

Supplementary data

1. Nano-architectures of HMT concentrations varied fabrics

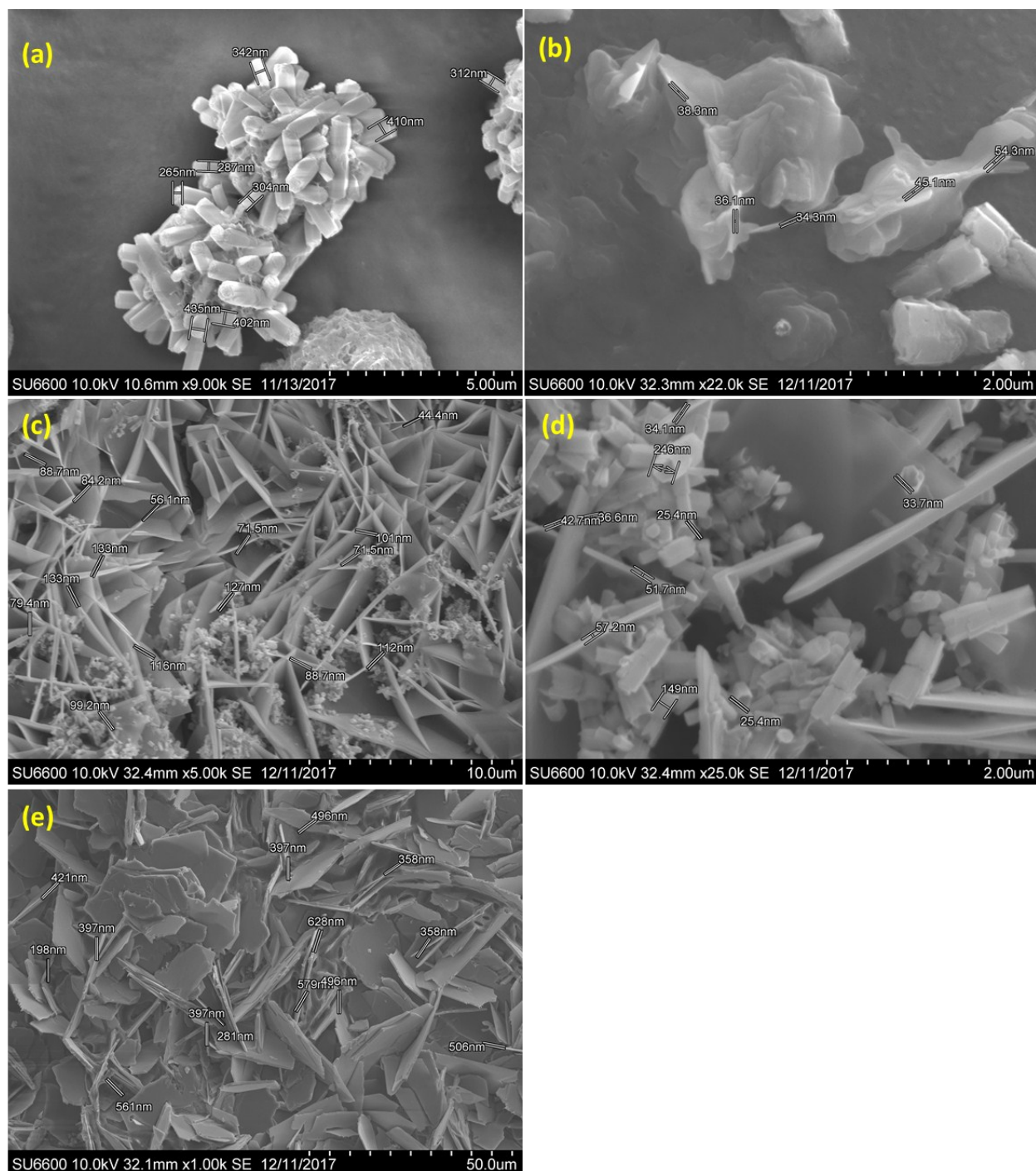


Fig. S1. SEM images of, HMT (M): Zn(NO₃)₂ (M) (a) 0.01: 0.05, (b) 0.025: 0.05, (c) 0.05: 0.05, (d) 0.075: 0.05, (e) 0.1: 0.05

