

$^{203}\text{Tl}$        $Z = 81$        $N = 122$       adopted link      ENSDF link

Based on ENSDF from Oct 2022, and mass evaluation from 2020

BE      =      1600.869 ( 0.001) MeV

|          | Energy T        | J+   | J-          | J-other           | T1/2        |
|----------|-----------------|------|-------------|-------------------|-------------|
| -----    |                 |      |             |                   |             |
| S-alpha= | -0.907 ( 0.001) |      |             |                   |             |
| 203TL 1  | 0.000           | 1/2+ |             |                   | 1 STABLE    |
| 203TL 2  | 0.279           | 3/2+ |             |                   | 2 283 PS 4  |
| 203TL 3  | 0.681           | 5/2+ |             |                   | 3 0.88 PS 8 |
| 203TL 4  | 1.044           | 3/2+ |             |                   | 4           |
| 203TL 5  |                 |      |             | 1.065 (5/2)+      | 5           |
| 203TL 6  |                 |      |             | 1.072 (3/2)+      | 6           |
| 203TL 7  | 1.074           | 7/2+ |             |                   | 7           |
| 203TL 8  |                 |      |             | 1.114 (1/2+,3/2+) | 8           |
| 203TL 9  | 1.184           | 7/2+ |             |                   | 9           |
| 203TL 10 |                 |      |             | 1.216 (5/2+)      | 10          |
| -----    |                 |      |             |                   |             |
| 203TL 11 | 1.218           | 9/2+ |             |                   | 11          |
| 203TL 12 | 1.232           | 3/2+ |             |                   | 12          |
| 203TL 13 |                 |      |             | 1.273 7/2+,9/2+   | 13          |
| 203TL 14 |                 |      |             | 1.294 (1/2,3/2)   | 14          |
| 203TL 15 |                 |      |             | 1.306 (3/2+,5/2+) | 15          |
| 203TL 16 |                 |      |             | 1.320 (3/2)+      | 16          |
| 203TL 17 |                 |      |             | 1.335 (1/2+,3/2)  | 17          |
| 203TL 18 |                 |      |             | 1.400 7/2+,9/2+   | 18          |
| 203TL 19 |                 |      |             | 1.408 (1/2+)      | 19          |
| 203TL 20 |                 |      |             | 1.432             | 20          |
| -----    |                 |      |             |                   |             |
| 203TL 21 |                 |      |             | 1.448 3/2+,5/2+   | 21          |
| 203TL 22 |                 |      | 1.450 11/2- |                   | 22          |
| 203TL 23 |                 |      |             | 1.484 (9/2-)      | 23          |
| 203TL 24 |                 |      |             | 1.488 (7/2,9/2)+  | 24          |
| 203TL 25 | 1.569           | 5/2+ |             |                   | 25          |
| 203TL 26 |                 |      |             | 1.611 (3/2+)      | 26          |
| 203TL 27 |                 |      |             | 1.639 (3/2+)      | 27          |
| 203TL 28 |                 |      |             | 1.657 (5/2+)      | 28          |
| 203TL 29 |                 |      |             | 1.669 (1/2,3/2)   | 29          |
| 203TL 30 |                 |      |             | 1.684 3/2+,5/2+   | 30          |
| -----    |                 |      |             |                   |             |
| 203TL 31 |                 |      |             | 1.698 (7/2+,9/2+) | 31          |
| 203TL 32 |                 |      |             | 1.716 (1/2+,3/2)  | 32          |
| 203TL 33 |                 |      |             | 1.743 (5/2,7/2+)  | 33          |
| 203TL 34 |                 |      |             | 1.753 (3/2+)      | 34          |
| 203TL 35 |                 |      |             | 1.760 (11/2-)     | 35          |
| 203TL 36 | 1.818           | 5/2+ |             |                   | 36          |
| 203TL 37 |                 |      |             | 1.837 (7/2-)      | 37          |

