

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
18 July 2024 (18.07.2024)



(10) International Publication Number
WO 2024/151211 A1

- (51) **International Patent Classification:**
C01B 32/05 (2017.01) *C10B 57/00* (2006.01)
- (21) **International Application Number:**
PCT/SG2024/050015
- (22) **International Filing Date:**
09 January 2024 (09.01.2024)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
10202300071W 09 January 2023 (09.01.2023) SG
- (71) **Applicant:** AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH [SG/SG]; 1 Fusionopolis Way, #20-10 Connexis North, Singapore 138632 (SG).
- (72) **Inventors:** LI, Xu; c/o Institute of Materials Research and Engineering, 2 Fusionopolis Way, #08-03, Innovis, Singapore 138634 (SG). TAN, Ming Yan; c/o Institute of Materials Research and Engineering, 2 Fusionopolis Way, #08-03, Innovis, Singapore 138634 (SG). LU, Mao; c/o Institute of Materials Research and Engineering, 2 Fusionopolis Way, #08-03, Innovis, Singapore 138634 (SG).
- (74) **Agent:** SPRUSON & FERGUSON (ASIA) 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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA,

NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, 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, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, 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 METHOD OF PREPARING CARBON PARTICLES

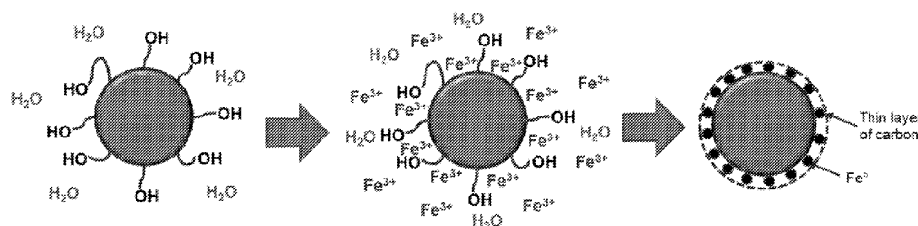


FIG. 1

(57) **Abstract:** There is provided a method of preparing carbon particles and carbon particles prepared from the method. The method comprises the steps of (a) treating a mixture comprising (i) an inorganic salt and (ii) a solution comprising a carbon source (biomass such as lignin or glucose) hydrothermally to form a solution of carbon particles; and (b) collecting the carbon particles from the solution of the treating step (a). There is also provided a method of preparing a composite material. There is further provided a composite material and an article.

WO 2024/151211 A1