Electronic Supplementary Material (ESI) for Nanoscale.

Adsorption-geometry induced transformation of self-assembled nanostructures of an aldehyde molecule on Cu(110)

Supporting information

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Figure S1. STM images showing the formation of different self-assembled nanostructures after deposition of BA molecules at different coverages: (a) ~0.7 ML; (b) ~0.8 ML; (c) ~1 ML on the Cu(110) substrate held at RT. Scanning conditions: I_t = 1.24 nA, V_t = -2100 mV.

Figure S2. The STM image showing different tip state of the close-packed nanostructure at a high coverage. Scanning conditions: I_t = 0.83 nA, V_t = -2500 mV.

Figure S3. (a)-(c) The close-up STM images showing the close-packed nanostructures in which different ratios of adsorption geometries of BA molecules can be identified. (d)-(f) The corresponding gas-phase optimized structural models, respectively. The blue dot lines indicate the C−H···O hydrogen bonds. Scanning conditions: I_t = 1.24 nA, V_t = -2100 mV.

Figure S4. STM image showing the coexistence of different close-packed nanostructures with different ratios of the adsorption geometries in the same domain. Scanning conditions: I_t = 0.70 nA, V_t = -2500 mV.