

Synthesis And Characterization Of Carbon-Based Catalyst Derived From Seaweed

ABSTRACT

This study reports the synthesis and characterization of carbon-based catalyst derived from local seaweed species, *Sargassum Polycystum*. The synthesis involved pyrolysis at 400°C for 4h followed by sulfonation. The characterization study showed that the material had a total acidity of 2.01 mmol/g, and thermally stability up to 240°C. FT-IR analysis detected the presence of -COOH, -OH and -SO₃H functional groups. From the EDS analysis, the concentration of SO₃H was calculated as 0.28 mmol/g. Metal were also detected in the sample with the order of concentration as Pb>Mg>Fe>Cd>Cu with a range of 0.055-0.110 ppm. The SEM analysis showed the sample as porous material. In conclusion, the functionalized carbon material had a great potential as a catalyst for many reactions such as biodiesel production.