

[SS 1] biosensor

Results in EPODOC 13.131

[SS 2] 1 and (biological or chemical)

Results in EPODOC 2.033

[SS 3] 2 and analysis

Results in EPODOC 214

[SS 4] 3 and detection

Results in EPODOC 74

[SS 5] 4 and device

Results in EPODOC 13

[SS 6] ..v

[EPODOC: SS 6] ..li



- 1/13 © EPODOC / EPO
- PN

- [AU2017248518](#) A1 20171109
- PR

- AU20170248518
20171019; AU20160200124
20160108; AU20120352379
20121212; US201161570016P
20111213; WO2012US69192 20121212
- AP

- AU20170248518 20171019
- DT

- I
- CCI

- [G01N33/12](#) ; [G01N21/763](#)
- CUI

- [C12Q1/10](#) ; [G01N33/56916](#)
- CQI

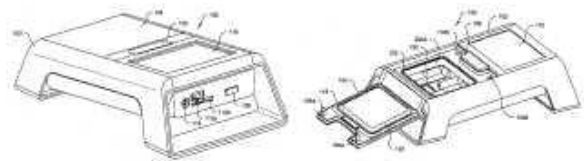
- [G01N21/75](#)
- CCA

- [G01N2201/0221](#)
- PA

- FUNDAMENTALSOLUTIONSCORP
- TI

- **Device** for Rapid **Detection** of
Infectious Agents
- AB

- The invention is directed to a system
for use in sample **analysis** The system
comprises a **biosensor** reagent, wherein
the **biosensor** reagent includes
living **biological** cells; a reservoir card,
wherein the reservoir card stores
the **biosensor** reagent; and a test
cartridge base, wherein the test
cartridge base is configured to accept
the reservoir card. The test cartridge
base may further include a reaction
chamber having a central axis, wherein
the reaction chamber has the shape of
a revolved half ellipse; and an inlet
channel connected to the reaction
chamber, wherein the inlet channel is
positioned above the reaction chamber



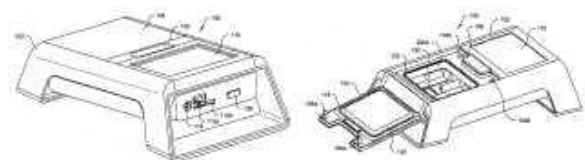
at an angle of 15-60 degrees above the horizontal, and wherein the inlet channel is offset from the central axis of the reaction chamber.

2/13 © EPODOC / EPO

- PN - [CN107238645](#) A 20171010
- PR - CN20171329483 20170511
- AP - CN20171329483 20170511
- DT - I
- CNOI - [C12Q1/001](#) ; [G01N27/3277](#) ; [G01N27/48](#)
- CNOA - [G01N2333/904](#)
- PA - BIOLOGY INST SHANDONG ACAD SCI
- TI - Glucose oxidase screen-printed electrode for online **detection** and preparation method thereof
- AB - The invention provides a glucose oxidase screen-printed electrode for online **detection** and a preparation method thereof. According to the electrode, Prussian blue doped carbon-based screen-printed electrode prepared by a **chemical** deposition method is used as an electrochemical transduction **device**, and is modified by an immobilized glucose oxidase layer to form an enzyme **biosensor**. The electrode can be used for effectively avoiding interference caused by complex ingredients in a fermentation broth, and has the characteristics of recycling and good signal reproducibility, so that the requirement for conventional fermentation online **analysis** can be met. A chemically modified electrode is prepared by adopting a screen-printing process to improve the reproducibility, and can be used for batch production. Furthermore, the enzyme immobilization method used in the electrode is simple, and the aim of effectively limiting enzyme preparation loss can be achieved by using cellulose filter paper and glass cellulose filter paper and other simple materials. The glucose oxidase screen-printed electrode is applicable to modification of enzyme electrode batch production and has enough long enzyme activity life.

