



(51) International Patent Classification:

A61K 31/137 (2006.01) *A61K 38/1761* (2006.01)*A61K 48/00* (2006.01)

(21) International Application Number:

PCT/US2022/071139

(22) International Filing Date:

14 March 2022 (14.03.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/161,347 15 March 2021 (15.03.2021) US

63/266,572 09 January 2022 (09.01.2022) US

(71) Applicant: MAZE THERAPEUTICS, INC. [US/US];

171 Oyster Point Blvd, Suite 300, South San Francisco, California 94080 (US).

(72) Inventors: MORGANS, David John; c/o Maze Therapeutics,

Inc., 171 Oyster Point Blvd, Suite 300, South San Francisco,

California 94080 (US). MELLEM, Kevin; c/o Maze

Therapeutics, Inc., 171 Oyster Point Blvd, Suite 300, South

San Francisco, California 94080 (US). POWERS, Hannah

L.; c/o Maze Therapeutics, Inc., 171 Oyster Point Blvd,

Suite 300, South San Francisco, California 94080 (US).

LEE, Patrick Sang Tae; c/o Maze Therapeutics, Inc., 171

Oyster Point Blvd, Suite 300, South San Francisco, California 94080 (US). **WON, Walter**; c/o Maze Therapeutics, Inc., 171 Oyster Point Blvd, Suite 300, South San Francisco, California 94080 (US). **SINZ, Christopher Joseph**; c/o Maze Therapeutics, Inc., 171 Oyster Point Blvd, Suite 300, South San Francisco, California 94080 (US).

(74) Agent: MCBRIAR, Mark D. et al.; Morrison & Foerster

LLP, 755 Page Mill Road, Palo Alto, California 94304-1018 (US).

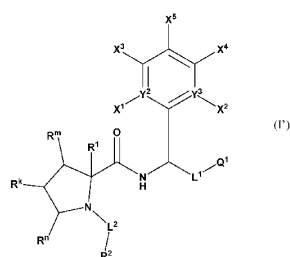
(81) Designated States (unless otherwise indicated, for every

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.

(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,

(54) Title: INHIBITORS OF GLYCOGEN SYNTHASE 1 (GYS1) AND METHODS OF USE THEREOF



(57) Abstract: Provided herein are compounds of formula (I') or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, wherein Y², Y³, L¹, L², X¹, X², X³, X⁴, X⁵, Q¹, R¹, R², R^k, R^m, and Rⁿ are as defined elsewhere herein. Also provided herein are methods of preparing compounds of formula (F). Also provided herein are methods of inhibiting GYS1 and methods of treating a GYS1-mediated disease, disorder, or condition in an individual in need thereof.

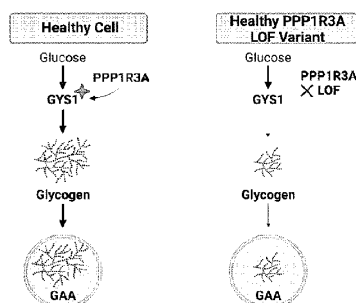


FIG. 1

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))*
- *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))*