

## NEAR IR CAVITY RINGDOWN SPECTROSCOPY OF CHLORO-ALKYL PEROXYL RADICALS

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Chloro-alkyl peroxy radicals are intermediates of alkene oxidation in the marine boundary layer, and serve as models for hydroxy-alkyl peroxy radicals. Cavity ringdown spectra of the electronic  $\tilde{A} - \tilde{X}$  transition of chloro-ethyl, -propyl, -butyl and -butenyl peroxy radicals will be reported. The spectra observed have more complex structure than the spectra of alkyl peroxy radicals. DFT calculations predict multiple conformers of the radicals with the energies within 2 kcal/mol. These spectra reveal the subtle substituent effects on the  $\tilde{A} - \tilde{X}$  transition of the O-O chromophore. An integrated cross-section for chloro-ethyl peroxy is estimated from the known rate of self-reaction.