



SPECIFIC POLYMERS

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Custom Services



Introduction

Industrial and academic organizations worldwide work to fulfill tomorrow's challenges by performing research to develop innovative products and concepts. To that end, **if it is sometimes simple to identify a specific need, it is often complex to find an appropriate solution.** SPECIFIC POLYMERS offers various tailor-made services in the field of polymer and materials chemistry. Our objective is to design, synthesize, formulate and provide the proper materials to our clients to support them in the validation of proof-of-concepts in their own application. Typically, we follow a multi-steps and flexible approach in close interaction with our customers.

1

Evaluation of request and identification of needed specification

3

Feasibility study on small quantities (5-25 grams)

2

State of the art - Definition of the synthetic pathways / formulations

4

Up-scaling from 25 grams to kilogram (on request)

Custom Synthesis

On-demand functional building-blocks, monomers and polymers

Based on our skills in both organic and polymer chemistry, we can provide custom-synthesis services to answer a wide range of requests. We have a strong experience in the **design of functional monomers, polymers and building-blocks for various applications.** Most of the time, this service is proposed to answer two kinds of requests: either the reproduction and/or the upscaling of a known synthetic pathway; or the design of functional (macro)molecules.



Reproduction and/or up-scaling of a **described protocol** from a scientific article or a patent

Protocol
feasibility of the synthesis & potential modifications according to our experience or alternative synthesis pathways

Evaluation:
feasibility of the synthesis to our experience or alternative synthesis pathways

Specifications definition:
functionality, composition, architectures, needed quantities, etc. of the targeted (macro) molecules are discussed



No precise idea of the structure and/or functionality needed to answer a requirement



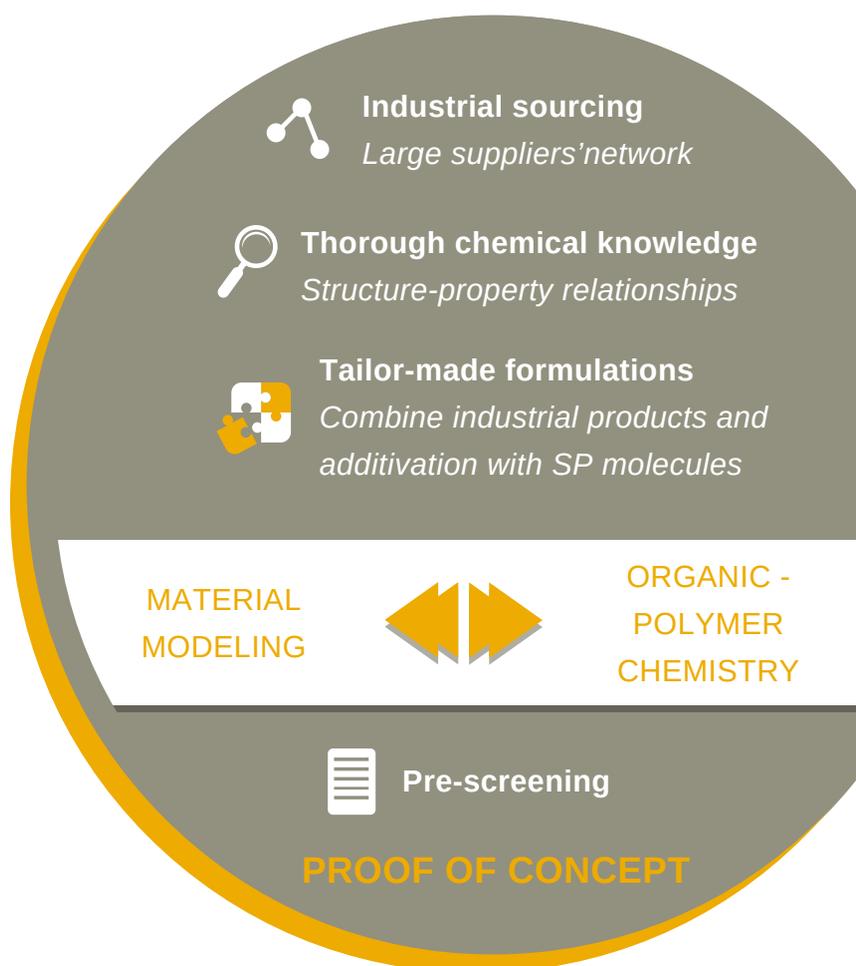
During the whole collaboration, we have regular exchanges with our customers to discuss the progress of their project. At the end of the collaboration, the targeted (macro)molecules are provided to the customer in the desired quantities. Our tailor-made products are always delivered with their corresponding **Technical Data Sheet** containing the most relevant physicochemical characterizations (NMR, SEC, IR, DSC, TGA). We can also provide scientific reports describing all experimental processes and analyses performed during the project.

Custom Materials Formulation

Build-to-Spec. materials and coating formulations

In our materials laboratory, we focus on the development of high-specificity formulations for the elaboration of innovative materials and coatings. Our main objective is to **design industrially viable formulations to answer customers' specifications**.

Thanks to our large network of industrial suppliers and the functional (macro)molecules synthesized in SPECIFIC POLYMERS, we have access to a very wide range of precursor additives that allow us to offer build-to-spec materials while keeping an industrial approach. Our main research thematic are **high performance thermosets materials, bio-based materials, UV and thermal-cured coatings** exhibiting various properties such as hydrophobicity, oleophobicity or electronic conductivity. We aim to combine the best products in our formulations and associate them in accordance with our customers' needs. These formulations are then prescreened in our lab in order to highlight the most interesting formulation and deliver then in the proper quantities for proof-of-concept validation in our customers application lab.



SPECIFIC POLYMERS offers to its customers longer and fuller programs within our **Research Programs**. Instead of being focused on the custom synthesis or materials formulation, within those programs we can combine both approaches and we are working on a **detailed design brief**. We are seeking to answer overall objectives by means of our skill set in state-of-the-art and existing innovative solution analyses. In addition, our know-how in synthesis, formulation, physicochemical analysis or in scaling up support are helpful to assist you throughout your project.