

Request for knowledge partners (September 06th, 2019)

Project title: Innovative production and use of tailored tannins

Acronym: TanTailor

Project ID	
Type	ICON
Period	2 years
Starting date	January 2020
Subsidy percentage	According to SBO- and O&O regulations
Catalisti contact	Linsey Garcia-Gonzalez

Project description

Introduction

This project focuses on the production and use of tailored tannins for different applications. Tannins are a group of polyphenolic compounds that are widely present in plants. They possess various biological activities including antimicrobial, anti-parasitic, anti-viral, antioxidant, anti-inflammatory, immunomodulation, etc. They are currently utilized for the production of leather, wood adhesives, wine production and anti-corrosive primers. These natural aromatic compounds exhibit however greater prospects beyond their traditional use.

The specific chemical structures of tannins allow bimolecular nucleophilic substitution, giving the opportunity to convert them into several promising aromatic chemicals and building blocks for novel materials. Neat or modified tannins indeed permit the development of adhesives, phenol-formaldehyde foams, materials based on polyurethanes, polyesters and epoxy resins with interesting performance. Furthermore, tannins and tannin-derivatives could play a key role as nutraceutical products, bioactive phytochemicals, controlled release promoters, volatile organic compounds sequesters, and moisture retainers in pharmaceutical, cosmetic, agricultural and food/feed industries.

Goal

The main goal of this project is to identify which chemical identities give the desired and most performant functional properties and to define which level of modification and purity is required for the defined end-applications. All target applications are determined by the industrial partners, *i.e.* bio-active food & feed additives and insulation foams.

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Expertise

With this Request for Partners, we would like to invite **universities/knowledge institutes** that have expertise, technology or knowledge relevant to the project to respond to this request.

To reach the project goals, the consortium is particularly searching for the following (non-limitative) expertise:

- Enzymatic (or alternative green chemistry) depolymerization of condensed polyphenol extracts into the respective monomer/dimer fractions. Capability to include the analytical follow-up.
- Separation, fractionation and purification of depolymerized tannins into well-defined fractions with specified molecular weight, suitable for the synthesis of tannin-phenol-formaldehyde foams and in-line with the market needs of food/feed segment;
- (Bio)chemical modification of tannin fractions to tune its reactivity towards the specifications required for the tannin-phenol-formaldehyde foams development.

How to reply to this request

Please send your **proposal by email** before **September 23rd (12h00)** to your association representative (see contact list below). An application (2-3 pages without attachments) should contain at least the following items:

1. Organisation and research group
2. Name and contact details of person submitting the proposal
3. Name and contact details of person(s) who will perform the actual tasks (if different from submitting person)
4. A proposal of your role in the project: for which expertise/assignments described above do you apply?
5. A description of your expertise/track record in the specific topic of this RfP, for which you are applying (at the 3 organisational levels as mentioned above, i.e. for the organisation and/or research group, for the person submitting the proposal, as well as for the executing person(s)) (preferably give the resumes of submitting and executing persons attached)
6. A description of your experience in carrying out similar assignments as those described in this Request for Partners (again at the 3 organisational levels)
7. A list of relevant funded projects (Catalisti, VLAIO, EU, ...) where you were a coordinator or partner
8. A commitment to prepare a full project proposal by November 2019 together with the other project partners.

Contact List

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- KU Leuven: Bert Lagrain (bert.lagrain@kuleuven.be);
- UAntwerpen: Ann Aerts (annfb.aerts@uantwerpen.be);
- UHasselt: Lieve De Doncker (lieve.dedoncker@uhasselt.be);
- UGent: Elisabeth Delbeke (elisabeth.delbeke@ugent.be);
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- VITO: Karolien Vanbroekhoven (karolien.vanbroekhoven@vito.be);
- BBEU: Hendrik Waegeman (hendrik.waegeman@bbeu.org);
- Sirris: Benjamin Vandeputte (benjamin.vandeputte@sirris.be);
- Other: Linsey Garcia-Gonzalez (lgarciagonzalez@catalisti.be).

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Evaluation

The industrial partners, together with Catalisti, will review all proposals obtained before the deadline mentioned above. The industrial partners will make a selection of the best proposals based on the following criteria:

- your expertise in the requested expertise domain (5pt)
- your experience in carrying out similar assignments (3pt)
- your experience in other relevant funded projects as a coordinator or partner (3pt)
- complementarity with the other executing project partners (4pt)

After submission of your proposal, you can be contacted by telephone or invited to a live meeting (if this is deemed necessary by the industrial partners) to further elaborate your offer. *(Please note that the selection will be made primarily based on your written proposal, so please be complete and thorough, without anticipating on a further (live) elaboration of your proposal)*

The final decision will be communicated typically within 2 weeks after the deadline mentioned above but could take longer depending on the number of proposals and selection of a balanced project consortium. **Please do contact Linsey Garcia-Gonzalez (lgarciagonzalez@catalisti.be, +32 (0) 479 450 426) or Isabelle Monnaie (imonnaie@catalisti.be, +32 (0) 471 506 833) if you have any questions concerning this RfP and the Catalisti procedures in general.**