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(54) Title: IMPROVED METHOD AND SYSTEM FOR PROCESSING BIOLOGICAL MATERIALS

(57) Abstract: A method and apparatus for facilitating molecular associations. The method involves use of independently controlled temperature zones; simultaneously promoting optimized reaction and optimized maintenance of reaction components, while also providing for convection driven mixing.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER			
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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)			
U.S.: 435/6, 283.1, 287.2; 422/68.1, 82.01			
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)			
EAST, DIALOG			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category * Citation of document, with indication, where appropriate, of the relevant passages			Relevant to claim No.
Y	US 6,093,370 A (YASUDA et al) 25 July 2000 (25.07.2000) columns 4 and 8.		1-54
1			
Y	US 6,403,367 B1 (CHENG et al) 11 June 2002 (11.06.02) columns 8, 11-12 and Fig. 11.		1-54
47	US 2002/0068357 A1 (MATHIES et al) 06 June 2002 (06.06.02) page 9.		1-54
Y	US 2002/0008357 AT (MATHIES et al.) 00 Julie 2002 (00.00.02) page 9.		13,
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