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Title:	Applications of liquid crystals in biosensing and organic light-emitting devices: future aspects
Authors:	Setia, S. (/jspui/browse?type=author&value=Setia%2C+S.) Sidiq, S. (/jspui/browse?type=author&value=Sidiq%2C+S.) De, J. (/jspui/browse?type=author&value=De%2C+J.) Pani, I. (/jspui/browse?type=author&value=Pani%2C+I.) Pal, S.K. (/jspui/browse?type=author&value=Pal%2C+S.K.)
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Abstract:	This article summarises recent advances made in our laboratory towards the development of new technological applications, such as biosensors and organic light-emitting diodes (OLEDs) based on liquid crystals (LCs) other than LC displays. The study of biomolecular interaction using LC material relies on the specific interaction between the LC and the biomolecule of interest at interfaces that permit the biomolecular events to be amplified into easily measured signals for various sensing applications. In the first part, we emphasise recent studies in the design and modulation of LC-based interfaces based on robust colloidal LC gels for biological amplification, qualitative and quantitative understanding of important biomolecular interactions at LC–aqueous interfaces for diagnostic and laboratory applications and design of LC droplets that hold promise to act as a marker for cells and cell-based interactions. In the second part, we described design of organic materials for application in OLEDs on various discotic monomers, dimers and oligomers. These molecules have the ability to transport charges, holes and electrons. In addition, because of the high conductivity and π – π stacking, they are considered as the advanced materials for practical applications. The technological advances in our laboratory using discotic LCs will be briefly presented in this article.
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