

Supplementary Materials

RHEED Study of the Epitaxial Growth of Silicon and Germanium on Highly Oriented Pyrolytic Graphite

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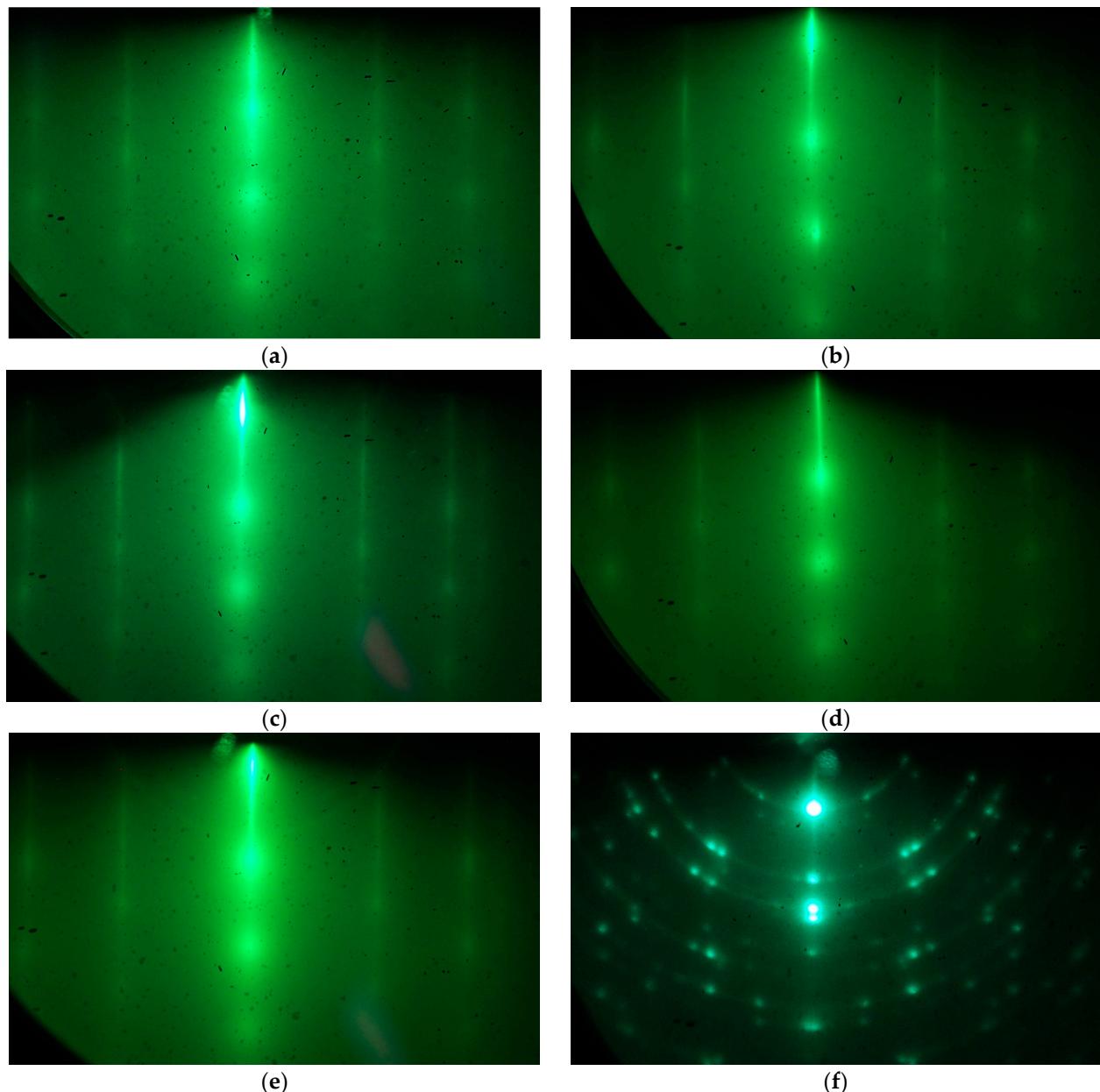


Figure S1. The characteristic diffraction pattern formed from a) clean HOPG surface; b) Si/HOPG surface, growth temperature 100 °C, effective thickness of the deposited silicon 1 ML; c) Si/HOPG, 200 °C, 1 ML; d) Si/HOPG, 400 °C, 1 ML; e) Si/HOPG, 650 °C, 1 ML; f) HOPG surface after annealing silicon at 800 °C.

