



## CATIOMERC

### NEW COSMETIC PROCESSES FOR HAIR BEAUTY PRODUCTS: MARINE CATIONIC BIOBURDENS

The CATIOMERC project led to development of new 100% natural cosmetic products based on marine-sourced active ingredients through the production of cationic bioburdens. Created by combining an extract of chitin (a molecule from the family of carbohydrates found in the exoskeletons of crustaceans) and clay, the bioburdens produced a stable emulsion with no added surfactants and formed a protective film on the surface of skin and hair.

No emulsifying agent originating from a hybrid organic/inorganic, lamellar-structured cationic bioburden, produced directly from 100% natural raw materials, yet exists on the market.

The CATIOMERC project contributed to the introduction of relevant and reliable scientific tools for characterising raw materials and organo-clay complexes, incorporating an eco cold process based on reactive extrusion. The new process markedly reduced the time and energy consumption involved in the chitin processing stages, considerably improving the profitability of the manufacturing process and reducing the environmental footprint. The experiments undertaken validated the biofunctional properties of the formulas developed and their filmogenic and restorative properties and effects on structurally damaged hair.

The project will lead to nationwide collaboration with Ingretech, a French company distributing cosmetic ingredients, and to openings in the US market (New York). Lastly, it will help the company Ephyla scale up from start-up status to a business producing for the cosmetics sector.

#### Spin offs and future developments

- 4 jobs created
- 3 scientific papers

#### Partners

##### Companies

Ephyla, Vannes [Project Developer]  
Arclay Technologies Naturelles, Lévis  
Québec, Canada

##### Research center

Université de Bretagne Sud, LIMATB  
(Laboratoire d'Ingénierie des MATériaux de  
Bretagne) sur l'éco-conception des  
matériaux, Lorient/Ploemeur

#### Funders

- Conseil régional de Bretagne  
- Conseil départemental du Morbihan  
- Vannes Agglomération

#### Labelisation

22/02/2013

#### Overall budget

1 150 K€

- Participation in 4 national and international symposiums
- New potential opportunities for hybrid materials

**The CATIOMERC project was also awarded the (OSEO) EUREKA innovation label.**