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Article

Supplementary Materials:

Laser-Assisted Melt Electrospinning of Poly(L-lactide-co-ε-caprolactone): Analyses on Processing Behavior and Characteristics of Prepared Fibers

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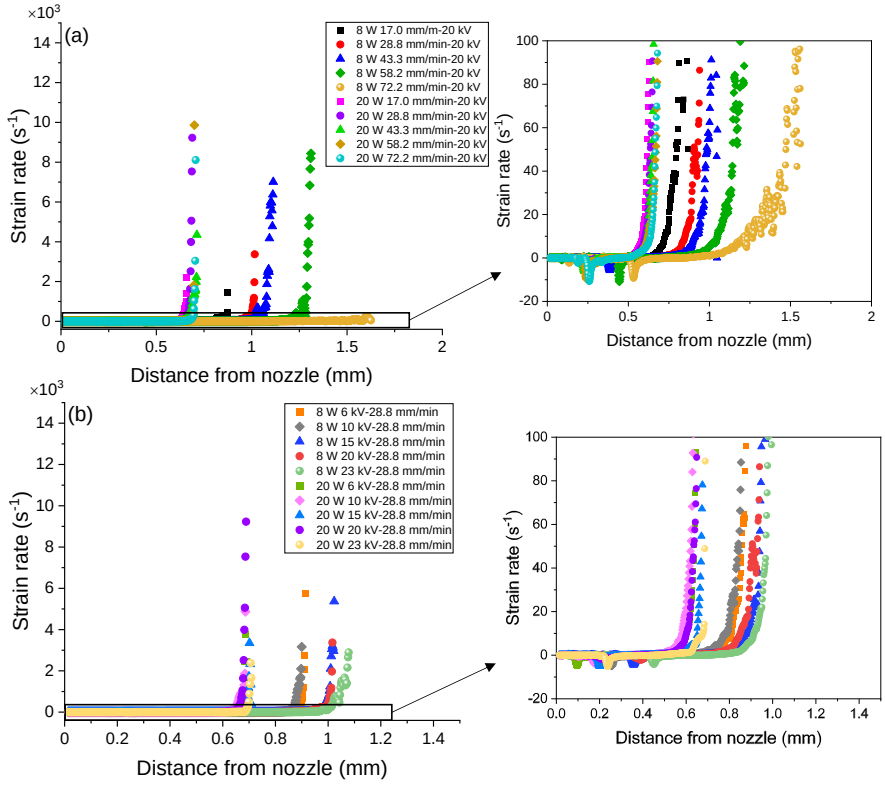

Figure S1. Effect of (a) feeding rate on strain rate profiles for the applied voltage of 20 kV and laser power of 8 W and 20 W, and effect of (b) applied voltage on strain rate profiles for the feeding rate of 28.8 mm/min and laser power of 8 W and 20 W.

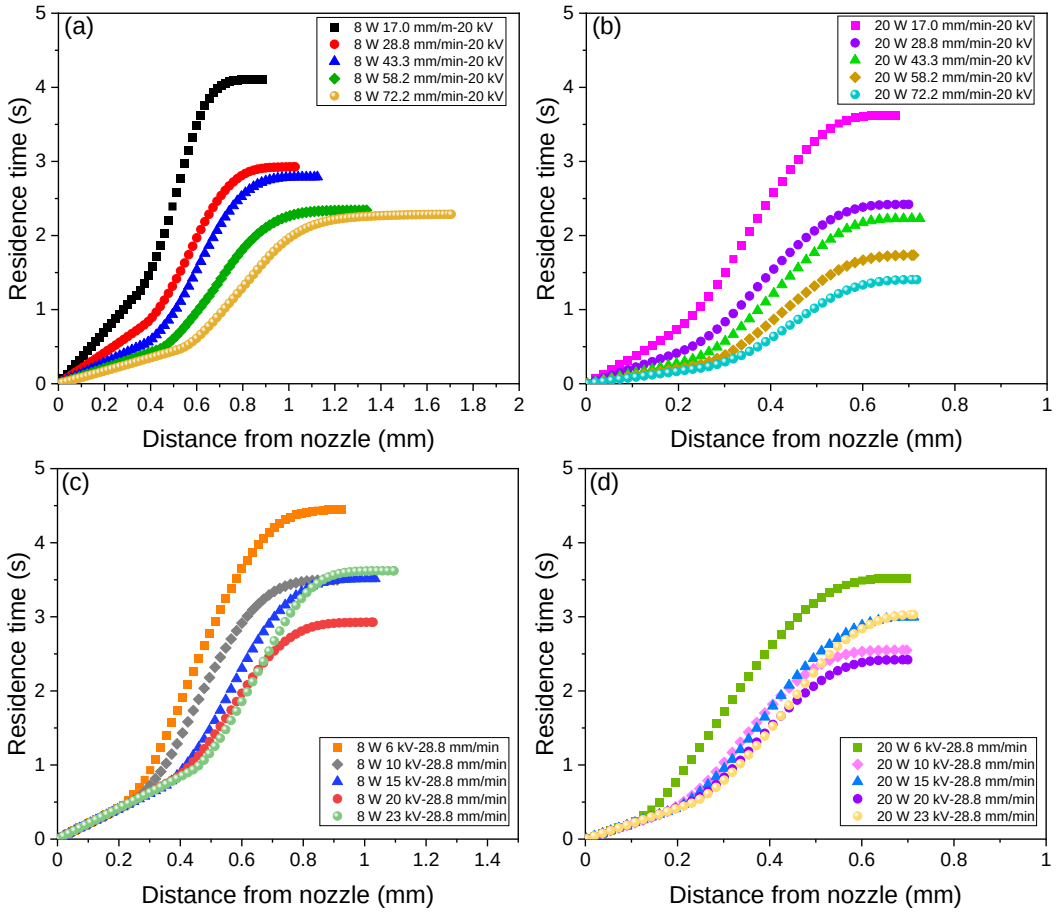

Figure S2. Effect of feeding rate on residence time profiles for the applied voltage of 20 kV and laser power of (a) 8 W and (b) 20 W, and effect of applied voltage on residence time profiles for the feeding rate of 28.8 mm/min and laser power of (c) 8 W and (d) 20 W.

