Supplementary Information

Controlling Radiolysis Chemistry on the Nanoscale in Liquid Cell Scanning Transmission Electron Microscopy

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Figures

**Figure S1:** Concentration profiles of $\text{H}_2\text{O}_2$, $\text{H}_2$, $\text{H}_2$, and $\text{O}_2$ obtained 1.1 $\mu$s after the beam irradiation with the size of 1 $\mu$m in radius for the dose rate of 1 e/$\text{Å}^2\text{s}$.

**Figure S2:** Three concentration profiles at the dose rate of 50 e/$\text{Å}^2\text{s}$ at different irradiation times corresponding to the stabilised, confined, and transition regimes.
Figure S3: (A) Schematic illustration of the beam-overlapping simulation with a slab symmetry. (B) Maximum H₂ concentration as a function of probe separation distance with the dwell time of 0.5 and 2 μs.
Figure S4: Concentration profiles at the dose rate of 50 e/Å²s for various area ratios.