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[Continued on next page]

(54) **Title:** MULTIBLOCK COPOLYMER FILMS, METHODS OF MAKING SAME, AND USES THEREOF

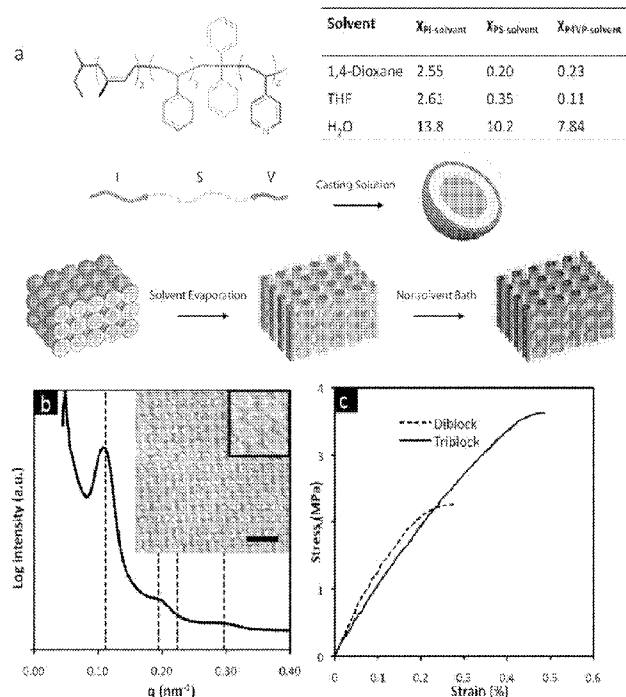


Figure 1

(57) **Abstract:** A method for forming an isoporous graded film comprising multiblock copolymers and isoporous graded films. The films have a surface layer and a bulk layer. The surface layer can have at least 1×10^{14} pores/m² and a pore size distribution (d_{max}/d_{min}) of less than 3. The bulk layer has an asymmetric structure. The films can be used in filtration applications.



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).

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/036514**A. CLASSIFICATION OF SUBJECT MATTER***C08J 9/00(2006.01)i, C08J 5/18(2006.01)i, C08L 53/00(2006.01)i, C08J 7/04(2006.01)i, B01D 63/00(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)

C08J 9/00; B01D 27/08; B01D 35/26; B01D 39/14; B29C 35/08

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: multiblock copolymer, self-assemble, dioxane, isoporous, mesoporous, graded film, filtration.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	William A. Phillip et al., 'Tuning Structure and Properties of Graded Tri-block Terpolymer-Based Mesoporous and Hybrid Films' , Nano Lett. 2011 (June 07, 2011), 11, 2892-2900 See pages 2893-2896.	1-6
A	Julie N.L. Albert et al., 'Self-assembly of block copolymer thin films' , Materialstoday, Vol. 13, Is. 6, June 2010, Pages 24-33 See pages 24, 29-31.	1-20
A	WO 2010-051150 A1 (ARKEMA INC. et al.) 06 May 2010 See claim 1, pages 14-15.	1-20
A	US 05158721A A (ALLEGREZZA, JR.; ANTHONY E. et al.) 27 October 1992 See claim 1 and pages 1-2.	1-20
A	US 2004-0138323 A1 (MARTINA HEIDE STENZEL-ROSEBAUM et al.) 15 July 2004 See claim 8.	1-20



Further documents are listed in the continuation of Box C.



See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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