

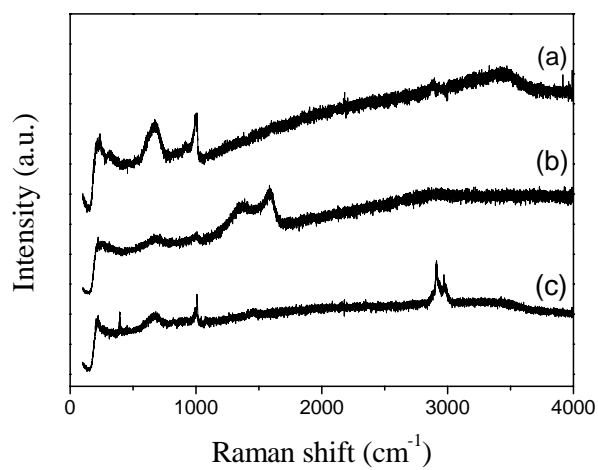
## Electronic Supplementary Information

**Communication Ref.: B815279A**

**Title: Simultaneous esterification and transesterification of soybean oil with methanol catalyzed by mesoporous Ta<sub>2</sub>O<sub>5</sub>/SiO<sub>2</sub>-[H<sub>3</sub>PW<sub>12</sub>O<sub>40</sub>/R] (R = Me or Ph) hybrid catalysts**

**Fig. S1** Raman scattering spectra of alkyl-free and alkylated  $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{Ta}_2\text{O}_5$  catalysts.

(a)  $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{Ta}_2\text{O}_5$ ; (b)  $\text{Ta}_2\text{O}_5/\text{SiO}_2\text{--}[\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{Ph}]$ ; and (c)  $\text{Ta}_2\text{O}_5/\text{SiO}_2\text{--}[\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{Me}]$ .



**Fig. S2** Nitrogen adsorption-desorption isotherms and pore size distribution profiles (inset) of the grafted  $[\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{R}]-\text{Ta}_2\text{O}_5/\text{SiO}_2$  hybrid catalysts.

