

Esther van Anandel

Supervisor(s)	Dr. ir. Maarten Smulders, Prof. Dr. Han Zuilhof
Project	Antifouling biosensor surfaces for immunological assays
Fields of interest	Antifouling, zwitterionic polymer brushes, surface modification and characterization, biosensors, immunology
E-mail	esther.vanandel@wur.nl
Telephone	+31 317 482360

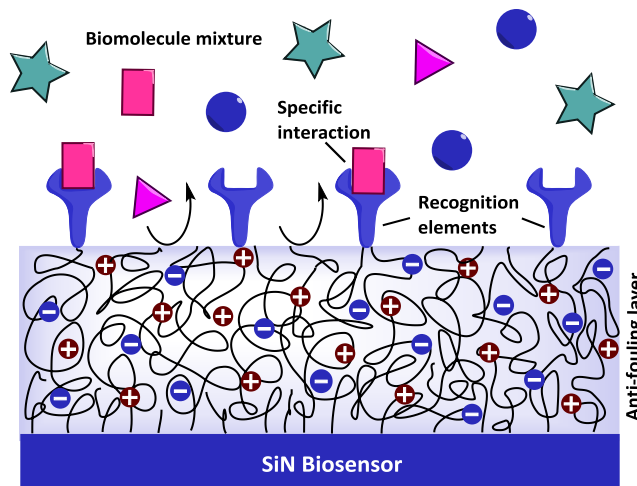


Introduction

The specific binding of biomolecules to solid surfaces, a phenomenon called fouling, is a major problem in many applications varying from medical implants and marine industry to biosensors. Aspecific protein binding on a biosensor surface leads to background signals and thereby to poor signal-to-noise ratios of the measurement. Incorporating a protein repellent layer between the sensor surface and its recognition elements (e.g. antibodies) diminishes the adsorption of unwanted material. The best known antifouling materials are based on zwitterionic polymer brushes.

Goal

The overall goal is to introduce antifouling zwitterionic polymer brushes into existing and still to develop biosensor techniques, and thereby greatly enhance the selectivity and sensitivity of the measurement performed by that biosensor. The focus is on improving existing immunological diagnostic tests that show up to now poor signal-to-noise ratios.



Acknowledgement

This work is supported by NanoNextNL (program 3E), a micro and nanotechnology consortium of the Government of the Netherlands and 130 partners.