CAVITY RINGDOWN DETECTION OF δ-HOBuO RADICAL FORMED FROM n-BUTOXY RADICAL ISOMERIZATION

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Alkoxy radicals are important intermediates in the oxidation of alkanes leading to tropospheric air pollution. One of the key reaction pathways for long chain alkoxy radical loss is by isomerization through a six member transition state to form a hydroxy-alkyl radical. We report the first detection of the hydroxyl radical intermediate from the isomerization of the n-butoxy radical in the 3 μ region at low resolution by IR cavity ringdown spectroscopy. Observation of the OH stretch band has allowed us to measure the kinetics of its formation in a high pressure laser photolysis cell.