CONFORMATIONAL ANALYSIS OF SECONDARY ALKOXIES VIA HIGH RESOLUTION $\tilde{B}$-$\tilde{X}$ LIF SPECTROSCOPY.

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Alkoxy radicals play a significant role in the oxidation of organic compounds in the lower troposphere and may be important for processes in formation of interstellar clouds. Recently we reported jet cooled high resolution spectra of primary alkoxy radicals ($C_nH_{2n+1}O$) with n = 3 - 7 and positively identified conformational band carriers from the observed rotational structure. Now we concentrate our efforts on the corresponding high resolution jet-cooled spectra of secondary alkoxies (isopropoxy to 2-hexoxy). The analysis of their rotational spectra allows the unambiguous identification of all three geometric conformers of 2-butoxy, 2 conformers of 2-pentoxy and 2 conformers of 2-hexoxy. A set of spectroscopical constants characterizing the ground and excited electronic states properties, including the rotational constants for both states and spin-rotation parameters for the ground state, were determined for identified conformers. An intuitive quasi-quantum chemistry method to predict components of the transitional dipole moment and spin-rotation tensor elements will be discussed.