Synthesis of graphene by mild oxidation and re-Intercalation with ammonium compound

한아름, 한종훈†
전남대학교
(jhhan@chonnam.ac.kr†)

Graphene is attractive materials due to its extraordinary electrical, mechanical, and chemical properties. Oxidation methods can make graphene with large area and low thickness generating defective graphene structure. On the other hand, non-oxidation methods can produce less defective structure than oxidation process. However, it is hard to prepare for large area or a few-layered graphene platelets.
In this study, graphene sheets were synthesized from expanded graphite(EG) via mild oxidation followed by non-oxidation using tetrabutylammonium ions as the intercalation compound. As a result, we observe that the tetrabutylammonium hydroxide(TBA) can help to make exfoliation of graphite easy and decrease particle size of graphene.