

Adopted Levels, Gammas

| Type | History | | Literature Cutoff Date |
|-----------------|--------------|----------|------------------------|
| | Author | Citation | |
| Full Evaluation | Jean Blachot | ENSDF | 1-Jul-2006 |

$Q(\beta^-)=8104$ 11; $S(n)=5805$ 14; $S(p)=12526$ 12; $Q(\alpha)=-8973$ 8 [2012Wa38](#)
 Note: Current evaluation has used the following Q record 8540 905690 12110.98e+316-8.98e+310 [2003Au03](#).

 ^{101}Y LevelsCross Reference (XREF) Flags

- A** ^{101}Sr β^- decay
B ^{248}Cm SF decay
C ^{252}Cf SF decay

| E(level) [‡] | J π [†] | T _{1/2} | XREF | Comments |
|----------------------------|----------------------|------------------|------|--|
| 0.0 [#] | (5/2 ⁺) | 0.45 s 2 | ABC | $\% \beta^- = 100$; $\% \beta^- n = 1.94$ 18 (1986Wa17) T _{1/2} : weighted av: 0.50 s 5 (1983Wo10), 0.44 2 (1986Wa17), disagrees with 1.10 s 15 (1974GrZN). |
| 128.31 [@] 14 | (7/2 ⁺) | | ABC | |
| 291.66 [#] 5 | (9/2 ⁺) | | ABC | |
| 494.29 [@] 11 | (11/2 ⁺) | | ABC | |
| 510.75 ^{&} 5 | (3/2 ⁻) | | A C | |
| 590.45 ^{&} 5 | (5/2 ⁻) | | A C | |
| 666.61 ^a 7 | (5/2 ⁻) | | A | |
| 714.44 ^{&} 6 | (7/2 ⁻) | | A C | |
| 724.9 [#] | (13/2 ⁺) | | BC | |
| 822.48 ^a 10 | (7/2 ⁻) | | A | |
| 872.87 ^{&} 21 | (9/2 ⁻) | | A C | |
| 890.64 ^b 10 | (1/2 ⁻) | | A | |
| 996.82 ^b 9 | (3/2 ⁻) | | A | |
| 1001.37 [@] 11 | (15/2 ⁺) | | C | |
| 1012.97 ^a 13 | (9/2 ⁻) | | A | |
| 1027.31 ^b 9 | (5/2 ⁻) | | A | |
| 1124.85 8 | (5/2 ⁺) | | A | |
| 1191.38 7 | | | A | |
| 1211.30 7 | (3/2 ⁺) | | A | |
| 1217.31 19 | (1/2 ⁺) | | A | |
| 1233.77 10 | (3/2 ⁺) | | A | |
| 1258.79 18 | (7/2 ⁺) | | A | |
| 1291.19 [#] 12 | (17/2 ⁺) | | C | |
| 1297.59 8 | (5/2 ⁺) | | A | |
| 1410.82 16 | (7/2 ⁺) | | A | |
| 1418.21 20 | (5/2 ⁺) | | A | |
| 1479.06 12 | | | A | |
| 1517.96 16 | (5/2 ⁺) | | A | |
| 1639.23 [@] 13 | (19/2 ⁺) | | C | |
| 1685.35 7 | (3/2 ⁺) | | A | |
| 1762.33 8 | (5/2 ⁺) | | A | |
| 1871.91 21 | | | A | |
| 1994.10 [#] 16 | (21/2 ⁺) | | C | |
| 2259.3 3 | | | A | |

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{101}Y Levels (continued)

| E(level) [‡] | J^π [†] | XREF |
|-----------------------|----------------------|------|
| 2396.04 @ 17 | (23/2 ⁺) | C |
| 2660.95 20 | (5/2 ⁺) | A |
| 2675.11 17 | | A |
| 2680.1 5 | | A |
| 2693.66 20 | (5/2 ⁺) | A |
| 2695.93 18 | | A |

[†] All spins are based on the assumption that $J^\pi(\text{g.s.})=5/2^+$ and $J^\pi(^{101}\text{Sr})=3/2^+$. 1988Pe11 have assigned rotational bands, fitted parameters and compared them with the Nilsson model. Five levels have $\log ft < 5.9$, so if the assignment for ^{101}Sr is right, their possible J^π is $5/2^+$. All the other J^π are derived by assuming only M1, E1, E2 γ decays.

