

Synthesis and Study of Photoresponsible Amphiphile Containing an Azobenzene Moiety

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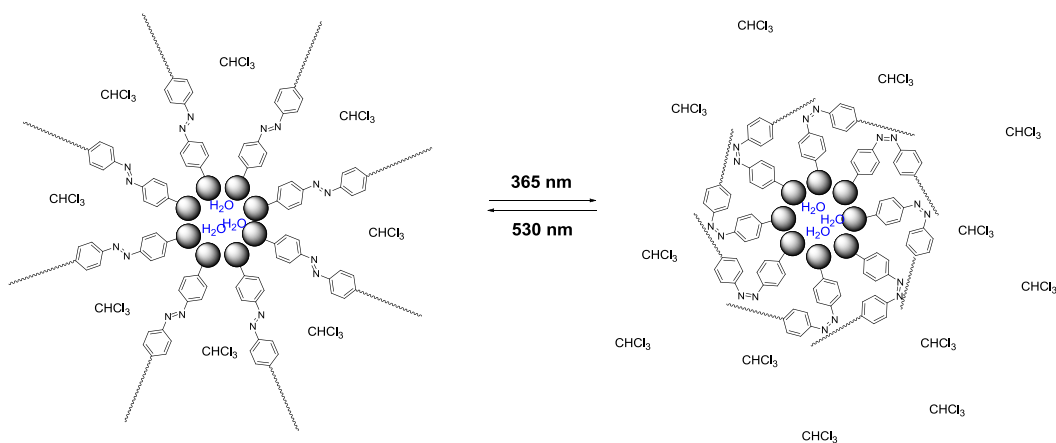
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Recently, our group has examined the formation and physico-chemical properties of reverse micelles in a ternary water/CTAB/chloroform system at room¹ and sub-zero temperatures.² The aim of this new study was to create photoresponsible reverse micelles from amphiphilic molecules that contain an azobenzene moiety and to study their properties when the N=N group undergoes a photoinduced *E/Z* isomerization.

The physico-chemical properties of the synthesized amphiphile and its ability to form reverse micelles in the all-*trans* configuration were investigated using NMR and UV-vis spectrometry, and the critical micelle concentration was determined. The *E/Z* photoisomerization and the corresponding reverse thermal isomerization at different temperatures, and its effect on the character of reverse micelles and encapsulated water, will be discussed.



[1] Klíčová L., Šebej P., Štacko P., Filippov S. K., Bogomolova A., Padilla M., Klán P., *Langmuir* **2012**, *28*, 15185-15192.

[2] Klíčová L., Muchová E., Šebej P., Slavíček P., Klán P., *Langmuir* **2015**, *31*, 8284-8293.