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- (71) **Applicant (for all designated States except US):** **THE BROAD INSTITUTE, INC.** [US/US]; Seven Cambridge Center, Cambridge, MA 02142 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **NICOL, Robert** [US/US]; P.O. Box 425083, Cambridge, MA 02142 (US). **LENNON, Niall, J.** [IE/US]; 286 Bunker Hill Street, #4, Charlestown, MA 02127 (US).
- (74) **Agents:** **TREVISAN, Maria, A.** et al.; Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue, Boston, MA 02210-2206 (US).
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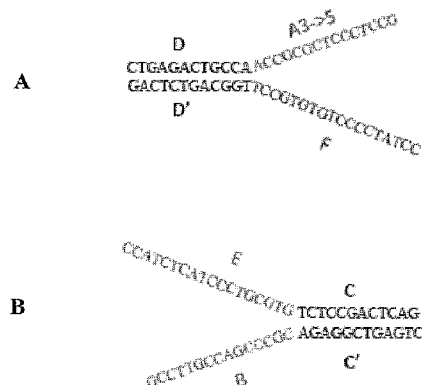
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(54) **Title:** PAIRED END BEAD AMPLIFICATION AND HIGH THROUGHPUT SEQUENCING

**Figure 1**

(57) **Abstract:** The present invention is related to genomic nucleotide sequencing. In particular, the invention describes a paired end sequencing method that enables the sequencing of unique read pairs by co-localizing both 5' ends on a single emulsion polymerase chain reaction bead. The method may use a customized forked adaptor primer pair that is compatible with massively parallel sequencing techniques. The compositions and methods disclosed herein contemplate sequencing complex genomes, amplified genomic regions, as well as detecting chromosomal structural rearrangements.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - C40B 50/14 (2012.01)

USPC - 506/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - C40B 30/00, 30/04, 40/06, 50/14; C07H 21/04; C12P 19/34; C12Q 1/68 (2012.01)

USPC - 435/6.11, 91.1, 91.5, 289.1; 506/4, 16, 28, 30, 40; 536/24.2, 24.3

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MicroPatent, Google Scholar, Google Patents

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	XU et al. Dual primer emulsion PCR for next generation DNA sequencing BioTechniques 48:409-412 (May 2010) and supplement. entire document	1-5 6-14, 16, 17, 19-28
X — Y	US 2010/0273662 A1 (GORMLEY et al) 28 October 2010 (28.10.2010) entire document	15 6-14, 16-28
Y	US 2010/0273219 A1 (MAY et al) 28 October 2010 (28.10.2010) entire document	18, 19, 25-28
A	US 2010/0222238 A1 (SMITH et al) 02 September 2010 (02.09.2010) entire document	1-28
A	METZKER. Sequencing technologies —the next generation NATURE REVIEWS Genetics volume 11 January 2010 31-46. entire document	1-28

☐ Further documents are listed in the continuation of Box C.

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

Blaine R. Copenheaver

PCT Helpdesk: 571-272-4300

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