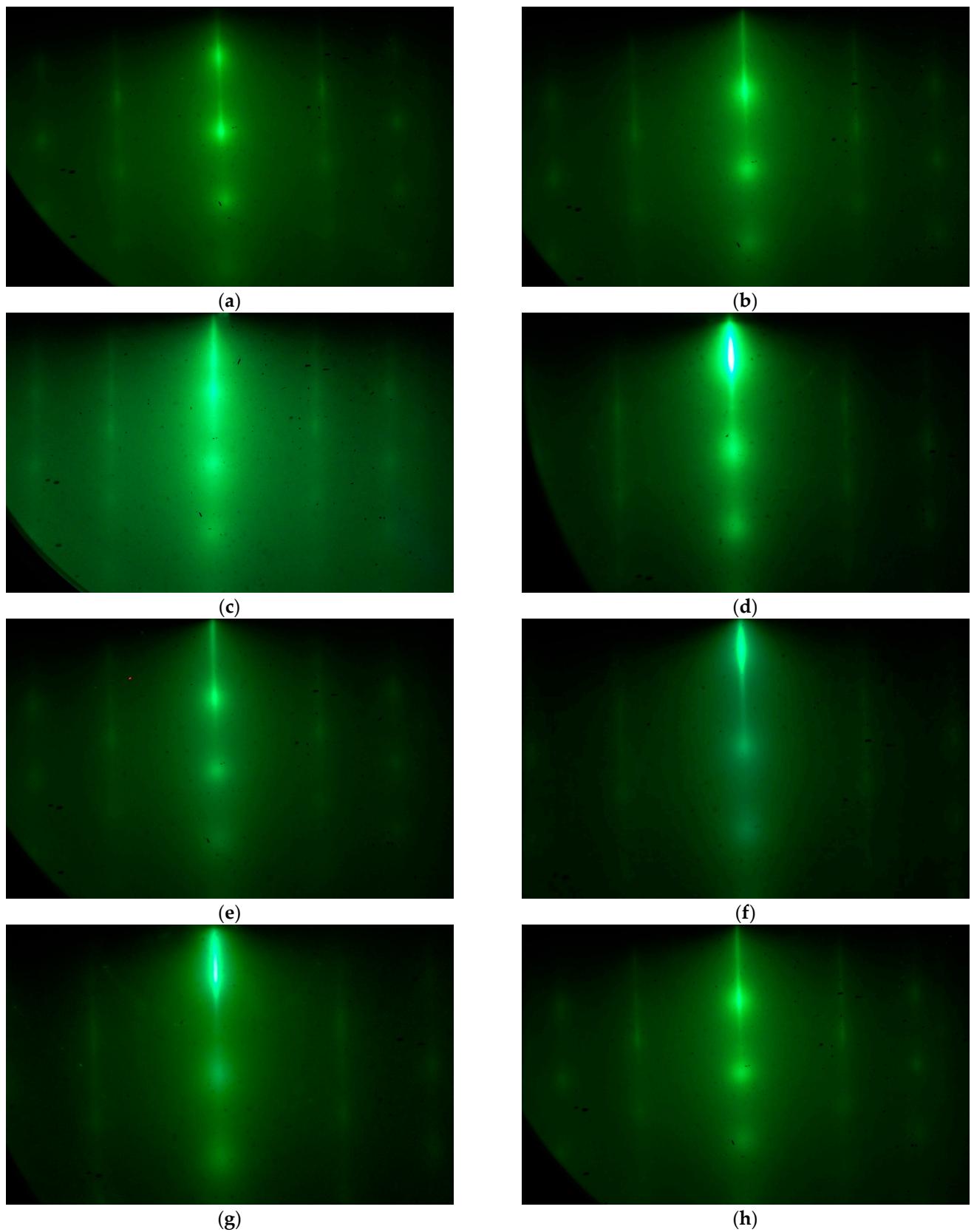


Figure S2. The characteristic diffraction pattern formed from a) Ge/HOPG surface, growth temperature 170 °C, effective thickness of deposited germanium 2 ML; b) Ge/HOPG, 250 °C, 1 ML; c) Ge/HOPG, 400 °C, 1 ML; d) Ge/HOPG, 500 °C, 20 ML; e) Ge/HOPG, 600 °C, 20 ML; f) Ge/HOPG, 720 °C, 20 ML; g) Ge/HOPG, 300 °C, 1 ML; h) Ge/HOPG, 260 °C, 1 ML, deposition rate 0.01 ML/s.

