

## Supplementary materials

Article

# Magnesium Impregnated on NaX Zeolite Synthesized from Cogon Grass Silica for Fast Production of Fructose via Microwave-Assisted Catalytic Glucose Isomerization

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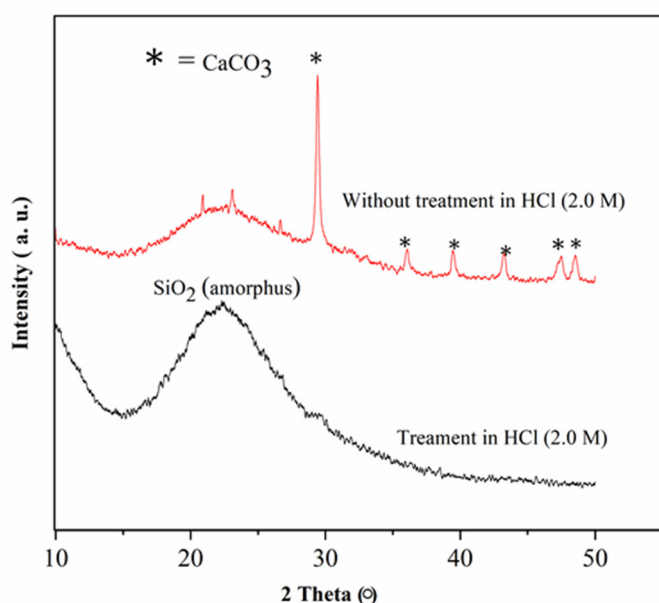
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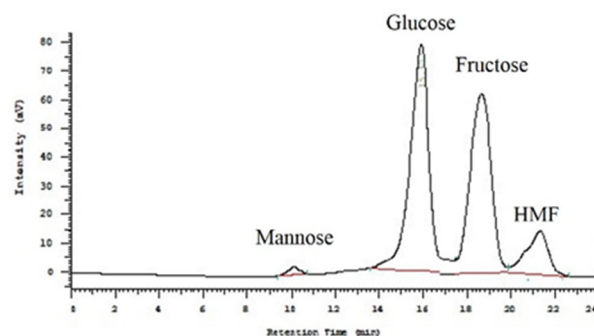
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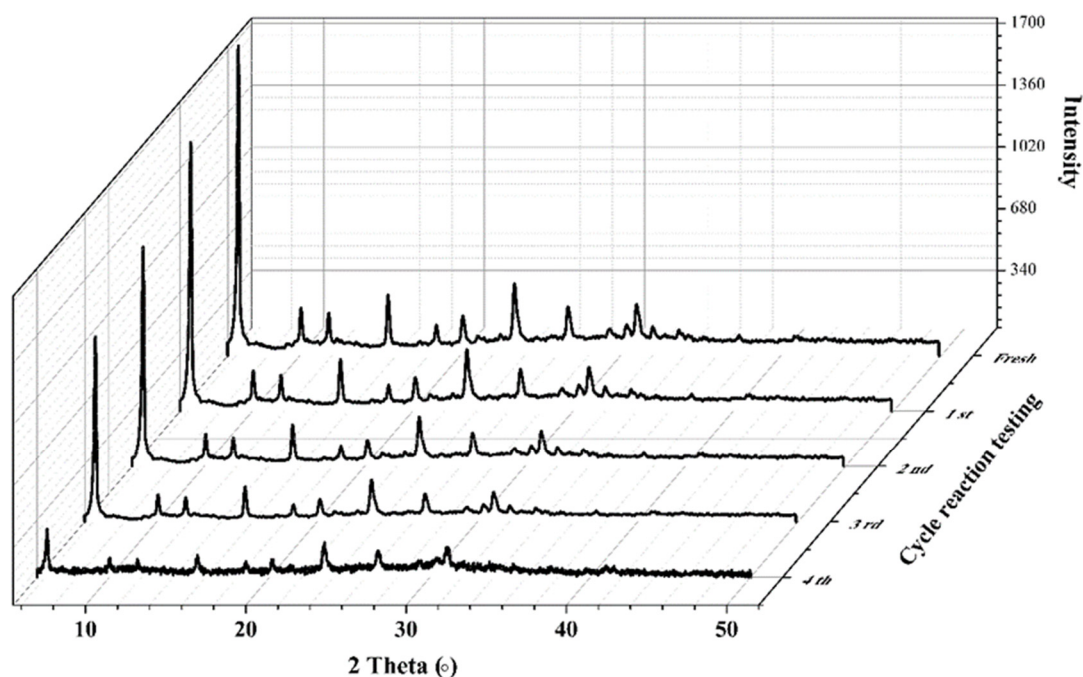
**Figure S1.** XRD patterns of calcined cogon grass with and without treated in HCl (2.0 M).

**Table S1.** Solid yield after calcination based on the weight of dried cogon grass and chemical composition determined by AAS.

Sample	Yield (% wt)	Composition (% wt.)				
		Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	K <sub>2</sub> CO <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaCO <sub>3</sub>
Without treatment in HCl (2.0 M)	9.62	0.52	69.56	10.05	0.08	19.79
Treatment in HCl (2.0 M)	9.25	0.06	99.25	0.05	0.01	0.63

**Figure S2.** HPLC chromatogram of the products obtained from 9Mg/NaX catalyst.**Table S2.** Relative crystallinity and Mg leaching content of consecutive cycle run.

Catalytic Testing (cycle)	Relative Crystallinity (%)	Mg Leaching (ppm)
6Mg/NaX (fresh)	100	-
6Mg/NaX (1 <sup>st</sup> )	91	343
6Mg/NaX (2 <sup>nd</sup> )	83	248
6Mg/NaX (3 <sup>rd</sup> )	72	143
6Mg/NaX (4 <sup>th</sup> )	22	121

**Figure S3.** XRD patterns of spent 6Mg/NaX catalyst with each consecutive run.