



(51) International Patent Classification:

B01J 35/02 (2006.01) B82B 1/00 (2006.01)

C01B 3/02 (2006.01) B82B 3/00 (2006.01)

B01J 37/02 (2006.01)

(21) International Application Number:

PCT/SG2012/000253

(22) International Filing Date:

16 July 2012 (16.07.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

201105145-5 15 July 2011 (15.07.2011) SG

61/513,071 29 July 2011 (29.07.2011) US

(71) Applicant (for all designated States except US): NATIONAL UNIVERSITY OF SINGAPORE [SG/SG]; 21

Lower Kent Ridge Road, Singapore 119077 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HO, Ghim Wei

[SG/SG]; C/o National University Of Singapore, Faculty Of Engineering, Department Of Electrical And Computer Engineering, 21 Lower Kent Ridge Road, Singapore 119077 (SG). CHUA, Kian Jon [SG/SG]; C/o National University Of Singapore, Faculty Of Engineering, Department Of Mechanical Engineering, 21 Lower Kent Ridge Road, Singapore 119077 (SG).

(74) Agent: ELLA CHEONG SPRUSON & FERGUSON

(SINGAPORE) PTE LTD; P.O. Box 1531, Robinson Road Post Office, Singapore 903031 (SG).

(81) Designated States (unless otherwise indicated, for every

kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every

kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: A PHOTOCATALYST FOR WATER SPLITTING

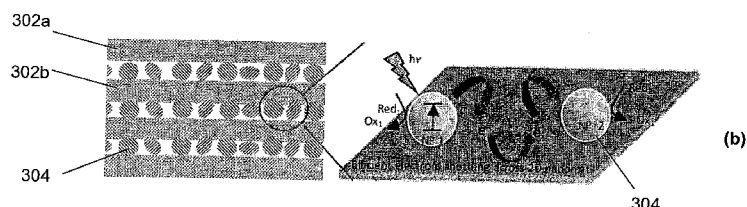


Figure 3

(57) Abstract: A nanocrystalline photocatalyst for water splitting and a method for fabricating a nanocrystalline photocatalyst for water splitting. The photocatalyst comprises a structure having a specific surface area and a volume fraction of atoms located both on the surface and at the grain boundaries adapted for enhancement of a photocatalytic reaction.