

From Glycerine via Acetales to new Amphiphiles

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2010 will be expected the production of bio fuels in many million tonnes from renewable materials. Bio Diesel fuels generate glycerine by methanolysis of vegetable oils. Glycerine as the by-product will be expected in million tons in each year [1] and the traditional fields of use of glycerine can not pick up these big quantity. Some different new possibilities were discussed in the literature [2-4].

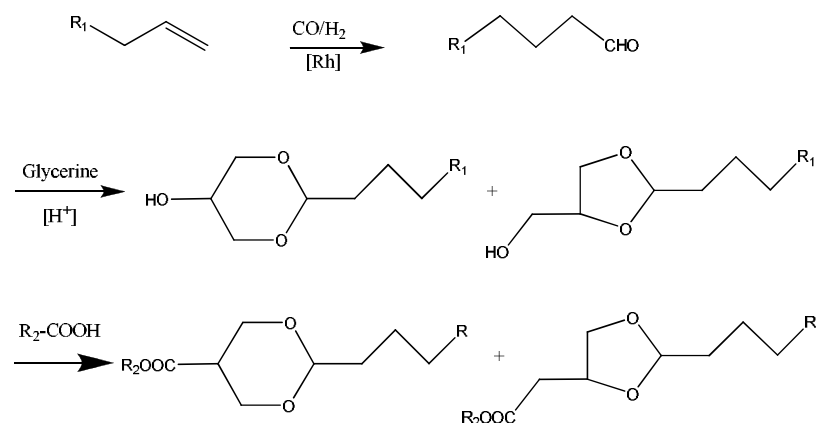
Aim :

New commercial products from glycerine will be produced for the application as detergent or amphiphilic compound for the cosmetic industry.

Result:

The hydroformylation of low price olefin or mixture of olefins are well known with Rh-catalysts to result aldehydes. The aldehydes can react with glycerine by formation of acetals that is new. [5] (Equ. 1). Now we will demonstrate that these acetals contain hydroxyl groups with which can synthesize for example with acids new amphiphilic compounds.

Equ. 1:



References:

- [1] M. Plagiario et al. *Angew. Chem.*, **2007**, 119, 45
- [2] A. Behr et al. *Chem. Ing. Techn.*, **2007**, 79, 621 – 636
- [3] R. Westendorf et al., *Eur. Pat. Appl.*, **1996**, 1996:501411)
- [4] EP 11560242, 23.2.2006, CAO Corp.
- [5] M. Beller, U. Kragl, E. Paetzold, L. Neubert, P. Kollmorgen, **2008**, DE 10 2008 009 103.0