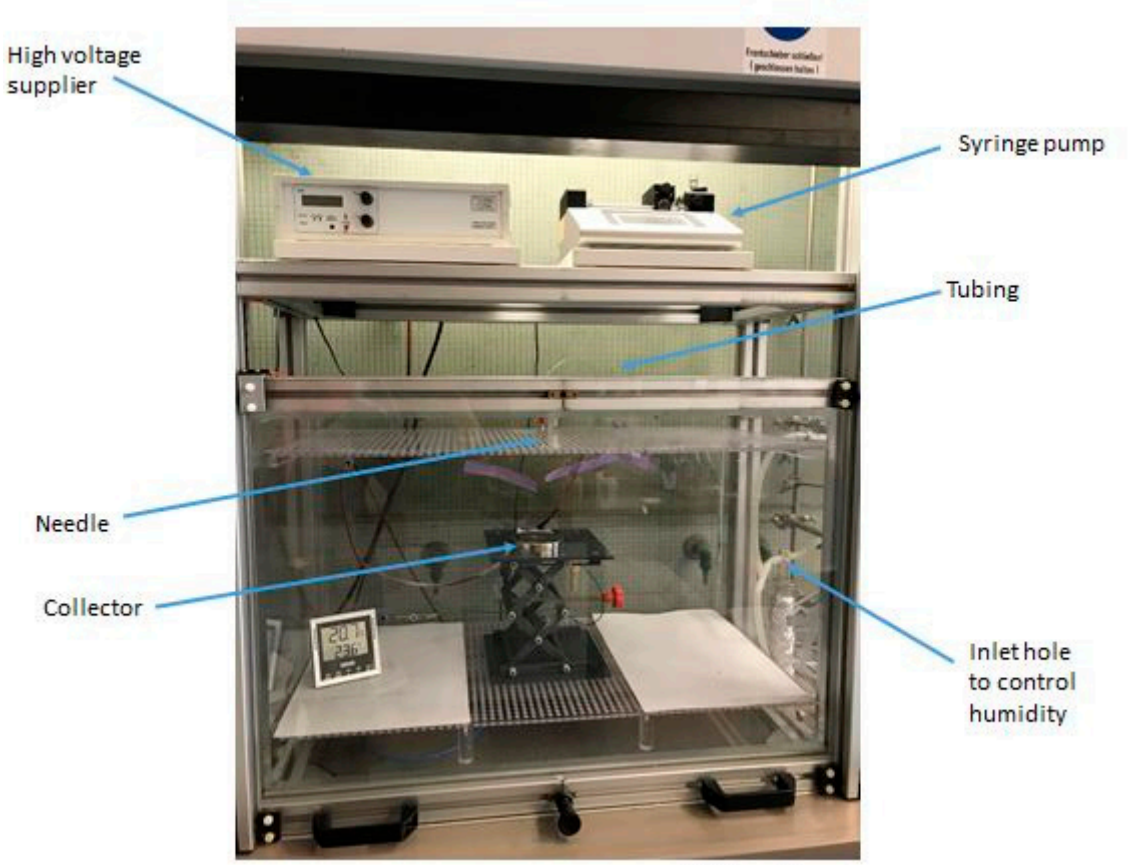

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Figure S1. Image of the electrospinning setup with voltage supply and syringe pump.

The spinning chamber is made of acrylic glass. The voltage (from an iseg T1 CP300p high voltage power supply, www.iseg-hv.com) is applied to the needle and the collector is grounded. The distance between the needle and the collector is adjusted using a height-adjustable platform below the collector. The spinning dope was filled into a plastic syringe. After covering it with Al-foil, it was clamped in a syringe pump (Legato 180 from KD Scientific, www.kdscientific.com) and the flow rate was adjusted. The syringe was connected to the needle with a 75 cm polytetrafluoroethylene (PTFE) tubing (inner diameter 500 μm). The ITO coated PET sheets were put onto the collector and fixed with tape.

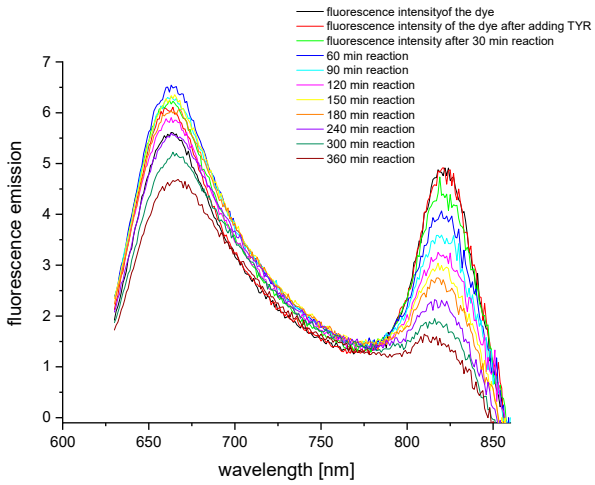

Figure S2. Change of the fluorescence emission of 5 µM S0378 dye upon binding to 5µM Tyramine at 80 °C over time in N-cyclohexyl-2-amino ethanesulfonic acid (CHES) buffer (λ_{exc}= 600 nm).

