## **Epitaxial Ge Membranes Detachment via Porous Ge Layer and Adhesion Force Engineering**

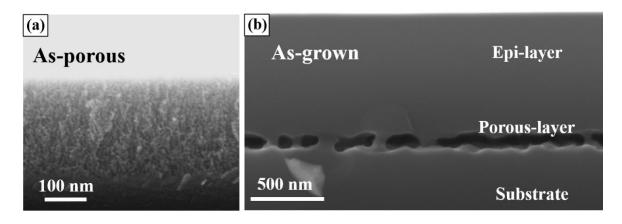


Figure 1 Cross-section SEM images of (a) porous Ge substrate; (b) Ge membrane on top of porous Ge substrate.

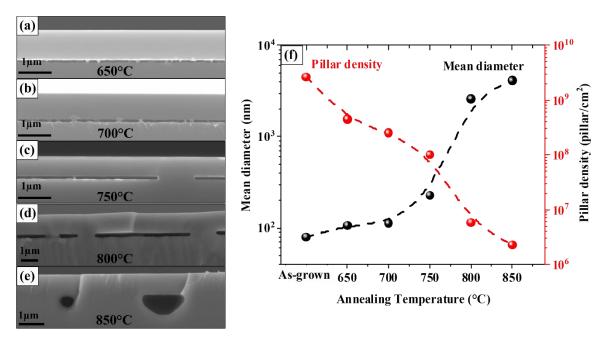


Figure 2 Cross-section SEM images of (a) porous Ge substrate; (b) Ge membrane on top of porous Ge substrate; (c-e) Ge membrane on top of porous Ge substrate at 650°C, 750°C and 850°C respectively (f) the variation of pillar diameter and density as function of post growth annealing.