

O 27: Overview Talk: Leonhard Grill

Time: Tuesday 9:30–10:15

Location: S054

Invited Talk

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The Emergence of Covalent On-Surface Polymerization —

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The covalent linking of molecular building blocks directly in the two-dimensional confinement of a surface, the so-called on-surface polymerization, has developed rapidly in the last years since it represents a reliable strategy to grow functional molecular nanostructures in a controlled fashion. In this presentation an overview over the growth of such structures will be given, highlighting the important

aspects for their formation. These processes are typically studied by scanning tunneling microscopy that allows exploration of the initial monomer species, intermediate products and final nanostructures with sub-molecular spatial resolution. In this way, the chemical structures of the ex-situ synthesized initial molecules are directly correlated with the outcome of the chemical reaction. Examples with different monomer species in view of growing heterogeneous molecular structures and the importance of the molecular interaction with the template surface as a further key parameter to control the molecular diffusion and tune the final molecular architecture will be discussed as well as the functionality of the resulting structures.