

Expanding chemical space for anti-infective drug discovery

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UNIVERSITÀ DEGLI STUDI DI CAGLIARI

Our synthetic expertise

Enabling access to structurally diverse, drug-like molecular scaffolds

Building molecular complexity through sustainable and catalytic synthesis of carbo- and heterocyclic compounds

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Stereochemical control

Synthesis of enantiomerically enriched compounds, including atropisomeric scaffolds and C-, S- or P-stereogenic compounds

Enabling technologies

Continuous-flow chemistry

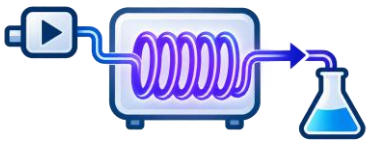
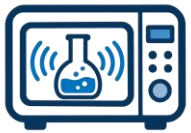


Photo-redox catalysis



Microwave assisted synthesis



Anti-infective-oriented research

Synthetic platforms and molecular diversity for antiviral discovery

Heterocyclic scaffolds design

Synthesis and functionalization of:

- Quinoxalines, Benzimidazoles, coumarins naphthoquinone-based molecular architectures.

- Postfunctionalization ad skeletal editing

Atropisomer studies

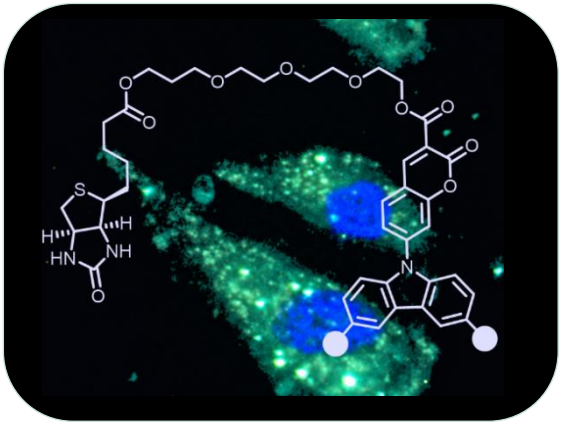
Atropisomer synthesis,

- **stereochemical analysis**
- **structural diversification**

AXIVIR

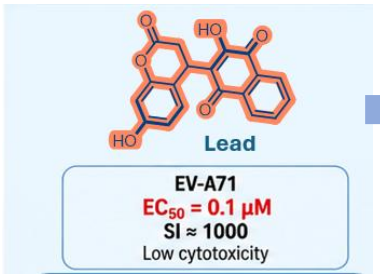
antiviral-oriented research program

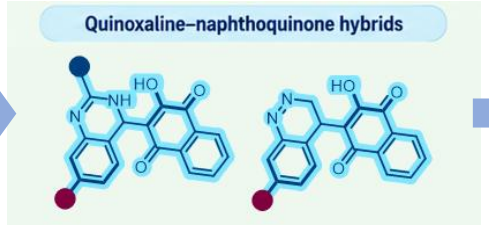
Cellular probes development

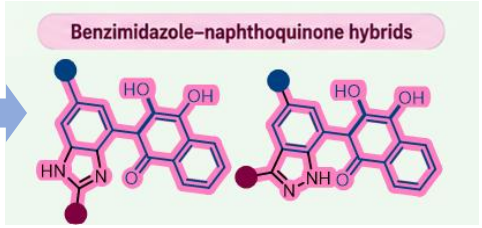


Introducing our promising antiviral research project

AXIVIR







From discovery to efficient synthesis

Synthetic capabilities across the early drug discovery workflow

01 Scaffold access

Development of new synthetic routes

02 Diversification

Preparation of analogues and libraries

03 Optimisation

Improvement of selectivity and efficiency

04 Process development

Batch-to-flow translation And scale-up

What we offer and what we seek to Horizon Europe consortia

Seeking complementary partners for DISEASE-05 and DISEASE-08

Our contributions

-Development of novel carbo- and heterocyclic scaffold synthesis

-Compound diversification and analogue preparation

-Stereo and enantioselective synthesis of bioactive compounds

-Synthesis and photophysical characterization of fluorescent probes for in vitro/in vivo investigations

-Reaction optimization, process intensification and scale up

Partners sought

Research consortia developing **novel antiviral and antimicrobial therapeutics**.

Medicinal chemistry and drug discovery groups interested in **novel molecular scaffolds and chemical diversification**.

Microbiology/virology research groups interested in exploring the biological activity of **specific classes of bioactive organic compounds**.

Pharmaceutical companies and biotech SMEs interested in the development of **novel anti-infective agents**

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