

Recent patents in microfluidics

Patent #	Subject	Assignee	Inventor(s)	Priority application date	Publication date
WO 200286332	A microfluidic device with porous membrane valves having respective impedances; the valves hinder fluid flow between the stencil layers in the device.	Nanostream (Pasadena, CA)	O'Connor SD, Pezzuto M	4/20/2001	10/31/2002
WO 200281934	A pneumatic valve for controlling flow in microfluidic devices used to perform analytical testing; includes a substrate having a microfluidic structure, a flexible sheet placed on top of the structure, and a pressure differential-creating mechanism.	Micronics (Redmond, WA)	Hayenga JW, Saltsman P, Weigl BH	4/3/2001	10/17/2002
WO 200282047	Devices and methods used to promote interaction between two solutions in order to crystallize a target material; involves priming microfluidic chambers with the respective solutions, placing the first chamber into fluid communication with the second chamber to define a microfluidic-free interface between the two solutions, and permitting diffusion to occur.	Berger JM; Hansen CL; Quake SR; California Inst. of Technology (Pasadena, CA); Regents of the Univ. of California (Oakland, CA)	Berger JM, Hansen CL, Quake SR	9/17/2001	10/17/2002
EP 1245272	A method for the preparation of a substrate useful as a multireactive system for obtaining chemical, biochemical, or biological information; involves reacting a first species to the substrate, which has a reactive site or sites, to form a functionalized substrate.	UCB (Brussels, Belgium)	Cappelle S, de Becker B, Lindekens L, Remacle J, Tielemans M	3/30/2001	10/2/2002
DE 10111457	A diagnosis system comprising an applicator containing reagents in preset amounts in a microfluidic system connected to a solvent reservoir; useful for the measurement of blood gases or electrolytes, diagnosis of infectious diseases, and in DNA analysis to accelerate the cooling stage in a polymerase chain reaction.	Siemens (Munich, Germany)	Gumbrecht W, Stanzel M	3/9/2001	9/19/2002
US 20020121487	A method for the selective separation of components from a multicomponent fluidic sample in a microfluidic device; involves contacting the sample with a microvalve comprising phase-reversible material.	Robotti KM; Yin HF	Robotti KM, Yin HF	1/3/2001	9/5/2002
WO 200266596	A biochip that has a substrate with openings to hold at least one cell membrane with an ion channel, and a structured surface to give improved contact between the membrane and chip; useful for the study of ion channels in membranes.	Behrends J; Blick R; Fertig N	Behrends J, Blick R, Fertig N	1/8/2001	8/29/2002
US 6440722	A microfluidic device for performing biological and chemical experiments including, e.g., DNA sequencing, genomic screening, and nucleic acid purification; includes a reaction chamber for incubating different volumes of reactants at different temperatures and times to determine the optimum level of reactant volume.	Caliper Technologies (Mountain View, CA)	Bousse LJ, Knapp M, Kopf-Sill AR, Parce JW	6/27/2000	8/27/2002
US 20020112961	A microfluidic channel network comprising device layers, two channel segments, and an overlap region permitting fluid communication between the channel segments, where the fluid conducted experiences a directional change of 180°; useful for biochemical analysis, medical diagnostics, chemical synthesis, or environmental monitoring.	Nanostream (Pasadena, CA)	Dantsker E, O'Connor SD, Pezzuto M	4/17/2002	8/22/2002
WO 200260754	A method of controlling material flow in a microscale channel involving the application of electrical differential between the ends of the channel segment; for use in analytical chemical and biochemical processes.	Caliper Technologies (Mountain View, CA)	Chow AW, Parce JW	1/29/2001	8/8/2002

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