Analysis of byproducts of biodiesel synthesis in supercritical methanol

Various byproducts generated during biodiesel synthesis in supercritical methanol were analyzed qualitatively and quantitatively. A series of experiments were carried out at various temperatures and reaction times using a batch reactor system. The products were characterized by gas chromatography and mass analysis. The majority of byproducts are considered to be generated by the scission of methyl esters. The formation of byproducts is affected by reaction time and temperature considerably.