



**The chemistry
of the future,
today.**

www.spirochem.com



Who we are?



The research culture

- ETH-Zürich spin-off, 2011
- Prof Erick Carreira as co-founder



Location (since 2017)

2 Research sites - fully-equipped R&D facilities

- Basel, Switzerland
- Montreal, Canada
- 150 chemistry fumehoods



Team of 120+ experts

- Handpicked* experts with successful academic and industrial experience



Expertise

- High ratio of PhD/MSc covering all aspects of modern synthetic chemistry
- Hands on management

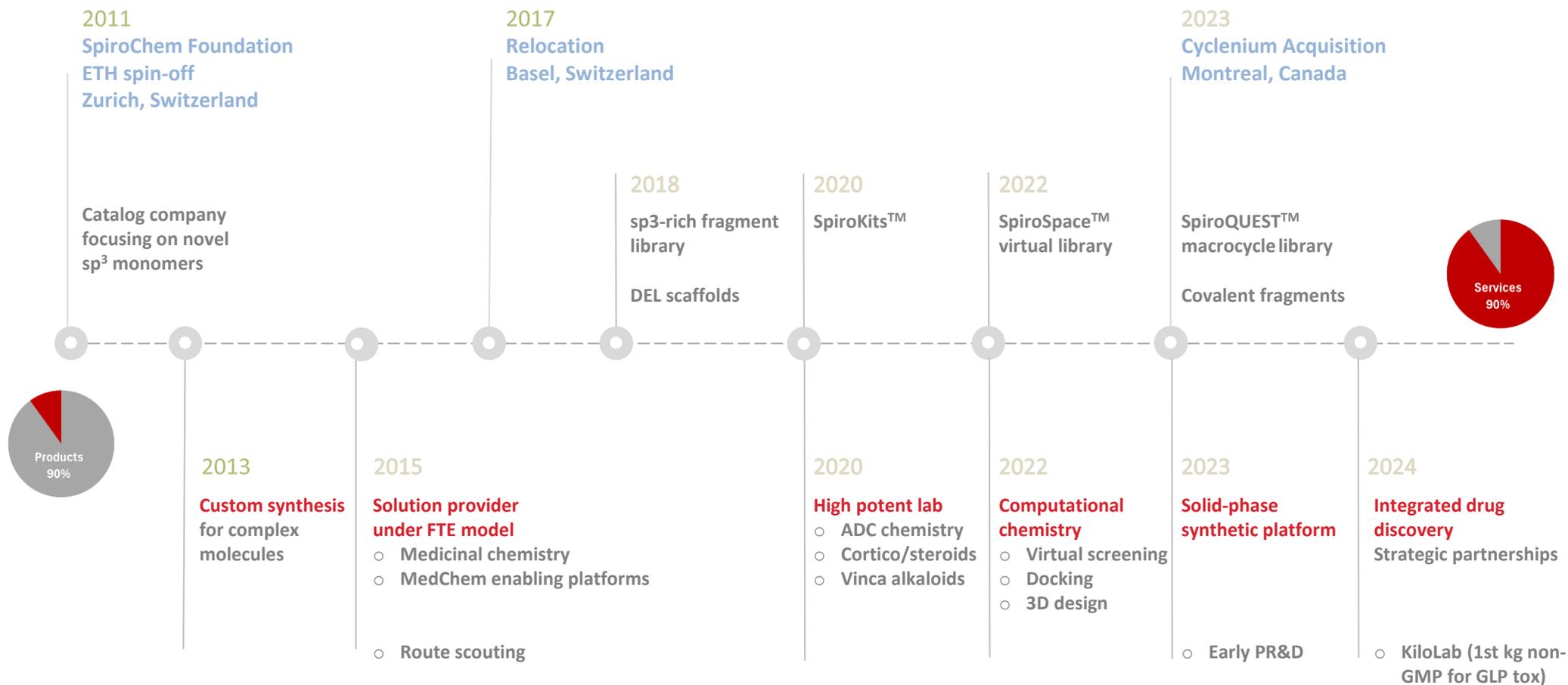


Clients

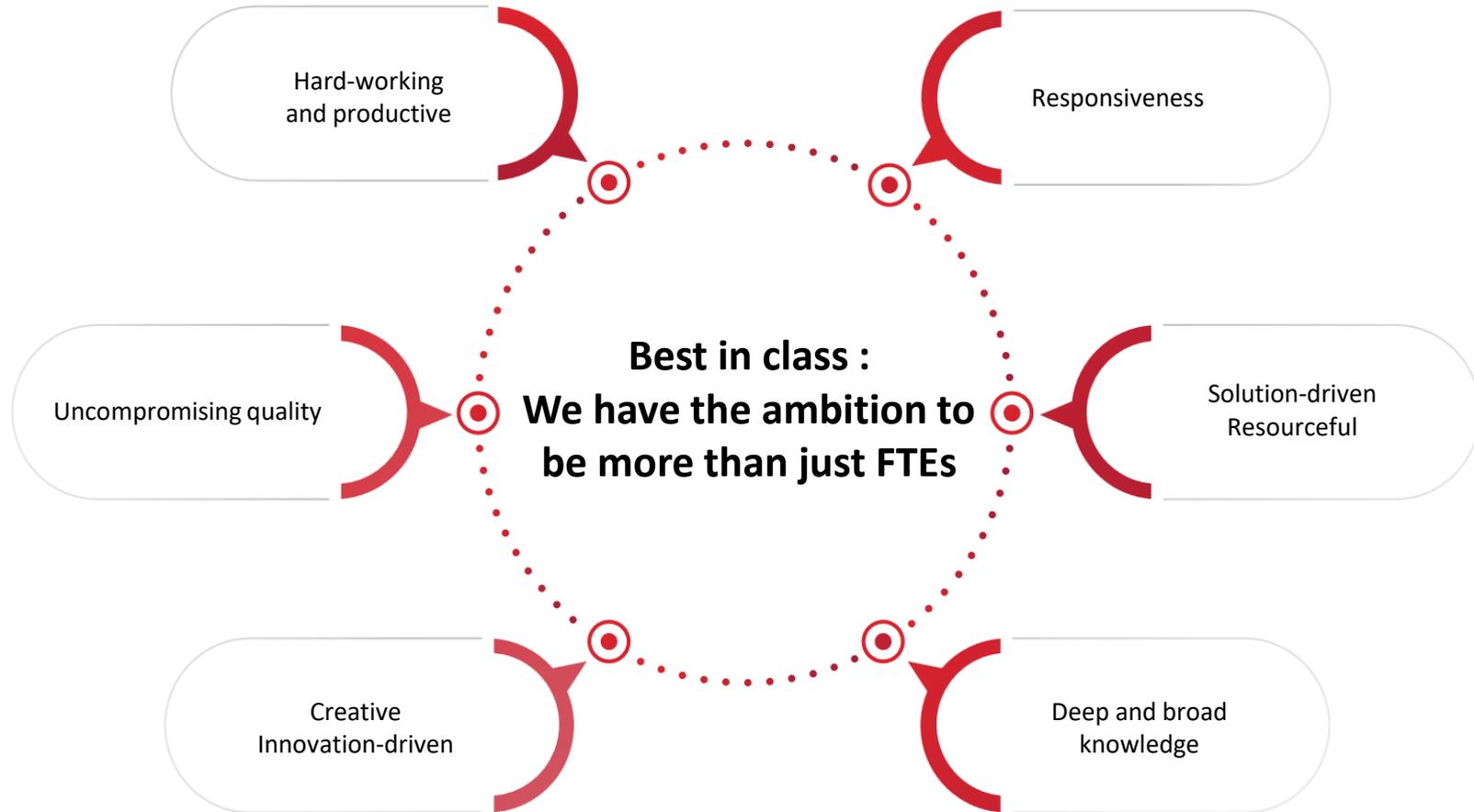
- Life science companies with high expectations
- Over 350 clients in 30+ countries



Evolution of SpiroChem's business model