[‡] From a least-squares fit to the γ data.

Band(A): 5/2[422], $\alpha=+1/2$, $\alpha=18.3$ keV.

@ Band(a): 5/2[422], $\alpha=-1/2$.

& Band(B): 3/2[301] band. $\alpha=16.0$ keV.

^a Band(C): 5/2[303] band. $\alpha=22.3$ keV. The bandhead was previously assigned to 590 level (1983Wo10) because of a contamination problem (511 keV).

^b Band(D): 1/2[301] band. $\alpha=20.8$.

 $\gamma(^{101}\text{Y})$

| $E_i(\text{level})$ | J_i^π | E_γ | I_γ | E_f | J_f^π |
|---------------------|----------------------|-----------------------|-------------------|--------|----------------------|
| 128.31 | (7/2 ⁺) | 128.34 5 | 100 | 0.0 | (5/2 ⁺) |
| 291.66 | (9/2 ⁺) | 163.35 5 | 100 5 | 128.31 | (7/2 ⁺) |
| | | 291.72 7 | 17.3 10 | 0.0 | (5/2 ⁺) |
| 494.29 | (11/2 ⁺) | 202.63 11 | 100 12 | 291.66 | (9/2 ⁺) |
| | | 365.97 24 | 31 7 | 128.31 | (7/2 ⁺) |
| 510.75 | (3/2 ⁻) | 510.73 8 | 100 | 0.0 | (5/2 ⁺) |
| 590.45 | (5/2 ⁻) | 79.70 5 | 45.6 22 | 510.75 | (3/2 ⁻) |
| | | 462.14 8 | 81 5 | 128.31 | (7/2 ⁺) |
| | | 590.40 8 | 100 6 | 0.0 | (5/2 ⁺) |
| 666.61 | (5/2 ⁻) | 155.99 [†] 6 | 26 [†] 3 | 510.75 | (3/2 ⁻) |
| | | 538.39 10 | 7.0 10 | 128.31 | (7/2 ⁺) |
| | | 666.60 8 | 100 6 | 0.0 | (5/2 ⁺) |
| 714.44 | (7/2 ⁻) | 123.97 7 | 100 8 | 590.45 | (5/2 ⁻) |
| | | 203.92 3 | 8.5 15 | 510.75 | (3/2 ⁻) |
| | | 422.84 9 | 48 4 | 291.66 | (9/2 ⁺) |
| | | 586.13 15 | 22 3 | 128.31 | (7/2 ⁺) |
| | | 714.25 11 | 47 5 | 0.0 | (5/2 ⁺) |
| 724.9 | (13/2 ⁺) | 230.7 | 23 | 494.29 | (11/2 ⁺) |
| | | 433.3 | 12 | 291.66 | (9/2 ⁺) |
| 822.48 | (7/2 ⁻) | 155.99 [†] 6 | 24 [†] 8 | 666.61 | (5/2 ⁻) |
| | | 231.89 6 | 39 6 | 590.45 | (5/2 ⁻) |
| | | 694.33 18 | 100 10 | 128.31 | (7/2 ⁺) |
| | | 822.39 17 | 82 12 | 0.0 | (5/2 ⁺) |
| 872.87 | (9/2 ⁻) | 158.43 9 | 100 10 | 714.44 | (7/2 ⁻) |
| | | 282.73 5 | 27 5 | 590.45 | (5/2 ⁻) |
| | | 744.1 5 | 22 9 | 128.31 | (7/2 ⁺) |
| 890.64 | (1/2 ⁻) | 379.89 8 | 100 | 510.75 | (3/2 ⁻) |
| 996.82 | (3/2 ⁻) | 406.37 12 | 63 7 | 590.45 | (5/2 ⁻) |
| | | 485.85 10 | 100 8 | 510.75 | (3/2 ⁻) |
| 1001.37 | (15/2 ⁺) | 276.4 1 | 100 | 724.9 | (13/2 ⁺) |

