 14$ ; $\alpha(\text{N}+..)=0.0009\ 3$<br>$\alpha(\text{N})=0.0009\ 3$ ; $\alpha(\text{O})=9.6\times 10^{-5}\ 24$<br>B(M1)(W.u.)=(0.0042 15); B(E2)(W.u.)=(18 +30-18)<br>$\delta$ : from $\alpha(\text{K})\text{exp}$ (1972Mu03).                                                                               |
| 252.73                    | 3/2 <sup>+</sup> | 77.0 3             | 0.6 1               | 175.84 | 3/2 <sup>+</sup> | [M1]               |            | 1.58 3      | $\alpha(\text{K})=1.357\ 25$ ; $\alpha(\text{L})=0.178\ 4$ ; $\alpha(\text{M})=0.0359\ 7$ ; $\alpha(\text{N}+..)=0.00812\ 15$<br>$\alpha(\text{N})=0.00727\ 14$ ; $\alpha(\text{O})=0.000850\ 16$<br>B(M1)(W.u.)=0.0048 +16-12                                                                                                                                                                        |
|                           |                  | 157.0 2            | 2.5 3               | 95.71  | 1/2 <sup>+</sup> | M1(+E2)            | 0.42 42    | 0.23 4      | B(M1)(W.u.)=0.0020 9; B(E2)(W.u.)=10 +18-10<br>$\alpha(\text{K})=0.196\ 25$ ; $\alpha(\text{L})=0.030\ 12$ ; $\alpha(\text{M})=0.0061\ 24$ ; $\alpha(\text{N}+..)=0.0014\ 5$<br>$\alpha(\text{N})=0.0012\ 5$ ; $\alpha(\text{O})=0.00014\ 4$<br>$\delta$ : from $\alpha(\text{K})\text{exp}$ (1972Mu03).                                                                                              |
|                           |                  | 252.7 2            | 100                 | 0.0    | 5/2 <sup>+</sup> | M1(+E2)            | 0.33 33    | 0.060 3     | B(M1)(W.u.)=0.020 7; B(E2)(W.u.)=2.E+1 +5-2<br>$\alpha(\text{K})=0.0512\ 17$ ; $\alpha(\text{L})=0.0068\ 8$ ; $\alpha(\text{M})=0.00138\ 17$ ; $\alpha(\text{N}+..)=0.00031\ 4$<br>$\alpha(\text{N})=0.00028\ 4$ ; $\alpha(\text{O})=3.2\times 10^{-5}\ 3$<br>$\delta$ : from $\alpha(\text{K})\text{exp}$ (1972Mu03); other: -7.1 -4 infinity (1982Ha46).                                            |
| 310.58                    | 5/2 <sup>+</sup> | 57.8 2             | 9.8 7               | 252.73 | 3/2 <sup>+</sup> | M1(+E2)            | 0.10 10    | 3.7 3       | B(M1)(W.u.)=0.042 12; B(E2)(W.u.)=9.E+1 +19-9<br>$\alpha(\text{K})=3.14\ 10$ ; $\alpha(\text{L})=0.46\ 15$ ; $\alpha(\text{M})=0.09\ 3$ ; $\alpha(\text{N}+..)=0.021\ 7$<br>$\alpha(\text{N})=0.019\ 6$ ; $\alpha(\text{O})=0.0021\ 5$<br>$\delta$ : from $\alpha(\text{K})\text{exp}$ (1972Mu03).                                                                                                    |
|                           |                  | 134.6 3            | 12.1 16             | 175.84 | 3/2 <sup>+</sup> | M1(+E2)            | 0.10 10    | 0.327 10    | $\alpha(\text{K})=0.280\ 7$ ; $\alpha(\text{L})=0.037\ 3$ ; $\alpha(\text{M})=0.0075\ 6$ ; $\alpha(\text{N}+..)=0.00169\ 12$<br>$\alpha(\text{N})=0.00152\ 11$ ; $\alpha(\text{O})=0.000176\ 10$<br>B(M1)(W.u.)=(0.0041 12); B(E2)(W.u.)=(1.7 +33-17)<br>$\delta$ : from $\alpha(\text{K})\text{exp}$ (1972Mu03).                                                                                     |
|                           |                  | 177.7 3            | 19.8 23             | 132.81 | 7/2 <sup>+</sup> | M1(+E2)            | 0.6 6      | 0.17 3      | $\alpha(\text{K})=0.144\ 18$ ; $\alpha(\text{L})=0.023\ 8$ ; $\alpha(\text{M})=0.0047\ 16$ ; $\alpha(\text{N}+..)=0.0010\ 4$<br>$\alpha(\text{N})=0.0009\ 3$ ; $\alpha(\text{O})=0.00010\ 3$<br>B(M1)(W.u.)=(0.0022 13); B(E2)(W.u.)=(18 +27-18)<br>$\delta$ : from $\alpha(\text{K})\text{exp}$ (1972Mu03).                                                                                          |
|                           |                  | 214.6 3            | 10.7 14             | 95.71  | 1/2 <sup>+</sup> | [E2]               |            | 0.1221      | B(E2)(W.u.)=14 4<br>$\alpha(\text{K})=0.0983\ 15$ ; $\alpha(\text{L})=0.0191\ 3$ ; $\alpha(\text{M})=0.00394\ 6$ ; $\alpha(\text{N}+..)=0.000855\ 13$                                                                                                                                                                                                                                                 |

Adopted Levels, Gammas (continued)

$\gamma(^{121}\text{I})$  (continued)

| <u>E<sub>i</sub>(level)</u> | <u>J<sup><math>\pi</math></sup><sub>i</sub></u> | <u>E<sub><math>\gamma</math></sub><sup>†</sup></u> | <u>I<sub><math>\gamma</math></sub><sup>‡</sup></u> | <u>E<sub>f</sub></u> | <u>J<sup><math>\pi</math></sup><sub>f</sub></u> | <u>Mult.#</u> | <u><math>\delta</math><sup>@</sup></u> | <u><math>\alpha</math><sup>&amp;</sup></u> | <u>Comments</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------|-------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------|-------------------------------------------------|---------------|----------------------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 310.58                      | 5/2 <sup>+</sup>                                | 310.5 2                                            | 100 9                                              | 0.0                  | 5/2 <sup>+</sup>                                | M1(+E2)       | 0.5 5                                  | 0.0345 8                                   | $\alpha(\text{N})=0.000775$ 12; $\alpha(\text{O})=8.00\times 10^{-5}$ 12<br>$\delta$ : from $\alpha(\text{K})\text{exp}$ (1972Mu03).<br>$\alpha(\text{K})=0.0295$ 5; $\alpha(\text{L})=0.0040$ 4; $\alpha(\text{M})=0.00080$ 8;<br>$\alpha(\text{N}+..)=0.000181$ 16<br>$\alpha(\text{N})=0.000162$ 14; $\alpha(\text{O})=1.86\times 10^{-5}$ 11<br>B(M1)(W.u.)=(0.0023 11); B(E2)(W.u.)=(4 +7-4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 433.56                      | (9/2) <sup>+</sup>                              | 300.7 2                                            | 100 7                                              | 132.81               | 7/2 <sup>+</sup>                                | M1+E2         | +0.13 +7-5                             | 0.0371                                     | $\delta$ : from $\alpha(\text{K})\text{exp}$ (1972Mu03).<br>$\alpha(\text{K})=0.0320$ 5; $\alpha(\text{L})=0.00410$ 7; $\alpha(\text{M})=0.000824$ 14;<br>$\alpha(\text{N}+..)=0.000187$ 3<br>$\alpha(\text{N})=0.000167$ 3; $\alpha(\text{O})=1.96\times 10^{-5}$ 3<br>B(M1)(W.u.)= $5.7\times 10^{-5}$ 6; B(E2)(W.u.)=0.008 +9-8<br>$\delta$ : average of +0.11 3 (1992Li01), +0.15 3 (1982Ha46), +0.15 5 (1982Ga21).<br>B(E2)(W.u.)=0.031 4<br>$\alpha(\text{K})=0.01090$ 16; $\alpha(\text{L})=0.001609$ 23; $\alpha(\text{M})=0.000327$ 5;<br>$\alpha(\text{N}+..)=7.25\times 10^{-5}$ 11<br>$\alpha(\text{N})=6.53\times 10^{-5}$ 10; $\alpha(\text{O})=7.25\times 10^{-6}$ 11<br>$\alpha(\text{K})=0.1404$ 21; $\alpha(\text{L})=0.0291$ 5; $\alpha(\text{M})=0.00602$ 10;<br>$\alpha(\text{N}+..)=0.001300$ 20<br>$\alpha(\text{N})=0.001180$ 18; $\alpha(\text{O})=0.0001202$ 19<br>B(E2)(W.u.)>4.1<br>$\alpha(\text{K})=0.01175$ 18; $\alpha(\text{L})=0.001483$ 21; $\alpha(\text{M})=0.000298$ 5;<br>$\alpha(\text{N}+..)=6.75\times 10^{-5}$ 10<br>$\alpha(\text{N})=6.04\times 10^{-5}$ 9; $\alpha(\text{O})=7.10\times 10^{-6}$ 11<br>B(M1)(W.u.)>0.0023<br>$\delta$ : from $\gamma(\theta)$ (1992Li01), others: -0.8 4 (1982Ha46), -0.78 20 (1982Ga21).<br>$\alpha(\text{K})=2.05$ 4; $\alpha(\text{L})=0.966$ 21; $\alpha(\text{M})=0.205$ 5; $\alpha(\text{N}+..)=0.0430$ 10<br>$\alpha(\text{N})=0.0394$ 9; $\alpha(\text{O})=0.00361$ 8<br>$\alpha(\text{K})=0.01571$ 23; $\alpha(\text{L})=0.00200$ 3; $\alpha(\text{M})=0.000401$ 6;<br>$\alpha(\text{N}+..)=9.07\times 10^{-5}$ 13<br>$\alpha(\text{N})=8.12\times 10^{-5}$ 12; $\alpha(\text{O})=9.53\times 10^{-6}$ 14<br>$\delta$ : from $\gamma(\theta)$ (1982Ga21) others: -0.4< $\delta$ <-0.05 (1992Li01), -0.8 +5-14 (1982Ha46).<br>$\alpha(\text{K})=0.00623$ 9; $\alpha(\text{L})=0.000875$ 13; $\alpha(\text{M})=0.000177$ 3;<br>$\alpha(\text{N}+..)=3.95\times 10^{-5}$ 6<br>$\alpha(\text{N})=3.55\times 10^{-5}$ 5; $\alpha(\text{O})=4.00\times 10^{-6}$ 6 |
|                             |                                                 | 433.4 2                                            | 41.0 34                                            | 0.0                  | 5/2 <sup>+</sup>                                | E2            |                                        | 0.01291                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 445.35                      | (7/2) <sup>+</sup>                              | 192.6 3                                            | 0.7 2                                              | 252.73               | 3/2 <sup>+</sup>                                | [E2]          |                                        | 0.177                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                             |                                                 | 445.2 2                                            | 100 9                                              | 0.0                  | 5/2 <sup>+</sup>                                | M1+E2         | -0.18 10                               | 0.01360 21                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 529.30                      | (9/2) <sup>+</sup>                              | 84.0 3                                             | 4.5 9                                              | 445.35               | (7/2) <sup>+</sup>                              | E2            |                                        | 3.26 7                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                             |                                                 | 396.6 2                                            | 65 5                                               | 132.81               | 7/2 <sup>+</sup>                                | M1+E2         | -0.20 5                                | 0.0182                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                             |                                                 | 529.1 4                                            | 100 14                                             | 0.0                  | 5/2 <sup>+</sup>                                | E2            |                                        | 0.00732 11                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 649.85                      | (9/2) <sup>+</sup>                              | 121 1<br>204.6 3                                   | <0.7<br>6.6 16                                     | 529.30<br>445.35     | (9/2) <sup>+</sup><br>(7/2) <sup>+</sup>        | M1+E2         | +0.03 15                               | 0.1028 20                                  | $\alpha(\text{K})=0.0886$ 16; $\alpha(\text{L})=0.0114$ 4; $\alpha(\text{M})=0.00230$ 9;<br>$\alpha(\text{N}+..)=0.000520$ 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

Adopted Levels, Gammas (continued)

