

Abstract Submitted
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Self Assembly of Graphene Sheets HAILIANG WANG, XINRAN WANG, XIAOLIN LI, HONGJIE DAI, Stanford University — Chemically derived graphene sheets (GS) were found to self-assemble onto patterned gold structures via electrostatic interactions between noncovalent functional groups on GS and gold. This afforded arrays of single graphene sheets on substrates, characterized by Auger, Raman and scanning electron microscopy (SEM) imaging. Self assembly was used for the first time to produce on-substrate and fully-suspended graphene electrical devices. Molecular coatings on the GS were removed by high current “electrical annealing,” which recovered the high electrical conductance and Dirac point of the GS.

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