Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Segregation by Complementarity of nanoDNA based on Liquid Crystal Ordering and Centrifugation[1] GREGORY SMITH, ETHAN TSAI, T. ROBINS, ARMOND KHODAGHULYAN, Liquid Crystal Materials Research Center, University of Colorado, Boulder (CO) U.S.A., GIULIANO ZANCHETTA, TOMMASO FRACCIA, TOMMASO BELLINI, Dipartimento di Chimica, Biochimica e Biotecnologie per la Medicina, Università degli Studi di Milano, Italy, DAVID WALBA, NOEL CLARK, Liquid Crystal Materials Research Center, University of Colorado, Boulder (CO) U.S.A., LIQUID CRYSTAL MATERIALS RESEARCH CENTER, UNIVERSITY OF COLORADO, BOULDER (CO) U.S.A. COLLABORATION, DIPARTIMENTO DI CHIMICA, BIOCHIMICA E BIOTECNOLOGIE PER LA MEDICINA, UNIVERSIT DEGLI STUDI DI MILAN COLLABORATION — Nanometer length DNA segments (<20 base pair long) that are complementary can duplex and condense to make liquid crystal phases at concentrations >∼500 mg/mL This nanoDNA duplexing combined with order-disorder phase separation offers a means of sequestering molecules in mixtures of different DNA sequences based on their degree of complementarity. Here we show that isotropic and liquid crystalline phases, comprising respectively single strands and duplexes in multi-component nanoDNA solutions, can be physically separated by liquid crystal condensation followed by centrifugation.

[1]This work was supported by NSF MRSEC Grant DMR-0820579.

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Date submitted: 16 Dec 2011 Electronic form version 1.4