

Supporting Information

Raman anomaly and magnetic entropy near the magnetic phase transition of (111) oriented $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3 - \text{SrRuO}_3$ superlattices.

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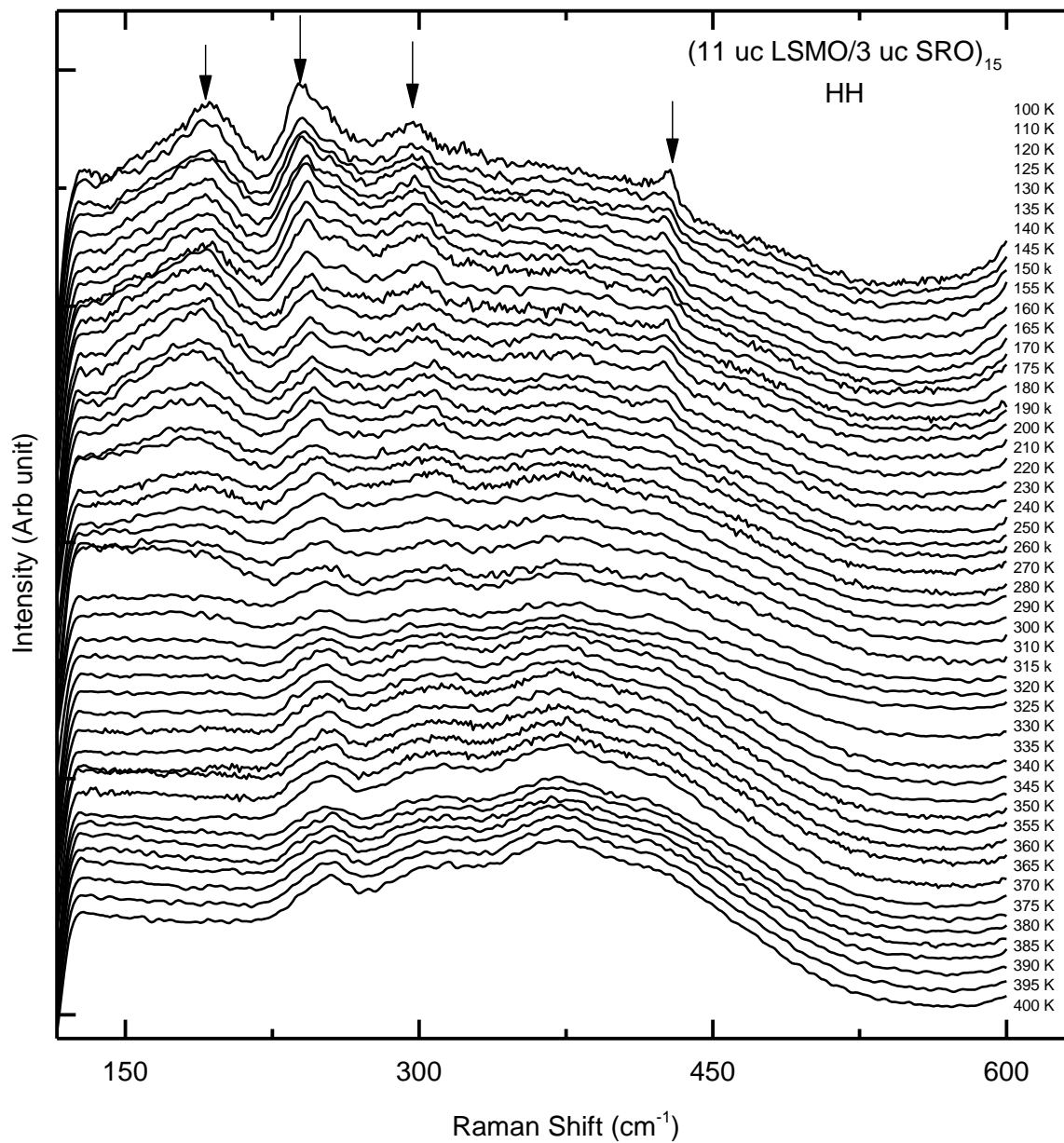


Figure S1. Polarized Raman spectra of the (111)STO/[11-u.c. LSMO/3-u.c. SRO]_{x15} superlattice measured at various temperatures.

