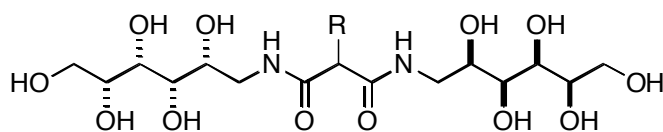


## SYNTHESIS AND SURFACE CHEMICAL CHARACTERIZATION OF NOVEL SURFACTANTS

Surfactants are important molecules. Every day we come in contact with several different types of surfactants and it is therefore important to understand their mode of action and to develop new and more efficient ones. Normal surfactants consist of a hydrophilic part and a hydrophobic part that are connected by a spacer.

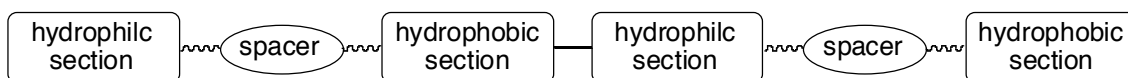


We have developed a general synthesis of surfactants with the generic structure **1**. All possible stereoisomers of **1** can be readily prepared and we are currently investigating the influence of the relative stereochemistry of the surfactants on their physical properties.



1R=alkyl (hydrophobic part)

An interesting continuation of this project is to prepare the corresponding dimer, its generic structure **2** is shown below, and investigate its surface chemical properties. This particular type of dimer has not been previously prepared why its qualities as a surfactant are difficult to predict (this also makes the project exciting!).



2

The project is a collaboration between the divisions of Organic Chemistry and Surface Chemistry at KTH and the diploma work will consist of:

- Synthesis of dimeric surfactant **2** at the division of Organic Chemistry.
- Investigating its surface chemical properties at the division of Surface Chemistry.

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