

第 93 回化学コロキウム/IAGEPC コロキウムのお知らせ

日時: 平成 18 年 12 月 4 日(月) 11:00 ~ 13:00
場所: 首都大学東京 8号館304室
演者: Ishi Talmon 教授 (Technion-Israel Institute of Technology)
演題: Cryo-TEM Imaging of Self-Aggregation in Solution

Abstract: Cryo-TEM has become an indispensable tool to acquire high-resolution direct images of self-aggregating complex liquids, namely liquids with structure on the order of nanometers to micrometers. The methodology that has been developed over the years allows us to capture the nanostructure in its native state of fixed concentration and temperature. A wide range of systems of low- and high-molecular weight solutes, synthetic and biological has been studied already by the technique. While most cryo-TEM work has been done on aqueous systems, more recently the technique has been extended to non-aqueous solvents as well.

The term 'cryo-TEM' actually refers to the two techniques: direct-imaging cryo-TEM, by which a thin vitrified sample is examined by the TEM at cryogenic temperatures, and 'freeze-fracture-replication' cryo-TEM (FFR), by which a carbon-metal replica of the fractured fast-cooled specimen is examined at room temperature by the TEM. The two techniques are complementary, as I will explain in my talk.

The presentation will begin with a brief description of the two techniques with emphasis on FFR. This will be followed by a discussion of the application of cryo-TEM to non-aqueous systems, pointing out the potential and the difficulties of this type of application. A survey of recent applications of cryo-TEM is to follow. This will focus on advanced ways to design and perform cryo-TEM experiments.

Talmon 教授は Cryo-TEM を用いた両親媒性分子集合体の研究で著名な方です。

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