

## Graphene Electrodes for Foldable Touch Screens

Byung Hee Hong<sup>1</sup>, Seungmin Cho<sup>2</sup>

<sup>1</sup>Department of Chemistry, Seoul National University, Seoul 151-747 Korea.

Tel.:82-2-882-6569, E-mail: [bunghee@snu.ac.kr](mailto:bunghee@snu.ac.kr)

<sup>2</sup>Hanhwa Techwin, Seongnam 463-400, Korea.

Recent advances in large-area graphene synthesis have enabled the potential applications to various electronic devices. However, the practical use of graphene in consumer electronics has not been demonstrated since the conductivity, uniformity and reliability problems are yet to be solved to satisfy industrial standards. Here we report the mass-production quality graphene films synthesized by rapid thermal chemical vapor deposition (RT-CVD), roll-to-roll etching and transfer methods, which enabled faster and larger production of homogeneous graphene films with mass-production quality and size. We also show that graphene-based capacitive multi-touch screen devices are fully functional in the most sophisticated mobile phone. The extreme flexibility of graphene further allows the fabrication of foldable touch screen sensors operating at the bending radius of ~3 mm, which is expected to bring the advent of flexible mobile devices forward.