

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
06 February 2025 (06.02.2025)



(10) International Publication Number
WO 2025/029584 A1

(51) International Patent Classification:

A61F 9/00 (2006.01) A61M 5/32 (2006.01)

(21) International Application Number:

PCT/US2024/039560

(22) International Filing Date:

25 July 2024 (25.07.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/516,456 28 July 2023 (28.07.2023) US
63/595,620 02 November 2023 (02.11.2023) 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).

Published:

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

(54) Title: LUBRICATED FLUID EXCHANGE NEEDLE FOR ENHANCED PERFORMANCE OF REFILLABLE IMPLANTABLE OCULAR DRUG DELIVERY SYSTEM

(57) Abstract: An exchange needle device having an elongate needle structure having an elongate tube extending distally from a proximal hub and an outer cannula extending distally from the proximal hub. The outer cannula surrounds at least a proximal end region of the elongate tube forming an annular space between the outer surface of the elongate tube and the inner surface of the outer cannula. The distal end of the outer cannula is located a distance proximal to the distal opening of the elongate tube. A lubricious coating is on the outer surface of the outer cannula and the outer surface of the elongate tube extending distal to the distal end of the outer cannula, the lubricious coating covering at least a portion of the working length of the elongate needle structure. Related devices, systems, and methods of use are provided.



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