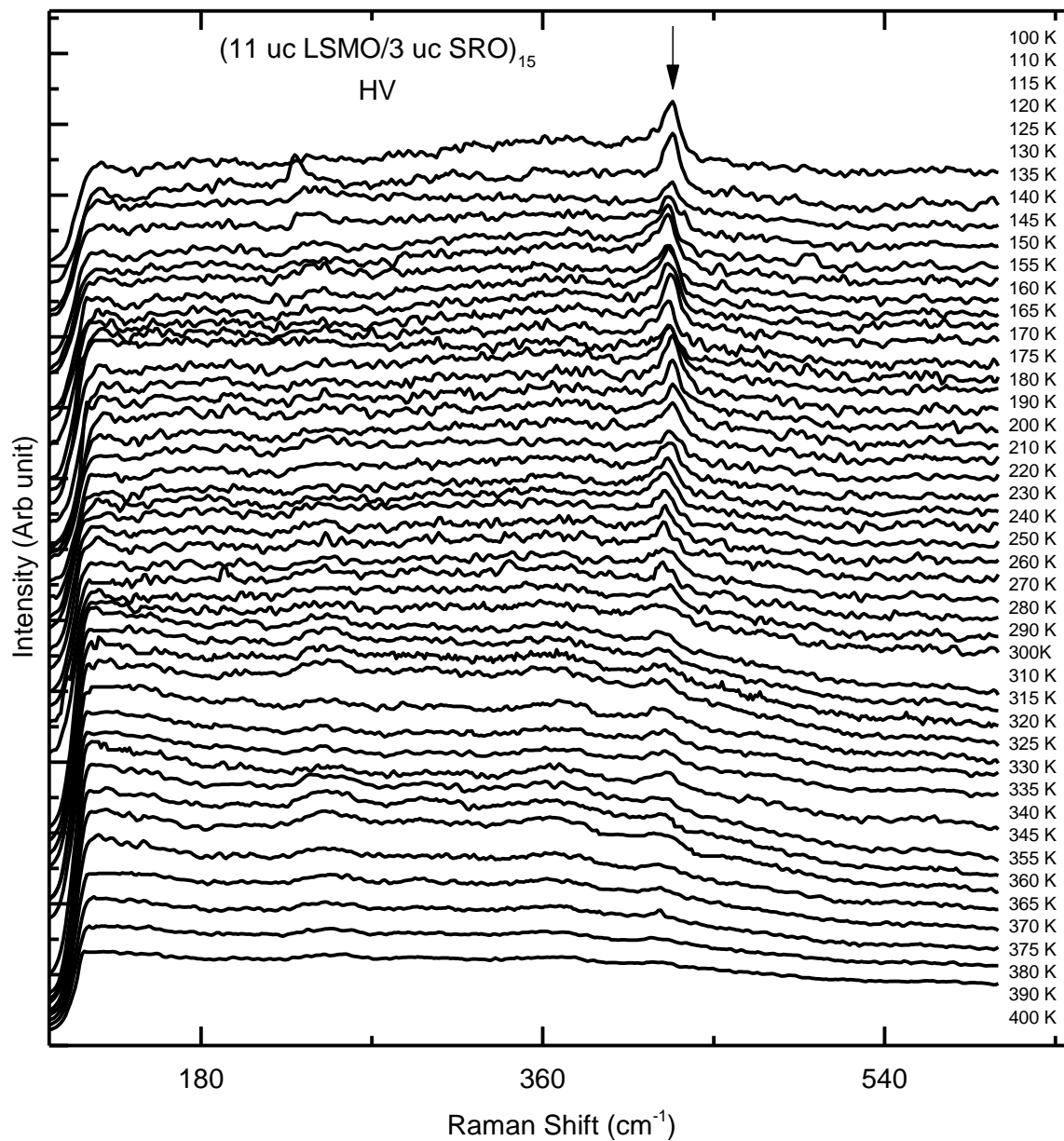


Figure S2. Polarized Raman spectra of the $(111)\text{STO}/[11\text{-u.c. LSMO}/3\text{-u.c. SRO}]_{x15}$ superlattices recorded at different temperatures.

