

Convenient, Rapid Exfoliation of Unfunctionalized Graphene in Organic Solvents

이강일, Trinh Bich Ha, 허승현, 김의정*
울산대학교
(ejkim@ulsan.ac.kr*)

Graphene has been considered as an attractive candidate for next-generation electronic materials and has great promise for widespread applications. It is calling the attention of all of researchers in attempt to develop the synthesis process of graphene. but method of existing there is a many problem.

This fact leads to investigations of an alternative method which produces graphene by directly exfoliating graphite in the liquid phase without oxidation process, but recently researches about this approach have been showing that it requires a long time of sonication and only achieves a low concentration of graphene. Therefore, in this study, we will focus on a novel method to increase the yield efficiency of graphene with the addition of a selected surfactant such as NaOH. Graphene sheets are prepared in organic solvent by using bath sonication, then centrifuged with properly speed and characterized by UV-Vis spectra, atomic force microscopy (AFM), Raman spectra or high resolution transmission electron microscopy (TEM).