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Highly dispersed Buckybowls as model carbocatalysts for C-H bond activation

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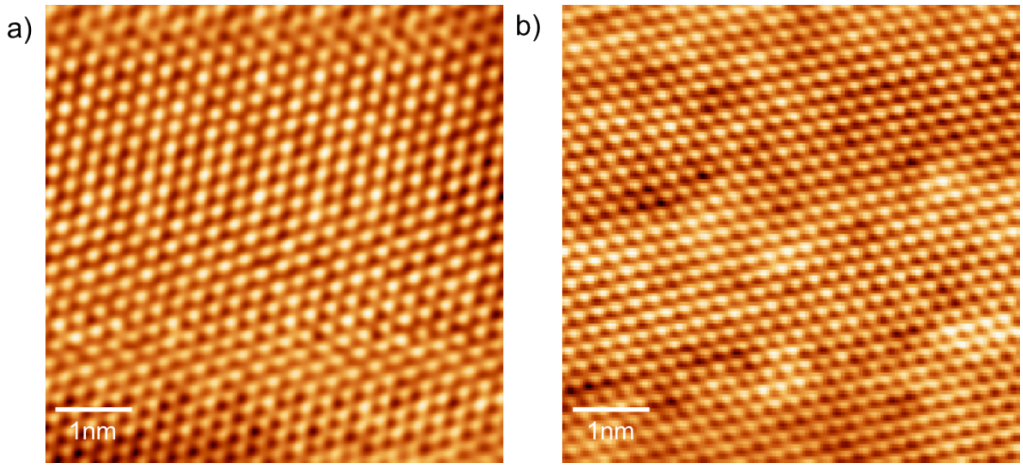
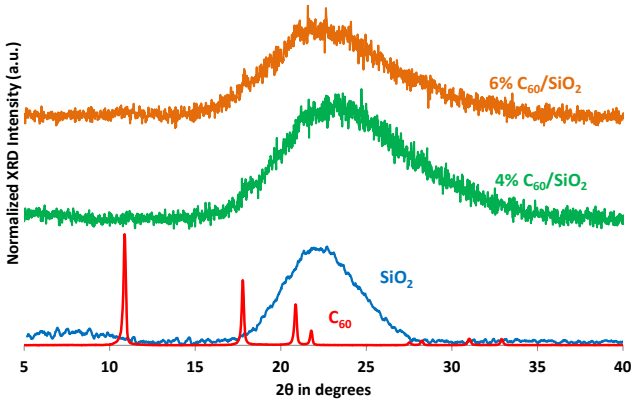
Supplementary Information



Supplementary Figure S1. STM imaging of the pure HOPG surface before a) and after b) oxidation treatment.

To verify cleanliness of the *ex situ* oxidation procedure, we carried out the same oxidation process to the bare HOPG substrate. Figure S1a and b (6 × 6 nm^2, V_t = 0.6 V (A) and 0.8 V (B), I_t = 400 pA) show atomically resolved STM topography images of HOPG substrate both before and after oxidation process, respectively. Oxidation pretreatment had no effect on the HOPG substrate.



Supplementary Figure S2. X-ray diffraction patterns for pure C_{60}, SiO_2, 4% C_{60}/SiO_2 and 6% C_{60}/SiO_2

Supplementary Figure S2. shows the XRD patterns for pure fullerene, silica, as well as the synthesized catalysts. Pure fullerene shows strong peaks at 10.9°, 17.8°, 20.9° and 21.8° which correspond to (111), (220), (311) and (222) planes, respectively according to the reference ICDD 04-007-2472. Mesoporous silica only shows the broad 15-30° band typical for amorphous SiO_2.