Stellingen

Behorende bij het proefschrift:

Caprolactam from Renewable Resources: Catalytic Conversion of 5-Hydroxymethylfurfural into Caprolactone

Teddy

1. The use of extremely high pressures (380 bar) for the reaction of 5-hydroxymethylfurfural (HMF) to 1,6-hexanediol is not necessary.

   T. Utne, J. D. Garber, R. E. Jones, US Patent 3083236, ***1963****.*

2. Yield data without information on reactant conversion or product selectivity makes it difficult to judge the potential of a catalytic transformation.

   T. Utne, J. D. Garber, R. E. Jones, US Patent 3083236, ***1963****.*

3. The catalytic hydrogenation of HMF to tetrahydrofuran-dimethanol (THF-dimethanol) using Raney nickel as described by Sutherland *et al.* is better described as a stoichiometric rather than a catalytic reaction.

   T. J. Connolly, J. L. Considine, Z. Ding, B. Forsatz, M. N. Jennings, M. F. MacEwan, K. M. McCoy, D. W. Place, A. Sharma, K. Sutherland, Org. Process Res. Dev. ***2010****, 14, 459.*

4. The reported 90% yield of THF-dimethanol using Raney nickel catalysts after 1 h reaction time is not in line with the proposed kinetic model.

   V. Schiavo, G. Descotes, J. Mentech, Bull. Soc. Chim. Fr. ***1991****, 128, 704.*

5. The addition of one drop of HCl, as described in the experimental procedure for a catalytic transfer hydrogenation, is not a very exact number and may lead to erroneous results.

   R. C. Mebane, A. J. Mansfield, Synth. Commun. ***2005****, 35, 3083.*

6. The oxidation of 1,6-hexanediol using 80% nitric acid as reported by Nikolaeva *et al*. does not comply with the green chemistry and technology principles as large amounts of nitrogen dioxide are produced.

   N. V. Svetlakov, V. G. Nikitin, E. A. Nikolaeva, Russ. J. Org. Chem. ***2007****, 43, 773.*

7. *Dimana ada kemauan, di situ ada jalan (*Where there is a will, there is a way).

   Indonesian proverb.