

Supporting Information

Wettability control on Microstructured Polypropylene Surfaces by means of O₂ Plasma

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1. iPP control materials characterization

Figure S1 shows surface of blank iPP samples (without patterning) before and after different treatments carried out: O₂ plasma etching by RIE and thermal annealing.

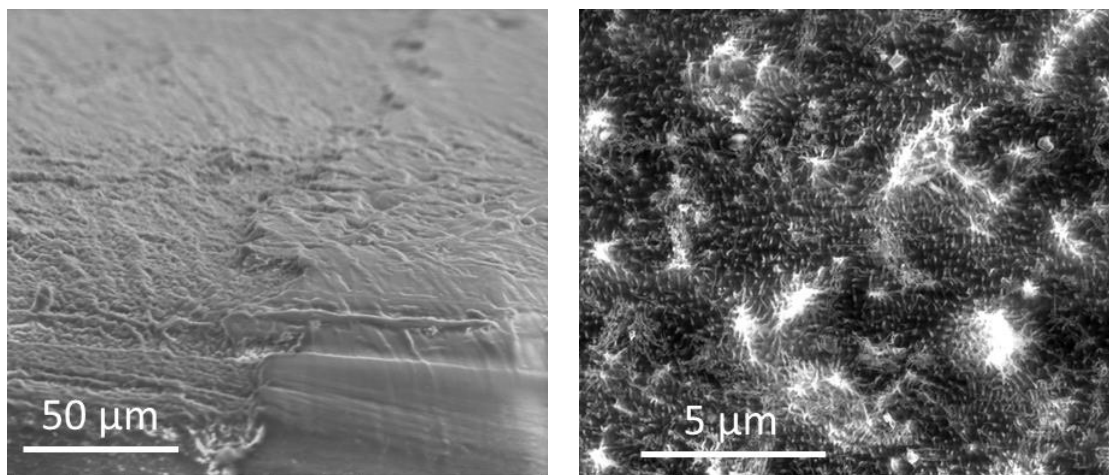


Figure S1. SEM images blank iPP samples. A) Bare iPP (right) and iPP after 30 min O₂ plasma etching (left); B) iPP after 30 min O₂ plasma etching and thermal annealing.

Figure S2 shows wettability experiments onto blank samples. After O₂ plasma etching iPP surface becomes highly hydrophilic, so a thermal annealing post-treatment is performed.

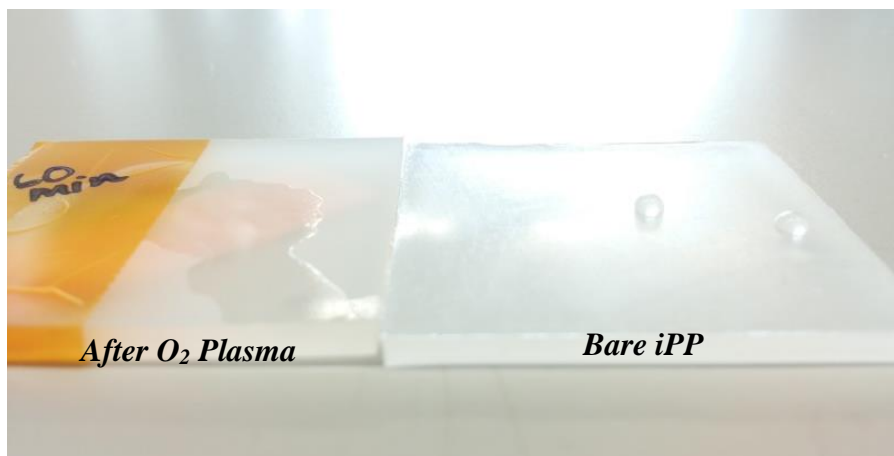


Figure S2. Modification of the wettability properties of blank iPP samples upon exposure to O_2 plasma for 60 min.

2. Micropatterned samples after aging period

Figure S3 shows surface of the sample iPP_7 after aging period. During this period many patterned sharp columns have collapsed, so variability in wettability is higher. On the contrary, samples with thicker and smaller columns (figure 5 iPP_4 and iPP_5) remain almost unaltered.

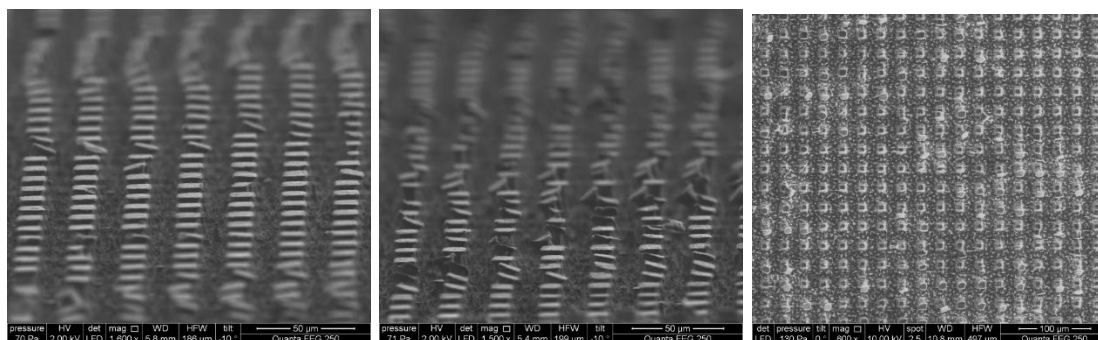


Figure S3. SEM images of iPP_7 after aging period.

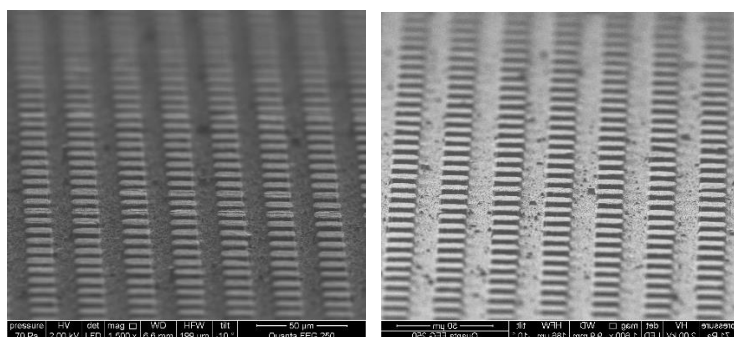


Figure S4. SEM images of a) iPP_4 and b) iPP_5 after aging period.