

Supporting Information

BTX Production from Rice Husk by Fast Catalytic Pyrolysis Over Ga-modified ZSM-5/SBA-15 catalyst

Gaixiu Yang,^[a] Juntao Yang,^[b] Dalong Huang,^[a] Weihong Zhou^{[c]*}, Lingmei Yang^{[a]*},

Pengmei Lv,^[a] Yongming Sun ^[a]

^a Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences, CAS Key Laboratory of Renewable Energy, Guangdong Provincial Key Laboratory of New and Renewable Energy Research and Development, Guangzhou 510640, China

^b School of Agricultural Engineering and Food Science, Shandong University of Technology, Zibo 255000, China

^cSchool of Civil Engineering, University of Science and Technology Liaoning, Liaoning Anshan, 114051, China

* Corresponding Authors: Lingmei Yang, E-mail: yanglm@ms.giec.ac.cn;

Weihong Zhou, E-mail: zwh0190@sina.com

G. X. Yang and J. T Yang contributed equally to this work.

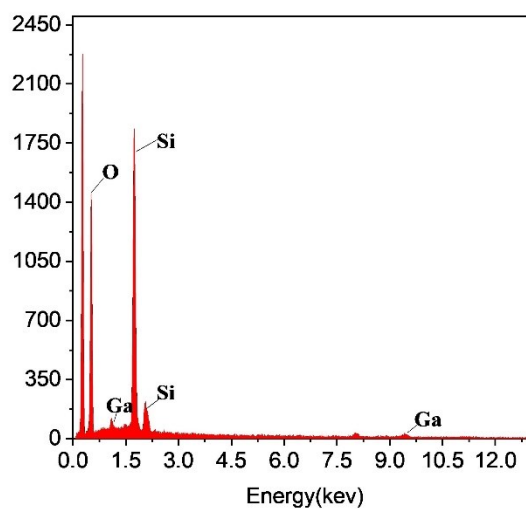


Fig S1 The EDS of 2%Ga-ZSM-5/SBA-15

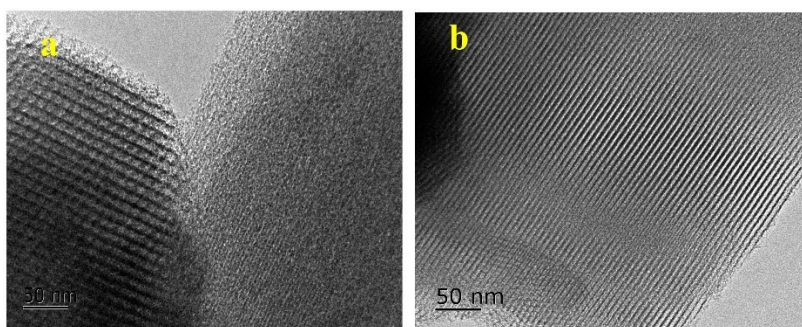


Fig S2 HR-TEM of 2%Ga-ZSM-5/SBA-15 after 2 cycles

Table S1. Characterization of 2%Ga-ZSM-5/SBA-15 after 2 cycles test by Py-IR

Test cycles	B	L	B+L	L/B 比值
2	12.1	17.5	29.5	1.4

Note: B—Brønsted acid sites/($\mu\text{mol} \cdot \text{g}^{-1}$), L—Lewis acid sites/($\mu\text{mol} \cdot \text{g}^{-1}$)

Table S2. Component analysis of pyrolysis products

Sample	Composition	Coke (%)	Water (%)	Bio-oil (%)	Gas (%)
ZSM-5/SBA-15		34.84	6.31	26.11	32.74
2%Ga-ZSM-5/SBA-15		34.83	6.23	26.15	32.79

4%Ga-ZSM-5/SBA-15	34.77	6.27	26.12	32.84
6%Ga-ZSM-5/SBA-15	34.8	6.26	26.09	32.85

Note: the content of gas was calculated according to mass balance