2. XRF analysis

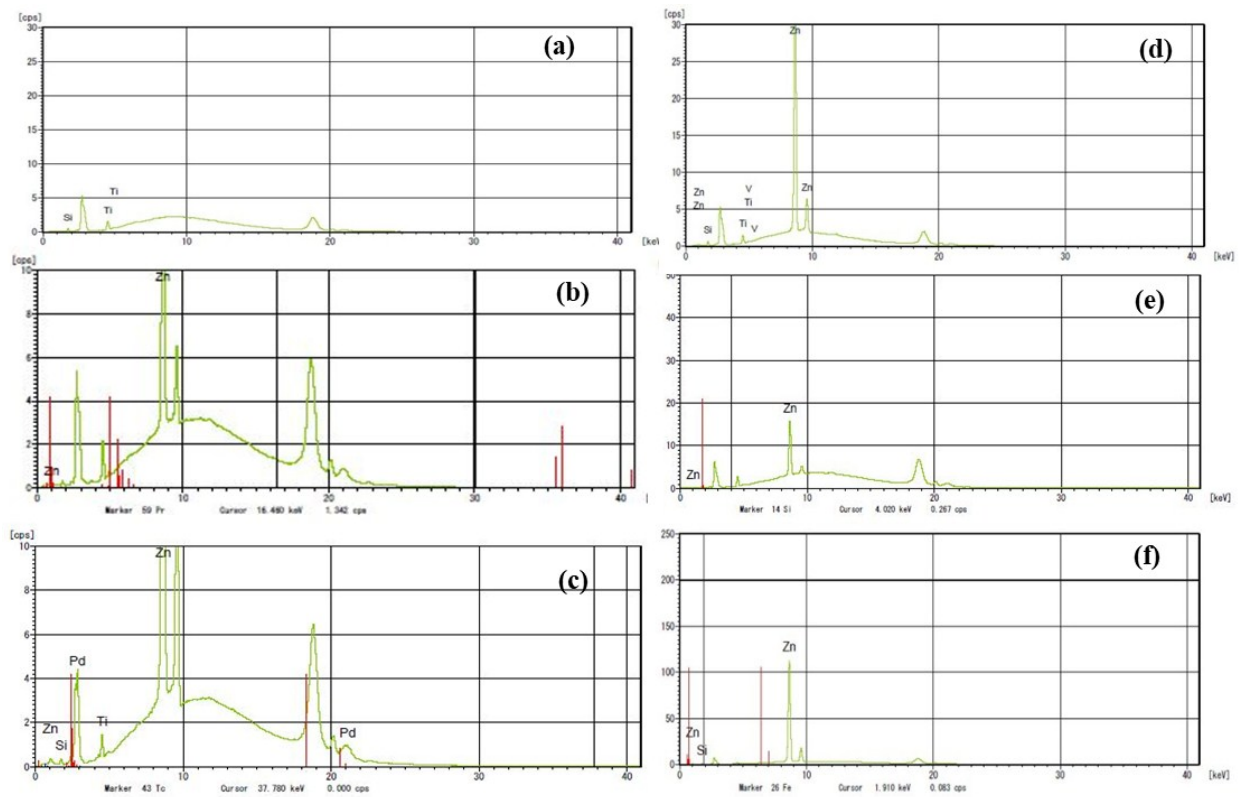


Fig. S2. XRF spectra of (a) non-treated fabric, HMT (M): Zn(NO₃)₂ (M) (b) 0.01: 0.05, (c) 0.025: 0.05, (d) 0.05: 0.05, (e) 0.075: 0.05, (f) 0.1: 0.05

