

# Selective Deoxygenation of Sludge Palm Oil into Diesel Range Fuel over Mn-Mo Supported on Activated Carbon Catalyst

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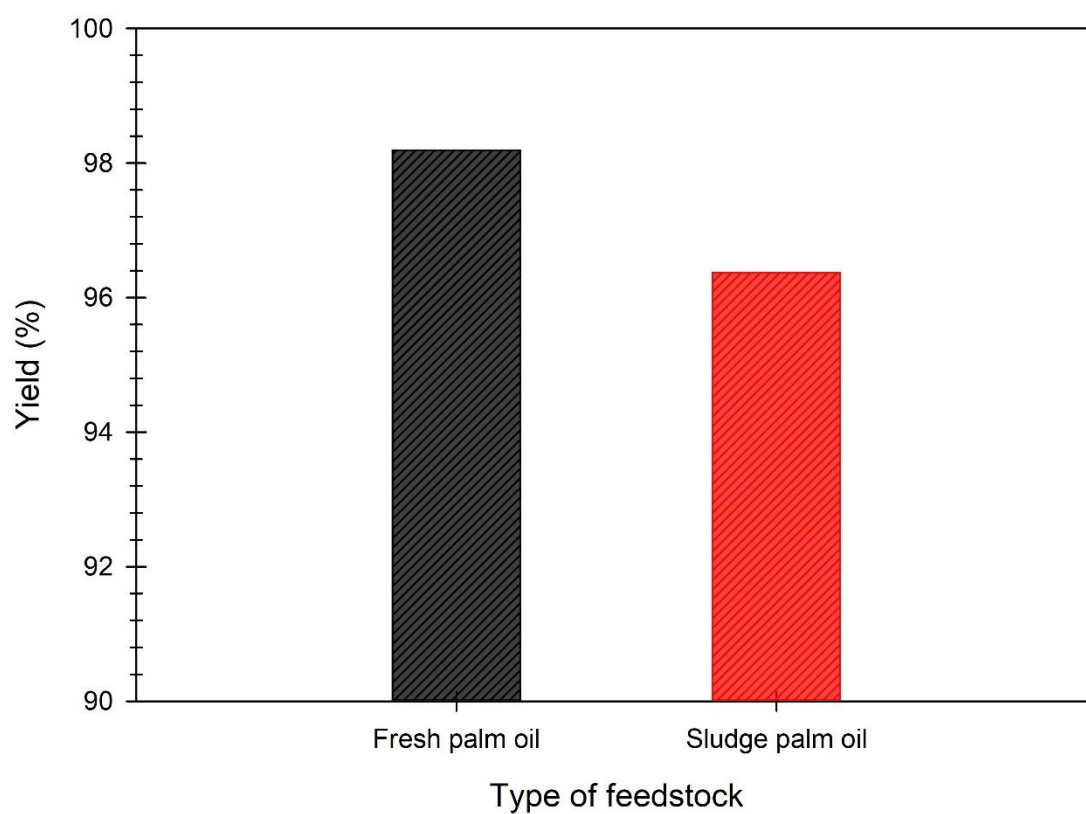
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## List off Supplementary data

