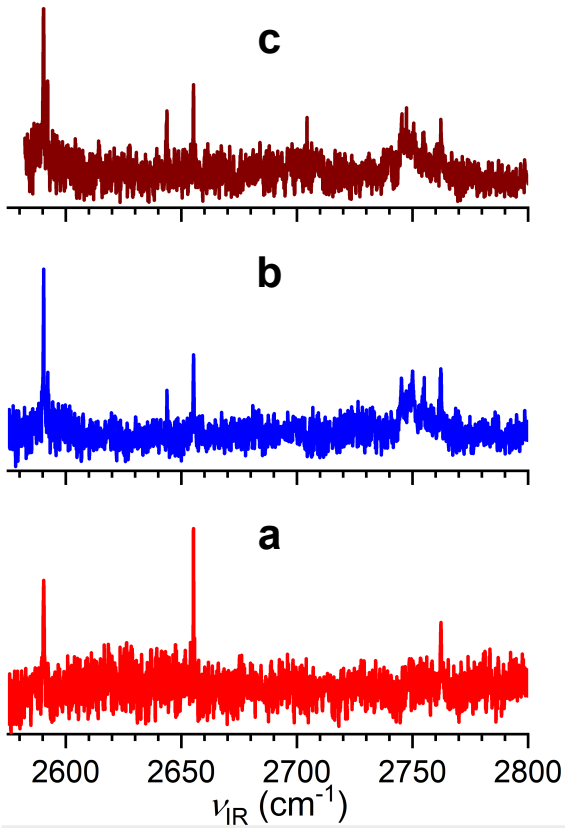
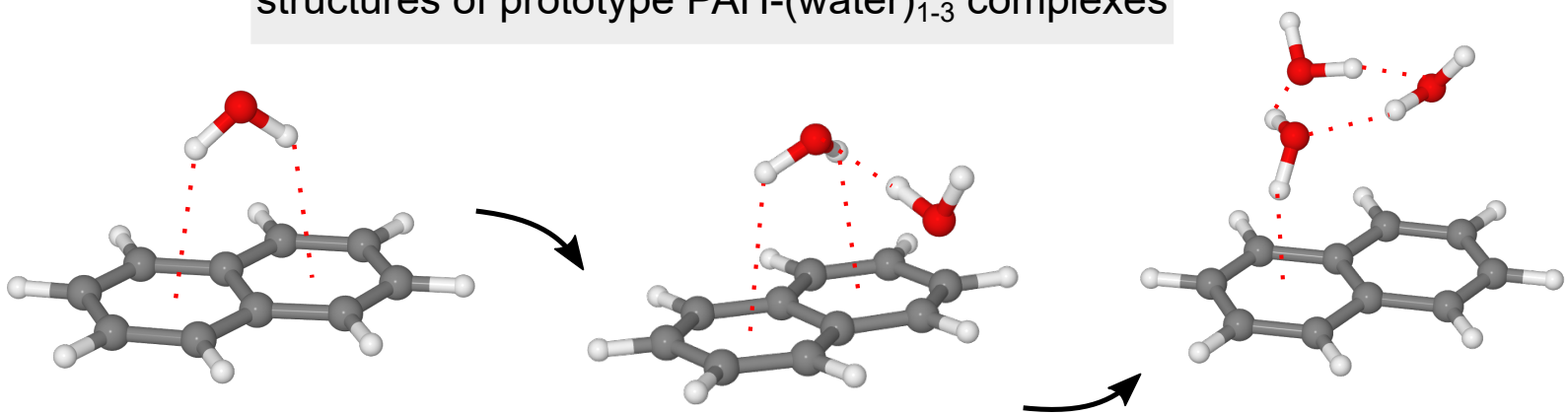
P5572: Unravelling the Microsolvation Framework around Prototype Polycyclic Aromatic Hydrocarbon, Naphthalene, by High-Resolution Infrared Spectroscopy

Kuntal Chatterjee, Tarun Kumar Roy, Jai Khatri, Martina Havenith, Ruhr University Bochum, Germany

- polycyclic aromatic hydrocarbons (PAHs) are important in the context of astrochemistry
- vibrational spectroscopy of microsolvated, prototype PAH naphthalene ($C_{10}H_8$) in helium nanodroplets



structures of prototype PAH-(water)$_{1-3}$ complexes



- structures of neutral naphthalene-(water)$_{1-3}$ complexes are different from the respective cationic and anionic clusters → **charge governs the hydration motif**

IR spectra of naphthalene-$(D_2O)_{1-3}$ at monomer naphthalene partial pressure (a) monomer, (b) dimer, and (c) trimer D_2O partial pressure

Chatterjee *et al.*, *PCCP*, 2021

DFG Deutsche Forschungsgemeinschaft