

**79.** The method of claim 72, wherein said confining the target liquid is accomplished by creating a surface tension differential on the surface of the substrate.

**80.** The method of claim 72, wherein said confining the target liquid is accomplished by creating a surface tension differential on the surface of the cover.

**81.** The method of claim 72, wherein:

said cover is magnetically reactive; and

said creating the relative motion between the substrate and the cover comprises applying a magnetic force to the cover.

**82.** The method of claim 72, wherein:

a plurality of arrays of probes are deposited on the substrate surface;

said loading the target liquid comprises loading a first portion of target liquid into a first confinement area around a first array of probes and loading a second portion of target liquid into a second confinement area around a second array of probes; and

said confining the target liquid within the confinement area comprises inhibiting the first portion of target liquid from mixing with the second portion of target liquid.

**83.** The method of claim 82, wherein:

said confinement area comprises a first hydrophilic coating surrounded by a first hydrophobic coating, the first array of probes being deposited on the first hydrophilic coating; and

said second confinement area comprises a second hydrophilic coating surrounded by a second hydrophobic coating, the second array of probes being deposited on the second hydrophilic coating.

**84.** The method of claim 82, wherein:

said loading the target liquid comprises loading the target liquid containing target bacterial microbes on top of an array of suspected antimicrobial compounds.

**85.** The method of claim 82, wherein the cover includes a third confinement area aligned with the first confinement area and a fourth confinement area aligned with the second confinement area.

**86.** 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 in the reaction chamber; and

applying a magnetic force to move a magnetically reactive mixing member contained within the reaction chamber to generate motion of the target molecule.

**87.** The method of claim 86, wherein:

said magnetically reactive mixing member comprises one or more magnetically reactive particles.

**88.** The method of claim 86, wherein:

said magnetically reactive mixing member comprises a magnetically reactive volume exclusion liquid.

**89.** 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 the reaction chamber;

loading a volume exclusion liquid into the reaction chamber; and

agitating the reaction chamber to cause relative movement between the volume exclusion liquid and the target liquid.

**90.** The method of claim 89, wherein said agitating the reaction chamber comprises rotating the reaction chamber.

**91.** The method of claim 89, further comprising applying a centrifugal force to the reaction chamber while rotating the reaction chamber.

**92.** 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, said method comprising:

loading the target liquid into the reaction chamber; and

directing acoustic waves through the target liquid to generate motion of the target molecule.

**93.** A method for promoting interaction between a charged target molecule in a target liquid and an array of probes deposited on a surface of a substrate, said method comprising:

loading the target liquid into the reaction chamber; and

generating an electric field across the reaction chamber to generate motion of the charged target molecule contained within the target liquid.

**94.** The method of claim 93, further comprising:

modulating the electric field across the reaction chamber to move the charged target molecule in a desired pattern.

**95.** 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 in the reaction chamber; and

generating a temperature gradient in the target fluid across the reaction chamber.

**96.** The method of claim 95, wherein said generating the temperature gradient comprises:

heating a first portion of the reaction chamber; and

cooling to a second portion of the reaction chamber.

**97.** The method of claim 96, further comprising:

positioning the heated first portion of the reaction chamber below the cooled second portion of the reaction chamber such that target fluid heated in the first portion of the reaction chamber rises from the first portion to the second portion, where the target fluid is cooled and drawn back to the first portion by gravity.

**98.** A method for promoting interaction between a target molecule in a target liquid and an array of probes deposited on a surface of a substrate, said method comprising:

loading a target liquid into a channel, said channel having a width smaller than a width of the array of probes;

passing the target liquid through the channel across all of the probes in the probe array.