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) $\gamma(^{101}\text{Y})$ (continued)

| $E_i(\text{level})$ | J_i^π | E_γ | I_γ | E_f | J_f^π |
|---------------------|----------------------|------------|------------|---------|----------------------|
| 1001.37 | (15/2 ⁺) | 506.9 1 | 48 | 494.29 | (11/2 ⁺) |
| 1012.97 | (9/2 ⁻) | 298.52 12 | 100 23 | 714.44 | (7/2 ⁻) |
| | | 884.8 5 | 59 18 | 128.31 | (7/2 ⁺) |
| 1027.31 | (5/2 ⁻) | 312.87 10 | 49 5 | 714.44 | (7/2 ⁻) |
| | | 360.57 19 | 23 5 | 666.61 | (5/2 ⁻) |
| | | 436.98 9 | 100 7 | 590.45 | (5/2 ⁻) |
| | | 516.36 20 | 32 7 | 510.75 | (3/2 ⁻) |
| 1124.85 | (5/2 ⁺) | 833.24 18 | 3.8 5 | 291.66 | (9/2 ⁺) |
| | | 996.53 10 | 34.5 18 | 128.31 | (7/2 ⁺) |
| | | 1124.82 11 | 100 5 | 0.0 | (5/2 ⁺) |
| 1191.38 | | 681.03 19 | 47 8 | 510.75 | (3/2 ⁻) |
| | | 1062.9 3 | 100 29 | 128.31 | (7/2 ⁺) |
| | | 1191.37 7 | 84 5 | 0.0 | (5/2 ⁺) |
| 1211.30 | (3/2 ⁺) | 700.51 24 | 3.8 7 | 510.75 | (3/2 ⁻) |
| | | 1211.28 11 | 100 5 | 0.0 | (5/2 ⁺) |
| 1217.31 | (1/2 ⁺) | 706.55 18 | 100 | 510.75 | (3/2 ⁻) |
| 1233.77 | (3/2 ⁺) | 1233.45 14 | 100 | 0.0 | (5/2 ⁺) |
| 1258.79 | (7/2 ⁺) | 967.1 3 | 57 17 | 291.66 | (9/2 ⁺) |
| | | 1130.49 21 | 100 17 | 128.31 | (7/2 ⁺) |
| 1291.19 | (17/2 ⁺) | 289.8 1 | 100 | 1001.37 | (15/2 ⁺) |
| | | 566.3 1 | 66 | 724.9 | (13/2 ⁺) |
| 1297.59 | (5/2 ⁺) | 1005.4 4 | 9 3 | 291.66 | (9/2 ⁺) |
| | | 1169.57 16 | 100 11 | 128.31 | (7/2 ⁺) |
| | | 1297.61 13 | 89 17 | 0.0 | (5/2 ⁺) |
| 1410.82 | (7/2 ⁺) | 1119.39 21 | 58 9 | 291.66 | (9/2 ⁺) |
| | | 1282.69 18 | 100 12 | 128.31 | (7/2 ⁺) |
| | | 1411.1 3 | 18 4 | 0.0 | (5/2 ⁺) |
| 1418.21 | (5/2 ⁺) | 1289.92 22 | 100 19 | 128.31 | (7/2 ⁺) |
| | | 1418.1 4 | 34 8 | 0.0 | (5/2 ⁺) |
| 1479.06 | | 812.59 20 | 46 8 | 666.61 | (5/2 ⁻) |
| | | 888.58 14 | 100 8 | 590.45 | (5/2 ⁻) |
| | | 968.0 3 | 19 6 | 510.75 | (3/2 ⁻) |
| 1517.96 | (5/2 ⁺) | 1389.48 22 | 100 21 | 128.31 | (7/2 ⁺) |
| | | 1518.12 23 | 62 10 | 0.0 | (5/2 ⁺) |
| 1639.23 | (19/2 ⁺) | 348.1 1 | 100 | 1291.19 | (17/2 ⁺) |
| | | 637.8 1 | 75 | 1001.37 | (15/2 ⁺) |
| 1685.35 | (3/2 ⁺) | 387.77 8 | 34.9 19 | 1297.59 | (5/2 ⁺) |
| | | 451.58 7 | 5.0 7 | 1233.77 | (3/2 ⁺) |
| | | 474.07 7 | 100 5 | 1211.30 | (3/2 ⁺) |
| | | 688.50 10 | 7.7 24 | 996.82 | (3/2 ⁻) |
| | | 795.1 4 | 4.1 12 | 890.64 | (1/2 ⁻) |
| | | 1094.97 20 | 13.9 19 | 590.45 | (5/2 ⁻) |
| | | 1174.44 13 | 30.6 24 | 510.75 | (3/2 ⁻) |
| | | 1685.32 16 | 64 4 | 0.0 | (5/2 ⁺) |
| 1762.33 | (5/2 ⁺) | 351.68 8 | 55 4 | 1410.82 | (7/2 ⁺) |
| | | 464.77 10 | 55 4 | 1297.59 | (5/2 ⁺) |
| | | 551.01 8 | 100 6 | 1211.30 | (3/2 ⁺) |
| | | 1251.31 12 | 27 4 | 510.75 | (3/2 ⁻) |
| | | 1634.00 14 | 70 6 | 128.31 | (7/2 ⁺) |
| | | 1762.1 4 | 18 4 | 0.0 | (5/2 ⁺) |
| 1871.91 | | 574.1 3 | 100 33 | 1297.59 | (5/2 ⁺) |
| | | 1205.1 6 | 93 21 | 666.61 | (5/2 ⁻) |
| | | 1580.5 3 | 58 13 | 291.66 | (9/2 ⁺) |
| 1994.10 | (21/2 ⁺) | 355.0 3 | | 1639.23 | (19/2 ⁺) |
| | | 702.9 1 | | 1291.19 | (17/2 ⁺) |

