Mocha Diffusion: the art of spreading miscible liquids

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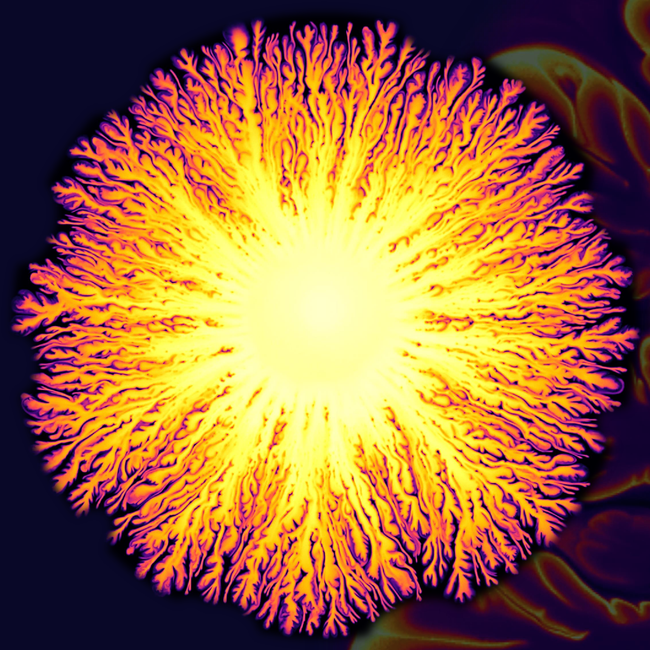
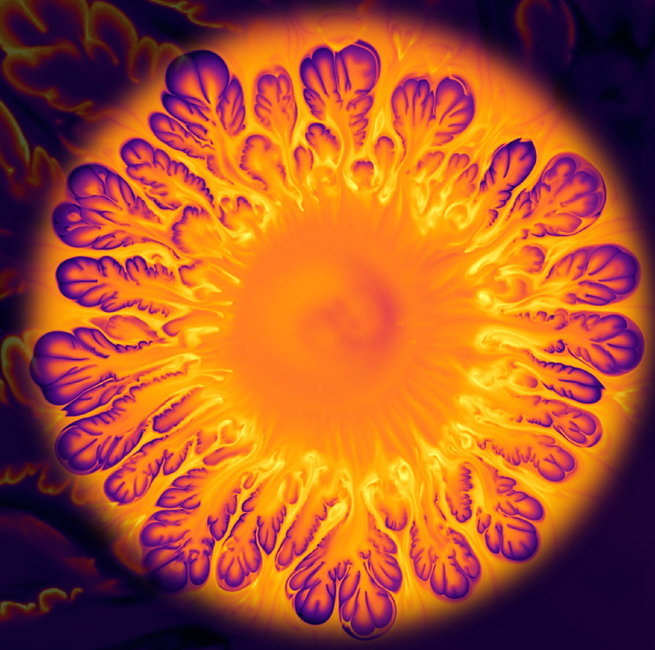
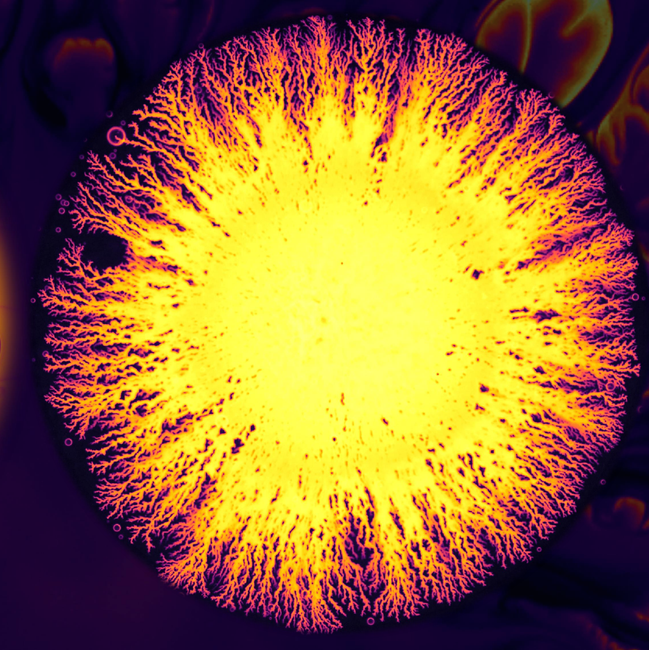


