Supporting Information to

Surface Organization of a DPPC Monolayer on Concentrated SrCl₂ and

ZnCl₂ Solutions

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Fig. S1. Peak position of the PO_2 -*ss* vibrational mode as a function of cation concentration. Open symbols represent DPPC monolayers in the coexistence region (LE-LC for SrCl₂ and G-LC for ZnCl₂ solutions) phase while solid symbols represent the LC phase.



Fig. S2. Distribution of total organic carbon (TOC) and total inorganic salts (TIS) in sizeresolved SSA. SSA was generated from breaking waves inside a 33 m long wavechannel during a phytoplankton bloom. The TIS includes the summed mass concentrations of Na⁺, K^+ , Mg^{2+} , Ca^{2+} , Cl^- and SO_4^{2-} .

Solution	$[MCl_2](M)$	$ heta_{B}\left(^{\circ} ight)$	n _a
H ₂ O	_	53.1	1.33
SrCl ₂	0.3	53.1	1.33
	1.0	53.6	1.36
	2.0	54.1	1.38
ZnCl ₂	0.3	53.4	1.35
	1.0	53.7	1.36
	2.0	54.1	1.38

Table S1 Measured Brewster angle and calculated refractive index of aqueous solutions