

610g Molecular Relaxation Dynamics of Self-Assembled Monolayers

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This work reports the first quantitative experimental study of molecular dynamics in self-assembled monolayer (SAMs). Dielectric spectroscopy is used to investigate relaxation dynamics of alkylsilane SAMs coated on porous glass. A fast relaxation process, which is believed to be related to the local motion of chain segments near the head groups, was observed. By introducing a polar group CN at the chain ends of each grafted molecules, a strong relaxation process was observed, which may be associated with the local segment motions near chain ends. This study provides a promising approach to study molecular dynamics in grafted monolayers.