Title:	Probing Nanoscale Lipid–Protein Interactions at the Interface of Liquid Crystal Droplets
Authors:	Pani, Ipsita (/jspui/browse?type=author&value=Pani%2C+Ipsita) K. M., Fidha Nazreen (/jspui/browse?type=author&value=K.+M.%2C+Fidha+Nazreen) Sharma, Monika (/jspui/browse?type=author&value=Sharma%2C+Monika) Pal, Santanu Kumar (/jspui/browse?type=author&value=Pal%2C+Santanu+Kumar)
Keywords:	lipid−protein interaction lipid−protein interaction
Issue Date:	2021
Publisher:	ACS Publications
Citation:	Nano Letters, 21(11), 4546–4553.
Abstract:	Aqueous interfaces of liquid crystals (LCs) are widely explored in the design of functional interfaces to recapitulate the key aspects of biomolecular interactions in cellular milieu. Herein, using aqueous LC dispersions, we explore the interactions between mitochondrial cardiolipin and membrane-associated cytochrome c which play a pivotal role in the apoptotic signaling cascade. Conventional techniques used to decipher LC ordering at the droplet interface fail to give information about the interactions at a molecular level. Besides, owing to the complexity of LC systems and multiple determinants driving the LC reorientation, accurate analysis of the underlying mechanism responsible for the LC ordering transition remains challenging. Using a combination of atomistic simulations and microscopic and spectroscopic readouts, for the first time, we unveil the lipid–protein interactions that drive the reorientation at the LC droplet interface. The insights from our work are fundamental to the design of these interfaces for a spectrum of interfacial applications.
Description:	Only IISERM authors are available in the record.
URI:	https://pubs.acs.org/doi/10.1021/acs.nanolett.0c05139 (https://pubs.acs.org/doi/10.1021/acs.nanolett.0c05139) http://hdl.handle.net/123456789/4949 (http://hdl.handle.net/123456789/4949)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need To Add…Full Text_PDF (/jspui/bitstream/123456789/4949/1/Need%20To%20Add%e2%80%a6Full%20Text_PDF)		15.36 kB	Unknown	View/Open (/jspui/b

Show full item record (/jspui/handle/123456789/4949?mode=full)
(/jspui/handle/123456789/4949/statistics)