

SYNTHESIS OF PHARMACEUTICALLY RELEVANT COMPOUNDS

This project aims at developing different contents pertaining to the synthesis of new pharmaceutically relevant compounds, possibly also in a stereoselective fashion. Pharmaceutically relevant compounds could find application in the studies of several physiological and pathological processes in diverse fields, such as neurosciences and tumor diseases. Thus, their synthesis might represent the starting point for achieving biologically active compounds and the rational design of new drugs.

GOALS

- Synthesis of homoserin lacton derivatives as potential inhibitors of bacterial quorum sensing.
- Synthesis of HLA-G inducers to be used in antibiotic and transplant rejection therapies.
- Synthesis of modulators of mitochondrial function (e.g. inhibitors of Tim14-Tim16 complex, activators and/or inhibitors of mitochondrial proteins such as subunit c) as potential antitumor agents or modulators of Ca²⁺ influx in the mitochondria.
- Enantioselective synthesis of imidazoline heterocycles and dichloroacetic acid derivatives as potential antitumor agents.
- Synthesis of spiranic derivatives with potential cardioprotective activity.

INSTRUMENTS AND METHODS

Common equipment of a synthetic organic laboratory. Mass (MS) spectrometry and infrared (FT-IR) spectroscopy. Nuclear magnetic resonance (NMR). Chromatographic instruments.

MAIN SUBJECTS

Organic chemistry, medicinal chemistry, pharmacology, biochemistry

RESEARCH GROUP

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COLLABORATIONS

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