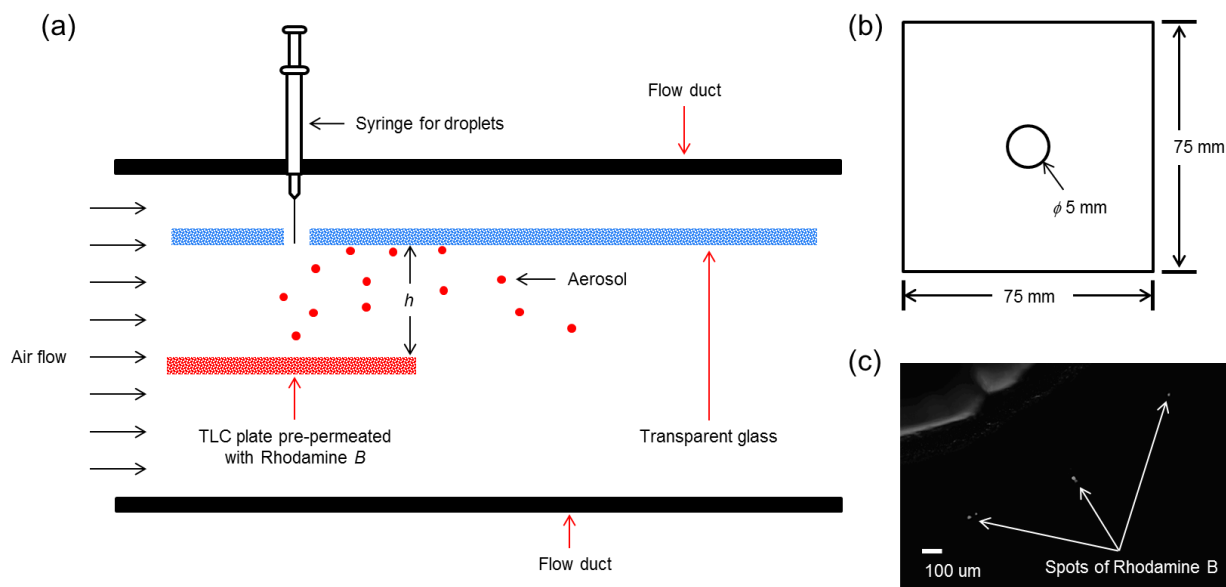
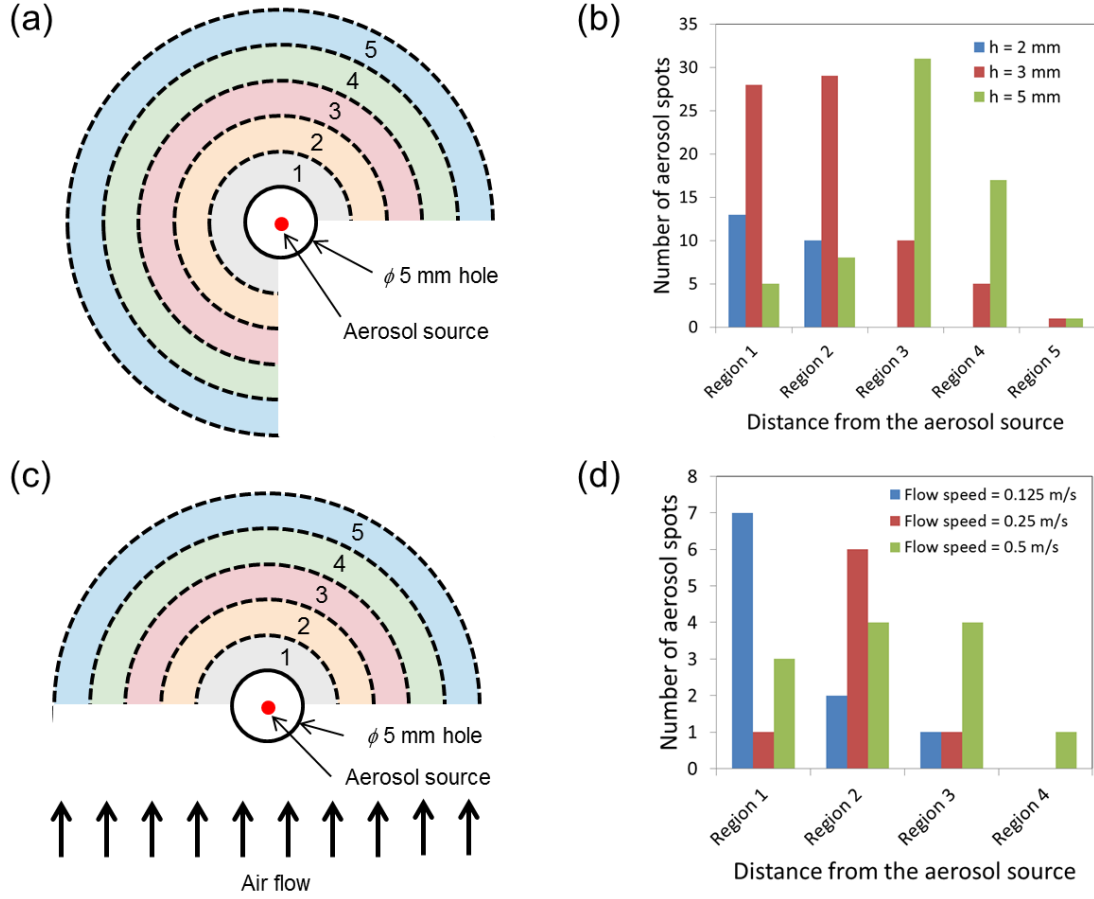


Supplementary Information

Supplementary Figures



Supplementary Figure 1. Experimental setup for convective material migration with aerosol generated from droplets hitting porous surfaces. (a) Droplets, generated by the syringe, hit the TLC plate, which is pre-permeated with Rhodamine B and placed in the rectangular duct with air flow. (b) A transparent glass slide is placed at height h above the TLC plate to collect aerosol droplets. (c) The sites with Rhodamine B can be observed on the transparent glass slide with a UV filter, which has a specific excitation range. The bright spots correspond to Rhodamine B transferred to the glass slide by aerosol droplets generated from the TLC plate.



Supplementary Figure 2. The number of Rhodamine *B* sites on the transparent glass slides with respect to height, the radial distance from the initial droplet (aerosol source), and the flow speed in the duct. In every impingement case, the Weber and modified Peclet numbers were 75 and 174 (within the frenetic aerosol regime), respectively. The numbers from 1 to 5 in (a) and (c) indicate the regions highlighted with different colors (the radius of each region is 2.5 mm larger than previous region). We used deionized water for all the drop impingement tests. (a) and (b) The number of Rhodamine B spots with respect to the height of the glass and distance from the source of aerosol. (c) and (d) The number of Rhodamine B spots with respect to the air-flow speed in the duct and the distance from the aerosol source. The glass height was 2 mm for all the drop impingements in (c) and (d). With increasing air-flow speed, the average distance from the aerosol source increases.