



- (51) **International Patent Classification:**
C12Q 1/02 (2006.01) *C12P 5/00* (2006.01)
G01N 33/50 (2006.01)
- (21) **International Application Number:**
PCT/US2012/023024
- (22) **International Filing Date:**
27 January 2012 (27.01.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/437,214 28 January 2011 (28.01.2011) US
61/486,211 13 May 2011 (13.05.2011) US
- (71) **Applicant** (for all designated States except US): **AMYR-
IS, INC.** [US/US]; 5885 Hollis Street, Suite 100,
Emeryville, CA 94608 (US).
- (72) **Inventor; and**
- (75) **Inventor/Applicant** (for US only): **AGRESTI, Jeremy**
[US/US]; 5885 Hollis Street, Suite 100, Emeryville, CA
94608 (US).
- (74) **Agents:** **WANG, Stephanie X.** et al.; Squire Sanders (US)
LLP, 275 Battery Street, Suite 2600, San Francisco, CA
94111 (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, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

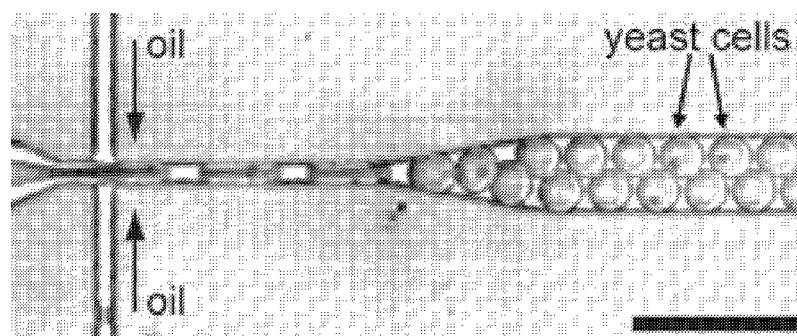
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

- with international search report (Art. 21(3))

(54) **Title:** GEL-ENCAPSULATED MICROCOLONY SCREENING

Figure 4



(57) **Abstract:** Provided herein are methods and compositions useful for detecting the production of industrially useful compounds (e.g., isoprenoids, polyketides, and fatty acids) in a cell, for example, a microbial cell genetically modified to produce one or more such compounds. In some embodiments, the methods comprise encapsulating the cell in a hydrogel particle, and detecting the compound within the hydrogel particle.