

INFRARED SPECTROSCOPY OF LARGE-SIZED PHENOL-WATER CLUSTERS $\text{PhOH}-(\text{H}_2\text{O})_n$ ($10 \leq n \leq 50$)

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- $(\text{H}_2\text{O})_{n-1}$ ($10 \leq n \leq 50$), which have essentially the same network structures as $(\text{H}_2\text{O})_n$. 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.