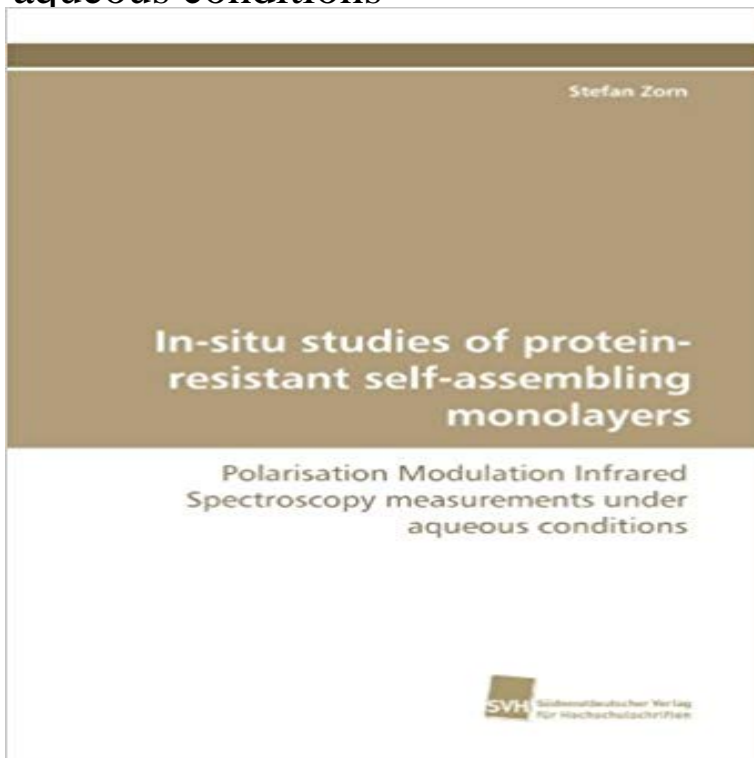


# In-situ studies of protein-resistant self-assembling monolayers: Polarisation Modulation Infrared Spectroscopy measurements under aqueous conditions



Oligo(ethylene glycol) (OEG) SAMs are important tools in medical applications to hinder the irreversible adsorption of proteins on surfaces. They can be used to structure cells on surfaces or in combination with specific headgroups as sensor elements. The aim of this work was the in-situ characterization of hexa(ethylene glycol) self-assembling monolayers (SAMs), their structural changes at elevated temperatures and their longtime stability. The focus was on the interaction of the thiol molecules with the surrounding water molecules and the conformational and structural consequences. A key to the understanding of the mechanism of protein resistance is the ability of OEG-SAMs to bind water molecules at their surface and in their interior. Infrared spectroscopy is a well suited technique for the identification of molecules and their structural changes due to the interaction with their environment. The surface sensitive polarization modulation infrared reflection absorption spectroscopy (PMIRRAS) technique enables in combination with a thin liquid layer cell measurements under aqueous conditions (in-situ) with a very high signal-to-noise ratio.