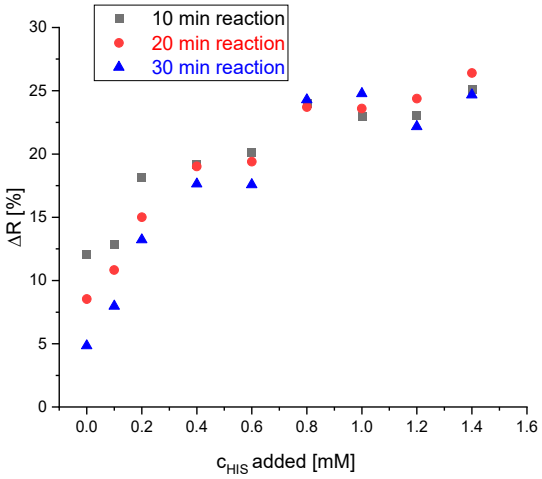

Figure S3. Effect of reaction time on the reflectance of the dipstick at 650 nm to histamine (HIS) solutions of 0, 0.02, 0.04, 0.1, 0.2, 0.4, 0.8 mM.

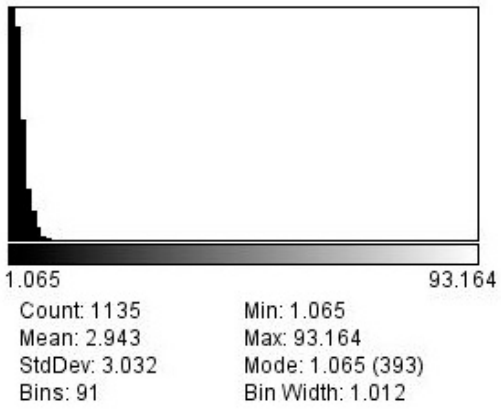

Figure S4. Representative sample for calculation of the pore size as indicated by the Feret diameter (magnification: 2500x; determination area: 97.6 µm x 68.21 µm; threshold for ImageJ set at 35%; count = number of pores in total area).