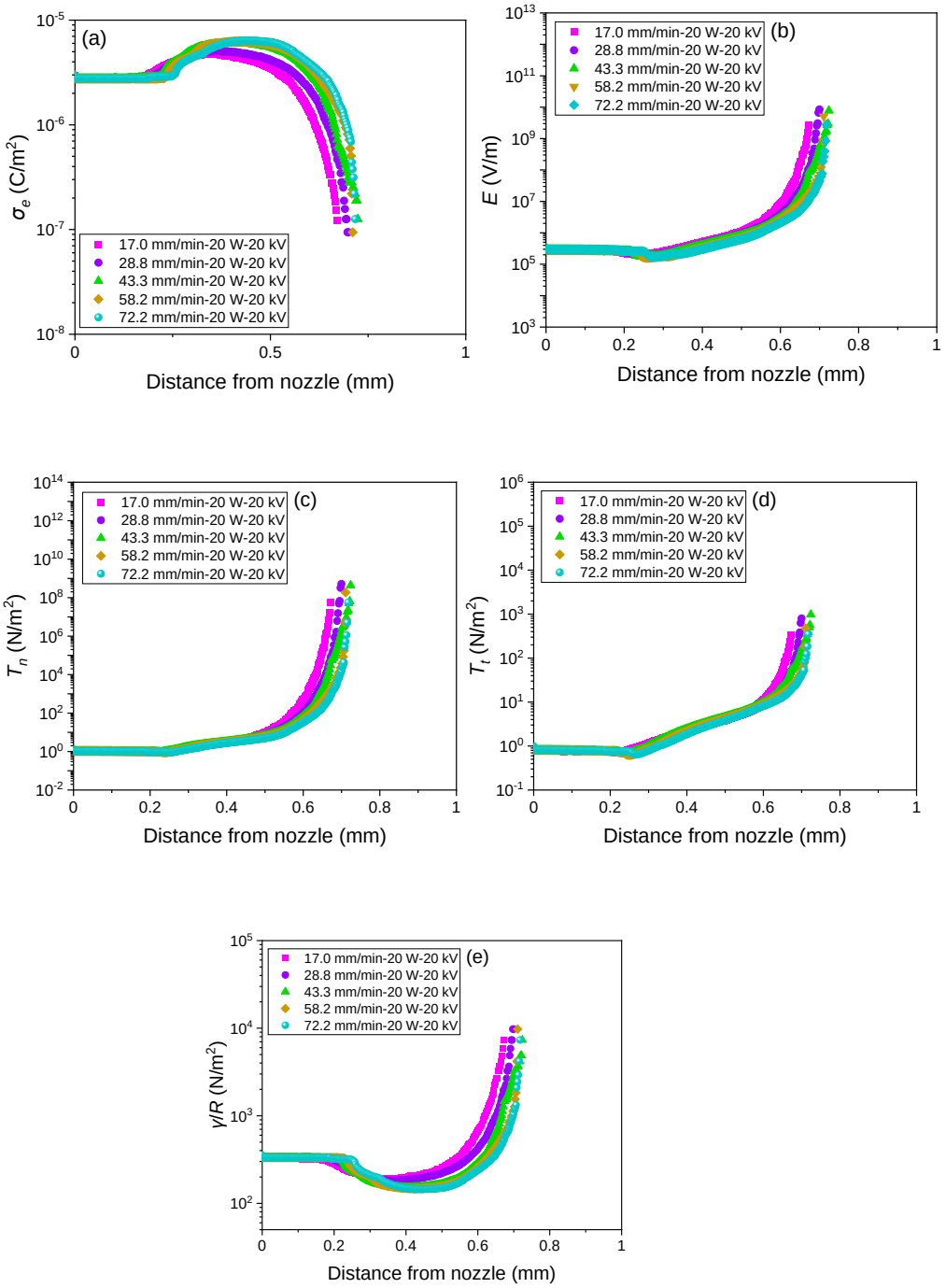

Figure S3. Effect of feeding rate on (a) charge density profiles, (b) electric field profiles, (c) normal stress profiles, (d) tangential stress profiles, and (e) cohesive force profiles for the applied voltage of 20 kV and laser power of 20 W.

