

METHODS OF FORMING GRAPHENE BY GRAPHITE EXFOLIATION

ABSTRACT

Methods of forming graphene (G) by graphite exfoliation, wherein the methods include: providing a graphite sample (10) having atomic layers (11) of carbon; introducing a salt (12) and a solvent (14) into the space (9) between the atomic layers; expanding the space between the atomic layers using organic molecules and ions from the solvent and the salt; and separating the atomic layers using a driving force (45) to form one or more sheets of graphene. The graphene produced by the methods can be used to form solar cells (70), to perform DNA analysis, and for other electrical, optical and biological applications.

(FIG. 1a)