3. Water Contact angle measurements

a. WCA images of HMT concentration varied fabrics

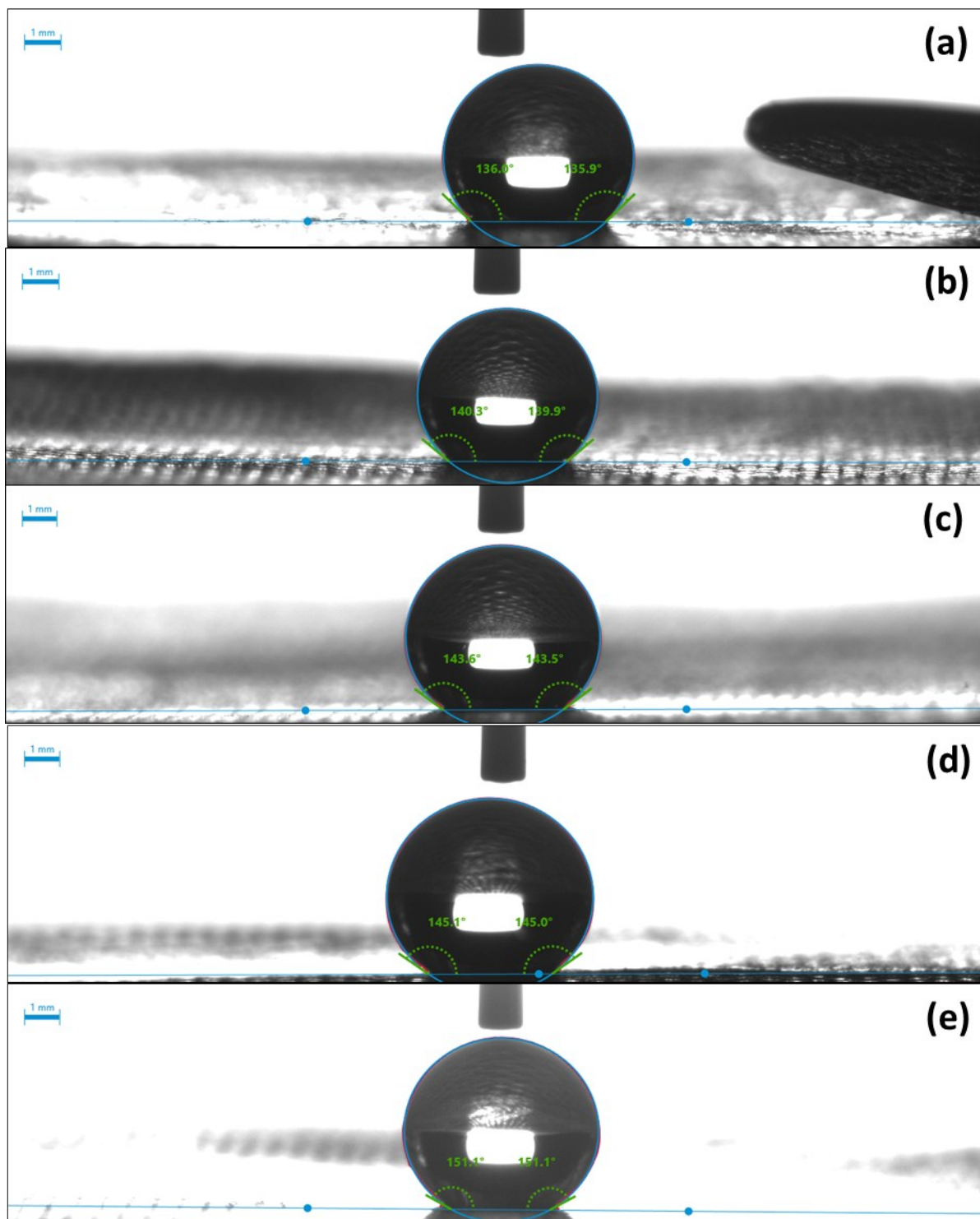


Fig. S3. WCAs of fabrics, HMT concentration varied as (a) 0.01 mol dm^{-3} , (b) 0.025 mol dm^{-3} (c) 0.05 mol dm^{-3} (d) 0.075 mol dm^{-3} (e) 0.1 mol dm^{-3}

