PHOTOELECTRON SPECTRA OF 1,3-CYCLOHEXADIENE

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The photoelectron spectra of 1,3-cyclohexadiene (CHD) have been investigated to probe the electrocyclic ring opening reaction in the gas phase. The molecules are ionized by exciting through the intermediate 1B2 state by ultraviolet femtosecond laser pulses. The observed features were explained based on two-photon and three-photon absorption processes. A doubly excited valence superexcited state is observed around 9eV. A detailed pump-probe experiment is underway to explore the dynamics of the observed superexcited state as well the isomerization reactions in CHD.