



(51) International Patent Classification:

C07H 15/10 (2006.01) *C07K 7/08* (2006.01)
A61K 39/385 (2006.01) *C07K 9/00* (2006.01)
A61P 37/04 (2006.01) *C07K 14/33* (2006.01)
C07H 15/04 (2006.01) *C07K 14/165* (2006.01)

(21) International Application Number:

PCT/CA2022/050054

(22) International Filing Date:

14 January 2022 (14.01.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

202121001963 15 January 2021 (15.01.2021) IN

(71) Applicant: **KORANEX CAPITAL** [CA/CA]; 424, rue Guy, bureau 202, Montréal, Québec H3J 1S6 (CA).(72) Inventors: **SHIAO, Tze Chieh**; 4145 rue de Chambly, Montréal, Québec H1X 3L1 (CA). **MIGNANI, Serge**; 14 Ave. De Robinson, 92290 Chatenay-Malabry (FR). **MOFFETT, Serge**; 663 rue Buchanan, Montréal, Québec H4L 2T7 (CA). **VISHWAKARMA, Ram**; B-006, Parasvsnath Greenville, Sector 48, Sohna Road, Gurugram 122018 (IN).(74) Agent: **ROBIC S.E.N.C.R.L. / LLP**; 630 Rene-Levesque Boulevard West, 20th Floor, Montreal, Québec H3B 1S6 (CA).(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,

(54) Title: PROCESS FOR THE SYNTHESIS OF REACTIVE CARBOHYDRATES INCLUDING ANTIGEN PRECURSORS FOR CONJUGATION WITH A CARRIER MATERIAL

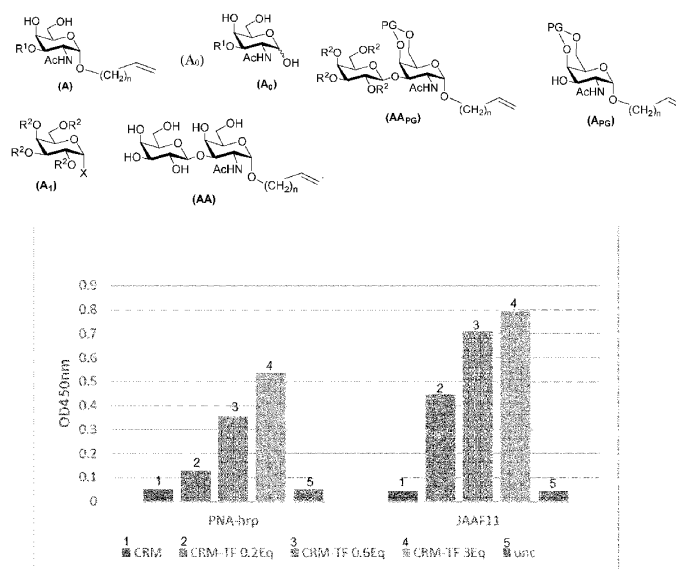


Fig. 1

(57) **Abstract:** Carbohydrate of Formula (A) where R^1 is H and n an integer from 1 to 5, is synthesized by reacting, under heating, compound (A_0) with $HO-(CH_2)_n-CH=CH_2$ in the presence of an acid capable of liberating a proton, and cooling the reaction mixture to obtain a cooled mixture comprising compound (A). Carbohydrate of Formula (AA_{PG}) where R^2 is a monovalent protecting group, PG is a divalent protecting group and n an integer from 1 to 5, is synthesized by reacting, in the presence of a metal-containing zeolite, compound of Formula (A_{PG}) with compound of Formula (A_1) where X is -I, -Br, -Cl, -CN, -OTf (Triflate), -OMs (Mesylate), -OTs (Tosylate), methylsulfate, or trichloroacetimidate. Deprotection of compound (AA_{PG}) forms compound (AA). Carbohydrates (A) and (AA) can

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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).

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— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*
 — *with sequence listing part of description (Rule 5.2(a))*
 — *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

be coupled with a thiolated linker to form glycoconjugate precursors, which in turn are conjugatable with a carrier material such as a protein, peptide or polypeptide.