Vibrational and Electronic Spectroscopy of Cationic Diamondoids

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• Diamondoids are a class of cage-like molecules with sp³ hybridized carbons and terminated by hydrogens.



• Adamantane (C₁₀H₁₆) is the smallest member of this family, and has a tetrahedral symmetry.

- In this project, diamondoid cations are studied by infrared and ultra-violet absorption spectroscopy while trapped in a solid argon matrixat 10 Kelvin.
- We have constructed a set-up where massselected diamondoid cations are embedded in solid argon together with counter-anions (e.g. SF₆⁻).

