

Abstract Submitted
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Drying of Discotic Suspensions ADITHYARAM NARAYAN, ZHENG-DONG CHENG, TAMU, Artie McFerrin Department of Chemical Engineering, Mary Kay O'Connor Process Safety Center — We study the evaporation driven self-assembly of exfoliated γ -Zirconium Phosphate nanoplatelets that formed continuous films at various low concentrations. This self-assembly mechanism is different from the well-known coffee-ring effect for low aspect ratio particles. The film formation can be tuned by solvent properties, temperature and concentration of the nanoplates. By the virtue of very large surface area, these platelets can be used as flame retardant coatings after proper functionalization. These work points to a simple procedure to create uniform films by high aspect ratio nanoplates with potentially diverse applications.

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