

Figure 1: Overview of the experimental setup. The tunable UV laser passes above the height-adjustable table in the reactor (panels a & b), via large viewports. Fluorescence is collected during the plasma step of the recipe (panel c) by a set of lenses and a photomultiplier tube, perpendicular to the laser propagation. Fluorescence and laser energy are recorded by an oscilloscope using interleaved memory. A collimating lens collects plasma emission for OES.

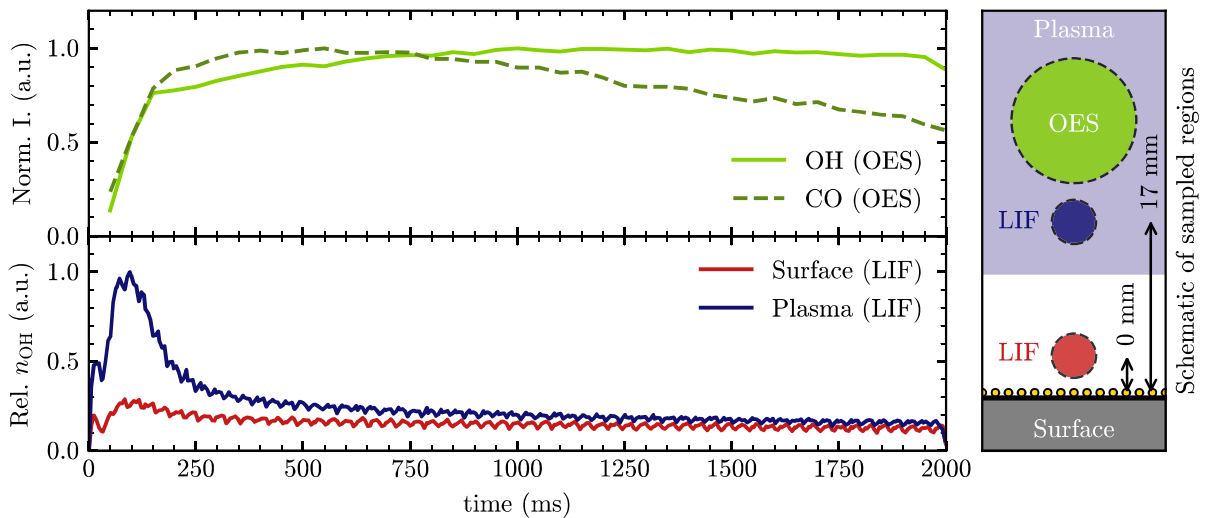


Figure 2: Top panel: Intensity of spontaneous emission of OH ($A^2\Sigma^+ \rightarrow X^2\Pi$) and CO (\AA ngström) systems from the plasma, normalized to the respective maximum intensity. **Bottom panel:** Relative density of ground state OH as a function of time during the plasma step of the recipe (2.0 s plasma duration) at different height between the laser and substrate surface, as measured with LIF. At the closest setting the laser almost grazes the table, which is defined as 0 mm. **Right panel:** schematic overview (not to scale) of sampled region for the respective signals in relation to the surface and plasma.

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