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Catalytic Cracking of Hydrocarbon over Zeolite Based Catalysts

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Abstract : In this research, we highlight our exploratory work on modified zeolite based catalysts for catalytic cracking of hydrocarbons for production of light olefin i.e. ethylene and propylene. The work is focused on understanding the catalyst structure and activity correlation. Catalysts are characterized by surface area and pore size distribution analysis, inductively coupled plasma optical emission spectrometry (ICP-OES), Temperature Programmed Desorption (TPD) of ammonia, pyridine Fourier transform infrared spectroscopy (FTIR), X-ray diffraction (XRD), Thermo-gravimetric Analysis (TGA) and correlated with the catalytic activity. It is observed that the yield of lighter olefins increases with increase of Bronsted acid strength.

Keywords : catalytic cracking, zeolite, propylene, structure-activity correlation
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