



ELENA RIGO

PhD in material chemistry & polymers



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18, Rue Saint Léon
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28 years old

ABOUT ME

With three years of experience in applied research focused on **dispersed media polymerization** and **biobased polymers**, I am eager to join a new innovation project where I can fully utilize my **skills in synthesis, formulation, and characterization**.

PROFESSIONAL EXPERIENCES

2022 – 2025 PhD thesis

ICGM-CNRS, Montpellier (FR) and Synthomer company, Harlow (UK) and Marl (GE)



My PhD's goal was to develop **innovative** and **more sustainable monomers** and study their performance in emulsion radical polymerization, respecting the specifications required by the industrial partner

Missions

- Synthesis and characterization of novel **biobased monomers**
- Study of monomers' performance in **solution radical polymerization**
- Formulation of novel biobased polymers by **emulsion polymerization**
- Macromolecular and material characterization of polymers and materials: **reactivity, thermal and physical-chemical properties**
- Industrial study for **applicative tests**: study of material performance respecting international parameters

Achievements and Awards

- **Industrialization** of three biobased monomers and emulsion polymerization processes and study of their performance in applicative tests
- Best poster at "IPCG main conference" (Sète, France, 2025) and "Club emulsion 2023" (Paris, France, 2023)

2021 Master Research Internship (6 months)

Softmat-CNRS, Toulouse, France



Missions

- Synthesis and formulation of a recyclable polymer (vitriimer)
- Study of the properties of the material: recycling, reactivity, thermal stability, swelling rate, stress relaxation

2019 Bachelor Internship (2 months)

Olio Carly company, Imperia, Italy
Quality Control Technician of olive oil

OTHER PROFESSIONAL EXPERIENCES

2021 – 3 months

Vasatokka youth center, Inari, Finland

International Volunteering for European Solidarity Corps

2018- 3 months

London, United Kingdom

Au pair for a family of three children

2014 – 2017

Imperia, Italy

Sportive Coach for track and field club

EDUCATION

2022 – 2025 University of Montpellier

PhD in material chemistry, Montpellier, France

2019 – 2021 University Paul Sabatier

Master of Science in Green Chemistry, Toulouse, France

2016 – 2019 University Nice Sophia- Antipolis

Bachelor of Science in Chemistry, Nice, France

SKILLS

Research

- Biobased content and green metrics calculation
- Monomer synthesis and characterization
 - Development of new, sustainable and industrial-applicable procedures
 - Development of scale-up procedures for industrial implementation
 - Molecular characterization: NMR, FTIR and GC-MS
- Polymer synthesis in homogeneous and heterogeneous media
 - Kinetic studies
 - Free and Controlled (RAFT) radical polymerizations
 - Respect of industrial specifications
 - Stabilization study and reformulation of industrial procedures
- Polymer and material characterization
 - Macromolecular characterization: SEC, DSC, ATG
 - Material characterization: rheology, viscosity, MFFT, DLS, TEM, contact angle
- Industrial formulation

Management

- Local Organizer of IPCG-GRS 2025 international congress
 - Schedule, international communication, budget, leadership
- Supervision of two trainees (Master and BUT school)

Collective Responsibilities

- PhD student representative at ICGM unit council (2 years)
- In charge of the maintenance and monthly training of GC-MS and DLS for the department (3 years)

Communications

Oral Communications

GRS-IPCG Sète (FR), 2025
APME Catania (IT), 2025
IUPAC-MACRO Warwick (UK), 2024

Posters

IPCG Sète (FR), 2025
IPCG Kingston (CA), 2023
Club emulsion Paris (FR), 2023
Doctoral School Day, 2023

PUBLICATIONS

E. Rigo, V. Ladmiral, S. Caillol, P. Lacroix-Desmazes, Recent advances in radical polymerization of biobased monomers in aqueous dispersed media, *RSC Sustainability*, **2023**, 1, 788-813.

Rigo, E., Totée, C., Ladmiral, V., Caillol, S., & Lacroix-Desmazes, P., 4-Vinyl Guaiacol: A Key Intermediate for Biobased Polymers, *Molecules*, **2024**, 29(11), 2507.

Rigo, E., Ladmiral, V., Caillol, S., & Lacroix-Desmazes, P., Cardanol : overcome the hydrophobicity problem, under preparation

Rigo, E., M., Ladmiral, V., Caillol, S., & Lacroix-Desmazes, P., Free-surfactant system using RAFT-PISA emulsion polymerization of biobased 4-vinyl guaiacol derivatives, under preparation

SOFT SKILLS

International collaboration & communication
Adaptability
Autonomy & responsiveness
Curiosity & creativity
Resilience
Flexibility
IT skills

LANGUAGES

Italian: mother tongue

French: fluent

English: professional

INTERESTS

Sport

Athletics (participation in national and international pole vault competitions), ski, bike, trails

Nature

Active member of **Surfrider community**

REFERENCES

PhD supervisors:

Patrick Lacroix-Desmazes
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