| $\gamma(^{121}\text{I})$ (continued) |                                     |                      |                     |        |                    |         |                   |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------|-------------------------------------|----------------------|---------------------|--------|--------------------|---------|-------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $E_i(\text{level})$                  | $J_i^\pi$                           | $E_\gamma^\dagger$   | $I_\gamma^\ddagger$ | $E_f$  | $J_f^\pi$          | Mult.#  | $\delta^\text{@}$ | $\alpha^\&$ | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 649.85                               | (9/2) <sup>+</sup>                  | 517.1 <sup>a</sup> 3 | 36 <sup>a</sup> 4   | 132.81 | 7/2 <sup>+</sup>   | (M1+E2) | +0.12 5           | 0.00940 14  | $\alpha(\text{N})=0.000465$ 16; $\alpha(\text{O})=5.46\times 10^{-5}$ 15<br>$\delta$ : from $\gamma(\theta)$ (1982Ha46).<br>$\alpha(\text{K})=0.00814$ 12; $\alpha(\text{L})=0.001019$ 15; $\alpha(\text{M})=0.000204$ 3;<br>$\alpha(\text{N}+..)=4.63\times 10^{-5}$ 7<br>$\alpha(\text{N})=4.14\times 10^{-5}$ 6; $\alpha(\text{O})=4.88\times 10^{-6}$ 7<br>$I_\gamma$ : average from $^{121}\text{Sb}(^3\text{He},3n\gamma)$ , $^{118}\text{Sn}(^6\text{Li},3n\gamma)$ and<br>$^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ . The value is disagreement with that<br>from $^{121}\text{Xe}$ $\varepsilon+\beta^+$ decay.<br>Mult.: assumed E1+M2 from $J^\pi$ 's of initial and final levels.<br>$\delta$ : from $\gamma(\theta)$ (1992Li01), others: +0.32 +13-17 or -1.9<br>+5-7 (1982Ha46) -0.20< $\delta$ <-2.0 (1982Ga21).<br>$\alpha(\text{K})=0.00363$ 6; $\alpha(\text{L})=0.000490$ 7; $\alpha(\text{M})=9.90\times 10^{-5}$ 14;<br>$\alpha(\text{N}+..)=2.22\times 10^{-5}$ 4<br>$\alpha(\text{N})=1.99\times 10^{-5}$ 3; $\alpha(\text{O})=2.27\times 10^{-6}$ 4<br>$\alpha(\text{K})=0.0285$ 4; $\alpha(\text{L})=0.00365$ 7; $\alpha(\text{M})=0.000734$ 14;<br>$\alpha(\text{N}+..)=0.000166$ 3<br>$\alpha(\text{N})=0.000149$ 3; $\alpha(\text{O})=1.74\times 10^{-5}$ 3<br>Mult.: assumed M1+E2 from $J^\pi$ 's of initial and final levels.<br>$\delta$ : average of +0.11 3 (1992Li01), +0.23 4 (1982Ha46),<br>+0.27 6 (1982Ga21). |
| 748.26                               | (11/2) <sup>+</sup>                 | 314.7 1              | 100 7               | 433.56 | (9/2) <sup>+</sup> | (M1+E2) | +0.17 -9+10       | 0.0330      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 801.5                                | (11/2) <sup>+</sup>                 | 272.1 <sup>b</sup> 2 | 14 4                | 529.30 | (9/2) <sup>+</sup> |         |                   |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 811.67                               | (11/2) <sup>-</sup>                 | 668.7 3              | 100 11              | 132.81 | 7/2 <sup>+</sup>   | Q       |                   |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                      |                                     | 161.8 1              | 100 5               | 649.85 | (9/2) <sup>+</sup> | (E1+M2) | +0.01 3           | 0.0531 21   | $\alpha(\text{K})=0.0459$ 17; $\alpha(\text{L})=0.0058$ 3; $\alpha(\text{M})=0.00117$ 6;<br>$\alpha(\text{N}+..)=0.000260$ 14<br>$\alpha(\text{N})=0.000234$ 12; $\alpha(\text{O})=2.65\times 10^{-5}$ 14<br>B(E1)(W.u.)=(0.000244 19); B(M2)(W.u.)=(4 +26-4)<br>Mult.: E1 is possible from RUL and parity change of initial<br>and final states.<br>$\delta$ : from $\gamma(\theta)$ (1982Ha46).<br>$\alpha(\text{K})=0.0105$ 19; $\alpha(\text{L})=0.0013$ 3; $\alpha(\text{M})=0.00026$ 6;<br>$\alpha(\text{N}+..)=5.9\times 10^{-5}$ 13<br>$\alpha(\text{N})=5.3\times 10^{-5}$ 12; $\alpha(\text{O})=6.1\times 10^{-6}$ 14<br>B(E1)(W.u.)=(1.65 $\times 10^{-5}$ 21); B(M2)(W.u.)=(2.4 +67-24)<br>Mult.: E1 is possible from RUL and parity change of initial<br>and final states.<br>$\delta$ : from $\gamma(\theta)$ (1982Ha46).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                      |                                     | 282.4 1              | 36 4                | 529.30 | (9/2) <sup>+</sup> | (E1+M2) | +0.05 +7-5        | 0.0121 22   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 906.00                               |                                     | 772.8 3              | 100 15              | 132.81 | 7/2 <sup>+</sup>   |         |                   |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                      |                                     | 906.4 4              | 60 10               | 0.0    | 5/2 <sup>+</sup>   |         |                   |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 930.77                               | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> | 485.3 3              | 20 3                | 445.35 | (7/2) <sup>+</sup> |         |                   |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                      |                                     | 931.0 3              | 100 14              | 0.0    | 5/2 <sup>+</sup>   |         |                   |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Adopted Levels, Gammas (continued)   |                                                        |                                                                  |                                                    |                                                      |                                                                                                                          |                    |            |             |                                                                                                                                                                                                                               |
|--------------------------------------|--------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $\gamma(^{121}\text{I})$ (continued) |                                                        |                                                                  |                                                    |                                                      |                                                                                                                          |                    |            |             |                                                                                                                                                                                                                               |
| $E_i(\text{level})$                  | $J_i^\pi$                                              | $E_\gamma^\dagger$                                               | $I_\gamma^\ddagger$                                | $E_f$                                                | $J_f^\pi$                                                                                                                | Mult. <sup>#</sup> | $\delta^@$ | $\alpha^\&$ | Comments                                                                                                                                                                                                                      |
| 938.20                               | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    | 685.3 3<br>762.4 3<br>805.4 4<br>842.5 <sup>a</sup> 3<br>938.4 5 | 9 2<br>38 5<br>10 3<br>100 <sup>a</sup> 12<br>33 7 | 252.73<br>175.84<br>132.81<br>95.71<br>0.0           | 3/2 <sup>+</sup><br>3/2 <sup>+</sup><br>7/2 <sup>+</sup><br>1/2 <sup>+</sup><br>5/2 <sup>+</sup>                         |                    |            |             |                                                                                                                                                                                                                               |
| 961.99                               | 1/2 <sup>+</sup> , 3/2 <sup>+</sup> , 5/2 <sup>+</sup> | 516.7 <sup>ab</sup> 3<br>866.0 3<br>962.2 4                      | 37 <sup>a</sup> 11<br>100 13<br>32 5               | 445.35<br>95.71<br>0.0                               | (7/2) <sup>+</sup><br>1/2 <sup>+</sup><br>5/2 <sup>+</sup>                                                               |                    |            |             |                                                                                                                                                                                                                               |
| 1006.53                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    | 696.0 3<br>753.9 3<br>911.1 5<br>1006.1 5                        | 32 4<br>100 11<br>32 6<br>28 6                     | 310.58<br>252.73<br>95.71<br>0.0                     | 5/2 <sup>+</sup><br>3/2 <sup>+</sup><br>1/2 <sup>+</sup><br>5/2 <sup>+</sup>                                             |                    |            |             |                                                                                                                                                                                                                               |
| 1031.3                               | (11/2) <sup>+</sup>                                    | 502 1<br>585.9 3                                                 |                                                    | 529.30<br>445.35                                     | (9/2) <sup>+</sup><br>(7/2) <sup>+</sup>                                                                                 | E2                 |            | 0.00556 8   | $\alpha(\text{K})=0.00474$ 7; $\alpha(\text{L})=0.000653$ 10; $\alpha(\text{M})=0.0001319$ 19; $\alpha(\text{N}+..)=2.95\times 10^{-5}$ 5<br>$\alpha(\text{N})=2.65\times 10^{-5}$ 4; $\alpha(\text{O})=3.00\times 10^{-6}$ 5 |
| 1035.33                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    | 724.5 3<br>782.5 3<br>902.1 5<br>939.8 5<br>1035.6 3             | 11 1<br>54 7<br>11 3<br>37 7<br>100 12             | 310.58<br>252.73<br>132.81<br>95.71<br>0.0           | 5/2 <sup>+</sup><br>3/2 <sup>+</sup><br>7/2 <sup>+</sup><br>1/2 <sup>+</sup><br>5/2 <sup>+</sup>                         |                    |            |             |                                                                                                                                                                                                                               |
| 1046.31                              |                                                        | 600.7 3<br>913.4 5<br>1046.6 3                                   | 16 2<br>19 5<br>100 12                             | 445.35<br>132.81<br>0.0                              | (7/2) <sup>+</sup><br>7/2 <sup>+</sup><br>5/2 <sup>+</sup>                                                               |                    |            |             |                                                                                                                                                                                                                               |
| 1076.81                              | (13/2) <sup>+</sup>                                    | 328.5 1                                                          | 100 5                                              | 748.26                                               | (11/2) <sup>+</sup>                                                                                                      | (D+Q)              | +0.20 4    | 0.297       | $\delta$ : average of +0.21 3 (1992Li01), +0.19 4 (1982Ha46), +0.23 6 (1982Ga21).                                                                                                                                             |
| 1077.47                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    | 643.3 3<br>547.9 4<br>824.6 4<br>944.7 5<br>981.6 5<br>1077.9 5  | 20 4<br>37 4<br>50 8<br>100 17<br>62 12<br>54 12   | 433.56<br>529.30<br>252.73<br>132.81<br>95.71<br>0.0 | (9/2) <sup>+</sup><br>(9/2) <sup>+</sup><br>3/2 <sup>+</sup><br>7/2 <sup>+</sup><br>1/2 <sup>+</sup><br>5/2 <sup>+</sup> | Q                  |            |             |                                                                                                                                                                                                                               |
| 1094.16                              |                                                        | 660.2 3<br>842.5 <sup>ab</sup> 3<br>918.7 4<br>1094.2 5          | 100 10<br>23 <sup>a</sup> 23<br>27 5<br>57 13      | 433.56<br>252.73<br>175.84<br>0.0                    | (9/2) <sup>+</sup><br>3/2 <sup>+</sup><br>3/2 <sup>+</sup><br>5/2 <sup>+</sup>                                           |                    |            |             |                                                                                                                                                                                                                               |
| 1129.44                              |                                                        | 818.4 4<br>996.8 3                                               | 23 3<br>100 13                                     | 310.58<br>132.81                                     | 5/2 <sup>+</sup><br>7/2 <sup>+</sup>                                                                                     |                    |            |             |                                                                                                                                                                                                                               |
| 1134.0                               | (13/2) <sup>+</sup>                                    | 332.5 <sup>b</sup> 3<br>604.7 3                                  | 63 2<br>100 12                                     | 801.5<br>529.30                                      | (11/2) <sup>+</sup><br>(9/2) <sup>+</sup>                                                                                | D+Q<br>Q           |            |             |                                                                                                                                                                                                                               |
| 1186.31                              |                                                        | 875.7 4                                                          | 13 2                                               | 310.58                                               | 5/2 <sup>+</sup>                                                                                                         |                    |            |             |                                                                                                                                                                                                                               |

Adopted Levels, Gammas (continued)

| $\gamma(^{121}\text{I})$ (continued) |                                     |                    |                     |         |                                                        |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------|-------------------------------------|--------------------|---------------------|---------|--------------------------------------------------------|--------------------|------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $E_i(\text{level})$                  | $J_i^\pi$                           | $E_\gamma^\dagger$ | $I_\gamma^\ddagger$ | $E_f$   | $J_f^\pi$                                              | Mult. <sup>#</sup> | $\delta^@$ | $\alpha^\&$ | Comments                                                                                                                                                                                                                                                                                                                                                                |
| 1186.31                              |                                     | 1010.3 5           | 36 8                | 175.84  | 3/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1186.4 5           | 100 15              | 0.0     | 5/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1239.71                              | (15/2) <sup>-</sup>                 | 428.1 3            | 100 5               | 811.67  | (11/2) <sup>-</sup>                                    | E2                 |            | 0.01338     | $\alpha(\text{K})=0.01129$ 16; $\alpha(\text{L})=0.001673$ 24;<br>$\alpha(\text{M})=0.000340$ 5; $\alpha(\text{N}+..)=7.54\times 10^{-5}$ 11<br>$\alpha(\text{N})=6.79\times 10^{-5}$ 10; $\alpha(\text{O})=7.53\times 10^{-6}$ 11                                                                                                                                      |
| 1254.58                              |                                     | 809.0 4            | 100 15              | 445.35  | (7/2) <sup>+</sup>                                     |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1122.2 4           | 32 7                | 132.81  | 7/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1255.0 6           | 37 12               | 0.0     | 5/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1276.56                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> | 314.5 3            | 17 4                | 961.99  | 1/2 <sup>+</sup> , 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 626.6 3            | 4.5 11              | 649.85  | (9/2) <sup>+</sup>                                     |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 830.9 3            | 37 5                | 445.35  | (7/2) <sup>+</sup>                                     |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 966.4 4            | 17 4                | 310.58  | 5/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1023.9 3           | 100 11              | 252.73  | 3/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1181.1 5           | 30 5                | 95.71   | 1/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1277.1 4           | 15 2                | 0.0     | 5/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1302.6                               |                                     | 857.6 5            | 73 13               | 445.35  | (7/2) <sup>+</sup>                                     |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 992.0 4            | 100 13              | 310.58  | 5/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1326.2                               | (11/2) <sup>-</sup>                 | 578.2 3            | 100 12              | 748.26  | (11/2) <sup>+</sup>                                    | D                  |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 893 1              | <18                 | 433.56  | (9/2) <sup>+</sup>                                     |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1339.32                              |                                     | 893.7 4            | 28 3                | 445.35  | (7/2) <sup>+</sup>                                     |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1339.2 3           | 100 14              | 0.0     | 5/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1435.24                              | (15/2) <sup>+</sup>                 | 358.4 1            | 100 1               | 1076.81 | (13/2) <sup>+</sup>                                    | (M1+E2)            | +0.17 -3+7 | 0.0236      | $\alpha(\text{K})=0.0204$ 3; $\alpha(\text{L})=0.00259$ 4; $\alpha(\text{M})=0.000521$ 8;<br>$\alpha(\text{N}+..)=0.0001179$ 18<br>$\alpha(\text{N})=0.0001055$ 16; $\alpha(\text{O})=1.239\times 10^{-5}$ 18<br>Mult.: assumed M1+E2 from $J^\pi$ 's of initial and final levels.<br>$\delta$ : average of +0.15 1 (1992Li01), +0.20 4 (1982Ha46), +0.18 5 (1982Ga21). |
| 1558.5                               |                                     | 687.0 3            | 34 5                | 748.26  | (11/2) <sup>+</sup>                                    | Q                  |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1113.3 5           | 92 25               | 445.35  | (7/2) <sup>+</sup>                                     |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1382.4 4           | 100 17              | 175.84  | 3/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1463.0 5           | 42 8                | 95.71   | 1/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1575.2                               | (15/2) <sup>+</sup>                 | 773.7 3            | 100 15              | 801.5   | (11/2) <sup>+</sup>                                    | Q                  |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1679.94                              |                                     | 585.6 3            | 64 7                | 1094.16 |                                                        |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1369.7 5           | 64 14               | 310.58  | 5/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 1427.3 4           | 100 14              | 252.73  | 3/2 <sup>+</sup>                                       |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1721.7                               | (13/2) <sup>-</sup>                 | 286 1              | <14                 | 1435.24 | (15/2) <sup>+</sup>                                    |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 395.9 3            | 100 14              | 1326.2  | (11/2) <sup>-</sup>                                    | D+Q                |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 644 1              | <29                 | 1076.81 | (13/2) <sup>+</sup>                                    |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
| 1746.8                               | (15/2) <sup>+</sup>                 | 612 3              |                     | 1134.0  | (13/2) <sup>+</sup>                                    |                    |            |             |                                                                                                                                                                                                                                                                                                                                                                         |
|                                      |                                     | 715.4 3            | 100 15              | 1031.3  | (11/2) <sup>+</sup>                                    | Q                  |            |             |                                                                                                                                                                                                                                                                                                                                                                         |

