Supplementary Information

High-pressure phase diagrams of $FeSe_{1-x}Te_x$: Correlation between suppressed nematicity and enhanced superconductivity

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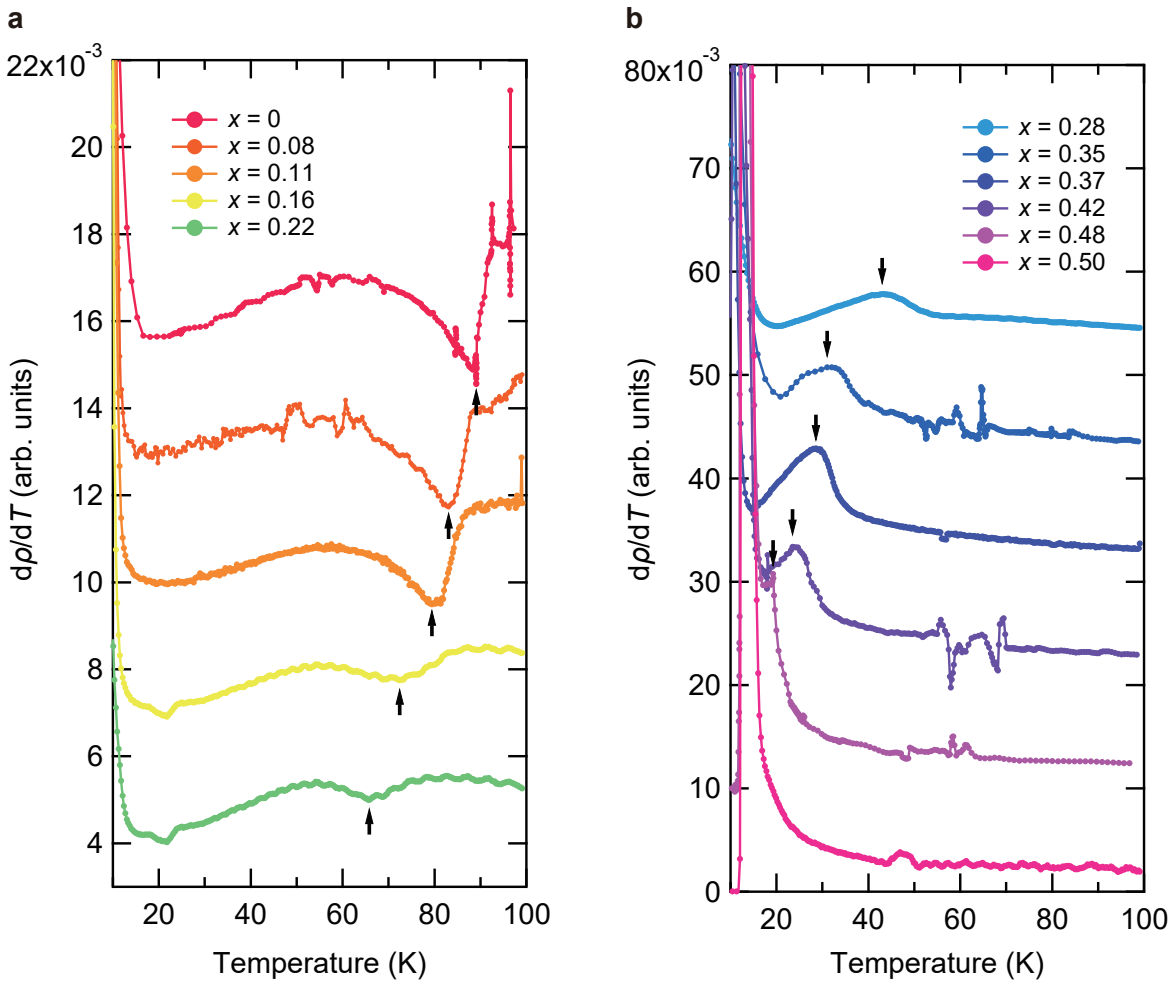
Supplementary Fig. 1: Resistive determination of nematic transition temperature at ambient pressure.

Supplementary Fig. 2: Resistive determination of nematic and magnetic transition temperatures under pressure for x(Te) $\approx$ 0.04.

