

# Self-assembly of $\mu$ EOF in THF-H<sub>2</sub>O Mixed Solvents

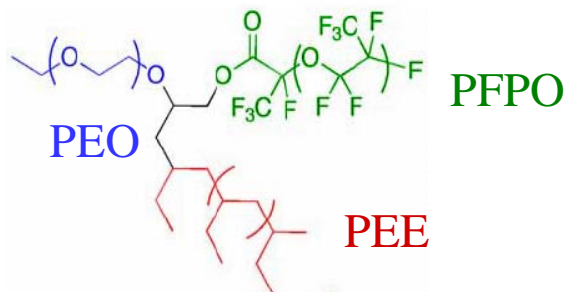
Marc Hillmyer (PI), Tim Lodge (PI), Chun Liu

Department of Chemistry, University of Minnesota

NNIN Facility utilized: Characterization Facility

## ● Research goal

- ◆ The self-assembly of  $\mu$ EOF in THF-H<sub>2</sub>O mixed solvents
- ◆ The modification of the multicompartment core as well as the overall morphology
- ◆ CryoTEM as the major characterization technique for the detailed micelle structures



**PEO:** poly(ethylene oxide), hydrophilic

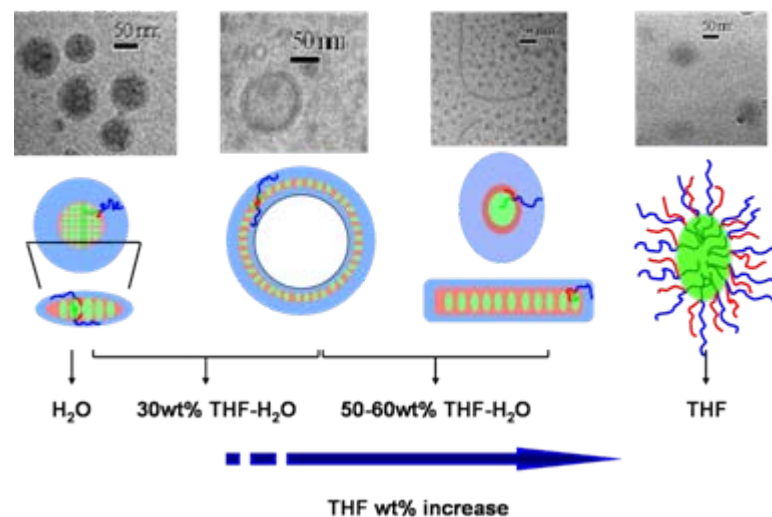
**PEE:** poly(ethylene), hydrophobic

**PFPO:** poly(perfluoropropylene oxide), hydrophobic&lipophobic

## ● Results and Discussion

- ◆ Multicompartment  $\rightarrow$  core-shell-corona  $\rightarrow$  mixed corona micelles along THF wt%
- ◆ Disk  $\rightarrow$  vesicles  $\rightarrow$  worms & spheres  $\rightarrow$  elliptical oblate micelles along THF wt%

$\mu$  EOF micelles in THF-H<sub>2</sub>O mixed solvents



## ● Publications

- ◆ “Evolution of Multicompartment Micelles to Mixed Corona Micelles” Liu, C.; Li, Z.; Hillmyer, M.A.; Lodge, T. P. in preparation
- ◆ “Multicompartment Micelles in Mixed Systems” Triftaridou, A.; Liu, C.; Li, Z.; Hillmyer, M. A.; Lodge, T. P. *Polym. Mater. Sci. Eng.* **2007**, 96, 84-85.