

Chemistry is not the same with or without GalChimia

About GalChimia

Family company specialized in Chemical Synthesis and Organic Chemistry founded in 2001 by four partners.

- > 52 people, 38 people in the lab (50% with a PhD)
- > Over 260 customers worldwide



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About GalChimia: Our three sites

GalChimia Headquarters

2001

34 people

5 Research Labs

1 Kilo Lab

1 Analytical lab



GalChimia Parc Científic Barcelona

2018

7 people (all chemists)

1 Research Lab

1 Kilo Lab

1 Analytical Lab

Access to PCB equipments

GalChimia Tres Cantos (insourcing)

2012

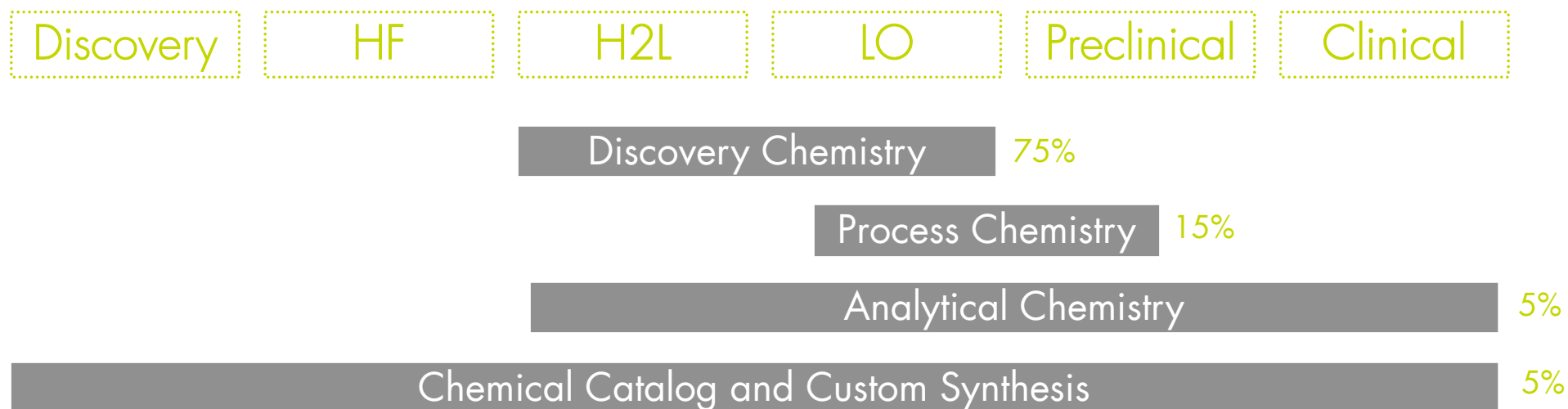
11 people (all chemists)

2 Research Labs

Access to customer's facilities and equipments

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Service: Discovery Chemistry



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Service: Discovery Chemistry

Our team becomes a flexible and reliable extension of your R&D department. We **design, explore, validate** and **optimize synthetic routes** to produce complex organic compounds.

All our teams of chemists include a Project Manager with a PhD, more than 10 years of experience, good communication skills, strong customer focus and result oriented.

We synthesize:

- > Focused libraries or individual compounds.
- > Scaffolds & building blocks.
- > Intermediates.
- > Analytical standards: metabolites and impurities.



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Service: Process Chemistry

We have expert staff dedicated to the **design** and **development** of **economical**, **reproducible**, and **scalable synthetic routes** that will ultimately provide products that comply with the market's strict purity requirements.

We provide support through:

- > IP evaluation.
- > Route design and selection.
- > Route scouting.
- > Individual step optimization (DOE).
- > Process development.
- > Analytical development.
- > Technology transfer.



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Discovery and Process Equipment

Automatic purification systems

- > HPLC (DIONEX): Semi preparative (max volume: 2.5 mL – flow: 100 mL/min)
- > Automated flash chromatography systems Büchi – Normal Phase
- > Automated flash chromatography systems ISCO Combiflash – Reverse Phase



Synthetic systems

- > Radleys Parallel chemistry stations (12 positions of 50 mL)
- > Radleys Parallel chemistry stations (250 mL)
- > CEM automated microwave reactor (up to 30 mL) with robotic arm
- > Uniqsis continuous flow Reactor (up to 20 mL)
- > Parr high pressure reactor (up to 1000 psi)
- > Glass reactors, jacketed, up to 10 L

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Service: Analytical Chemistry

A wide range of analytical techniques are available to provide full support to our production team and our external clients.

