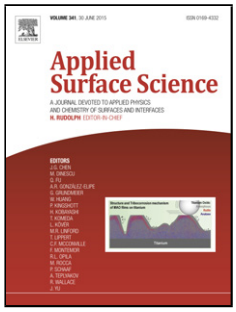


Title: One-step Synthesis, Wettability and Foaming Properties of High-performance Non-ionic Hydro-Fluorocarbon Hybrid Surfactants

Authors: Ying-ying Peng, Feng Lu, Qing-Xiao Tong

PII: S0169-4332(17)32935-5
DOI: https://doi.org/10.1016/j.apsusc.2017.10.012
Reference: APSUSC 37355

To appear in: *APSUSC*

Received date: 25-6-2017
Revised date: 27-8-2017
Accepted date: 2-10-2017

Please cite this article as: Ying-ying Peng, Feng Lu, Qing-Xiao Tong, One-step Synthesis, Wettability and Foaming Properties of High-performance Non-ionic Hydro-Fluorocarbon Hybrid Surfactants, Applied Surface Science https://doi.org/10.1016/j.apsusc.2017.10.012

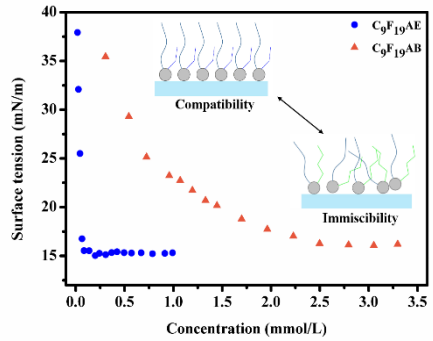
One-step Synthesis, Wettability and Foaming Properties of High-performance Non-ionic Hydro-Fluorocarbon Hybrid Surfactants

Ying-ying Peng, Feng Lu and Qing-Xiao Tong*

Department of Chemistry, Shantou University, Guangdong 515063, P. R. China.

* Corresponding author: E-mail: qxtong@stu.edu.cn

Graphical abstract



Highlights:

1. A facile synthesis method with good yield is proposed to develop a series of non-ionic hydro-fluorocarbon hybrid surfactants based on amide group, an eco-friendly unit. Hybrid surfactants based on amide group were synthesized by a facile synthesis.
2. The length of hydro-carbon chains has a profound effect on the surface activity of hydro-fluorocarbon hybrid surfactants. The effects of hydrocarbon chain length on surface activity were discussed.
3. The surface activity, wettability and foaming performance of $C_9F_{19}AE$ make it to be a state-of-the-art foaming agent. The foaming performance of $C_9F_{19}AE$ make it to be a state-of-the-art foaming agent.