Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Fabrication of Graphene Oxide/Polypropylene Nanocomposites and Their Electrical Conductivity Study JINYONG DONG, Institute of Chemistry, Chinese Academy of Sciences — Graphene oxide (GO) /polypropylene nanocomposites were fabricated via in situ polymerizing propylene monomer over a GO that had been treated with a Grignard reagent and $TiCl_4$ successively when GO was not only catalytically activated but also largely reduced to an almost O-free state. The polymerization led to the in situ formation of the PP matrix, which was synchronized by the nanoscale exfoliation of the reduced GO as well as its gradual dispersion. Morphological examination of the ultimate GO/PP nanocomposites by TEM and SEM techniques revealed effective dispersion in nanoscale of GO in PP matrix. High electrical conductivity was discovered with thus prepared GO/PP nanocomposites, e.g. at a GO loading of 4.9 wt%, σ_c was measured at 0.3 $S{\cdot}m^{-1}$

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Date submitted: 02 Dec 2010 Electronic form version 1.4