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## **KCl modulated D2O Hydration and Subsequent Thermoresponsive Behavior of Poly(sulfobetaine)-Based Diblock Copolymer Thin Films**

*Tuesday, 5 December 2023 14:00 (3 hours)*

The salt effect of KCl on D2O hydration and subsequent thermoresponsive behavior of diblock copolymer (DBC) thin films, which feature a short zwitterionic poly(4-((3-methacrylamidopropyl) dimethylammonio) butane-1-sulfonate)) (PSBP) block and a long nonionic thermo-responsive poly(N-isopropylmethacrylamide) (PNIPMAM) block, is studied by in situ spectral reflectance (SR) and time-of-flight neutron reflectivity (ToF-NR) in combination with isotope sensitivity. The solvation-triggered phase transition upon D2O hydration and subsequent heating is probed in situ by Fourier transform infrared spectroscopy (FT-IR). Besides, the migration and/or aggregation of KCl domains inside the DBC thin films is also demonstrated by complementary methods, namely, X-ray reflectivity (XRR) and atomic force microscopy (AFM).

**Primary authors:** WANG, Peixi (Workgroup Polymer Interfaces, TUM Department of Physics, Technical University of Munich); MÜLLER-BUSCHBAUM, Peter (TU München, Physik-Department, LS Funktionelle Materialien)

**Co-authors:** PAPADAKIS, Christine (Technische Universität München, Physik-Department, Fachgebiet Physik weicher Materie); GEIGER, Christina (Technical University of Munich, Chair of Functional Materials); REITENBACH, Julija; VAGIAS, Apostolos (FRM2 / TUM)

**Presenter:** WANG, Peixi (Workgroup Polymer Interfaces, TUM Department of Physics, Technical University of Munich)

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