Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Material:

1. Contact line dynamics: The glycerol droplet is placed adjacent to an ethanol droplet and the contact line dynamics is observed by shadowgraphy technique. The parameters like contact line and contact angle is calculated using Image J software and is plotted below. Volume of the droplet is calculated using a spherical cap formula.

The contact line expands as the ethanol droplet evaporates. Contact line starts retracting one the ethanol droplet has evaporated. In the experiments, we replenish ethanol once it is evaporated. Hence, the expansion and retraction of the contact line of the glycerol droplet continues until the end of experiments. As the contact line expands, the contact angle decreases. With the retraction of contact angle the contact angle increases. This balance keeps the volume of the glycerol droplet almost constant. Ethanol adsorption creates changes in surface properties and may not be a volumetric phenomenon.

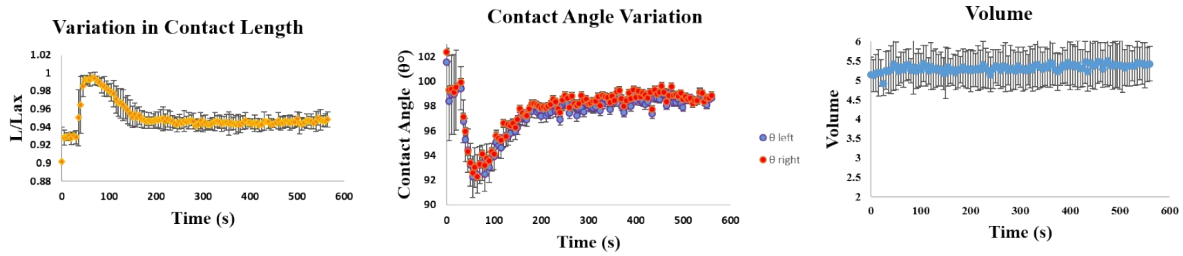

Figure S1: Contact Line dynamics: (a) Non-dimensional variation of contact line with time, where L is the length of the contact line and L_{max} is the maximum length in the experimental time interval. (b) Variation of contact angle with time. θ_{left} is the contact angle near side '2' and θ_{right} is the contact angle near side '1'. (c) Volume measurement with time assuming the droplet to be a spherical cap.

Video 1: Flow visualization in glycerol droplet. There is negligibly small flow when the glycerol droplet is placed on the substrate. At (0:33 in the video) ethanol droplet is placed on side 1 of the glycerol droplet. An immediate response to this can be seen by the flow change in glycerol droplet. The direction of the flow can be visualized in the droplet.

Video 2: Fluorescence imaging (Time-lapse video) of mixing of dye in the glycerol droplet when ethanol is placed on side 1 of the droplet.