HYDROGEN BOND RING OPENING AND CLOSING IN PROTONATED METHANOL CLUSTERS PROBED BY INFRARED SPECTROSCOPY WITH AND WITHOUT AR TAGGING

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Infrared spectra of protonated methanol clusters $H^+(MeOH)_n$ (n=4-7) in the OH stretching vibrational region were measured with and without Ar tagging. While the spectra of the clusters without Ar are mainly attributed to the linear structures, the cyclic and bycyclic structures are dominant in the Ar tagged clusters. Significant switching of the structural motifs occurs with the Ar attachment, and its origin will be discussed.