Supramolecular Main-Chain Liquid Crystalline Polymers and Networks with Competitive Hydrogen Bonding: A Study of Increased Flexibility on Distonic Mesogenic Hydrogen Bond Acceptors with Networks Created from Tetrakis-, Tris- and Bis-Functionalised Pyridyl Networking Agents

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This article dealt specifically with finding ways to enhance the chemical and physical stability of liquid crystals, the most common and important class of materials present in electro-optical displays. The common wisdom is that the liquid crystalline phase is very delicate and easy to break/destroy. Our work outlined in this paper directly contradicts this misconception, creating materials that are capable of displaying interesting optical behaviors at very high concentrations of molecules specifically designed to disrupt the phase. From this work, we’ve continued studying the level of disrupting agent needed before the phase is destroyed.

The co-authors of this article are former UW- Eau Claire students.