

Electric Supplementary Information (ESI)

## **Tuning the odd–even effect on two-dimensional assemblies of curcumin derivatives by alkyl chain substitution: A scanning tunnelling microscopy study**

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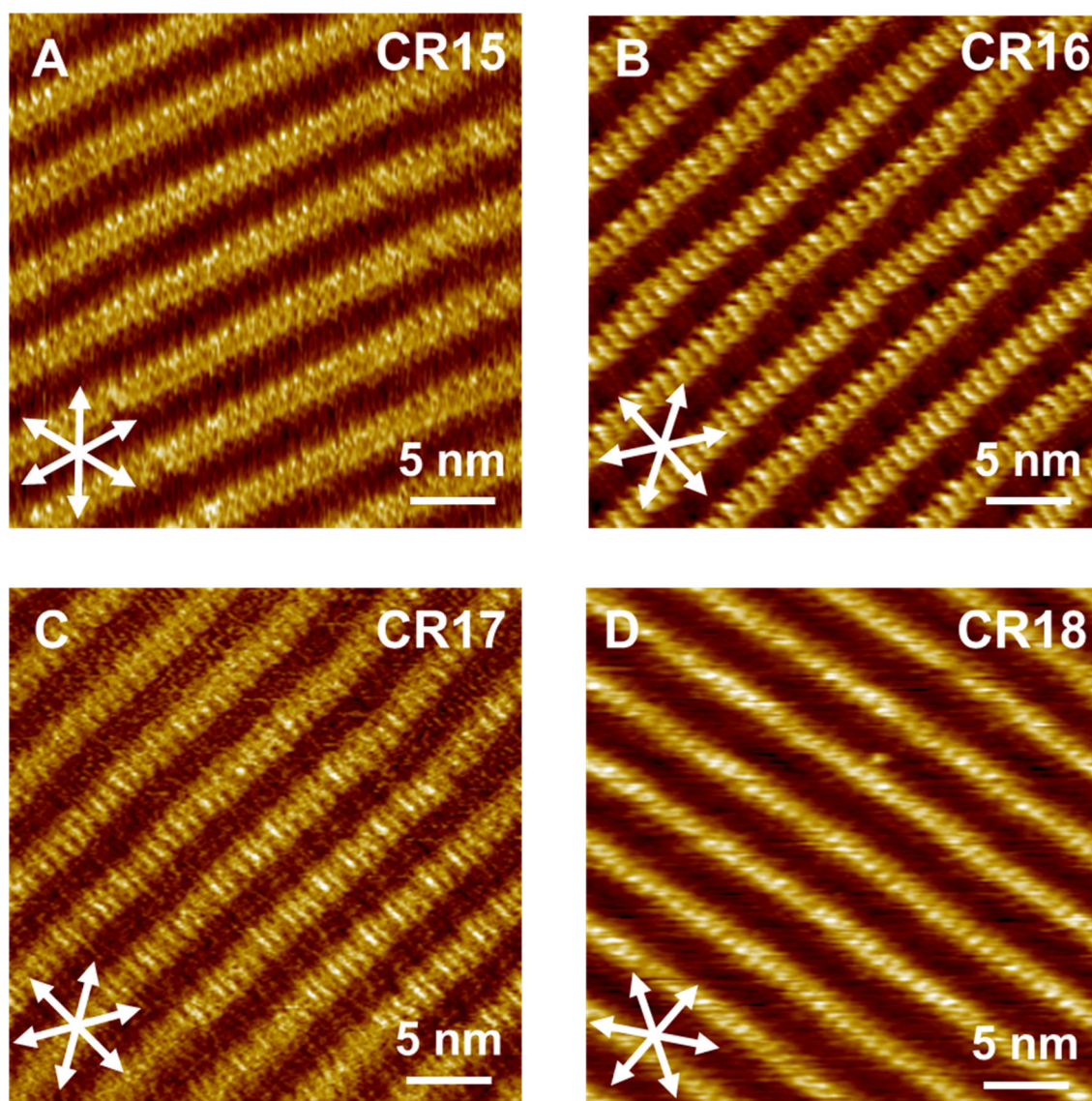
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S11 Large scale STM images of curcumin (**CR**) compounds

