

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
27 October 2022 (27.10.2022)



(10) International Publication Number
WO 2022/225920 A1

(51) International Patent Classification:
C07J 51/00 (2006.01) A61P 29/00 (2006.01)
A61K 31/57 (2006.01)

(21) International Application Number:
PCT/US2022/025339

(22) International Filing Date:
19 April 2022 (19.04.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/176,489 19 April 2021 (19.04.2021) US

(71) Applicant: **NEUROTRAUMA SCIENCES LLC**
[US/US]; 2655 Northwinds Parkway, Suite 5C, Alpharetta,
Georgia 30009 (US).

(72) Inventors; and

(71) Applicants: **MILLER, Raymond Brent** [CA/US]; 202
Seahill Drive, St. Augustine, Florida 32092 (US). **KELK,**
Natalie [GB/GB]; 17 Hallcroft Park, Ratho, Edinburgh

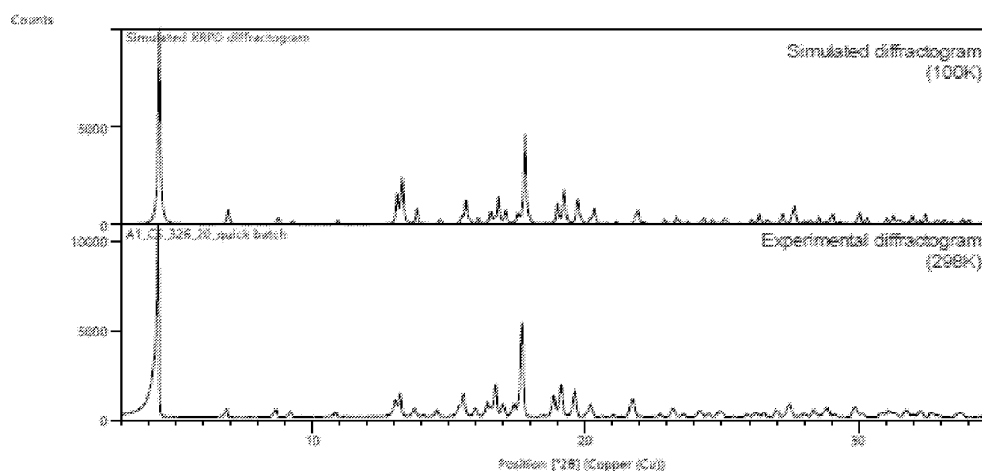
EH28 8SF (GB). **PEARSON, David** [GB/GB]; 19 Ed-
inburgh Road, Lauder, Meadowburn TD2 6TW (GB).
SHAPIRO, Gideon [US/US]; 5507 NW 80th Ave,
Gainesville, Florida 32653 (US).

(74) Agent: **PAVAO, Matthew** et al.; Cooley LLP, 1299 Penn-
sylvania Avenue, NW, Suite 700, Washington, District of
Columbia 20004 (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, 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.

(54) Title: SALTS AND CRYSTALLINE FORMS OF (3E) 3-[O-[(PHOSPHONOOXY)METHYL]OXIME]-PREGN-4-ENE-3, 20-DIONE AND RELATED USES

FIG. 1



(57) Abstract: The present disclosure relates to a crystalline form of (((((E)-1-((8S,9S,10R,13S,14S,17S)-10,13-di-methyl-3-oxo-2,3,6,7,8,9,10,11,12,13,14,15,16,17-tetradecahydro-1H-cyclopenta[a]phenanthren-17-yl)ethylidene)amino)oxy)methyl dihydrogen phosphate), and pharmaceutically acceptable salts thereof, which may be useful in methods of treatment of the human or animal body. The present disclosure also relates to processes for the preparation of these compounds, to pharmaceutical compositions comprising them and to their use in the treatment of disorders, such as managing inflammation (e.g., inflammation resulting from traumatic brain injury or stroke).

[Continued on next page]

(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))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*