INFRARED SPECTROSCOPY OF PROTONATED METHANOL-WATER CLUSTERS -EFFECTS OF HETERO-MOLECULES IN HYDROGEN BOND NETWORK-

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IR spectroscopy of $H^+(MeOH)_m(H_2O)_n$ (m = 2 - 13, n = 1 and 2) was carried out in the OH stretch region to characterize the development of the hydrogen bond network with the cluster size. For n = 1, the band intensity of the free OH stretching mode decreased with the cluster size, and the band finally disappeared at m = 7. This result is reasonably interpreted in terms of the formation of the tricyclic structure of the hydrogen-bond network in the clusters.