

Abstract Submitted
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Characterization of a chiral nematic mesoporous organosilica using NMR ALAN MANNING, University of British Columbia Physics and Astronomy, KEVIN SHOPSOWITZ, MICHAEL GIESE, MARK MACLACHLAN, University of British Columbia Chemistry, RONALD DONG, CARL MICHAL, University of British Columbia Physics and Astronomy — Using templation with nanocrystalline cellulose, a mesoporous organosilica film with a chiral nematic pore structure has recently been developed. [1] We have used a variety of Nuclear Magnetic Resonance (NMR) techniques to characterize the pore structure. The pore size distribution has been found by analyzing the freezing point depression of absorbed water via NMR cryoporometry. The effective longitudinal and transverse pore diameters for diffusing water were investigated with Pulsed-Field Gradient (PFG) NMR and compared to a 1-D connected-pore model. Preliminary data on testing imposed chiral ordering in absorbed liquid crystals is also presented.

[1] K.E. Shopsowitz et al. JACS 134(2), 867 (2012)

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