Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Direct observation of PMMA removal from graphene surface XIAOHAN WANG, HARRY CHOU, LI TAO, ANDREW DICK, ANDREI DOLOCAN, DEJI AKINWANDE, C. GRANT WILLSON, Univ of Texas, Austin —
PMMA is often used as a carrier layer for transfer of CVD graphene from copper to other substrates. After transfer, the PMMA is removed by chemical or thermal treatment. However, regardless of the method used, polymer residues are left on the graphene surface, which degrade the performance of graphene-based devices. Here, we present a systematic study of PMMA removal after graphene transfer. Raman and FET measurements were applied to monitor the polymer dissolution in an acetone bath. Isotope labeling and in-situ TOF-SIMS, XPS, Raman and AFM all show chemical changes in surface residues upon vacuum annealing. These data along with strategies to clean the graphene surface will be presented.

Xiaohan Wang
Univ of Texas, Austin

Date submitted: 04 Nov 2015 Electronic form version 1.4