RHEOLOGICAL BEHAVIOR OF TRANSIENT NETWORKS OBTAINED FROM SUPRAMOLECULAR POLYMERS – CHARACTERISATION AND MODELLING

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Supramolecular polymer materials offer several advantages compared to their covalent counterparts, e.g. a "self-healing" mechanism due to the reversibility of the supramolecular bond. We have been investigating the molecular dynamics of hierarchically branched model systems obtained from well-defined supramolecular architectures. The transient model networks have been prepared from covalent macromolecular precursors with linear as well as star structures. In a recent rheological study "*metallo-supramolecular polymers*" from metal-bis-terpyridine complex binding are examined. Latest advances in understanding the rheology of complex molecular structures and related tube model developements have been employed to explain the linear-viscoelastic behavior.