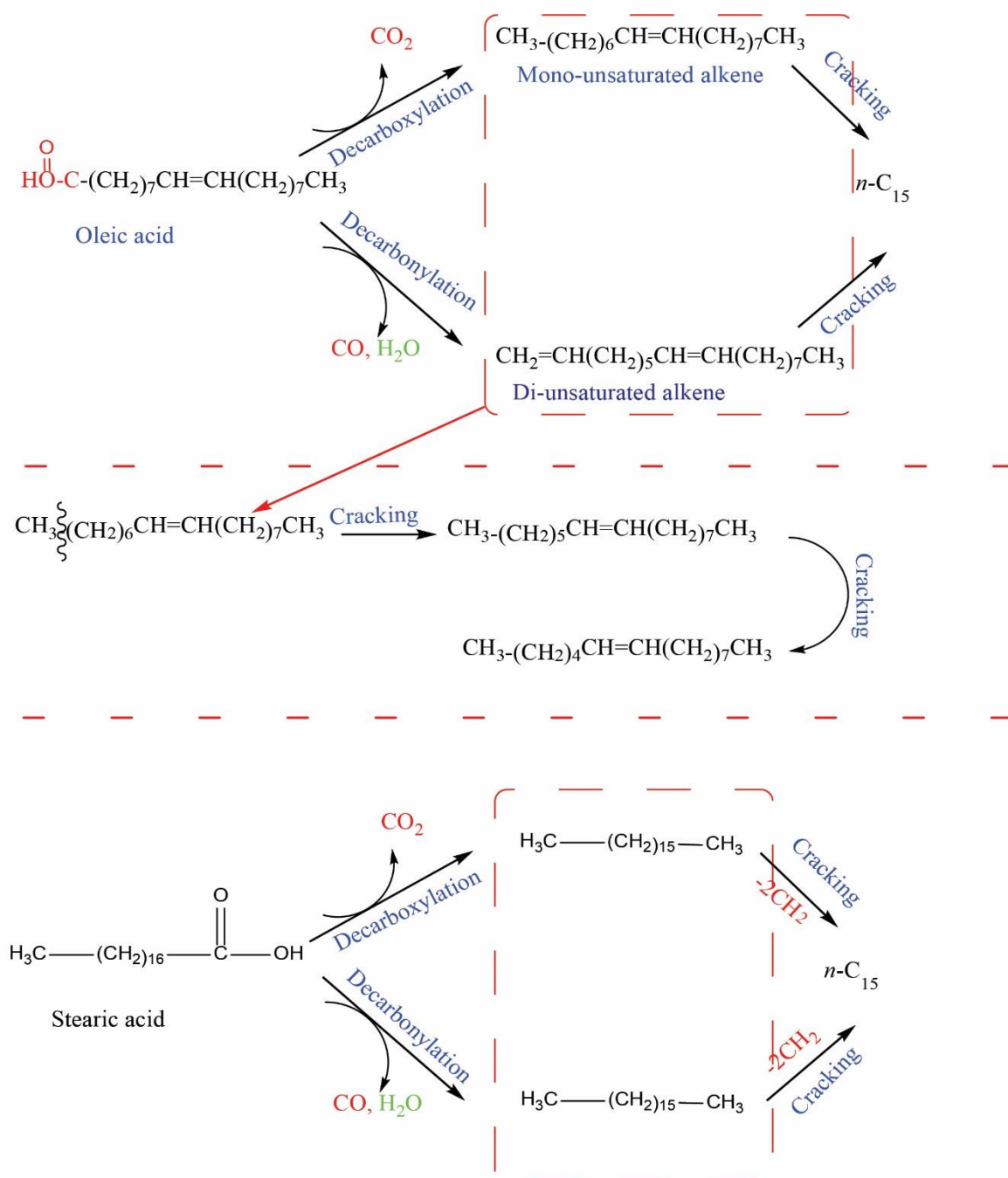
- 1- The biproduct gas analysis using Thermal Conductivity Detector-gas chromatography (GC-TCD) at the optimum condition using Mn (0.5%)- Mo (0.5%)/AC
- 2- Catalyst evaluation using different feedstocks (Sludge palm oil and fresh palm oil).
- 3- Deoxygenation reaction mechanism of unsaturated and saturated free fatty acids.

**Table S1.** The biproduct gas analysis using Thermal Conductivity Detector-gas chromatography (GC-TCD) at the optimum condition using Mn<sub>(0.5%)</sub>- Mo<sub>(0.5%)</sub>/AC.

Name	Ret Time(min)	Area (%)	
		Run #1	Run #5
CO <sub>2</sub>	2.947	31.98	29.93
H <sub>2</sub>	6.341	0.00	0.00
CH <sub>4</sub>	10.689	1.82	1.71
CO	14.873	66.2	68.36



**Figure S1.** Catalyst evaluation using different feedstocks: (Sludge palm oil and fresh palm oil).



**Figure S2.** Deoxygenation reaction mechanism of unsaturated and saturated free fatty acids.