

Abstract Submitted
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**Order Parameter measurements of Chromonic Liquid
Crystal Benzopurpurin 4B using polarized Raman scattering¹**

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Georgia Institute of Technology — Benzopurpurin 4B (BPP4B), a commonly used textile dye, is known to form chromonic liquid crystal phases in aqueous solutions at fairly low concentrations (<0.5 wt%) in comparison with other chromonic liquid crystals. Also the aggregation properties and the structure of the aggregates in aqueous solutions of BPP4B are not well understood. Recently McKitterick et al. reported a study on the aggregation and phase behavior of BPP4B in water.² Further understanding of the behavior of BPP4B in aqueous solutions can be gained by studying how the order parameter of its liquid crystalline phase varies with some relevant parameters. Planar monodomains of BPP4B were obtained using a flat rectangular capillary. Thermal evolution of the order parameter of these aligned monodomains was carried out using polarized Raman scattering measurements. Further, the concentration dependence and the effect of salt on the order parameter were studied. The variation of the order parameter with the above parameters was correlated to the structure of the aggregates using the UV-Vis absorption data.

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²C. B. McKitterick, N. L. Erb-Satullo, N. D. LaRacunte, A. J. Dickson, P. J. Collings. *J. Phys. Chem. B*. **2010**. 114, 1888.

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