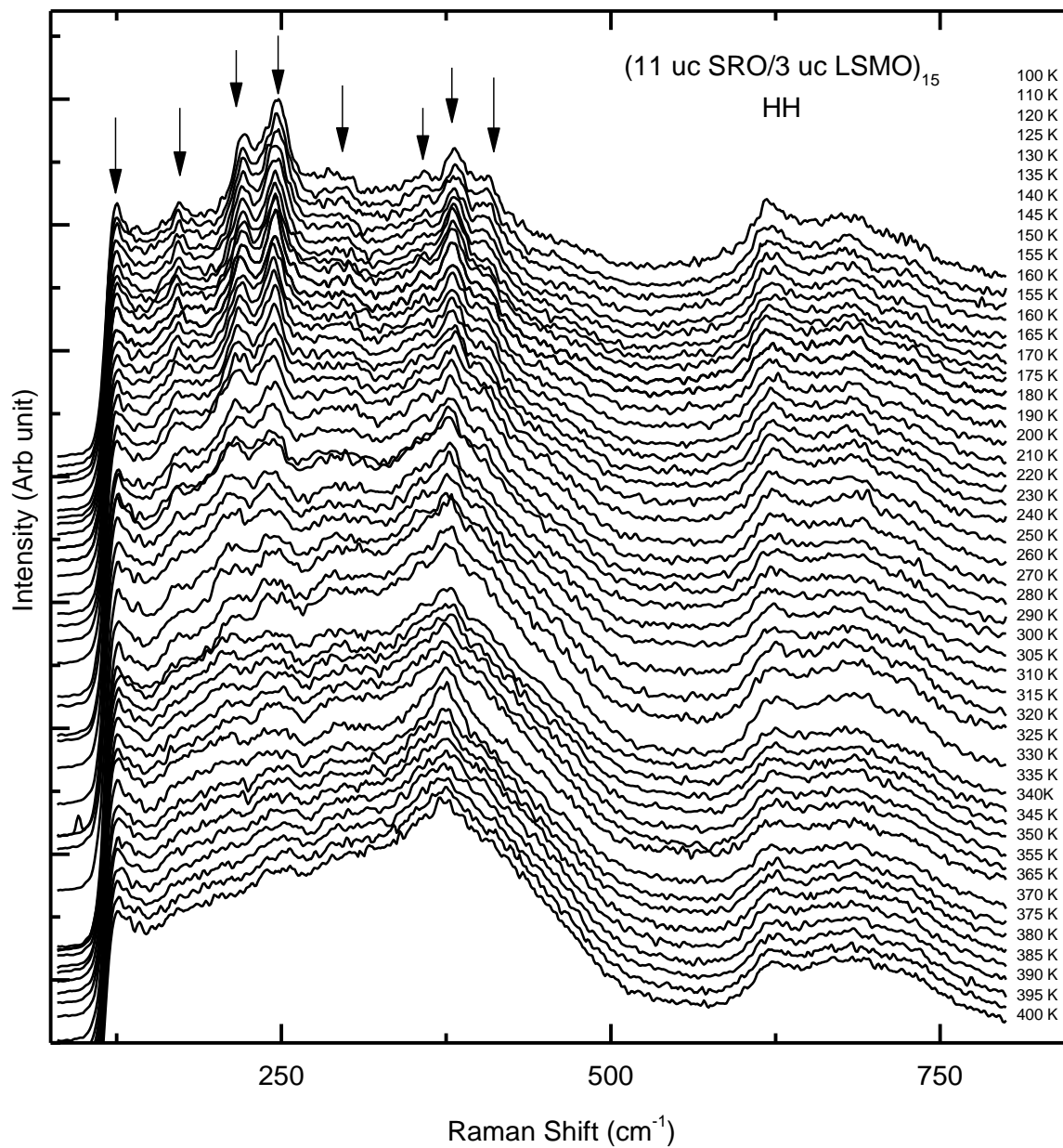


Figure S3. Polarized Raman spectra of the (111)STO/[11-u.c. SRO/3-u.c. LSMO]_{x15} superlattices recorded at different temperatures.

