

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 April 2006 (27.04.2006)

PCT

(10) International Publication Number
WO 2006/045076 A2

(51) International Patent Classification:
H01M 4/58 (2006.01) **H01B 1/12** (2006.01)
H01M 4/62 (2006.01)

(21) International Application Number:
PCT/US2005/037980

(22) International Filing Date: 19 October 2005 (19.10.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/620,522 19 October 2004 (19.10.2004) US

(71) Applicant (*for all designated States except US*): **MASSACHUSETTS INSTITUTE OF TECHNOLOGY** [US/US]; Five Cambridge Center, Cambridge, Ma 02142-1493 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **NAM, Ki, Tae** [—/US] (US). **CHIANG, Chung-Yi** [—/US] (US). **BELCHER, Angela, M.** [US/US]; 35 Balfour, Lexington, MA 02421 (US).

(74) Agent: **ROSEN, Valarie, B.**; Choate, Hall & Stewart, LLP, Two International Place, Boston, MA 02110 (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, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, 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, LV, 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: VIRUS SCAFFOLD FOR SELF-ASSEMBLED, FLEXIBLE AND LIGHT LITHIUM BATTERY

(57) Abstract: A variety of compositions that include a metal oxide, films and batteries comprising one or more of the compositions, and methods of making the same.



WO 2006/045076 A2