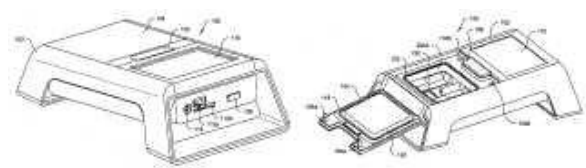
3/13 © EPODOC / EPO

- PN - [RU2014128554](#) A 20160210
- PNFP - RU2600812 C2 20161027
- PR - US201161570016P
20111213; WO2012US69192 20121212
- AP - RU20140128554 20121212
- DT - I
- CCI - [G01N33/12](#) ; [G01N21/763](#)
- CUI - [C12Q1/10](#) ; [G01N33/56916](#)
- CQI - [G01N21/75](#)
- CNOI - (C2)
[G01N33/48](#)
- CCA - [G01N2201/0221](#)
- PA - (C2)
FANDEMENTAL SOLYUSHNZ
KORPOREJSHN [US]
- TI - (C2)
**DEVICE FOR FAST DETECTION OF
INFECTIOUS AGENTS**
- AB - (C2)
FIELD: biotechnology.SUBSTANCE: group of inventions relates to **detection** of contaminants in **biological** samples. System for fast **detection** of presence of an infectious agent in a **biological** sample is disclosed containing: a. one **biosensor** reagent, which includes, at least, one antibody specific to predetermined infectious agent and



bioluminescent agent, b. disposable recycled test cartridge, wherein said recycled test cartridge includes: (i) container map, wherein said container map further includes **biosensor** reagent; (ii) test cartridge base, made with possibility to receive container map, and test cartridge base further includes: (a) one reaction chamber with central axis, wherein said one reaction chamber has the shape of rotating semi-ellipse; (b) input channel connected to reaction chamber arranged above reaction chamber at an angle of 15-60 degrees over horizontal line and shifted from central axis of reaction chamber, and (c) test cartridge base is configured to receive **biological** sample through input channel, wherein reaction chamber is made with possibility of homogeneous mixing of **biological** sample with **biosensor** reagent with minimal damage to living cells, genetically engineered B-lymphocytes and minimization of any formation of bubbles in mixed **biosensor** reagent and **biological** sample, and c. testing unit configured to receive disposable recycled test cartridge, wherein testing unit comprises sensor for detecting of detected light signal emitted by **biosensor** reagent after reaction with **biological** sample, mark the presence of infectious agent in **biological** sample, wherein sensor is designed to detect specific infectious agent in **biological** sample in real time. Following things are also described: versions of testing **device** for real-time **detection** of analyte in **biological** sample, system for use in sample **analysis**, system for fast **detection** of presence of analyte in **biological** sample, test cartridge assembly for facilitating real-time **detection** of infectious agent in **biological** sample and versions of test cartridge for use in **analysis** of samples. EFFECT: fastness, high sensitivity, simplicity and efficiency of **detection** are achieved.66 cl, 29 dwg

4/13	© EPODOC / EPO
PN	- AU2016200124 A1 20160204
PNFP	- AU2016200124B B2 20170720
PR	- AU20160200124 20160108; AU20120352379 20121212; US201161570016P 20111213; WO2012US69192 20121212
AP	- AU20160200124 20160108
DT	- I



CT - || STSE (B2)
[US2011212453](#) A1 20110901 [
] (AGARWAL ABHISHEK K [US], et al);
[US2010062415](#) A1 20100311 [
] (SCHWOEBEL ERIC [US], et al)

CCI - [G01N33/12](#) ; [G01N21/763](#)

CUI - [C12Q1/10](#) ; [G01N33/56916](#)

CQI - [G01N21/75](#)

CCA - [G01N2201/0221](#)

PA - (A1 B2)
FUNDAMENTALSOLUTIONSCORP

TI - (A1 B2)
Device for Rapid **Detection** of
Infectious Agents

AB - (A1 B2)
The invention is directed to a system
for use in sample **analysis**. The system
comprises a **biosensor** reagent, wherein
the **biosensor** reagent includes
living **biological** cells; a reservoir card,
wherein the reservoir card stores
the **biosensor** reagent; and a test
cartridge base, wherein the test
cartridge base is configured to accept
the reservoir card. The test cartridge
base may further include a reaction
chamber having a central axis, wherein
the reaction chamber has the shape of
a revolved half ellipse; and an inlet
channel connected to the reaction
chamber, wherein the inlet channel is
positioned above the reaction chamber
at an angle of 15-60 degrees above the
horizontal, and wherein the inlet
channel is offset from the central axis
of the reaction chamber. - -C- 7----- 17
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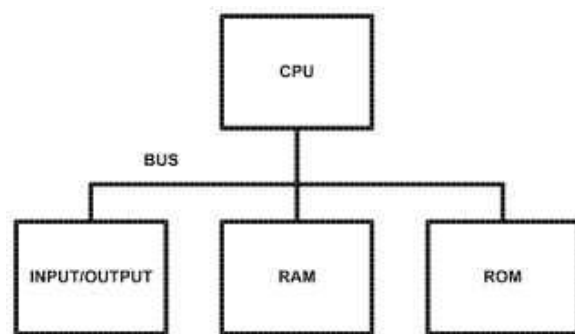
PN - [CN105259320](#) A 20160120

