## Adopted Levels, Gammas

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Shaofei Zhu | NDS 182, 2 (2022). | 1-Apr-2022 |

Q($\beta^-$)=2889 *14*; S(n)=5026 *20*; S(p)=5973 *19*; Q($\alpha$)=3755 *19* 2021Wa16
S(2n)=11148 *15*, S(2p)=14085 *20* (2021Wa16).
$\alpha$: Additional information 1.

### $^{236}$Pa Levels

Cross Reference (XREF) Flags

A $^{236}$Th $\beta^-$ decay

| E(level) | J$^\pi$ | $T_{1/2}$ | XREF | Comments |
|---|---|---|---|---|
| 0 | 1$^{(+)}$ | 9.1 min *1* | A | %$\beta^-$=100<br>$T_{1/2}$: weighted average of 9.1 min *3* (1968Tr07), 9.1 min *1* (1984Mi02) and 9 min *1* (1973Ka10). Others: 12.5 min *10* (1963Wo04).<br>J$^\pi$: $\beta^-$ to 1$^-$ in $^{236}$U with log *ft*<7; $\beta^-$ to 0$^+$ and 2$^+$ with log *ft* approximately 7.7; there are two possible configurations $\pi 3/2^+[651]\nu 5/2^+[622]$ coupled to $J^\pi=1^+$ (1984Mi02) and $\pi 1/2^-[530]\nu 1/2^+[631]$ coupled to $J^\pi=1^-$ (1973Or06). However, for both configurations the Gallagher-Moszkowski rule suggests J=1 to be higher in energy. |
| 31.54 *9* | | | A | |
| 110.76 *8* | (0$^-$,1) | | A | J$^\pi$: $\beta^-$ from 0$^+$ in $^{236}$Th with log *ft*=6.3 *4*. |
| 227.42 *20* | | | A | |
| 340.20 *7* | (0$^-$,1) | | A | J$^\pi$: $\beta^-$ from 0$^+$ in $^{236}$Th with log *ft*=5.87 *13*. |
| 580.81 *11* | (0$^-$,1) | | A | J$^\pi$: $\beta^-$ from 0$^+$ in $^{236}$Th with log *ft*=6.27 *12*. |
| 678.11 *8* | (0$^-$,1) | | A | J$^\pi$: $\beta^-$ from 0$^+$ in $^{236}$Th with log *ft*=5.40 *13*. |

### $\gamma(^{236}Pa)$

| $E_i$(level) | $J_i^\pi$ | $E_\gamma$[†] | $I_\gamma$[†] | $E_f$ | $J_f^\pi$ | Mult.[†] |
|---|---|---|---|---|---|---|
| 31.54 | | (31.5) | 100 | 0 | 1$^{(+)}$ | |
| 110.76 | (0$^-$,1) | 110.8 *1* | 100 | 0 | 1$^{(+)}$ | |
| 227.42 | | 196.0 *5* | 100 | 31.54 | | (M1) |
| 340.20 | (0$^-$,1) | 112.8 *2* | 36 *14* | 227.42 | | |
| | | 229.5 *1* | 84 *11* | 110.76 | (0$^-$,1) | (M1) |
| | | 308.7 *1* | 63 *7* | 31.54 | | |
| | | 340.1 *1* | 100 *13* | 0 | 1$^{(+)}$ | |
| 580.81 | (0$^-$,1) | 549.2 *1* | 100 *28* | 31.54 | | |
| | | 581.1 *2* | 63 *13* | 0 | 1$^{(+)}$ | |
| 678.11 | (0$^-$,1) | 567.1 *3* | 18 *3* | 110.76 | (0$^-$,1) | |
| | | 646.6 *1* | 100 *15* | 31.54 | | |
| | | 678.1 *1* | 65 *10* | 0 | 1$^{(+)}$ | |

[†] From $^{236}$Th $\beta^-$ decay.

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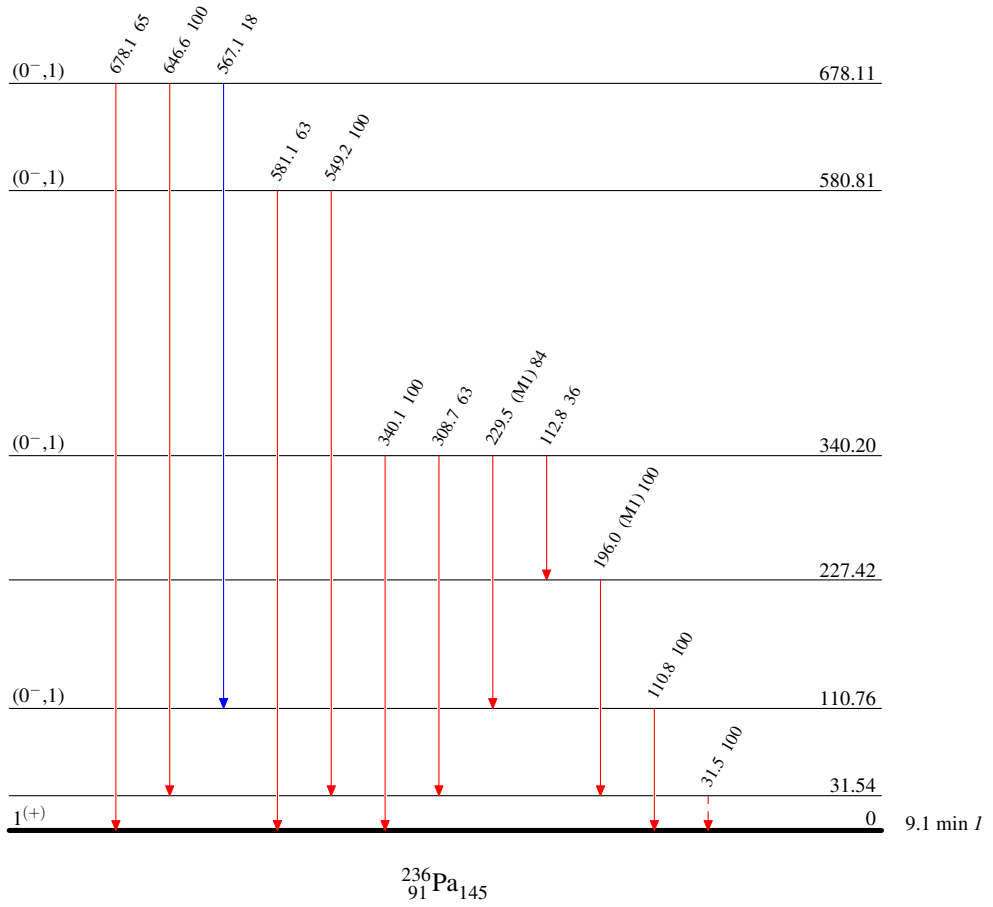
### Level Scheme

Intensities: Type not specified




$^{236}_{91}Pa_{145}$