## ABSTRACT

## PERFUSION MANIFOLD ASSEMBLY

Drop-to-drop connection schemes are described for putting a microfluidic device in fluidic communication with a fluid source or another microfluidic device, including but not limited to, putting a microfluidic device in fluidic communication with the perfusion manifold assembly. A perfusion manifold assembly is described that allows for perfusion of a microfluidic device, such as an organ on a chip microfluidic device comprising cells that mimic cells in an organ in the body, that is detachably linked with said assembly so that fluid enters ports of the microfluidic device from a fluid reservoir, optionally without tubing, at a controllable flow rate.

Figure 1A