Supporting Information

Tunable Chemical Coupling in Two-Dimensional van der Waals-Electrostatic Heterostructures

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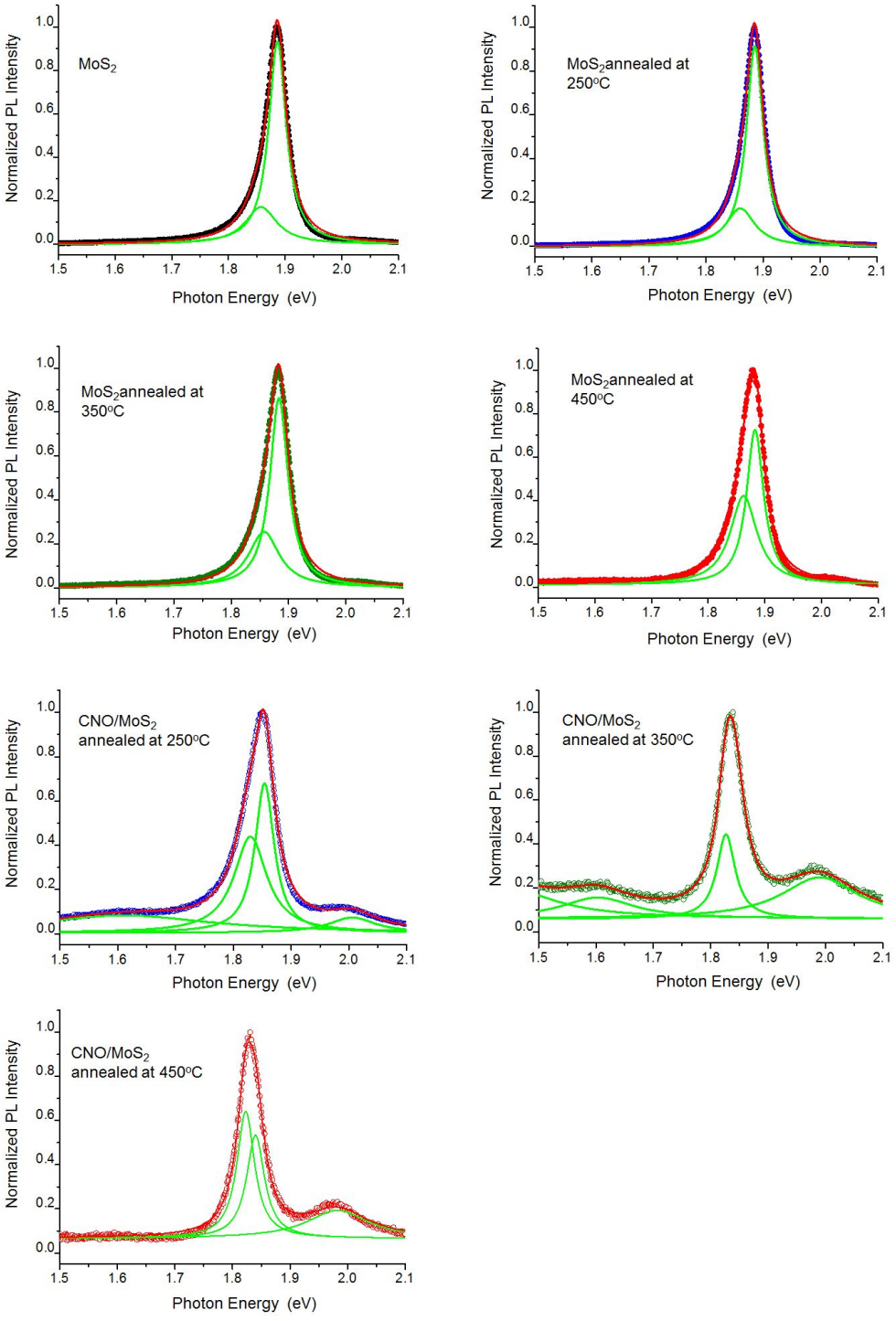

Figure S1. Fitted curves of the PL spectra of annealed 1L-MoS_2 and 1L-CNO/1L-MoS_2 heterostructure.

