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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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Biofouling is associated to colonization of artificial submerged structures by aquatic organisms. This process induces adverse effects such as loss of hydrodynamism, corrosion, weight increase of equipments. Numerous toxic compounds (copper, arsenic) have been used during decades to avoid biofouling of ships, until EU has banned them since 2008. For this reason, a new strategy, focusing on environmental friendly molecules is requested aiming to provide coatings that progressively release active natural compounds, non-toxic for environment. 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 from tropical marine resources (microalgae) from Reunion Island. Two main objectives have been designated: (i) identification of active molecules from tropical microalgae and (ii) incorporation of these compounds in adequate coatings and confirmation of the efficiency of these products in both temperate and tropical marine environments. To reach the targeted results, a pluridisciplinary group has been set up with 6 French teams with complementary expertises: (i) HYDRO based on Reunion island and specialized in tropical marine microalgae, (ii) three 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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