

^{219}Ac α decay (11.8 μs) [1970Bo13,1989Mi17](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation		NDS 114, 2023 (2013)	23-Sep-2013

Parent: ^{219}Ac : $E=0.0$; $J^\pi=9/2^-$; $T_{1/2}=11.8 \mu\text{s}$ 15; $Q(\alpha)=8830$ 50; $\% \alpha$ decay=100.0

^{219}Ac - $J^\pi, T_{1/2}$: From Adopted Levels of ^{219}Ac in ENSDF database.

^{219}Ac - $Q(\alpha)$: From [2012Wa38](#).

[1970Bo13](#): ^{219}Ac activity was produced as descendant of ^{223}Pa by following reactions: $^{205}\text{Tl}(^{22}\text{Ne},4n)$, $^{208}\text{Pb}(^{19}\text{F},4n)$, $^{209}\text{Bi}(^{20}\text{Ne},\alpha 2n)$, and $^{209}\text{Bi}(^{22}\text{Ne},\alpha 4n)$, $E=90$ -135 MeV. The activity was identified by excitation functions, cross bombardments, and by genetic relationships between parent and daughter nuclei. Measured $E\alpha$. Detector: semi.

[1989Mi17](#): ^{219}Ac activity was produced by $^{209}\text{Bi}(^{16}\text{O},\alpha 2n)$ and $^{205}\text{Tl}(^{16}\text{O},2n)$, $E=87.4$ -101.9 MeV, and identified by mass separation and excitation functions. Measured $E\alpha$, half-life. Detector: semi.

 ^{215}Fr Levels

<u>E(level)</u>	<u>J^π</u>	<u>$T_{1/2}$</u>	<u>Comments</u>
0.0	$9/2^-$	86 ns 5	$J^\pi, T_{1/2}$: from Adopted Levels.

 α radiations

<u>$E\alpha$</u>	<u>E(level)</u>	<u>$I\alpha^\ddagger$</u>	<u>HF[†]</u>	<u>Comments</u>
8664 10	0.0	100	1.2 2	$E\alpha$: from 1970Bo13 . Original energy has been decreased by 1 keV because of a change in the calibration energy of ^{212}Po (1991Ry01).

[†] $r_0(^{215}\text{Fr})=1.5645$ 65; interpolated value deduced from $r_0(^{214}\text{Rn})=1.563$ 4 and $r_0(^{216}\text{Ra})=1.566$ 9 ([1998Ak04](#)).

[‡] Absolute intensity per 100 decays.