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Observation of large nematic domains of discotic liquid crystals ABHIJEET SHINDE, XUEZHEN WANG, ZHENGDONG CHENG, TAMU, Artie McFerrin Department of Chemical Engineering, College Station, TX — Discotic liquid crystals are commonly found in nature in the form of clay, nacre. They are technologically important in applications such as conductive polymers, semiconductors and photovoltaics. Size and its distribution play an important role in their self-assemblies. Here we observed large nematic domains of discotic liquid crystals grown on a time scale of months. The development of such domains is observed to be faster for nanodisks that relatively smaller in size. The orientation of nanodisks is affected by gravity and inter-particle interactions which are yet to be fully understood.

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