Vibrational and Electronic Spectroscopy of Cationic Diamondoids

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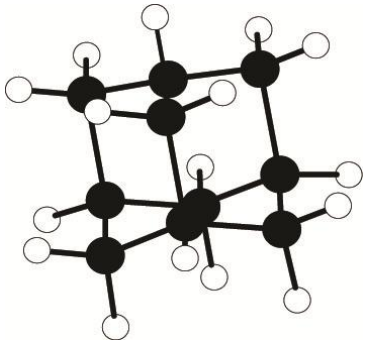
• Diamondoids are a class of cage-like molecules with sp^3 hybridized carbons and terminated by hydrogens.



• Adamantane ($C_{10}H_{16}$) 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 matrix at 10 Kelvin.
• We have constructed a set-up where mass-selected diamondoid cations are embedded in solid argon together with counter-anions (e.g. SF_6^-).