

Accepted Manuscript

Title: Confirmation of the Isomorphous Substitution by Sn Atoms in the Framework Positions of MFI-typed Zeolite

Authors: Changjiu Xia, Yujia Liu, Min Lin, Xinxin Peng, Bin Zhu, Xingtian Shu



PII: S0920-5861(18)30154-8
DOI: <https://doi.org/10.1016/j.cattod.2018.02.056>
Reference: CATTOD 11281

To appear in: *Catalysis Today*

Received date: 16-12-2017
Revised date: 26-2-2018
Accepted date: 28-2-2018

Please cite this article as: Changjiu Xia, Yujia Liu, Min Lin, Xinxin Peng, Bin Zhu, Xingtian Shu, Confirmation of the Isomorphous Substitution by Sn Atoms in the Framework Positions of MFI-typed Zeolite, *Catalysis Today* <https://doi.org/10.1016/j.cattod.2018.02.056>

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.

Confirmation of the Isomorphous Substitution by Sn Atoms in the Framework Positions of MFI-typed Zeolite

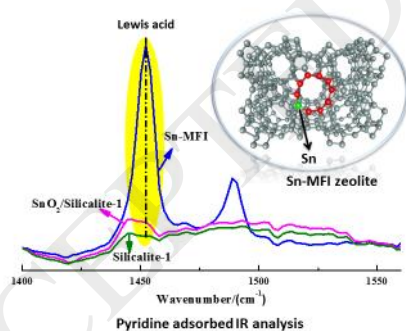
Changjiu Xia*, Yujia Liu, Min Lin*, Xinxin Peng, Bin Zhu, Xingtian Shu

State Key Laboratory of Catalytic Materials and Reaction Engineering, Research Institute of Petroleum Processing, SINOPEC, Beijing, China, 100083

Highlights

- Unit cell expansion is caused by the incorporation of Sn atoms.
- Sn atoms are highly dispersed in the lattice of zeolite particles.
- Lewis acidity attributes to the charge difference between framework Sn and Si atoms.
- The catalytic performance of Sn-MFI is dependent on the Lewis acid property.

Graphical abstract



Abstract

Sn-MFI zeolite is one kind of remarkable emerging solid Lewis acid catalyst with high stability in recent years, due to its wide application in the environmental-friendly biomass conversion and catalytic oxidation processes. Herein, it is confirmed that the Sn species are highly dispersed in the matrix of zeolite, and the expansion of unit cell is attributed to the formation of crystalline Sn-O-Si bonds, owing to the size difference

Download English Version:

<https://daneshyari.com/en/article/8964999>

Download Persian Version:

<https://daneshyari.com/article/8964999>

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