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ABSTRACT:

The aim of this work was to study the pyrolysis of de-oiled seed cake of Jatropha Curcas and catalytic steam reforming of pyrolytic bio-oil to hydrogen. As per literature, presence of heavy nitrogenous and oxygenated compounds leads to catalyst deactivation. Here, an attempt has been made to tune pyrolytic reactions to optimize the N and O content of the pyrolytic bio-oil. Bio-oil conversion and hydrogen yield decreased as reaction progressed, which attributes to temporary loss of catalytic activity by blockage of catalyst pores by carbon deposition. Further, retention of steam reforming activity after repetitive steam activation suggests long-term catalyst usage.

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Keywords: steam reforming, hydrogen yield, steam activation

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