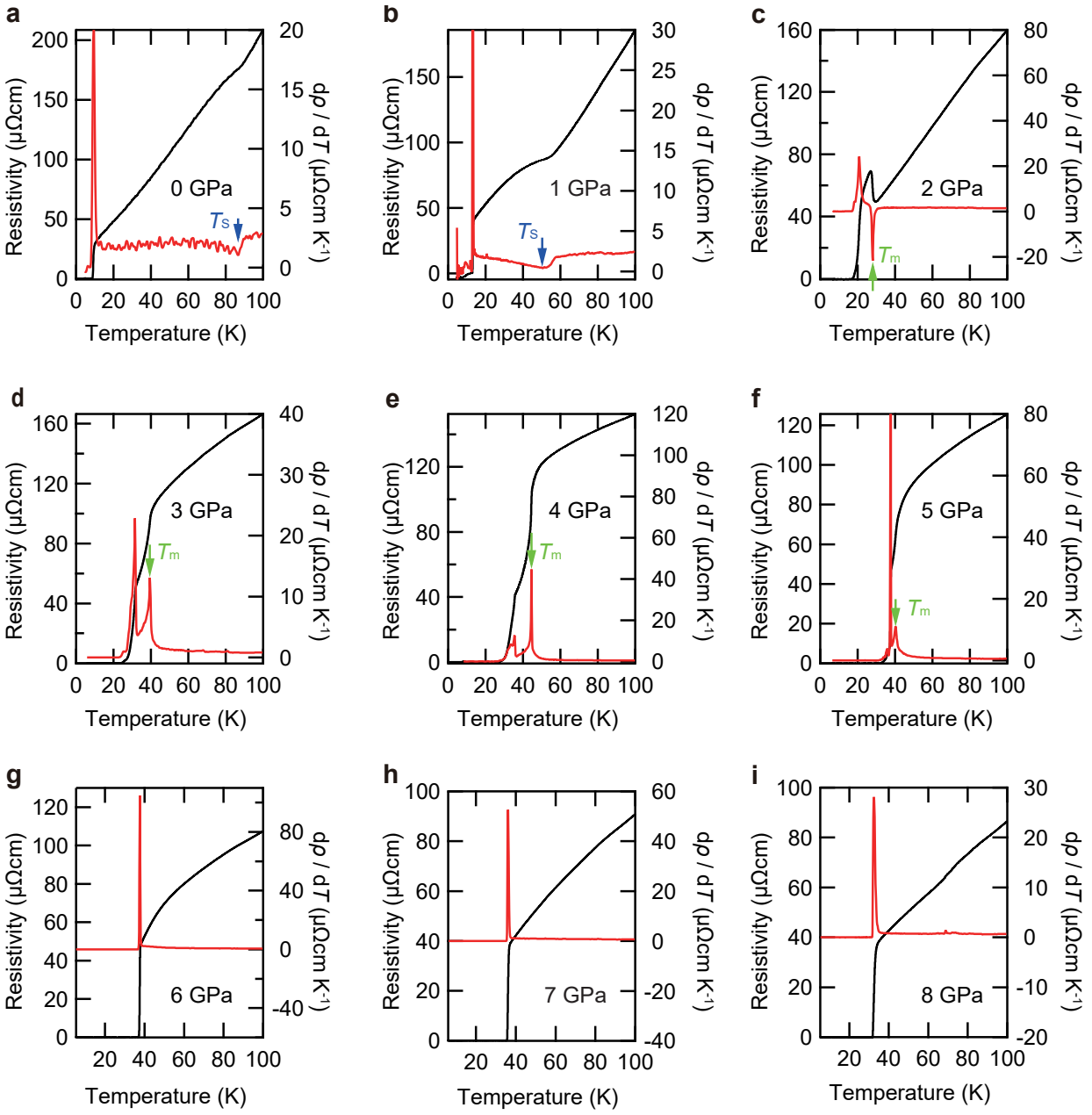
Supplementary Fig. 3: Resistive determination of nematic and magnetic transition temperatures under pressure for x(Te) $\approx$ 0.06.

Supplementary Fig. 4: Resistive determination of nematic and magnetic transition temperatures under pressure for x(Te) $\approx$ 0.10.

