C...H...N HYDROGEN BOND FORMATION IN TRIMETHYLAMINE DIMER UPON ONE-PHOTON IONIZATION

YUICHIRO NAKAYAMA, YOSHIYUKI MATSUDA, ASUKA FUJII, *Department of Chemistry, Graduate School of Science, Tohoku University, Sendai 980-8578, Japan*.

Structures of trimethylamine dimer cluster cations which are generated by the vacuum-ultraviolet photoionization are investigated by a combination of infrared spectroscopic methods and theoretical reaction-pass calculations. In the trimethylamine dimer cluster cation, a proton of a methyl group is shared with the N atom of the other trimethylamine moiety. This is evidence that the methyl group acts as a proton donor in the cation state.