

# Combining rails and anchors with laser forcing for selective manipulation within 2D droplet arrays - Supplementary movie captions

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**Movie S1 - Selectively extracting drops.** An array of holes with a diameter of 50  $\mu\text{m}$  is initially filled with water drops with a radius of 200  $\mu\text{m}$ . A laser with a power of 200 mW is focused on the water-oil interface, pushing the drops one-by-one out of the anchor sites. An X is patterned with the remaining droplets. The movie is in real time.

**Movie S2 - Selectively filling an array.** Droplets are derailed from their default path onto a storage rail using a laser. The movie shows the complete filling of the first line and the first three droplets of the five remaining lines. The movie is in real time.

**Movie S3 - Filling an array with two droplet populations.** Water droplets with a radius of 100  $\mu\text{m}$  and containing *KSCN* are first flushed in a test section patterned with two rows of anchors of 200  $\mu\text{m}$  in

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diameter. The oil flow rate is then increased to leave one drop per trap. Water droplets containing  $FeCl_3$  are finally brought at low flow rates, from a second inlet, and fill the gaps in the array. The movie is in real time.

**Movie S4 - Laser induced merging of droplets in anchor sites.** Each hole traps two droplets which contain different chemical reagents,  $KSCN$  and  $FeCl_3$  respectively. The laser is placed on the interface between two drops to trigger their fusion. A chemical reaction inducing a red color then takes place. The laser completes its path leaving five anchor points with a reaction product and all other droplets undisturbed forming a W pattern. The movie is in real time.