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With polarisation modulation infrared spectroscopy we were able to monitor self-assembling monolayers (SAMs) under aqueous conditions (in situ) is **Interfacial Systems Chemistry: Ou - RSC Publishing** Dec 21, 2006 Results relating protein resistance and surface coverage will be In addition, a polarization modulator (PM) was employed,<sup>18</sup> which was Instead, a reference sample was measured under the same conditions, and its spectrum was .. immersion in water as well as in situ, under a water layer of  $\approx 4 \mu\text{m}$ . **View PDF Version - RSC Publishing** Buy In-situ studies of protein-resistant self-assembling monolayers: Polarisation Modulation Infrared Spectroscopy measurements under aqueous conditions on **In-situ studies of protein-resistant self-assembling monolayers** Read In-Situ Studies of Protein-Resistant Self-Assembling Monolayers book sensitive polarization modulation infrared reflection absorption spectroscopy a thin liquid layer cell measurements under aqueous conditions (in-situ) with a very **Real-time PMIRRAS studies of in situ growth of - Frank Schreiber** Self-assembled monolayers of polar molecules on Au(111) . 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For the measurements under in situ conditions a temperature regulated **In-situ studies of protein-resistant self-assembling monolayers** In-situ studies of protein-resistant self-assembling monolayers: Polarisation Modulation Infrared Spectroscopy measurements under aqueous conditions: Stefan **Buy In-Situ Studies Of Protein-Resistant Self-Assembling - Paytm** Infrared spectroscopy is a well suited technique for the identification of The surface sensitive polarization modulation infrared reflection absorption spectroscopy liquid layer cell measurements under aqueous conditions (in-situ) with a very **In-situ studies of protein-resistant self-assembling monolayers** May 22, 2014 Significantly, under dry conditions, a thin (2 nm in thickness) overlayer of Specifically, in this study, we use infrared spectroscopic methods to studies have focused on peptides and proteins dried from bulk aqueous solutions, self-assembled monolayers studied using polarization modulation infrared **Comparison of the Influence of Humidity and d-Mannitol on the In-situ studies of protein-resistant self-assembling monolayers** 1. dec 2010 In-Situ Studies of Protein-Resistant Self-Assembling Monolayers The surface sensitive polarization modulation infrared reflection absorption spectroscopy liquid layer cell measurements under aqueous conditions (in-situ) **In-Situ Studies of Protein-Resistant Self-Assembling Monolayers** In-Situ Studies Of Protein-Resistant Self-Assembling Monolayers: Polarisation Modulation Infrared Spectroscopy Measurements Under Aqueous Conditions. **Interfacial Systems Chemistry: Ou - RSC Publishing** In-situ studies of protein-resistant self-assembling monolayers - Polarisation Modulation Infrared Spectroscopy measurements under aqueous conditions - **9783838122687 - Stefan Zorn - In-situ studies of protein-resistant** In-Situ Studies of Protein-Resistant Self-Assembling Monolayers (Ingles) Capa sensitive polarization modulation infrared reflection absorption spectroscopy thin liquid layer cell measurements under aqueous conditions (in-situ) with a very 1. Okt. 2010 In-situ studies of protein-resistant self-assembling monolayers . region it is challenging to measure molecules in aqueous environment (in-situ). polarization modulation infrared reflection absorption spectroscopy (PMIRRAS) glycol) thiols on gold was investigated in real time under in-situ conditions. **In-situ studies of protein-resistant self-assembling monolayers** Jan 30, 2013 Thus, the kinetics of the adsorption of proteins on polymer surfaces must be via atomic force microscopy (AFM see Self-assembled monolayers (SAMs)). . The time-resolved ATR-IR spectra of the sorption process of water into the bound to the ionomer dehydrates only slightly under these conditions. **In-situ studies of protein-resistant self-assembling monolayers** Dec 21, 2006 Studied Using Polarization Modulation Infrared Spectroscopy. M. W. A. The interaction with water of protein-resistant monolayers (SAMs), self-assembled from was studied using in and ex situ polarization-modulated Fourier . Instead, a reference sample was measured under the .. aqueous solutions. **Hydration of Oligo(ethylene glycol) Self-Assembled Monolayers** Apr 25, 2016 In this work, protein adsorption studies were carried out at carbon surfaces functionalized Surface IR reflectance absorption

spectroscopy and quartz crystal carbohydrate adlayers under a variety of conditions thus preventing interfacial . Table 2: BSA adsorption measurements at a-C, Gal-C and Lac-C **In-Situ Studies of Protein-Resistant Self-Assembling Monolayers** In-Situ Studies of Protein-Resistant Self-Assembling Monolayers: The surface sensitive polarization modulation infrared reflection absorption spectroscopy liquid layer cell measurements under aqueous conditions (in-situ) with a very high **In-Situ Studies of Protein-Resistant Self-Assembling Monolayers** by Apr 25, 2016 In this work, protein adsorption studies were carried out at carbon surfaces Surface IR reflectance absorption spectroscopy and quartz crystal carbohydrate adlayers under a variety of conditions thus preventing interfacial exchange . (QCM) measurements of protein mass were also carried out ex situ. **Stefan Zorn LinkedIn** We studied the growth of self-assembling monolayers of C11Eg6OMe on gold under aqueous With the help of polarisation modulation infrared reflection absorption spectroscopy amorphous spectral features under aqueous conditions indicating a strong and protein resistant properties of OEG SAMs is also their. **Modulation of Protein Fouling and Interfacial Properties - NCBI - NIH** Dec 21, 2006 Results relating protein resistance and surface coverage will be sample was measured under the same conditions, and its spectrum was .. By means of (polarization-modulated) infrared reflection adsorption spectroscopy, we after immersion in water as well as in situ, under a water layer of 24 nm. **In-situ studies of protein-resistant self-assembling monolayers** In-situ studies of protein-resistant self-assembling monolayers: Polarisation Modulation Infrared Spectroscopy measurements under aqueous conditions by **Hydration of Oligo(ethylene glycol) Self-Assembled Monolayers** Self-Assembled Monolayers. Studied Using Polarization Modulation Infrared Spectroscopy Theinteractionwithwaterofprotein-resistantmonolayers(SAMs) **On the Stability of Oligo(ethylene glycol - ACS Publications** Buy In-situ studies of protein-resistant self-assembling monolayers: Polarisation Modulation Infrared Spectroscopy measurements under aqueous conditions by