PR - CN20151858496 20151130

AP - CN20151858496 20151130

DT - I

CT - || STSE (A)
[CN2511972Y](#) Y 20020918 [A] (SHUKANG BIOLOG SCIENCE & TECHN [CN])
[A] 1-5
* 全文 *;
[CN1646899](#) A 20050727 [A] (MATSUSHITA ELECTRIC IND CO LTD [JP])
[A] 1-5
* 全文 *;
[WO2008100553](#) A1 20080821 [A] (LOS ALAMOS NAT SECURITY LLC [US], et al)
[A] 1-5
* 全文 *;
[CN101349643](#) A 20090121 [Y] (UNIV PLA 3RD MILITARY MEDICAL [CN])
[Y] 1-5
* 说明书第1页第1段、说明书第3页第4段 *;
[CN102192938](#) A 20110921 [A] (BINGZHAO HUANG)
[A] 1-5
* 全文 *;
[CN102507693](#) A 20120620 [A] (UNIV GUILIN MEDICAL)
[A] 1-5

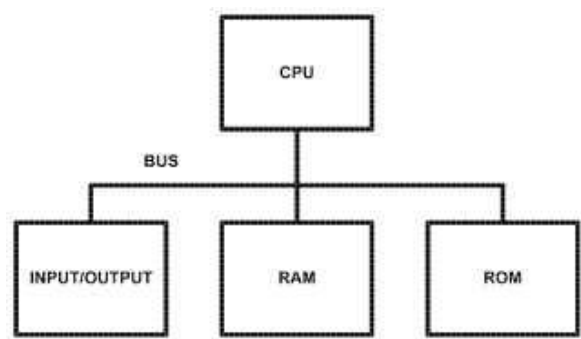


	density picolitre reactors. Nature 2005, Vol 437, pg 276-380.
	- STSE (B2)
	[] - JH Leamon, JM Rothberg. Cramming More Sequencing Reactions onto Microreactor Chips. Chem Rev 2007, vol. 107, p. 3367-3376.
	[] - M Marguiles et al. Genome-sequencing in microfabricated high-density picolitre reactors. Nature 2005, vol. 437, p. 276-380.
CCI	- G06F17/303
CUI	- G01N21/6486 ; G01N33/6875
PA	- (A1 B2) ILLUMINA INC [US]
TI	- (A1) BIOSENSORS FOR BIOLOGICAL OR CHEMICAL ANALYSIS AND SYSTEMS AND METHODS FOR SAME
	- (B2) Biosensors for biological or chemical analysis and systems and methods for same
AB	- (A1) A biosensor is provided including a detection device and a flow cell mounted to the detection device . The detection device has a detector surface with a plurality of reaction sites. The detection device also includes a filter layer that is configured to at least one of (a) filter unwanted excitation light signals; (b) direct emission signals from a designated reaction site toward one or more associated light detectors that are configured to detect the emission signals from the designated reaction site; or (c) block or prevent detection of crosstalk emission signals from adjacent reaction sites.
	- (B2) Method of analyzing signal data from a biosensor including a detection device having an array of light detectors. The method includes obtaining signal data from the light detectors. The signal data includes light scores that are based on an amount of light detected by the light detectors during a plurality of imaging events. The method also includes analyzing the light scores from a group of light detectors for each of the plurality of the imaging events. The method also includes determining respective crosstalk functions of the light detectors in the group. Each of the crosstalk functions for a corresponding light detector is based on the amount of light detected by other light detectors in the group. The

method also includes analyzing the signal data for each of the imaging events using the crosstalk functions to determine characteristics of the analytes-of-interest.

