Supplementary Data

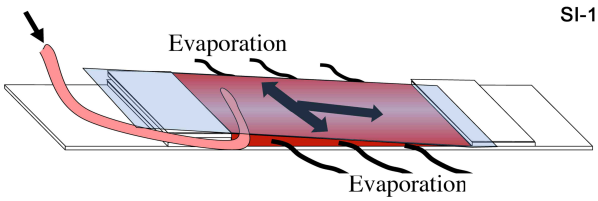

Figure SI-1. Scheme illustrating the glass microchamber set up with collagen injection. Glass microchambers were constructed by assembling 2 microscope coverslips and 300 µm-thick glass spacers to form two-sided open microchambers (10 mm x 7 mm). In both conditions and as already described (29, 35), a collagen concentration gradient (estimated from 15 to 500 mg/mL) is spontaneously generated from the air/liquid interface at the open side of the microchamber (highest concentration) to the center of the microchamber where the solution was injected (lowest concentration).

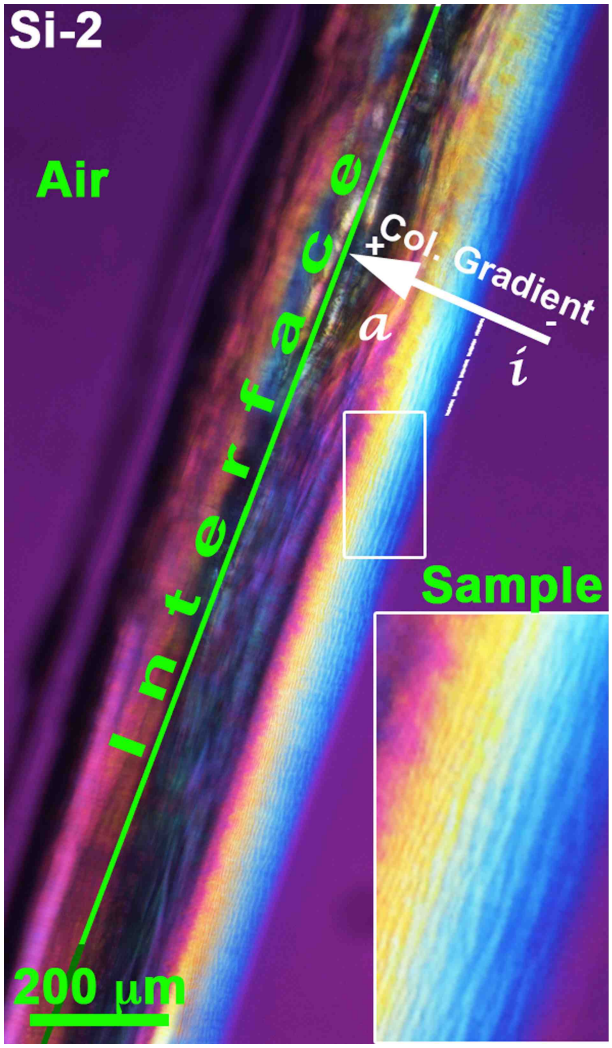

Figure SI-2. Sample seen by polarized light microscopy at low magnification. The sample was visualized between crossed-polarizers and analyzed with a l retardation plate. The liquid-crystal organization described in Figure 1 extends over several hundreds of micrometers

within the glass-microchamber. The air/liquid interface is delineated with a green line, the collagen gradient is indicated by the arrow (+ : highest concentration, - : Lower concentration), the isotropic "i" to anisotropic "a" transition is indicated by a white dotted line. The colors are only indicative in the low concentration range: Purple = Isotropic or perpendicular to the image plane, Blue = collinear with the l retardation plate axis (collagen molecules parallel to the air/water interface). Inset corresponds to the delineated area magnified three times.