WHAT IS CLAIMED IS:

1. A system for injecting multiple volumes into droplets, comprising

at least one microfluidic channel intersected by ~~one~~ two or more injection channels, wherein each injection channel forms an injection inlet at an injection interface where each injection channel intersects the microfluidic channel, ~~an injection inlet associated with each of the one or more injection channels,~~ and

a single mechanism for disrupting an interface between a droplet and a fluid and/or emulsion at the injection inlet of the two or more injection channels,

wherein the at least one microfluidic channel comprises one or more droplets flowing therein, and wherein each of the ~~one~~ two or more injection channels comprises at least one fluid and/or emulsion therein.

~~2. A system according to claim 1, wherein the at least one microfluidic channel intersects with each injection inlet of the one or more injection channels.~~

~~3. A system according to claim 2, wherein the at least one microfluidic channel intersects with each injection inlet of the one or more injection channels at a region referred to as an injection interface.~~

~~4. A system according to claim 3, wherein the microfluidic channel is connected to each injection inlet and the fluid and/or emulsion contained within each of the one or more injection channels at the injection interface.~~

~~5. A system according to claim 4, wherein multiple substantially controlled volumes are injected into or out of each droplet.~~

~~6~~2. A system according to claim 1, wherein one or more of the ~~at least one~~ two or more injection channels further comprise one or more subchannels.

~~7~~3. A system according to claim ~~6~~2, wherein the one or more subchannels comprises a fluid and/or emulsion therein.

~~8~~4. A system according to claim 1, wherein the mechanism for disrupting an interface between a droplet and a fluid and/or emulsion is ~~at least~~ one pair of electrodes.

~~9~~5. A system according to claim 1, wherein the mechanism for disrupting an interface between a droplet and a fluid and/or emulsion comprises a mechanism for changing the temperature in a localized region of the system.

~~10~~6. A system according to claim ~~9~~5, wherein the mechanism for changing the temperature in a localized region of the system is a laser.

~~17~~. A system according to claim ~~106~~, wherein the at least one microfluidic channel intersects with each injection inlet at an injection interface and the laser is focused to form a laser spot on the injection interfaces.

~~28~~. A system according to claim 1, wherein the mechanism for disrupting an interface between a droplet and a fluid and/or emulsion is acoustic pressure waves.

~~39~~. A system according to claim 1, wherein the mechanism for disrupting an interface between a droplet and a fluid and/or emulsion is a localized relatively hydrophilic region in the at least one microfluidic channel.

~~1410~~. A system according to claim 1, wherein the mechanism for disrupting an interface between a droplet and a fluid and/or emulsion is a disruption in the droplet flow selected from a post, valve, or deformation in the at least one microfluidic channel.

11. The system of claim 4, wherein the pair of electrodes has a first electrode and a second electrode and the first electrode and second electrode are on one side of the microfluidic channel and injection interfaces are on a substantially opposite side of the microfluidic channel.

12. The system of claim 4, wherein the pair of electrodes has a first electrode and a second electrode, and wherein the first electrode and a first injection interface are on one side of the microfluidic channel and the second electrode and a second injection interface are on a substantially opposite side of the microfluidic channel.

13. The system of claim 4, wherein the pair of electrodes has a first electrode and a second electrode, and wherein the first electrode and second electrode and a first injection interface are on one side of the microfluidic channel and a second injection interface is on a substantially opposite side of the microfluidic channel.

14. The system of claim 4, wherein the pair of electrodes has a first electrode and a second electrode and the microfluidic channel comprises a bend, wherein the first electrode is on one side of the microfluidic channel and the second electrode and a first injection interface and a second injection interface are on a substantially opposite side of the microfluidic channel, and wherein the first injection interface and a second injection interfaces are located substantially at the bend in the microfluidic channel.

15. The system of claim 4, wherein the pair of electrodes has a first electrode and a second electrode and the microfluidic channel comprises a first bend and a second bend, wherein the first electrode is on one side of the microfluidic channel and the second electrode is on a substantially opposite side of the microfluidic channel between the first bend and the second bend and a first

injection interface is located substantially at the first bend and a second injection interface is located substantially at the second bend.

~~15~~16. A method for injecting multiple volumes into droplets, comprising the system according to any one of claims 1-~~14~~15.

~~16~~17. A kit for performing the method according to claim ~~15~~16.