7/13 © EPODOC / EPO

- PN - [US8906320](#) B1 20141209
- PR - US201313833619
 20130315; US201261625051P
 20120416
- AP - US201313833619 20130315
- DT - **
- CCI - [G06F17/303](#)
- CUI - [G01N21/6486](#) ; [G01N33/6875](#)
- PA - ILLUMINA INC [US]; ILLUMINA INC [US]
- TI - Biosensors for **biological** or **chemical analysis** and systems and methods for same
- AB - A **biosensor** is provided including a **detection device** and a flow cell mounted to the **detection device**. The **detection device** has a detector surface with a plurality of reaction sites. The **detection device** also includes a filter layer that is configured to at least one of (a) filter unwanted excitation light signals; (b) direct emission signals from a designated reaction site toward one or more associated light detectors that are configured to detect the emission signals from the designated reaction site; or (c) block or prevent **detection** of crosstalk emission signals from adjacent reaction sites.



8/13 © EPODOC / EPO

- PN - [CN103616357](#) A 20140305
- PR - CN20131626273 20131202
- AP - CN20131626273 20131202
- DT - I
- CT - || STSE (A)
[WO2013039858](#) A2 20130321 [A] (NANOSELECT INC [US], et al) [A]
[US2012068154](#) A1 20120322 [A] (HWANG SUNG-WON [KR], et al) [A]
[CN101846648](#) A 20100929 [A] (UNIV SHANGHAI) [A]
[CN101973544](#) A 20110216 [A] (SHANGHAI INST MICROSYS & INF) [A]
[CN102175729](#) A 20110907 [A] (UNIV QINGDAO SCIENCE & TECH) [A]
[XP022023319](#) A 00000000 [A]
- CTNP - || STSE (A)
 [Y] 梅青松,
 "荧光氧化石墨烯的制备及其在生物传感器中的应用", <<中国博士学位论文全文数据库 工程技术辑>>, (20130115), no. 1, PAGE 020 - 26
 [Y]
 B020-26

[A] 吴春霞,
"石墨烯纳米复合材料的制备与表征", <<中国优秀硕士学位论文全文数据库 工程科技I辑>>, (20120515), no. 5, PAGE 020 - 264

[A]
B020-264

[A] 徐超等,
"基于石墨烯的材料化学进展", <<应用化学>>, (20110131), vol. 28, no. 1, PAGE 1 - 9

[A]
1-9

[Y] 张景春,
"水溶性碳量子点荧光探针的制备及其性质研究", <<中国优秀硕士学位论文全文数据库 工程科技I辑>>, (20120715), no. 7, PAGE 014 - 13

[Y]
B014-13

[A] Matsuo Y, et al., "Preparation and characterization of Alkylamine-Interlated graphite oxides", <Carbon>, (20071231), vol. 45, no. 5, doi:doi:[10.1016/j.carbon.2006.12.023](https://doi.org/10.1016/j.carbon.2006.12.023), PAGE 1005 - 1012, XP022023319

