STUDY OF CONFORMERS OF 2-CHLOROETHANOL IN HELIUM DROPLETS

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We have investigated the utility of the helium droplet isolation technique for direct measurement of the relative energies of two lowest-energy conformers of 2-chloroethanol (2-CLE). 2-CLE molecules have been captured by He droplets at temperatures in the range of 300 to 500 K. The abundance ratio of the conformers has been studied via the intensity ratio of the spectral bands of the two conformers in the region of the OH- and CH- stretching vibrations. The abundance ratio vs. temperature follows the Arrhenius dependence. Therefore, the population of the conformers established at high temperatures is frozen when captured and cooled by He droplets. Experimental results are compared with *ab-initio* calculations.