The effect of calcination temperature on the performance of $Co_{0.5}Mo_{0.5}$ catalysts for decarboxylation reaction

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Decarboxylation of oleic acid without hydrogen has been carried out over unsupported $Co_{0.5}Mo_{0.5}$ catalysts. $Co_{0.5}Mo_{0.5}$ catalysts were prepared at various calcination temperatures for decarboxylation reaction. $Co_{0.5}Mo_{0.5}$ catalyst calcined at 700 °C exhibited the highest oleic acid conversion ($X_{O.A.}$ = 91.2%) as well as the highest selectivity to C_{17} compounds (S_{C17} = 20.6%). The catalyst properties were studied using various characterization techniques and related to the activity results in decarboxylation.