

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
02 March 2023 (02.03.2023)



(10) International Publication Number
WO 2023/025900 A1

(51) International Patent Classification:

A61K 9/107 (2006.01) A61K 47/42 (2017.01)
A61K 9/06 (2006.01) A61K 31/439 (2006.01)
A61K 47/10 (2017.01) A61P 17/00 (2006.01)
A61K 47/38 (2006.01) A61Q 15/00 (2006.01)

(21) International Application Number:

PCT/EP2022/073705

(22) International Filing Date:

25 August 2022 (25.08.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

21382781.9 25 August 2021 (25.08.2021) EP

(71) Applicant: **HEALTH INNOVATION TECHNOLOGY TRANSFER SL** [ES/ES]; Aragó 60, pral 1a, 08015 Barcelona (ES).

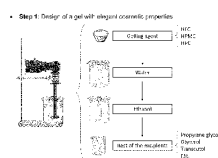
(72) Inventors: **SOLÀ-MORALES I SERRA, Oriol**; c/o Health Innovation Technology Transfer, S.L., Aragó 60, pral 1a, 08015 Barcelona (ES). **BUXADÉ FORTUNY, Maria**; c/o Health Innovation Technology Transfer, S.L., Aragó 60, pral 1a, 08015 Barcelona (ES).

(74) Agent: **AERA A/S**; Niels Hemmingsens Gade 10, 5th floor, 1153 Copenhagen K (DK).

(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, 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).

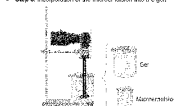
(54) Title: AN OIL-IN-WATER EMULSION GEL COMPRISING TIOTROPIUM BROMIDE



• Step 2: Design of the emulsion containing the active



• Step 3: Incorporation of the emulsion into the gel.



• Step 4: Product application on the skin. External evaporation. The self-assembled nanoparticle system is formed.

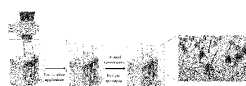


FIG. 1

(57) Abstract: The present invention relates to an oil-in-water emulsion gel comprising tiotropium bromide for topical use. It can be used in cosmetics, as an antiperspirant or in the prevention and/or treatment of hyperhidrosis. After application to the skin nanoparticles are formed and the drug substance penetrates the skin where it exerts its effect. The oil-in-water emulsion gel is composed in such a manner that the drug substance permeates the epidermis and enters into the dermis, but only to a minor extent permeating through the dermis and into the systemic circulation.

WO 2023/025900 A1

[Continued on next page]

Published:

- *with international search report (Art. 21(3))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*