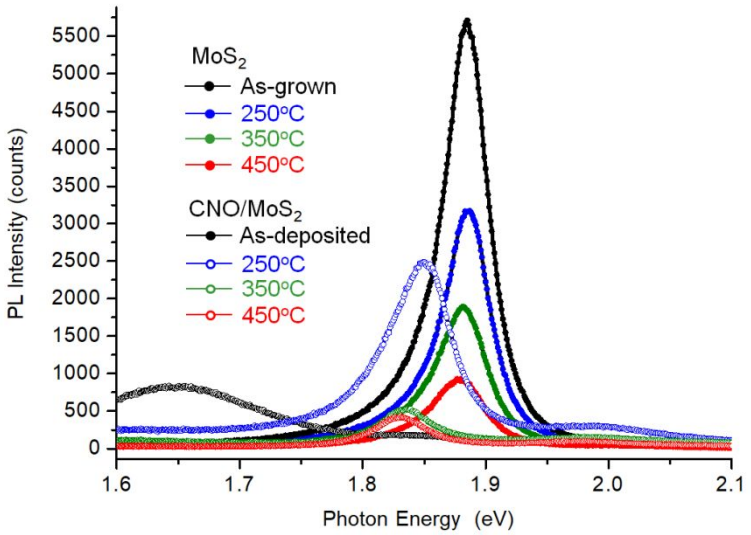

Figure S2. As-measured PL spectra of 1L-MoS_2 and 1L-CNO/1L-MoS_2 heterostructure.

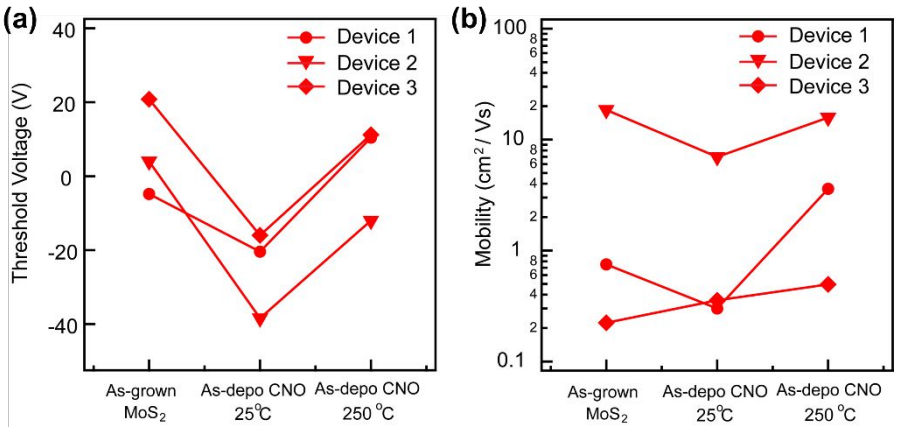

Figure S3. (a) Vth and (b) carrier mobility of three FET devices fabricated from CVD-grown 1L-MoS_2 modified with CNO and then annealed at 250 °C in an Ar atmosphere.

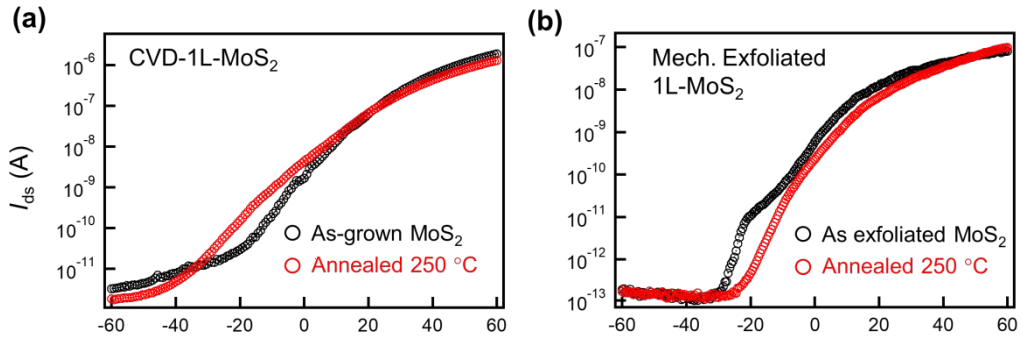

Figure S4. Id-Vg characteristic curves of FET devices fabricated from unmodified (a) CVD-grown and (b) mechanically exfoliated 1L-MoS_2. No observable significant change in the Vth and carrier mobility of unmodified 1L-MoS_2 after annealing at 250 °C in an Ar atmosphere.