- > Analytical support for the other services: every product we make is sent with at least its $^1\text{H-NMR}$ and HPLC-MS spectra.
- > Full analytical characterization of products for standards, including inorganic and organic impurity content and volatile content.
- > Screening for analytical method development.
- > Identification of impurities.



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Analytical Instruments

Determination of purity

- > High Performance Liquid Chromatography (normal, reverse, and chiral):
 - > HPLC with PDA detector
 - > HPLC-MS with PDA and ESI/APCI mass detectors
- > Gas Chromatography coupled to FID and EI mass spectrometer.
- > Ultra High Pressure Liquid Chromatography, Acquity H-Class with PDA and mass detectors.



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Analytical Instruments

Identification of chemical structures*

- > Nuclear Magnetic Resonance Spectroscopy: ^1H , ^{13}C , ^{19}F , and ^{31}P :
 - > Spectrometer Varian Inova 750
 - > Spectrometer Bruker DRX-500
 - > Spectrometer Varian Mercury 300
- > Infrared Spectrometer VARIAN FT-IR 670

Determination of water content (K-F), acidity, richness, chloride content, volatiles and inorganic residues

- > Titration: 702 SM Titrino (Metrohm)
- > Thermogravimetric analysis: TGA 4000 (PerkinElmer)

*at the University of Santiago de Compostela

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Quality

Quality Control

- > The characterization of products is carried out by the **analytical team** which is **independent** of the synthesis teams.
- > All our products are shipped with the corresponding **CoA** (minimum of HPLC-MS and ¹H-NMR data) and **SDS** documents.
- > No product leaves GalChimia's facilities until our **Quality Manager** has reviewed its CoA and verified the consistency of the data.

Quality System

- > GalChimia follows strictly the **EFQM Excellence Model** and performs internal audits every year.
- > The certificate **ISO14001** was first obtained in 2017.



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Continual Service Improvement

Our SIO and CSO perform weekly literature reviews of the latest advances in chemical synthesis.

We have a designated work team with the most experienced chemists that meets every two months and selects topics of interest for internal R&D with a focus on service improvement: the exploration of new reactivities, how to make the most of our equipment, etc.

Internal Output

- > Weekly 30 min ChemClasses
- > Internal Newsletter every two months

External Output:

- > Post on our website
- > External Newsletter
- > White paper (starting 2020)
- > Scientific papers and posters

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GalChimia Worldwide



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Our Customers



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Why should you work with GalChimia?

01 Expertise

Access to an experienced and stable team with an excellent track record.

02 Commitment

Highly proactive, we try hard to make things possible through creative solution.

03 Communication

We want to establish a good working relationship where professionalism and transparency are key.

04 Confidentiality

We have implemented an efficient security system as well as a training for our team.

05 Innovation

We keep track of the advances in chemistry and provide internal training to keep the team updated.

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Business Models

Full Time Equivalent

This a contract based on a timeline, the objective may change depending on the customer's priority.

- > One or more chemists working full time.
- > Reagents and consumables are included.
- > Detailed final report

Fee For Service

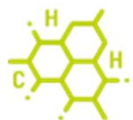
The contract is based on an objective: the preparation of a final product with the requested purity. The objective does not vary.

- > Success based.
- > Technical evaluation made by our CSO and CQO to determine the feasibility of the synthesis.
- > Reagents are priced in the quotation.

Included in both: Reporting is adapted to the customer request (usually weekly), unrestricted use of equipment, support provided by analytical department, lab technicians and administrative department.

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2019/2020



Scientific excellence
SIO and Chemistry
Newsletter



Informatics
Lab e-notebook



Quality system
Renew ISO 14001
Evaluation of a GMP-like
production



New facility in Barcelona
Our team doubled in 2019



New HQ facilities in Feb. 2020
Increased synthetic and analytical capacity
Additional 5-10 chemists by the end of 2020



