

# Investigating UV-Induced Polymerization of Pre-Assembled Supramolecular Layers on Ionic Crystal Substrates

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On-surface polymerization is of growing interest for many applications in nanotechnology. A wide variety of chemical reactions have already been demonstrated to work on surfaces, however, mostly on metal substrates and by thermal activation of the covalent bond formation. (for an overview, see [1]). On insulating substrates, only few work has been presented so far, the most promising use UV-illumination to activate the polymerization process [2-4] since thermal annealing does mostly result in desorption of the organic molecules.

In this work, we use the knowledge of a previous work [5] on the control of the supramolecular self-assembly of specially designed organic molecules. We present results on how the formation of radicals induced by UV-illumination in pre-assembled supramolecular layers influences the subsequent polymerization process and the re-organization of the structures formed. Molecules used are designed with halogen- as well as vinyl- endgroups.

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