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Slippery liquid-infused porous surface bio-inspired by pitcher plant for marine anti-biofouling application

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Highlights

- SLIPS was designed over aluminum for marine anti-biofouling application.
- The micro-structure with a low length scale is important for designing stable SLIPS.
- The liquid-like property contributes to the exceptional anti-biofouling property of SLIPS.
- The low roughness facilitates removing settled algae from SLIPS under shear force.

Abstract:

Marine biofouling, caused by the adhesion of microorganism, is a worldwide problem in marine systems. In this research work, slippery liquid-infused porous surface (SLIPS), inspired by *Nepenthes* pitcher plant, was constructed over aluminum for marine anti-biofouling application. The as-fabricated SLIPS was characterized with SEM, AFM, and contact angle meter. Its anti-biofouling performance was evaluated with settlement experiment of a typical marine biofouling organism

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