Biofouling is relevant in a wide range of applications as biomedical implants or device, food packaging and storage, biosensor, water purification system, marine and industrial equipment. In all these applications is necessary to protect the surface by the accumulation of protein, bacteria, marine organism, etc…[1,2]

Microscopic and nanoscopic disorder, resistance to adsorption, surface morphology and surface mechanical properties are recognized as the main factors that can control fouling in polymeric coatings. These characteristics can be modulated through oligomer selection, blend ratios and process conditions.

In this study multifunctional acrylic and methacrylic oligomers with hydrogenated or perfluoropolyether (PFPE) structures were used in different ratios for UV photopolymerization. The antifouling properties of the coatings obtained were tested in vitro with yeast.

Preliminary results indicate that the hydrogenated UV-cured polymer and the copolymer showed superior performance than the PFPE based homopolymer (Figure 1).

Figure 1: Perfluoropolyether and hydrogenated/perfluoropolyether copolymer after 5 day of yeast culture.