

Hydrogenation in Novel Solvents

Master thesis at the
Institute of Technical Biocatalysis



Introduction

Hydrogenation processes are commonly employed in industry and are of importance to produce not only high valuable but also bulk chemicals. Hydrogenation reactions are typically performed at very high pressure, which is necessary to improve the low solubility of hydrogen in organic and aqueous solutions. New strategies are investigated to overcome this limitation, among them the use of novel and not yet conventional solvents.

Aim

The application of novel reaction media for the hydrogenation of a model substrate will be the subject of this master thesis (Figure 1). Your aim is to determine if these novel solvents can be used as an efficient hydrogen mediator. Consequently, a strong focus will be on testing different solvents and reaction conditions (pressure, water content, ...).

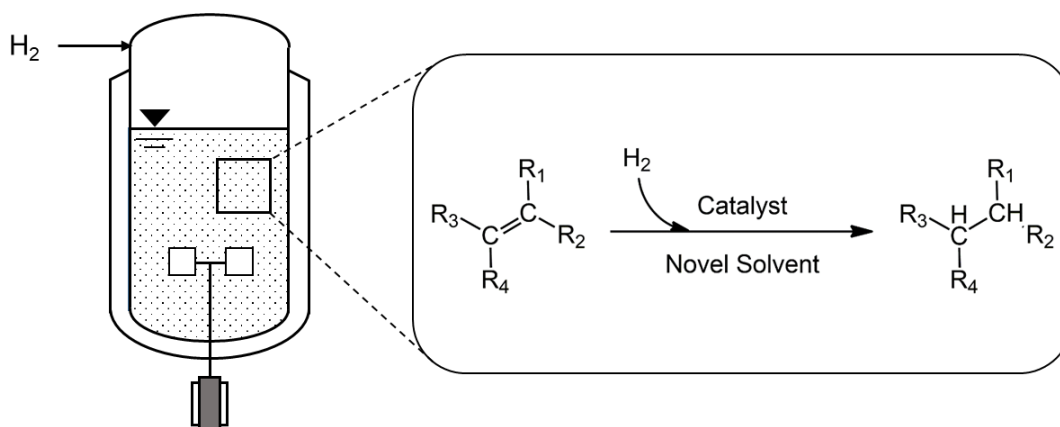


Figure 1: Hydrogenation of a model substrate in novel solvents.

Start: immediately

Your profile:

- You have a Bachelor's degree in process engineering, chemistry or related studies
- You work in a motivated, independent and structured way
- You have some experience working in the laboratory

You will gain experience in

- Analytical methods, such as HPLC and GC
- Determination of reaction kinetics and yields
- Handling the gaseous substrate H_2
- Hydrogenation in different solvents
- Catalysis in general

Contact

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