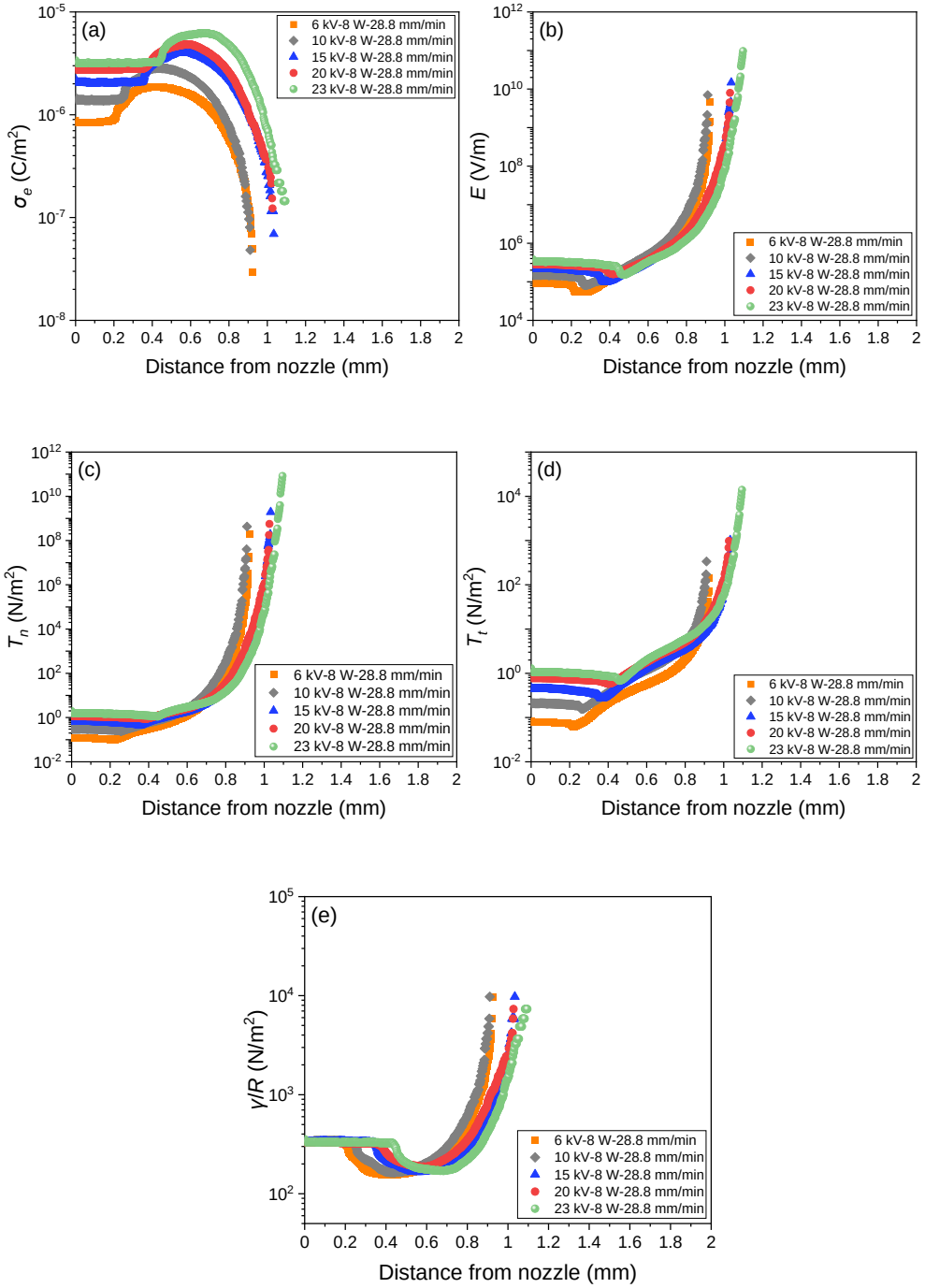

Figure S4. Effect of applied voltage on (a) charge density profiles, (b) electric field profiles, (c) normal stress profiles, (d) tangential stress profiles, and (e) cohesive force profiles for the feeding rate of 28.8 mm/min and laser power of 8 W.

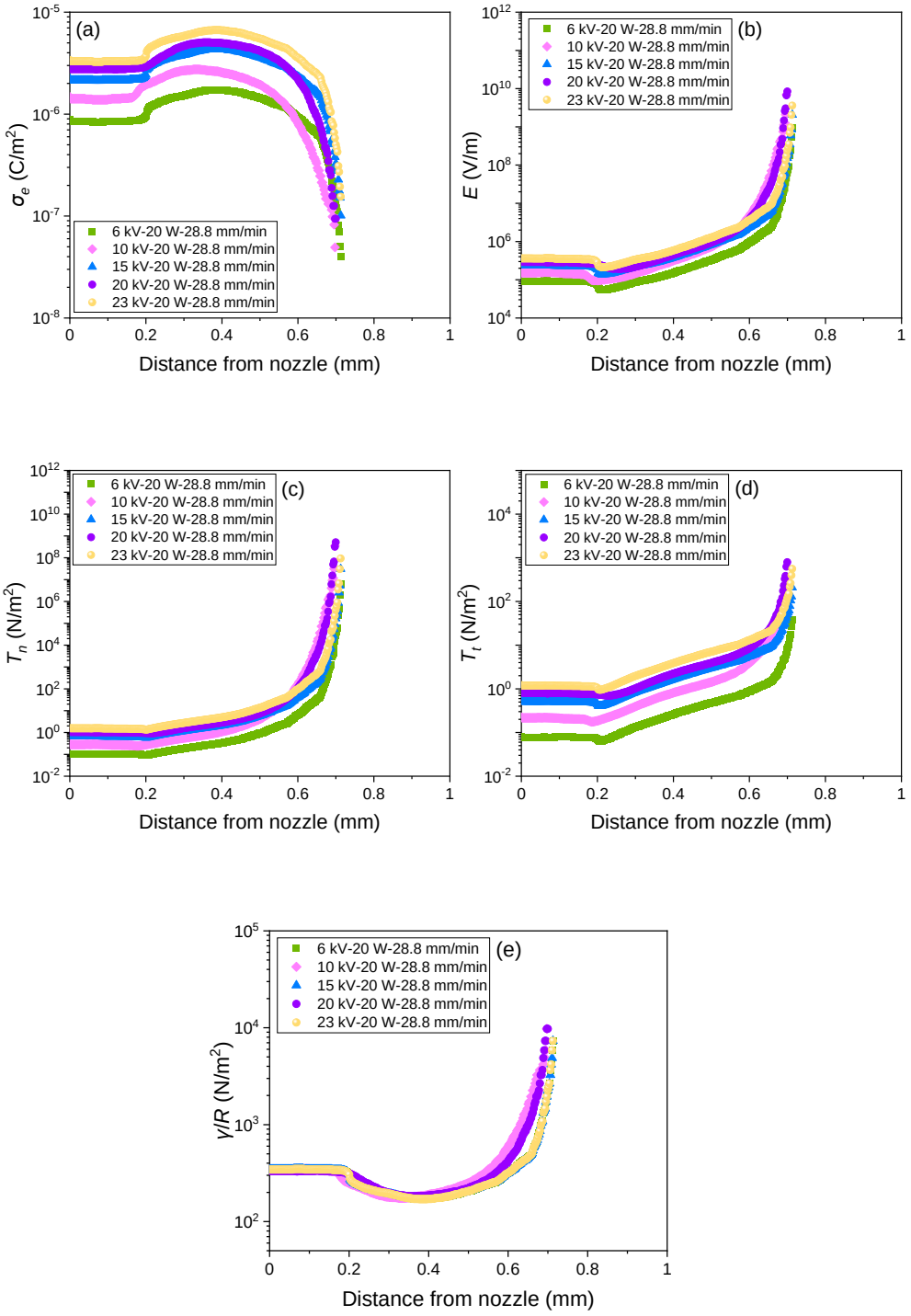

Figure S5. Effect of applied voltage on (a) charge density profiles, (b) electric field profiles, (c) normal stress profiles, (d) tangential stress profiles, and (e) cohesive force profiles for the feeding rate of 28.8 mm/min and laser power of 20 W.