Adopted Levels, Gammas (continued)

| $\gamma(^{121}\text{I})$ (continued) |                                     |                                                                                                         |                                                                       |                                                                                                                                                                                                                                                                        |                     |         |                 |             |                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|-----------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $E_i(\text{level})$                  | $J_i^\pi$                           | $E_\gamma^\dagger$                                                                                      | $I_\gamma^\ddagger$                                                   | $E_f$                                                                                                                                                                                                                                                                  | $J_f^\pi$           | Mult. # | $\delta^\oplus$ | $\alpha^\&$ | Comments                                                                                                                                                                                                                                                                                                                                                       |
| 1780.9                               | (19/2) <sup>-</sup>                 | 541.3 3                                                                                                 | 100 10                                                                | 1239.71                                                                                                                                                                                                                                                                | (15/2) <sup>-</sup> | (E2)    |                 | 0.00688 10  | $\alpha(\text{K})=0.00585$ 9; $\alpha(\text{L})=0.000819$ 12;<br>$\alpha(\text{M})=0.0001657$ 24; $\alpha(\text{N}+..)=3.70\times 10^{-5}$ 6<br>$\alpha(\text{N})=3.32\times 10^{-5}$ 5; $\alpha(\text{O})=3.75\times 10^{-6}$ 6                                                                                                                               |
| 1793.45                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> | 539.1 3<br>1348.3 4<br>1482.4 4<br>1540.8 4                                                             | 9 2<br>39 7<br>32 5<br>100 14                                         | 1254.58<br>445.35 (7/2) <sup>+</sup><br>310.58 5/2 <sup>+</sup><br>252.73 3/2 <sup>+</sup>                                                                                                                                                                             |                     |         |                 |             |                                                                                                                                                                                                                                                                                                                                                                |
| 1813.75                              | (17/2) <sup>+</sup>                 | 378.5 1                                                                                                 | 100 11                                                                | 1435.24                                                                                                                                                                                                                                                                | (15/2) <sup>+</sup> | (M1+E2) | +0.19 8         | 0.0205      | $\alpha(\text{K})=0.0177$ 3; $\alpha(\text{L})=0.00225$ 4; $\alpha(\text{M})=0.000453$ 7; $\alpha(\text{N}+..)=0.0001024$ 15<br>$\alpha(\text{N})=9.16\times 10^{-5}$ 14; $\alpha(\text{O})=1.075\times 10^{-5}$ 16<br>Mult.: assumed M1+E2 from $J^\pi$ 's of initial and final levels.<br>$\delta$ : from average of +0.26 5 (1992Li01), +0.15 5 (1982Ga21). |
|                                      |                                     | 736.9 3                                                                                                 | 79 15                                                                 | 1076.81                                                                                                                                                                                                                                                                | (13/2) <sup>+</sup> | E2      |                 | 0.00310 5   | $\alpha(\text{K})=0.00266$ 4; $\alpha(\text{L})=0.000352$ 5;<br>$\alpha(\text{M})=7.08\times 10^{-5}$ 10; $\alpha(\text{N}+..)=1.590\times 10^{-5}$ 23<br>$\alpha(\text{N})=1.426\times 10^{-5}$ 20; $\alpha(\text{O})=1.639\times 10^{-6}$ 23                                                                                                                 |
| 1847.0                               |                                     | 608 1                                                                                                   | 100 30                                                                | 1239.71                                                                                                                                                                                                                                                                | (15/2) <sup>-</sup> |         |                 |             |                                                                                                                                                                                                                                                                                                                                                                |
| 1864.4                               | (17/2) <sup>+</sup>                 | 730.3 3                                                                                                 | 100 15                                                                | 1134.0                                                                                                                                                                                                                                                                 | (13/2) <sup>+</sup> | E2      |                 | 0.00317 5   | $\alpha(\text{K})=0.00272$ 4; $\alpha(\text{L})=0.000360$ 5;<br>$\alpha(\text{M})=7.25\times 10^{-5}$ 11; $\alpha(\text{N}+..)=1.628\times 10^{-5}$ 23<br>$\alpha(\text{N})=1.460\times 10^{-5}$ 21; $\alpha(\text{O})=1.676\times 10^{-6}$ 24                                                                                                                 |
| 1907.65                              |                                     | 631.3 4<br>1473.8 5<br>1596.9 5<br>1656.7 <sup>b</sup> 20<br>1731.8 5                                   | 67 7<br>40 7<br>73 13<br>100 33<br>100 20                             | 1276.56 3/2 <sup>+</sup> , 5/2 <sup>+</sup><br>433.56 (9/2) <sup>+</sup><br>310.58 5/2 <sup>+</sup><br>252.73 3/2 <sup>+</sup><br>175.84 3/2 <sup>+</sup>                                                                                                              |                     |         |                 |             | Possible doublet in $^{121}\text{Xe}$ $\varepsilon+\beta^+$ decay.                                                                                                                                                                                                                                                                                             |
| 1964.57                              | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> | 958.0 3<br>1653.8 5<br>1869.1 4                                                                         | 100 11<br>7.9 20<br>13 4                                              | 1006.53 3/2 <sup>+</sup> , 5/2 <sup>+</sup><br>310.58 5/2 <sup>+</sup><br>95.71 1/2 <sup>+</sup>                                                                                                                                                                       |                     |         |                 |             |                                                                                                                                                                                                                                                                                                                                                                |
| 2022.9                               | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> | 1890.0 5<br>1927.6 4<br>2022.5 4                                                                        | 53 13<br>100 20<br>80 20                                              | 132.81 7/2 <sup>+</sup><br>95.71 1/2 <sup>+</sup><br>0.0 5/2 <sup>+</sup>                                                                                                                                                                                              |                     |         |                 |             |                                                                                                                                                                                                                                                                                                                                                                |
| 2076.86                              |                                     | 947.3 5<br>1115.0 5<br>1146.4 5<br>1170.7 4<br>1631.5 4<br>1765.9 4<br>1824.2 5<br>1901.3 4<br>2076.6 4 | 20 5<br>9 2<br>62 11<br>29 7<br>100 16<br>31 7<br>9 2<br>13 3<br>38 9 | 1129.44<br>961.99 1/2 <sup>+</sup> , 3/2 <sup>+</sup> , 5/2 <sup>+</sup><br>930.77 3/2 <sup>+</sup> , 5/2 <sup>+</sup><br>906.00<br>445.35 (7/2) <sup>+</sup><br>310.58 5/2 <sup>+</sup><br>252.73 3/2 <sup>+</sup><br>175.84 3/2 <sup>+</sup><br>0.0 5/2 <sup>+</sup> |                     |         |                 |             |                                                                                                                                                                                                                                                                                                                                                                |

## Adopted Levels, Gammas (continued)

| $\gamma(^{121}\text{I})$ (continued) |                                     |                    |                     |         |                                                        |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------|-------------------------------------|--------------------|---------------------|---------|--------------------------------------------------------|--------------------|-----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $E_i(\text{level})$                  | $J_i^\pi$                           | $E_\gamma^\dagger$ | $I_\gamma^\ddagger$ | $E_f$   | $J_f^\pi$                                              | Mult. <sup>#</sup> | $\delta^\oplus$ | $\alpha^\&$ | Comments                                                                                                                                                                                                                                                                                                                                                                                        |
| 2132.1                               | (15/2 <sup>-</sup> )                | 317 <sup>a</sup> 1 | <33 <sup>a</sup>    | 1813.75 | (17/2) <sup>+</sup>                                    | D(+Q)              |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 410.6 3            | 100 17              | 1721.7  | (13/2 <sup>-</sup> )                                   |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 696 1              |                     | 1435.24 | (15/2) <sup>+</sup>                                    |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 806.0 10           | <17                 | 1326.2  | (11/2 <sup>-</sup> )                                   |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2188.33                              |                                     | 1878.0 4           | 40 10               | 310.58  | 5/2 <sup>+</sup>                                       |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 2012.3 4           | 100 20              | 175.84  | 3/2 <sup>+</sup>                                       |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 2092.5 5           | 65 20               | 95.71   | 1/2 <sup>+</sup>                                       |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2201.7                               |                                     | 962 1              | 100 50              | 1239.71 | (15/2) <sup>-</sup>                                    |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2218.2                               | (19/2) <sup>+</sup>                 | 404.4 2            | 100 11              | 1813.75 | (17/2) <sup>+</sup>                                    | (M1+E2)            | +0.22 4         | 0.01731     | $\alpha(\text{K})=0.01494$ 22; $\alpha(\text{L})=0.00190$ 3; $\alpha(\text{M})=0.000382$ 6;<br>$\alpha(\text{N}+..)=8.63\times 10^{-5}$ 13<br>$\alpha(\text{N})=7.73\times 10^{-5}$ 11; $\alpha(\text{O})=9.07\times 10^{-6}$ 13<br>Mult.: assumed M1+E2 from $J^\pi$ 's of initial and final levels.<br>$\delta$ : from average of +0.20 5 (1982Ha46), +0.21 7 (1982Ga21), +0.26 7 (1992Li01). |
|                                      |                                     | 782.9 3            | 78 12               | 1435.24 | (15/2) <sup>+</sup>                                    | E2                 |                 | 0.00268 4   | $\alpha(\text{K})=0.00230$ 4; $\alpha(\text{L})=0.000302$ 5; $\alpha(\text{M})=6.07\times 10^{-5}$ 9; $\alpha(\text{N}+..)=1.364\times 10^{-5}$ 20<br>$\alpha(\text{N})=1.223\times 10^{-5}$ 18; $\alpha(\text{O})=1.409\times 10^{-6}$ 20                                                                                                                                                      |
| 2220.49                              |                                     | 1143.1 5           | 39 6                | 1077.47 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 1258.4 6           | 36 11               | 961.99  | 1/2 <sup>+</sup> , 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 1314.3 4           | 22 6                | 906.00  |                                                        |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 1691.3 5           | 22 6                | 529.30  | (9/2) <sup>+</sup>                                     |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 1786.9 4           | 36 8                | 433.56  | (9/2) <sup>+</sup>                                     |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 1909.7 4           | 31 6                | 310.58  | 5/2 <sup>+</sup>                                       |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 2087.7 5           | 100 19              | 132.81  | 7/2 <sup>+</sup>                                       |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2223.69                              |                                     | 1217.4 4           | 36 8                | 1006.53 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 1261.3 6           | 40 12               | 961.99  | 1/2 <sup>+</sup> , 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 1574.0 4           | 80 16               | 649.85  | (9/2) <sup>+</sup>                                     |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 1778.3 5           | 80 16               | 445.35  | (7/2) <sup>+</sup>                                     |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 2047.6 4           | 100 20              | 175.84  | 3/2 <sup>+</sup>                                       |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2286.1                               |                                     | 439.1 3            | 100 33              | 1847.0  |                                                        |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 1046 1             | <67                 | 1239.71 | (15/2) <sup>-</sup>                                    |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2353.0                               | (21/2)                              | 134.8 1            | 100 15              | 2218.2  | (19/2) <sup>+</sup>                                    |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2376.9                               |                                     | 158.7 3            | 100 10              | 2218.2  | (19/2) <sup>+</sup>                                    |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2426.1                               | (23/2) <sup>-</sup>                 | 645.4 2            | 100 19              | 1780.9  | (19/2) <sup>-</sup>                                    | Q                  |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2441.0                               | (19/2) <sup>+</sup>                 | 865.8 3            | 100 11              | 1575.2  | (15/2) <sup>+</sup>                                    | Q                  |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2465.5                               | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> | 2212.6 4           | 100 25              | 252.73  | 3/2 <sup>+</sup>                                       |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 2370.0 6           | 45 10               | 95.71   | 1/2 <sup>+</sup>                                       |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2569.9                               | (17/2 <sup>-</sup> )                | 437.8 3            | 100 25              | 2132.1  | (15/2) <sup>-</sup>                                    | D(+Q)              |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                      |                                     | 848 1              | <25                 | 1721.7  | (13/2 <sup>-</sup> )                                   |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2588.90                              |                                     | 1402.7 5           | 42 6                | 1186.31 |                                                        |                    |                 |             |                                                                                                                                                                                                                                                                                                                                                                                                 |

Adopted Levels, Gammas (continued)

| $\gamma(^{121}\text{I})$ (continued) |                      |                        |                     |         |                                                        |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------|----------------------|------------------------|---------------------|---------|--------------------------------------------------------|---------|------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $E_i(\text{level})$                  | $J_i^\pi$            | $E_\gamma^\dagger$     | $I_\gamma^\ddagger$ | $E_f$   | $J_f^\pi$                                              | Mult.#  | $\delta^@$ | $\alpha^\&$ | Comments                                                                                                                                                                                                                                                                                                                                           |
| 2588.90                              |                      | 1459.5 5               | 15 3                | 1129.44 |                                                        |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 1553.5 4               | 100 12              | 1035.33 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2278.3 4               | 61 15               | 310.58  | 5/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2336.0 5               | 61 15               | 252.73  | 3/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2412.9 4               | 55 9                | 175.84  | 3/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2493.4 6               | 21 6                | 95.71   | 1/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2589.1 6               | 73 18               | 0.0     | 5/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
| 2621.9                               | (19/2 <sup>+</sup> ) | 875.0 2                | 100 14              | 1746.8  | (15/2 <sup>+</sup> )                                   | Q       |            |             |                                                                                                                                                                                                                                                                                                                                                    |
| 2641.8                               | (21/2 <sup>+</sup> ) | 423.5 3                | 73 9                | 2218.2  | (19/2 <sup>+</sup> )                                   | (M1+E2) | +0.26 8    | 0.01537 23  | $\alpha(\text{K})=0.01327$ 20; $\alpha(\text{L})=0.001686$ 24;<br>$\alpha(\text{M})=0.000339$ 5; $\alpha(\text{N}+..)=7.67\times 10^{-5}$ 11<br>$\alpha(\text{N})=6.86\times 10^{-5}$ 10; $\alpha(\text{O})=8.05\times 10^{-6}$ 12<br>Mult.: assumed M1+E2 from $J^\pi$ of initial and final levels.<br>$\delta$ : from $\gamma(\theta)$ 1992Li01. |
|                                      |                      | 828.1 3                | 100 9               | 1813.75 | (17/2 <sup>+</sup> )                                   | Q       |            |             |                                                                                                                                                                                                                                                                                                                                                    |
| 2684.9                               |                      | 904 1                  | <100                | 1780.9  | (19/2) <sup>-</sup>                                    |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
| 2689.91                              |                      | 1560.4 4               | 80 15               | 1129.44 |                                                        |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2256.6 4               | 70 15               | 433.56  | (9/2) <sup>+</sup>                                     |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2379.0 5               | 25 5                | 310.58  | 5/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2514.0 6               | 100 25              | 175.84  | 3/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2689.6 <sup>ab</sup> 5 | 15 <sup>a</sup> 15  | 0.0     | 5/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
| 2728.9                               | (21/2 <sup>+</sup> ) | 864.5 3                | 100 15              | 1864.4  | (17/2) <sup>+</sup>                                    | Q       |            |             |                                                                                                                                                                                                                                                                                                                                                    |
| 2739.20                              |                      | 1800.9 4               | 26 4                | 938.20  | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 1833.3 5               | 8.0 17              | 906.00  |                                                        |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2428.6 5               | 32 5                | 310.58  | 5/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2486.5 5               | 11.4 23             | 252.73  | 3/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2643.4 5               | 100 14              | 95.71   | 1/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
| 2777.0                               |                      | 491 1                  | 100 33              | 2286.1  |                                                        |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 996 1                  | <67                 | 1780.9  | (19/2) <sup>-</sup>                                    |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
| 2780.74                              |                      | 560.1 3                | 83 8                | 2220.49 |                                                        |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 1441.3 4               | 83 17               | 1339.32 |                                                        |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 1703.5 4               | 100 17              | 1077.47 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup>                    |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2346.9 5               | 67 17               | 433.56  | (9/2) <sup>+</sup>                                     |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2528.4 5               | 92 25               | 252.73  | 3/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2605.0 6               | 42 13               | 175.84  | 3/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
| 2797.57                              |                      | 1668.1 4               | 6 1                 | 1129.44 |                                                        |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 1835.5 5               | 29 7                | 961.99  | 1/2 <sup>+</sup> , 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2544.7 5               | 100 12              | 252.73  | 3/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2621.7 5               | 73 12               | 175.84  | 3/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2664.6 6               | 16 4                | 132.81  | 7/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |
|                                      |                      | 2797.7 4               | 82 12               | 0.0     | 5/2 <sup>+</sup>                                       |         |            |             |                                                                                                                                                                                                                                                                                                                                                    |

