



UNIVERSITY OF NAPOLI "FEDERICO II"

POLYTECHNIC AND SCIENCE SCHOOL

Department of Chemical Sciences

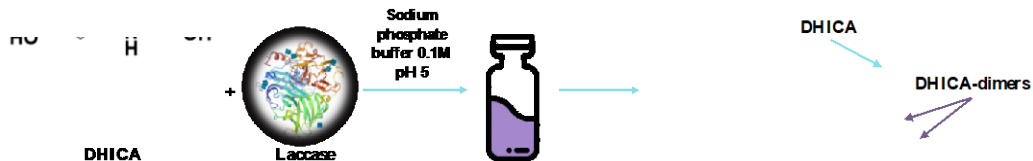
Ph.D. School in Chemical Sciences (XXXVII Cycle)



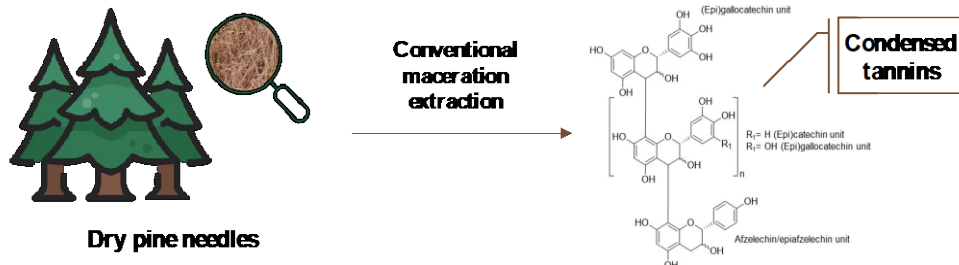
## Second year activity

The second year research activity has been directed to the examination of the oxidative chemistry of 5,6-dihydroxyindole-2-carboxylic acid (DHICA), a precursor of natural melanins, with laccase, in the perspective of getting access to new melanin-related materials. A second goal has been the characterization of phenolic polymers extracted from pine needles, a largely available and still not fully exploited waste material to be used as green corrosion inhibitors for aluminium alloys.

### Exploration of 5,6-dihydroxyindole-2-carboxylic acid (DHICA) oxidation chemistry with laccase



### Structural characterization of polyphenols extracted from pine needles to be used as green corrosion inhibitors for aluminum alloys



Ph.D. Student  
Sara Viggiano

**Title**  
"Natural and bio-inspired phenolic polymers for the design of innovative functional materials: tailoring properties by ad hoc synthesis and chemical manipulation."