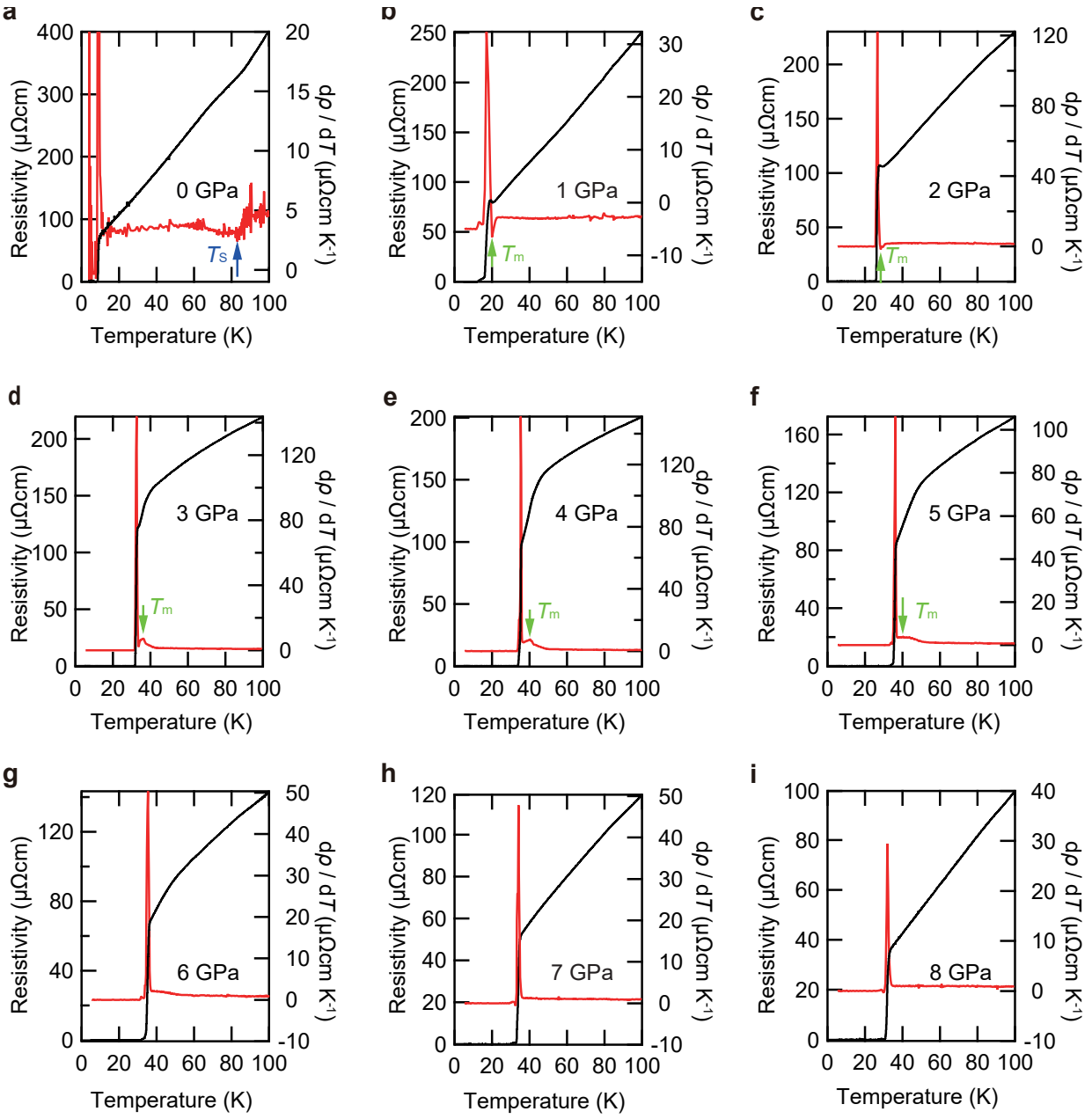
Supplementary Fig. 5: Resistive determination of nematic transition temperature under pressure for x(Te) $\approx$ 0.14.



