$^{240}_{94}$Pu

Δ: 50121.3 *19* **S_n:** 6533.5 *5* **S_p:** 6472.9 *9*
Q_α: 5255.78 *15*
σ^0_γ: 289.5 *14* b , **σ_f:** 0.06 *3* b

Nuclear Bands

- *A* Fission isomer band
- *B* GS band
- *C* Band Structure
- *D* Band Structure
- *E* Band Structure
- *F* ν1/2[631]+ν5/2[622]
- *G* Band Structure
- *H* Band Structure
- *I* Band Structure
- *J* π5/2[642]+π5/2[523]
- *K* π5/2[642]-π5/2[523]
- *L* Band Structure

Levels and γ-ray branchings:

B **0**, 0^+, 6564 *11* y, %α=100, %SF=5.7×10^{-6} *2*

B **42.824** *8*, 2^+, 164 *5* ps γ_0***42.824*** *8* ($\dagger_\gamma$100) E2

B **141.690** *15*, 4^+ γ_{43}***98.860*** *13* ($\dagger_\gamma$100) E2

B **294.319** *24*, 6^+ γ_{142}***152.630*** *20* ($\dagger_\gamma$100) E2

B **497.52** *21*, 8^+ γ_{294}***203.2*** *2* ($\dagger_\gamma$100)

C **597.34** *4*, 1^- γ_{43}***554.60*** *7* ($\dagger_\gamma$100 *6*) E1 γ_0***597.40*** *7* ($\dagger_\gamma$62 *6*) E1

C **648.85** *4*, 3^- γ_{142}***507.20*** *10* ($\dagger_\gamma$100) γ_{43}***606.10*** *7* ($\dagger_\gamma$97 *5*)

C **742.33** *4*, 5^-, <2 ns γ_{294}***448.01*** *6* ($\dagger_\gamma$67 *3*) γ_{142}***600.57*** *6* ($\dagger_\gamma$10 *5*)

B **747.8** *3*, (10^+) γ_{498}***250.3*** *2* ($\dagger_\gamma$100)

D **860.71** *7*, 0^+ γ_{597}***263.37*** *7* ($\dagger_\gamma$89 *2*) γ_{43}***817.89*** *10* ($\dagger_\gamma$100) E2 γ_0***860.7*** E0

D **900.32** *4*, 2^+ γ_{649}***251.47*** *7* ($\dagger_\gamma$73 *3*) γ_{597}***302.98*** *7* ($\dagger_\gamma$85 *3*) γ_{142}***758.61*** *8* ($\dagger_\gamma$100 *3*) E2 γ_{43}***857.48*** *10* ($\dagger_\gamma$42 *2*) γ_0***900.37*** *10* ($\dagger_\gamma$14 *2*)

E **938.06** *6*, (1^-) γ_{649}***289.21*** *10* ($\dagger_\gamma$1.4 *3*) γ_{597}***340.70*** *10* ($\dagger_\gamma$5.0 *5*) γ_{43}***895.30*** *10* ($\dagger_\gamma$5 *1*) γ_0***938.02*** *10* ($\dagger_\gamma$100 *4*)

E **958.85** *6*, (2^-) γ_{649}***309.99*** *9* ($\dagger_\gamma$4.3 *4*) γ_{597}***361.55*** *10* ($\dagger_\gamma$3.5 *6*) γ_{43}***915.98*** *9* ($\dagger_\gamma$100 *3*)

D **992.2** *6*, (4^+) γ_{742}***249.7*** *10* ($\dagger_\gamma$41 *15*) γ_{649}***343.7*** *10* ($\dagger_\gamma$100 *10*) γ_{294}***≈697.8*** ($\dagger_\gamma$71 *16*)

E **1001.93** *10*, (3^-) γ_{43}***959.1*** *1* ($\dagger_\gamma$100)

F **1030.53** *5*, $(3)^+$, 1.32 *15* ns γ_{142}***888.80*** *5* ($\dagger_\gamma$34.3 *5*) E2 γ_{43}***987.76*** *6* ($\dagger_\gamma$100 *2*) E2