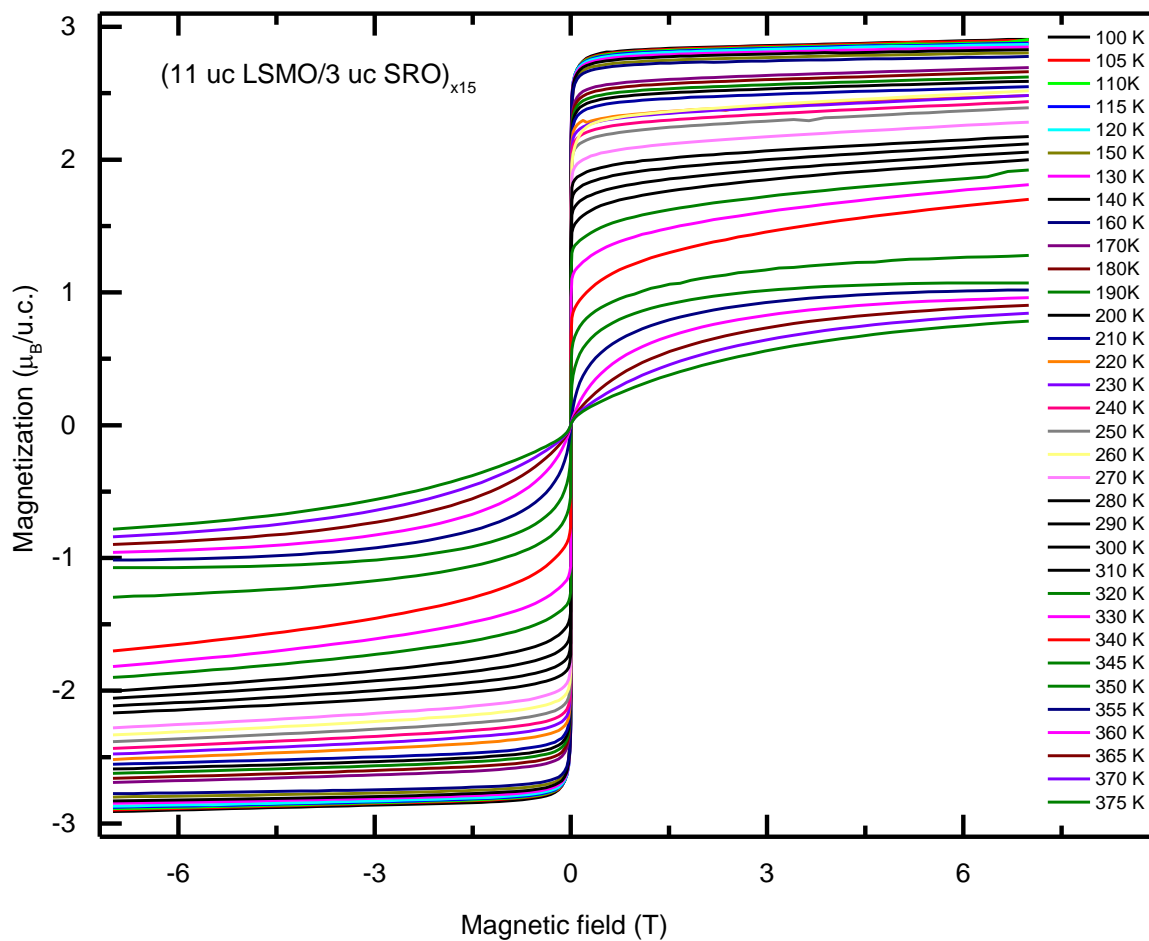


Figure S4. Zero-field-cooled field dependent magnetization measured at various temperature of the (111)STO/[11-u.c. LSMO/3-u.c. SRO]_{x15} superlattice.