b. WCA of Stearic acid concentration varied fabrics

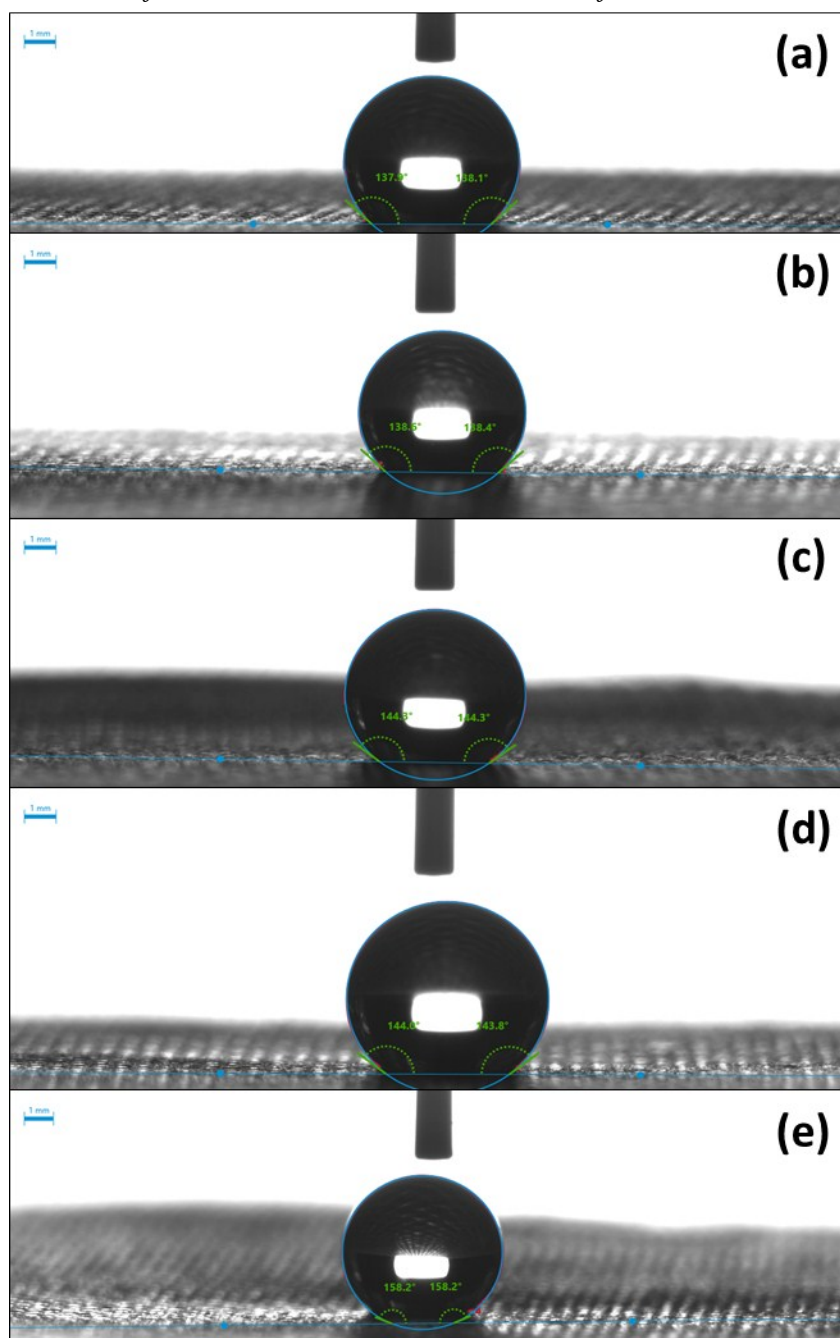


Fig. S4. WCAs of Fabrics stearic acid concentration varied as (a) 0.1 g dm⁻³ (b) 0.25 g dm⁻³ (c) 0.50 g dm⁻³ (d) 0.75 g dm⁻³ (e) 1.0 g dm⁻³