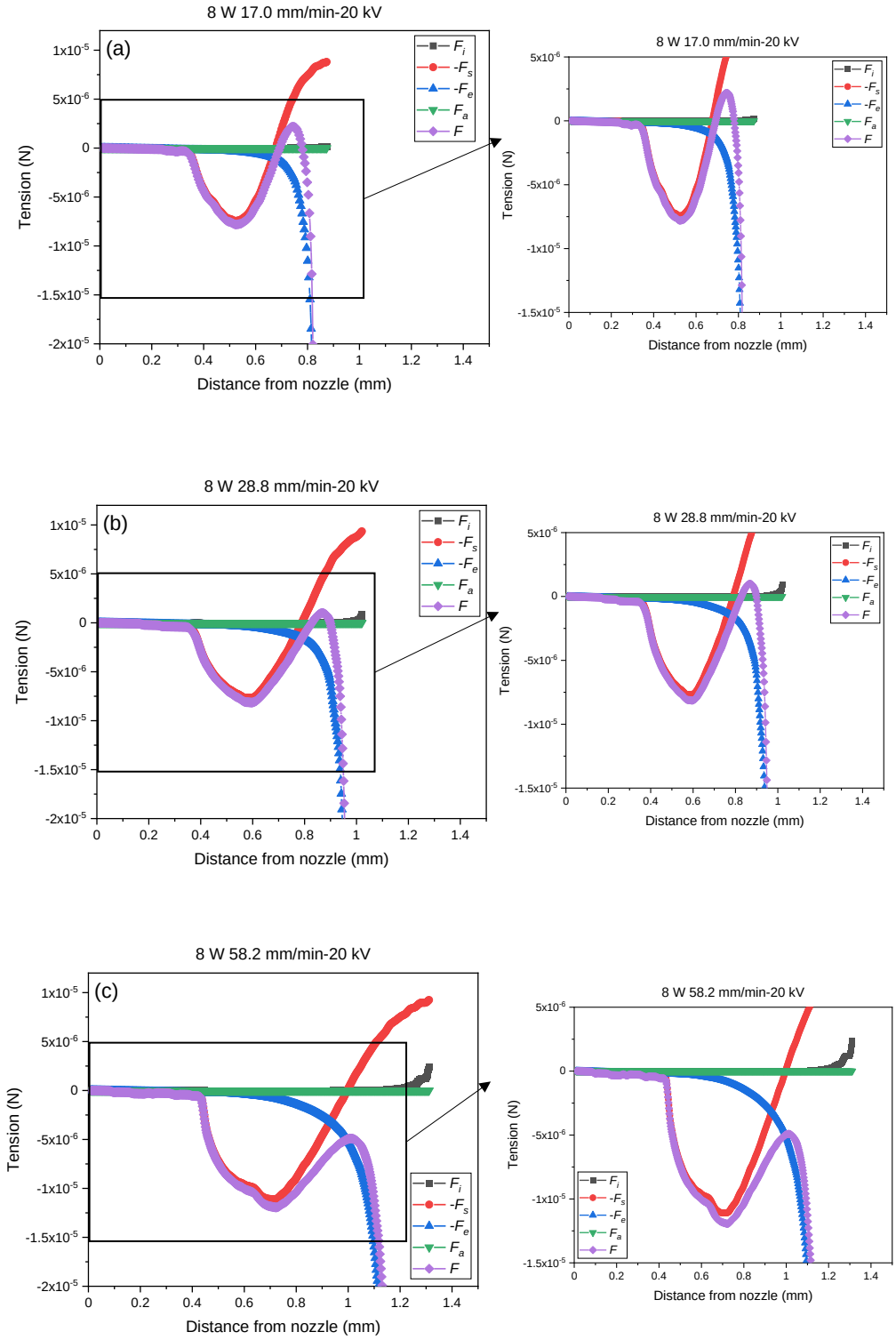

Figure S6. Tension profiles for conditions with the feeding rate of (a) 17.0, (b) 28.8, and (c) 58.2 mm/min, applied voltage of 20 kV and laser power of 8 W.

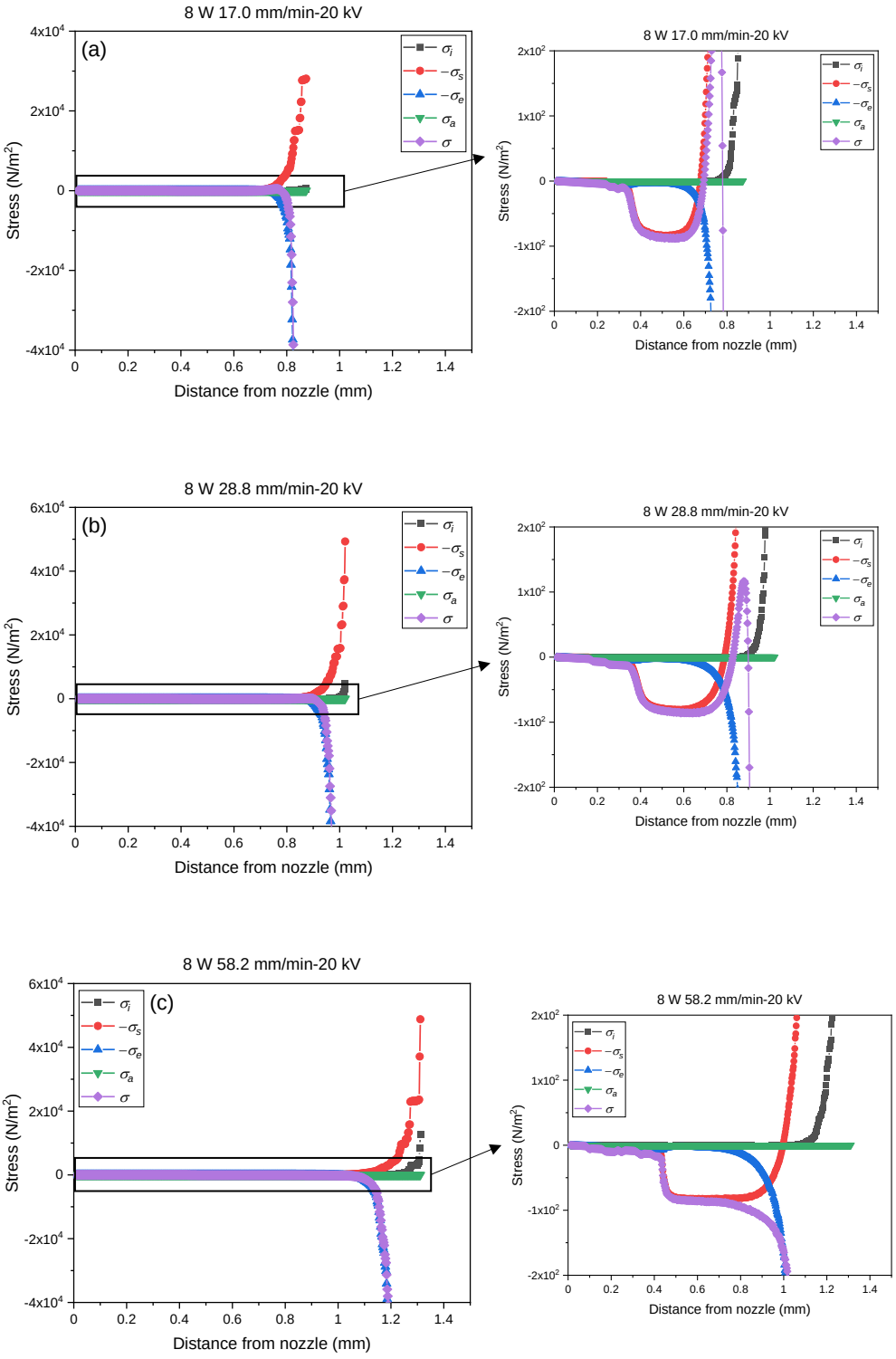

Figure S7. Stress profiles for conditions with the feeding rate of (a) 17.0, (b) 28.8, and (c) 58.2 mm/min, applied voltage of 20 kV and laser power of 8 W.