|          |  |       |  |       |  |       |                 |    |
|----------|--|-------|--|-------|--|-------|-----------------|----|
| 203TL 38 |  |       |  |       |  | 1.840 | (1/2,3/2)       | 38 |
| 203TL 39 |  |       |  |       |  | 1.856 | 3/2+,5/2+       | 39 |
| 203TL 40 |  |       |  |       |  | 1.888 | (1/2,3/2)       | 40 |
| -----    |  |       |  |       |  |       |                 |    |
| 203TL 41 |  |       |  |       |  | 1.902 | (1/2,3/2)       | 41 |
| 203TL 42 |  | 1.920 |  | 1/2+  |  |       |                 | 42 |
| 203TL 43 |  |       |  |       |  | 1.935 | (1/2,3/2,5/2-)  | 43 |
| 203TL 44 |  |       |  |       |  | 1.964 | 7/2+,9/2+       | 44 |
| 203TL 45 |  |       |  |       |  | 1.989 | (1/2+,3/2,5/2+) | 45 |
| 203TL 46 |  |       |  |       |  | 1.992 | (1/2,3/2)       | 46 |
| 203TL 47 |  | 2.010 |  | 3/2+  |  |       |                 | 47 |
| 203TL 48 |  |       |  |       |  | 2.038 | (13/2)          | 48 |
| 203TL 49 |  |       |  |       |  | 2.076 | (5/2+)          | 49 |
| 203TL 50 |  | 2.100 |  | 3/2+  |  |       |                 | 50 |
| -----    |  |       |  |       |  |       |                 |    |
| 203TL 51 |  | 2.140 |  | 5/2+  |  |       |                 | 51 |
| 203TL 52 |  |       |  |       |  | 2.170 | 11/2-           | 52 |
| 203TL 53 |  |       |  |       |  | 2.178 | 3/2+,5/2+       | 53 |
| 203TL 54 |  |       |  |       |  | 2.232 | (3/2)+          | 54 |
| 203TL 55 |  |       |  |       |  | 2.284 | (9/2-,11/2-)    | 55 |
| 203TL 56 |  |       |  |       |  | 2.310 | (5/2)+          | 56 |
| 203TL 57 |  |       |  |       |  | 2.314 | (13/2,15/2-)    | 57 |
| 203TL 58 |  |       |  |       |  | 2.330 |                 | 58 |
| 203TL 59 |  |       |  |       |  | 2.342 | (1/2,3/2)       | 59 |
| 203TL 60 |  |       |  |       |  | 2.349 | (7/2)+          | 60 |
| -----    |  |       |  |       |  |       |                 |    |
| 203TL 61 |  |       |  | 2.370 |  | 11/2- |                 | 61 |
| 203TL 62 |  |       |  |       |  | 2.406 | (9/2-,11/2-)    | 62 |
| 203TL 63 |  |       |  |       |  | 2.428 | (1/2,3/2,5/2-)  | 63 |
| 203TL 64 |  |       |  | 2.430 |  | 11/2- |                 | 64 |
| 203TL 65 |  |       |  |       |  | 2.445 | (7/2+,9/2+)     | 65 |
| 203TL 66 |  |       |  |       |  | 2.461 | (5/2-)          | 66 |
| 203TL 67 |  |       |  |       |  | 2.489 | (5/2-)          | 67 |
| 203TL 68 |  |       |  |       |  | 2.508 | (5/2)           | 68 |
| 203TL 69 |  |       |  |       |  | 2.541 | (5/2-,7/2-)     | 69 |
| 203TL 70 |  |       |  |       |  | 2.571 | (15/2)          | 70 |
| -----    |  |       |  |       |  |       |                 |    |
| 203TL 71 |  |       |  |       |  | 2.597 | (11/2+,13/2+)   | 71 |
| 203TL 72 |  |       |  |       |  | 2.635 | (1/2+,3/2+)     | 72 |
| 203TL 73 |  |       |  |       |  | 2.662 | (1/2,3/2,5/2-)  | 73 |
| 203TL 74 |  |       |  |       |  | 2.686 |                 | 74 |
| 203TL 75 |  |       |  |       |  | 2.720 |                 | 75 |
| 203TL 76 |  |       |  |       |  | 2.743 | (1/2,3/2,5/2-)  | 76 |
| 203TL 77 |  |       |  |       |  | 2.760 |                 | 77 |
| 203TL 78 |  |       |  |       |  | 2.810 |                 | 78 |
| 203TL 79 |  |       |  |       |  | 2.840 | (11/2+)         | 79 |
| 203TL 80 |  |       |  |       |  | 2.893 |                 | 80 |
| -----    |  |       |  |       |  |       |                 |    |
| 203TL 81 |  |       |  |       |  | 2.899 | (17/2)          | 81 |
| 203TL 82 |  |       |  |       |  | 2.910 | (5/2,7/2+)      | 82 |

|          |  |  |  |       |                 |      |
|----------|--|--|--|-------|-----------------|------|
| 203TL 83 |  |  |  | 2.955 | (1/2,3/2,5/2-)  | 83   |
| 203TL 84 |  |  |  | 2.966 | (1/2,3/2,5/2-)  | 84   |
| 203TL 85 |  |  |  | 2.987 | (1/2,3/2,5/2-)  | 85   |
| 203TL 86 |  |  |  | 2.995 | (11/2,13/2,15/2 | 86)- |
| 203TL 87 |  |  |  | 3.013 | (3/2+)          | 87   |
| 203TL 88 |  |  |  | 3.049 | (9/2+)          | 88   |
| 203TL 89 |  |  |  | 3.081 |                 | 89   |
| 203TL 90 |  |  |  | 3.104 |                 | 90   |
| -----    |  |  |  |       |                 |      |
| 203TL 91 |  |  |  | 3.203 | (5/2)           | 91   |
| 203TL 92 |  |  |  | 3.250 | (17/2-,19/2-)   | 92   |
| 203TL 93 |  |  |  | 3.284 | (9/2)           | 93   |
| 203TL 94 |  |  |  | 3.321 | (1/2,3/2,5/2-)  | 94   |
| 203TL 95 |  |  |  | 3.397 | (9/2)           | 95   |
| 203TL 96 |  |  |  | 3.454 |                 | 96   |
| 203TL 97 |  |  |  | 3.515 |                 | 97   |

S-p = 5.705 ( 0.001)-----  
S-n = 7.852 ( 0.002)-----  
S-2p = 13.938 ( 0.003)-----  
S-2n = 14.723 ( 0.014)-----  
S-alpha= -0.907 ( 0.001)-----

S+p = -6.637 ( 0.002)  
S+n = -6.656 ( 0.002)  
S+2p = -9.882 ( 0.005)  
S+2n = -14.202 ( 0.002)  
S+alpha = 3.282 ( 0.003)

gap p = -0.932 ( 0.002)  
gap n = 1.196 ( 0.003)  
gap 2p = 4.056 ( 0.006)  
gap 2n = 0.521 ( 0.014)  
gap alpha = 2.374 ( 0.003)