

Supplementary Information

Charge doping and electric field tunable ferromagnetism and Curie temperature in MnS₂ monolayer

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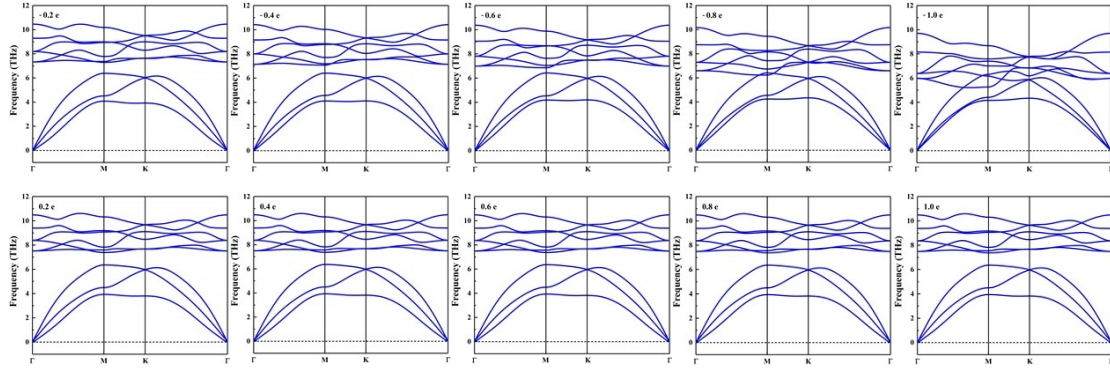


Fig. S1. The phonon dispersion spectra of monolayer MnS₂ with the charge doping concentrations of $\pm 0.2 e$, $\pm 0.4 e$, $\pm 0.6 e$, $\pm 0.8 e$ and $\pm 1.0 e$.

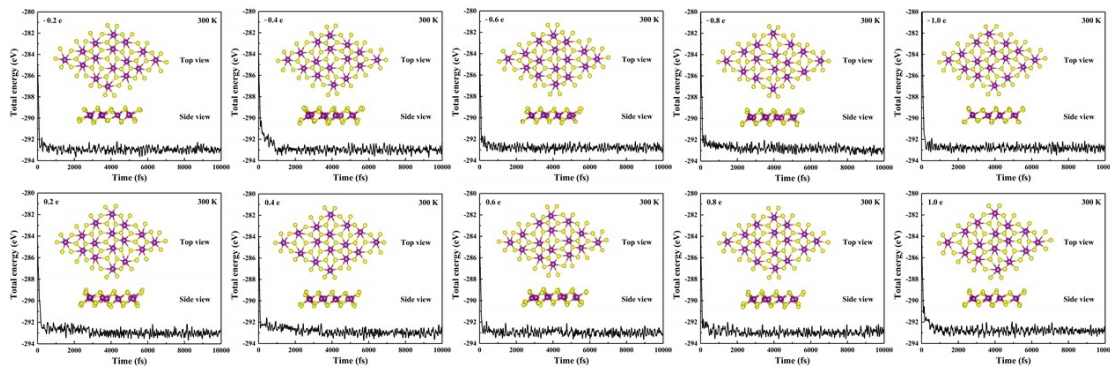
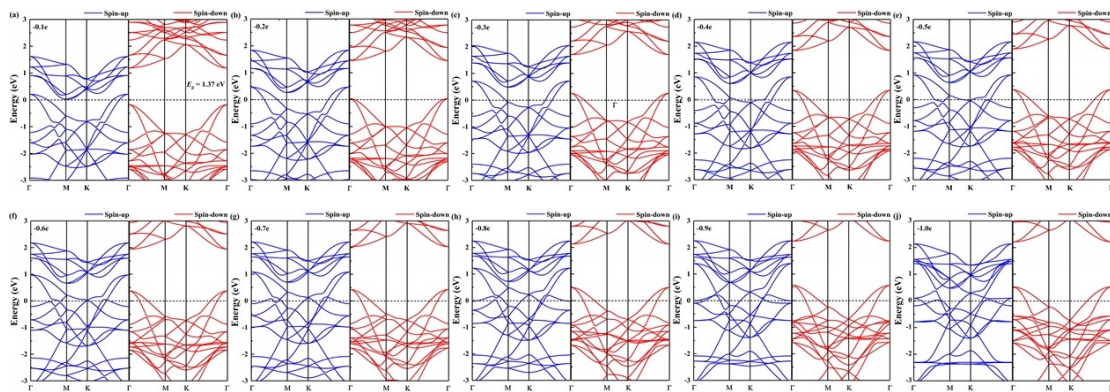


Fig. S2. The fluctuations of the total energies as a function of simulation steps for monolayer MnS₂ with the charge doping concentrations of $\pm 0.2 e$, $\pm 0.4 e$, $\pm 0.6 e$, $\pm 0.8 e$ and $\pm 1.0 e$.