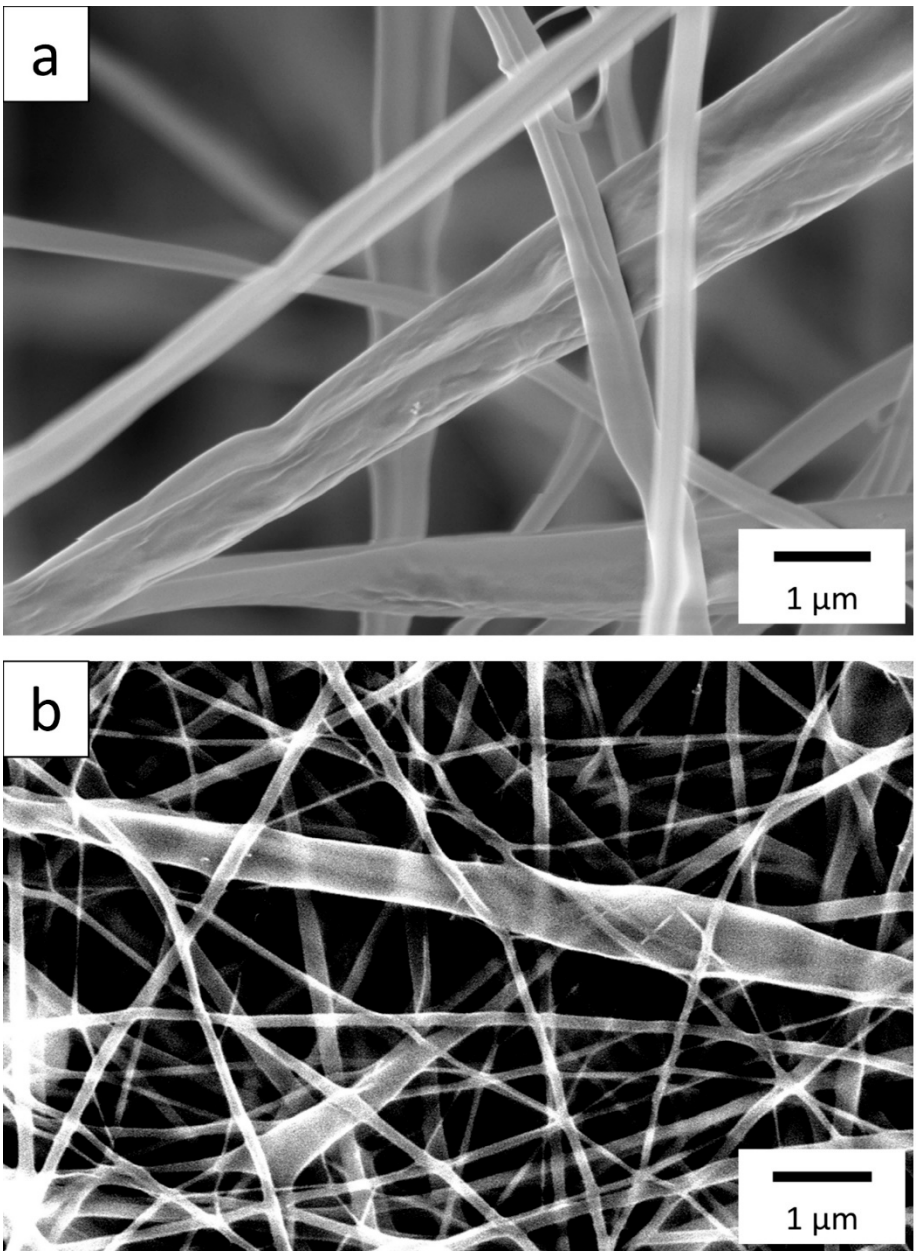

Figure S5. Morphology of S0378-CA nanofibers electrospun for 15 min as taken by SEM with 25000-fold magnification (**a**) and after reaction with 1.0 mM tyramine at 130°C with 12000-fold magnification (**b**).

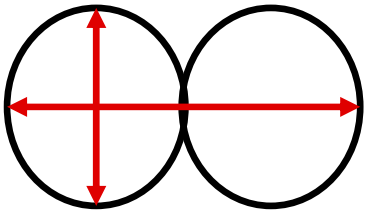

Figure S6. Sketch of cross-sectional view of fused S0378-CA nanofibers as seen in figure S5 to illustrate the long and short axes used for the determination of the fiber diameter.

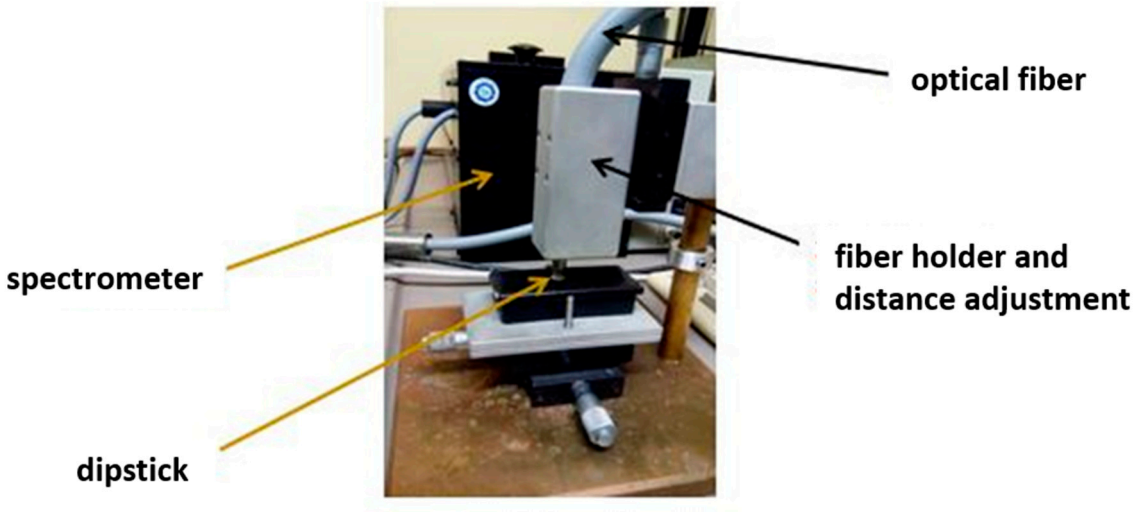

Figure S7. Instrumental setup used for reflectometric measurements.

Figure S8. Close-up view on the dipsticks on the sample holder during detection.

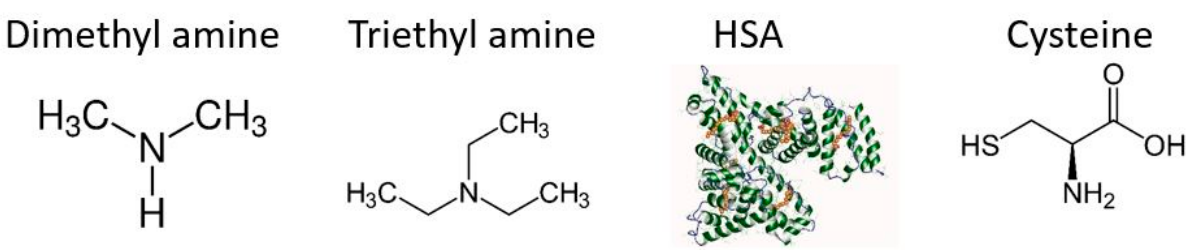

Figure S9. Structure of the potential interferents tested with the dipsticks.

