Abstract

This bachelor thesis deals with the synthesis of derivatives of α-, β- and γ-cyclodextrins which are potentially usable for the supramolecular dendrimers construction. These dendrimers could be used in medicinal chemistry as carriers of drugs or in other areas of chemistry as well.

Firstly, the tosylxy group of mono-6-O-tosylates of cyclodextrins was substituted with cyanoarylphenolates and then the intermediate permethylated at the remaining hydroxy groups. As reactants for monosubstitutions, 4-hydroxybenzonitrile and 4′-hydroxy-[1,1′-biphenyl]-4-carbonitrile were chosen. The reagent used for permethylations was iodomethane. In the last phase, attempts to trimerize the cyano groups of the permethylated derivatives under basic and acidic conditions were made, but the wanted product was not obtained.

Key words: cyclodextrin, monosubstitution, dendrimer, nitrile trimerization, supramolecular polymers