TECHNOLOGY OFFER

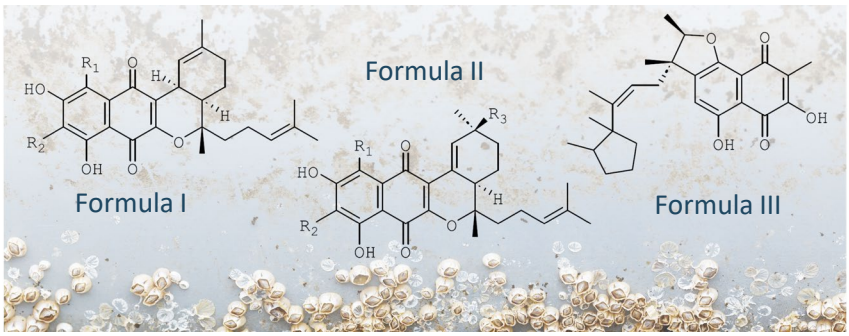
MARINONES AS ANTIFOULING COMPOUNDS

Background

Current antifouling solutions rely heavily on toxic metals like copper, biocides and hazardous chemicals linked to environmental harm and regulatory restrictions.
There is a growing need for ecological, broad-spectrum antifouling agents capable of preventing micro- and macro-fouling without compromising marine life health.

Technology

This invention discloses the use of marinones, a family of natural marine compounds (general formulas I, II and III), as antifouling agents preventing the adhesion and growth of marine microorganisms (bacteria, diatoms) and macroorganisms (barnacles, mussels, algae, hydroids, tunicates).
Marinones inhibit micro- and macro-fouling on surfaces in contact with seawater without inducing toxicity. They can be incorporated into coatings (paints, varnishes, primers, sealants) at 0.001–90% (w/w) for effective protection of ships, aquaculture gear, energy platforms and maritime infrastructures.



Advantages

- Non-toxic broad-spectrum activity against micro- and macro-fouling organisms;
- Eco-friendly replacement for hazardous biocides such as TBT and copper oxides;
- Versatile formulation compatible with paints, varnishes, primers and sealants;
- Applicable across multiple marine sectors, from shipping to aquaculture and energy infrastructures.

PATENT STATUS

Portuguese Patent Application via INPI PT119438
Priority date: 29.04.2024
Pending in Portugal

DEVELOPMENT STAGE

TRL4 – Technology validated in lab
Further development for validation in large scale setups required

APPLICATIONS

Antifouling coatings for marine-contact surfaces.

COOPERATION

Research Cooperation Agreement;
Licensing Agreement.

KEYWORDS

Marinones
Antifouling
Marine coatings
Natural Product

DEVELOPED BY

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