



## **Acetalization of glycerol with acetone over sulfonic beta catalyst**

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The acetalization of glycerol with acetone to produce 2,2-dimethyl-1,3-dioxolane-4-methanol, also known as solketal, was studied using sulfonic functionalized beta zeolite as catalyst. The sulfonic functionalized beta was successfully synthesized by grafting method. The synthesized catalyst was characterized by X-ray diffraction, scanning electron microscope, N<sub>2</sub> adsorption-desorption and acid-base titration. From the characterization, XRD pattern exhibited the characteristic peaks of BEA framework type. Additional, the N<sub>2</sub> adsorption-desorption isotherm indicated microporous behavior and BET surface area was 351 m<sup>2</sup>/g. The acid amount was 1.07 mmol/g. The catalytic experiments were carried out at room temperature. It was revealed that the sulfonic functionalized beta gave higher solketal yield than commercial beta with excellent selectivity of > 99% towards solketal and reach to 89.95 % of solketal yield.

**Keywords** Solketal; Sulfonic functionalized beta; Acetalization; glycerol