
Further Research

The results obtained at the end of this work were encouraging enough to suggest a following research work. Due to the low temperatures at which dehydrogenation reaction took place in the presence of active carbon as a catalyst, liquid phase experiments present as an attractive alternative. Some preliminary results of experiments carried out in liquid phase with ethanol at 75 °C suggested that active carbon is catalytically active to give place to isomers of di-unsaturated FAEE, tri-unsaturated FAEE and some compounds whose $m/z = 352$, which it is curiously the resulting of 306 (molecular weight of tri-unsaturated) and 46 (molecular weight of ethanol).

The use of a hydrogen capturer, such as benzene, for reaction at high temperatures gave positive results concerning the deactivation of the catalysts and dehydrogenation activity. However, benzene appeared to have a parallel role regarding presumably the mass transfer aspect. Thus, benzene had a dual behaviour: on one hand, it favoured mass transfer and on the other hand, it avoided hydrogenation and catalyst deactivation. Nevertheless, these two chemical favourable features cannot justify their use in further research concerning human applications because of its extremely high toxicity. Then, the search of a new and innocuous compound with this dual behaviour at lower temperatures is another interesting point which deserves further study.