99. The method of claim 98, wherein:

said passing the target liquid through the channel comprises generating a pressure differential between a first end of the channel and a second end of the channel.

100. The method of claim 99, wherein:

said passing the target liquid through the channel further comprises reversing the pressure differential between the first end of the channel and the second end of the channel.

101. The method of claim 98, wherein said passing the target liquid through the channel comprises passing the target liquid across the entirety of each probe in the probe array.

102. The method of claim 98, wherein said passing the target liquid through the channel comprises passing the target liquid across a portion of each probe in the probe array.

103. The method of claim 102, wherein the portion of each probe across which the target liquid passes has coefficient of variation less than about 25% from probe to probe.

104. The method of claim 103, wherein the coefficient of variation is less than about 10%.

105. The method of claim 103, wherein the coefficient of variation is less than about 5%.

106. The method of claim 103, wherein the coefficient of variation is less than about 1%.

107. A method for promoting interaction between a target molecule in a target liquid and an array of probes deposited on an interior surface of a reaction chamber for confining the target liquid, said method comprising:

loading the target liquid into an interior cavity of the reaction chamber; and

changing the shape of the interior cavity of the reaction chamber to generate a pressure wave in the target liquid.

108. The method of claim 107, wherein said changing the shape of the interior cavity comprises extending protrusions into the interior cavity.

109. The method of claim 107, wherein said changing the shape of the interior cavity comprises applying a force to a flexible member forming at least a portion of the reaction chamber.

110. The method of claim 107, wherein said loading the target liquid into the interior cavity of the reaction chamber comprises:

loading the target liquid onto an array of probes deposited on a surface of a substrate slide; and

coupling the substrate slide with a cover, at least a portion of the cover formed of a flexible member.

111. A microarray apparatus, comprising:

a reaction chamber comprising a substrate having an array of probes deposited thereon, and a cover coupled to the substrate to form an interior cavity of the reaction chamber between the substrate and the cover;

an array of probes deposited on an inner surface of the interior cavity for reaction with a charged target molecule in a target liquid; and

a flow inducing mechanism for inducing flow of the target liquid without physically translating either the substrate or the cover.

112. The microarray apparatus of claim 111, wherein:

said flow inducing mechanism comprises a transducer for directing acoustic waves into the interior cavity of the reaction chamber.

113. The microarray apparatus of claim 111, wherein:

said target molecule is charged; and

said flow inducing mechanism comprises an electric field generator for generating an electric field across the interior cavity to move the charged target molecule.

114. The microarray apparatus of claim 111, wherein:

said flow inducing mechanism comprises a temperature control mechanism for generating a temperature gradient across the interior cavity of the reaction chamber.

115. A method for promoting interaction between an array of probes deposited on a surface of a substrate and a target molecule in a target liquid contained within a reaction chamber formed by the substrate and a cover, said method comprising:

loading the target liquid in the reaction chamber; and

inducing movement of the target molecules in the target liquid without physically translating either the substrate or the cover.

116. The method of claim 115, wherein:

said inducing movement comprises directing acoustic waves into the reaction chamber.

117. The method of claim 115, wherein:

said target molecule is charged; and

said inducing movement comprises generating an electric field across the reaction chamber to move the charged target molecule.

118. The method of claim 115, wherein:

said inducing movement comprises generating a temperature gradient across the reaction chamber.

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