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

| $\gamma(^{101}\text{Y})$ (continued) | | | | | |
|--------------------------------------|----------------------|--------------------|------------|---------|----------------------|
| $E_i(\text{level})$ | J_i^π | E_γ | I_γ | E_f | J_f^π |
| 2259.3 | | 1668.8 3 | 100 | 590.45 | (5/2 ⁻) |
| 2396.04 | (23/2 ⁺) | 401.8 [‡] | | 1994.10 | (21/2 ⁺) |
| | | 756.8 | | 1639.23 | (19/2 ⁺) |
| 2660.95 | (5/2 ⁺) | 1535.5 8 | 10 3 | 1124.85 | (5/2 ⁺) |
| | | 1994.4 10 | 10 3 | 666.61 | (5/2 ⁻) |
| | | 2369.1 9 | 7 3 | 291.66 | (9/2 ⁺) |
| | | 2532.7 3 | 61 5 | 128.31 | (7/2 ⁺) |
| | | 2660.9 3 | 100 7 | 0.0 | (5/2 ⁺) |
| 2675.11 | | 1463.81 20 | 76 16 | 1211.30 | (3/2 ⁺) |
| | | 2008.4 3 | 100 15 | 666.61 | (5/2 ⁻) |
| | | 2675.4 6 | 53 15 | 0.0 | (5/2 ⁺) |
| 2680.1 | | 2387.7 12 | 100 21 | 291.66 | (9/2 ⁺) |
| | | 2551.9 5 | 22 5 | 128.31 | (7/2 ⁺) |
| 2693.66 | (5/2 ⁺) | 1396.0 5 | 12 4 | 1297.59 | (5/2 ⁺) |
| | | 1434.66 12 | 8.9 17 | 1258.79 | (7/2 ⁺) |
| | | 1568.39 17 | 32.9 25 | 1124.85 | (5/2 ⁺) |
| | | 2028.1 3 | 5.9 13 | 666.61 | (5/2 ⁻) |
| | | 2102.8 9 | 8 4 | 590.45 | (5/2 ⁻) |
| | | 2401.8 4 | 2.5 4 | 291.66 | (9/2 ⁺) |
| | | 2565.4 3 | 38 3 | 128.31 | (7/2 ⁺) |
| | | 2693.8 3 | 100 6 | 0.0 | (5/2 ⁺) |
| 2695.93 | | 1010.55 18 | 35 6 | 1685.35 | (3/2 ⁺) |
| | | 2105.6 5 | 100 24 | 590.45 | (5/2 ⁻) |