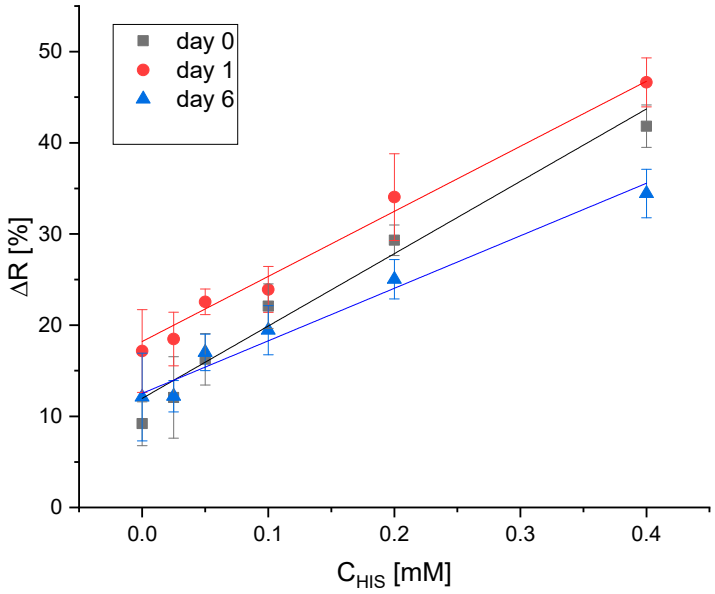

Figure S10. Calibration plots obtained from the change of the reflectance upon ageing of shrimp at room temperature using standard additions and the dilution factors given in table 2 on days 0,1 and 6 (illumination wavelength=635 nm), (n=4).

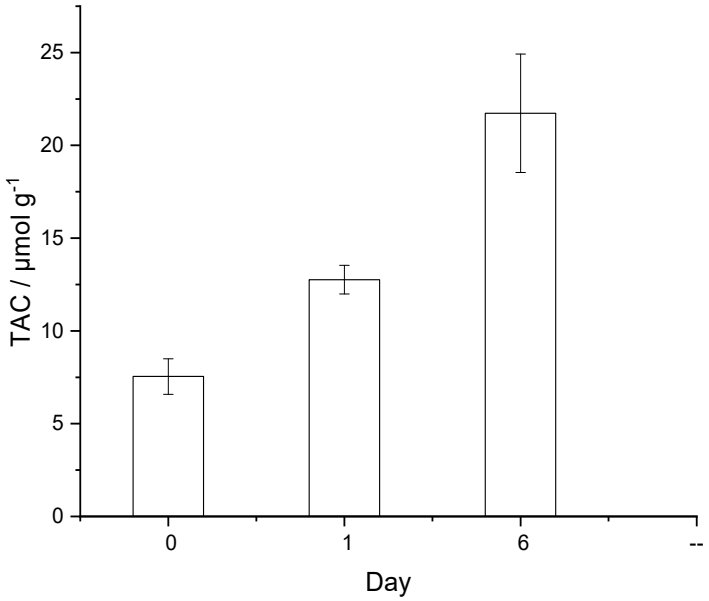

Figure S11. Bar plot of the total amine content (TAC) of shrimp ageing at room temperature over 6 days (illumination wavelength=635 nm) (n=4).

Table 1. Spinning conditions and fiber (mat) characterization data.

Composition of Spinning Dope	**0.720 g of CA[2)] and 30.00 mg of S0378 dissolved in 3.00 mL of acetic acid and 1.00 mL of acetone**
HV[1)] applied	17 kV
Tip-to-collector distance	11 cm
Flow rate	0.002 mL/min
Spinning time	15 min
Rel. humidity	40%–55%
Average fiber diameter	496 ± 318 nm
Thickness of fiber mat	50.7 ± 8.4 μm
Pore size	2.80 ± 0.15 μm
Pore density	~ 1.94 × 105 pores/mm2

[1)] The electrospinning was performed using a home-built electrospinning setup (see Figure S1) with an iseg (Radeberg, Germany) T1 CP300p high voltage power supply (www.iseg-hv.com) and a syringe pump (Legato 180 from KD Scientific, Holliston, MA 01746, USA; www.kdscientific.com).

[2)] Cellulose acetate (CA) (Mw 30,000 Da, 39.8 wt% acetyl content) from Sigma-Aldrich (Taufkirchen, Germany).