

CONTROLLING THE ORGANIZATION AND HEAT INDUCED COUPLING OF BIPHENYL DERIVATIVES ON METAL SURFACES

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The development of scanning probe methods enabled the investigation of molecules on surfaces with impressive resolutions. A delicate balance between molecule - substrate and intermolecular interactions such as van der Waals interactions, H-bonding or dipolar coupling guides the arrangement of the molecules in well ordered patterns. A very appealing concept is to profit from the order of these pre-organized structures and to interlink the molecular building blocks to macromolecules.

Previously, we presented our new concept to control both, the molecular self-assembly and the subsequent intermolecular coupling reactivity by protection group chemistry and described the heat induced formation of individual polymeric structures from a biphenyl derivative on single crystal Cu (111) and Ag (111) substrates.

Here we would like to present how to control the arrangement and the size of the resulting polymeric structures by modification of the end groups of the previously presented biphenyl unit.