



## (51) International Patent Classification:

**B01L 7/00** (2006.01) **C12Q 1/68** (2006.01)  
**H05B 6/02** (2006.01)

## (21) International Application Number:

PCT/AU2014/000983

## (22) International Filing Date:

15 October 2014 (15.10.2014)

## (25) Filing Language:

English

## (26) Publication Language:

English

## (30) Priority Data:

2013903960 15 October 2013 (15.10.2013) AU

(71) Applicant: **BIO MOLECULAR SYSTEMS PTY LTD**  
[AU/AU]; 5/3 Northward Street, Upper Coomera, Queensland 4209 (AU).(72) Inventors: **CORBETT, John**; 48 Knightsbridge Parade West, Sovereign Island, Queensland 4216 (AU). **AUSTIN, John**; C/- Bio Molecular Systems Pty Ltd, Unit 5/3 Northward Street, Upper Coomera, Queensland 4209 (AU).(74) Agent: **SHELSTON IP**; Shelston Ip, Level 21, 60 Margaret Street, Sydney, New South Wales 2000 (AU).(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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, 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, 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, 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).

## Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

## Published:

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

## (54) Title: IMPROVED THERMOCYCLER

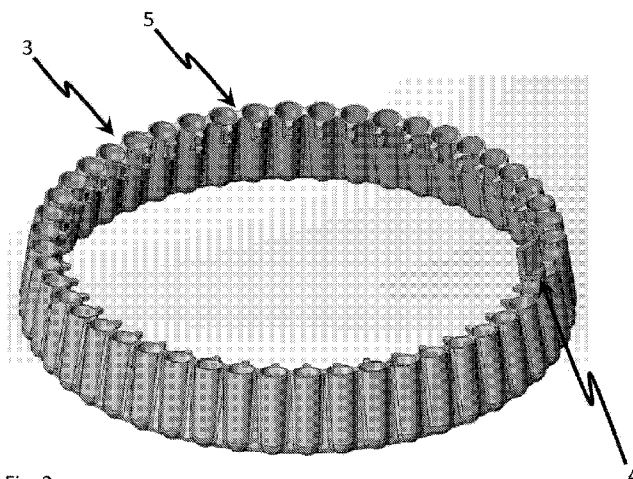


Fig. 2

(57) Abstract: The present invention provides a thermocycler comprising: a rotatable platform having a plurality of reaction wells or being adapted to receive a plurality of reaction containers, wherein the rotatable platform and/or the reaction wells are formed, at least in part, of a material which is adapted to be inductively heated by exposure to electromagnetic energy. An electromagnetic energy source is provided and is configured to direct electromagnetic energy at the rotatable platform, wherein the electromagnetic energy source surrounds a sufficient amount of the rotatable platform in order to heat the entire platform substantially simultaneously. In preferred embodiments, the electromagnetic energy source completely surrounds the rotatable platform. The invention further comprises a method of cycling a reaction mixture between predetermined temperatures utilising the novel thermocycler apparatus of the invention. The invention also comprises use of the novel thermocycler apparatus for conducting a nucleic acid amplification reaction such as the polymerase chain reaction (PCR) and the ligase chain reaction (LCR).

