Title: SUPPORTED CATALYSTS HAVING A CONTROLLED COORDINATION STRUCTURE AND METHODS FOR PREPARING SUCH CATALYSTS

Abstract: Supported reactive catalysts having a controlled coordination structure and methods for their production are disclosed. The supported catalyst comprises catalyst particles having top or outer layer of atoms in which at least a portion of the atoms exhibit a controlled coordination number of 2. Such catalysts may be manufactured from intermediate precursor compositions that include a control agent in which a preponderance of the molecules are straight-chained rather than branched. The supported catalysts (10) includes a support (12), which initially includes hydroxyl groups on a surface thereof, an anchoring agent (14) chemically bonded to the hydroxyl groups of the support (12) by a condensation reaction and a catalyst particle (6) bonded or attached in some manner (not shown) to the anchoring agent. The supported catalyst of the present invention are useful for the preparation of hydrogen peroxide with high selectivity in addition to other chemical conversion reactions.
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(7) : B01J21/18; B01J23/38; B01J23/40; B01J23/44; C01B15/01
   US CL : 423/584; 502/185; 502/325; 502/330; 502/338; 502/344
   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. : 423/584; 502/185; 502/325; 502/330; 502/339; 502/344
   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
   NONE
   Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
   NONE

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>
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<tr>
<td>X</td>
<td>US 6,168,775 B1 (ZHOU et al) 02 January 2001 (02.01.2001), see column 4, line 45 to column 7, line 60.</td>
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<td>US 6,534,661 B1 (ZHOU et al) 18 March 2003 (18.03.2003), see column 6, line 53 to column 9, line 11.</td>
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<td>US 6,576,214 B2 (ZHOU et al) 10 June 2003 (10.06.2003), see column 3, line 47 to column 7, line 3.</td>
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☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

Date of the actual completion of the international search

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