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

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ment. In the axial symmetry approximation, director around

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

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-