

Abstract Submitted
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Frustrated self-assembly of dendron and dendrimer-based supramolecular liquid crystals RAFFAELE MEZZENGA, NADIA CANILHO, University of Fribourg, Switzerland, JANNE RUOKOLAINEN, Helsinki University of Technology, Finland, EDIS KASEMI, DIETER SCHLUETER, ETHZ, Switzerland, WON BO LEE, GLENN FREDRICKSON, UCSB, USA — A new inverted topological configuration is demonstrated both experimentally and theoretically for self-assembled dendron and dendrimer-based supramolecular liquid crystals in which the dendrons/dendrimers occupy the continuous domain and the ionically attached pendant chains are confined in discrete domains. All previous studies on dendrimer and dendron-based liquid crystals have reported normal liquid crystalline configurations in which the dendritic templates occupy discrete domains (in spherical or columnar phases) or continuous struts (in bicontinuous cubic phases), while the pendant chains occupy the continuous space-filling domain. These surprising results mandate a re-examination of the packing mechanisms for this important class of materials and open new routes to unique nanostructures of possible use in existing and emerging technologies. References: R. Mezzenga, J. Ruokolainen, N. Canilho, E. Kasemi, D.A. Schlüter, W.B. Lee, G. H. Fredrickson, *Soft Matter*, in press (**DOI:** 10.1039/b814972k)

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