Title:	Fabrication of liquid crystal droplets integrated hydrogel for biosensing applications
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Abstract:	The design and development of stable, simple, sensitive and quick responsive sensors have gained a great interest in biosensing. These sensors help in real-time detection of biologi- cal compounds and therefore have compelling applications in bio-medical industry. Liquid crystals (LC) show properties innate to a perfect biosensor. In this project, we reported the biosensing applications of LC droplets integrated chitosan (CHI) hydrogel. CHI hy- drogel stabilizes the LC droplets embedded between its polymer chains. The gelation of CHI hydrogel was fastened using Ag + ions. The hydrogel stabilized LC droplets detected bovine serum albumin (BSA) in presence of a cationic surfactant cetyltrimethylammonium bromide (CTAB), by changing their configurations which was probed using polarizing opti- cal microscopy (POM). We found the limit of detection (LOD) of BSA using this LC-based sensor system and also monitored the time dependent stability of the LC droplets embedded in hydrogel. From this, we could conclude that this sensor system offers a stable, label-free, highly selective and sensitive sensing platform for BSA.
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