Adopted Levels, Gammas (continued)

| $\gamma(^{121}\text{I})$ (continued) |                                     |                        |                     |         |                                     |         |
|--------------------------------------|-------------------------------------|------------------------|---------------------|---------|-------------------------------------|---------|
| $E_i(\text{level})$                  | $J_i^\pi$                           | $E_\gamma^\dagger$     | $I_\gamma^\ddagger$ | $E_f$   | $J_f^\pi$                           | Mult. # |
| 2809.9                               | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> | 1470.5 5               | 71 18               | 1339.32 |                                     |         |
|                                      |                                     | 2634.2 <sup>ab</sup> 6 | 88 <sup>a</sup> 41  | 175.84  | 3/2 <sup>+</sup>                    |         |
|                                      |                                     | 2677.0 6               | 100 24              | 132.81  | 7/2 <sup>+</sup>                    |         |
|                                      |                                     | 2714.3 6               | 59 18               | 95.71   | 1/2 <sup>+</sup>                    |         |
| 2822.3                               |                                     | 2569.3 5               | 100 18              | 252.73  | 3/2 <sup>+</sup>                    |         |
|                                      |                                     | 2689.6 <sup>a</sup> 5  | 94 <sup>a</sup> 18  | 132.81  | 7/2 <sup>+</sup>                    |         |
| 2830.6                               |                                     | 2578.0 5               | 47 13               | 252.73  | 3/2 <sup>+</sup>                    |         |
|                                      |                                     | 2697.4 6               | 100 20              | 132.81  | 7/2 <sup>+</sup>                    |         |
|                                      |                                     | 2830.6 5               | 67 17               | 0.0     | 5/2 <sup>+</sup>                    |         |
| 2847.5?                              |                                     | 1508.0 4               | 100 25              | 1339.32 |                                     |         |
|                                      |                                     | 2672.0 6               | 92 25               | 175.84  | 3/2 <sup>+</sup>                    |         |
|                                      |                                     | 2751.8 5               | 75 17               | 95.71   | 1/2 <sup>+</sup>                    |         |
|                                      |                                     | 2847.5 <sup>ab</sup> 6 | 33 <sup>a</sup> 13  | 0.0     | 5/2 <sup>+</sup>                    |         |
| 2858.9                               |                                     | 1078 1                 | <100                | 1780.9  | (19/2) <sup>-</sup>                 |         |
| 2892.8                               |                                     | 1616.2 4               | 87 13               | 1276.56 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                                     | 1815.4 4               | 100 20              | 1077.47 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                                     | 2760.0 6               | 60 13               | 132.81  | 7/2 <sup>+</sup>                    |         |
| 2904.5                               |                                     | 2593.7 6               | 100 21              | 310.58  | 5/2 <sup>+</sup>                    |         |
|                                      |                                     | 2651.7 6               | 48 10               | 252.73  | 3/2 <sup>+</sup>                    |         |
|                                      |                                     | 2728.9 6               | 17 7                | 175.84  | 3/2 <sup>+</sup>                    |         |
|                                      |                                     | 2808.6 5               | 17 5                | 95.71   | 1/2 <sup>+</sup>                    |         |
| 2994.1                               |                                     | 1807.6 4               | 56 13               | 1186.31 |                                     |         |
|                                      |                                     | 1864.5 6               | 38 13               | 1129.44 |                                     |         |
|                                      |                                     | 2549.2 6               | 100 19              | 445.35  | (7/2) <sup>+</sup>                  |         |
|                                      |                                     | 2818.1 6               | 19 6                | 175.84  | 3/2 <sup>+</sup>                    |         |
|                                      |                                     | 2994.1 6               | 19 6                | 0.0     | 5/2 <sup>+</sup>                    |         |
| 3023.5                               | (19/2) <sup>-</sup>                 | 453.7 3                | <100                | 2569.9  | (17/2) <sup>-</sup>                 |         |
|                                      |                                     | 891 1                  | <33                 | 2132.1  | (15/2) <sup>-</sup>                 |         |
| 3067.98                              |                                     | 1728.5 5               | 44 13               | 1339.32 |                                     |         |
|                                      |                                     | 1990.5 4               | 44 9                | 1077.47 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                                     | 2418.4 5               | 63 13               | 649.85  | (9/2) <sup>+</sup>                  |         |
|                                      |                                     | 2538.6 5               | 100 25              | 529.30  | (9/2) <sup>+</sup>                  |         |
|                                      |                                     | 2634.2 <sup>ab</sup> 6 | 94 <sup>a</sup> 44  | 433.56  | (9/2) <sup>+</sup>                  |         |
|                                      |                                     | 2757.2 6               | 25 6                | 310.58  | 5/2 <sup>+</sup>                    |         |
|                                      |                                     | 2815.2 6               | 19 6                | 252.73  | 3/2 <sup>+</sup>                    |         |
| 3084.8                               | (23/2 <sup>+</sup> )                | 442.8 3                | 86 14               | 2641.8  | (21/2) <sup>+</sup>                 | D(+Q)   |
|                                      |                                     | 866.7 3                | 100 14              | 2218.2  | (19/2) <sup>+</sup>                 | (Q)     |
| 3097.3                               |                                     | 1820.6 5               | 53 13               | 1276.56 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                                     | 2964.5 5               | 100 20              | 132.81  | 7/2 <sup>+</sup>                    |         |
|                                      |                                     | 3097.2 <sup>ab</sup> 5 | 13 <sup>a</sup> 10  | 0.0     | 5/2 <sup>+</sup>                    |         |
| 3105.6                               | (23/2 <sup>+</sup> )                | 664.6 3                | 100 8               | 2441.0  | (19/2) <sup>+</sup>                 | Q       |

Adopted Levels, Gammas (continued)

| $\gamma(^{121}\text{I})$ (continued) |                      |                        |                     |         |                                     |         |
|--------------------------------------|----------------------|------------------------|---------------------|---------|-------------------------------------|---------|
| $E_i(\text{level})$                  | $J_i^\pi$            | $E_\gamma^\dagger$     | $I_\gamma^\ddagger$ | $E_f$   | $J_f^\pi$                           | Mult. # |
| 3112.7                               |                      | 1858.1 <sup>b</sup> 6  | 92 23               | 1254.58 |                                     |         |
|                                      |                      | 2462.8 5               | 77 19               | 649.85  | (9/2) <sup>+</sup>                  |         |
|                                      |                      | 2667.7 6               | 100 23              | 445.35  | (7/2) <sup>+</sup>                  |         |
|                                      |                      | 2936.5 5               | 38 12               | 175.84  | 3/2 <sup>+</sup>                    |         |
|                                      |                      | 2980.1 6               | 23 8                | 132.81  | 7/2 <sup>+</sup>                    |         |
| 3158.1                               |                      | 1365.0 5               | 100 24              | 1793.45 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                      | 2847.5 <sup>ab</sup> 6 | 24 <sup>a</sup> 9   | 310.58  | 5/2 <sup>+</sup>                    |         |
|                                      |                      | 3024.9 5               | 24 9                | 132.81  | 7/2 <sup>+</sup>                    |         |
| 3158.9                               |                      | 474 1                  | <100                | 2684.9  |                                     |         |
| 3160.0                               |                      | 1082.8 5               | 100 15              | 2076.86 |                                     |         |
|                                      |                      | 2510.4 6               | 65 15               | 649.85  | (9/2) <sup>+</sup>                  |         |
|                                      |                      | 2849.9 6               | 8 3                 | 310.58  | 5/2 <sup>+</sup>                    |         |
|                                      |                      | 2984.0 6               | 13 5                | 175.84  | 3/2 <sup>+</sup>                    |         |
|                                      |                      | 3159.8 5               | 43 10               | 0.0     | 5/2 <sup>+</sup>                    |         |
| 3166.73                              |                      | 1202.2 4               | 11 2                | 1964.57 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                      | 1980.4 4               | 60 11               | 1186.31 |                                     |         |
|                                      |                      | 2228.5 4               | 17 4                | 938.20  | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                      | 2637.3 6               | 100 19              | 529.30  | (9/2) <sup>+</sup>                  |         |
|                                      |                      | 2721.7 6               | 13 4                | 445.35  | (7/2) <sup>+</sup>                  |         |
|                                      |                      | 3034.0 5               | 19 6                | 132.81  | 7/2 <sup>+</sup>                    |         |
|                                      |                      | 3070.6 5               | 11 3                | 95.71   | 1/2 <sup>+</sup>                    |         |
|                                      |                      | 1229.8 4               | 91 13               | 1964.57 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
| 3194.32                              |                      | 1286.6 4               | 39 9                | 1907.65 |                                     |         |
|                                      |                      | 1854.9 6               | 35 9                | 1339.32 |                                     |         |
|                                      |                      | 1892.0 5               | 100 22              | 1302.6  |                                     |         |
|                                      |                      | 1917.9 4               | 48 9                | 1276.56 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                      | 2116.8 5               | 43 13               | 1077.47 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                      | 2158.8 4               | 30 7                | 1035.33 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                      | 2941.4 5               | 39 13               | 252.73  | 3/2 <sup>+</sup>                    |         |
|                                      |                      | 2700.8 6               | 100 25              | 529.30  | (9/2) <sup>+</sup>                  |         |
| 3229.8                               |                      | 2977.0 5               | 75 25               | 252.73  | 3/2 <sup>+</sup>                    |         |
|                                      |                      | 3097.2 <sup>ab</sup> 5 | 25 <sup>a</sup> 19  | 132.81  | 7/2 <sup>+</sup>                    |         |
|                                      |                      | 3229.5 5               | 25 19               | 0.0     | 5/2 <sup>+</sup>                    |         |
|                                      |                      | 807.5 3                | 100 17              | 2441.0  | (19/2 <sup>+</sup> )                |         |
| 3248.5                               |                      | 495 <sup>a</sup> 1     | <100 <sup>a</sup>   | 2777.0  |                                     |         |
| 3272.0                               |                      | 847.5 3                | 100 5               | 2426.1  | (23/2) <sup>-</sup>                 | Q       |
| 3273.5                               | (27/2 <sup>-</sup> ) | 855 1                  | <100                | 2426.1  | (23/2) <sup>-</sup>                 |         |
| 3281.1                               |                      | 495 <sup>a</sup> 1     | <100 <sup>a</sup>   | 2858.9  |                                     |         |
| 3353.9                               |                      | 1210.2 4               | 50 13               | 2188.33 |                                     |         |
| 3398.49                              |                      | 2122.2 5               | 88 19               | 1276.56 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |
|                                      |                      | 2320.5 4               | 100 19              | 1077.47 | 3/2 <sup>+</sup> , 5/2 <sup>+</sup> |         |

**Adopted Levels, Gammas (continued)**

| $\gamma(^{121}\text{I})$ (continued) |                     |                     |                     |        |                     |         |            |                                            |  |
|--------------------------------------|---------------------|---------------------|---------------------|--------|---------------------|---------|------------|--------------------------------------------|--|
| $E_i(\text{level})$                  | $J_i^\pi$           | $E_\gamma^\dagger$  | $I_\gamma^\ddagger$ | $E_f$  | $J_f^\pi$           | Mult. # | $\delta^@$ | Comments                                   |  |
| 3398.49                              |                     | 2953.2 6            | 44 13               | 445.35 | (7/2) <sup>+</sup>  |         |            |                                            |  |
|                                      |                     | 3146.1 5            | 38 9                | 252.73 | 3/2 <sup>+</sup>    |         |            |                                            |  |
| 3438.6                               |                     | 1013 1              | <100                | 2426.1 | (23/2) <sup>-</sup> |         |            |                                            |  |
| 3471.9                               |                     | 743 1               | <100                | 2728.9 | (21/2) <sup>+</sup> |         |            |                                            |  |
| 3487.2                               | (21/2) <sup>-</sup> | 464 1               | <100                | 3023.5 | (19/2) <sup>-</sup> |         |            |                                            |  |
|                                      |                     | 917 1               | <50                 | 2569.9 | (17/2) <sup>-</sup> |         |            |                                            |  |
| 3496.9                               | (25/2) <sup>+</sup> | 768.1 3             | 100 10              | 2728.9 | (21/2) <sup>+</sup> | Q       |            |                                            |  |
| 3511.3                               | (23/2) <sup>+</sup> | 889.4 2             | 100 25              | 2621.9 | (19/2) <sup>+</sup> | Q       |            |                                            |  |
| 3518.2                               | (23/2) <sup>+</sup> | 896.2 2             | 100 30              | 2621.9 | (19/2) <sup>+</sup> | Q       |            |                                            |  |
| 3533.1                               | (25/2) <sup>+</sup> | 448.2 3             | 67 17               | 3084.8 | (23/2) <sup>+</sup> |         |            |                                            |  |
|                                      |                     | 891.4 3             | 100 17              | 2641.8 | (21/2) <sup>+</sup> |         |            |                                            |  |
| 3583.4                               | (25/2) <sup>+</sup> | 854.5 3             | 100 25              | 2728.9 | (21/2) <sup>+</sup> | Q       |            |                                            |  |
| 3604.1                               |                     | 1178 <sup>a</sup> 1 | <100 <sup>a</sup>   | 2426.1 | (23/2) <sup>-</sup> |         |            |                                            |  |
| 3638.9                               |                     | 910 1               | <100                | 2728.9 | (21/2) <sup>+</sup> |         |            |                                            |  |
| 3677.1                               |                     | 571.5 3             | 100 25              | 3105.6 | (23/2) <sup>+</sup> |         |            |                                            |  |
| 3684.1                               |                     | 1258 1              | <100                | 2426.1 | (23/2) <sup>-</sup> |         |            |                                            |  |
| 3704.9                               | (25/2) <sup>+</sup> | 186 1               | 60 20               | 3518.2 | (23/2) <sup>+</sup> | D(+Q)   |            |                                            |  |
|                                      |                     | 193.5 2             | 100 20              | 3511.3 | (23/2) <sup>+</sup> | D(+Q)   |            |                                            |  |
| 3763.2                               | (27/2) <sup>+</sup> | 179.7 3             | 100 14              | 3583.4 | (25/2) <sup>+</sup> | D+Q     | -0.27 14   | $\delta$ : from $\gamma(\theta)$ 1992Li01. |  |
|                                      |                     | 325 1               | <100                | 3438.6 |                     |         |            |                                            |  |
| 3929.1                               |                     | 325 1               | <100                | 3604.1 |                     |         |            |                                            |  |
| 3965.6                               | (27/2) <sup>+</sup> | 433 1               | <100                | 3533.1 | (25/2) <sup>+</sup> | (D+Q)   |            |                                            |  |
|                                      |                     | 880.8 3             | <67                 | 3084.8 | (23/2) <sup>+</sup> |         |            |                                            |  |
| 4006.6                               | (27/2) <sup>+</sup> | 301.6 2             | 100 33              | 3704.9 | (25/2) <sup>+</sup> | D(+Q)   |            |                                            |  |
| 4096.9                               |                     | 743 1               | <100                | 3353.9 |                     |         |            |                                            |  |
| 4098.9                               |                     | 627 1               | <100                | 3471.9 |                     |         |            |                                            |  |
| 4164.4                               | (31/2) <sup>-</sup> | 891.0 3             | 100 10              | 3273.5 | (27/2) <sup>-</sup> | Q       |            |                                            |  |
| 4233.9                               | (29/2) <sup>+</sup> | 737 1               | 100 33              | 3496.9 | (25/2) <sup>+</sup> | (Q)     |            |                                            |  |
| 4322.1                               | (29/2) <sup>+</sup> | 315.4 3             | 100 12              | 4006.6 | (27/2) <sup>+</sup> | D(+Q)   |            |                                            |  |
| 4377.1?                              | (29/2) <sup>+</sup> | 411 <sup>b</sup> 1  | <100                | 3965.6 | (27/2) <sup>+</sup> |         |            |                                            |  |
|                                      |                     | 844 1               |                     | 3533.1 | (25/2) <sup>+</sup> |         |            |                                            |  |
| 4381.5                               |                     | 1108 1              | <100                | 3273.5 | (27/2) <sup>-</sup> |         |            |                                            |  |
| 4436.5                               |                     | 1163 1              | <100                | 3273.5 | (27/2) <sup>-</sup> |         |            |                                            |  |
| 4531.1?                              |                     | 854 1               | 100                 | 3677.1 |                     |         |            |                                            |  |
| 4635.9                               |                     | 997 1               | 100                 | 3638.9 |                     |         |            |                                            |  |
| 4662.9                               |                     | 564 1               | <100                | 4098.9 |                     |         |            |                                            |  |
| 4676.8                               | (31/2) <sup>+</sup> | 354.7 2             | 100 5               | 4322.1 | (29/2) <sup>+</sup> | D(+Q)   |            |                                            |  |
| 4921.9?                              |                     | 825 1               | 100                 | 4096.9 |                     |         |            |                                            |  |
| 5001.5                               | (33/2) <sup>+</sup> | 324.6 2             | 100 6               | 4676.8 | (31/2) <sup>+</sup> | D(+Q)   |            |                                            |  |
|                                      |                     | 679.3 2             | 71 4                | 4322.1 | (29/2) <sup>+</sup> |         |            |                                            |  |
| 5040.8                               | (35/2) <sup>-</sup> | 876.4 2             | 100 5               | 4164.4 | (31/2) <sup>-</sup> | Q       |            |                                            |  |
| 5255.5                               |                     | 819 1               | <100                | 4436.5 |                     |         |            |                                            |  |

