

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 187,355 (2023)	20-Sep-2022

S(p)=1490 40; Q(α)=8002 12 [2021Wa16](#)

[2005Uu02](#): ^{201}Ra produced using the $^{141}\text{Pr}(^{63}\text{Cu},3n)$ reaction, E(^{63}Cu)=278 and 288 MeV. Detectors: gas filled mass separator, position sensitive silicon detectors with a typical energy resolution (FWHM) of 30 keV; multi-wire proportional gas counters; Measured: E α , α - α correlations, T $_{1/2}$.

[2014Ka23](#): ^{201}Ra produced using the $^{147}\text{Sm}(^{56}\text{Fe},2n)$ reactions, E(^{56}Fe)=249 MeV. Target=370 $\mu\text{g}/\text{cm}^2$ thick enriched to 96.4% in ^{147}Sm , with 40 $\mu\text{g}/\text{cm}^2$ thick carbon backing and covered with a 10 $\mu\text{g}/\text{cm}^2$ layer of carbon, and mounted on a rotating wheel. Detectors: SHIP recoil separator, 16-strip position sensitive Si detectors (PSSD), six Si strip detectors to detect escaping α particles and one HPGe clover detector behind the PSSD. Measured: recoil- α - γ (t) and recoil- α - α (t). Deduced: E α and T $_{1/2}$.

 ^{201}Ra Levels

E(level)	J $^{\pi}$	T $_{1/2}$	Comments
0	3/2 $^{-}$	8 ms +40-4	$\% \alpha \approx 100$ J $^{\pi}$: Favored α decay to ^{197}Rn (J $^{\pi}$ =3/2 $^{-}$), subsequent favored α decay to ^{193}Po (J $^{\pi}$ =3/2 $^{-}$, 2014Se07) and subsequent favored α decay to ^{189}Pb (J $^{\pi}$ =3/2 $^{-}$, 2009Se13). T $_{1/2}$: From α (t) in 2014Ka23 . E α 1=7842 12, correlated with E α 2(^{197}Rn) (escape) and E α 3(^{193}Po)=6949 keV 12 (2014Ka23). $\sigma(^{201}\text{Ra})=4$ pb +80-30 at 249 MeV (2014Ka23). configuration: ν p $_{3/2}^{-1}$.
263 26	13/2 $^{+}$	1.6 ms +77-7	$\% \alpha \approx 100$ E(level): From 2021Ko07 . J $^{\pi}$: Favored α decay to ^{197m}Rn (J $^{\pi}$ =13/2 $^{+}$), subsequent favored α decay to ^{193m}Po (J $^{\pi}$ =13/2 $^{+}$, 2014Se07) and subsequent favored α decay to ^{189m}Pb (J $^{\pi}$ =13/2 $^{+}$, 2009Se13). T $_{1/2}$: From α (t) in 2005Uu02 . E α 1=7905 keV 20, correlated with E α 2(^{197m}Rn)=7358 keV 14 (2005Uu02). configuration: ν i $_{13/2}^{-1}$.