Thermodynamicaly stable graphene solutions

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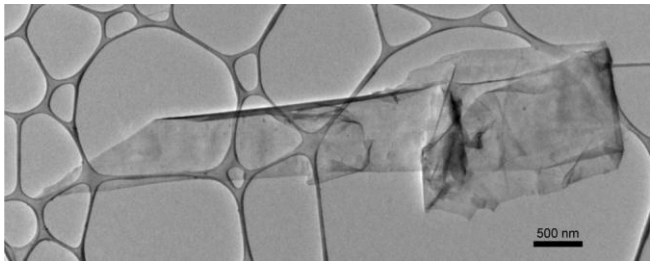
Graphite is insoluble in all media but may be dispersed with surfactants and/or sonication to obtain metastables suspensions. However, some graphite intercalation compounds (GICs) have been shown to be spontaneously soluble in polar organic solvents without the need for any kind of additional energy, such as sonication or high shear mixing.[1-3] Flakes of several μm^2 can be deposited from these solutions.



1. Solutions of graphene, C. Vallés and A. Pénicaud, patent, WO 2009/087287; FR 07/05803 august 9, 2007.

2. Solutions of Negatively Charged Graphene Sheets and Ribbons, C. Vallés et al., J. Am. Chem. Soc., 2008, 130, 15802–15804.

3. Graphene solutions, A. Catheline, C. Vallés, C. Drummond, L. Ortolani, V. Morandi, M. Marcaccio, M. Iurlo, F. Paolucci, A. Pénicaud, submitted.