CONFORMER SELECTED DIMER FORMATION IN A CRYOGENIC BUFFER GAS CELL

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Non-covalently bound clusters have long been a target of study in microwave spectroscopy, however, the typical method of forming these small clusters precludes observation of that formation. Here, I present observation of the conformer-selected formation of ethanol-methanol dimers in a cryogenic buffer gas cell via microwave spectroscopy. Use of a buffer gas cell allows for observation of a complete time-domain picture of the reaction of two monomers to form a dimer, as the dimers are formed in the interaction region of the experiment as opposed to just after a pulsed valve. Relaxation cross sections and collisional cross sections are also presented for ethanol.