S12 Large scale STM images of bisdemethoxycurcumin (**BC**) compounds

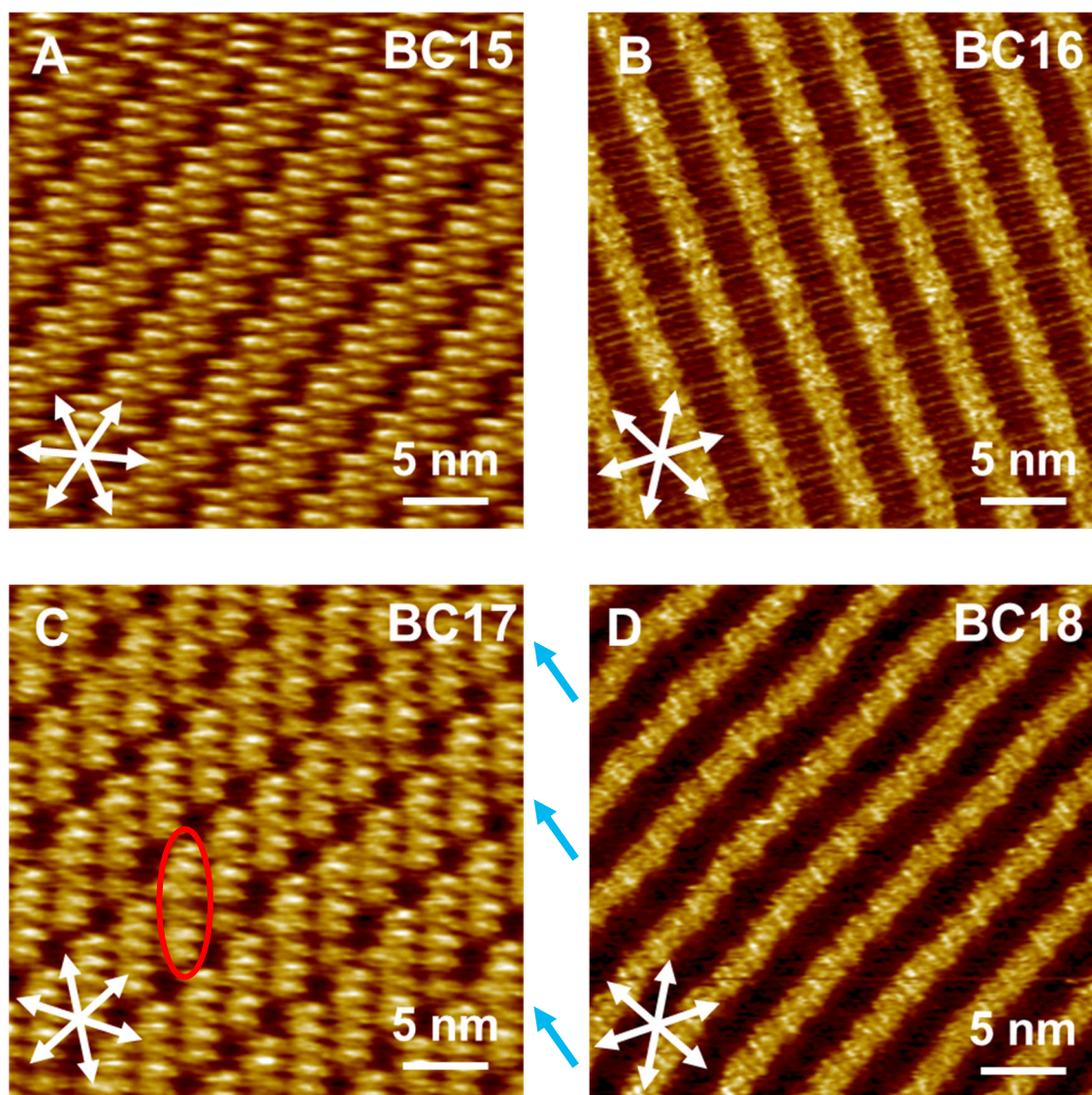
S13 Large scale STM images of tetra alkylated curcumin (**TC**) compounds

