

<b>Dokumenttyp:</b>	Konferenzbeitrag
<b>Autor(en) des Beitrags:</b>	De, A.; Keim, K.; Tornow, M.; Cattani-Scholz, A.
<b>Titel des Beitrags:</b>	Horizontal $\gamma$ -PNA immobilization through organophosphonate chemistry for biosensing applications
<b>Abstract:</b>	<p>Silicon-based field effect devices have been widely investigated in recent years for the label-free detection of DNA hybridization. The devices rely on detecting changes in the electrical surface potential that occur as a result of adsorbing charged DNA. To provide surface-immobilized affinity receptors for DNA hybridization, a suitable organic interface is obligatory that has a high density of receptor binding sites and a short distance between surface and probe DNA or its analogue, peptidic nucleic acid (PNA), to minimize electrolyte screening effects. In this work, we report on the bio-functionalization and characterization of silicon oxide-terminated surfaces with <math>\gamma</math>-PNA through organophosphonate interfacial chemistry. Functionalizing via attachment groups at the <math>\gamma</math>-points along the PNA backbone allows for multidentate binding of the PNA receptor in a lying configuration on the device surface, with potential application in label-free biosensing device optimization.</p>
<b>Stichworte:</b>	Organophosphonate interfaces; DNA/PNA hybridization; Biosensing; Electrolyte screening
<b>Kongress- / Buchtitel:</b>	

Nanotechnology (IEEE-NANO) , 2015 IEEE 15th International Conference on

**Kongress / Zusatzinformationen:**

Rome, Italy, 27-30 July 2015 2015-07

**Verlag / Institution:**

IEEE Xplore Digital Library

**Jahr:**

2015

**Quartal:**

3. Quartal

**Jahr / Monat:**

2015-07

**Monat:**

Jul

**Sprache:**

en

**Volltext / DOI:**

doi:10.1109/NANO.2015.7485974

**WWW:**

<http://ieeexplore.ieee.org/document/7485974/>

**Occurences:**

· Einrichtungen > Fakultäten > Fakultät für Elektrotechnik und Informationstechnik > Lehrstühle und Professuren > Nanoelektronik (Prof. Becherer komm.) > 2015

**Entries:**