

Accepted Manuscript

Influence of intermolecular H-bonding on the acid-base interfacial properties of -COOH and ferrocene terminated SAM

Qing Zheng, Huibo Shao



PII: S1572-6657(18)30670-2
DOI: doi:[10.1016/j.jelechem.2018.10.010](https://doi.org/10.1016/j.jelechem.2018.10.010)
Reference: JEAC 12650
To appear in: *Journal of Electroanalytical Chemistry*
Received date: 28 July 2018
Revised date: 28 September 2018
Accepted date: 5 October 2018

Please cite this article as: Qing Zheng, Huibo Shao , Influence of intermolecular H-bonding on the acid-base interfacial properties of -COOH and ferrocene terminated SAM. *Jeac* (2018), doi:[10.1016/j.jelechem.2018.10.010](https://doi.org/10.1016/j.jelechem.2018.10.010)

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.

Influence of intermolecular H-bonding on the acid-base interfacial properties of -COOH and ferrocene terminated SAM

Qing Zheng^{a,b}, Huibo Shao^{a,*}

^aKey Laboratory of Cluster Science (Ministry of Education), Beijing Key Laboratory of Photoelectronic and Electrophotonic Conversion Materials, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing 102488, P.R. China

^bSchool of Food and Chemical Engineering, Shaoyang University, Shaoyang 422000, Hunan, P.R. China

*Corresponding Author: Huibo Shao, E-mail: hbs@bit.edu.cn

Keywords

hydrogen bonding; ferrocenylalkanethiolate; molecular recognition; self-assembled monolayer; mercaptosuccinic acid

Abstract

We have explored the intermolecular interactions within a two-component self-assembled monolayer, a model system to develop our understanding of interfacial chemistry in molecular level. The redox signal of 11-ferrocenyl-1-undecanethiol (FcC11) reversibly responded to the formation of intermolecular H-bonding: The intermolecular H-bonding between the terminal carboxyl groups of MSA promoted the formation of MSA assemblies, which increased the influence of MSA on the neighboring molecules (FcC11). Meanwhile, the disordered FcC11 appeared within the locally ordered FcC11 patches, resulting in the presence of a new couple of redox peaks

Download English Version:

<https://daneshyari.com/en/article/11016574>

Download Persian Version:

<https://daneshyari.com/article/11016574>

[Daneshyari.com](https://daneshyari.com)