

# Synthesis and Characterization of Host-Guest Monomers for Biocompatible Supramolecular Hydrogels

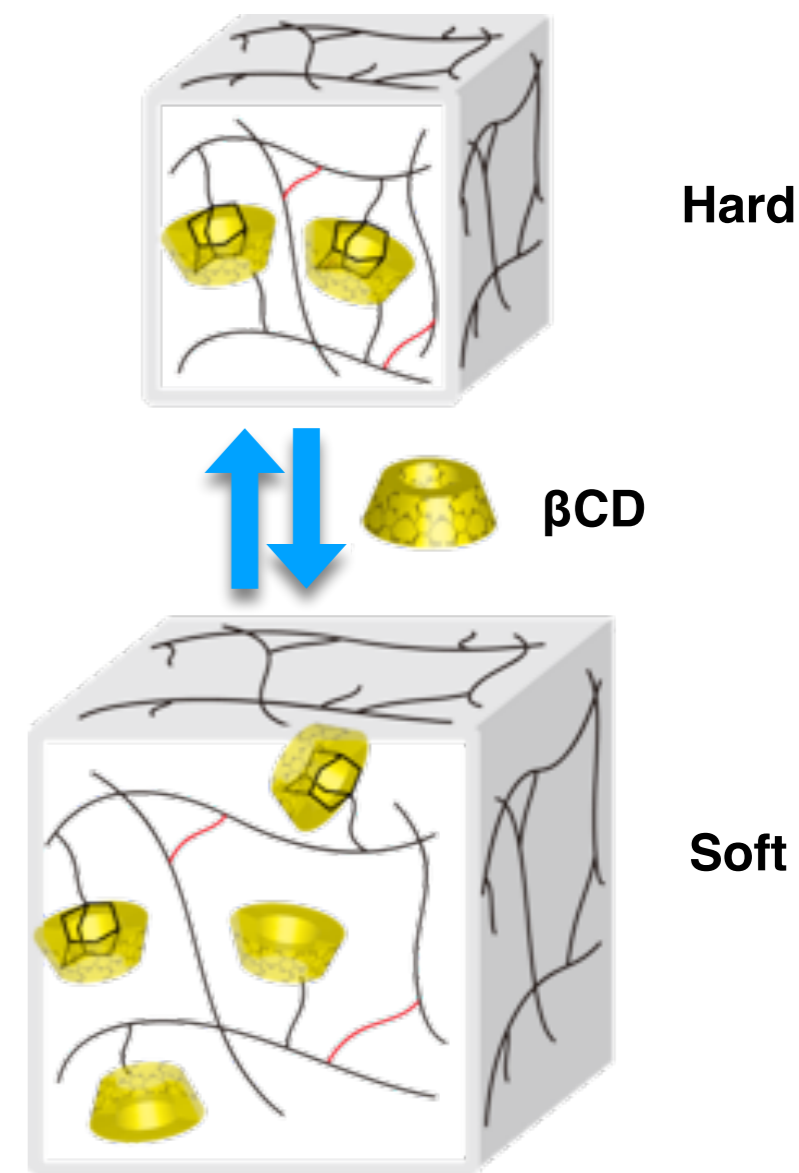
## Master thesis

The formation of supramolecular materials through host-guest interactions is a powerful method to create non-conventional materials that can be used to study biological processes. A transparent supramolecular hydrogel quickly forms upon mixing poly(acrylic acid) (pAA) possessing cyclodextrins ( $\beta$ -CD) as a host polymer and adamantane (Ad) as a guest polymer. The self-assembled pAA-based hydrogels can reversibly switch their shape and material properties, e.g. the addition or removal of competitive  $\beta$ -CDs leads to a respective decrease or increase in the Young's modulus.

### Tasks:



- Synthesis of  $\beta$ CD-AAm and Ad-AAm
- Manufacture and characterization of the hydrogels
- Investigation of possible derivatives



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