

Title (en)

AFFINITY SENSOR FOR THE DETECTION OF BIOLOGICAL AND/OR CHEMICAL SPECIES AND USE THEREOF

Title (de)

AFFINITÄTSSENSOR ZUM NACHWEIS BIOLOGISCHER UND/ODER CHEMISCHER SPEZIES UND DESSEN VERWENDUNG

Title (fr)

CAPTEUR D'AFFINITE POUR LA DETECTION D'ESPECES BIOLOGIQUES ET/OU CHIMIQUES, ET SON UTILISATION

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Application

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Abstract (en)

[origin: WO0118242A1] The invention relates to an affinity sensor for the detection of biological and/or chemical species which enables rapid, quantitative and simple detection of the presence of biological and/or chemical species in particular on surfaces in the lower to middle micrometer range. The sensor, depending on the embodiment, consists of an optically transparent or a partially reflecting substrate (1) which is provided with several, voneinander beabstandeten microstructured binding surfaces (2), whose surface compared to the diameter of the nanoparticles (3) and above the light optical refractive limit is chosen to be of such a size that said nanoparticles (3), which are provided with coupling partners (4), which have a selective affinity to the binding surfaces (2) or (DNA) sequences specifically bound thereto such that they can bind durably to the binding surfaces (2) or specifically bound to the said sequences (DNA), dass auf one or more binding surfaces (2) eine so large number of nanoparticles (3) unter Ausbildung von nanoparticle occupation (31) anbindbar can be connected, dass die von der nanoparticle covarge (31) covered surface relative to the surface Fläche einer Bindefläche (2) can comprise at least 0.1 %, whereby all binding surfaces together (2) zusammen in such active surfaces are arranged, such that they together with the object of a standard optical light microscope with a numerical mit aperature between 0.1 .and 0.9, for determining the nanoparticle occupation (31) generated optical absorption, reflection or scattering or by a device for the determination of plasmonen resonances.

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