INSTITUT CARNOT I2C

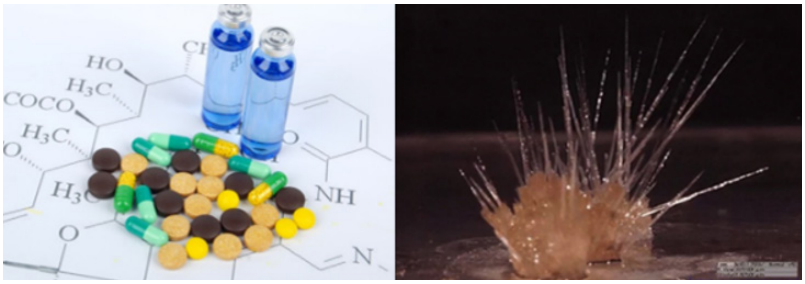
Based in Normandy, the second largest chemistry territory in France, the Carnot Institute I2C is composed of 8 research laboratories internationally recognized in the field of chemistry such as organic and pharmaceutical synthesis, analytical chemistry and formulation. Throughout its multi-disciplinary experts and its world-class facilities, I2C is committed to fulfilling its industrial partners' strategies & innovation needs through close collaboration.
In this evolving economic sector of the chemistry, Carnot I2C strives by developing a sustainable chemistry to tackle critical challenges of human healthcare & well-being, resilient industry and ecological transition of the 21st century. But also I2C focuses on reviewing the way to conceive and produce tomorrow's molecules.

http://i2c.normandie-univ.fr

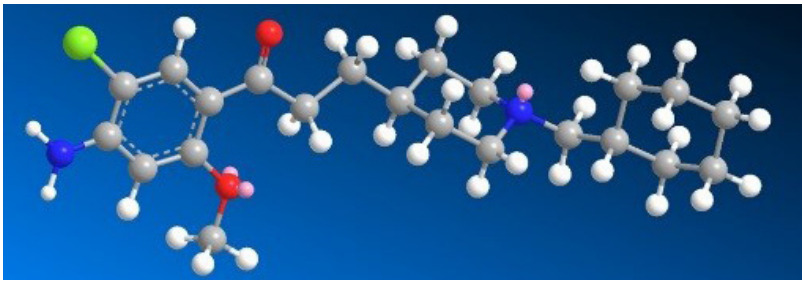
SMART CHEMISTRY FOR A BETTER FUTURE

I2C, a Carnot Institute

- As a key research & innovation player for industry in Chemistry, Carnot I2C develops tailored bilateral collaborations with companies (from start ups, SMEs to large groups), and builds long-term relationships.
- I2C supports its industrial partners with differentiating application solutions and fundamental chemical & life sciences by integrating the criteria of sustainability that ensure competitiveness in their markets.
- A professional research partnership.
- A commitment to Quality (ISO 9001 certified).



Innovative formulations (drug delivery, crystallization and polymorphism)



Polypharmacology: donecopride, a multi-target strategy in the Alzheimer's disease

Target markets

- **Chemistry for Health & Pharma**
- **Cosmetics & Wellness**
- **Environment & Sustainable Development**
- **Specialties Chemicals**
- **Polymers & Materials**

A multidisciplinary technological research network

- **8 French public research centers in chemistry** (CERMN, COBRA, Glyco-MEV, ISTCT/LDM-TEP, LCMT, PBS, SMS, URCOM) that are sustaining close ties for more than 25 years.
- Around **400 researchers that deliver solid expertises** ranging from organic and pharmaceutical synthesis, analytical chemistry, formulation/polymerization with the aim of creating value through innovation.
- Over the years, I2C invested heavily in its facilities to secure its place as a major research institute. It is now **7 accessible technological platforms** (synthesis & analysis, cosmetomic, cellular & biomedical imaging, proteomic, medicinal chemistry, organic materials), with a unique FT ICR mass spectrometer that allows a range of high resolution analysis of complex mixtures (EU FT ICR MS network).

Skills & areas of expertise

- Drug discovery & synthesis of bio-active compounds (therapeutic/ diagnostic), drug repurposing
- Biologics & quality control (glycoproteins, mAbs, vaccines)
- Cosmetics sensory & olfactory, substainable formulation, skin interaction
- New technologies (photochemistry, continuous flow, photocatalysis), process intensification, crystallization
- Advanced analytics, metabolomics, deformulation
- Biopolymers, membranes & smart coatings
- Adaptative polymers, hydrogels, colloidal systems
- Biopackaging, barrier properties, new functionalities
- Bioresources valorization, replacement of the petroleum-based ingredients
- Decontamination, recycling by controlled depolymerization

Commitments to scientific excellence

An affiliation to 3 Labels of Excellence - Iron, EMC3 and SynOrg - as the biggest French laboratory of organic chemistry for applications in Life Sciences.

The internationalization of its laboratories, an entrepreneurial acculturation of its researchers, an internationally-oriented XL-Chem Graduate School (cross-border collaborations in teaching, research, technology transfer).

Its scientific and technological resourcing policy guarantees the high-level of its upstream research (industrial financing, EU programs).

Conducted jointly with businesses as part of its “research in partnership” model, the research by I2C targets markets with a high growth potential. I2C initiatives are driven in interaction with industrialists, competitive hubs, clusters (Cosmetic Valley, Polepharma, France Chimie…) & the strategic committee of industry «Health».

Key figures

Permanent staff (full-time equivalent): 261
PhD Students: 107

Partnership incomes with industry: €3,8M
Global budget: €32M

Contact

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