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(54) Title: DROPLET GENERATION METHOD, SYSTEM AND APPLICATION

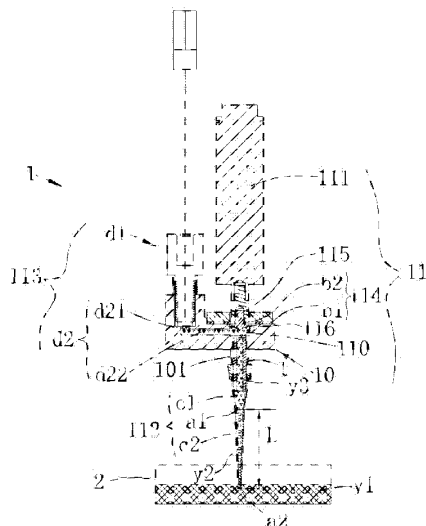


Figure 7

(57) Abstract: Disclosed are a droplet generation method, system and application thereof. The method comprises: S1, transferring a second liquid into the droplet generation tube, wherein the second liquid is a liquid immiscible with the first liquid; S2, inserting the droplet generation tube into the first liquid, and keeping the second port of the droplet generation tube being below the liquid surface of the first liquid; S3, controlling the accommodating cavity to make its volume change periodically, and injecting a driving fluid into the fluid passage to drive the movement of the second liquid. The present disclosure provides a brand-new droplet generation method, which breaks through the limitation that the existing nanoliter scale droplet generation technology must use micro-channels below 0.1 mm, and can realize the preparation of small-volume uniform droplets at a reduced cost. The system comprises a droplet generation device and a droplet receiver, the droplet generation device comprises an accommodating cavity with a variable volume, a control mechanism for controlling the volume of the accommodating cavity to change periodically, and a droplet generation tube, which has a wide range of applications in clinical diagnosis, gene expression analysis, microorganism detection and other fields.

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