

Research Title	The Synthesis of hydrocarbon from Palm Oil using Hydrodeoxygenation process for Diesel Application
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This research aims to study the condition of the synthesis of hydrocarbon from palm oil using hydrodeoxygenation process for diesel application using the palladium catalyst supported on activated carbon. In the synthesis of activated carbon, it was found that at 400°C for 1 h and then activated by 1M sodium chloride solution at the ratio of char:NaCl 1:3 for 24 h and carbonized at 700°C yields the highest iodine number at 503.45 mg/g. The palladium catalyst was prepared by incipient wetness impregnation has the surface area at 620 m<sup>2</sup>/g, the average pore size about 5.3 μm and the average pore volume about 0.26 cm<sup>3</sup>/g. The catalyst shows the graphite crystalline structure and has the reduction temperature in the range of 280-520°C. From the hydrodeoxygenation reaction, it was found that, the optimum conditions for synthesis of hydrogenated biodiesel from palm oil are at 300 °C for 3 h and using 3 grams of catalyst. At this condition will obtain the highest Light fraction of hydrocarbon (C<sub>8</sub>-C<sub>12</sub>) at 89%, the pour point was decrease, and the flash point was increase and has the optimum heating value for using as diesel fuel.