E **1037.52** *6*, (4^-) γ_{742}***295.20*** *10* ($\dagger_\gamma$3.2 *4*) γ_{649}***388.70*** *10* ($\dagger_\gamma$6.6 *5*) γ_{142}***895.80*** *10* ($\dagger_\gamma$100 *5*)

B **1041.8** *4*, (12^+) γ_{748}***294.00*** *20* ($\dagger_\gamma$100)

F **1076.22** *9*, (4^+) γ_{142}***934.50*** *10* ($\dagger_\gamma$100 *12*) γ_{43}***1033.50*** *20* ($\dagger_\gamma$40 *4*)

G **1089.45** *10*, 0^+ γ_{43}***1046.62*** *10* ($\dagger_\gamma$100)

E **1115.53** *6*, (5^-) γ_{649}***466.70*** *10* ($\dagger_\gamma$4.5 *4*) γ_{294}***821.20*** *10* ($\dagger_\gamma$4.5 *4*) γ_{142}***973.90*** *10* ($\dagger_\gamma$100 *5*)

G **1131.95** *10*, (2^+) γ_{142}***989.20*** *10* ($\dagger_\gamma$100 *7*) γ_{43}***1088.30*** *20* ($\dagger_\gamma$39 *4*) γ_0***1131.00*** *20* ($\dagger_\gamma$75 *6*)

H **1136.97** *13*, (2^+) γ_{43}***1094.20*** *20* ($\dagger_\gamma$100 *15*) γ_0***1137.0*** *4* ($\dagger_\gamma$67 *10*)

E **1161.53** *7*, (6^-) γ_{742}***419.20*** *10* ($\dagger_\gamma$9.8 *8*) γ_{294}***867.20*** *10* ($\dagger_\gamma$100 *6*)

H **1177.50** *10*, (3^+) γ_{1038}***139.90*** *10* γ_{1002}***175.40*** *10* γ_{142}***1036.1*** *3* γ_{43}***1135.1*** *3*

1180.4, (2^+)

1199 *2*

1223.00 *20*, (2^+) γ_{43}***1180.20*** *20* ($\dagger_\gamma$100 *8*) γ_0***1223.00*** *20* ($\dagger_\gamma$80 *12*)

H **1232.46** *10*, (4^+) γ_{294}***938.20*** *10* ($\dagger_\gamma$100 *17*) γ_{142}***1090.50*** *20* ($\dagger_\gamma$44 *9*) γ_{43}***1190.0*** *10* ($\dagger_\gamma$7 *4*)

I **1240.8** *3*, (2^-) γ_{43}***1198.0*** *3* ($\dagger_\gamma$100)

1262.0 *3*, (3^+) γ_{142}***1120.3*** *4* ($\dagger_\gamma$31 *3*) γ_{43}***1219.2*** *3* ($\dagger_\gamma$100 *6*)

I **1282** *2*, (3^-)

J **1308.74** *5*, (5^-), 165 *10* ns γ_{1162}***147.20*** *10* ($\dagger_\gamma$4.0 *3*) (M1+E2) γ_{1116}***193.30*** *10* ($\dagger_\gamma$22.1 *11*) (M1+E2) γ_{1038}***271.30*** *10* ($\dagger_\gamma$22.5 *11*) (M1+E2) γ_{1002}***306.80*** *10* ($\dagger_\gamma$1.6 *2*) (M1+E2) γ_{742}***566.34*** *6* ($\dagger_\gamma$100 *5*) (M1+E2) γ_{294}***1014.40*** *10* ($\dagger_\gamma$0.83 *22*) γ_{142}***1167.10*** *10* ($\dagger_\gamma$17.8 *11*)

1321.10 *10* (?) γ_0***1321.10*** *10* ($\dagger_\gamma$100)

1337.0 *3*, (3,4) γ_{142}***1195.5*** *4* ($\dagger_\gamma$100 *20*) γ_{43}***1294.0*** *3* ($\dagger_\gamma$35 *4*)

