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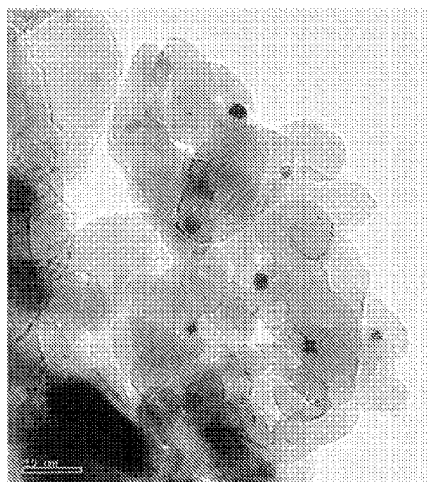
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(54) Title: SUPPORTED PRECIOUS METAL CATALYSTS VIA HYDROTHERMAL DEPOSITION

Figure 1. TEM image of an Au/TiO₂ sample calcined at 400°C for 6 hours.

(57) Abstract: A process for making a catalyst having precious metal nanoparticles deposited on a support includes first providing an aqueous dispersion of support particles. A pre-treatment slurry is prepared by mixing the aqueous dispersion of support particles with a water-soluble precious metal precursor and a reducing agent. The pre-treatment slurry is hydrothermally treated at a temperature in the range of from about 40°C to about 220°C for a time sufficient to deposit precious metal nanoparticles on the surface of the support particles, the precious metal nanoparticles having an average particle size less about 50 nm.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/027113**A. CLASSIFICATION OF SUBJECT MATTER*****B01J 23/38(2006.01)i, B01J 37/02(2006.01)i, B01J 37/16(2006.01)i, B01J 37/08(2006.01)i***

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)

B01J 23/38; B01J 21/06; B01J 23/00; C07C 39/17; B01J 31/02; B01J 23/02; 21/0 8/08; 21/1 8/18; B01J 23/42

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: catalyst, precious metal nanoparticles, support, reducing agent

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 05146008A A (ANDREA GARDANO et al.) 08 September 1992 See claim 1	1-21
A	US 6603038 B1 (ALFRED HAGEMEYER et al.) 05 August 2003 See claims 1-2, 4, 7, 13-14 22, 24	1-21
A	US 2009-0325787 A1 (GUOYI FU et al.) 31 December 2009 See claims 1-2, 6	1-21
A	US 6207128 B1 (ANNICKA SELLIN et al.) 27 March 2001 See claims 1-2, 4, 6	1-21
A	US 2008-0070778 A1 (CHRISTOPHER R. CASTELLANO et al.) 20 March 2008 See claims 1, 19-20, 26	1-21



Further documents are listed in the continuation of Box C.



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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/027113

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