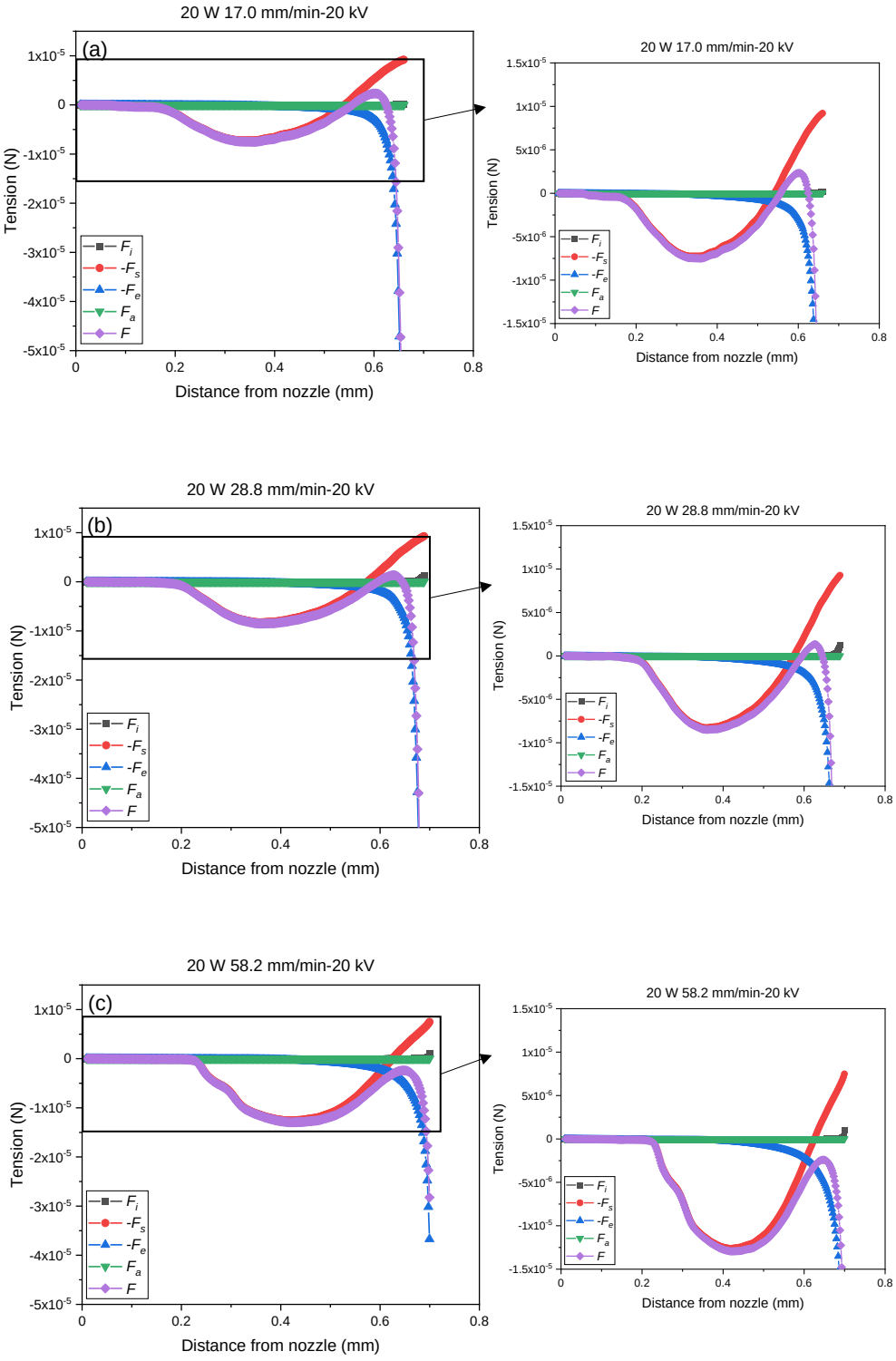

Figure S8. Tension profiles for conditions with the feeding rate of (a) 17.0, (b) 28.8, and (c) 58.2 mm/min, applied voltage of 20 kV and laser power of 20 W.

