

**Real-time microbe detection based on director distortions around growing immune complexes
in lyotropic chromonic liquid crystals**

S. V. Shiyanovskii,^{1,2}



ment. In the axial symmetry approximation, director around

[17]. Thus when $|\Theta'| \lambda < 1$, we can use the approximate expressions $q_j \approx \kappa \pm \kappa \delta \sqrt{1 + \mu^{2j}}$

tion 10^6 – 10^7 per mL) and the antibodies (0.01–1.0 mg/mL) were added to the LCLC so that the final concentration of DSCG in water was 13 wt %; it corresponds to the nematic phase of LCLC. The LCLC mixtures with beads only and antibodies only served as control samples. The glass plates coated with rubbed polyimide SE-7511 (Nissan Chemical) set the planar alignment of LCLC [10]. The samples were of thickness 8–30 μm and sealed.

The samples were evaluated 30 min after the preparation, under the microscope BX-50 Olympus, in two complemen-