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(54) Title: PLASMON GRATING BIOSENSOR

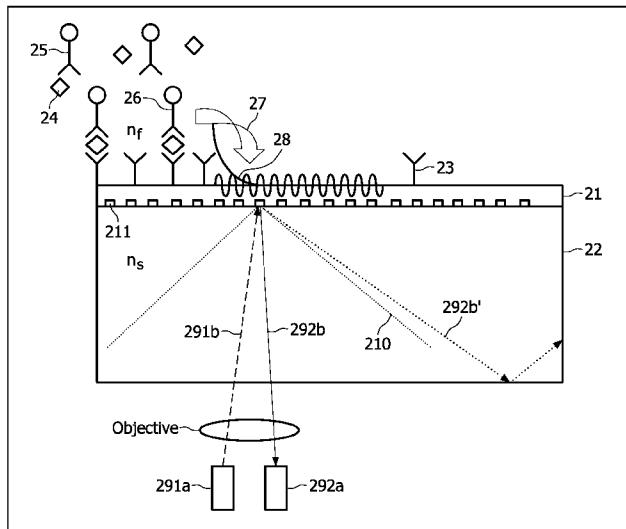


FIG. 2

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(57) Abstract: The present invention discloses a novel concept for real-time, high-sensitivity optical biosensing that is suitable for cheap and simple incorporation in existing standard microscopes, and other similar apparatuses. Moreover, the present invention proposes to use surface plasmon polaritons (SPPs) on gold structured surfaces to localize the excitation and/or detection volume in an optical biosensor to a range <500 nm above the substrate surface. According to some embodiments the excitation and detection are performed on the substrate side, and the structure of the metal film is designed such that the excitation and the emission light path travel nearly perpendicular to the metal film.

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**A. CLASSIFICATION OF SUBJECT MATTER**

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According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
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See patent family annex.

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