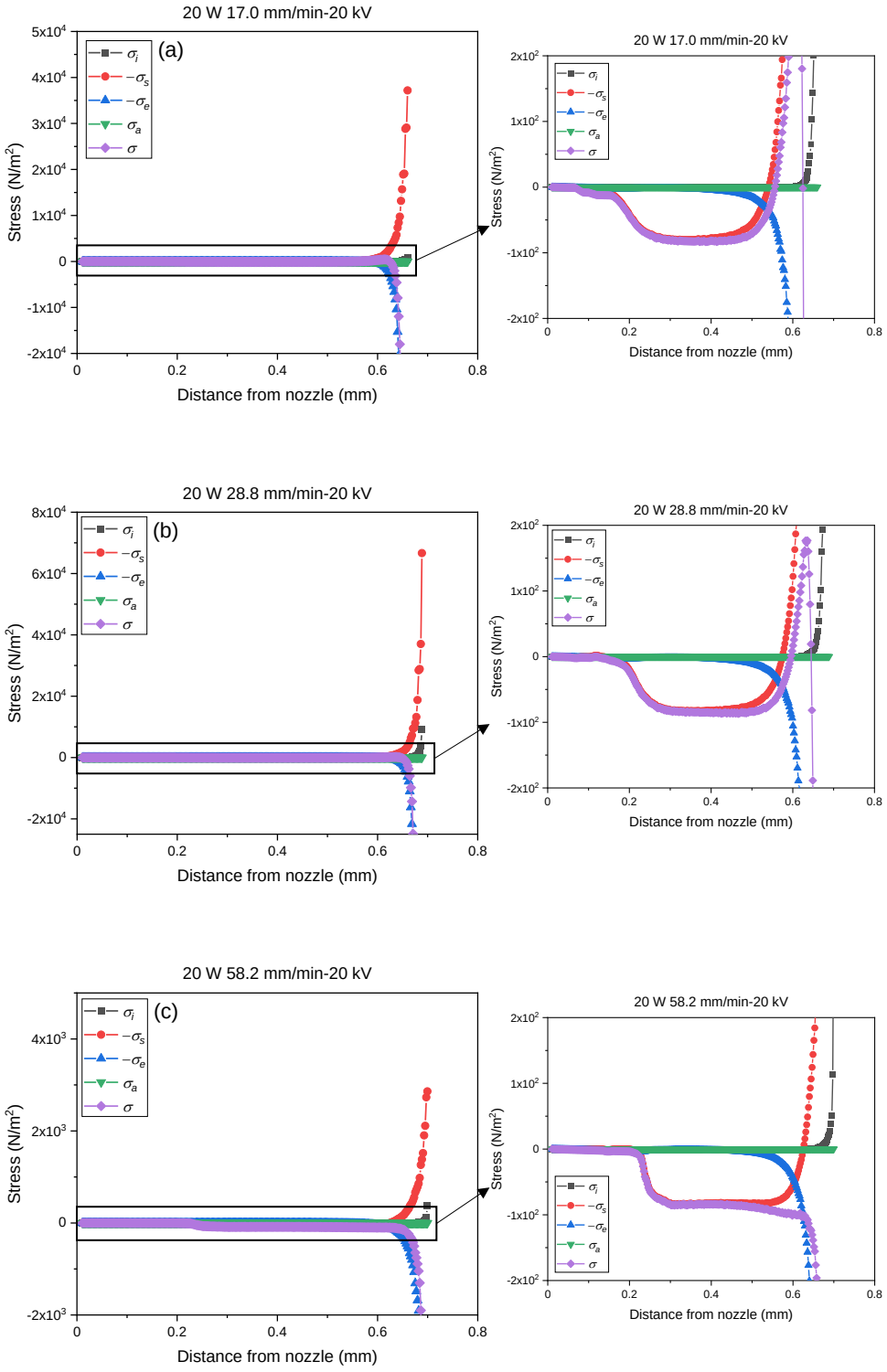

Figure S9. Stress profiles for conditions with the feeding rate of (a) 17.0, (b) 28.8, and (c) 58.2 mm/min, applied voltage of 20 kV and laser power of 20 W.

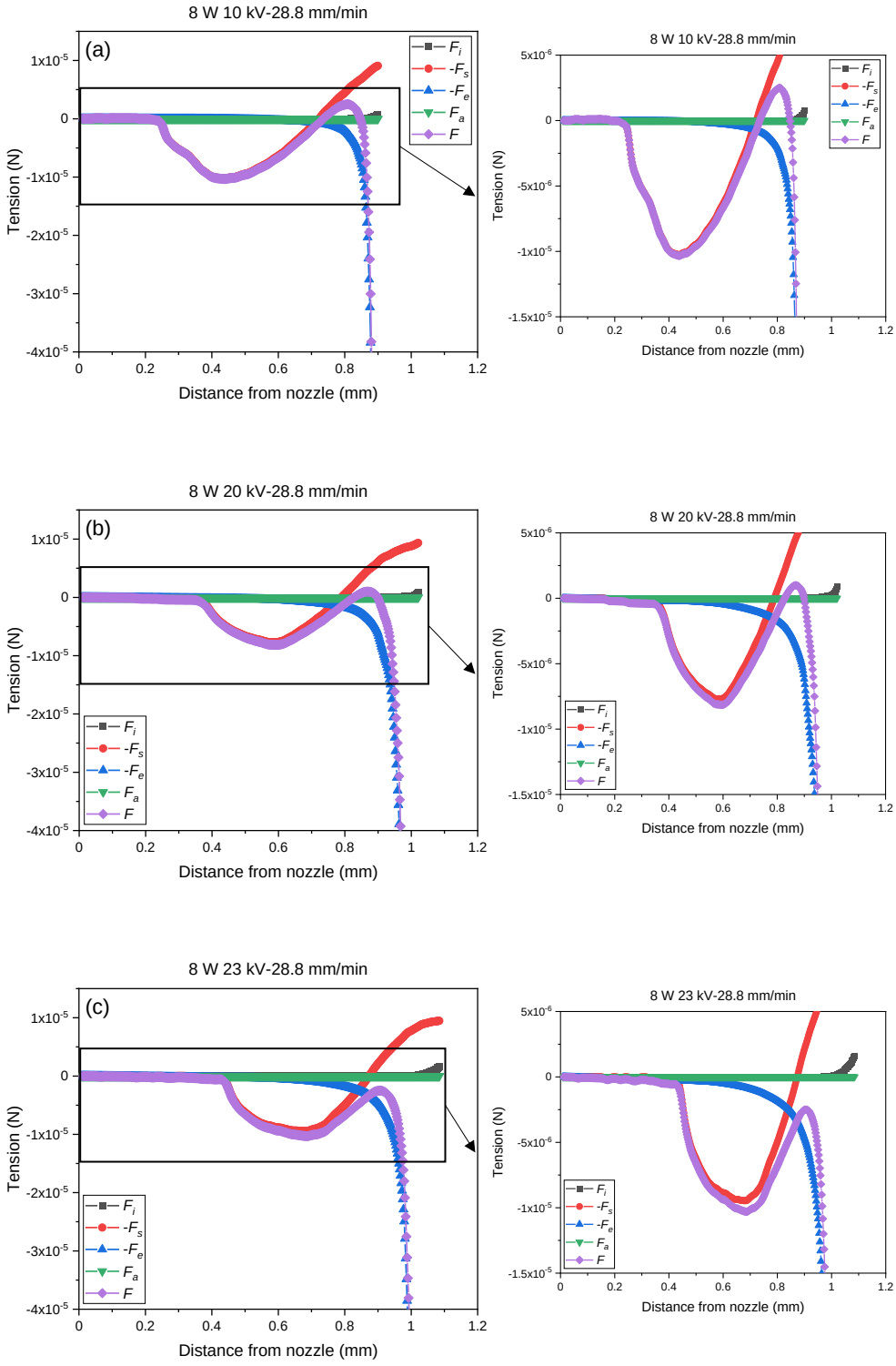

Figure S10. Tension profiles for conditions with the applied voltage of (a) 10, (b) 20, and (c) 23 kV, feeding rate of 28.8 mm/min and laser power of 8 W.

