

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
10 May 2024 (10.05.2024)



(10) International Publication Number
WO 2024/094994 A1

(51) International Patent Classification:

H01M 4/134 (2010.01) *H01M 10/05* (2010.01)
H01M 4/1395 (2010.01) *H01M 10/052* (2010.01)
H01M 4/36 (2006.01) *H01M 4/02* (2006.01)
H01M 4/38 (2006.01)

(21) International Application Number:

PCT/GB2023/052847

(22) International Filing Date:

31 October 2023 (31.10.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2216144.2 31 October 2022 (31.10.2022) GB

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(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,

(54) Title: ELECTROACTIVE COMPOSITE PARTICLES

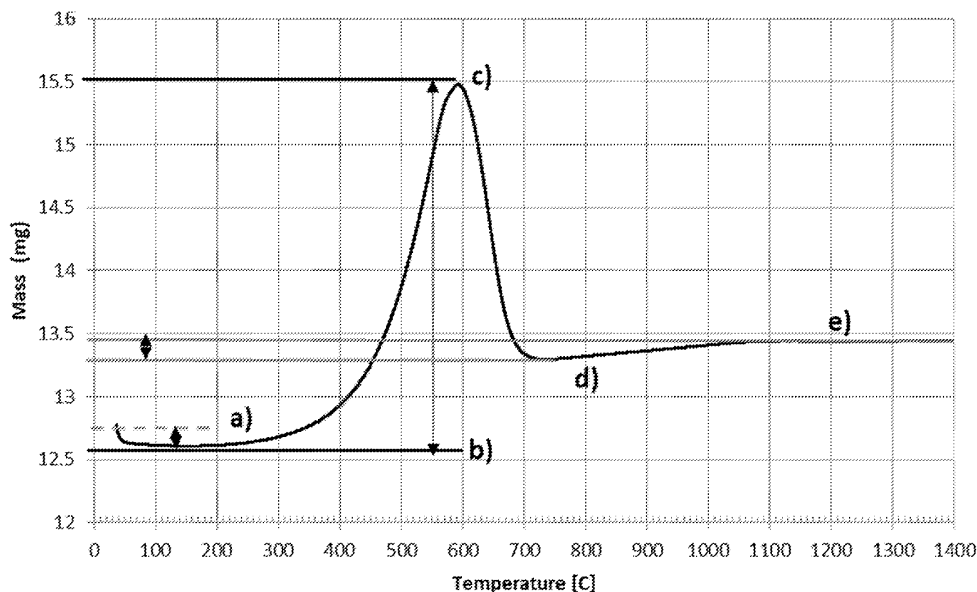


Fig. 1

(57) Abstract: This invention relates to a particulate material consisting of a plurality of composite particles comprising a porous particle framework and a plurality of nanoscale elemental silicon domains located within the pores of the porous particle framework. The porous particle framework comprises micropores and mesopores, wherein the total volume of micropores and mesopores in the porous particle framework as measured by gas adsorption is from 0.5 to 1.8 cm³/g. The composite particles comprise from 30 to 70 wt% silicon, wherein at least 30 wt% of the silicon is surface silicon as determined by thermogravimetric analysis (TGA); no more than 1.2 wt% of hydrogen; and have a weight ratio of oxygen to silicon of no more than 0.15. The BET surface area of the composite particles is no more than 40 m²/g.

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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).

Published:

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