

Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Thin films of bottom-up synthesized graphene nanoribbons
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MEHDI POUR, ALEXANDER SINITSKII, Univ of Nebraska - Lincoln — Bottom-
up solution synthetic approaches for graphene nanoribbons (GNRs) receive a great
deal of attention, because they yield large quantities of atomically precise GNRs with
intriguing electronic and optical properties. However, poor solubility of these GNRs
in conventional solvents remains a great challenge and limits their processability
for applications in printable electronics, photovoltaics and composite materials. We
studied the solubility of solution-synthesized GNRs in chlorosulfonic acid and devel-
oped a protocol for thin film fabrication that could be applied for different types of
bottom-up synthesized GNRs. The developed procedure also provides control over
the thickness of films that can be made as thin as one GNR thick. Reactivity of the
GNRs with chlorosulfonic acid and electrical properties of fabricated films will also
be discussed.

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Date submitted: 14 Nov 2014

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