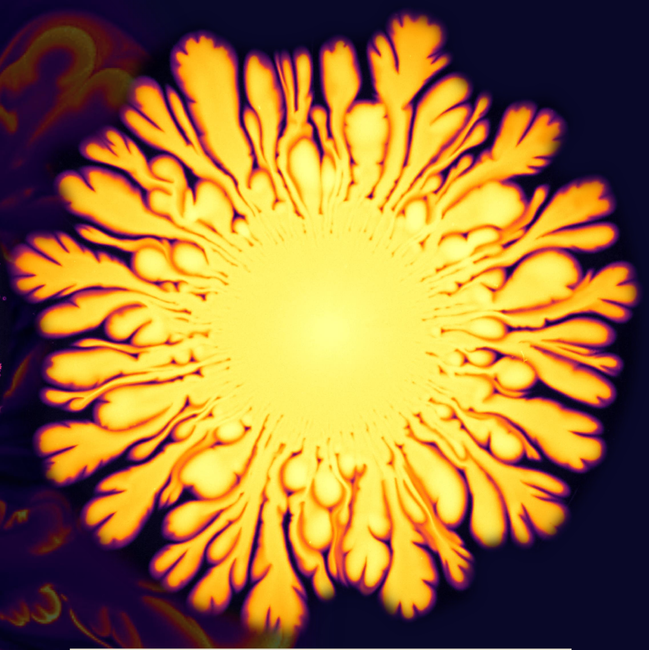
Ammonia dye solution on sodium alginate



Ammonia on ammonia-dye-covered corn syrup

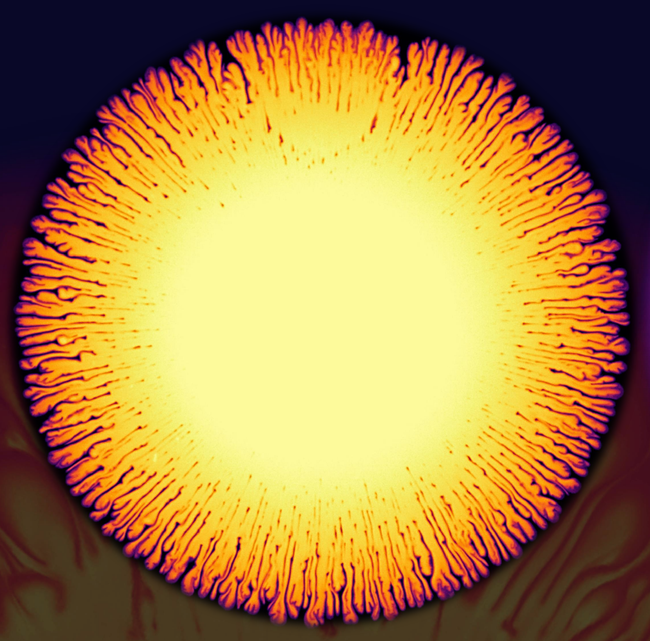


Vinegar dye solution on xanthan gum

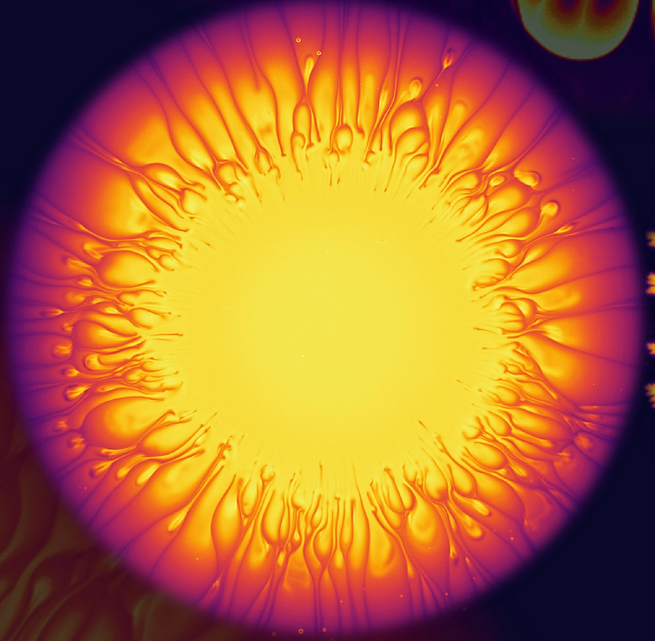


Propylene glycol dye solution on sodium alginate

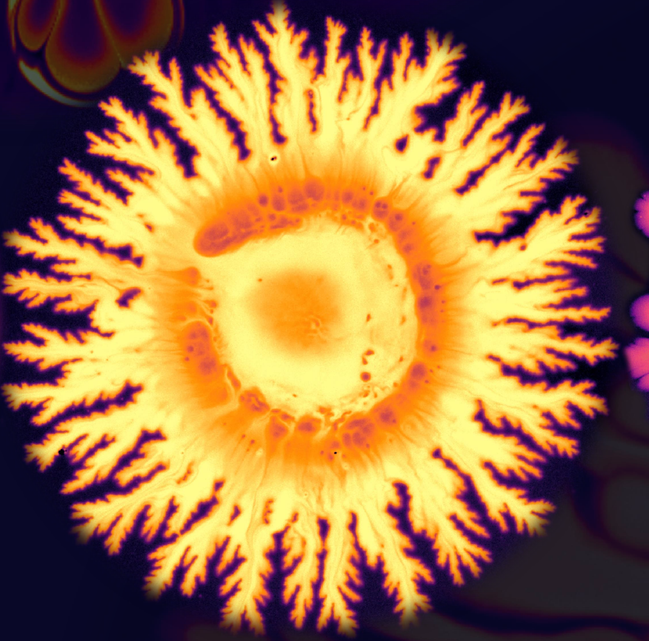
McCormick food coloring on sodium alginate



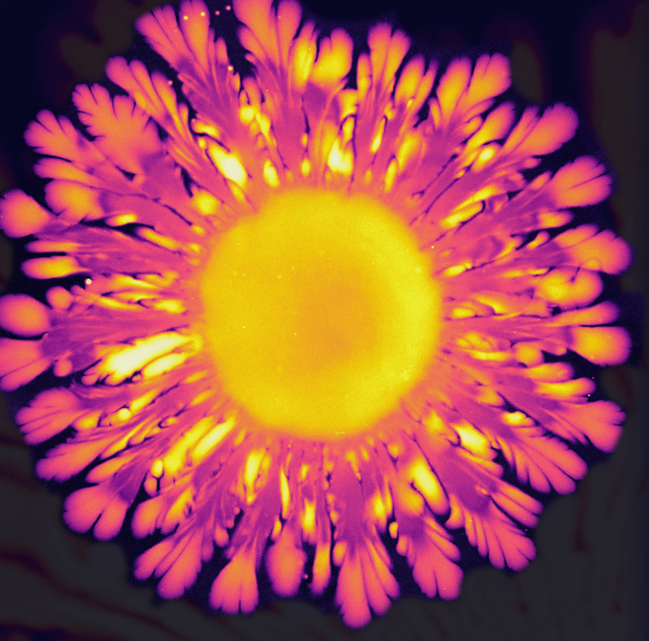
Ammonia dye solution on corn syrup



Isopropanol dye solution on white acrylic paint



Propylene glycol dye solution with citric acid on sodium alginate



Dye solutions deposited on miscible viscous sub-fluids produce radial, fern-like patterns known as mocha diffusion. There are many different ways to design mocha diffusion art, but Marangoni forces and a sub-fluid viscosity that rapidly changes with water content are key ingredients.