Anti-Biofouling Properties of the Fluorinated Surfaces

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The biofouling is a contamination of a surface by the adsorption of biomolecules. In this study, a novel synthesized florinated polymer, perfluoropolyether (PFPE) was examined as an anti-biofouling surface coating material. To examine its anti-biofouling property, several model biomolecules such as BSA, IGG, albumin, and lysozyme were screened and their adsorption properties were tested. From the comparision of the adsorbed biomolecule density on both PFPE and hydrophilic surfaces, the hydrophobic PFPE surface showed superior anti-biofouling property to the hydrophilic one. This result indicates that PFPE is a promising material for the anti-fouling coating on various substrate.