c. WCA of stearic acid dipping time varied fabrics

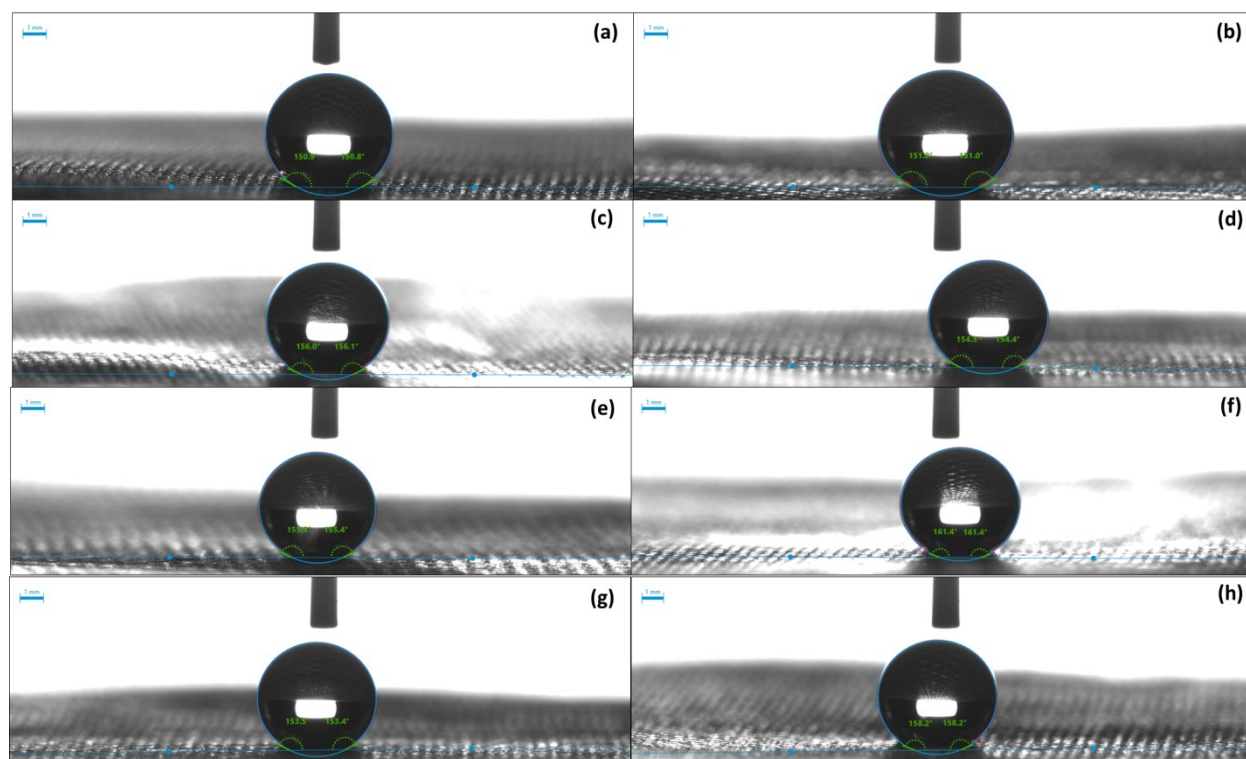


Fig. S5. WCAs of stearic acid dipping time varied fabrics as (a) 1h (b) 3h (c) 5h (d) 7h (e) 9h (f) 11h (g) 13h (h) 15h

