a) Sample **Water Static** Advancing Receding Water Water Contact Contact Contact Breakthrough **Hysteresis Angle** Angle **Pressure** Angle 0° **PET** PET-NP 129 ± 2° 138 ± 5° 121 ± 5° 18 ± 4° 250 ± 20 Pa 146 ± 6° 16 ± 2° PET-Ink 139 ± 5° 130 ± 8° 332 ± 17 Pa b) c) Cumulative % Silver Lost 0 min 100 30 min 60 min 120 min 90 min 80 60 PET-NP 40 PET-Ink 20 50 100 Bleach Washing (min) **HSV** (enveloped) d) 10<sup>7</sup> PFU/mL 10<sup>5</sup> 10<sup>3</sup> Control Ag NP Ag Ink