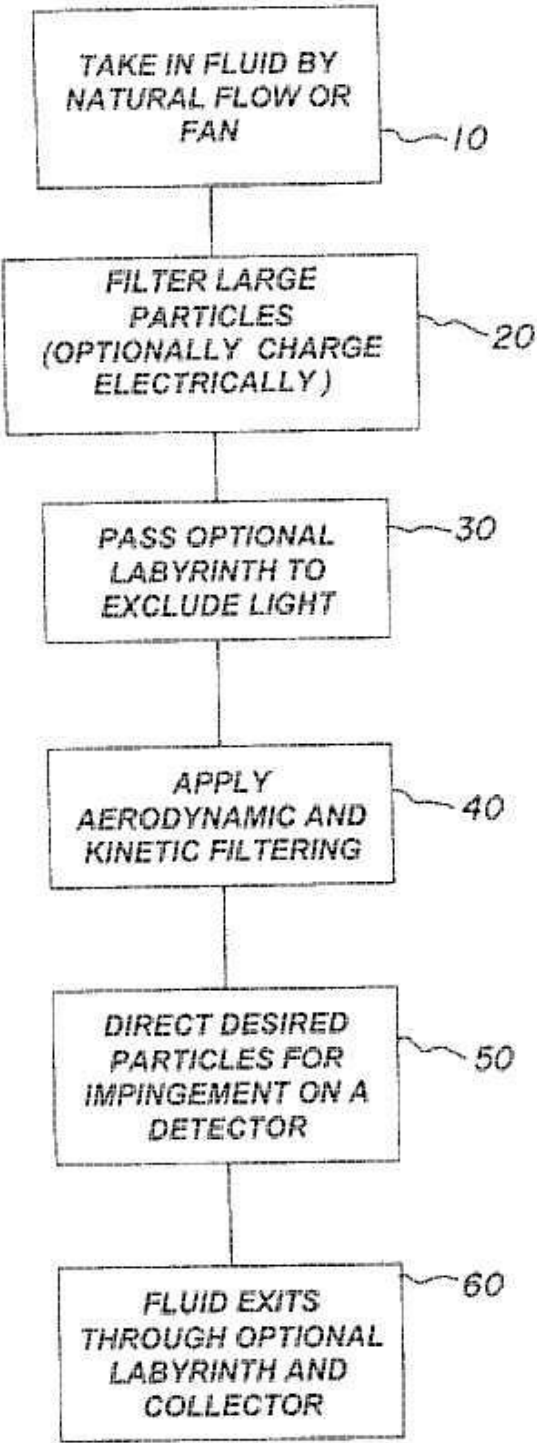
[A]
1005-1012

PA - UNIVJIANGSU

TI - Visual **biosensor device** and preparation method thereof

AB - The invention discloses a visual **biosensor device** and a preparation method thereof. According to the invention, excellent electrical and optical properties and advantages in aspects of biology of GQD (graphene quantum dots) multicolor fluorescence are integrated, GQD samples with different sizes and different luminous colors are prepared by adopting a wet chemistry method, **chemical** characteristics of the surfaces and the edges of GQDs and assembly of subsequent biomolecules are fully considered, proper **chemical** groups are selected to perform functional treatment on the surfaces and edges of the GQDs, and different biomolecules are respectively assembled at different fluorescence GQDs to establish a **biosensor**. The biomolecules have different influences on the GQD fluorescence, a quantitative association exists between the characteristic parameters such as spectral intensity and peak position and the concentrations and types of the biomolecules, visual molecule **detection** is directly performed on the basis, the preparation method can be applied to biomedicine **detection** and **analysis**, and accurate reference is provided for disease diagnosis and treatment. Moreover, multiple biomolecules are conveniently detected.

PN	- US2004029183 A1 20040212
PNFP	- US7029852 B2 20060418
PR	- US20020190894 20020708; WO2001US21820 20010711; US20000613942 20000711
AP	- US20020190894 20020708
DT	- **
CT	- STSE (B2) US5841037 A 19981124 [] (ULFIK BENNO [DE], et al) US6090545 A 20000718 [] (WOHLSTADTER JACOB [US], et al) US6478856 B1 20021112 [] (LEIBHOLZ STEPHEN [US], et al) - R141 (A1) US5290707 A []; US6051388 A []; US5526685 A []; US6087114 A []; US6090545 A []; US6105440 A []; US5841037 A []; US6478856 B1 []
CCI	- G01N1/2202 ; G01N1/40 ; G01N15/0255 ; G01N33/54373
CCA	- G01N2015/0088
TI	- (A1 B2) Apparatus and method for detecting and classifying chemicals, particles, vira, and bacteria in fluids
AB	- (A1 B2) The present invention is drawn to the detection of harmful agents, known or previously unknown, using a biosensor . The biosensor makes use of non-living biological or biochemical sensor molecules for detecting and classifying chemicals, poisons, particles, vira, and bacteria in fluids. In a preferred embodiment, the bioreceptor comprises sensor molecules packaged in a collection device and treated to evoke an optical response to the presence of harmful agents, allowing for photocell detection and signal processing. The sensor molecules are selected from the group of biological molecules consisting of aptamers, single-chain nucleic acids, double- chain nucleic acids, hybridized chemicals incorporating these molecules and combinations thereof that bind with harmful agents. The harmful agents can also be collected in this manner for further analysis , and antibodies produced by the apparatus.