d. Water contact angle of pH of the solution and dipping time varied fabrics

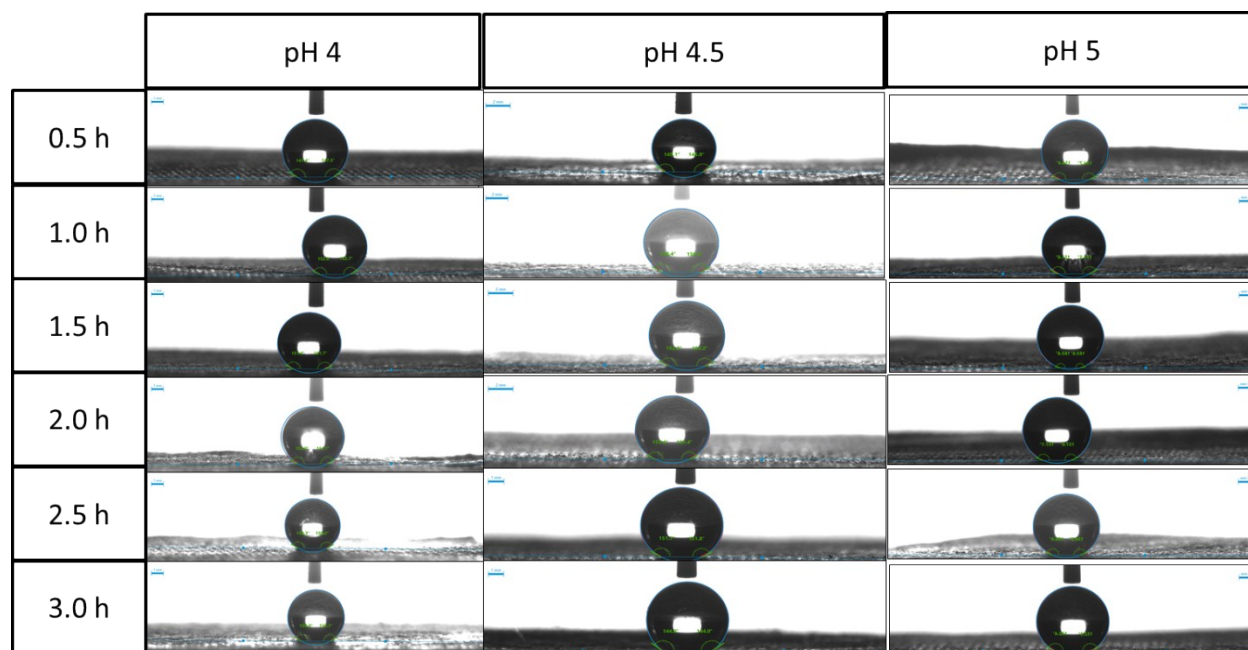


Fig. S6. Water contact angles of fabrics with pH (4-5) and dipping time

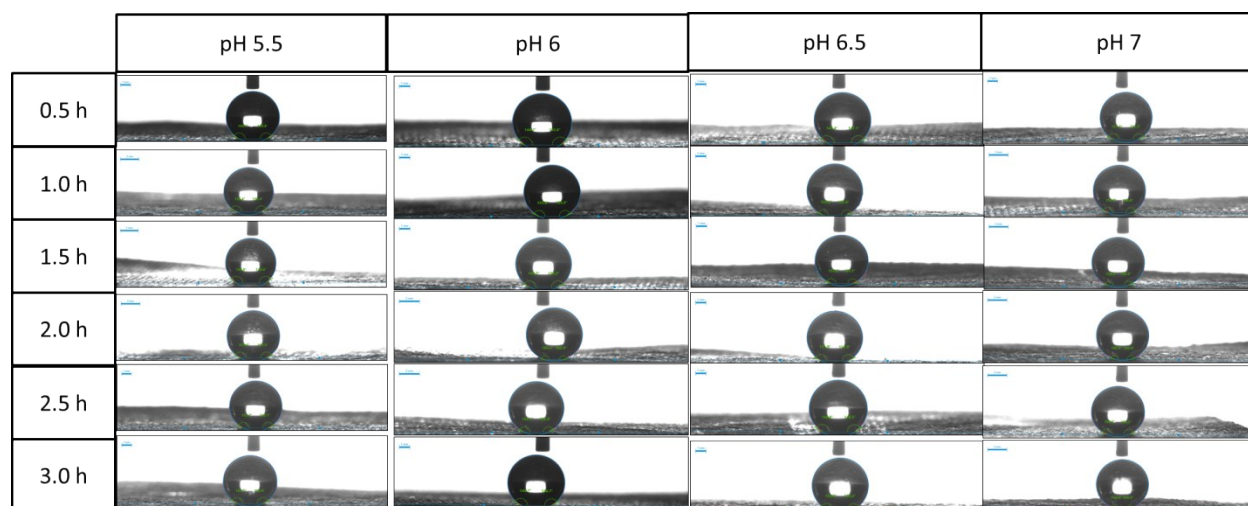


