Tailoring the Topology of Low-Dimensional Organic Nanostructures with Surface Templates

The future of nanotechnology lies in the “bottom up” approach, which aims at building nanostructures at an atomic or molecular level so as to minimize the sizes of chips and other nano-devices. However, one of the long-term unresolved issues for “bottom up” nanotechnology is the precise control of the topologies of fabricated nanostructures. In this presentation, I will report our recent studies with regard to the control of the topologies of nanostructures formed via the on-surface Ullmann reaction or self-assembly of haloarenes. The topic includes three aspects: control of the shape of the organometallic chain via lattice matching between the adsorbate nanostructure and the substrate; tailoring the chains by employing super-gratings templates; and steering the covalent ring-chain competition in the reaction of precursors towards ring formation through adsorbate-substrate symmetry matching.

INTERESSENTEN SIND HERZLICH EINGELADEN!

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