Title: NANOTUBE CHEMICAL SENSOR BASED ON WORK FUNCTION OF ELECTRODES

Abstract: In one embodiment a method for sensing specific molecules is provided. The method comprises forming a nanoelement structure and forming two spaced apart electrodes in contact with the nanoelement structure, wherein at least one of the electrodes is capable of functioning as a sensing element to sense the specific molecules.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : G01N 27/26
US CL : 205/775, 794.5; 204/400
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)
U.S.: 205/775, 794.5, 786.5, 792, 780; 204/400, 403.01, 412, 431; 257/253

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
nanowire, nanotube, nano, wire, tube, swnt, cataly, reactive, sensor, modiflyset

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Cui et al., Nanowire Nanosensors for Highly Sensitive and Selective Detection of Biological and Chemical Species, Science Vol. 293, August 2001, pp. 1289-1292</td>
<td>1-4, 6-25, 32,33,37,38</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,156,972 A (ISSACHAR) 20 October 1992, col. 7, lines 50-56, col. 18, lines 17-34</td>
<td>2, 10, 21, 22, 37, 38</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,466,348 A (HOLM-KENNEDY) 14 November 1995, col. 20, lines 30-45</td>
<td>32</td>
</tr>
<tr>
<td>Y</td>
<td>US 4,913,792 A (NAGATA et al) 03 April 1990, col. 8, lines 41-43</td>
<td>33</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C. See patent family annex.

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent published on or after the international filing 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
- "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
- "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
- "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
- "&" document member of the same patent family

Date of the actual completion of the international search
01 September 2004 (01.09.2004)

Date of mailing of the international search report
15 SEP 2004

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Form PCT/ISA/210 (second sheet) (July 1998)