Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Material

How does graphene grow on complex 3D morphologies?

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Morphology and quality of grown graphene

To confirm the high quality and singe-layer thickness of the grown graphene, we transferred it onto silicon wafers with 300nm thermal oxide using Poly(methyl methacrylate) as a supporting polymer as reported previously[1]. Figure S1(a) shows the resulting morphology of graphene. The color contrast indicates individual graphene layers whereas the center exhibits a bilayer region in agreement with previous reports[2]. Raman spectra exhibit a negligible D-Band intensity at 1350cm^{-1} (Figure 1(c)) which is a signature of defects.[3] Finally, transmission electron microscopy (TEM) shows thin, continuous layers of graphene and selected area electron diffraction(SAED) indicates that these layers are single-crystalline.

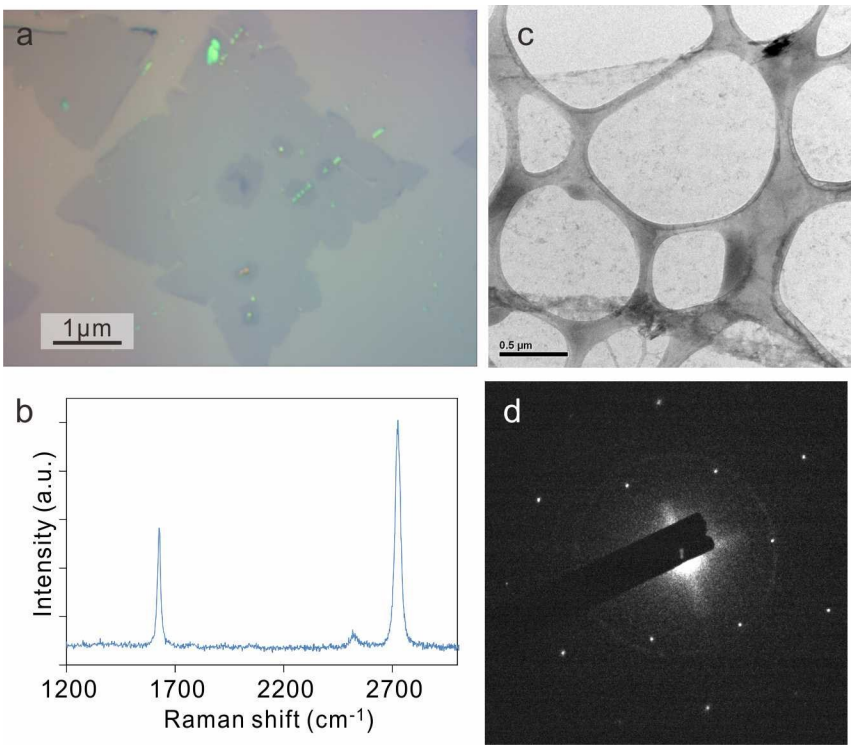

Figure S1. (a) Optical micrograph of graphene after transfer onto Si/SiO2 wafer, (b) Raman spectrum, (c) TEM image, (d) selected area electron diffraction pattern

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2. Chen, T.-W.; Hsieh, Y.-P.; Hofmann, M. *RSC Advances* **2015,** 5, (114), 93684-93688.
3. Saito, R.; Hofmann, M.; Dresselhaus, G.; Jorio, A.; Dresselhaus, M. S. *Adv Phys* **2011,** 60, (3), 413-550.