Disclosed is an elongation reaction system that includes a membrane compatible with binding an elongation complex and an elongation complex compatible with binding the membrane. The elongation complex includes the biological template (e.g., DNA or RNA), a polymerizing agent (e.g., RNA polymerase, DNA polymerase, or a ribosome), and a primer transcript or polypeptide. Further, disclosed is an apparatus and method for solid-phase kinetic analysis of templated elongation reactions.
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A CLASSIFICATION OF SUBJECT MATTER

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USPC- 435/91 2

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)
USPG- 435/91 2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC- 435/6, 401 (text search)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (USPT, PGPB, EPAB, JPAB)
Search terms: elongation complex, polymerase reaction, membrane, kinetic analysis, automatation, transient state

C DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
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<tr>
<td>Y</td>
<td>US 6,607,888 B2 (Schwartz et al.) 19 August 2003 (19 08 2003), col 90 In 11-19, col 90 In 41-56, and col 92 In 51 - col 93 In 6</td>
<td>1:23</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,571,669 A (Lu et al.) 05 November 1996 (05 11 1996), abstract</td>
<td>1-5, 18-23</td>
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<tr>
<td>Y</td>
<td>US 6,060,288 A (Adams et al.) 09 May 2000 (09 05 2000), col 4 In 19-30 and col 7 In 41-52</td>
<td>1:23</td>
</tr>
<tr>
<td>Y</td>
<td>US 2001/0039014 A1 (Bass et al.) 08 November 2001 (08 11 2002), Dara [0002], [0017], [0013], [0024], [0038], [0241], [0541] and [0542]</td>
<td>4:23</td>
</tr>
<tr>
<td>Y</td>
<td>US 6,596,494 B2 (Sousa et al.) 22 July 2003 (22 07 2003), abstract</td>
<td>5</td>
</tr>
</tbody>
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FURTHER DOCUMENTS ARE LISTED IN THE CONTINUATION OF BOX C

Date of the actual completion of the international search
15 April 2007 (15 04 2007)

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14 Sep 2007

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