

Oscillatory and compression measurements of stimuli-responsive hydrogels

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Viscoelastic properties of hydrogels are essential for their use in various applications. Measurement of their rheological properties with rotational rheometry is however challenging due to for example possible slipping effects. As an alternative, compression measurements may yield valuable information on the mechanical properties of hydrogels. This is especially true with so-called stimuli-responsive hydrogels, where the phase transition may lead to considerable volume changes upon change in external conditions. In this study mechanical properties of various poly(N-isopropylacrylamide), PNIPAM, based thermosensitive hydrogels are studied by oscillatory and compression measurements.