INFRARED SPECTROSCOPY OF LARGE-SIZED PHENOL-WATER CLUSTERS PhOH-$(H_2O)_n$ ($10 \leq$ n $\leq$ 50)

TORU HAMASHIMA, KENTA MIZUSE and ASUKA FUJII, *Department of Chemistry, Graduate School of Science, Tohoku University, Sendai 980-8578,Japan.*

We report infrared spectra of moderately size-selected phenol-$(H_2O)_{n-1}$ ($10 \leq$ n $\leq$ 50), which have essentially the same network structures as $(H_2O)_n$. The spectra in the OH stretching region are observed. Detailed analyses of these spectra aided by density functional theory calculations reveal the development process of the hydrogen bond network.