Hydroprocessing of pure soybean oil and waste cooking oil for production of second generation biodiesel

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Hydroprocessing of vegetable oils is a prominent technology for the production of next generation biodiesel. In this work, we compares the conversion and n-alkanas content of hydroprocesed pure soybean oil and hydroprocesed waste cooking oil under ideltical conditions in the batch reactor. The effects of reaction time, initial hydrogen pressure and reactor temperature are investigated using various heterogeneous catalyst. The experiment results show that higher n-alkane content is obtained at 400℃, 2h, 92 bar for the pure soybean oil and 400℃, 6h 44min, 120 bar for the waste cooking oil.