



## (51) International Patent Classification:

**B01J 20/28** (2006.01)      **B01D 53/62** (2006.01)  
**B01J 20/30** (2006.01)      **B82Y 40/00** (2011.01)  
**C08F 2/06** (2006.01)      **C08G 12/32** (2006.01)  
**C08L 61/28** (2006.01)

## (21) International Application Number:

PCT/SG2011/000328

## (22) International Filing Date:

23 September 2011 (23.09.2011)

## (25) Filing Language:

English

## (26) Publication Language:

English

## (30) Priority Data:

201007003-5 24 September 2010 (24.09.2010) SG

(71) **Applicant** (for all designated States except US): **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way, #20-10, Connexis, Singapore 138632 (SG).

(72) **Inventors; and**

(75) **Inventors/Applicants** (for US only): **ZHANG, Yugen** [CN/SG]; c/o Institute of Bioengineering and Nanotechnology, 31 Biopolis Way, #04-01 Nanos, Singapore 138669 (SG). **YING, Jackie Y** [US/SG]; c/o Institute of Bioengineering and Nanotechnology, 31 Biopolis Way, #04-01 Nanos, Singapore 138669 (SG). **TAN, Mei Xuan** [SG/SG]; c/o Institute of Bioengineering and Nanotechnology, 31 Biopolis Way, #04-01 Nanos, Singapore 138669 (SG).

(74) **Agent:** **ELLA CHEONG SPRUSON & FERGUSON (SINGAPORE) PTE LTD**; Robinson Road Post Office, P.O. Box 1531, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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).

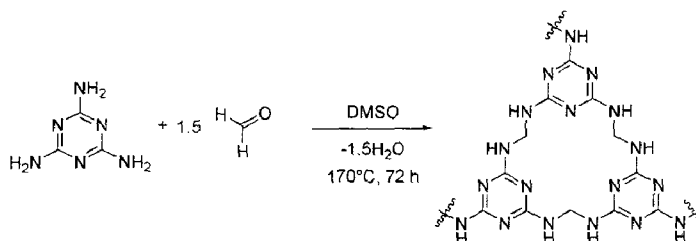
**Declarations under Rule 4.17:**

— of inventorship (Rule 4.17(iv))

**Published:**

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

(54) **Title:** A POROUS POLYMER MATERIAL



**Scheme 1**  
**Fig. 10**

(57) **Abstract:** The present disclosure relates to a polymer material comprising mesopores extending between melamine-formaldehyde co-polymer nano-particles and wherein micropores extend within the co-polymer nano-particles, methods of producing the same and uses thereof.