PN

- [WO0043552](#) A2 20000727

PNFP

- WO0043552 A3 20001102

PR

- US19990236758 19990125

AP

- WO2000US02051 20000125

DT

- *; Rep

CT

- |EP| ISR (A3)

[WO9927140](#) A1 19990603

[PX] (LOCKHEED MARTIN ENERGY RES COR [US], et al)

[PX] 1-41

* abstract *

* page 25, line 7 - line 12 *

* page 43, line 25 - page 51, line 10 *

* page 78, line 12 - page 79, line 3 *

* figures 3-14; claim - *;

[WO9322678](#) A2 19931111

[A] (MASSACHUSETTS INST TECHNOLOGY [US], et al)

[A] 1-11,13-17,19-21,27-37,39-41

* abstract *

* page 1, paragraph 1 *

* page 4, line 26 - page 5, line 5 *

* page 7, line 27 - page 8, line 3 *

* page 8, line 14 - line 24 *

* page 9, line 4 - line 10 *

* page 19, line 9 - line 21 *

* page 24, line 8 - line 13 *

* page 40, line 16 - line 21 *

* page 41, line 19 - page 42, line 14 *

* page 45, line 18 - line 21 *

* table III *;

[US5658732](#) A 19970819 [A] (EBERSOLE RICHARD CALVIN [US], et al)

[A] 1

* column A *

* column 1, line 18 - line 23 *

* column 1, line 31 - line 34 *

* column 6, line 24 - line 27 *

* column 9, line 46 - line 52 *

* column 14, line 33 - line 35 *

CCI

- [C12Q1/001](#) ; [G01N21/6428](#) ; [G01N21/6454](#) ; [G01N33/54373](#)

CCA

- [G01N33/48735](#) ; [G01N2021/6432](#)

PA

- (A2)

LOCKHEED MARTIN ENERGY RES COR [US]; VO DINH TUAN [US]

- (A3)

UT BATTELLE LLC [US]; VO DINH TUAN [US]

TI

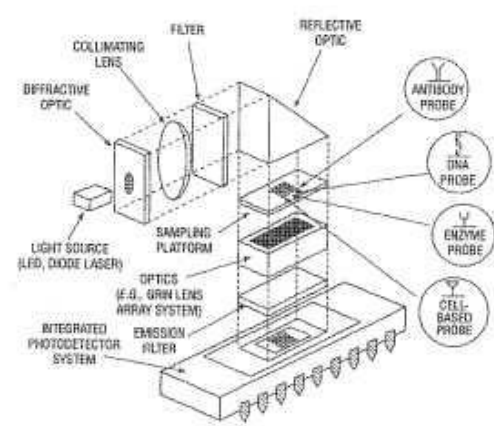
- (A2 A3)

MULTIFUNCTIONAL AND MULTISPECTRAL **BIOSENSOR** DEVICES AND METHODS OF USE

AB

- (A2)

Disclosed are advanced multifunctional biochip devices capable of specifically detecting and quantitating multiple biomolecular target compounds, such as polypeptides, polynucleotides, and other intracellular and extracellular biomolecules. In illustrative



embodiments, the miniaturized multifunctional **biosensor device** comprises multiple **biological** sensing elements, excitation micro-lasers, a sampling waveguide equipped with optical fluorescence detectors, integrated electro-optics, a bio-telemetric radio frequency signal generator, and a plurality of molecular probes, all contained on a single integrated circuit, or "biochip". The biochip is suitable for multi-gene **analysis**, and multi-peptide **detection**, as well as simultaneous **detection** and quantitation of polynucleotide and polypeptide species using a single biochip **device**. Also disclosed are methods that permit rapid, large-scale, and cost-effective production of such biochip devices, as well as their use in the **detection** and quantitation of multiple species in a single mixed **biological** sample.

- (A2 A3)
GB0000079 are advanced multifunctional biochip devices capable of specifically detecting and quantitating multiple biomolecular target compounds, such as polypeptides, polynucleotides, and other intracellular and extracellular biomolecules. In illustrative embodiments, the miniaturized multifunctional **biosensor device** comprises multiple **biological** sensing elements, excitation micro-lasers, a sampling waveguide equipped with optical fluorescence detectors, integrated electro-optics, a bio-telemetric radio frequency signal generator, and a plurality of molecular probes, all contained on a single integrated circuit, or "biochip". The biochip is suitable for multi-gene **analysis**, and multi-peptide **detection**, as well as simultaneous **detection** and quantitation of polynucleotide and polypeptide species using a single biochip **device**. Also disclosed are methods that permit rapid, large-scale, and cost-effective production of such biochip devices, as well as their use in the **detection** and quantitation of multiple species in a single mixed **biological** sample.