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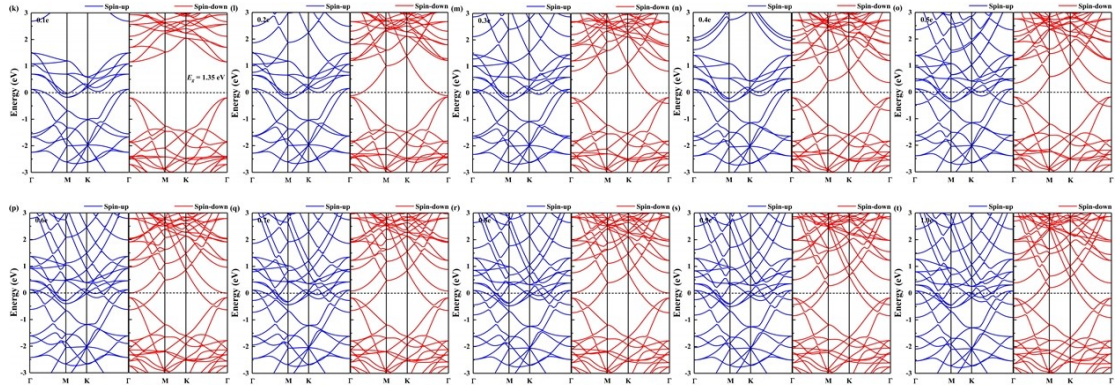


Fig. S3. The spin-polarized band structures of monolayer MnS_2 under various charge doping concentrations.

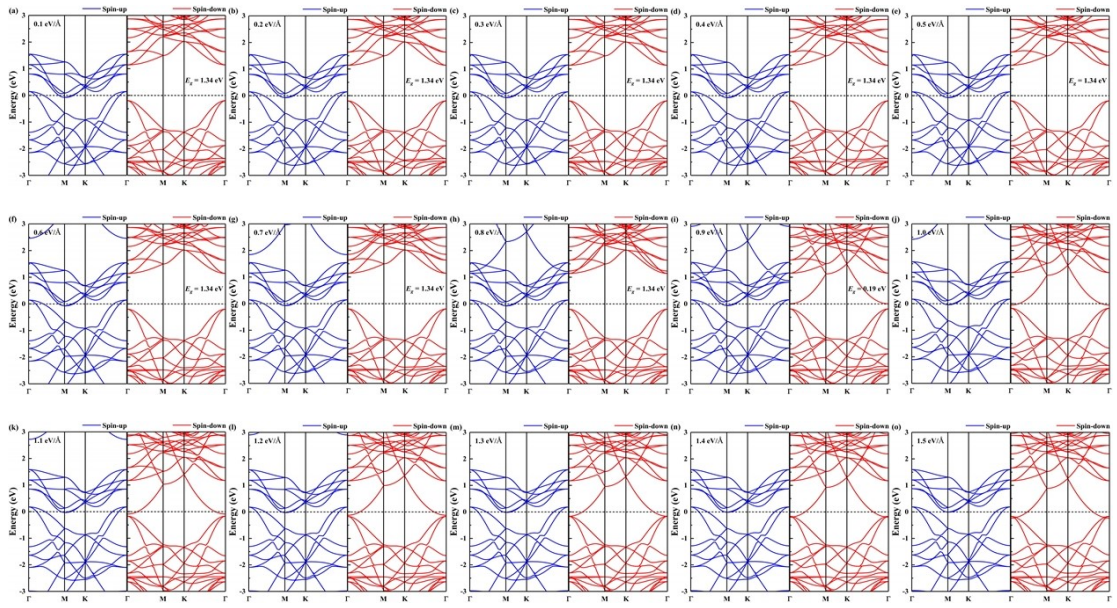


Fig. S4. The spin-polarized band structures of monolayer MnS_2 under different electric field intensities.