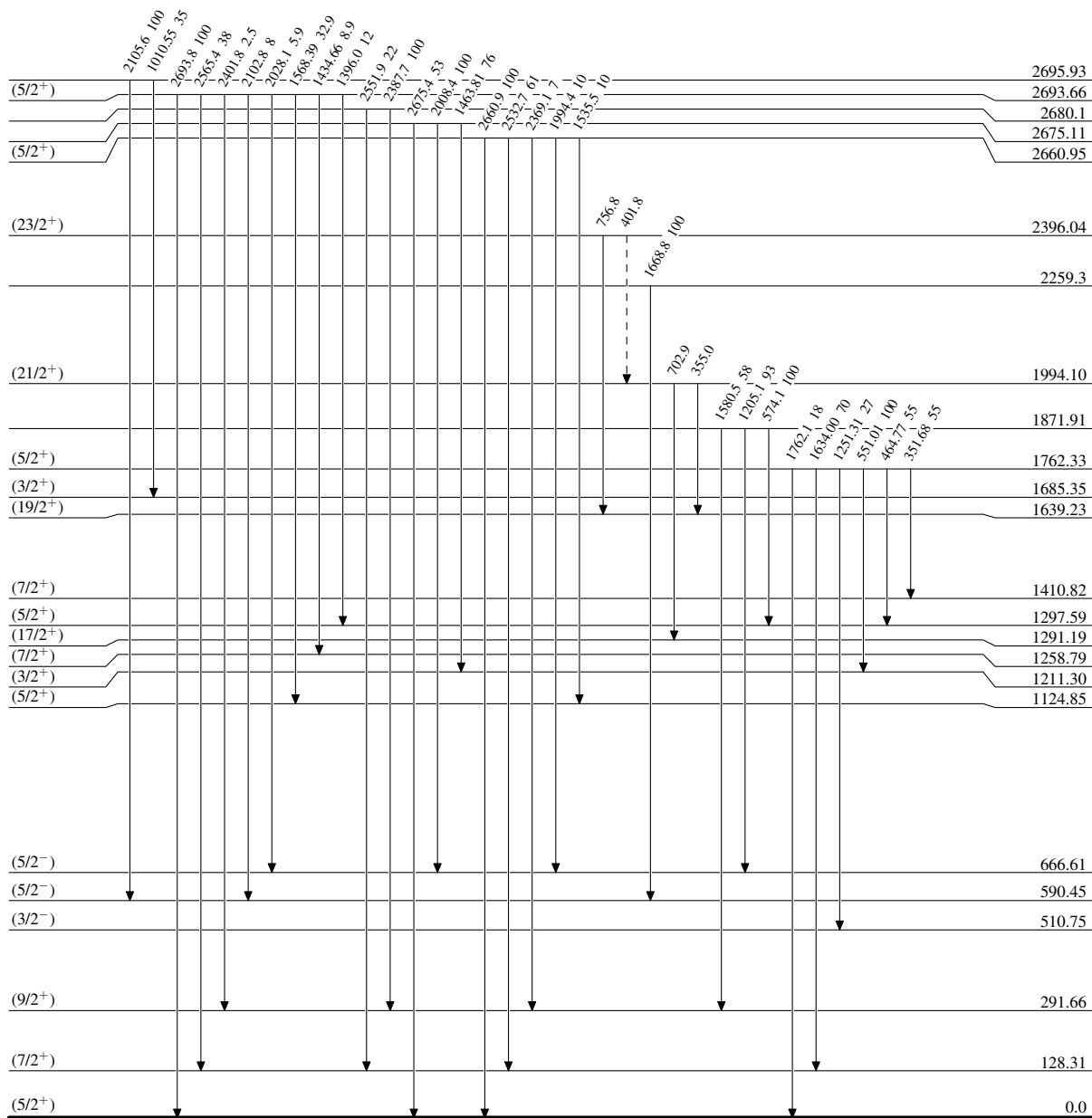
[†] Multiply placed with intensity suitably divided.

[‡] Placement of transition in the level scheme is uncertain.

