

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
11 March 2021 (11.03.2021)



(10) International Publication Number
WO 2021/043858 A1

(51) International Patent Classification:

B01J 23/75 (2006.01) *C07C 209/26* (2006.01)
B01J 23/889 (2006.01) *C10G 2/00* (2006.01)
B01J 21/18 (2006.01) *C07C 67/303* (2006.01)
B01J 35/00 (2006.01) *C07C 37/00* (2006.01)
B01J 37/08 (2006.01) *C07C 209/48* (2006.01)
B01J 37/00 (2006.01) *C07C 209/52* (2006.01)
B01J 37/02 (2006.01) *C07C 29/141* (2006.01)
B01J 37/32 (2006.01)

(30) Priority Data:

19195500.4 05 September 2019 (05.09.2019) EP

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(21) International Application Number:

PCT/EP2020/074523

(22) International Filing Date:

03 September 2020 (03.09.2020)

(25) Filing Language:

English

(26) Publication Language:

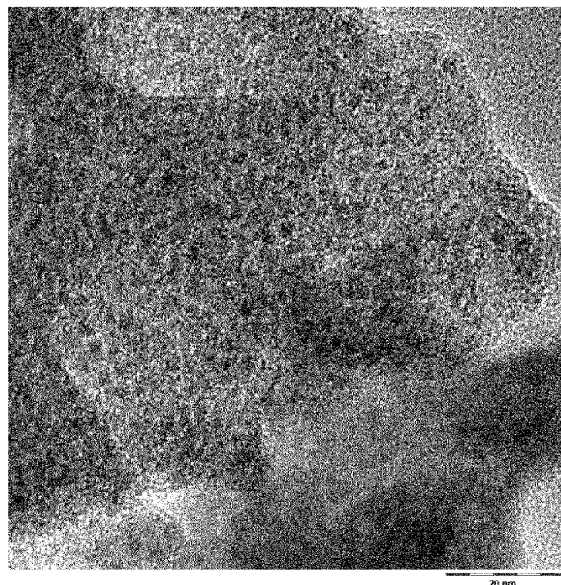
English

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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, CZ, DE, DJ, DK, DM, DO,

(54) Title: MATERIALS COMPRISING CARBON-EMBEDDED COBALT NANOPARTICLES, PROCESSES FOR THEIR MANUFACTURE, AND USE AS HETEROGENEOUS CATALYSTS

Figure 1



(57) Abstract: The present invention relates to catalytically active material, comprising grains of non-graphitizing carbon with cobalt nanoparticles dispersed therein, wherein d_p , the average diameter of cobalt nanoparticles in the non-graphitizing carbon grains, is in the range of 1 nm to 20 nm, D , the average distance between cobalt nanoparticles in the non-graphitizing carbon grains, is in the range of 2 nm to 150 nm, and ω , the combined total mass fraction of metal in the non-graphitizing carbon grains, is in the range of 30 wt% to 70 wt% of the total mass of the non-graphitizing carbon grains, and wherein d_p , D and ω conform to the following relation: $4.5 d_p / \omega > D \geq 0.25 d_p / \omega$. The present invention, further, relates to a process for the manufacture of material according to the invention, as well as its use as a catalyst.

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WO 2021/043858 A1

DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, 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, GH, GM, KE, LR, LS, MW, MZ, NA, RW, 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, 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:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

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