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Self-intermixed patterns of perylene derivatives MEIKE STOEHR, MARKUS WAHL, TOMAS SAMUELY, University of Basel, Switzerland, THOMAS A. JUNG, LUTZ H. GADE, University of Heidelberg, Germany — Self-assembled systems are in the focus of nanotechnology research because of their potential use in the “bottom-up” creation of functional supramolecular structures. Potential applications of such systems include several functional groups. Therefore, the intermixing of different molecular compounds will become a key issue. In our approach we made use of H-bonding to form well-ordered intermixed patterns of two different perylene derivatives - PTCDA and DPDI. In an UHV-setup thin films of DPDI and PTCDA were prepared by evaporation on Ag(111). The sample characterization was carried out with a homebuilt STM. For a ratio of 1:1 and a total coverage of about one monolayer, an ordered intermixed pattern was observed. Each PTCDA molecule is interacting via H-bonding with four neighbouring DPDI molecules and vice versa. Furthermore, different intermixed patterns were observed depending on the ratio of the molecules and on the total coverage.

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