B **1375.6** *6*, (14^+) γ_{1042}***333.8*** *4* ($\dagger_\gamma$100)

1379 *4*

1407 *3*

K **1410.75** *15*, $0(^-)$ γ_{597}***813.41*** *10* ($\dagger_\gamma$100)

1413.0, $(^+)$

K **1438.45** *8*, $2(^-)$ γ_{649}***789.59*** *10* ($\dagger_\gamma$100 *17*) γ_{597}***841.11*** *10* ($\dagger_\gamma$83 *9*) γ_0***1438.5*** ($\dagger_\gamma$<0.6)

1488.17 *7*, (1^-) γ_{43}***1445.30*** *10* ($\dagger_\gamma$100 *3*) γ_0***1488.20*** *10* ($\dagger_\gamma$53 *3*)

L **1525.86** *8*, (0^+) γ_{597}***928.55*** *10* ($\dagger_\gamma$100 *13*) γ_{43}***1483.00*** *10* ($\dagger_\gamma$18 *3*)

1539.67 *6*, (1^-) γ_{959}***580.70*** *20* ($\dagger_\gamma$0.53 *15*) γ_{649}***890.60*** *20* ($\dagger_\gamma$1.3 *2*) γ_{597}***942.39*** *10* ($\dagger_\gamma$7.2 *7*)

γ_{43}***1496.90*** *10* ($\dagger_{\gamma}$100 *2*) γ_{0}***1539.62*** *9* ($\dagger_{\gamma}$63.2 *15*)

L **1558.87** *5*, (2^+) γ_{649}***910.10*** *10* ($\dagger_{\gamma}$100 *14*) γ_{597}***961.62*** *10* ($\dagger_{\gamma}$93 *5*) γ_{142}***1417.20*** *10* ($\dagger_{\gamma}$16 *3*) γ_{43}***1515.90*** *10* ($\dagger_{\gamma}$11 *4*) γ_{0}***1558.80*** *10* ($\dagger_{\gamma}$4.3 *14*)

1574

1580

1607.72 *15*, (1^-) γ_{1089}***518.2*** *3* ($\dagger_{\gamma}$11 *4*) γ_{649}***959.0*** *2* ($\dagger_{\gamma}$13 *4*) γ_{0}***1607.60*** *20* ($\dagger_{\gamma}$100 *9*)

1626.77 *15*, (1^-) γ_{43}***1584.10*** *20* ($\dagger_{\gamma}$100 *12*) γ_{0}***1626.60*** *20* ($\dagger_{\gamma}$29 *6*)

1633.37 *8*, (1^-) γ_{1137}***496.7*** *3* ($\dagger_{\gamma}$6.5 *13*) γ_{597}***1036.5*** *3* ($\dagger_{\gamma}$1.9 *13*) γ_{43}***1590.50*** *10* ($\dagger_{\gamma}$63 *3*) γ_{0}***1633.33*** *10* ($\dagger_{\gamma}$100 *3*)

1641 *5*

1675 *2*

1710.43 *8*, (2^+) γ_{1137}***573.40*** *20* ($\dagger_{\gamma}$28 *7*) γ_{649}***1061.60*** *20* ($\dagger_{\gamma}$100 *24*) γ_{597}***1113.20*** *20* ($\dagger_{\gamma}$62 *10*) γ_{142}***1568.60*** *20* ($\dagger_{\gamma}$21 *3*) γ_{43}***1667.60*** *10* ($\dagger_{\gamma}$66 *10*) γ_{0}***1711.0*** *10* ($\dagger_{\gamma}$7 *4*)

1752 *3*

1775.30 *20*, (1^-) γ_{43}***1732.40*** *20* ($\dagger_{\gamma}$67 *34*) γ_{0}***1775.30*** *20* ($\dagger_{\gamma}$100 *33*)

