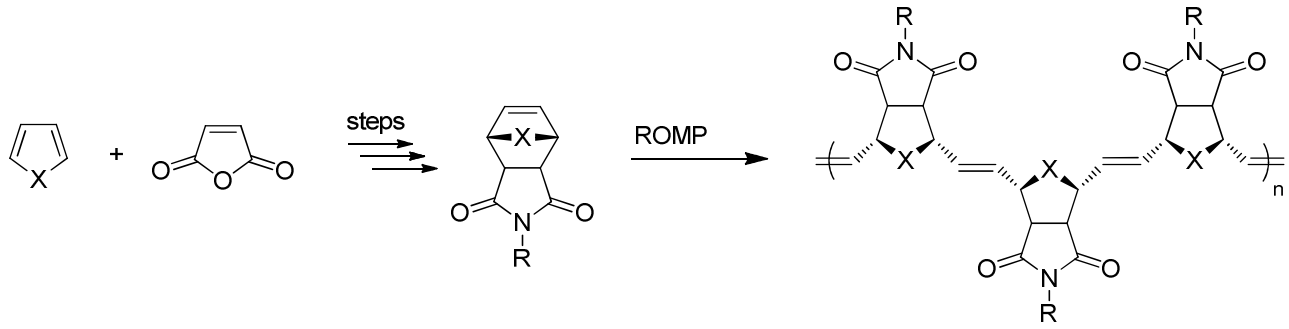
Development of functional polymers using well controlled polymerization techniques

There is a growing interest in development of antimicrobial coatings and polymers in the human healthcare. These kinds of polymers could find application in food packaging and coatings for materials used in medical field. In this project we would like to synthesize antimicrobial polymers using controlled polymerization technique. In the past two decades the ring opening metathesis polymerization (ROMP) technique has become a powerful tool to build polymers bearing various functionalities. ROMP is usually carried out under mild and controlled reaction conditions which enable synthesis of polymers with various functional groups such as alkene, amino, hydroxyl and carboxylic groups etc. With this method of polymerization we can also synthesize polymers with well-defined chemical and physical characteristics.

The outline of the synthetic procedure of such kinds of antimicrobial polymers is shown in the scheme below. The desired polymers would be analyzed with regards to their chemical, physical and antimicrobial properties.



Interested students (Internship or Master Thesis) should contact Dr. Neisius for further details regarding the project.

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