Accepted Manuscript

Accepted date:

Title: A supramolecular bottlebrush polymer assembled on the basis of cucurbit[8]uril-encapsulation-enhanced donor-acceptor interaction



Authors: Zhi-Jian Yin, Zong-Quan Wu, Feng Lin, Qiao-Yan Qi, Xiao-Na Xu, Xin Zhao

17-3-2017

PII:	S1001-8417(17)30104-3
DOI:	http://dx.doi.org/doi:10.1016/j.cclet.2017.03.029
Reference:	CCLET 4024
To appear in:	Chinese Chemical Letters
Received date:	6-2-2017
Revised date:	1-3-2017

Please cite this article as: Zhi-Jian Yin, Zong-Quan Wu, Feng Lin, Qiao-Yan Qi, Xiao-Na Xu, Xin Zhao, A supramolecular bottlebrush polymer assembled on the basis of cucurbit[8]uril-encapsulation-enhanced donor-acceptor interaction, Chinese Chemical Lettershttp://dx.doi.org/10.1016/j.cclet.2017.03.029

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

Original article

A supramolecular bottlebrush polymer assembled on the basis of cucurbit[8]urilencapsulation-enhanced donor-acceptor interaction

Zhi-Jian Yin^{a,b}, Zong-Quan Wu^a, Feng Lin^b, Qiao-Yan Qi^b, Xiao-Na Xu^{b,*}, Xin Zhao^{b,*}

^a Department of Polymer Science and Engineering, School of Chemistry and Chemical Engineering, Hefei University of Technology, Hefei 230009, China ^b Key Laboratory of Synthetic and Self-assembly Chemistry for Organic Functional Molecules, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

*Corresponding authors. E-mail addresses: <u>xuxiaona@sioc.ac.cn</u> (X.-N. Xu); <u>xzhao@sioc.ac.cn</u> (X. Zhao)

ARTICLE INFO Article history: Received 7 February 2017 Received in revised form 1 March 2017 Accepted 8 March 2017 Available online

Graphical abstract



A supramolecular bottlebrush polymer has been constructed in water through cucurbit[8]uril-mediated self-assembly of a rigid electron-deficient building block and an electron-rich monomer which bears two tetraethylene glycol chains.

ABSTRACT

A supramolecular bottlebrush polymer has been constructed in water through the self-assembly of a rigid electron-deficient building block and an electron-rich monomer which bears two tetraethylene glycol chains, driven by CB[8]-encapsulation-enhanced donor-acceptor interaction. The as-formed supramolecular bottlebrush polymer has been characterized by ¹H NMR titration experiment, UV-vis spectroscopy, DLS and 2D ¹H NMR DOSY.

Keywords: Self-assembly Supramolecular polymer Cucurbit[8]uril Donor-acceptor interaction Bottlebrush polymer

1. Introduction

Supramolecular polymer originates from the merging of supramolecular chemistry and polymer science [1]. Different from the classic polymers in which building parts are linked by covalent bonds, in supramolecular polymers, their components are connected through weak intermolecular interactions such as hydrogen-bonding [2-4], coordination interaction [5], host-guest interaction [6-9],

Download English Version:

https://daneshyari.com/en/article/5142783

Download Persian Version:

https://daneshyari.com/article/5142783

Daneshyari.com