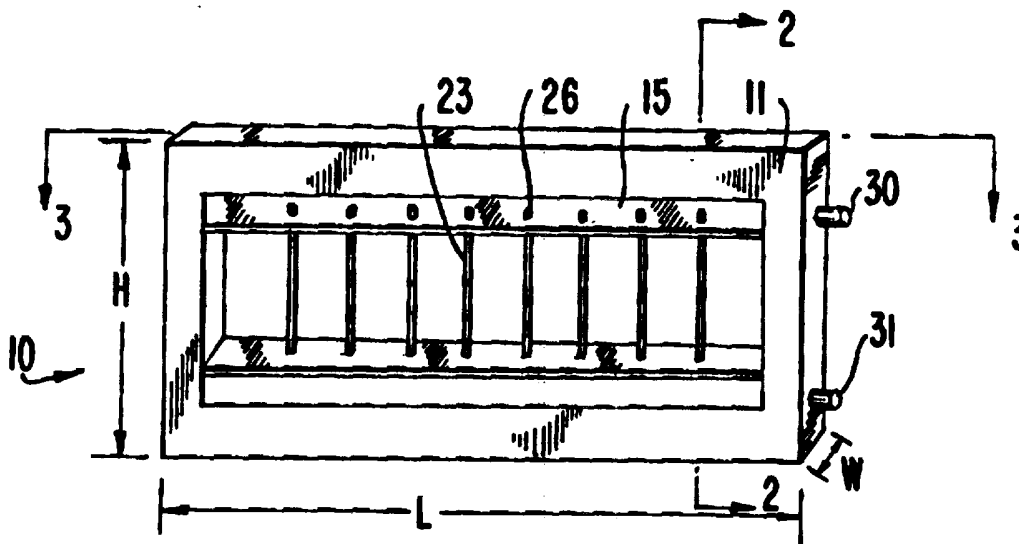




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>6</sup> : <b>G01N 35/00</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 95/21382</b></p> <p>(43) International Publication Date: 10 August 1995 (10.08.95)</p>																	
<p>(21) International Application Number: PCT/US95/01591</p> <p>(22) International Filing Date: 1 February 1995 (01.02.95)</p> <p>(30) Priority Data:</p> <table border="0"> <tr> <td>9401849.6</td> <td>1 February 1994 (01.02.94)</td> <td>GB</td> </tr> <tr> <td>9402357.9</td> <td>8 February 1994 (08.02.94)</td> <td>GB</td> </tr> <tr> <td>9404758.6</td> <td>11 March 1994 (11.03.94)</td> <td>GB</td> </tr> <tr> <td>9405565.4</td> <td>21 March 1994 (21.03.94)</td> <td>GB</td> </tr> <tr> <td>9413641.3</td> <td>6 July 1994 (06.07.94)</td> <td>GB</td> </tr> <tr> <td>9421378.2</td> <td>24 October 1994 (24.10.94)</td> <td>GB</td> </tr> </table> <p>(71)(72) Applicant and Inventor: FIELDS, Robert, E. [US/US]; 55 Clarkson Street, New York, NY 10014 (US).</p> <p>(74) Agents: HALEY, James, F., Jr. et al.; Fish &amp; Neave, 1251 Avenue of the Americas, New York, NY 10020-1104 (US).</p>	9401849.6	1 February 1994 (01.02.94)	GB	9402357.9	8 February 1994 (08.02.94)	GB	9404758.6	11 March 1994 (11.03.94)	GB	9405565.4	21 March 1994 (21.03.94)	GB	9413641.3	6 July 1994 (06.07.94)	GB	9421378.2	24 October 1994 (24.10.94)	GB	<p>(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ).</p> <p><b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 9 November 1995 (09.11.95)</p>
9401849.6	1 February 1994 (01.02.94)	GB																	
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(54) Title: MOLECULAR ANALYZER AND METHOD OF USE



## (57) Abstract

A molecular analyzer and method of use for sensitive, rapid and accurate detection of specific, or target, molecules or specific parts of molecules in a liquid sample to be detected without the use of radioisotopes. Apparatus for sealingly holding any number of sample tubes (23) containing a test sample and having pre-incorporated, internally contained detection reagents for removing unbound molecules from the sample tubes, as well as means for rapidly changing the temperature of the test sample and means for quantitating the target molecules without allowing molecules in the sample tube to contact the environment is provided. Alternatively, the apparatus may be adapted to receive detection reagents that are not preincorporated without exposing them or the test sample to the atmosphere.

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 95/01591

**A. CLASSIFICATION OF SUBJECT MATTER**

G 01 N 35/00

According to International Patent Classification (IPC) or to both national classification and IPC <sup>6</sup>

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

G 01 N, C 12 M

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)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US, A, 4 747 919 (ANDERSON) 31 May 1988 (31.05.88), abstract; figs..  --	1,30, 43,53, 64,81, 91, 102- 107, 115
A	US, A, 3 998 719 (DEML) 21 December 1976 (21.12.76), fig. 1; abstract.  --	1,30, 43,53, 64,81, 91, 102- 107, 115
A	WO, A, 92/20 778 (KINDCONIPTY) 26 November 1992 (26.11.92),	1,30, 43,53, 64,81,

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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- "&" document member of the same patent family

Date of the actual completion of the international search

04 April 1995

Date of mailing of the international search report

11.10.95

Name and mailing address of the ISA

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NARDAI e.h.

INTERNATIONAL SEARCH REPORT

-2-

International / Application No  
PCT/US 95/01591

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	<p>abstract; figs..</p> <p>-----</p>	<p>91, 102- 107, 115</p>

## INTERNATIONAL SEARCH REPORT

Internatic application No.

PCT/US 95/01591

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1. Claims 1-73,81-107,115-127 : Molecular analyzer
  2. Claims 74-80,108 : Thermal controller
  3. Claims 109-114 : Method for measuring the chemiluminescence of a test sample
- For further information please see form PCT/ISA/206 mailed 23.06.95

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-73,81-107,115-127

**Remark on Protest**

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

**ANHANG**

zum internationalen Recherchen-  
bericht über die internationale  
Patentanmeldung Nr.

**ANNEX**

to the International Search  
Report to the International Patent  
Application No.

**ANNEXE**

au rapport de recherche inter-  
national relatif à la demande de brevet  
international n°

PCT/US 95/01591 SAE 104875

In diesem Anhang sind die Mitglieder  
der Patentfamilien der in obenge-  
nannten internationalen Recherchenbericht  
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national visé ci-dessus. Les renseigne-  
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Im Recherchenbericht angeführtes Patentdokument Patent document cited in search report Document de brevet cité dans le rapport de recherche		Datum der Veröffentlichung Publication date Date de publication	Mitglied(er) der Patentfamilie Patent family member(s) Membre(s) de la famille de brevets	Datum der Veröffentlichung Publication date Date de publication
US A	4747919	31-05-88	keine - none - rien	
US A	3998719	21-12-76	CS B 178550 DE A1 2536080 DE B2 2536080 DE C3 2536080 DK A 3683/75 HU P 173046 IT A 1041898 JP A2 51045593 NL A 7509814 SE A 7509031	31-10-77 04-03-76 10-01-80 11-09-80 22-02-76 28-02-79 10-01-80 19-04-76 24-02-76 23-02-76
WO A1	922077B	26-11-92	AU A1 17786/92	30-12-92