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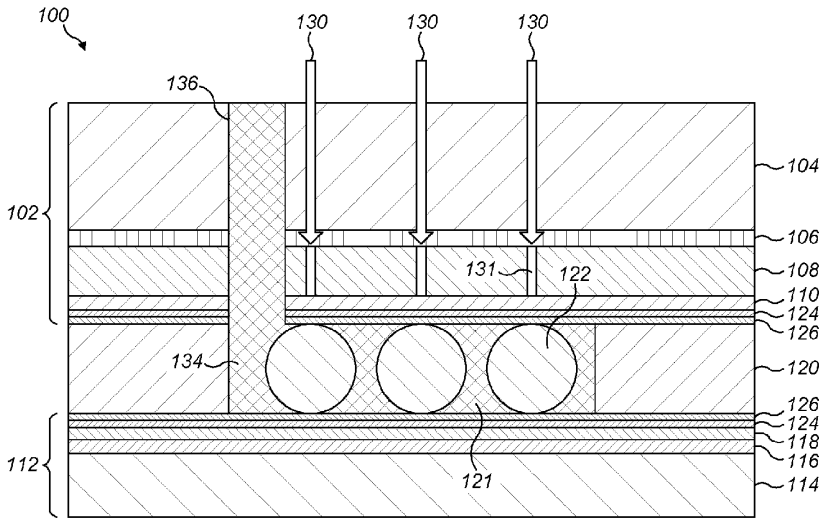


FIG. 1A

(57) Abstract: A device for manipulating a microdroplet using optically mediated electrowetting is provided. The device comprising a microfluidic space bounded by: a first composite wall comprising: a first substrate; a first conductor layer on the substrate; a photoactive layer on the first conductor layer; and a first continuous dielectric layer on the photoactive layer having thickness of less than 20 nm; a second composite wall comprising: a second substrate; and a second conductor layer on the substrate.

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