Adopted Levels, GammasLevel Scheme

Legend

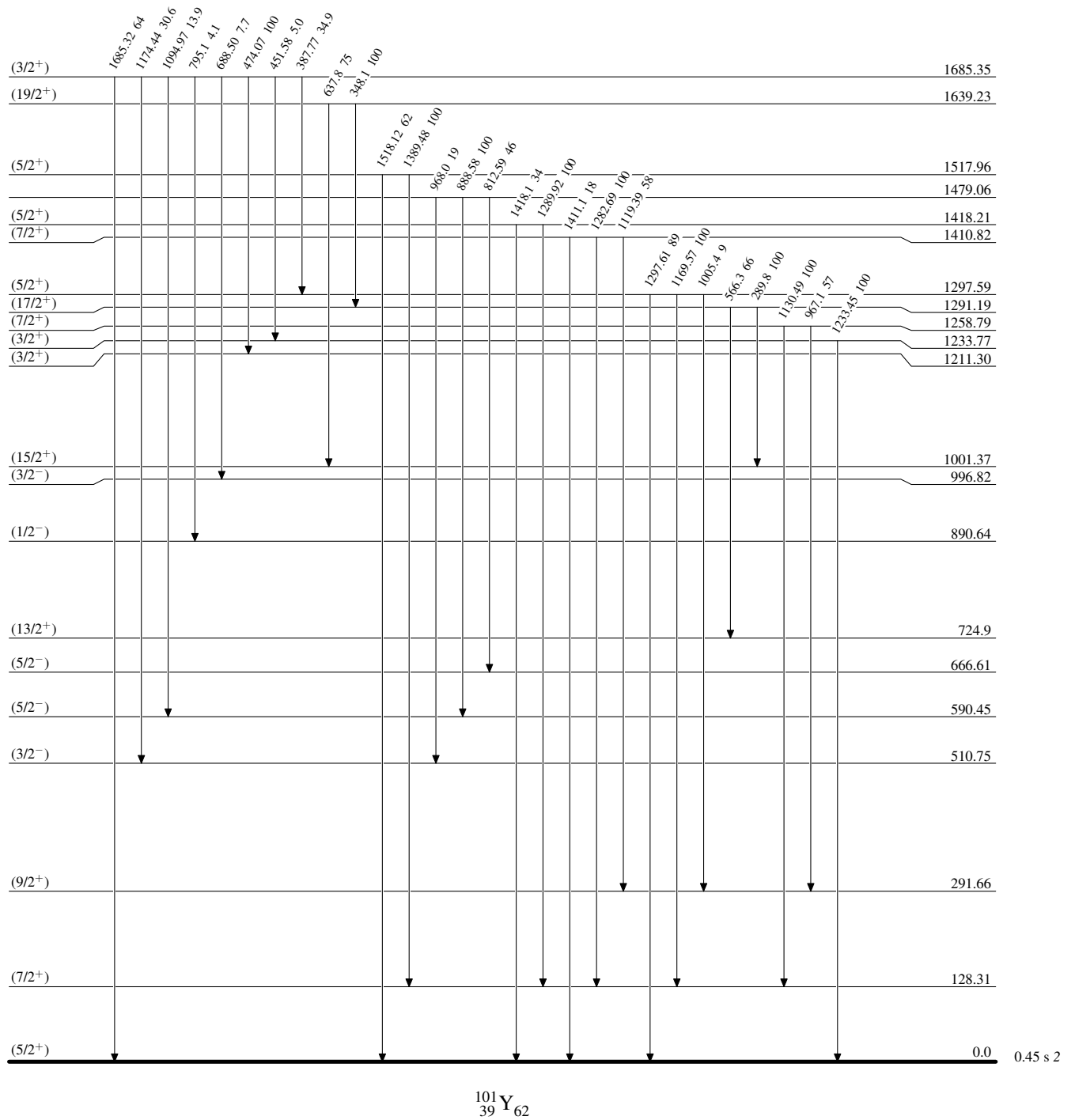
Intensities: Relative photon branching from each level