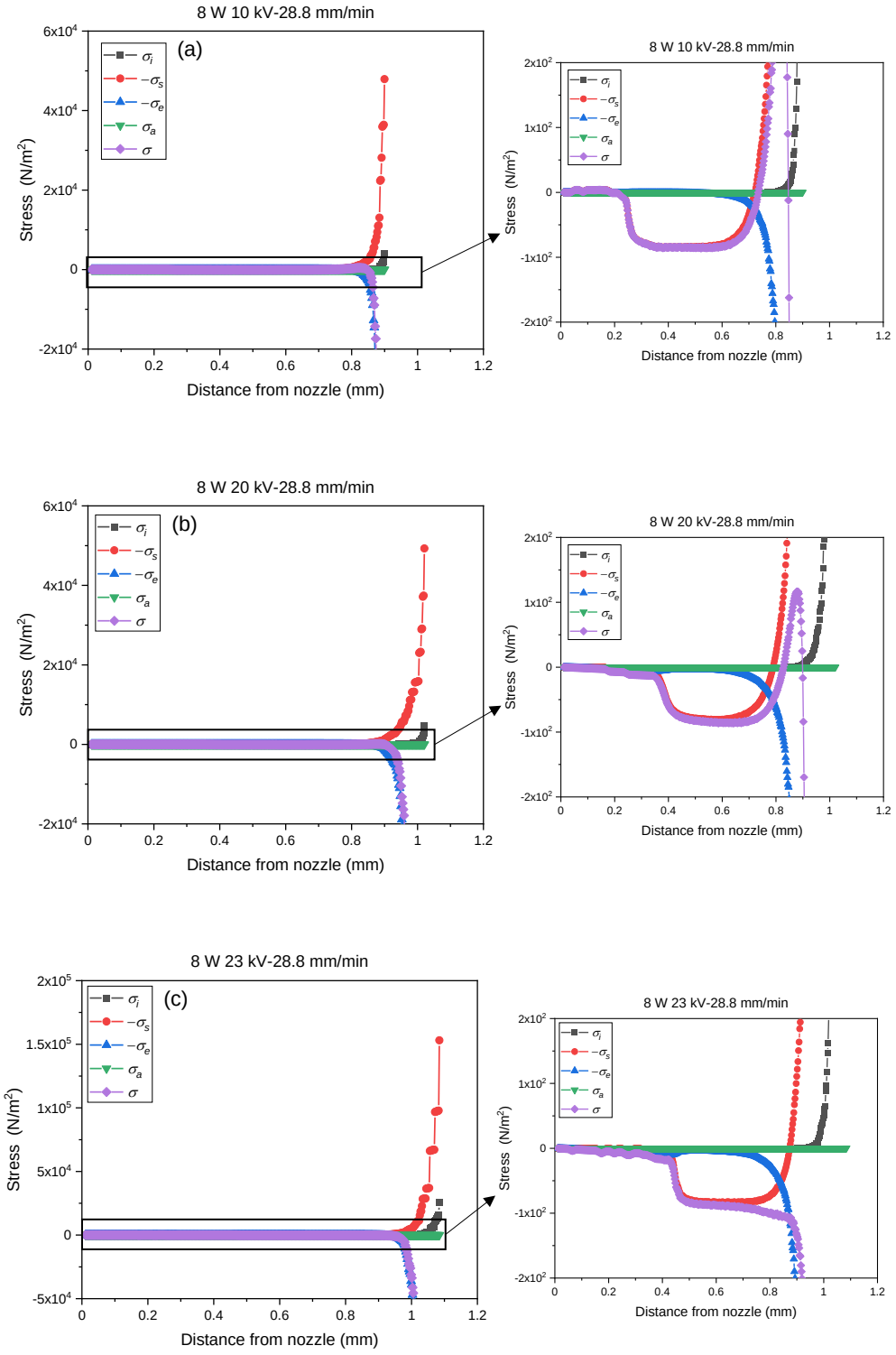

Figure S11. Stress profiles for conditions with the applied voltage of (a) 10, (b) 20, and (c) 23 kV, feeding rate of 28.8 mm/min and laser power of 8 W.

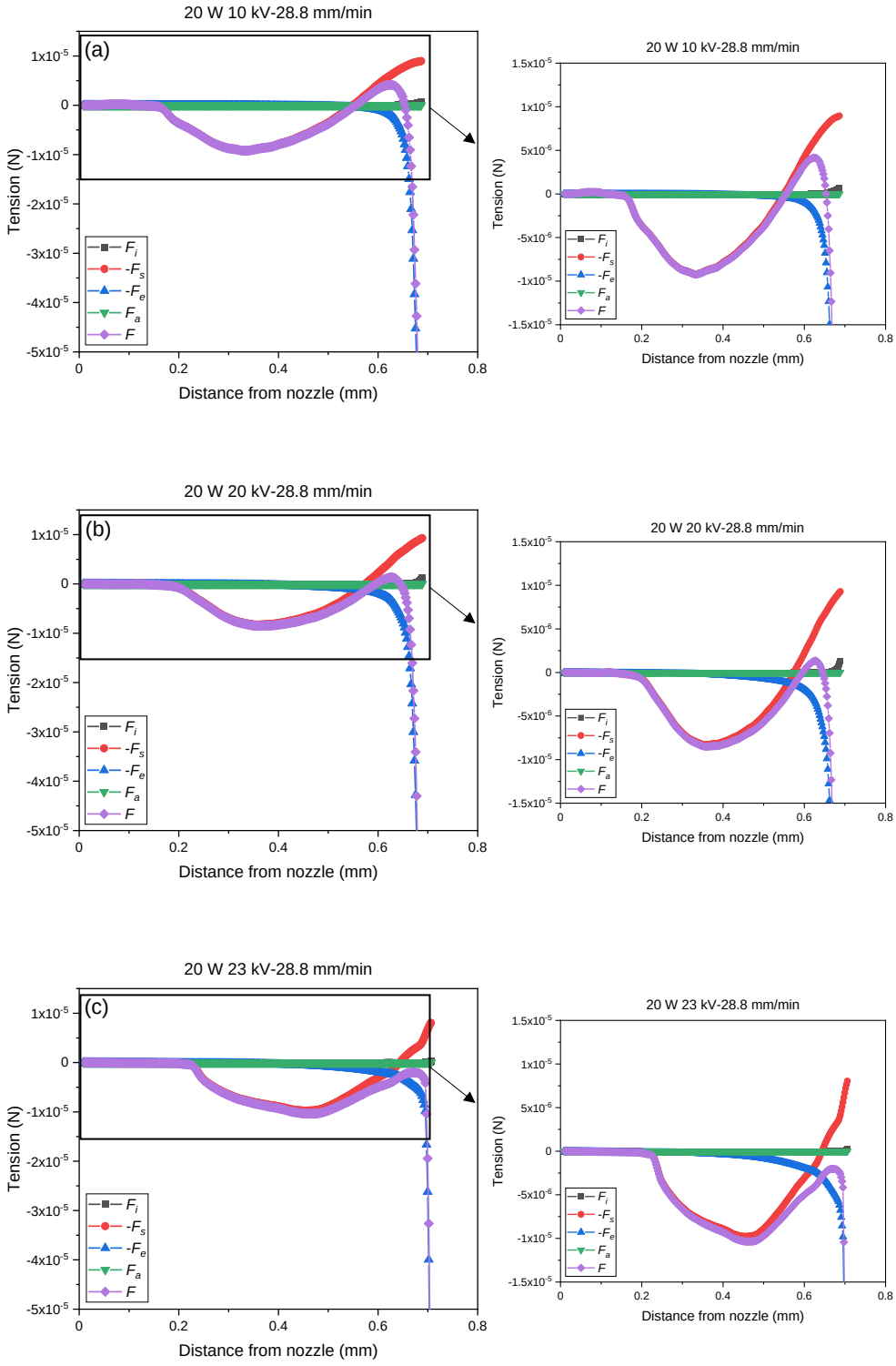

Figure S12. Tension profiles for conditions with the applied voltage of (a) 10, (b) 20, and (c) 23 kV, feeding rate of 28.8 mm/min and laser power of 20 W.

