

第60回化学コロキウムのご案内

日時: 平成17年7月11日(月) 午後3:00~5:00
場所: 大学院講義室 303
演者: Pratap Bahadur 教授 (South Gujarat University, India)
演題: Aggregate Formation by Polyoxyethylene Based Block Copolymers in Aqueous Solutions

Abstract: This talk will describe recent literature studies and some of our own results on aggregation behavior on water soluble block copolymers from three different classes viz. hydrophilic-hydrophobic (AB, ABA and BAB) block copolymers, double hydrophilic block copolymers and ABC triblock copolymers. Polyoxyethylene - polyoxypropylene - polyoxyethylene triblock copolymers (pluronic^R) and their aggregation in aqueous solutions at different temperatures and in the presence of additives like salts, hydrotropes and ionic surfactants will be discussed in particular. Studies based on modern techniques viz. scattering (static and dynamic light scattering and small angle neutron scattering), spectral methods viz. fluorescence (static and time resolved), nuclear magnetic resonance and IR, thermal methods viz. differential scanning calorimetry and isothermal calorimetry, along with simple physical properties like surface tension, dye solubilization, sound velocity will be described. For the water soluble double hydrophilic block copolymers where one of the blocks is usually a polyion, complex formation by adding oppositely charged ions leading to nanoaggregates will be described. The formation and characteristics of core-shell-corona micelles of ABC triblock copolymers will be also discussed.

Bahadur 教授は、現在では広く用いられている水溶性ブロック共重合体(高分子界面活性剤)Pluronic^R に早くから注目し、光散乱、パルス磁場勾配スピンエコー、中性子小角散乱、表面張力、粘弾性、蛍光プローブ法等を駆使した草分け的な研究を行ったことで名高い方です。今回 JSPS の招聘により佐賀大学に短期滞在されるのを機に本学にお招きしました。

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