(12) UK Patent Application (19) GB (11) 2483402 (13) A

(43) Date of Reproduction by UK Office 07.03.2012

(21) Application No: **1121512.6**

(22) Date of Filing: **02.03.2010**

Date Lodged: **14.12.2011**

(30) Priority Data:
(31) **61213404** (32) **04.06.2009** (33) **US**
(31) **61213405** (32) **04.06.2009** (33) **US**
(31) **61213406** (32) **04.06.2009** (33) **US**

(86) International Application Data:
**PCT/US2010/025904 En 02.03.2010**

(87) International Publication Data:
**WO2010/141131 En 09.12.2010**

(71) Applicant(s):
**Lockheed Martin Corporation**
**(Incorporated in USA – Maryland)**
**6801 Rockledge Drive, Bethesda, Maryland 20817,**
**United States of America**

(72) Inventor(s):
**Joan M Bienvenue**
**James P Landers**
**Orion Scott**

(74) Agent and/or Address for Service:
**Gill Jennings & Every LLP**
**The Broadgate Tower, 20 Primrose Street, LONDON,**
**EC2A 2ES, United Kingdom**

(51) INT CL:
***B01L 7/00*** (2006.01) ***B01L 3/00*** (2006.01)
***G01N 27/447*** (2006.01)

(56) Documents Cited by ISA:
**EP 1769848 A2** **WO 2008/143646 A2**
**WO 2005/094981 A1** **WO 2003/042410 A1**
**WO 2002/038809 A1**

(58) Field of Search by ISA:
INT CL **B01L, G01N**
Other: **EPO-Internal, PAJ, WPI Data**

(54) Title of the Invention: **Multiple-sample microfluidic chip for DNA analysis**
Abstract Title: **Multiple-sample microfluidic chip for DNA analysis**

(57) Aspects of the disclosure provide a microfluidic chip. The microfluidic chip includes a first domain configured for polymerase chain reaction (PCR) amplification of DNA fragments, and a second domain for electrophoretic separation. The first domain includes at least a first reaction reservoir designated for PCR amplification based on a first sample, and a second reaction reservoir desginated for PCR amplification based on a second sample. The second domain includes at least a first seperation unit coupled to the first reaction reservoir to received first amplified DNA fragments based on the first sample, and a second serpataion unit coupled to the second reaction reservoir to received second amplified DNA fragments based on the second sample. The first separation unit is configured to perform electrophoretic separation for the first amplified DNA fragments, and the second separation unit is configured to perform electrophoretic separation for the second amplified DNA fragments.

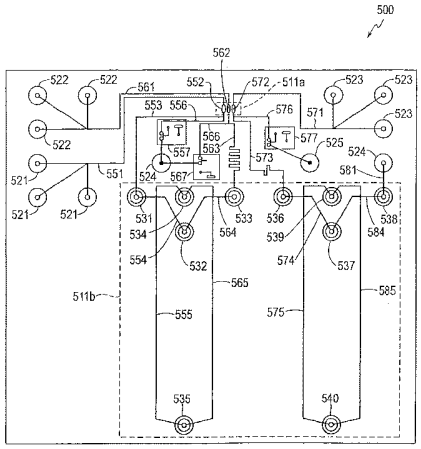


FIG. 5

GB 2483402 A