1784 *3*

1796.34 *15*, (1^-) γ_{1321}***475.0*** *3* ($\dagger_{\gamma}$100 *27*) γ_{1223}***573.40*** *20* ($\dagger_{\gamma}$73 *18*) γ_{959}***837.60*** *20* ($\dagger_{\gamma}$73 *27*) γ_{0}***1796.2*** *3* ($\dagger_{\gamma}$27 *9*)

1808.00 *20*, (1^-,2^+) γ_{649}***1159.20*** *20* ($\dagger_{\gamma}$40 *13*) γ_{597}***1210.5*** *5* ($\dagger_{\gamma}$100 *30*) γ_{43}***1765.20*** *20* ($\dagger_{\gamma}$47 *7*) γ_{0}***1807.9*** *4* ($\dagger_{\gamma}$13 *7*)

1861 *3*

1902 *3*

1917.8 *3*, (1^-) γ_{43}***1874.9*** *3* ($\dagger_{\gamma}$100 *8*) γ_{0}***1918.0*** *10* ($\dagger_{\gamma}$7 *3*)

1954.50 *10*, (2^+) γ_{649}***1305.80*** *20* ($\dagger_{\gamma}$100 *26*) γ_{597}***1357.20*** *20* ($\dagger_{\gamma}$57 *13*) γ_{142}***1812.80*** *10* ($\dagger_{\gamma}$22 *9*) γ_{43}***1911.4*** *3* ($\dagger_{\gamma}$61 *4*)

1996.40 *20*, (1^-,2^+) γ_{597}***1398.5*** *5* ($\dagger_{\gamma}$100 *40*) γ_{43}***1953.60*** *20* ($\dagger_{\gamma}$46 *10*) γ_{0}***1996.7*** *4* ($\dagger_{\gamma}$20 *8*)

2117.60 *20* γ_{43}***2074.80*** *20* ($\dagger_{\gamma}$100 *16*) γ_{0}***2117.5*** *10* ($\dagger_{\gamma}$23 *13*)

2127.4, ($^-$)

A ≈**2800**, (0^+), 3.7 *3* ns, %SF>0

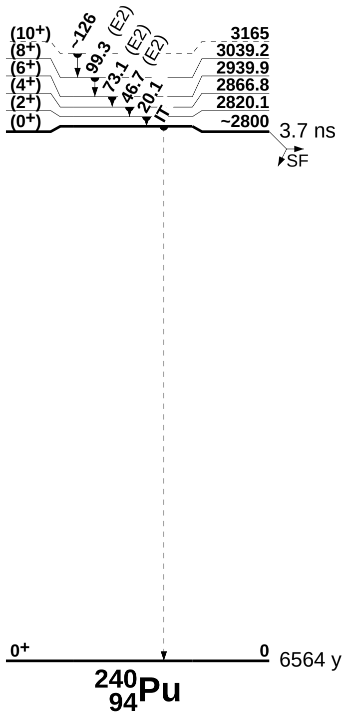
A **2820.1**, (2^+) γ_{2800}***20.1*** *$I^{(1)}$=119.8, $I^{(2)}$=150.4, $\hbar\omega$=0.017*

A **2866.8**, (4^+) γ_{2820}***46.7*** (E2) *$I^{(1)}$=133.6, $I^{(2)}$=151.5, $\hbar\omega$=0.030*

A **2939.9**, (6^+) γ_{2867}***73.1*** (E2) *$I^{(1)}$=139.2, $I^{(2)}$=152.7, $\hbar\omega$=0.043*

A **3039.2**, (8^+) γ_{2940}***99.3*** (E2) *$I^{(1)}$=142.0, $I^{(2)}$=149.8, $\hbar\omega$=0.056*

A **3165** (?), (10^+) γ_{3039}≈***126***


(10+)
(8+)
(6+)
(4+)
(2+)
(0+)
~126
99.3
73.1
46.7
20.1
(E2)
(E2)
(E2)
IT
3165
3039.2
2939.9
2866.8
2820.1
~2800
3.7 ns
SF
0+
0
6564 y
240
94
Pu