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A3

(54) Title: MICROFABRICATED DEVICES FOR THE STORAGE AND SELECTIVE EXPOSURE OF CHEMICALS AND DEVICES

(57) Abstract: Microchip devices are provided which include a substrate having a plurality of reservoirs containing a secondary device, a reacting component, or a combination thereof. At least one barrier layer covers each reservoir to isolate the reservoir contents from one or more environmental components outside the reservoirs. The barrier layer can be selectively disintegrated or permeabilized to expose the isolated contents to the one or more environmental components. The secondary device preferably includes a sensor or sensing component, for example, a biosensor, or a light detection or imaging device, such as an optical fiber. Preferred reacting components include catalyst and reagent, which may be immobilized in the reservoirs.

### IN SEARCH REPORT

Int ational Application No PCT/US 01/06886

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B01L3/00 B01J19/00 A61K9/00

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

#### B. FIELDS SEARCHED

 $\begin{array}{ccc} \mbox{Minimum documentation searched} & \mbox{(classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{A61K} & \mbox{B01J} & \mbox{B01L} \\ \end{array}$ 

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, BIOSIS, WPI Data

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Y		14,15, 24-27		
X	DE 197 16 683 C (FRAUNHOFER GES FORSCHUNG) 4 June 1998 (1998-06-04) column 1, line 55 -column 2, line 46	1,8,20, 28,29,33		
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X Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
"A" document defining the general state of the art which is not considered to be of particular relevance  "E" earlier document but published on or after the international filling date  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  "O" document referring to an oral disclosure, use, exhibition or other means  "P" document published prior to the international filing date but later than the priority date claimed	<ul> <li>*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</li> <li>*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</li> <li>*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</li> <li>*&amp;* document member of the same patent family</li> </ul>
Date of the actual completion of the international search 4 December 2001	Date of mailing of the international search report $13/12/2001$
Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2  NL – 2280 HV Rijswijk  Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  Fax: (+31-70) 340-3016	Authorized officer  Tiede, R

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