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(71) Applicant: **3M INNOVATIVE PROPERTIES COMPANY** [US/US]; 3M Center, Post Office Box 33427, Saint Paul, MN 55133-3427 (US).

(72) Inventors: **HALVERSON, Kurt J.,**; Post Office Box 33427, Saint Paul, MN 55133-3427 (US). **PRABHU, Anila,**; Post Office Box 33427, Saint Paul, MN 55133-3427 (US). **BOTZET, Steven J.,**; Post Office Box 33427, Saint Paul, MN 55133-3427 (US).

(74) Agents: **GRAM, Christopher D.,** et al.; Office of Intellectual Property Counsel, Post Office Box 33427, Saint Paul, MN 55133-3427 (US).

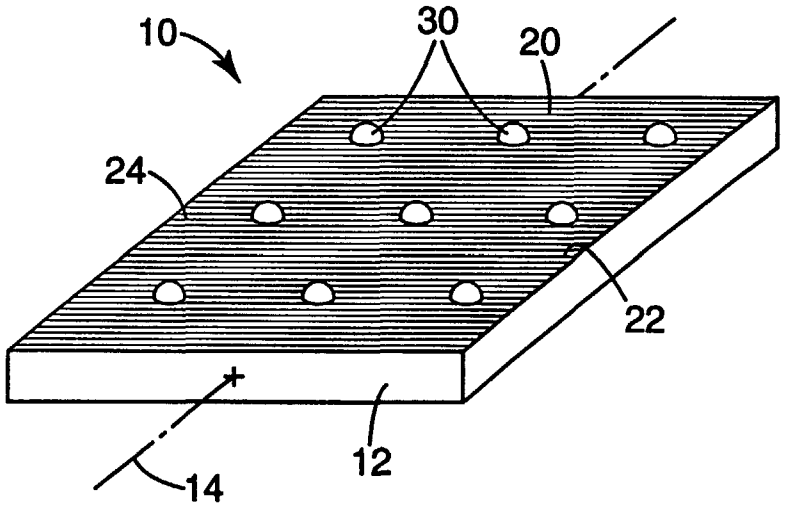
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(54) Title: DEVICES, METHODS AND SYSTEMS FOR LOW VOLUME MICROARRAY PROCESSING



(57) Abstract: Devices, methods and systems for low volume microarray processing are disclosed. The microarray devices preferably include a plurality of reactant sites on a reactant surface. The reactant sites include reactants that operate to capture one or more selected analytes that can then be detected based on an electromagnetic signal, e.g., fluorescence, that is emitted by each analyte in response to excitation energy incident on the microarray device. Mixing and/or distribution of the analyte sample over the reactant surface is accomplished by tilting the reactant surface such that the analyte sample flows over the reactant surface under the force of gravity. The tilting is performed such that a portion of the analyte sample accumulates in a bead along a first edge of the reactant surface. The reactant surface is then tilted in a different direction such that a portion of the analyte sample flows over the reactant surface and accumulates at a second edge. The reactant surface preferably generates sufficient capillary forces with the analyte sample such that the analyte sample is retained on the reactant surface. The tilting and resultant flow may be performed as many times as necessary to obtain the desired mixing and/or distribution of analyte sample over the reactant surface.

WO 2004/034014 A2