



Composition with fiber and droplets

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Poets captured the mesmerizing behavior of droplets long before the advent of photography. The ancient poet Du Fu penned “heavy dew beads and trickles, stars suddenly there, sparse, next aren’t”.¹ Jules Renard also observed, “a few dew drops on a spider web and here is a river of diamonds”.²

Scientists may wonder, what is the maximum amount of fluid that a fiber can hold? It turns out that the corner of two crossed fibers can hold significantly more water than a horizontally placed fiber. Here we place the maximum water volume before detachment onto crossed fibers and dye the fluid for clarity. The **green** droplet suspended on the **horizontal** fiber in the image holds the least water at **10 μL** . As we

decrease the angle between the fibers, the maximum droplet volume increases. The **161°** fibers hold a **clear** droplet of **14 μL** , the **89°** fibers hold a **blue** droplet of **27 μL** , and the **36°** fibers maximize the capillary force yielding an optimal volume of **65 μL** in the **red** droplet. Decreasing the fiber angle further to **13°** reduces the volume to **37 μL** in the **yellow** droplet.³ Here, these colored droplets and the title are arranged with Mondrian’s compositions in mind.

¹“重露成涓滴，稀星乍有无...” — 《倦夜》，杜甫

²“Journal 1893-1898”, Jules Renard

³ Z. Pan, F. Weyer, W.G. Pitt, N. Vandewalle and T.T. Truscott, *Soft Matter*, 2018, **14**, 3724.