SI1 Large scale STM images of curcumin (CR) compounds



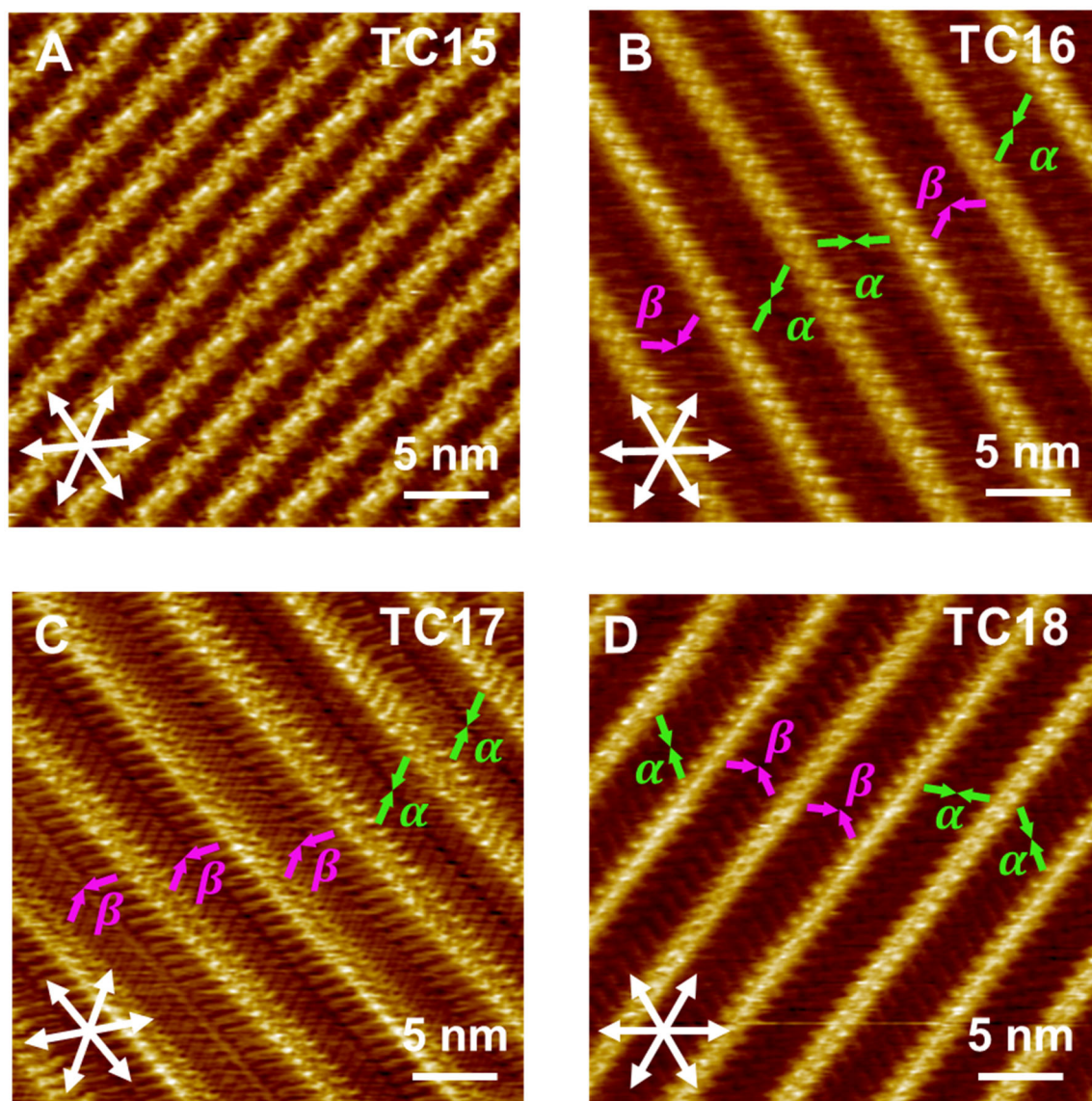
**Fig. S1** Large scale STM images of CR molecules (n=15-18) physisorbed at the HOPG/TCB interface. The sets of white arrows in each figure indicate the HOPG lattice directions. Tunnelling conditions: (A)  $I = 30$  pA,  $V = -1200$  mV; (B)  $I = 30$  pA,  $V = -390$  mV; (C)  $I = 30$  pA,  $V = -800$  mV; (D)  $I = 30$  pA,  $V = -850$  mV.

## SI2 Large scale STM images of bisdemethoxycurcumin (BC) compounds



**Fig. S2** Large scale STM images of BC molecules (n=15-18) physisorbed at the HOPG/TCB interface. The sets of white arrows in each figure indicate the HOPG lattice directions. In S2C, one of the hexamers are circled in red and defects are indicated by blue arrows. The defective region may be formed by the adsorption of only core units in the BC17 compounds, although the molecules contain alkyl chain units. Tunnelling conditions: (A)  $I = 30 \text{ pA}$ ,  $V = -350 \text{ mV}$ ; (B)  $I = 30 \text{ pA}$ ,  $V = -1100 \text{ mV}$ ; (C)  $I = 30 \text{ pA}$ ,  $V = -900 \text{ mV}$ ; (D)  $I = 30 \text{ pA}$ ,  $V = -800 \text{ mV}$ .

### S13 Large scale STM images of tetra alkylated curcumin (TC) compounds



**Fig. S3** Large scale STM images of TC molecules (n=15-18) physisorbed at the HOPG/TCB interface. The sets of white arrows in each figure indicate the HOPG lattice directions. Two different contacting types such as straight ( $\alpha$  in green) and diagonal contacts ( $\beta$  in purple) of the terminal methyl groups were randomly observed in TC16-18 compounds. (A)  $I = 30$  pA,  $V = -950$  mV; (B)  $I = 30$  pA,  $V = -900$  mV; (C)  $I = 30$  pA,  $V = -800$  mV; (D)  $I = 30$  pA,  $V = -850$  mV.