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Supporting Information

Properties and Reactivity of Polyoxazoline Plasma Polymer Films

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Static water contact angle measurements on PPOx films.

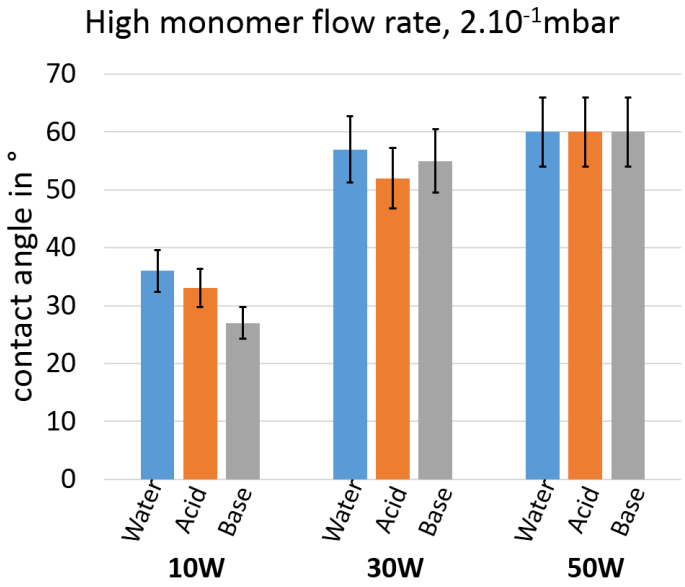

Fig. S1: water contact angle measurement on PPOx films deposited at 10, 30 and 50W, with high precursor pressure, after 1h exposure to water (blue bars), acetic acid pH3(orange) and NaOH pH10 (grey) solution.

The water contact angle of PPOx films deposited at higher power was not affected by incubation in acid or base (supporting information Figure S1) thus supporting the stability observations made via ellipsometry measurements

XPS analysis

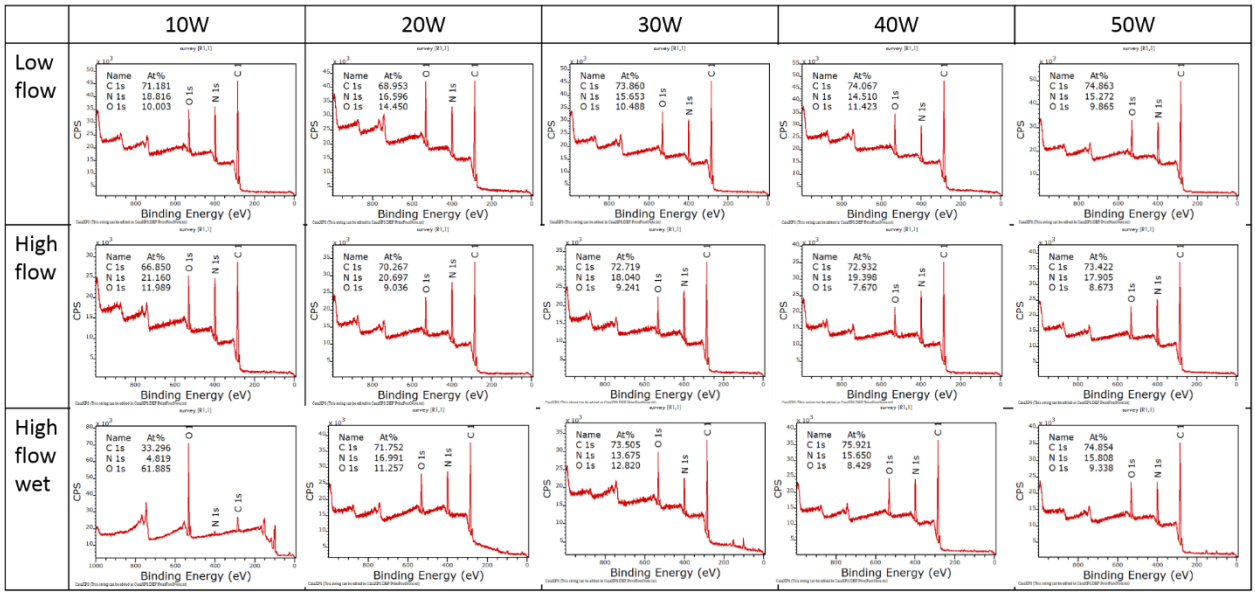

Fig. S2: Typical survey spectra of PPOx films for all deposition conditions investigated

