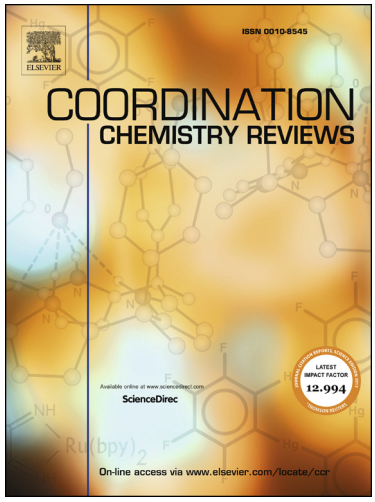
Accepted Manuscript



Review

Water-resistant porous coordination polymers for gas separation

Jingui Duan, Wanqin Jin, Susumu Kitagawa

PII: S0010-8545(16)30385-X
DOI: http://dx.doi.org/10.1016/j.ccr.2016.11.004
Reference: CCR 112337

To appear in: *Coordination Chemistry Reviews*

Received Date: 19 September 2016
Revised Date: 7 November 2016
Accepted Date: 7 November 2016

Please cite this article as: J. Duan, W. Jin, S. Kitagawa, Water-resistant porous coordination polymers for gas separation, *Coordination Chemistry Reviews* (2016), doi: http://dx.doi.org/10.1016/j.ccr.2016.11.004

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

Water-resistant porous coordination polymers for gas separation

Jingui Duan,*[a, c] Wanqin Jin[a] and Susumu Kitagawa*[b]

[a] State Key Laboratory of Materials-Oriented Chemical Engineering, College of Chemical engineering, Nanjing Tech University, Nanjing, 210009, China. E-mail: duanjingui@njtech.edu.cn

[b] Institute for Integrated Cell-Material Sciences (WPI-iCeMS), Kyoto University, Yoshida, Sakyo-ku, Kyoto 606-8501, Japan. E-mail: kitagawa@icems.kyoto-u.ac.jp

[c] Jiangsu National Synergetic Innovation Center for Advanced Materials, Nanjing Tech University, Nanjing, 210009, China.

Received Sep XX, 2016

Contents

Abstract: Porous coordination polymer (PCP) chemistry has a promising future because of the tunable structures and excellent properties of polymers. However, the strategy for designing and preparing water-resistant PCPs is a considerable challenge. This review surveys and investigates the factors governing water resistance in a hierarchy sequence. Subsequently, representative studies are provided with an emphasis on their adsorptive- and membrane-based gas separations. This review is intended to be useful for researchers who are interested in designing water-resistant PCPs and exploring promising applications for gas separation.

Keywords: Porous coordination polymer; water-resistance; adsorptive gas separation; membrane-based gas separation

Download English Version:

https://daneshyari.com/en/article/5150813

Download Persian Version:

https://daneshyari.com/article/5150813

Daneshyari.com