

Accepted Manuscript

Polycatenar bent-shaped liquid crystals with columnar and cubic phase: Synthesis multi-responsive organogels and chemosensors

Huifang Cheng, Hongfei Gao, Tingyan Wang, Meng Xia, Xiaohong Cheng



PII: S0167-7322(17)34170-3
DOI: doi:[10.1016/j.molliq.2017.11.041](https://doi.org/10.1016/j.molliq.2017.11.041)
Reference: MOLLIQ 8157
To appear in: *Journal of Molecular Liquids*
Received date: 8 September 2017
Revised date: 31 October 2017
Accepted date: 6 November 2017

Please cite this article as: Huifang Cheng, Hongfei Gao, Tingyan Wang, Meng Xia, Xiaohong Cheng, Polycatenar bent-shaped liquid crystals with columnar and cubic phase: Synthesis multi-responsive organogels and chemosensors. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Molliq(2017), doi:[10.1016/j.molliq.2017.11.041](https://doi.org/10.1016/j.molliq.2017.11.041)

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.

Polycatenar bent-shaped liquid crystals with columnar and cubic phase: synthesis multi-responsive organogels and chemosensors

Huifang Cheng,^{‡a} Hongfei Gao,^{‡a} Tingyan Wang,^{a,b} Meng Xia,^a Xiaohong Cheng^{a*}

[a] Key Laboratory of Medicinal Chemistry for Natural Resources, Chemistry School of Chemical Science and Technology, Yunnan University Kunming, Yunnan 650091, P. R. China
Fax: (+86) 871 65032905
E-mail: xhcheng@ynu.edu.cn

[b] College of Science, Beijing University of Chemical Technology
Beijing 100029, P.R.China

[‡]Both authors contributed equally to this work

Abstract: Series of novel triazole polycatenar bent-shaped molecules comprising a carbonyl central core with two 1,2,3-triazole dendritic wings have been firstly synthesized *via* the copper(I)-catalyzed azide-alkyne cycloaddition (CuAAC) reaction. The effect of variation of the number and length of the terminal alkyl chains as well as the dendritic generation, linkage group on their properties have been investigated by polarizing optical microscopy (POM), differential scanning calorimetry (DSC), X-ray diffraction (XRD), scanning electron microscope (SEM) and photoluminescence measurements. It is found that these compounds can self-assemble into hexagonal columnar and micellar cubic phases in their pure states, as well as organogels in organic solvents. In addition, fluorescence spectroscopic studies demonstrate that they can act as chemosensor of metal ions. The ester compounds exhibit dual selectivity for Fe^{3+} and Hg^{2+} , while the ether compounds show exclusive selectivity for Fe^{3+} ion.

Key words: liquid crystal, self-assembly, organogels, chemosensor

Download English Version:

<https://daneshyari.com/en/article/7843798>

Download Persian Version:

<https://daneshyari.com/article/7843798>

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