**Adopted Levels, Gammas (continued)**

| $\gamma(^{121}\text{I})$ (continued) |                      |                      |                     |          |                      |                    |                 |             |                                                                                                                                                                                                                                               |
|--------------------------------------|----------------------|----------------------|---------------------|----------|----------------------|--------------------|-----------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $E_i(\text{level})$                  | $J_i^\pi$            | $E_\gamma^\dagger$   | $I_\gamma^\ddagger$ | $E_f$    | $J_f^\pi$            | Mult. <sup>#</sup> | $\delta^\oplus$ | $\alpha^\&$ | Comments                                                                                                                                                                                                                                      |
| 5338.3                               | (35/2 <sup>+</sup> ) | 336.8 2              | 100 5               | 5001.5   | (33/2 <sup>+</sup> ) | D(+Q)              |                 |             |                                                                                                                                                                                                                                               |
| 5432.6                               | (39/2 <sup>-</sup> ) | 391.8 2              | 100 10              | 5040.8   | (35/2 <sup>-</sup> ) | E2                 |                 | 0.01743     | $\alpha(\text{K})=0.01465$ 21; $\alpha(\text{L})=0.00223$ 4; $\alpha(\text{M})=0.000453$ 7;<br>$\alpha(\text{N}+...)=0.0001003$ 15<br>$\alpha(\text{N})=9.03\times 10^{-5}$ 13; $\alpha(\text{O})=9.94\times 10^{-6}$ 14<br>B(E2)(W.u.)=6.4 6 |
| 5655.7                               | (37/2 <sup>+</sup> ) | 317.4 <sup>a</sup> 2 | 100 <sup>a</sup> 5  | 5338.3   | (35/2 <sup>+</sup> ) | D(+Q)              |                 |             |                                                                                                                                                                                                                                               |
| 6245.4                               | (41/2 <sup>-</sup> ) | 812.7 2              | 100 5               | 5432.6   | (39/2 <sup>-</sup> ) | D(+Q)              |                 |             |                                                                                                                                                                                                                                               |
| 6537.9                               | (43/2 <sup>-</sup> ) | 292.5 2              | 100 4               | 6245.4   | (41/2 <sup>-</sup> ) | D+Q                | -0.06 4         |             | $\delta$ : from $\gamma(\theta)$ 1992Li01.                                                                                                                                                                                                    |
|                                      |                      | 1105.5 2             | 65 3                | 5432.6   | (39/2 <sup>-</sup> ) |                    |                 |             |                                                                                                                                                                                                                                               |
| 6793.2                               | (41/2 <sup>+</sup> ) | 1137.4 2             | 59 3                | 5655.7   | (37/2 <sup>+</sup> ) | Q                  |                 |             |                                                                                                                                                                                                                                               |
|                                      |                      | 1360.6 2             | 100 6               | 5432.6   | (39/2 <sup>-</sup> ) | D                  |                 |             |                                                                                                                                                                                                                                               |
| 7206.0                               | (43/2 <sup>-</sup> ) | 960.5 2              | 100 5               | 6245.4   | (41/2 <sup>-</sup> ) | D(+Q)              |                 |             |                                                                                                                                                                                                                                               |
| 7446.5                               | (45/2 <sup>+</sup> ) | 240.5 2              | 46 3                | 7206.0   | (43/2 <sup>-</sup> ) | D                  |                 |             |                                                                                                                                                                                                                                               |
|                                      |                      | 653.3 2              | 79 4                | 6793.2   | (41/2 <sup>+</sup> ) | Q                  |                 |             |                                                                                                                                                                                                                                               |
|                                      |                      | 908.6 2              | 100 5               | 6537.9   | (43/2 <sup>-</sup> ) | D,Q                |                 |             |                                                                                                                                                                                                                                               |
| 7516.0                               | (47/2 <sup>-</sup> ) | 978.2 2              | 100 5               | 6537.9   | (43/2 <sup>-</sup> ) | Q                  |                 |             |                                                                                                                                                                                                                                               |
| 8135.2                               | (49/2 <sup>+</sup> ) | 688.5 2              | 100 5               | 7446.5   | (45/2 <sup>+</sup> ) | Q                  |                 |             |                                                                                                                                                                                                                                               |
| 8776.2                               | (51/2)               | 640.8 2              | 100 5               | 8135.2   | (49/2 <sup>+</sup> ) | D(+Q)              |                 |             |                                                                                                                                                                                                                                               |
| 8895.2                               | (51/2 <sup>-</sup> ) | 1379.4 2             | 100 5               | 7516.0   | (47/2 <sup>-</sup> ) | Q                  |                 |             |                                                                                                                                                                                                                                               |
| 9030.6                               | (53/2)               | 254.3 2              | 100 5               | 8776.2   | (51/2)               | D(+Q)              |                 |             |                                                                                                                                                                                                                                               |
| 9239.2                               | (55/2 <sup>-</sup> ) | 208.4 2              | 100 5               | 9030.6   | (53/2)               | D(+Q)              |                 |             |                                                                                                                                                                                                                                               |
|                                      |                      | 344.1 2              | 76 4                | 8895.2   | (51/2 <sup>-</sup> ) | Q                  |                 |             |                                                                                                                                                                                                                                               |
| 9501.0                               |                      | 261.6 2              | 100 4               | 9239.2   | (55/2 <sup>-</sup> ) | D                  |                 |             |                                                                                                                                                                                                                                               |
| 10283.8                              |                      | 1044.6 2             | 100 5               | 9239.2   | (55/2 <sup>-</sup> ) | D                  |                 |             |                                                                                                                                                                                                                                               |
| 10471.7                              |                      | 1232.5 2             | 100 5               | 9239.2   | (55/2 <sup>-</sup> ) | D                  |                 |             |                                                                                                                                                                                                                                               |
| 10632.3                              |                      | 1131.0 2             | 100 5               | 9501.0   |                      | D                  |                 |             |                                                                                                                                                                                                                                               |
|                                      |                      | 1393.3 2             | 69 4                | 9239.2   | (55/2 <sup>-</sup> ) |                    |                 |             |                                                                                                                                                                                                                                               |
| 10911.9                              |                      | 1672.7 2             | 100 7               | 9239.2   | (55/2 <sup>-</sup> ) |                    |                 |             |                                                                                                                                                                                                                                               |
| 11142.8                              |                      | 510 1                | <42                 | 10632.3  |                      |                    |                 |             |                                                                                                                                                                                                                                               |
|                                      |                      | 1903.6 2             | 100 42              | 9239.2   | (55/2 <sup>-</sup> ) |                    |                 |             |                                                                                                                                                                                                                                               |
| x+495.0                              |                      | 495 <sup>a</sup> 1   | <100 <sup>a</sup>   | x        |                      |                    |                 |             |                                                                                                                                                                                                                                               |
| x+1124.0                             |                      | 629 1                | <100                | x+495.0  |                      |                    |                 |             |                                                                                                                                                                                                                                               |
| x+1868.0                             |                      | 744 1                | <100                | x+1124.0 |                      |                    |                 |             |                                                                                                                                                                                                                                               |
| x+2705.0                             |                      | 837 1                | <100                | x+1868.0 |                      |                    |                 |             |                                                                                                                                                                                                                                               |

<sup>†</sup> From <sup>121</sup>Xe  $\varepsilon+\beta^+$  decay; others from <sup>121</sup>Sb(<sup>3</sup>He,3n $\gamma$ ), <sup>118</sup>Sn(<sup>6</sup>Li,3n $\gamma$ ), <sup>114</sup>Cd(<sup>11</sup>B,4n $\gamma$ ) and <sup>96</sup>Zr(<sup>30</sup>Si,p4n $\gamma$ ); upper limits are given for photon branchings affected by multiple placement.

<sup>‡</sup> From <sup>121</sup>Xe  $\varepsilon+\beta^+$  decay; others from <sup>121</sup>Sb(<sup>3</sup>He,3n $\gamma$ ), <sup>118</sup>Sn(<sup>6</sup>Li,3n $\gamma$ ), <sup>114</sup>Cd(<sup>11</sup>B,4n $\gamma$ ) and <sup>96</sup>Zr(<sup>30</sup>Si,p4n $\gamma$ )).

<sup>#</sup> From  $\alpha(\text{K})_{\text{exp}}$ ,  $\alpha(\text{L})_{\text{exp}}$  in <sup>121</sup>Xe  $\varepsilon+\beta^+$  decay, from  $\gamma(\theta)$  in <sup>121</sup>Sb(<sup>3</sup>He,3n $\gamma$ ) and in <sup>118</sup>Sn(<sup>6</sup>Li,3n $\gamma$ ); and from  $\gamma(\theta)$  and DCO ratio in <sup>114</sup>Cd(<sup>11</sup>B,4n $\gamma$ ), and in <sup>114</sup>Cd(<sup>11</sup>B,4n $\gamma$ ); in some cases using also the RUL for known level half-lives.

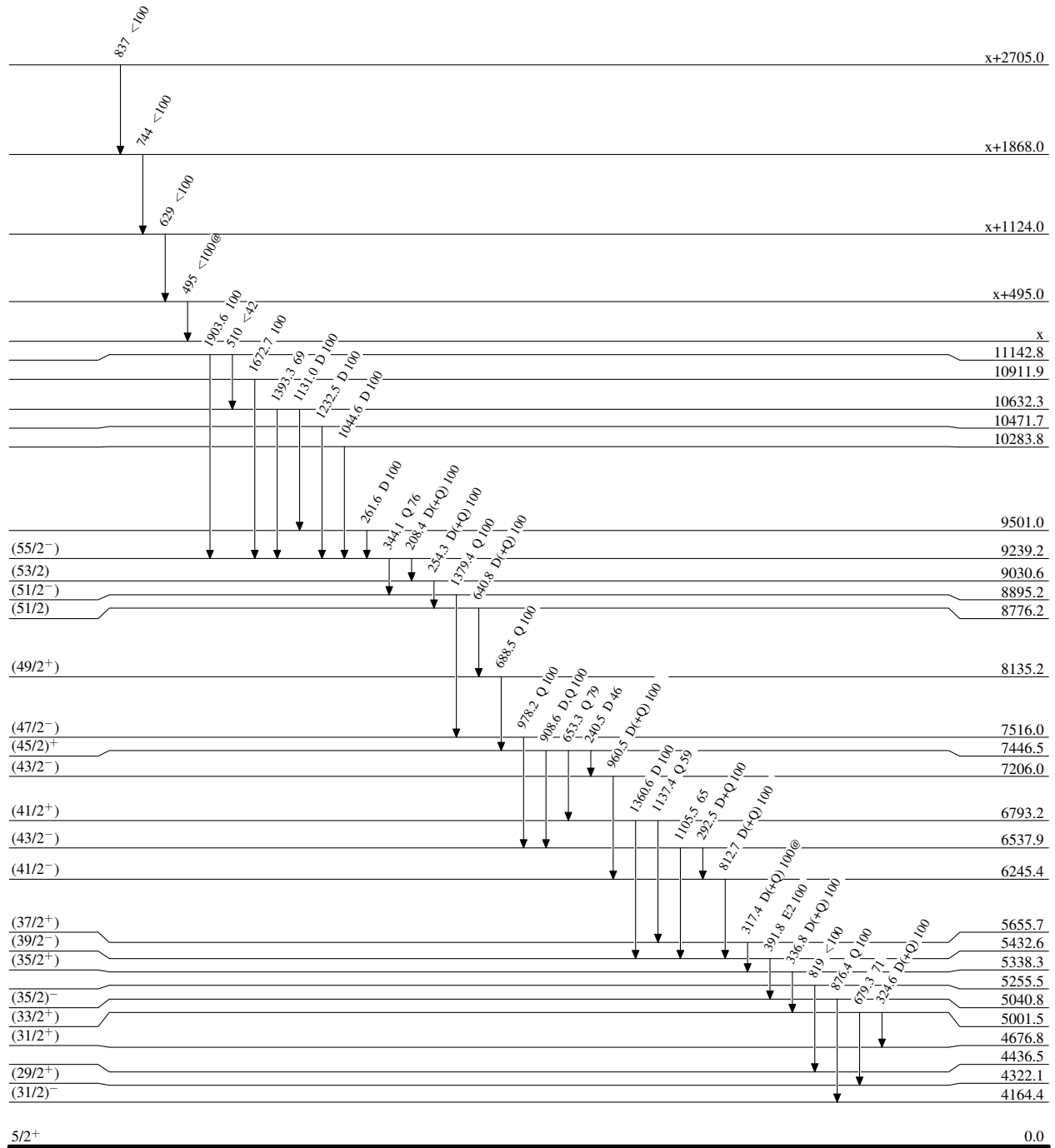
Adopted Levels, Gammas (continued)

$\gamma(^{121}\text{I})$  (continued)

- @ From average value from the followings: (1)  $\gamma(\theta)$  in  $^{121}\text{Sb}(^3\text{He},3n\gamma)$ ; (2)  $\gamma(\theta)$  in  $^{118}\text{Sn}(^6\text{Li},3n\gamma)$ ; (3)  $\gamma(\theta)$  and DCO ratio in  $^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ ; (4)  $\alpha(\text{K})\text{exp}$  and  $\alpha(\text{L})\text{exp}$  in  $^{121}\text{Xe } \varepsilon+\beta^+$  decay.
- & Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on  $\gamma$ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.
- <sup>a</sup> Multiply placed with intensity suitably divided.
- <sup>b</sup> Placement of transition in the level scheme is uncertain.

