



Biodiesel Synthesis from Vegetable Oil Deodorizer Distillate Over Mesoporous Superacid Oxo-Phosphated Sulfated Zirconia Catalyst

Hong Khanh Dieu Nguyen^{1*} and Phong Van Pham²

1. Hanoi University of Science and Technology, **VIETNAM**

2. Vietnam National Oil and Gas Group, **VIETNAM**

Email: dieuhongprof@gmail.com

Accepted on 2nd March 2017, Published online on 27th March 2017

ABSTRACT

Mesoporous oxo-phosphated sulfated zirconia (m-PSZ) were applied for converting vegetable oil deodorizer distillate to biodiesel in one-step reaction. The catalyst possessed mesopores, high surface area and strong acid sites while the feedstock contained mainly free fatty acids. Many investigations were established for finding the most suitable conditions of the biodiesel synthesis process. Some techniques including XRD, TEM, BET and GC-MS were used for characterizing the catalysts properties and chemical composition of the biodiesel product.

Keywords: Mesoporous, zirconia, oxo-phosphate, deodorizer distillate.
