**Supporting Information** (for publication)

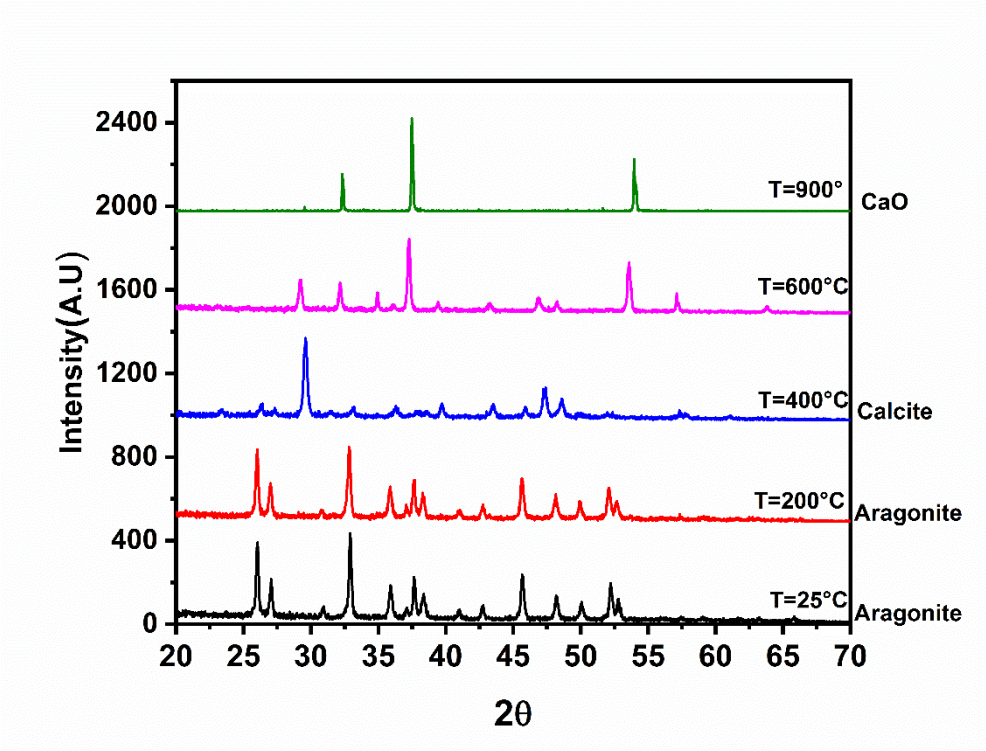


**Figure S1**. XRD patterns of the natural GRS as received and after calcination at different temperatures.

At ambient temperature, the starting material is in the form of aragonite phase, a variety of $CaCO_3$, (JCPDS N°00-005-0453). This variety is stable up to 200 °C and then turns into calcite, another type of $CaCO_3$ mineral form (JCPDS N°01-086-2339). At 600 °C, calcite starts decomposes into CaO. The spectrum registered after calcination at 900 °C contains only CaO signals (JCPDS N°00-02-0968).

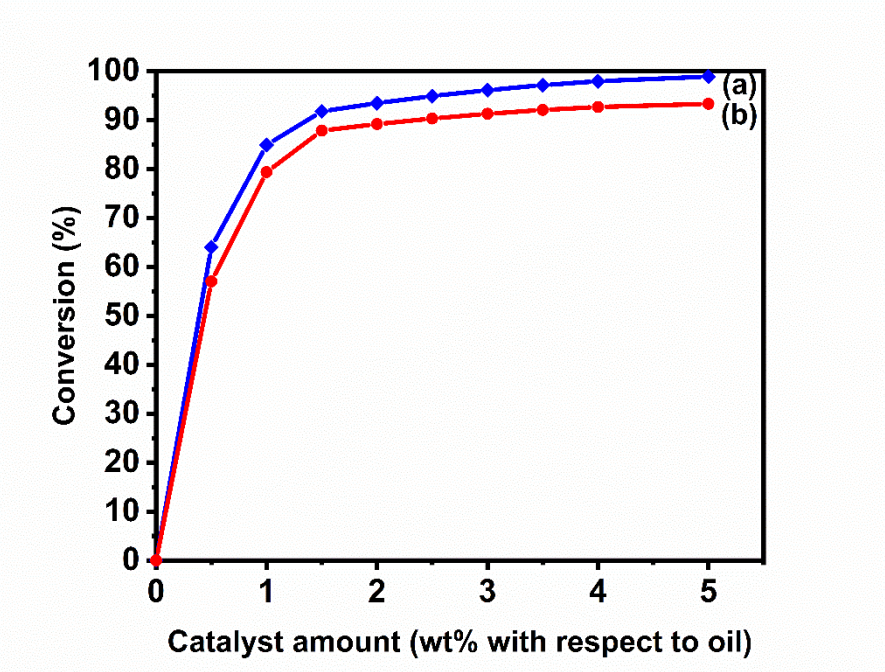


**Figure S2.** Effect of catalyst amount (wt% with respect to oil mass) at fixed molar ratio methanol/oil of 15:1, reaction temperature 65 °C, reaction time 3h for (a) refined oil and (b) waste oil.