**Adopted Levels, Gammas**Level Scheme

Intensities: Relative photon branching from each level  
 @ Multiply placed: intensity suitably divided



263 ps 22

2.12 h  $\gamma$

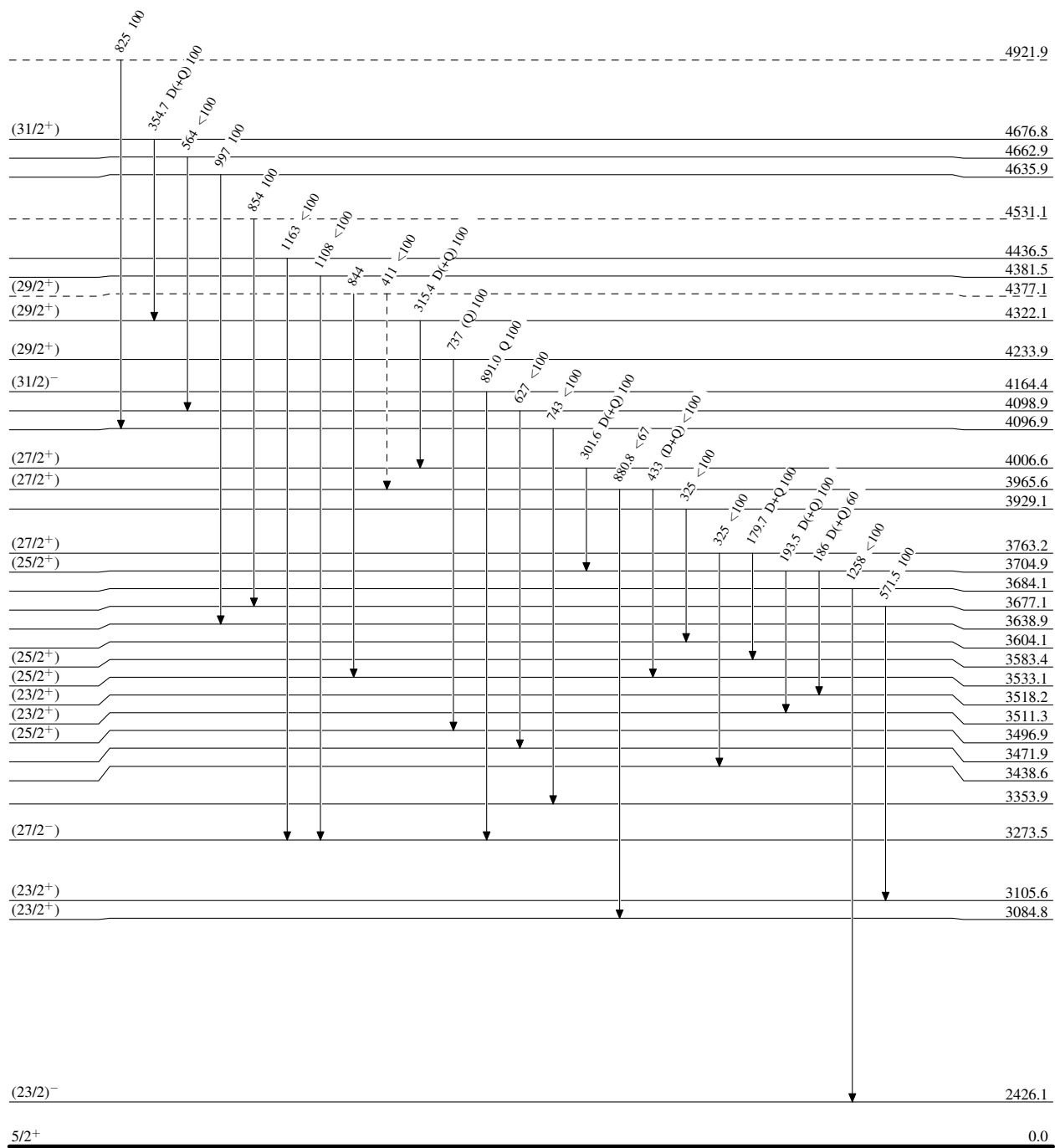
**Adopted Levels, Gammas**

Legend

**Level Scheme (continued)**

Intensities: Relative photon branching from each level

@ Multiply placed: intensity suitably divided

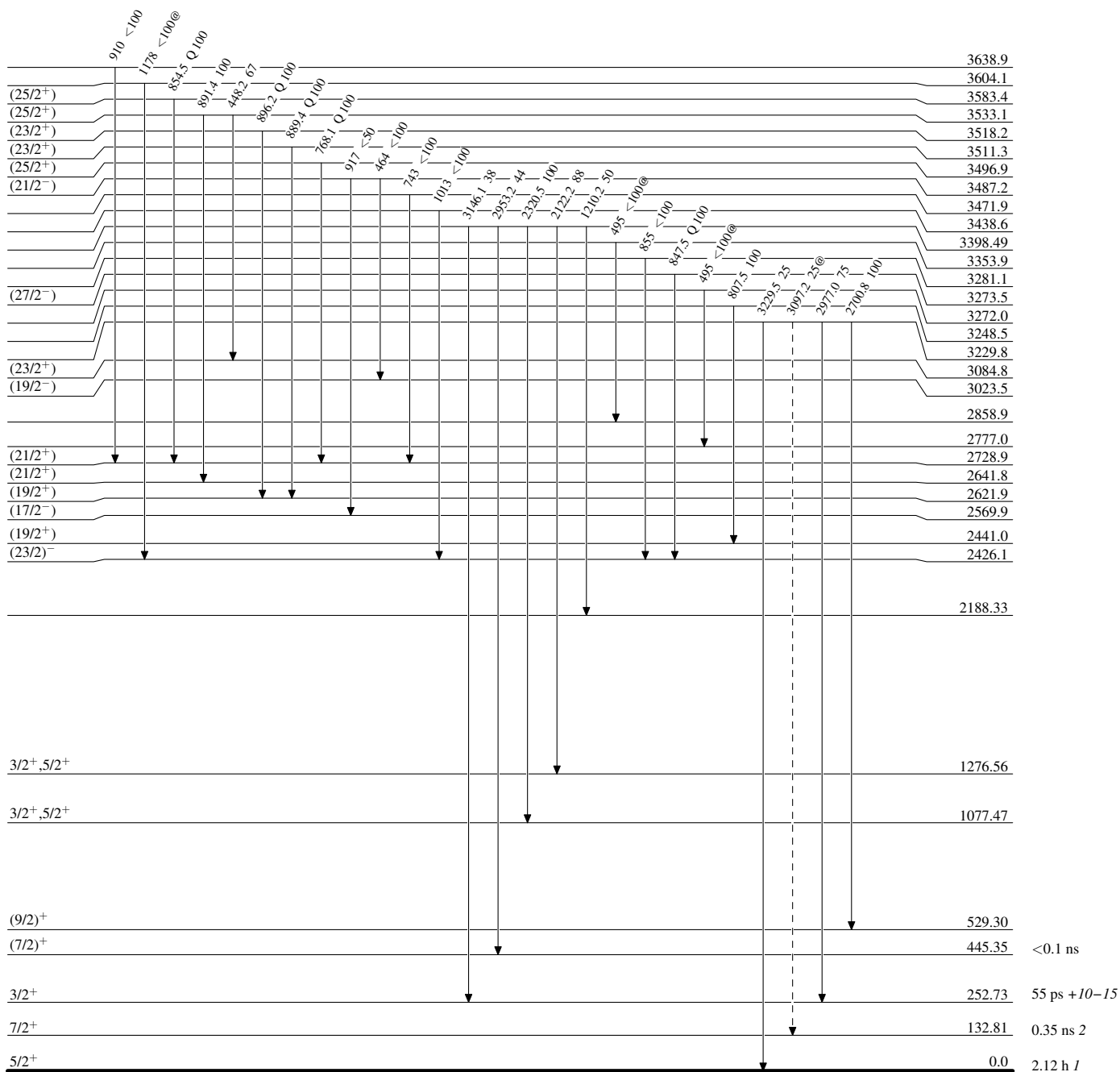
-----►  $\gamma$  Decay (Uncertain)2.12 h  $t$

**Adopted Levels, Gammas**

Legend

**Level Scheme (continued)**

Intensities: Relative photon branching from each level  
 @ Multiply placed: intensity suitably divided

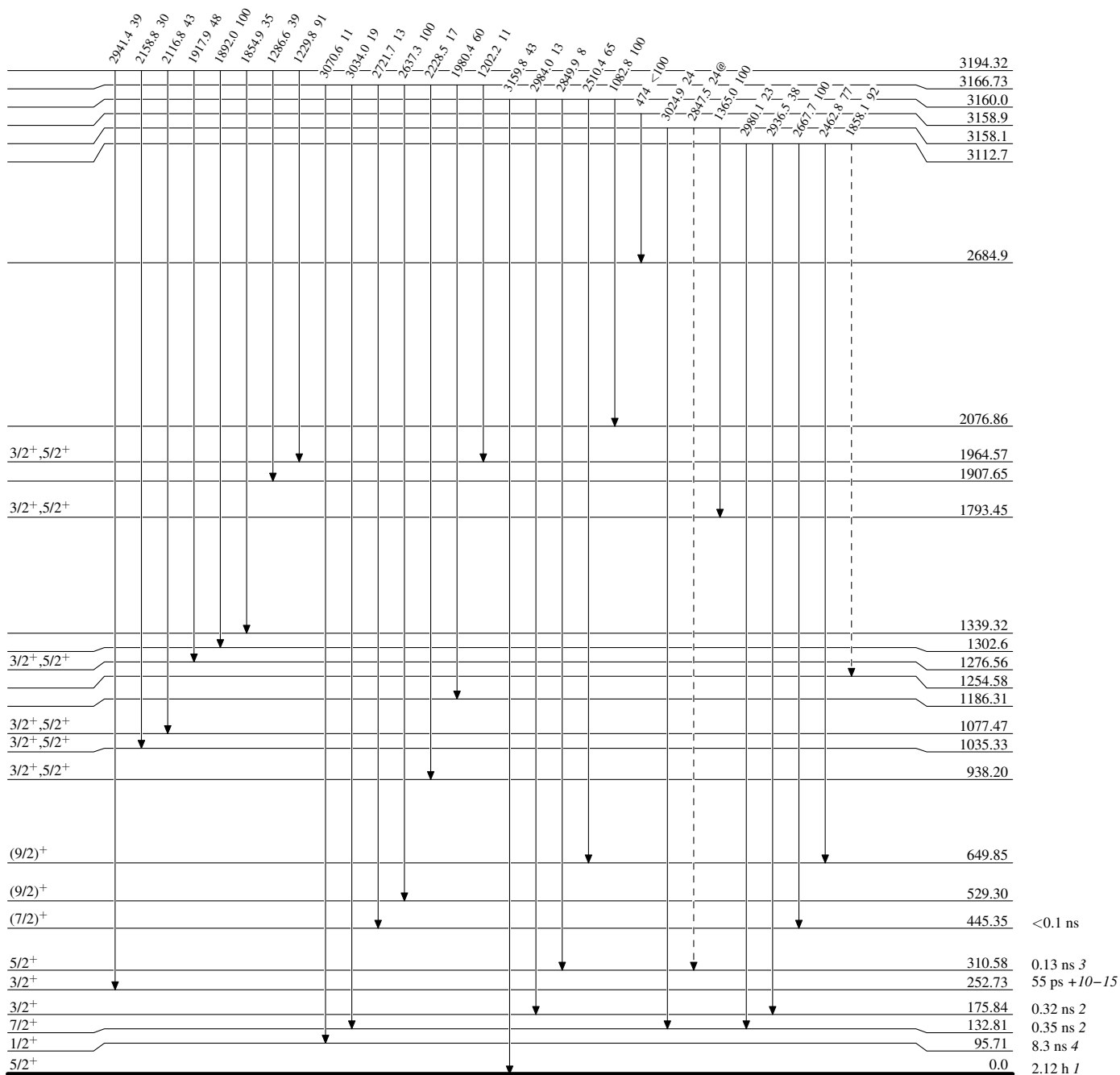
-----►  $\gamma$  Decay (Uncertain)

**Adopted Levels, Gammas**

Legend

**Level Scheme (continued)**

Intensities: Relative photon branching from each level  
 @ Multiply placed: intensity suitably divided

