

ANISOTROPIC CIRCULAR DICHROISM SPECTROSCOPY OF JET-COOLED CHIRAL MOLECULES

CHANGSEOP JEONG, NAM JOON KIM, *Chemistry/Lab. of ion and laser chemistry, Chungbuk National University, Cheongju, Chungbuk, Republic of Korea.*

Circular dichroism (CD) spectroscopy is one of the most powerful methods to investigate the structures and reactions of chiral molecules. The CD of molecules with fixed spatial distribution is called anisotropic CD (ACD). ACD spectroscopy has been extensively used to probe the orientation of macromolecules in anisotropic medium. Here, we have obtained the resonant two photon ionization CD (R2PICD) spectra of (-)PED using a dual laser beam method. It is found that the CD values of the P-, Q-, and R-branch transitions of the origin bands are different from each other. Furthermore, the CD values of the rotational transitions of conformers A and C do not exhibit mirror images between (+) and (-)PED. These results are explained by ACD phenomena of jet-cooled molecules undergoing the P-, Q-, and R-branch transitions.