

Title (en)

GRATING OPTICAL WAVEGUIDE STRUCTURE FOR MULTI-ANALYTE DETERMINATIONS AND THE USE THEREOF

Title (de)

GITTER-WELLENLEITER-STRUKTUR FÜR MULTIANALYTBESTIMMUNGEN UND DEREN VERWENDUNG

Title (fr)

STRUCTURE RETICULAIRE DE GUIDE D'ONDES POUR DETERMINER DES MULTI-ANALYTES ET SON UTILISATION

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Application

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Abstract (en)

[origin: WO0188511A1] The invention relates to variable embodiments of a grating optical waveguide structure which enables the determination of locally resolved modifications of the resonance conditions for injecting an excitation light into the wave-guiding layer (a) of a stratified optical waveguide via the grating structure (c) modulated in said layer (a) or for extracting a light guided inside layer (a). The inventive system comprises arrays of measuring areas produced thereupon each having different immobilized biological or biochemical or synthetic identification elements for simultaneously binding and determining one or more analytes. Said excitation light is simultaneously irradiated onto an entire array of measuring areas, and the degree of satisfaction of the resonance condition for the injection of light into the layer (a) is simultaneously measured in said measuring areas. The invention also relates to an optical system comprising at least one excitation light source and at least one locally resolving detector and, optionally, positioning elements for altering the angle of incidence of the excitation light onto the inventive grating optical waveguide structure. The invention additionally relates to a corresponding measuring method and to the use thereof. Surprisingly, it has been found that the inventive method is well-suited as an imaging detection method with high local resolution and sensitivity.

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