

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
28 November 2024 (28.11.2024)



(10) International Publication Number
WO 2024/242687 A1

(51) International Patent Classification:
B82Y 40/00 (2011.01) **A01N 59/16** (2006.01)
B82Y 30/00 (2011.01)

(21) International Application Number:
PCT/US2023/030945

(22) International Filing Date:
23 August 2023 (23.08.2023)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/468,825 25 May 2023 (25.05.2023) US

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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,
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:

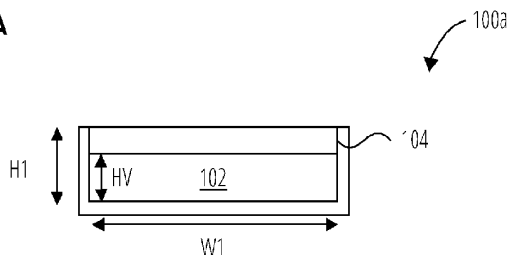
- as to the identity of the inventor (Rule 4.17(i))
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

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

(54) Title: LARGE SCALED MANUFACTURING PROCESSES FOR SILVER-MEDIATED CERIUM OXIDE NANOPARTICLES

FIG. 1A



(57) Abstract: A method for manufacturing silver-modified cerium oxide nanoparticles (AgCNP2). The method includes ageing un-aged cerium oxide nanoparticles in a solution with silver nitrate and uses an accelerant. The accelerant speeds up peroxy ligand conversion of cerium oxide nanoparticles having a predominant 3+ cerium charge and accelerates evolution of all, to 1ppm or less of the limit of detection, ionized Ag to crystallize onto cerium oxide nanoparticles as a non-ionized stable metallic silver phase to form the AgCNP2. The accelerant can be low heat of 90°-115°F applied to the solution only after crash-out of the solution that is without an ingredient that incudes wholly un-stabilized hydrogen peroxide; wholly un-stabilized hydrogen peroxide mixed in the solution prior to aging; low heat of 90°-115°F applied to heat the solution that incudes wholly un-stabilized hydrogen peroxide; and a form factor (FF) ratio of a vessel of the closed system where the ageing takes place.



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