

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 October 2005 (20.10.2005)

PCT

(10) International Publication Number
WO 2005/098546 A2

(51) International Patent Classification⁷: **G03G 5/00**

(21) International Application Number:
PCT/US2005/010235

(22) International Filing Date: 25 March 2005 (25.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/556,484 26 March 2004 (26.03.2004) US

(71) Applicants and

(72) Inventors: **HOLBREY, John, D.** [GB/US]; 1925 8th Avenue, Apt.#2B, Tuscaloosa, AL 35401 (US). **SWAT-LOSKI, Richard, P.** [US/US]; 3201 Hargrove Road, Apt.#605, Tuscaloosa, AL 35401 (US). **CHEN, Ji** [CN/US]; 1122-B 6th Avenue, Tuscaloosa, AL 35401 (US). **DALY, Dan** [US/US]; 1518 Mallard Circle, Tuscaloosa, AL (US). **ROGERS, Robin, D.** [US/US]; 31 Audubon Place, Tuscaloosa, AL 35401 (US).

(74) Agent: **MASON, J., Derek**; Oblon, Spivak, McClelland, Maier & Neustadt, P.C., 1940 Duke Street, Alexandria, VA 22314 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

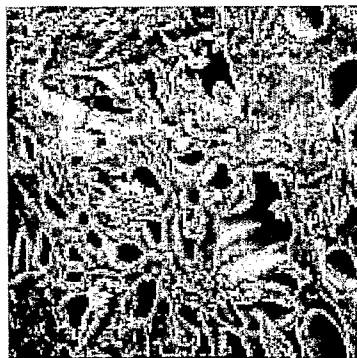
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: POLYMER DISSOLUTION AND BLEND FORMATION IN IONIC LIQUIDS



Scanning Electron Micrograph (SEM) of PAN reconstituted from IL, and
regeneration into water (×500).

(57) Abstract: The present invention relates to processes utilizing ionic liquids for the dissolution of various polymers and/or copolymers, the formation of resins and blends, and the reconstitution of polymer and/or copolymer solutions, and the dissolution and blending of "functional additives" and/or various polymers and/or copolymers to form advanced composite materials.

WO 2005/098546 A2