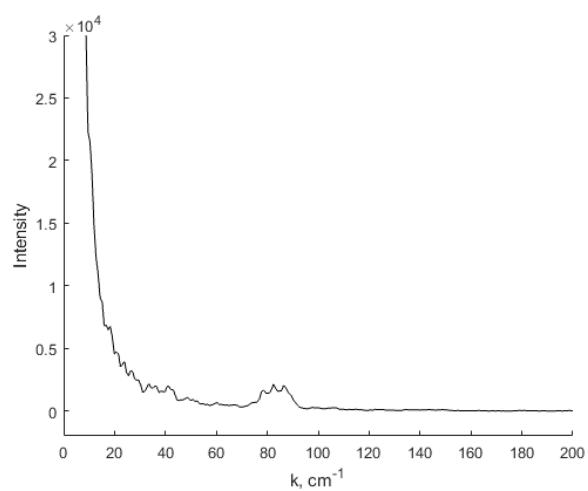


Figure S3. Low-frequency Raman spectra of the HOPG substrate.

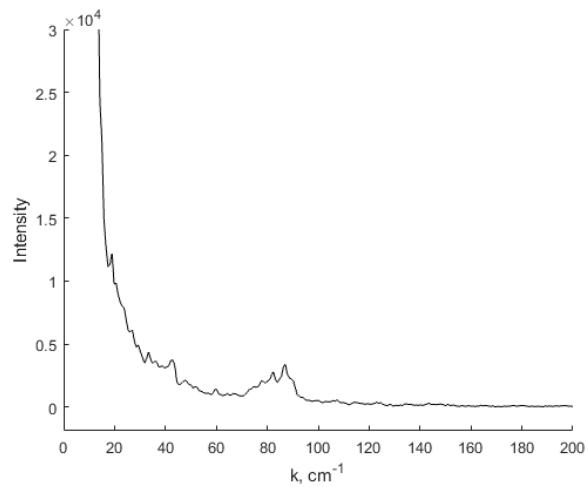


Figure S4. Low-frequency Raman spectra of 3ML Si/HOPG sample.

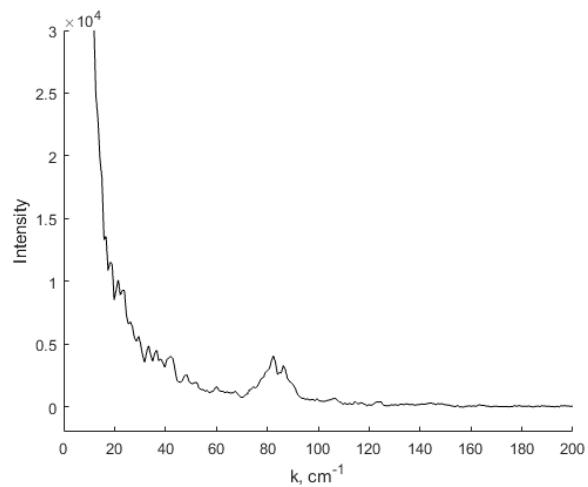


Figure S5. Low-frequency Raman spectra of 10 ML Ge/HOPG sample.