

ZAKIR AMIROV

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EDUCATION

2021-ongoing: PhD in Polymer and Material Chemistry at the LCPO laboratory in Bordeaux, France.

2018-2021: Master in chemistry of Solids and Materials, *University of Rennes 1, France.*

2016-2018: Bachelor in Chemistry, *University of Rennes 1, France.*

2010-2014: Bachelor in Chemical Engineering, *Baku State University, Azerbaijan.* Azerbaijan Government Scholarship

RESEARCH EXPERIENCE

2021-ongoing: LCPO, Biopolymers and Bio-Sourced Polymers team Bordeaux, France

Supervisor: **Veronique Coma and Etienne Grau**

Phd project "Understanding and preventing toxic Non-Intentionally Added Substances (NIAS) formation in commonly used plastic parts": The goal of our project is to understand how and why NIAS are forming, the three major polymers (PP, PS and PET) and their additives will be compounded and processed in very well-defined and controlled conditions. At each step, NIAS will be extracted and identified and their toxicology estimated.

Principal techniques used: GC, GC-MS, SEC, ATG, DSC, NMR

2021 March-August: INSA, ISCR, CSM team (Solid Chemistry and Materials) Rennes, France

Supervisor: **Kevin BERNOT**

Master Internship "1D Gels, Metallogels and Magnetic gels": The target of our study is to gather more information on 1D magnetic gels. I realize the synthesis of Single-Chain Magnets (SCMs) as crystal, gels, xerogels and their characterization by different method. Indeed, my collaborators have demonstrated that Single-Chain Magnets (SCMs) can be built with organic radical bearing alkyl chains, which could provide gelation ability to the molecular chains.

Principal techniques used: Synthesis methods (Distillation, extraction, filtration, separation-chromatography, and purification methods), basic lab instrumentation (UV-Vis, IR, PXRD, TGA/DTA) and NMR, MS, SEM, SQUID, SAXS,

2020 July-September: Intensive English Program (IEP) University of Delaware, Newark, DE, USA

2019 April-July: ENSCR, ISCR, CSM team (Solid Chemistry and Materials) Rennes, France

Supervisor: **Tanja POTT**

Master Internship "Physico-chemical studies of NADES / surfactant mixtures": The Natural Deep Eutectic Solvents (NADES) can meet the fifth principle of green chemistry (non-toxic, biodegradable, easily recyclable and less expensive) depending on the polarity, surface tension, viscosity, conductivity, refractive index and also thermal compatibilities. Our goal was to study the physico-chemical properties of NADES/water/surfactant mixture in comparison with water/surfactant mixture.

Principal techniques used: DSC, optical microscopy, conductometry, tensiometer (Du Nouy ring method).

2017 April-June: ISCR-UMR CNRS, OMC team (Organometallics: Materials & Catalysis) Rennes, France

Supervisor: **Evgueni KIRILLOV**

Bachelor Internship "Synthesis of Group 4 Metallocene Complexes for Olefin Polymerization": The metallocene can thus be modified to obtain isotactic and syndiotactic polymers. A large part of the industrial polypropylenes is isotactic. Our goal was to synthesize the zirconocene pre-catalyst for polymerization of propylenes.

Principal techniques used: NMR, Mass spectroscopy, Synthesis methods (Distillation, extraction, filtration, separation, and purification methods...)

OUTREACH AND LEADERSHIP EXPERIENCE

2018-2021: student job (waiter) at Vino Gusto (Italian Restaurant), Rennes, France.

- Team working
- Positivity and sociality

2015-2016: waiter in the Mambo Beach Restaurant of Ramada Hotel of Azerbaijan.

- Team management (head of two other waiters)
- Organization, conflict management

2014-2015: Mandatory military service (First sergeant - non-commissioned officer of squad (5-14 soldiers))

- Decision making, adaptability
- Time management

LANGUAGE AND OTHER SKILLS

Azerbaijani: native language

Turkish: excellent

French: very good

English: very good

Russian: good

Computer skills: MS Word, MS Excel, MS Power Point, MestreNova, ChemsKetch, ChemDraw, Image J, Scifinder, Google Scholar.

Hobbies: Swimming, travelling, wrestling and different languages.

Driver's license: B (obtained in France)