
Disciplina: Tópico Especial II - **Materiais Grafênicos: propriedades e manipulação química**

Código: OP-026 **Créditos:** 2 **Carga Horária:** 30 Horas/aula

Professoras: Clascidia A. Furtado e Estefânia M. N. Martins

Nível: Mestrado e Doutorado

Período de realização: 2º semestre / 2020

EMENTA E PROGRAMA DA DISCIPLINA

Ementa

Neste semestre, a disciplina pretende focalizar o estudo de grafenos obtidos por esfoliação do grafite natural em líquidos (mecanismos de obtenção, características dos grafenos obtidos e interações com diferentes meios).

Programa

- Introdução aos materiais grafênicos;
- Propriedades;
- Esfoliação química do grafite em grafenos;
- Manipulação química pós-obtenção de grafenos: reatividade química, purificação, funcionalização, dispersão;
- Interações grafeno-meio (solvente, macromoléculas, biomoléculas e a interface Nano-Bio)

Avaliação

Discussões, seminários e estudos dirigidos

Bibliografia básica

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V. A. Basiuk, E. V. Basiuk (Ed.), "Chemistry of Carbon Nanotubes – vols. 1-3", American Scientific Publishers, Stevenson Ranch, 2008.

Balasubramanian, K. (ed); Burghard, M. (ed). Carbon Nanotubes: Methods and Protocols (Methods in Molecular Biology). Humana Press, 2010. 240 p.

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Backes, C. Noncovalent Functionalization of Carbon Nanotubes: Fundamental Aspects of Dispersion and Separation in Water. Springer Theses. Erlangen-Nürnberg : Springer, 2012. 203 p.

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- Navya and Daima. Rational engineering of physicochemical properties of nanomaterials for biomedical applications with nanotoxicological perspectives, Nano Convergence (2016) 3:1 DOI 10.1186/s40580-016-0064-z
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