Helium nanodroplet spectroscopy is a well-established experimental technique to study weakly bound complexes and reactive species. The superfluid helium interacts weakly with the embedded species, leading to only small matrix-induced shifts in vibrational spectra. This technique has been applied for the spectroscopic study of the resonance-stabilized allyl radical and its reactions and complexes.\(^a\),\(^b\) The tropyl radical is another example of a \(\pi\)-conjugated radical, being of importance as a reaction intermediate in organic chemistry. Having an electron in a pair of degenerate orbitals, its geometry is subject to the Jahn-Teller effect.\(^c\) The Jahn-Teller distortion of the ground electronic state is probed with IR laser spectroscopy.

---