

The aim of the project is to determine how changes in the structure of a catalyst influence its activity in selected chemical reactions and its stability towards air, water, ethylene or other factors.

The first important research task is to prepare a series of complexes with given structure, selected based on literature reports. Subsequently, these compounds will be used in chemical reactions of simple substrates, including compounds derived from natural sources, to produce useful building blocks that can be modified further to give more advanced products. For example, methyl oleate, component of many vegetable oils (including rapeseed oil), as a result of subsequent reactions (first of which will be catalysed by our complex) can be transformed into polymers for the production of sports footwear or bicycle parts, as well as ingredients used in the F&F industry.

Our research will enable to determine how changes in the structure of a catalyst affect its properties, which may allow to design "an ideal" catalyst for transformation of frying oil into perfume or running shoes (but not in one step so far).



(pictures found in the public domain)