New Late-stage functionalization reagents

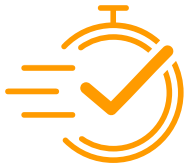
for carbyne chemistry to impact drug discovery

DISRUPTIVE TECHNOLOGY

Photochemical driven late stage funtionalization strategy to address structural diversification and isotopic labelling projects and revalorize reported active molecules.

PROBLEM SOLVING

Up to 2030 the global drug discovery market is expected to grow > 8%. But the process is very expensive and long, involving the synthesis and screening of thousand of molecules (10-15k). In **to reduce cost and speed of the discovery process,** process, new strategies that create molecule diversification at advanced stages have been developed. In particular, this technology allows the late stage funtionalization (LSF) of aromatic molecules via photoredox catalysis and the subsequent structural diversification.



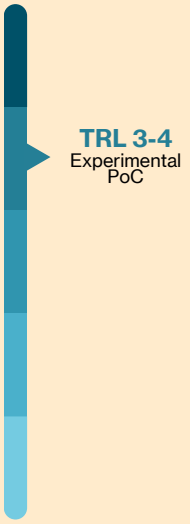
ADVANTAGES

- Discovery of new drugs through functionalization of existing drugs, isotopic labelling or the preparation of reagents toolbox.
- Two step procedure that allows the functionalization of synthetic building blocks or fully active commercially available molecules.
- Most cost-effective strategy to access selective compound libraries.
- Huge impact of drug discovery cost reduction through time and instruments requirements.
- Improved stability with no properties modifications.

TAM (Total Available Market)
101.66 BD

SAM (Serviceable Available Market)
27 BD

SOM (Serviceable Obtainable Market)
6 BD



IP STATUS

Protected WO2018146200A1
Currently in national phases: EP3580207B1; ES2852398T3; US10676427B2

BUSINESS MODEL

B2C or B2B

TARGET MARKET

Drug Discovery Pharma: CROs, chemistry, pharma or biotech companies opened to invest for further technology development and risk analysis

KEYWORDS

Health, pharma, late-stage functionalization, faster medicines, synthesis, drug optimization, R&D chemicals

AVAILABILITY

Partially compromised (collaborative project)

Needs

- Risk Assesment studies and validation.
- Substate scope studies.

Milestones

- New ERC Proof of Concept application.
- Validation with industry.
- Licensing or creation of spin off.

Requirements

- Automated HTE Facilities.
- Thermodinamic stability.

Roadmap

- Thermodinamic and stability studies of new reagent.
- Iodide derived reagent scale up optimization.
- Functional group tolerance studies.
- Technology transfer through licensing.
- CRO creation to chemical suppliers and CRO companies in small molecules.

ICIQ Knowledge and Technology Transfer