

²⁴⁴Md

²⁴⁴Md was first reported in 2020 in “Identification of the New Isotope ²⁴⁴Md” by Pore et al. (2020Po07). The isotope was produced in the ²⁰⁹Bi(⁴⁰Ar,5n) reaction with a 220 MeV ⁴⁰Ar beam accelerated in the 88-inch cyclotron at Lawrence Berkeley National Laboratory. The ²⁰⁹Bi target had an average thickness of 0.500 mg/cm². Residues were separated and identified with the Berkeley Gas-filled separator and FIONA (For the Identification Of Nuclide A) where their decays were detected after implementation into 32×32 strip Double-sided Silicon Strip Detectors (DSSD). “The isotope ²⁴⁴Md is reported to have one, possibly two, α -decaying states with α energies of 8.66(2) and 8.31(2) MeV and half-lives of $0.4^{+0.4}_{-0.1}$ and ~ 6 s, respectively.” Less than four months later, Khuyagbaatar et al. independently submitted their results reporting the observation of ²⁴⁴Md with α -particle energies of 8.73–8.86 MeV and a half-life of $0.30^{+0.19}_{-0.09}$ s (2020Kh08). In a subsequent paper Hessberger et al. claim that the decays presented by Pore et al. should be reassigned to ²⁴⁵Md (with one event each to ²⁴⁵Fm and ²⁴⁶Md) (2021He15). This discrepancy has not been resolved.

Adapted from reference (2023Th03)

- 2020Kh08 J. Khuyagbaatar, H. M. Albers, M. Block, H. Brand *et al.*, Phys. Rev. Lett. **125**, 142504 (2020).
- 2020Po07 J. L. Pore, J. M. Gates, R. Orford, C. M. Campbell *et al.*, Phys. Rev. Lett. **124**, 252502 (2020).
- 2021He15 F. P. Hessberger, M. Block, C. E. Dullmann, A. Yakushev *et al.*, Phys. Rev. Lett. **126**, 182501 (2021).
- 2023Th03 M. Thoennessen, Int. J. Mod. Phys. E **32**, 2330001 (2023).

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