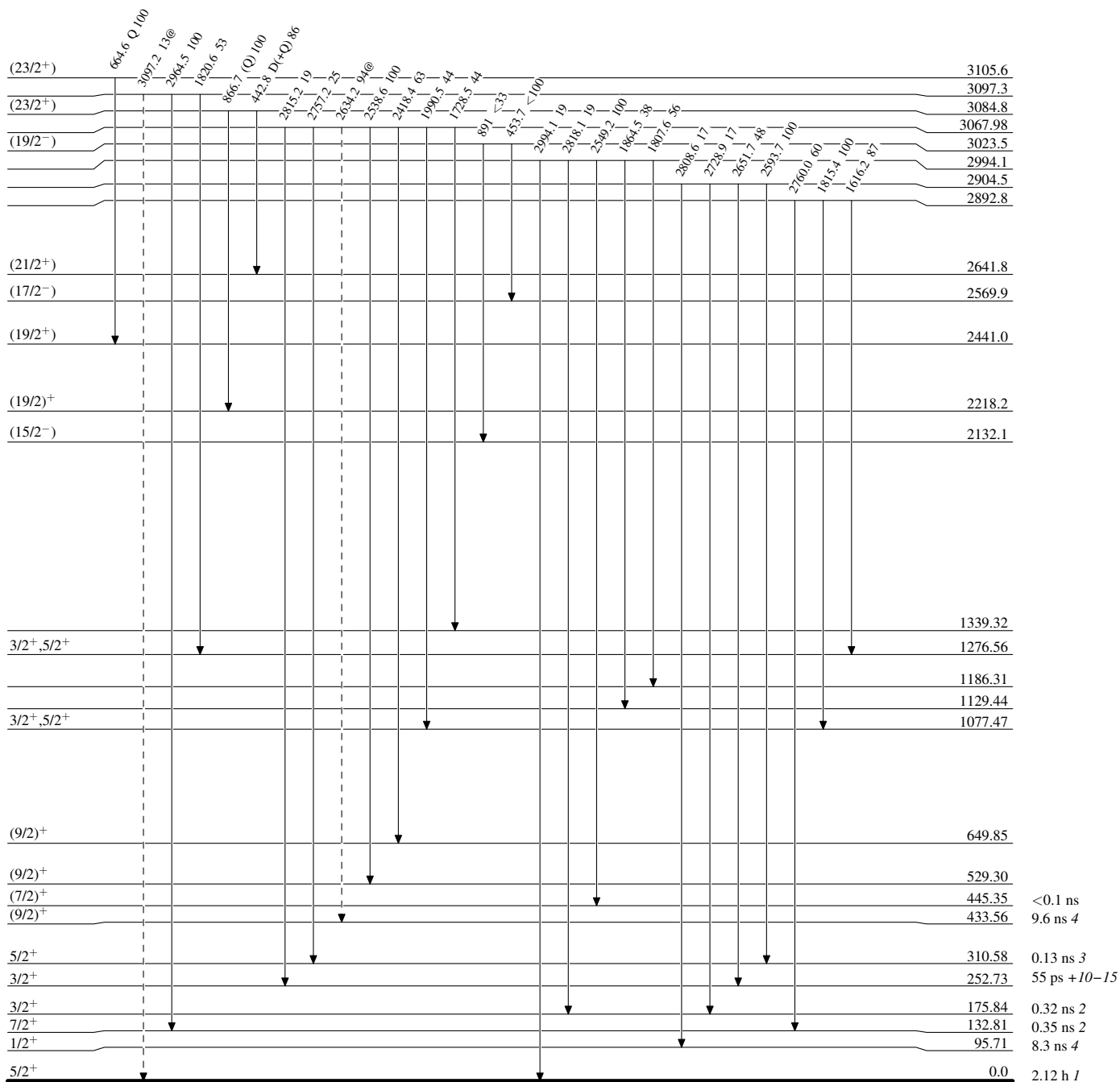
-----►  $\gamma$  Decay (Uncertain) $^{121}_{53}\text{I}_{68}$

**Adopted Levels, Gammas**

Legend

**Level Scheme (continued)**

Intensities: Relative photon branching from each level  
 @ Multiply placed: intensity suitably divided

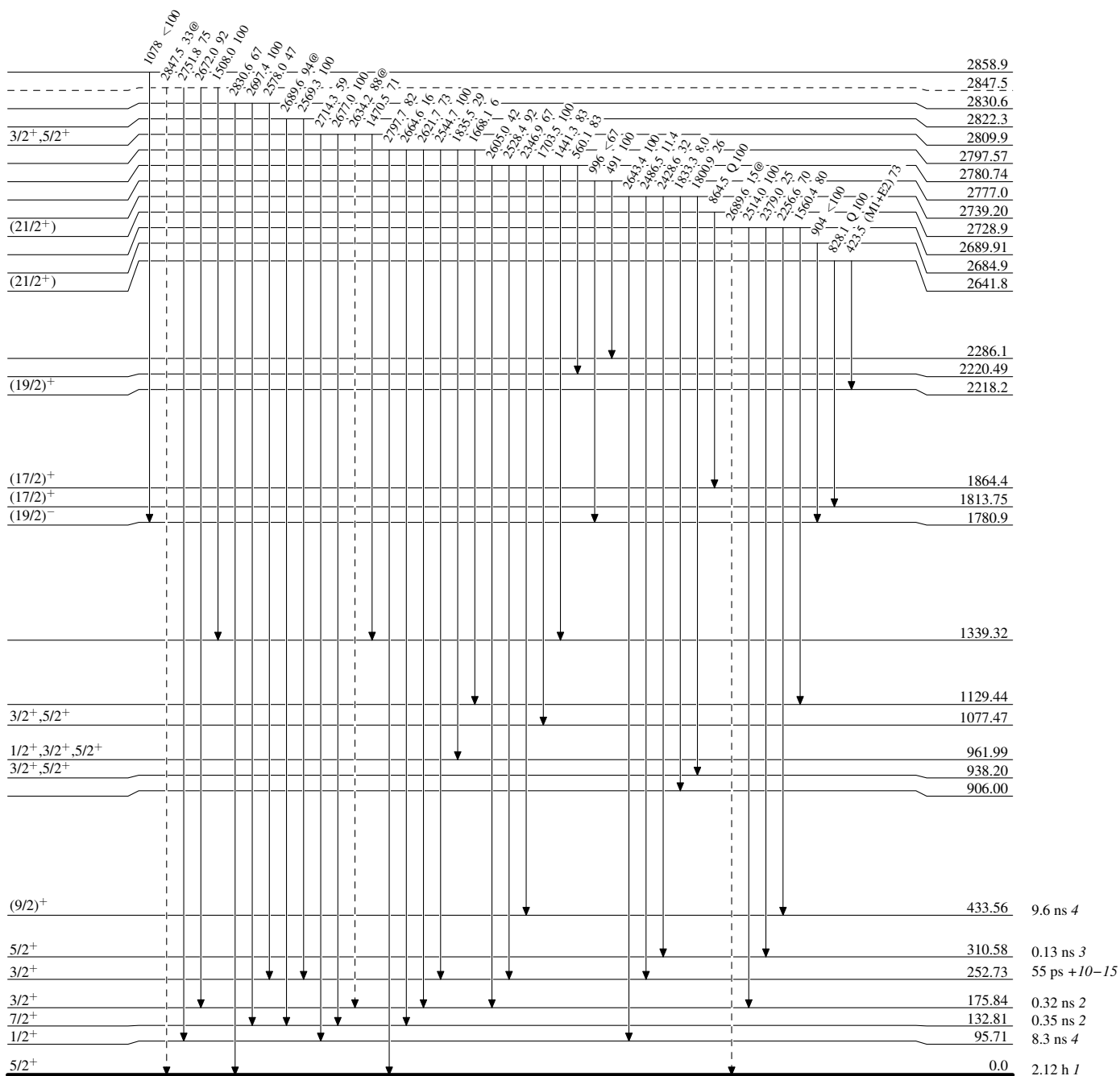
-----►  $\gamma$  Decay (Uncertain)

**Adopted Levels, Gammas**

Legend

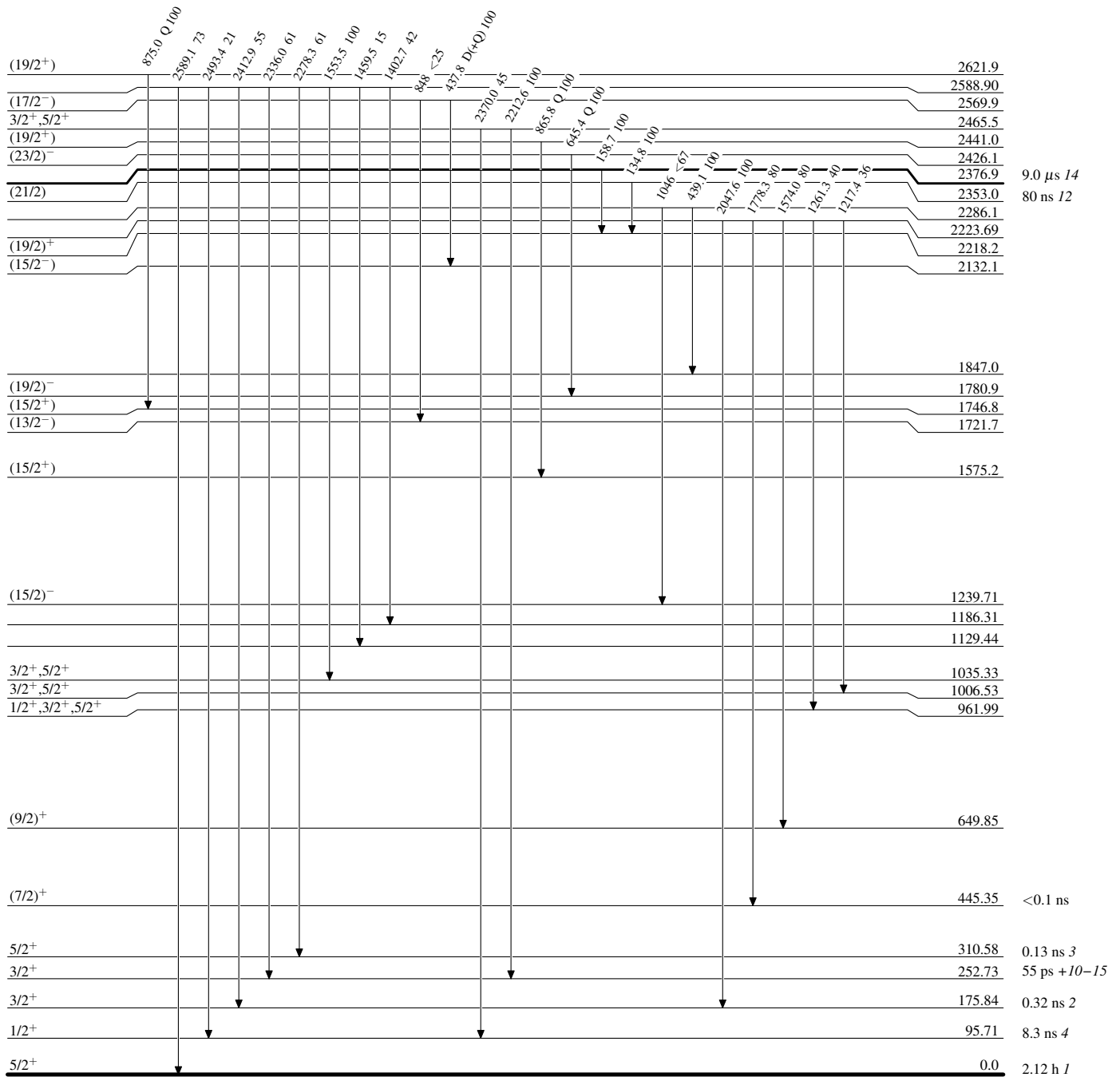
**Level Scheme (continued)**

Intensities: Relative photon branching from each level  
 @ Multiply placed: intensity suitably divided

-----►  $\gamma$  Decay (Uncertain)

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

Intensities: Relative photon branching from each level  
 @ Multiply placed: intensity suitably divided

