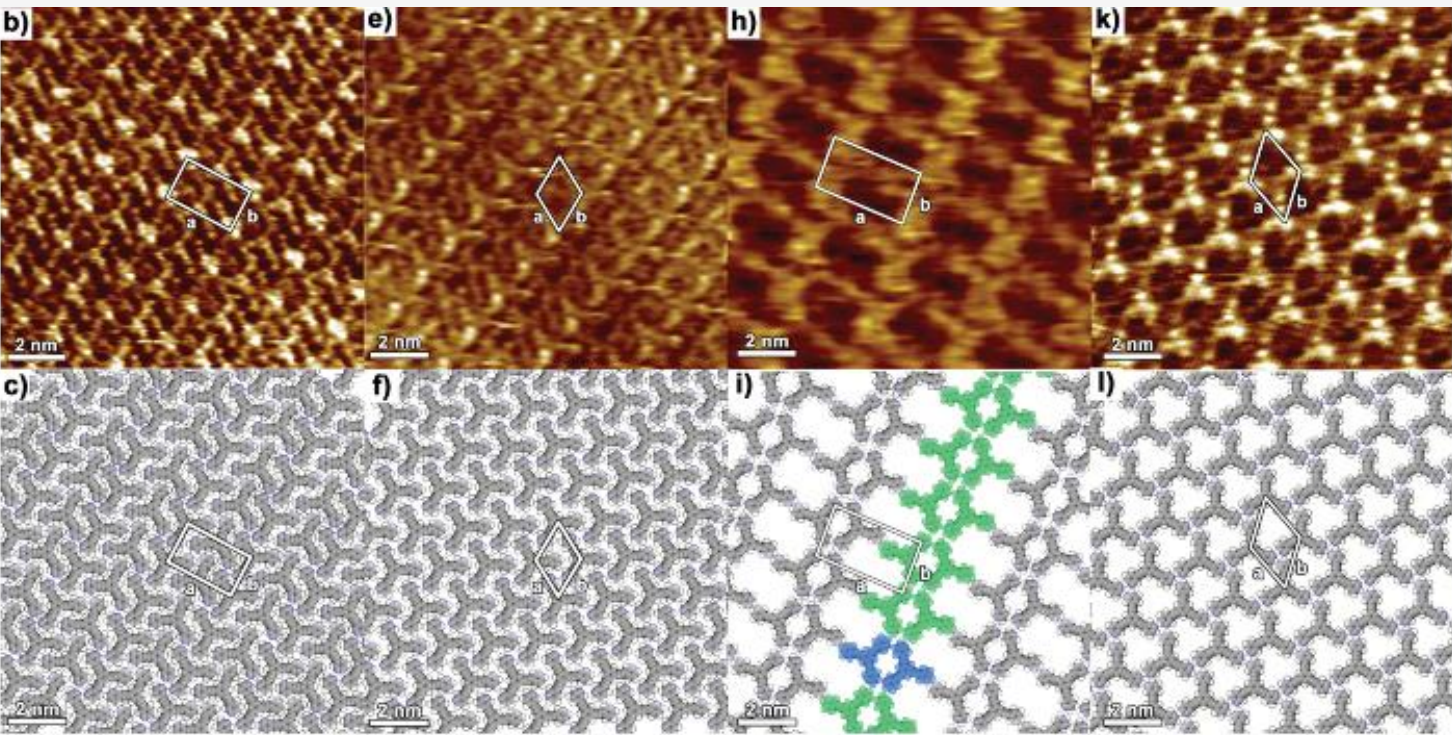


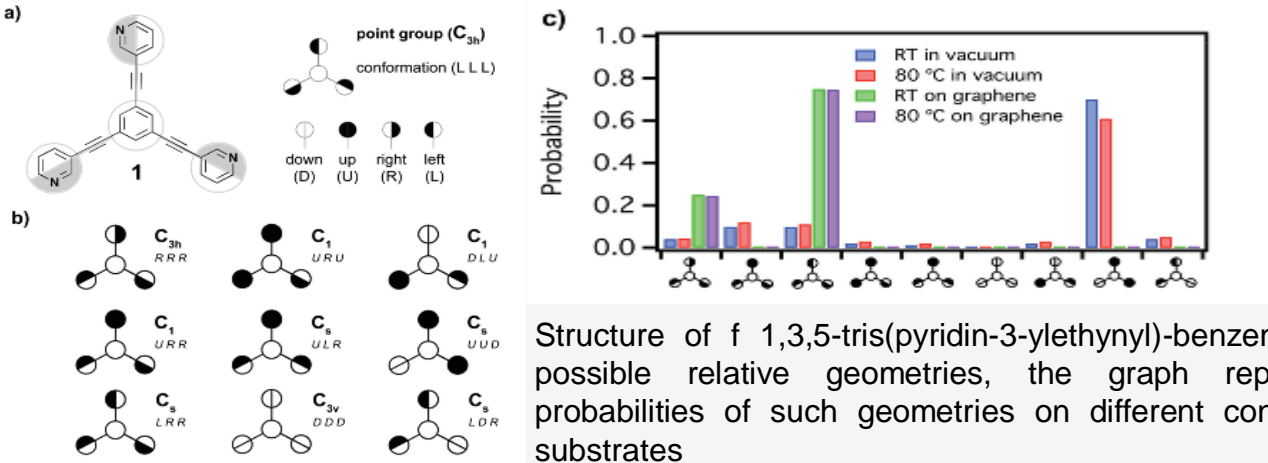
Atomically precise prediction of 2D self-assembly of weakly bonded nanostructure: STM insight into concentration-dependent architectures

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Sample preparation: STM measurements were performed using a Veeco Scanning tunneling microscope (Multimode Nanoscope III, Veeco). The Mapping area was set at 1x1micrometer. Samples were glued to a magnetic disk and an electric contact was made with silver Paint. STM Tips were cut from a Pt/Ir Wire. The lattice was observed with a bias voltage of 20mV and a rising current of 65 pA The imaging was carried at constant height mode without turning off the feedback loop to avoid tip crashes. Measurements were made at room temperature.



STM height images obtained from preparing 1,3,5-tris(pyridin-3-ylethynyl)-benzene on 1-phenyloctane solvent at different concentrations and their proposed 2D architectures while varying the concentration. From left to right: $0.35 \times 10^{-3} \text{M}$, $0.20 \times 10^{-3} \text{M}$, $0.15 \times 10^{-3} \text{M}$, $0.10 \times 10^{-3} \text{M}$.



Structure of f 1,3,5-tris(pyridin-3-ylethynyl)-benzene and its possible relative geometries, the graph represent the probabilities of such geometries on different conditions and substrates