The Gas-phase Synthesis of Cumulene Oxides

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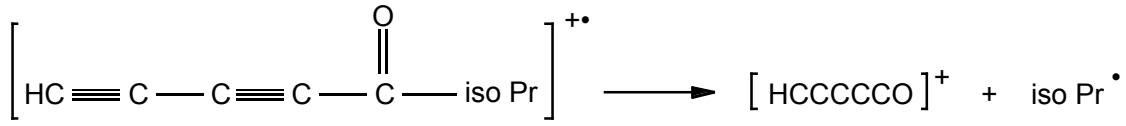
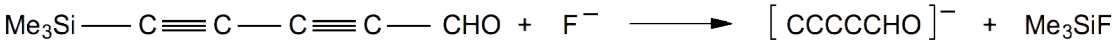
Ongoing studies towards the gas-phase synthesis of transient cumulenes have been extended to the cumulene oxide systems: i) HCCCO and CCCHO ii) HCCCCO and CCCCHO, and iii) HCCCCCO and CCCCCHO. These molecules are formed in collision cells of a mass spectrometer by neutralization of charged species of known connectivities. Typical gas-phase synthesis of two examples of charged precursor species are –



and



The formation and reactivity of these unusual neutrals have been investigated by both experiment and molecular modeling.