DT - I

FI - G01N33/543&593; G01N5/02&A

PA - EXON SCIENCE INC

TI - BIOVEHICLE, **BIOSENSOR**, AND BIOTRANSDUCER SYSTEM

AB - PROBLEM TO BE SOLVED: To provide a biovehicle which provides substitutive choices for trapping a **chemical** substance such as an aromatizing agent, medicines, pigment and the like.

- SOLUTION: A bioelectronics system for detecting a wide range of **chemical** substances is achieved by incorporating the ligand bonding affinity of lipocalin due to a mass detecting electronic **device**. The biotransducer system is constituted by combining the intrinsic ligand bonding affinity of lipocalin and a **device** of a high-sensitivity piezoelectric base. This system is more enhanced in reliability and economical as an "artificial nose" and flexibly adapted to many uses in a **detection** test. As an adaptation example, atomospheric environment monitoring, quality control of cosmetics and fermentation products, medical diagnosis through exhalation **analysis** and the like are designated. These proteinous elements have high possibility expanded to some latent adaptations, for example, for refining and transmitting a specific ligand.

- COPYRIGHT: (C)2006,JPO&NCIPI

12/13 © EPODOC / EPO

PN - [CN101126735](#) A 20080220

PNFP - CN101126735B B 20100623

PR - CN20071152069 20070930

AP - CN20071152069 20070930

DT - I

PA - (A)
DONG YIYANG REN DONGMEI [CN]

- (B)
YIYANG DONG; DONGMEI REN

TI - (A)
Biosensor and its preparation method and **detection** method using said **biosensor**

- (B)
Field effect transistor **biosensor** preparation method

AB - (A B)
The utility model provides a field effect transistor **biological** sensor, comprising a substrate and a sealing body. The sealing body is provided with a plurality of groove type channels, specimen feeding channels and specimen discharge channels, at least one pair of metal electrodes are horizontally arranged in each groove type channel and are respectively used as a source pole and a leak pole of the field-effect transistor. A carbon nanometer tube is arranged between the metal electrodes, the metal electrodes and the carbon nanometer tube are welded together each other. Pins are arranged below the substrate and are connected with the metal electrodes by conductive glue having insulation layer. The utility model also provides a preparation method based on the field-effect transistor and adopts the inspection **device** of the sensor. The utility model has the advantages that multi objectives can be used for inspection so as to perform high-flux and high sensitivity, enabling compact structure, less sample usage amount, simple process, low cost, suitability for batch production, simple and convenient operation, rapid **analysis** speed, thus online control and inspection automation.

13/13 © EPODOC / EPO

PN - [CA2358699](#) A1 20000727

PR - US19990236758
19990125; WO2000US02051 20000125

AP - CA20002358699 20000125

DT - I

CCI - [C12Q1/001](#) ; [G01N21/6428](#) ; [G01N21/6454](#) ;
[G01N33/54373](#)

CCA - [G01N33/48735](#) ; [G01N2021/6432](#)

PA - UTBATTELLE LLC[US]

TI - ADVANCED
MULTIFUNCTIONAL/MULTISPECTRALBIOSENSOR
DEVICES ANDMETHODS OF USE

AB - GB0000079 are advanced multifunctional biochip devices capable of specifical ly detecting and quantitating multiple biomolecular target compounds, such as polypeptides, polynucleotides, and other intracellular and extracellular biomolecules. In illustrative embodiments, the miniaturized multifunctional **biosensor device** comprises multiple **biological** sensing elements, excitation micro-lasers, a sampling waveguide equipped with optical fluorescence detectors, integrated electro-optics, a bio-telemetric radio frequency signa l generator, and a plurality of molecular probes, all contained on a single integrated circuit, or "biochip". The biochip is suitable for multi-gene **analysis** and multi-peptide **detection**, as well as simultaneous **detection** and quantitation of polynucleotide and polypeptide species using a single biochi p **device**. Also disclosed are methods that permit rapid, large-scale, and cost- effective production of such biochip devices, as well as their use in the **detection** and quantitation of multiple species in a single mixed **biological** sample.

