

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
19 January 2023 (19.01.2023)



(10) International Publication Number
WO 2023/287852 A1

- (51) International Patent Classification:
C12M 1/36 (2006.01)
- (21) International Application Number:
PCT/US2022/036913
- (22) International Filing Date:
13 July 2022 (13.07.2022)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
63/221,174 13 July 2021 (13.07.2021) US
63/221,183 13 July 2021 (13.07.2021) US
63/221,197 13 July 2021 (13.07.2021) 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, 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,

(54) Title: PREDICTIVE CELL-BASED FED-BATCH PROCESS

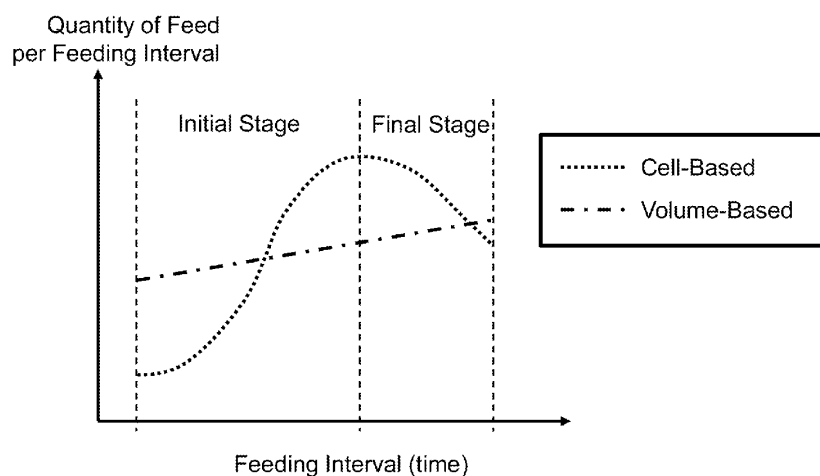


FIG. 1

(57) **Abstract:** Methods and systems related to delivery of complex feed nutrients based on a number of cells are presented herein. A method of controlling a nutrient feed, a method of developing a feeding schedule, and a nutrient feed control system are presented herein. Volume of feed per day can be proportional to a predicted change in integrated viable cells (IVS) from the present feeding day to the next feeding day. A per cell factor (PCF) can be determined by determining a normalized feed per cell value for a time interval of a preliminary fed-batch bioreactor run in which the feed consumed is approximately equal to the feed provided. The volume of feed per day can be set equal to a product of the PCF and change in IVS from the present feeding day to the next feeding day.

[Continued on next page]

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))*