



(51) International Patent Classification:
C12N 9/04 (2006.01)

(21) International Application Number:
PCT/US2021/021261

(22) International Filing Date:
06 March 2021 (06.03.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/986,447 06 March 2020 (06.03.2020) 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, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,

(54) Title: COMPOSITIONS AND METHODS FOR PRODUCTION OF GLUCOSE OXIDATION PRODUCTS

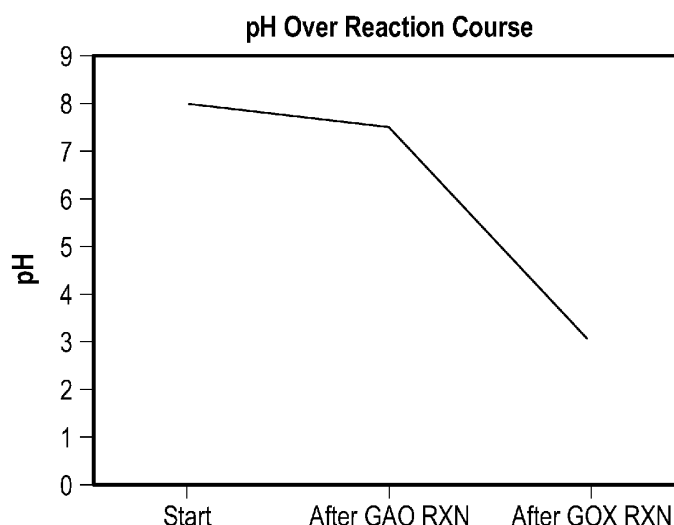


FIG. 1A

(57) Abstract: A chemoenzymatic process for the preparation of an oxidized glucose product comprising contacting D-glucose with an enzyme selected from the group consisting essentially of galactose oxidase (GAO), glucose oxidase (GOX), polysaccharide monooxygenase, catalase, animal peroxidase, periplasmic aldehyde oxidase (Pao), unspecific peroxygenase (UPO), lactoperoxidase (LPO), myeloperoxidase (MPO), eosinophil peroxidase (EPO), thyroid peroxidase (TPO), ovoperoxidase, salivary peroxidase, vanadium haloperoxidase, non-mammalian vertebrate peroxidase (POX), peroxidasin (Pxd), bacterial peroxidin (Pxc), invertebrate peroxinectin (Pxt), short peroxidockerin (PxDo), alpha-dioxygenase (aDox), dual oxidase (DuOx), prostaglandin H synthase (PGHS), cyclooxygenase (CyOx), linoleate diol synthase (LDS), variants thereof, and combinations thereof under conditions suitable for the formation of an oxidized intermediate; and contacting the oxidized intermediate with a metal catalyst to form an oxidized glucose product.

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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).

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))
- with sequence listing part of description (Rule 5.2(a))