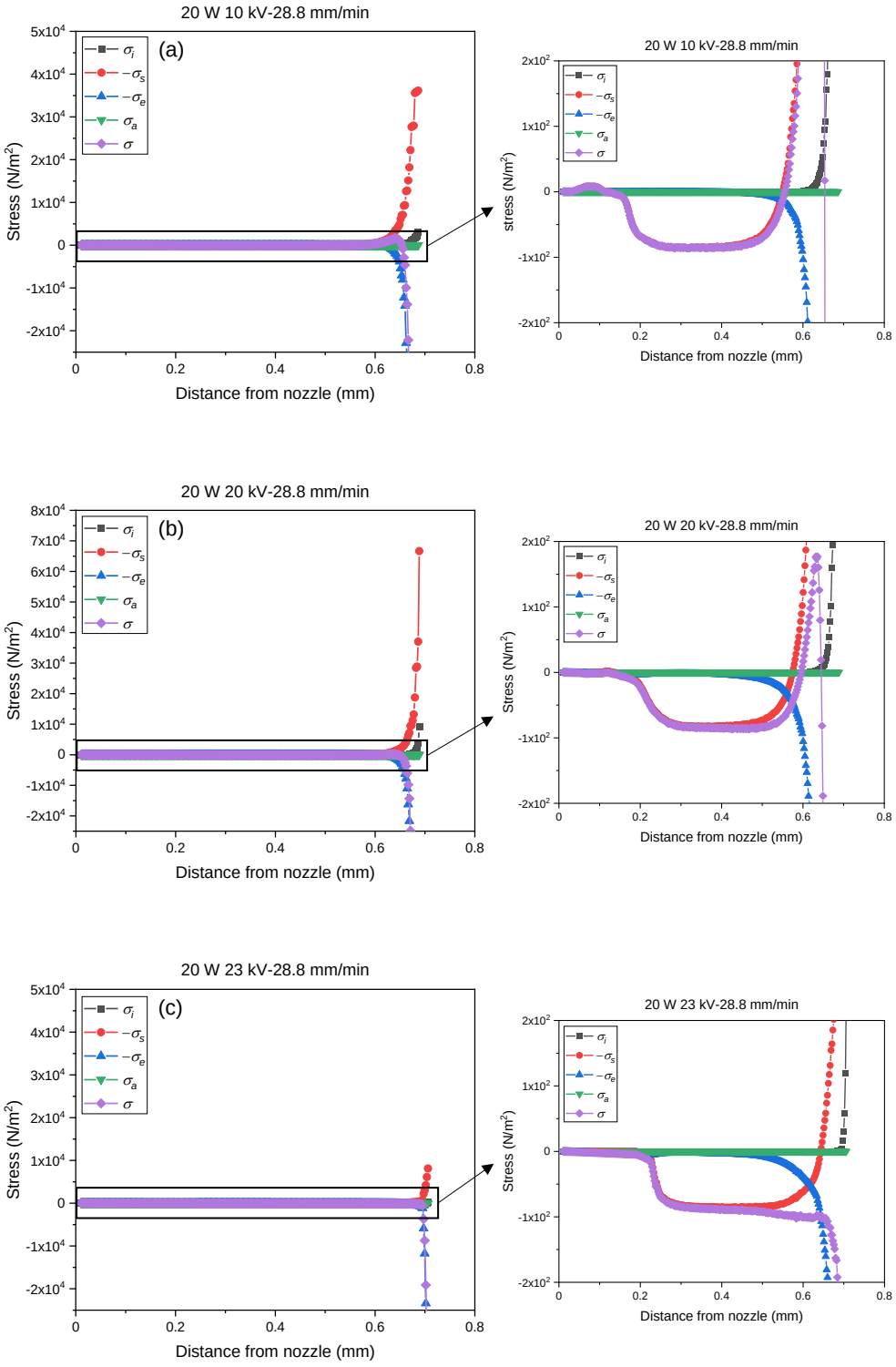

Figure S13. Stress profiles for conditions with the applied voltage of (a) 10, (b) 20, and (c) 23 kV, feeding rate of 28.8 mm/min and laser power of 20 W.

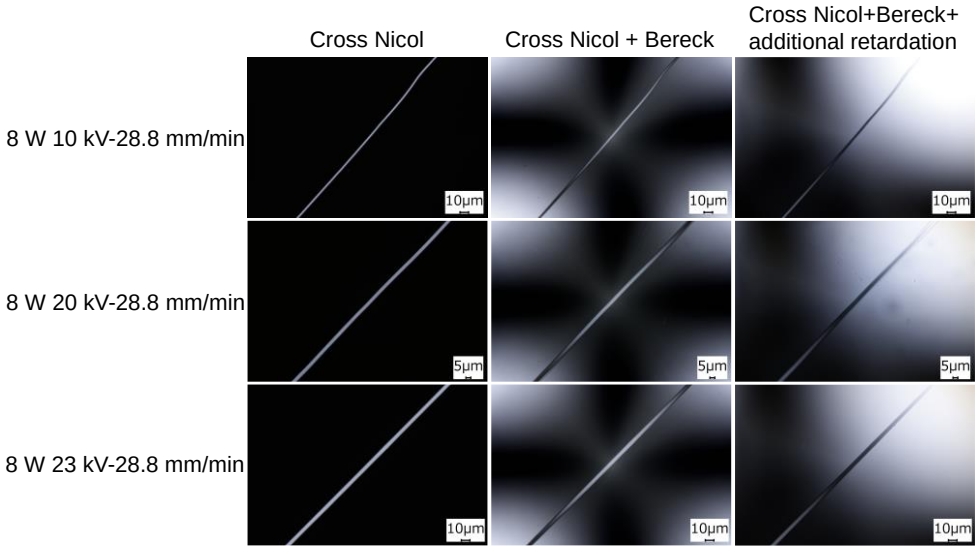

Figure S14. Micrographs of the fibers observed under a polarizing microscope: electrospun fibers for conditions with various applied voltage at laser power of 8 W. Cross Nicol, Cross Nicol + Bereck, and Cross Nicol + Bereck + additional retardation correspond to under cross-polarization condition, cross-polarization condition using the Bereck compensator without optical retardation, and using the Bereck compensator with optical retardation, respectively.