Tropical microalgae isolated on Reunion island (France, Indian ocean) as sources of antifouling molecules: the BIOPAINTROP project

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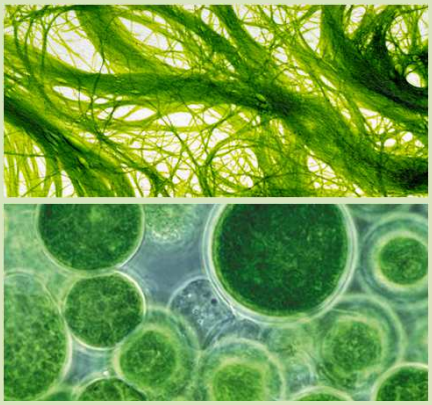


Tropical microalgae isolated on Reunion island (France, Indian ocean) as sources of antifouling molecules: the BIOPAINTROP project

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Biofoulings are associated to colonization of artificial submerged structures by aquatic organisms. This process induces adverse effects such as loss of hydrodynamism, weight increase of equipments… Numerous toxic compounds (copper, arsenic) have been used during decades to avoid biofouling of ships, until organostatic substances were developed. According to their toxicity for marine environment and fauna, due to their non-specificity and non-biodegradability, EU has banned them since 2008. For this reason, a new strategy, focusing on environmental friendly molecules is requested aiming to provide coatings that release progressively active natural compounds, non-toxic for environment. In tropical marine environment, deterrent molecules are recognized as one of the most efficient way for protection against predators or competition with other surfaces organisms (e.g corals, microalgae). Such active compounds are considered quite « infinite » (20,000 have been described to date), so of them for their antifouling activity. As a significant component of marine organisms, microalgae are a promising source of active natural substances, with biotechnological potential value. Growing microalgae is a worldwide project for various purposes actually *e.g*. biofuel. BIOPAINTROP project aims to develop antifouling coatings with active biomolecules originating tropical marine resources (microalgae) from Reunion Island. 2 main objectives have been designated: *(i)* identification of active molecules from tropical microalgae and *(ii)* incorporation of these compounds in adequate coatings to confirm the efficiency of these products in both temperate and tropical marine environment. To reach the targeted results, a pluridisciplinary group has been set up with 6 French teams with complementary expertises: *(i)* HYDRÔ based on Reunion island and specialized in tropical marine microalgae, *(ii)* 3 University laboratories: LCSNSA (Reunion) specialized in natural products valorisation, LBCM (Bretagne), specialized in marine biotechnologies; MAPIEM (Toulon) specialized in polymer materials engineering and marine biocompounds, *(iii)* Private partners: NAUTIX producing environmental friendly paints, expert in processing ecological and antifouling coatings; BIOALGOSTRAL a start-up from Reunion specialized in production/valorisation of microalgae biomass.

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University of Toulon
19-24 June 2016 - Toulon - France

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POSTER SESSION