Supporting Information for

Protein Detection Using Aqueous/LC Interfaces Decorated with a Novel Polyacrylic Acid block Liquid Crystalline Polymer

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Figure SI 1. The schematic of the flow chamber used in this study (a) before and (b) after the PAA-b-LCP was coated on the 5CB in the TEM grid cell and (c) the TEM grid cell in the flow chamber.
**Figure SI 2.** A schematic diagram of director orientation in the cell, indicating the conformation of the PAA-\(b\)-LCP on the aqueous/5CB interface at pH 2 (left) and 12 (right).
**Figure SI 3.** The optical micrographs of the TEM grid cells under a polarized optical microscope with a cross-polar state after injecting the 1 mg/mL lysozyme solution into the TEM grid cell which is made with the PAA-\(b\)-LCP decoration on the 5CB at different SPs (mN/m) in the TEM grid cell at pH=12 with the addition of 1 M NaCl.
Online Movie Legends

Movies SI 4(a-c):
The change of the GI after injecting a 1 mg/mL lysozyme solution in the TEM grid cell at pH=10, 11, and 12 with addition of 1 M NaCl; the monolayer was made at SP=30 mN/m (corresponding to Fig. 2).

Movie SI 5(a-c):
The change of the GI at pH=12 after injecting a 1 mg/mL lysozyme solution into the TEM grid cell with different NaCl concentrations (0.1, 0.5 and 1 M); the PAA-b-LCP monolayer on the 5CB in the TEM grid cell was decorated at SP=30 mN/m (corresponding to Fig. 3).