## **Supporting Information**

## Oligomerization of Biomass-Derived Light Olefins to Liquid Fuel: Effect of Alkali Treatment on the HZSM-5 Catalyst

Xiaoxing Wang\*<sup>1</sup>, Xiaoyan Hu<sup>1</sup>, Chunshan Song\*<sup>1,2</sup>, Kenneth Lux<sup>3</sup>, Mehdi Namazian<sup>3</sup>,

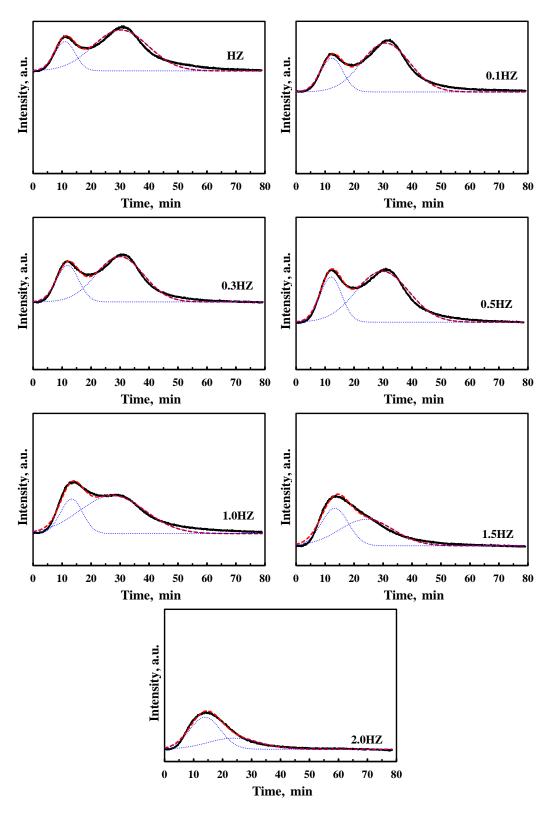
Tahmina Imam<sup>3</sup>

<sup>1</sup> Clean Fuels and Catalysis Program, PSU-DUT Joint Center for Energy Research, EMS Energy Institute and Department of Energy & Mineral Engineering, the Pennsylvania State University, 209 Academic Projects Building, University Park, PA 16802, USA.

<sup>2</sup> Department of Chemical Engineering, the Pennsylvania State University, University Park, PA 16802, USA.

\*E-mail: csong@psu.edu (CS), Tel: 814-863-4466, Fax: 814-865-3573; xxwang@psu.edu (XW)

<sup>&</sup>lt;sup>3</sup> Altex Technologies Corporation, 244 Sobrante Way, Sunnyvale, CA 94086, USA



**Figure S1**. The peak deconvolution of NH<sub>3</sub>-TPD profiles over HZ, 0.1HZ, 0.3HZ, 0.5HZ, 1.0HZ, 1.5HZ, and 2.0HZ catalysts.

**Table S1**. The chemical composition of HZ and 0.1HZ before and after 1M HCl treatment analyzed by ICP-AES.

| Sample              | $Al_2O_3$ (wt%) | SiO <sub>2</sub> (wt%) | SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> molar ratio |
|---------------------|-----------------|------------------------|--|
| HZ                  | 2.17            | 88.9                   | 55.8   |
| 0.1HZ               | 2.77            | 90.5                   | 55.5   |
| HZ – HCl treated    | 2.66            | 88.5                   | 56.6   |
| 0.1HZ – HCl treated | 2.55            | 86.1                   | 57.4   |