

Abstract Submitted  
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**Laser Induced Fluorescence Studies of New Liquid Crystal C16-Fluorescent Dipyrrinone** SAMUEL BECK, DARREN NORTH, RICHARD RODE, CHRISTOPHER HEATH, AMY RENAUD, LOGAN TATE, Undergraduate, CHANDRA PRAYAGA, AARON WADE, MICHAEL HUGGINS, Faculty Advisor — A new liquid crystal, C-16 Fluorescent Dipyrrinone, was synthesized and its absorption and fluorescence properties investigated near the phase transitions. A sample of the liquid crystal was dissolved in chloroform and deposited on a glass slide and housed in a temperature controlled environment. Fluorescence was induced by pumping the sample at 355nm from a frequency-tripled, pulsed ND:YAG laser and was analyzed using a monochromator and a 1GHz oscilloscope. The sample was held at each temperature, from 30 ° C to 80 ° C, with 1 mK precision before taking the spectra. The results show significant changes in the peak in the spectra near the phase transitions, allowing for precise measurement of the phase transitions. The samples were further characterized by measuring their absorption spectrum at different temperatures in the range of 30-60 ° C was recorded over the spectral region 300-800 nm.

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