

Abstract Submitted
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Time-dependent structural dynamics of cyclohexadiene probed by strong-field ionization¹ KURTIS BORNE, FARZANEH ZIAEE, PEYMAN FEIZOLLAH, JOSEPH HARRINGTON, BALRAM KADERIYA, YUBARAJ MALAKAR, KANAKA RAJU P., TRAVIS SEVERT, ITZIK BEN-ITZHAK, ARTEM RUDENKO, DANIEL ROLLES, Kansas State University — We present the results of a time-resolved UV-pump strong-field-ionization-NIR-probe experiment on a prototypical carbon ring molecule, cyclohexadiene (CHD). UV-photoabsorption propels CHD to an electronically excited state, which is coupled to the ground state by a series of conical intersections. Upon de-excitation, the molecule can either return to the initial geometry or isomerize into an open-ring hexatriene (HT) molecule. We discuss possible signatures of the electronic de-excitation and ring-opening in our experimental observables, which include coincident fragment ion yields, kinetic energies, and angular distributions obtained by a coincident ion momentum imaging measurement.

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