

Description of Additional Supplementary Files

File Name: Supplementary Movie

Description: **Dripping tests of 1 mL food dye colored deionized (DI) water (left) and 20 wt% brine onto the confined water layer.** Water reservoir initially contained DI water only. The dripping process was completed at the sixth second. The zeroth second for the liquid transport visualization shown in Fig. 3c,d of main text corresponds to the sixth second of this video.