

Department of Chemistry

Asymmetric Synthesis and Catalysis

Química Orgânica Estrutural

Research partnerships:

- Center for Biodiversity, Functional and Integrative Genomics, Faculdade de Ciências, UL
- Syngenta, UK



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Objectives

The research aims to develop novel methods for the synthesis of useful chiral intermediates and chiral biologically active molecules, i.e. antibiotics, antimalarials, anti-cancer agents.

An emphasis is placed on:

- developing eco-friendly methods of synthesis
- the use of renewable natural products as catalyst sources
- developing sustainable green chemistry

Methodology

The main research interests are:

- enantioselective catalysis by metals-complexed to chiral ligands
- organocatalysis
- applications of nanotechnology to catalyst development

Experimental techniques involved include: organic synthesis, chromatography including HPLC, nuclear magnetic resonance spectroscopy, infrared spectroscopy, mass spectrometry

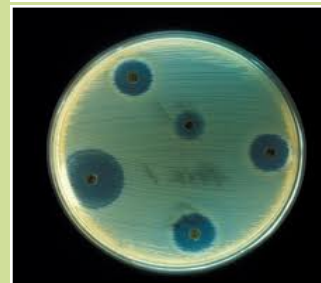
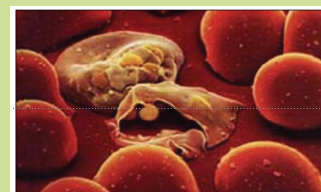
Expected Results

Present lines of research should lead to:

Novel methods of enantioselective synthesis based on catalysis which may be applicable to target-oriented synthesis.

The production of:

- new antimicrobials
- new antimalarials
- new drugs for the treatment of hepatitis C



EXAMPLES

