

NOMATEN JUNIOR SEMINAR

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Organic and polymer synthesis of different compounds for industrial application

**Ihab Shokair, Research Assistant at Radiopharmaceuticals research group,
NOMATEN CoE, NCBJ**

Abstract

Vinyl difluoroborane is a molecule still little described because until now difficult to access. The laboratory was able to show that this reagent could be easily generated in-situ and be used as an equivalent of an enol in the Diels-Alder reaction to synthesis cyclohexanols after oxidation of the carbon-boron bond of the cycloadduct. Also, synthesis of complexing copolymers composed of a CO₂-philic block (poly(1,1,2,2-tetrahydroperfluorodecylacrylate) (PFDA) or poly(vinylacetate) (PVAc) and metal-complexing units were synthesized by reversible addition-fragmentation chain transfer (RAFT) or macromolecule design by interchain xanthate (MADIX) polymerizations. Their solubility in scCO₂ has been studied and their ability to extract Pd supported catalysts has been examined.

Biography

I hold my bachelor degree in general chemistry and my master 1 in molecular chemistry from Lebanese University (LU), faculty of science. I moved to France to continue my master 2 research study in organic synthesis (pharmaceutical and agrochemical industries) at Grenoble Alpes University in which I received an IDEX scholarship. I did my training for this master 2 during the second semester at DCM laboratory/SeRCO team. My project was about synthesis and use of vinyl difluoroborane in (4+2) cycloaddition reactions. I hold also another master 2 research in catalysis and green chemistry from Claude Bernard University/Lyon 1. I worked at the institute Charles Gerhardt of Montpellier (ICGM) in the Macromolecular Engineering and Architectures (IAM) team on synthesis of complexing CO₂-philic polymers by controlled radical polymerization. I'm employed as a Research Assistant at NOMATEN (Radiopharmaceutical group), National Centre for Nuclear Research, Poland. My scientific interest is in synthesis of organic molecules for using them in drug synthesis.