Why we are different: SpiroChem's Elite R&D philosophy

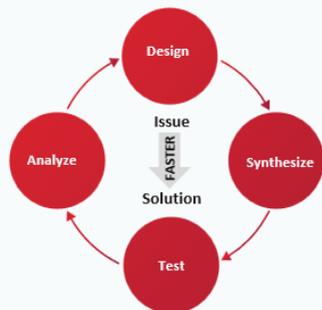


SpiroChem's discovery services focusing on 3 verticals

Medicinal Chemistry Projects

SpiroChem medicinal chemists are highly skilled and experienced scientists with unleashed creativity and innovative mindsets. Their objective : make your projects successful faster.

SpiroChem offers support for either full medicinal chemistry programs from hit validation to identification of a preclinical candidate (integrated programs) or for a specific phase of your project.



Synthetic Chemistry / Enabling Technologies

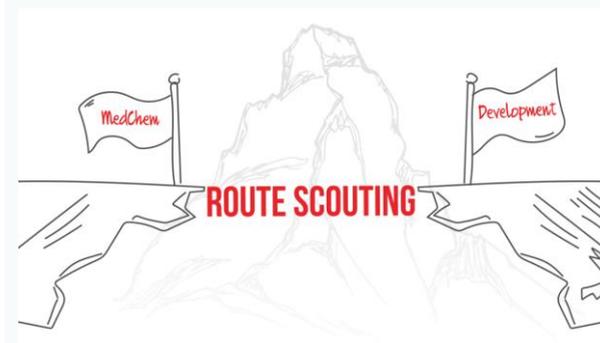
SpiroChem synthetic experts reduce synthetic challenges and give straightforward access to key scaffolds/molecule of interest.