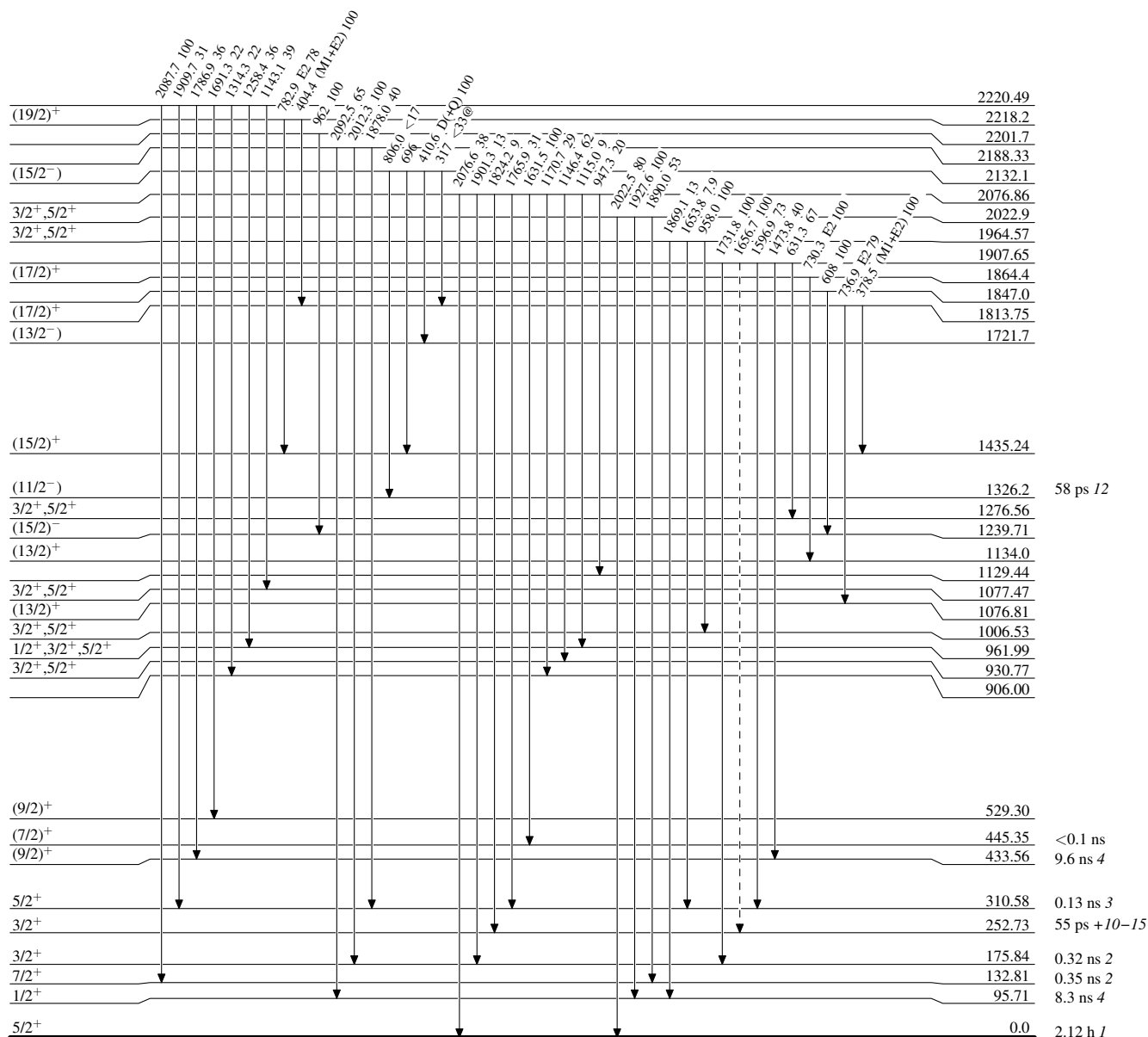


**Adopted Levels, Gammas**

Legend

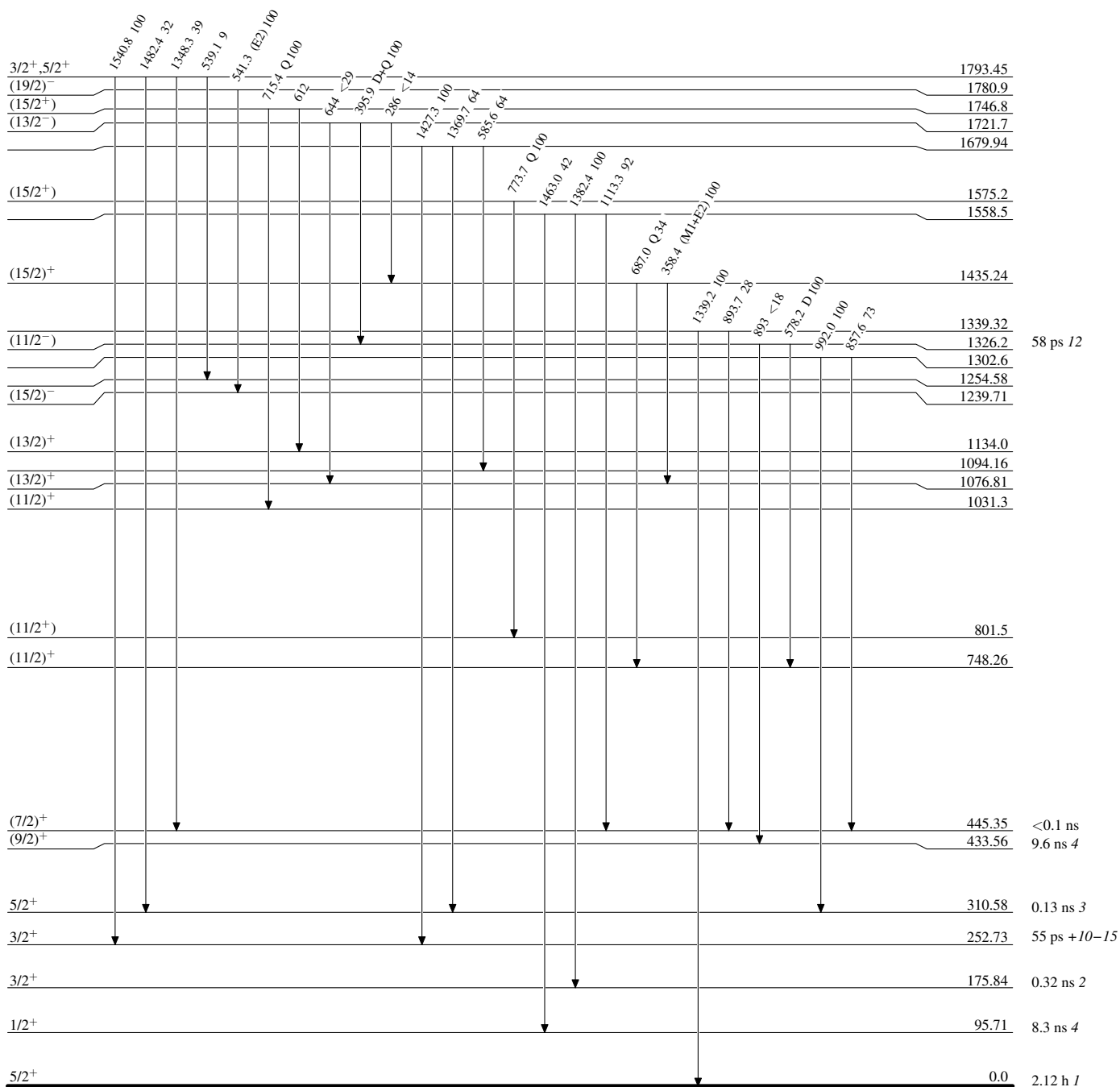
**Level Scheme (continued)**

Intensities: Relative photon branching from each level  
 @ Multiplied: intensity suitably divided

-----►  $\gamma$  Decay (Uncertain)

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

Intensities: Relative photon branching from each level  
 @ Multiply placed: intensity suitably divided

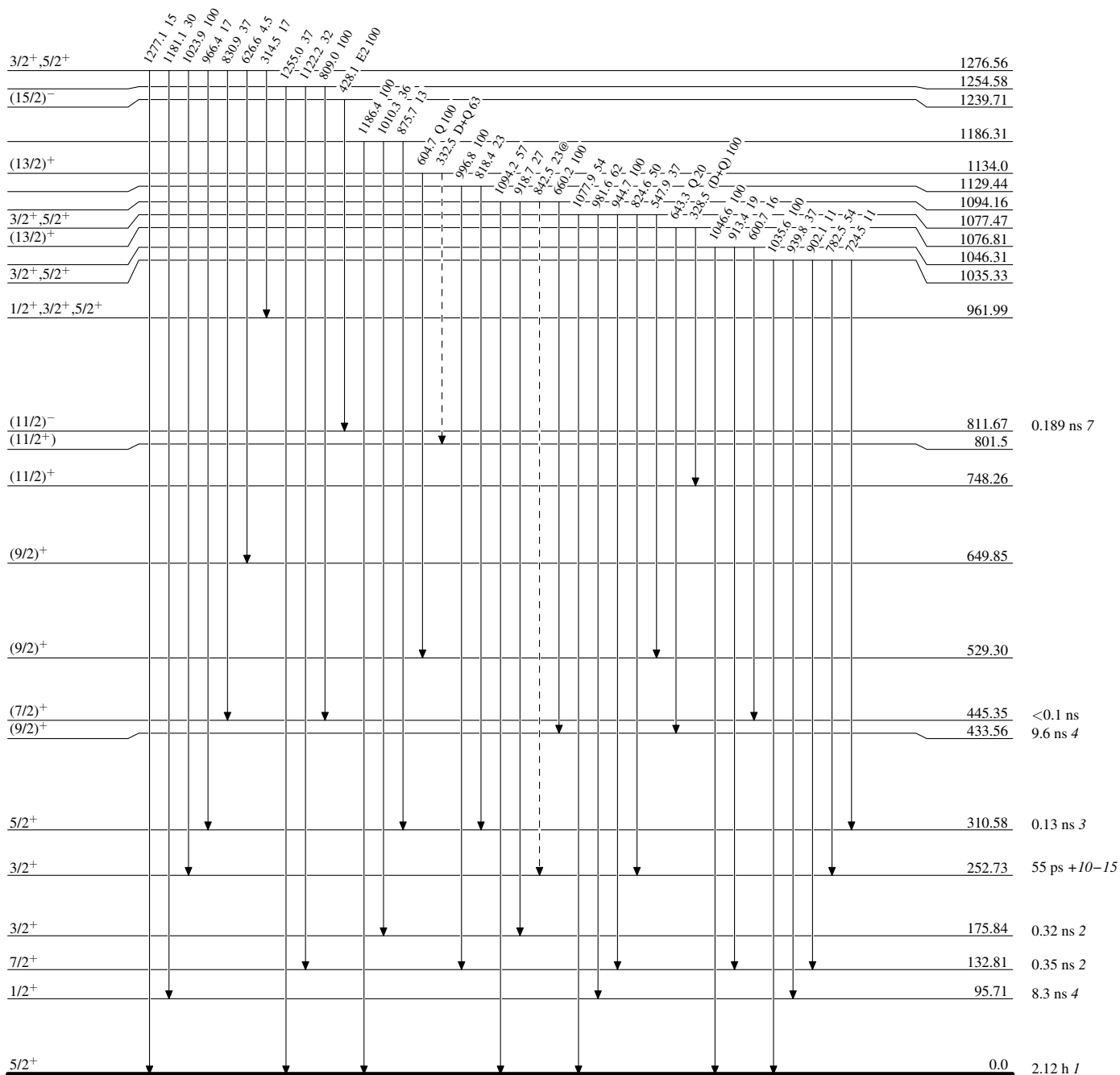


**Adopted Levels, Gammas**

Legend

**Level Scheme (continued)**

Intensities: Relative photon branching from each level  
 @ Multiplied: intensity suitably divided

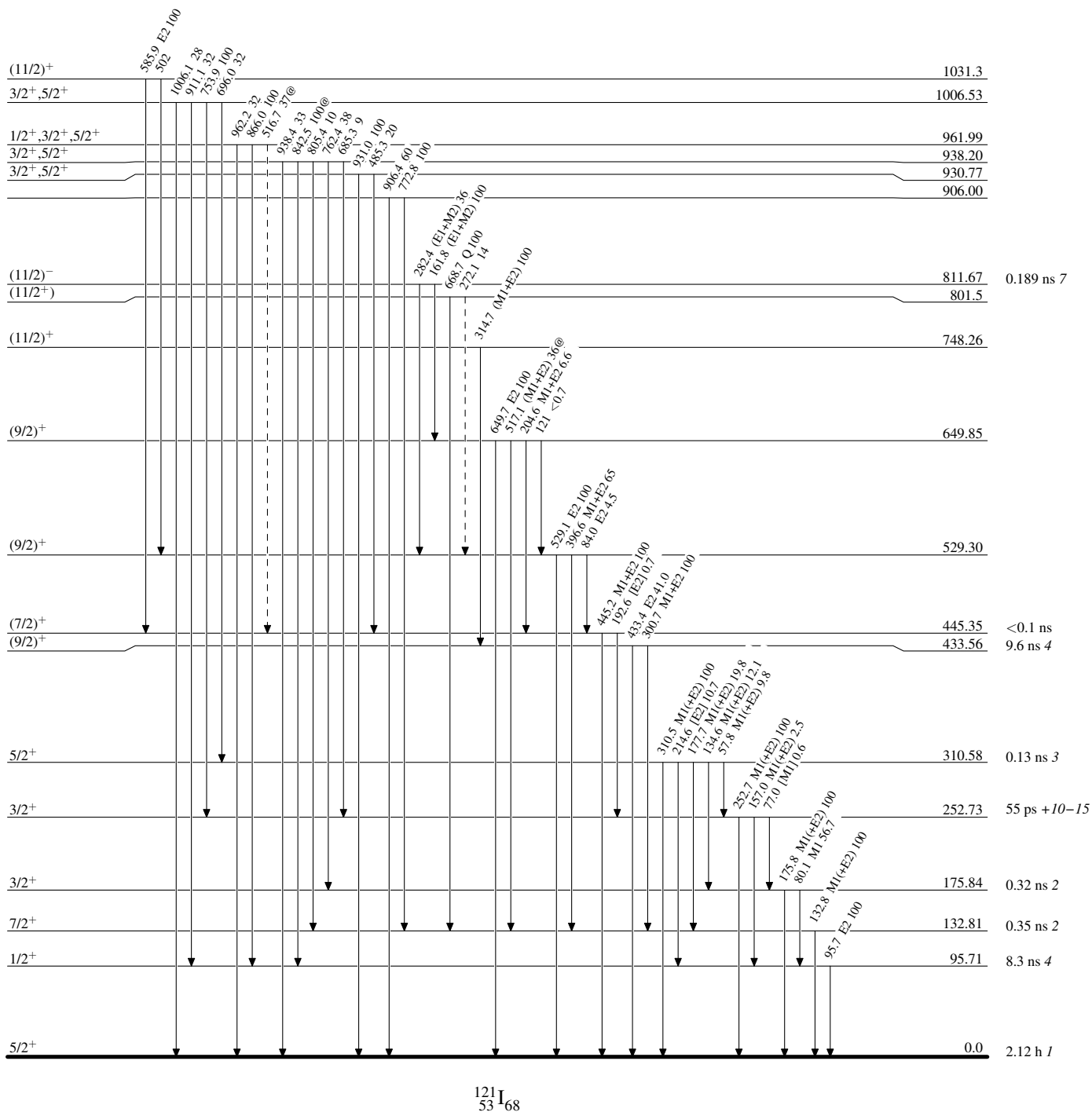
-----►  $\gamma$  Decay (Uncertain)

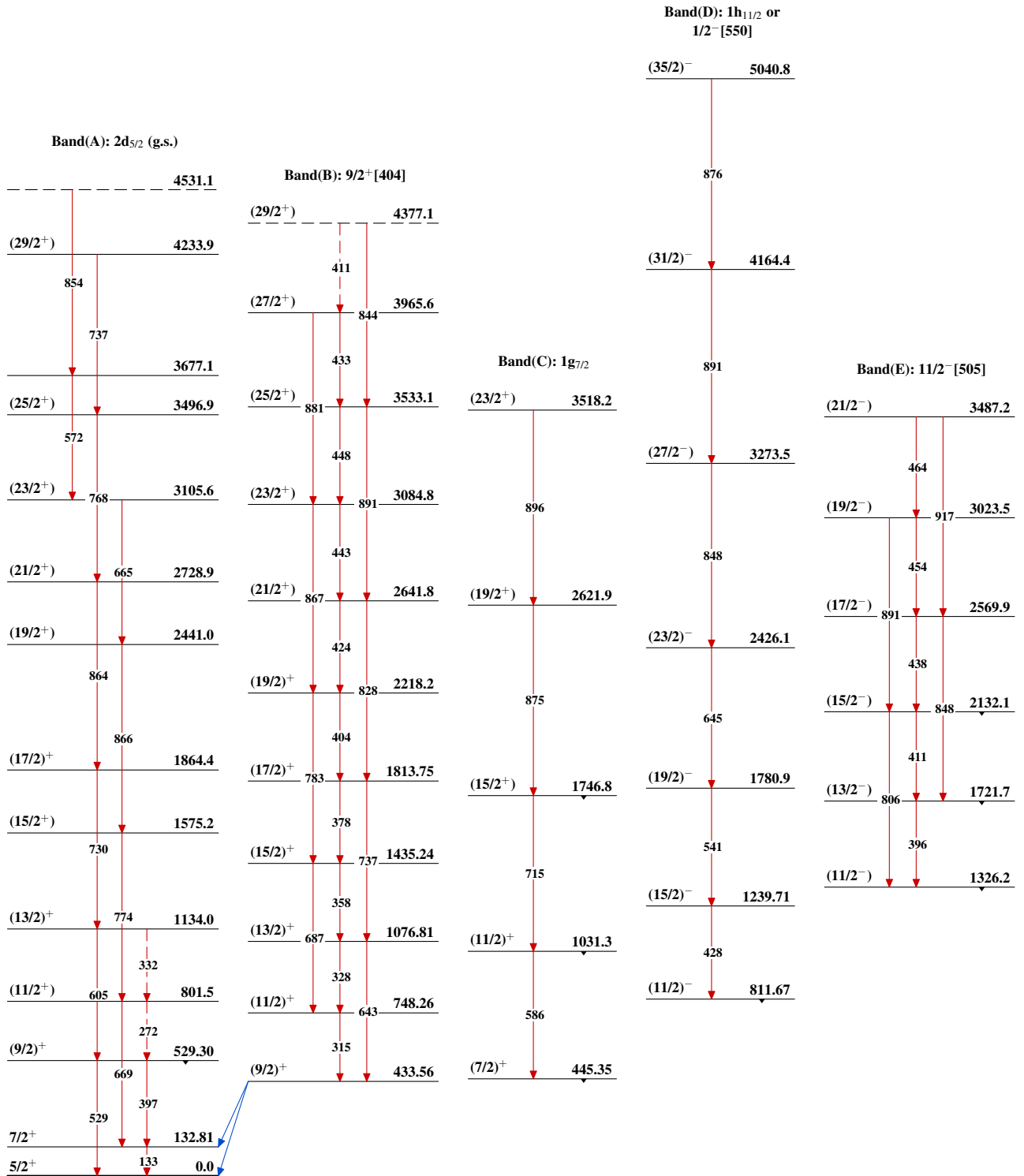
**Adopted Levels, Gammas**

Legend

**Level Scheme (continued)**

Intensities: Relative photon branching from each level  
 @ Multiplied: intensity suitably divided

-----►  $\gamma$  Decay (Uncertain)

Adopted Levels, Gammas

**Adopted Levels, Gammas (continued)**