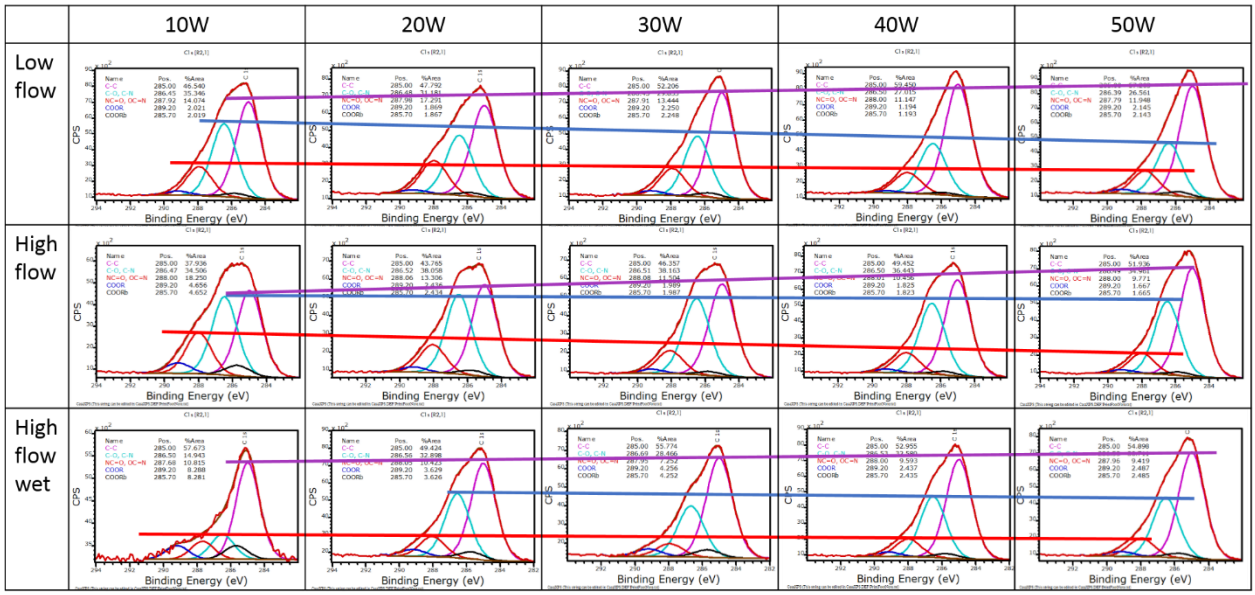

Fig. S3: C1s high resolution spectra of the range of sample investigated

For both precursor deposition pressure investigated, the amount of C-C component increase as the plasma power increase, while the C-O/C-N, and CNO component decreases. This result further confirms that increased plasma ignition power lead to partial functionality loss. In good agreement with the information obtained from the survey spectra analysis, for all powers, there is a larger proportion of C-O/C-N component for the films

produced at higher precursor deposition pressures, thus confirming that greater functionality retention is achieved in these conditions. Film exposure to water again lead to some functionality loss, as evidenced from a decrease in C-N/C-O component and, to a lesser extent, C=N/C=O components as well. This is the case for all samples expect the film deposited at 10W which appeared to delaminate significantly after exposure to water.

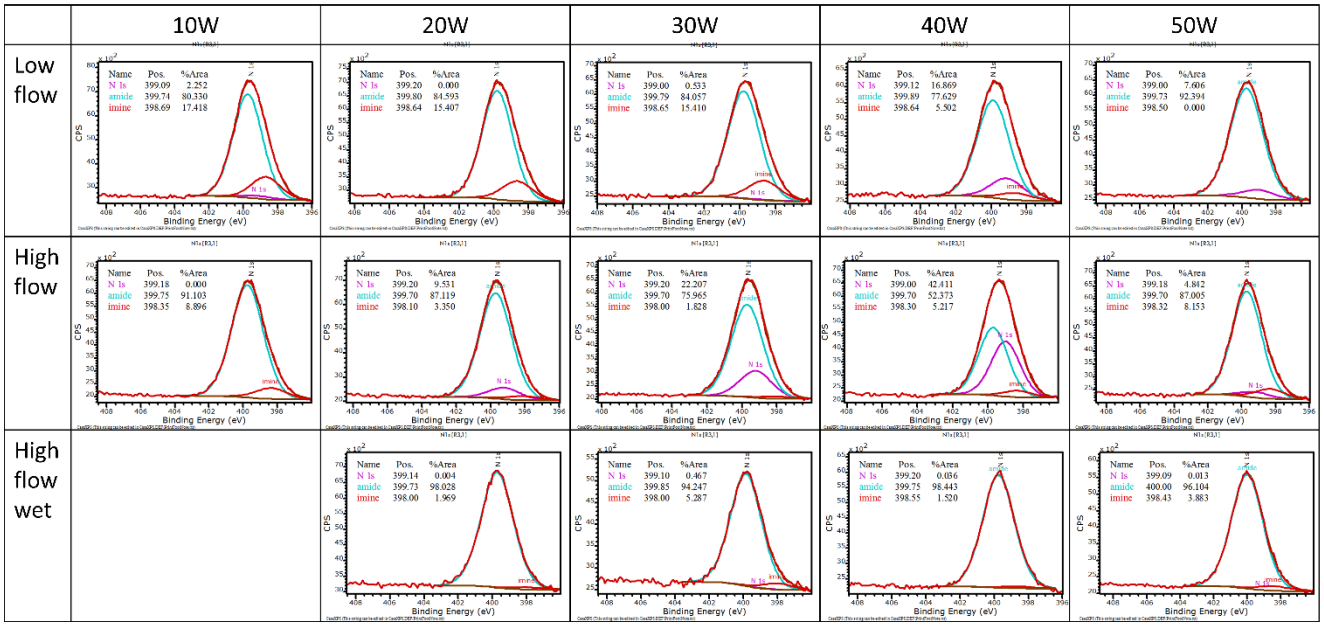

Fig. S4: N1s high resolution spectra of the range of sample investigated