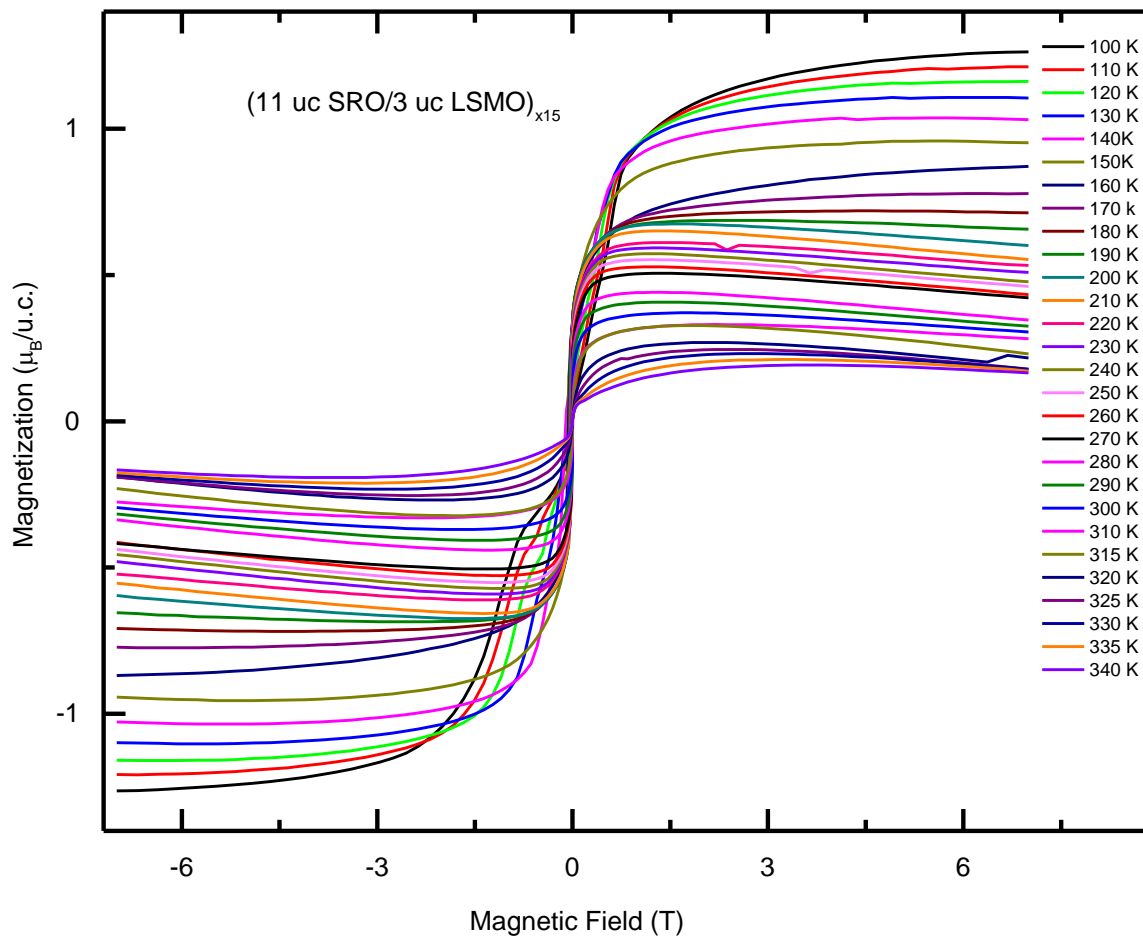


Figure S5. Zero-field-cooled field dependent magnetization measured at various temperature of the (111)STO/[11-u.c. SRO/3-u.c. LSMO]_{x15} superlattice.