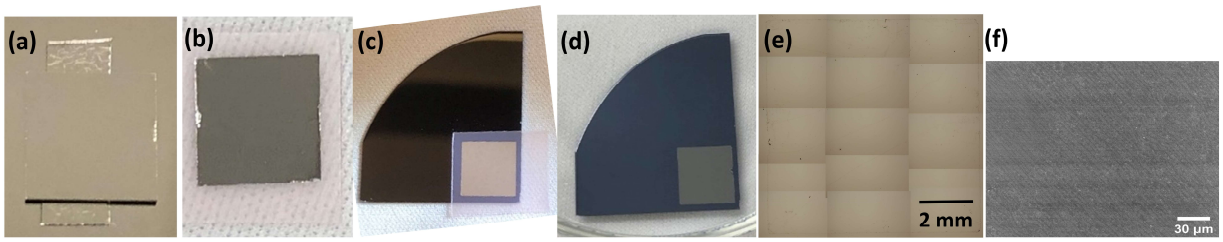

Fig. 1. Transfer of MEG from SiC to GaAs substrate. (a) Ni on MEG on an 8 x 8 mm^2 SiC substrate. (b) MEG on Ni on thermal release tape (TRT) after exfoliation of MEG/Ni from SiC (c) TRT, Ni, and MEG transferred to ¼ of a 2" GaAs wafer. (d) Ni on MEG on GaAs after thermal release of the TRT. (e) Nomarski micrographs showing the 8 x 8 mm^2 area of MEG transferred to GaAs after removal of Ni. (f) SEM of MEG transferred to GaAs showing the graphene appears continuous.

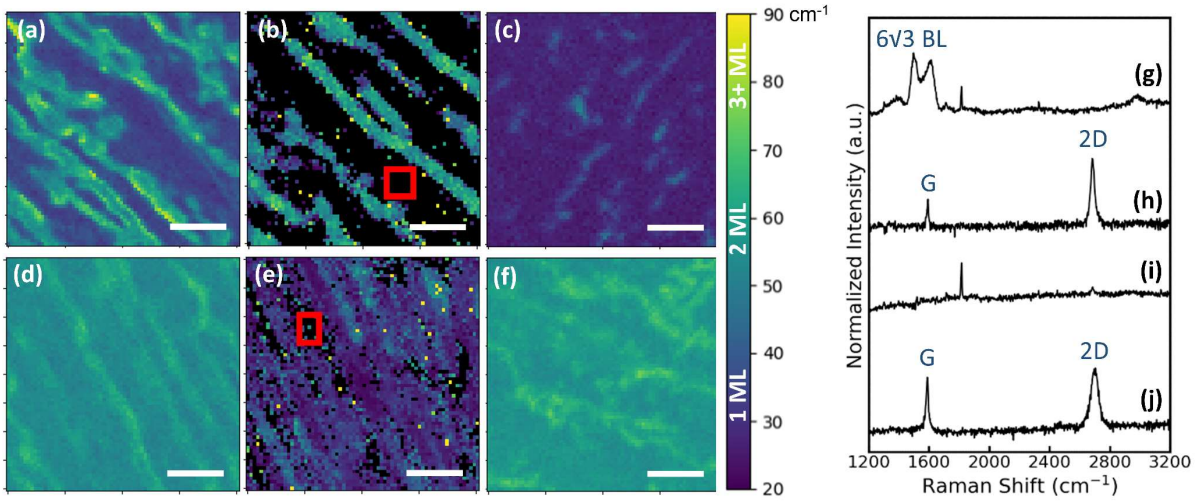

Fig. 2. (a-f) Maps of the FWHM of Lorentzian peak fits to the Raman 2D peak for (a) MEG on SiC before transfer, (b) SiC after exfoliation of MEG, (c) MEG transferred to glass, (d) hydrogen-intercalated, QFBEG on SiC before transfer, (e) SiC after exfoliation of QFBEG, and (f) QFBEG transferred to glass. Scale bars are 5 µm. (g-j) Raman spectra of (g) area in red box in Fig. 2b after subtraction of the SiC substrate spectra, showing buffer layer-related peaks between 1200 cm^{-1} and 1665 cm^{-1}. (h) Average Raman spectra for MEG transferred to glass shown in Fig. 2c. (i) Raman spectra of area in red box in Fig. 2e after subtraction of the SiC substrate spectra showing the absence of buffer-layer related peaks. (j) Average of Raman spectra for QFBEG transferred to glass shown in Fig. 2f.

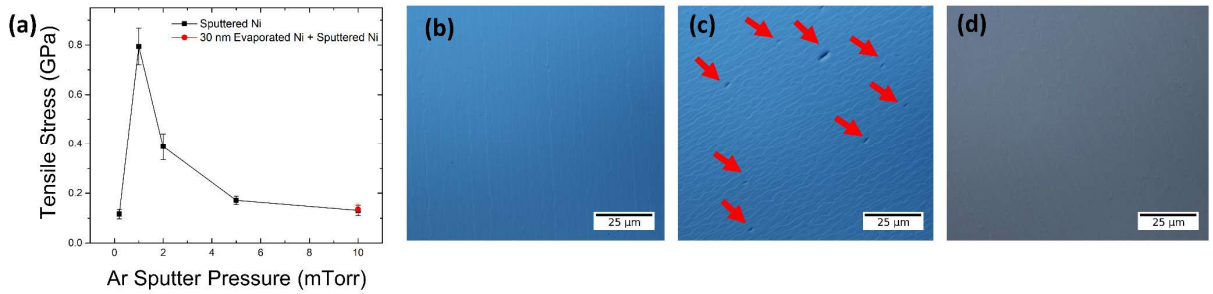

Fig. 3. (a) Ni tensile stress as a function of Ar sputter pressure. (b, c, d) Nomarski micrographs of sputtered Ni on (b) MEG and (c, d) QFBEG. (b,c) A Ni film with ~500 MPa tensile stress and ~550 nm thickness, showing tear-like features for QFBEG (Fig. 3c, indicated by red arrows), which are absent for MEG (Fig. 3b). (d) By lowering Ni tensile stress and thickness, these tear features are no longer present for QFBEG.