

Abstract Submitted
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Creation of open networks from perylene derivatives MANFRED MATENA, MEIKE STOEHR, MARKUS WAHL, TOMAS SAMUELY, University of Basel, Switzerland, THOMAS A. JUNG, Paul-Scherrer-Institute, Switzerland, LUTZ H. GADE, University of Heidelberg, Germany — Self-assembly of molecules on surfaces directed by supramolecular interactions has been widely explored. The perylene derivative (DPDI) we analyzed is modified on the surface in order to achieve self-assemblies. This modification is temperature-induced, thus providing an additional feature to the control of self-assemblies in contrast to usual approaches that make use of molecular properties already inherent to the molecules [1]. Thin films of DPDI were prepared on Cu(111) and investigated with STM. Depending on the coverage before annealing, three different H-bond assemblies are generated, since in a thermally induced reaction the end groups of the molecule are modified and it can then act as both a H-bond donor and acceptor. For a similar perylene derivative (TAPP), an open quadratic assembly is found on Cu(111), which is not based on temperature-induced modification. If both molecules are present on the surface, no intermixing occurs. Instead a separation into two porous networks happens after annealing. [1] M. Stoehr et al., *Angew. Chem. Int. Ed.* 44 (2005) 7394

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