



UNIVERSITÀ DEGLI STUDI DI NAPOLI "FEDERICO II"

Dipartimento di Scienze Chimiche

Dottorato in Scienze Chimiche - XXXIII Ciclo

***Research Doctorate (Ph.D.) in Chemical Sciences
33rd Cycle – Academic Year 2017/2018***

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Project Information

1 - Title

Development of site - selective procedures towards biomedically relevant semi - synthetic polysaccharides

2 - Key words

Polysaccharide, semi- synthesis, site- selectivity, biomedicine, anticoagulant activity

3 - Abstract

Polysaccharides are among the most abundant organic materials on Earth, nonetheless the development of tailored reactions aiming to site- selective modifications of their structures is still limited to few examples on not many polysaccharides. This project aims to help fill the gap between polysaccharide and mono- /oligosaccharide chemistry. Indeed, its goal is to search for new site- selective procedures giving a more and more accurate control in polysaccharide structural manipulation, by also exploiting some of the most recent achievements in synthetic organic chemistry, such as organocatalytic and solvent- free reactions as well as ionic liquids. The research work will focus on biologically relevant polysaccharides with a high natural availability such as alginate, chitin and chondroitin. The final goal is to produce semi- synthetic polysaccharide derivatives with an added value in terms of potential biomedical applications.