

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
07 April 2022 (07.04.2022)



(10) International Publication Number
WO 2022/072439 A1

(51) International Patent Classification:

A61K 33/26 (2006.01) A61P 7/06 (2006.01)
A61K 47/54 (2017.01) A61K 47/26 (2006.01)
A61P 3/02 (2006.01) A61K 47/36 (2006.01)

(21) International Application Number:

PCT/US2021/052571

(22) International Filing Date:

29 September 2021 (29.09.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

202011055787.3 29 September 2020 (29.09.2020) CN
202011055789.2 29 September 2020 (29.09.2020) CN

(71) Applicant: **LG BIONANO CO. LTD** [CN/CN]; Room 406, Building 2, No. 36, Doukou Road, Guangdong Macao Cooperative Traditional Chinese Medicine Science and Technology Industrial Park, Hengqin New District, Zhuhai, Guangdong 519000 (CN).

(72) Inventor; and

(71) Applicant: **WU, Chien-Chin** [US/US]; 3205 Kammermer Drive, Wilmington, Delaware 19803 (US).

(74) Agent: **ZHANG, Martin**; 1 Liberty Square, Suite 310, Boston, Massachusetts 02109 (US).

(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, 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).

Published:

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

(54) Title: METHODS OF PREPARING IRON COMPLEXES

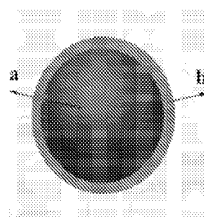


Figure 2.

(57) Abstract: A method of preparing an iron hydroxide product is provided. The method includes the steps of: adding a first base solution to a solution of a ferric salt to obtain Mixture A having a pH value of 2.7-2.8, adding a second base solution to Mixture A to prepare a crude iron hydroxide suspension having a pH value of 2.8-3.8, and adding a third base solution to adjust the pH of the crude iron hydroxide suspension to 5-9, followed by purification and concentration, thereby obtaining a purified polynuclear iron hydroxide suspension containing polynuclear iron hydroxide. Also provided are nano iron complexes, e.g., iron hydroxide carbohydrate complex and their preparation methods.



WO 2022/072439 A1