

## Supplementary

### Influence of Key parameters on Signal Quality in Double-Pulse Laser Induced Breakdown Spectroscopy (DP-LIBS)

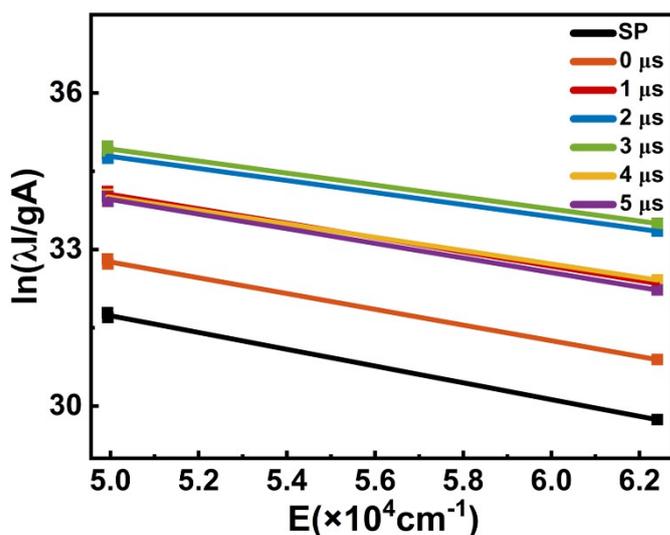
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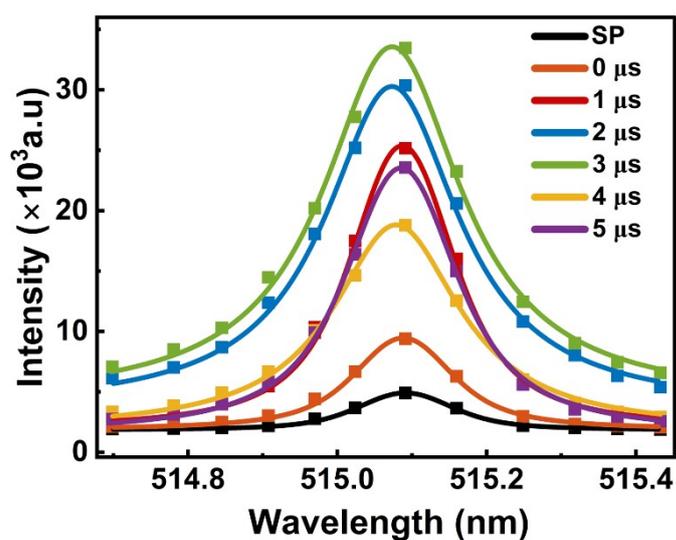
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**Fig. S1** Boltzmann plot for plasma temperature estimation for SP-LIBS and DP-LIBS at interpulse delays of 0 – 5  $\mu\text{s}$ .



**Fig. S2** Cu I 515.32 nm line broadening for electron density calculations for SP-LIBS and DP-LIBS at interpulse delays of 0 – 5  $\mu\text{s}$ .