Fig. S7. Water contact angles of fabrics with pH (5.5-7) and dipping time

4. Mechanical properties

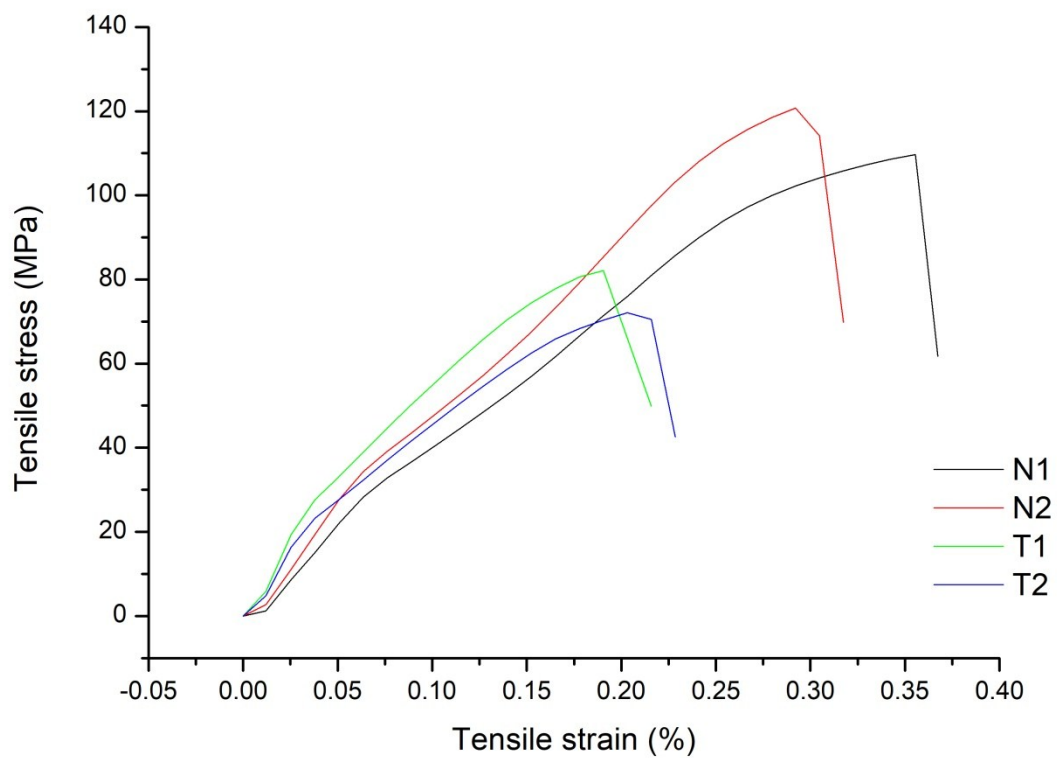


Fig. S8. Tensile stress strain properties of N1, N2 – non-treated fabrics, T1,T2 – treated fabrics.