RYDBERG STATES OF POLYATOMIC FREE RADICALS

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Open Shell acyl free radicals produce closed shell cations that support sharp Rydberg states. Ion-detected absorption shows extensive structure in HCO and CH_3O. Presented here are the first resolved spectra of CH_3O obtained by (1+1) double- resonant photoionization. These states are analyzed and used as intermediates to probe higher level Rydberg states near the ionization threshold.