

Abstract

Biofilms are bacterial colonies attached to the surfaces through matrix of the biopolymer substances they produce. These biofilms can also form on medical implants, where they are responsible for difficult-to-treat chronic infections. One approach to prevent biofilm formation may be using of coordination compounds with nuclease activity. These compounds contain a hydrolytically active metal ion that is able to actively cleave extracellular DNA to prevent matrix and biofilm formation. The aim of this diploma thesis was to prepare a series of Cu(II) complexes of 1,4,7-triazacyclononane derivatives and to observe their potential nuclease activity. One of the complexes was a 1,4,7-triazacyclononane derivative with a thiazole anchor. Prepared complex can be incorporated through this anchor into polymers to a surface with potential ability to prevent biofilm formation.