-----▶ γ Decay (Uncertain) $^{101}_{39}\text{Y}_{62}$

0.45 s 2

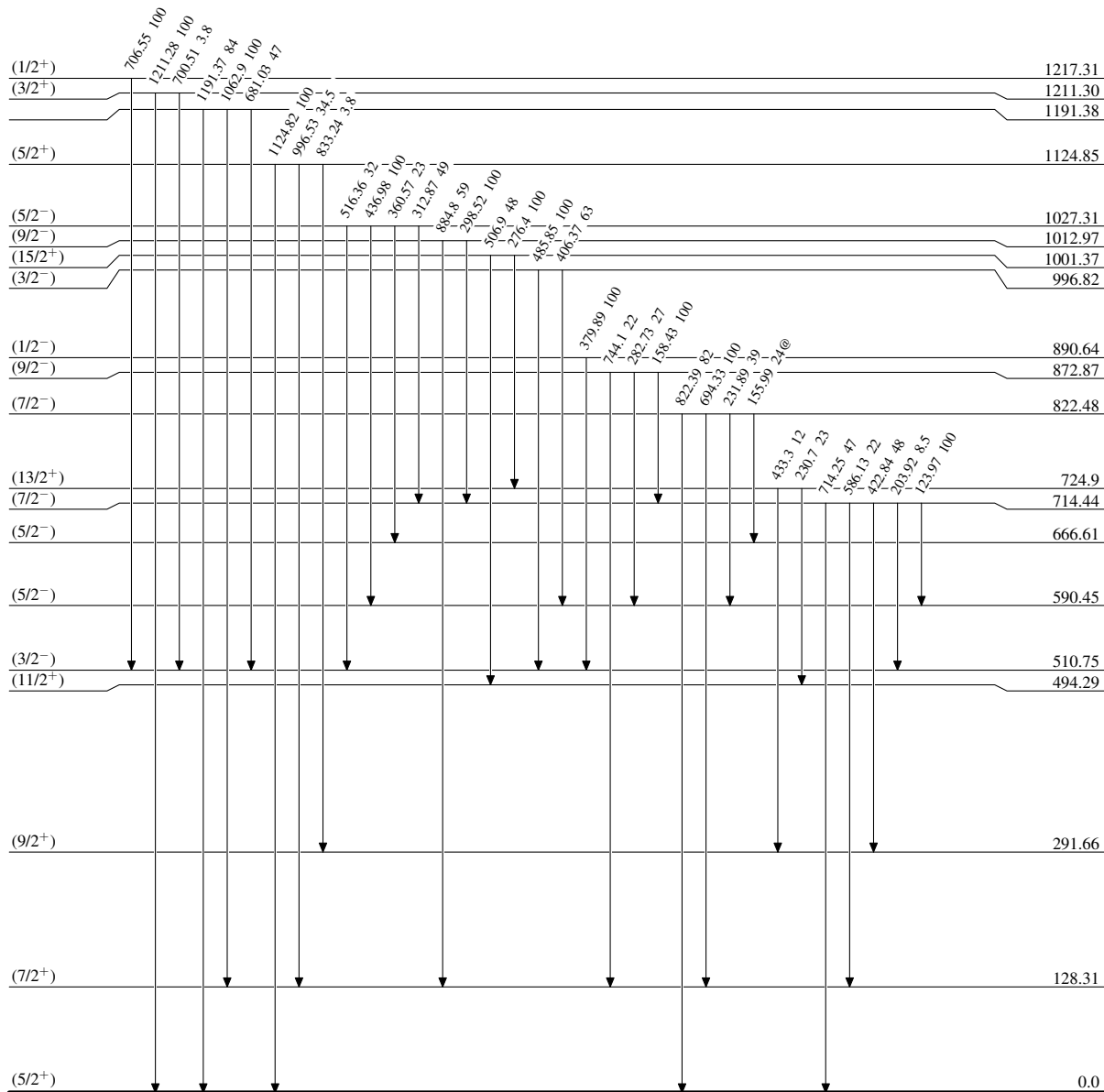
Adopted Levels, GammasLevel Scheme (continued)

Intensities: Relative photon branching from each level



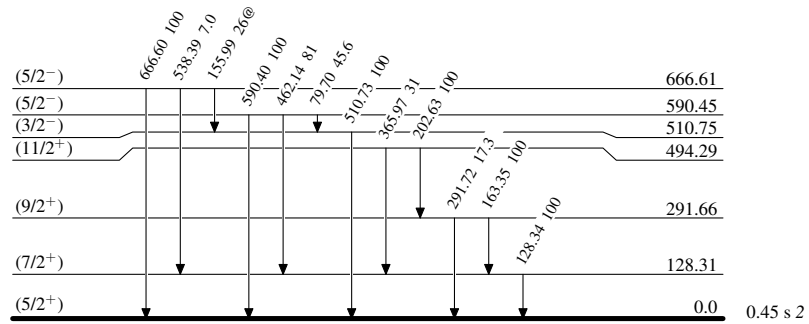
Adopted Levels, Gammas**Level Scheme (continued)**

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



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

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

 $^{101}_{39}\text{Y}_{62}$

Adopted Levels, Gammas