Title:	Biomolecule-Induced Ordering Transitions at the Liquid Crystal-Aqueous Interface
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Abstract:	In recent years thermotropic liquid crystal (LC) has been introduced as robust innovative sensing tool for imaging molecular level biological interactions occur at the LC-aqueous interface. Due to long range ordering in the LCs phase, chemical or biomolecular phenomenon occurring at the aqueous/LCs interface can be precisely reported by rapid ordering rearrangements of interfacial mesogens. This presentation will illustrate four examples regarding further development in the fabrication of LCs interface to transduce and amplify several biomolecular events in specific and sensitive way. The first example will describe the design of (LC)-based stimuli-responsive interface for imaging of endotoxin–protein binding events through interfacial ordering transition of LCs in planar and droplet geometry. Second chapter will emphasize on an approach to build up a Liquid crystals (LC) based biosensors to study the interaction between bacterial endotoxin and milk protein lactoferrin. Third example will highlight imaging and quantitative analysis of LCs based interfacial binding events of bacterial endotoxin and bacterial cell wall components. Fourth example will address fabrication of a liquid crystal (LC)-based interface for quantitative imaging of melittin–phospholipid interaction through orientational rearrangement of interfacial 5CB and conformational analysis of melittin-lipid binding event will also be discussed. The fundamental interfacial phenomena and its applications will be highlighted in each of these examples.
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