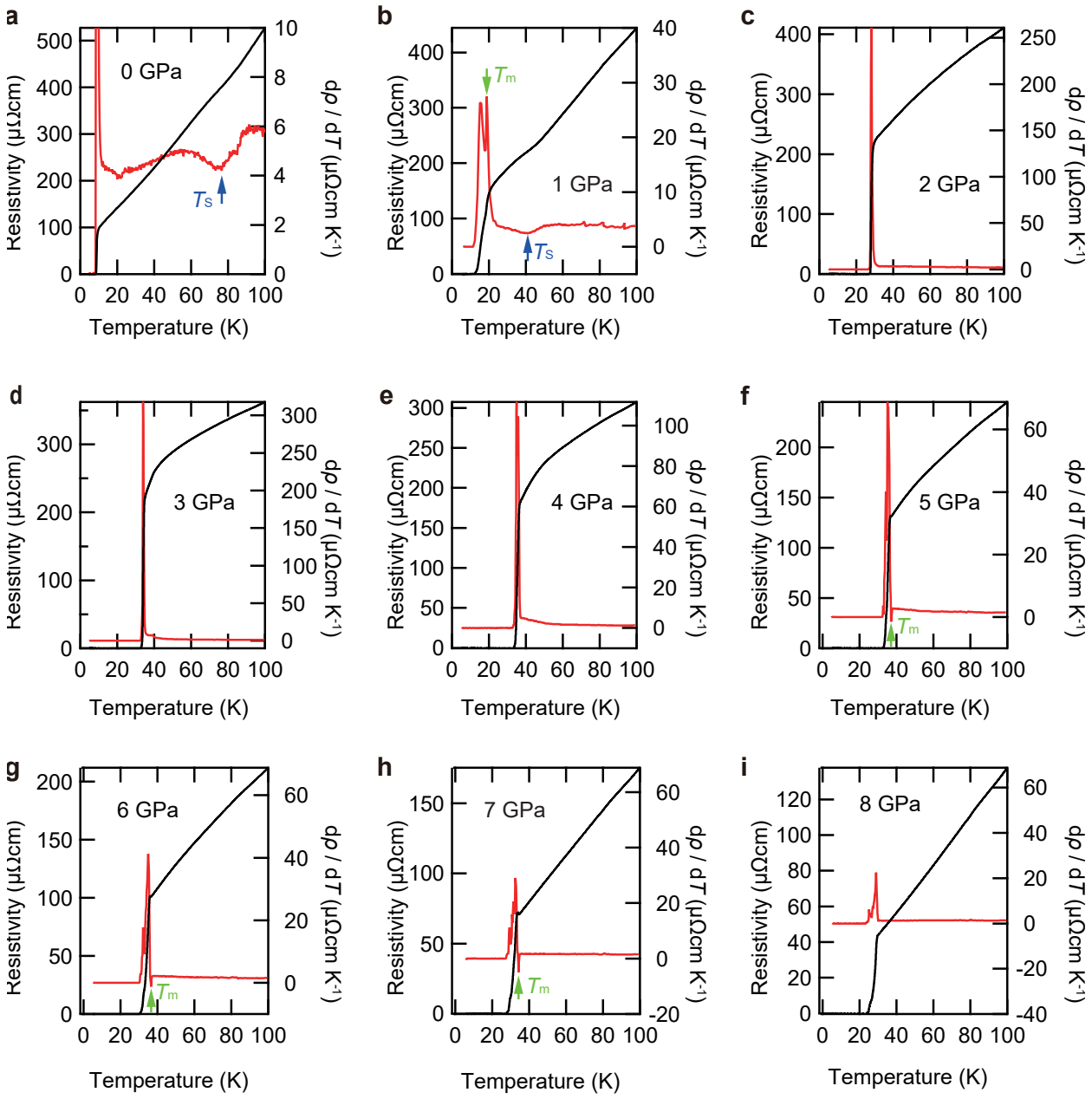
Supplementary Fig. 1. Resistive determination of nematic transition temperature at ambient pressure. a, Temperature dependence of $\mathrm{d}\rho/\mathrm{d}T$ for $0 \leq x(\mathrm{Te}) \leq 0.22$ in $\mathrm{FeSe}_{1-x}\mathrm{Te}_x$. **b**, Temperature dependence of $\mathrm{d}\rho/\mathrm{d}T$ for $0.28 \leq x(\mathrm{Te}) \leq 0.50$. Data are shifted vertically for clarity. The arrows indicate the nematic transition temperature T_s. At T_s the temperature dependence of resistivity $\rho(T)$ shows a kink anomaly with either upward or downward change depending on the condition. Thus we use dip or peak in the temperature derivative curves to define T_s.