Thanks to enabling technologies such as photochemistry, photoredox, flow chemistry, electrochemistry, biocatalysis, chemical routes can be drastically shortened and novel chemical space explored more broadly.



Route Scouting

SpiroChem experts in route scouting design and implement de novo synthetic routes and strategies for molecules of interest. Once achieved, they prepare the technology transfer package for the CMO/CDMO.



SpiroChem is involved in projects related to pharma, agro, veterinary, food supplement, cosmetics, fragrance, material science,...

SpiroChem's Deliverables

Reporting:

- **Weekly progress report:**
 - Powerpoint format
 - Executive summary of work done and planned activities
 - Overview of the strategies
 - Detailed description of the experiments, including
 - Reaction conditions
 - Raw data (LC-MS, TLC-MS, NMR, ...)
- **Bi-weekly teleconference:**
 - Via Teams or Zoom
 - To discuss progress
 - To align on priorities

Deliverables:

- Delivery of all intermediates and final products, 95% purity, if project is successful.
- Analysis of all intermediates and final compounds by NMR and HPLC or LC-MS.
- Full comprehensive R&D report (Final Report) delivered at the end of the project.
- Identification of the sources for the materials used for the synthesis and description of the identification.

Intellectual property (IP):

- Patent-ready experimental protocols
- Support for technical patent writing
- **The IP belongs to the customer**

SpiroChem's Team of Experts

Talent expertise acquisition

Evergreen position
3-step hiring process
Looking out for unmet expertise

Continued training

Conferences
Consultants
Internal training sessions

Academic collaborations throughout Europe

Talent pool
Rapid acquisition of new technologies

Chemistry expertise

Hybrid sp^2 - sp^3 scaffolds
Conformationally restricted scaffolds (spirocycles, bicycloalkanes)
Enantioselective synthesis
Radical chemistry
Organocatalysis
Cross-couplings
C-H activation

Compound class expertise

Heterocyclic molecules
Natural products
Macrocycles
Carbohydrates
Polypeptides
Nucleotides/sides
Lipids / Fatty acids
Bifunctional molecules
ADC (linker + payload)
Chemical probes

**tailored team of experts
to fit your needs**

SpiroChem masters Cutting-Edge Technologies

Photochemistry

- W lamps, Hg lamp
- Blue LED (low and high power), dark LED, purple LED, visible LED
- Carrousel photoreactor (400 W, 12 vessels)
- Possibilities to carry out the chemistry in flow



Electrochemistry

- IKA Electrasyn 2.0
- Cyclic voltammetry
- Coming up: scale-up with graphite and RVC electrodes



Biocatalysis

Enzyme Collection

- 5 Lipases
- 26 keto-reductases (KRED)
- 24 Aminotransferases (ATA)
- 3 Monoamino oxidases (MAO)

SpiroChem Capabilities

- Analytical instrumentation
- Equipment for rapid enzyme screening

Application

- Implementation of biocatalytic steps
- Transfer to trusted enzyme-engineering partner experts

High-Throughput experimentation

- Screening in 24-96 well plate format
- Productivity booster for MedChem projects
- Rapid condition screening for Route Scouting projects
- Potential for coupling with DoE and AI

SpiroChem's expertise for high potent small molecules

Two restricted labs, fully equipped to work safely with high potent molecules.



- Trained personnel
- Restricted lab space
- Dedicated equipment
- Specialized ventilated weighing unit
- Classes:
 - Vinca alkaloids
 - Cortico/steroids
 - Camptothecin
 - Anthracyclins
 - MMAE
 - ...

Typical assignments

- Design and synthesis of new *linker-payload constructs* for ADC projects (2 successful projects so far)
- Development of *new routes of synthesis* to HP APIs (>5 successful projects so far)
- Re-design synthetic routes to *HP payload-linkers* for ADC chemistry (2 successful project so far)

SpiroChem's analytical platform

Reaction monitoring and structural determination

- Several LC-MSs and HPLCs with DAD, ELSD and CAD detectors
- MS: EI, ESI, APCI, TOF
- Several TLC-MS
- SFC with 14 chiral stationary phases
- GC-FID
- NMR 400 MHz and 500 MHz spectrometers
- FT-IR
- NanoDrop (UV-VIS Spectroscopy)

Purification

- 30+ MPLCs Reverse and Normal Phase
- Prep-HPLCs Reverse Phase
- Purification platform Prep-HPLC-MS
- Semi-preparative SFC





With SpiroChem, make the molecules you should, not only the ones you could ...

Be in touch.

Address: Rosental area
WRO-1047-3, Mattenstrasse24
4058 BaselSwitzerland

Tel: + 41 61 685 95 00
E-mail:
contact@spirochem.com
www.spirochem.com