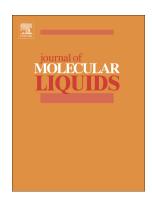
Accepted Manuscript

Comparison between lyotropic cholesteric phase behavior with partly fluorinated surfactants and their exact hydrogenated counterparts



Erol Akpinar, Sinan Yurdakul, Antônio Martins Figueiredo Neto

PII:	S0167-7322(17)36219-0
DOI:	doi:10.1016/j.molliq.2018.03.031
Reference:	MOLLIQ 8805
To appear in:	Journal of Molecular Liquids
Received date:	28 December 2017
Revised date:	12 February 2018
Accepted date:	8 March 2018

Please cite this article as: Erol Akpinar, Sinan Yurdakul, Antônio Martins Figueiredo Neto, Comparison between lyotropic cholesteric phase behavior with partly fluorinated surfactants and their exact hydrogenated counterparts. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Molliq(2017), doi:10.1016/j.molliq.2018.03.031

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Comparison between lyotropic cholesteric phase behavior with partly fluorinated surfactants and their exact hydrogenated counterparts

Erol Akpinar^{1*}, Sinan Yurdakul¹ and Antônio Martins Figueiredo Neto²

¹ Abant Izzet Baysal University, Arts and Sciences Faculty, Department of Chemistry, 14030, Golkoy, Bolu, Turkey

² Instituto de Física, Universidade de São Paulo, Rua do Matão, 1371, São Paulo - SP, 05508-090, Brazil

Abstract

In this study, we examined lyotropic intrinsic cholesteric phase properties of some amino acid based chiral surfactants, with partly fluorinated and hydrogenated chains, to investigate the effect of the twist structure of fluorocarbon chain on the helical twisting power of chiral some surfactants. We synthesized chiral and achiral surfactants, and their fluorinated/hydrogenated counterpart surfactants, taking into account the rule that [1 CF₂=1.5 CH₂]. We prepared lyotropic mixtures exhibiting discotic cholesteric phases by dissolution of chiral surfactants L-alaninehydrochloride undecylester (L-AUnDE), L-serinehydrochloride undecylester (L-SUnDE) and their partly fluorinated counterparts (L-APFOE and L-SPFOE, respectively) into sodium chloride (NaCl)/water mixtures, separately. The pitch measurements were used to evaluate the helical twisting powers of each fluorinated/hydrogenated chiral surfactants. The results indicated that the twist structure of fluorocarbon chain provides higher helical twisting power with respect to the hydrocarbon chain.

Download English Version:

https://daneshyari.com/en/article/7842580

Download Persian Version:

https://daneshyari.com/article/7842580

Daneshyari.com