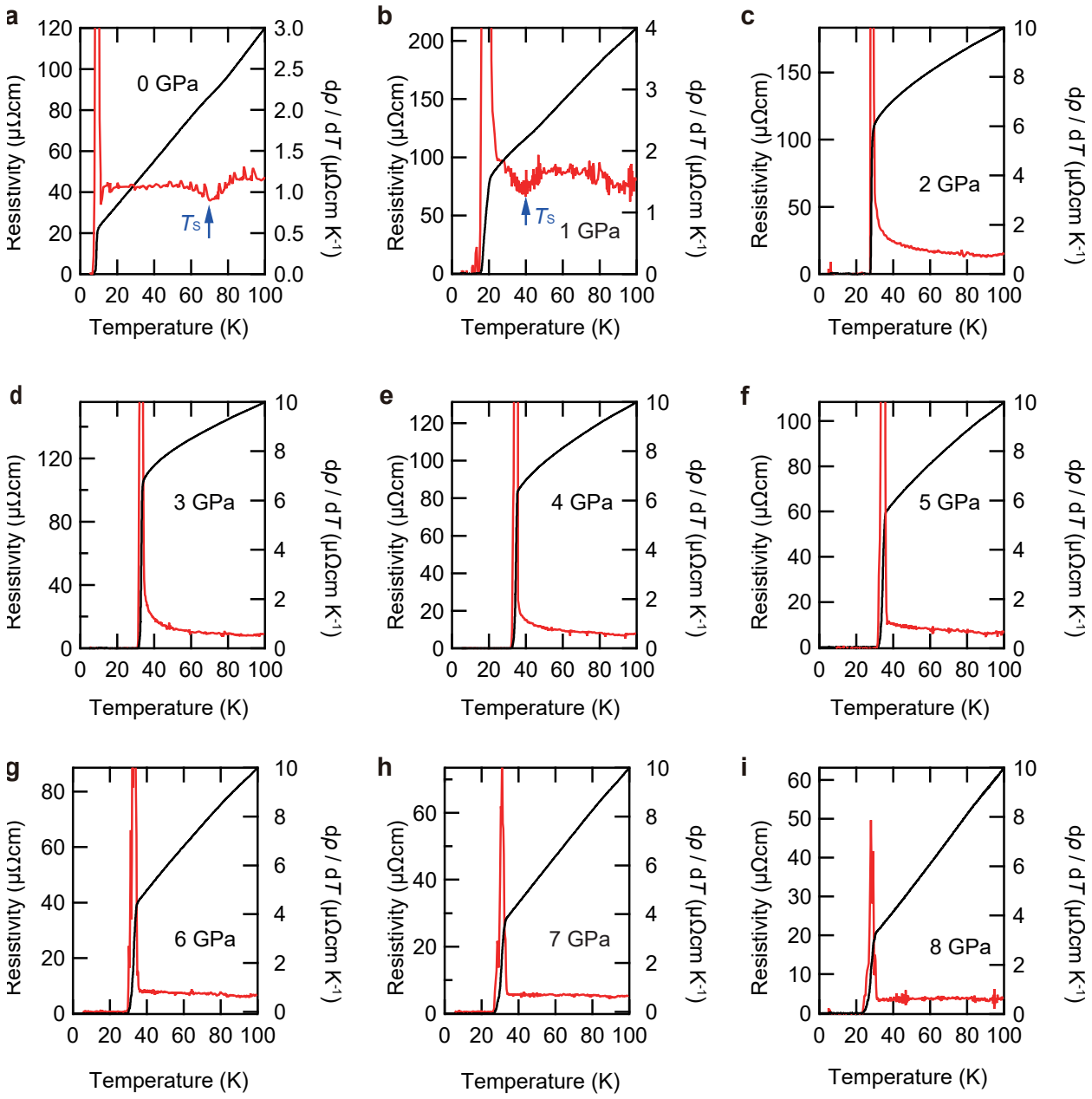
Supplementary Fig. 2. Resistive determination of nematic and magnetic transition temperatures under pressure for x(Te) ≈ 0.04. a-i, Temperature dependence of resistivity ρ (black, left axis) and dρ/dT (red, right axis) measured at 0-8 GPa with 1-GPa intervals. Arrows mark the nematic (T_s) and magnetic (T_m) transition temperatures.



Supplementary Fig. 3. Resistive determination of nematic and magnetic transition temperatures under pressure for x(Te) ≈ 0.06. a-i, Temperature dependence of resistivity ρ (black, left axis) and dρ/dT (red, right axis) measured at 0-8 GPa with 1-GPa intervals. Arrows mark the nematic (T_s) and magnetic (T_m) transition temperatures.



Supplementary Fig. 4. Resistive determination of nematic and magnetic transition temperatures under pressure for x(Te) ≈ 0.10. a-i, Temperature dependence of resistivity ρ (black, left axis) and dρ/dT (red, right axis) measured at 0-8 GPa with 1-GPa intervals. Arrows mark the nematic (T_s) and magnetic (T_m) transition temperatures.



Supplementary Fig. 5. Resistive determination of nematic transition temperature under pressure for x(Te) ≈ 0.14. a-i, Temperature dependence of resistivity ρ (black, left axis) and dρ/dT (red, right axis) measured at 0-8 GPa with 1-GPa intervals. Arrows mark the nematic (T_s) transition temperatures.