

## Supporting information

### Investigating the relationship between the mechanical properties of plasma polymer-like thin films and their glass transition temperature

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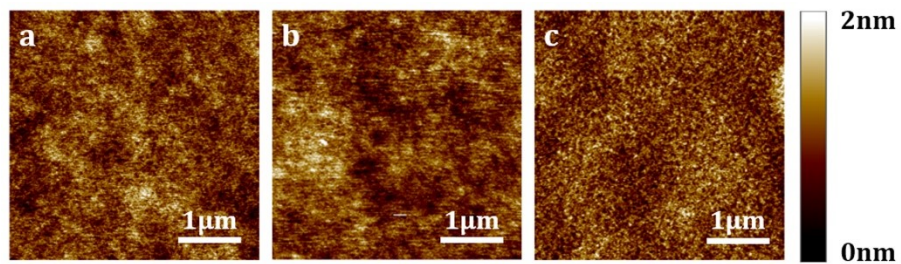
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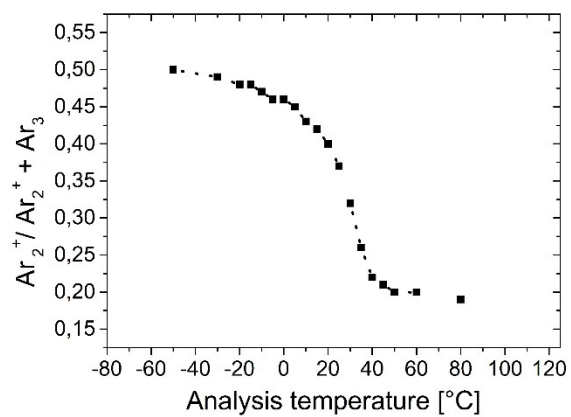
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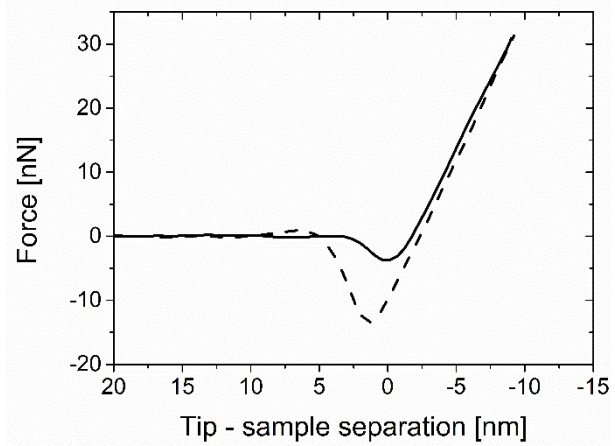
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**Figure S1:** 2D AFM images of (a) PPF<sub>10°C</sub> (b) PPF<sub>23°C</sub> (c) PPF<sub>45°C</sub>.



**Figure S2:**  $\text{Ar}_2^+ / (\text{Ar}_2^+ + \text{Ar}_3^+)$  ratio of backscattered ions collected during ToF-SIMS experiments versus the analysis temperature for  $\text{PPF}_{10^\circ\text{C}}$  annealed during 1h at  $150^\circ\text{C}$  in air. The analysis of the data reveals a surface transition temperature ( $T_T$ ) of  $32^\circ\text{C}$ .



**Figure S3:** Typical force-distance curve recorded by AFM Peak Force measurements on PPF<sub>10°C</sub> annealed for 1h at 150°C in air.