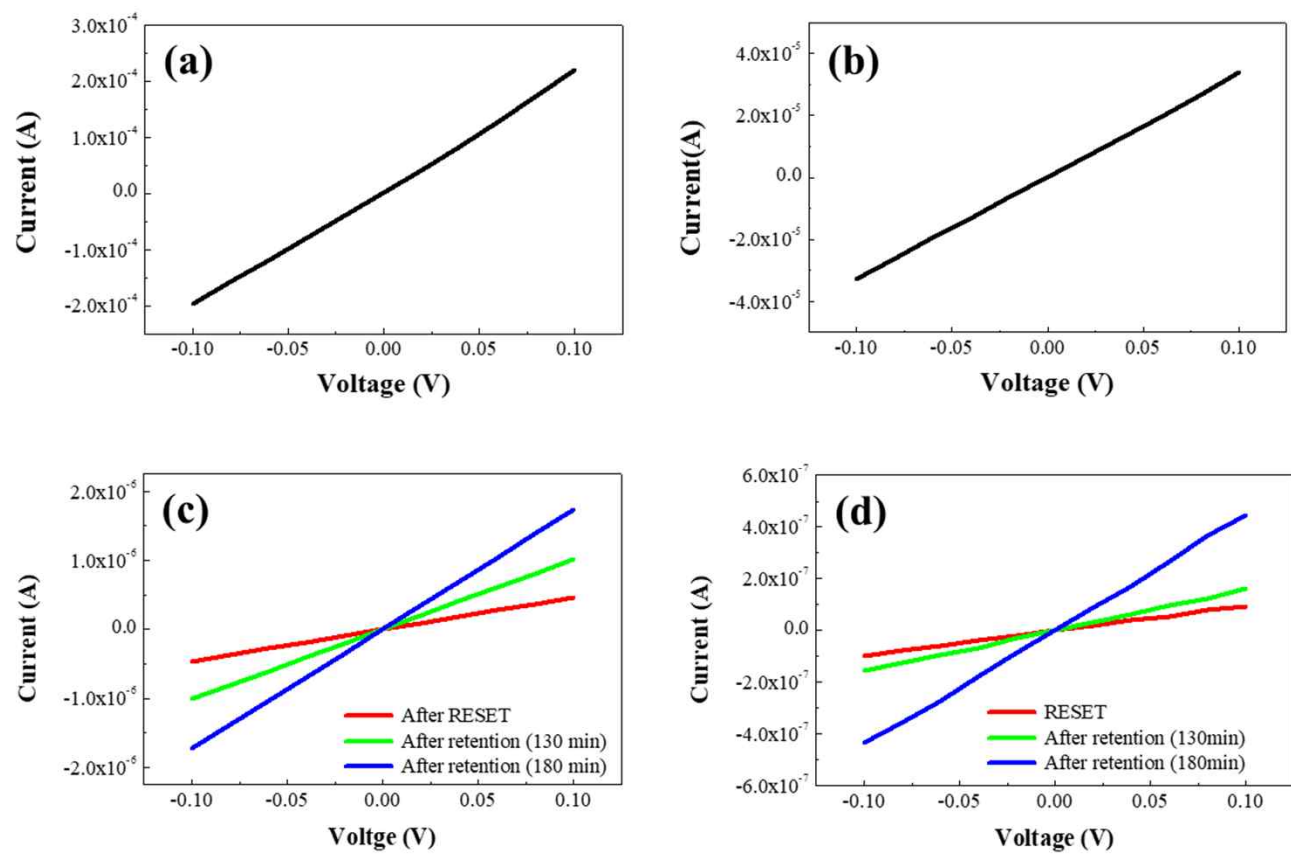
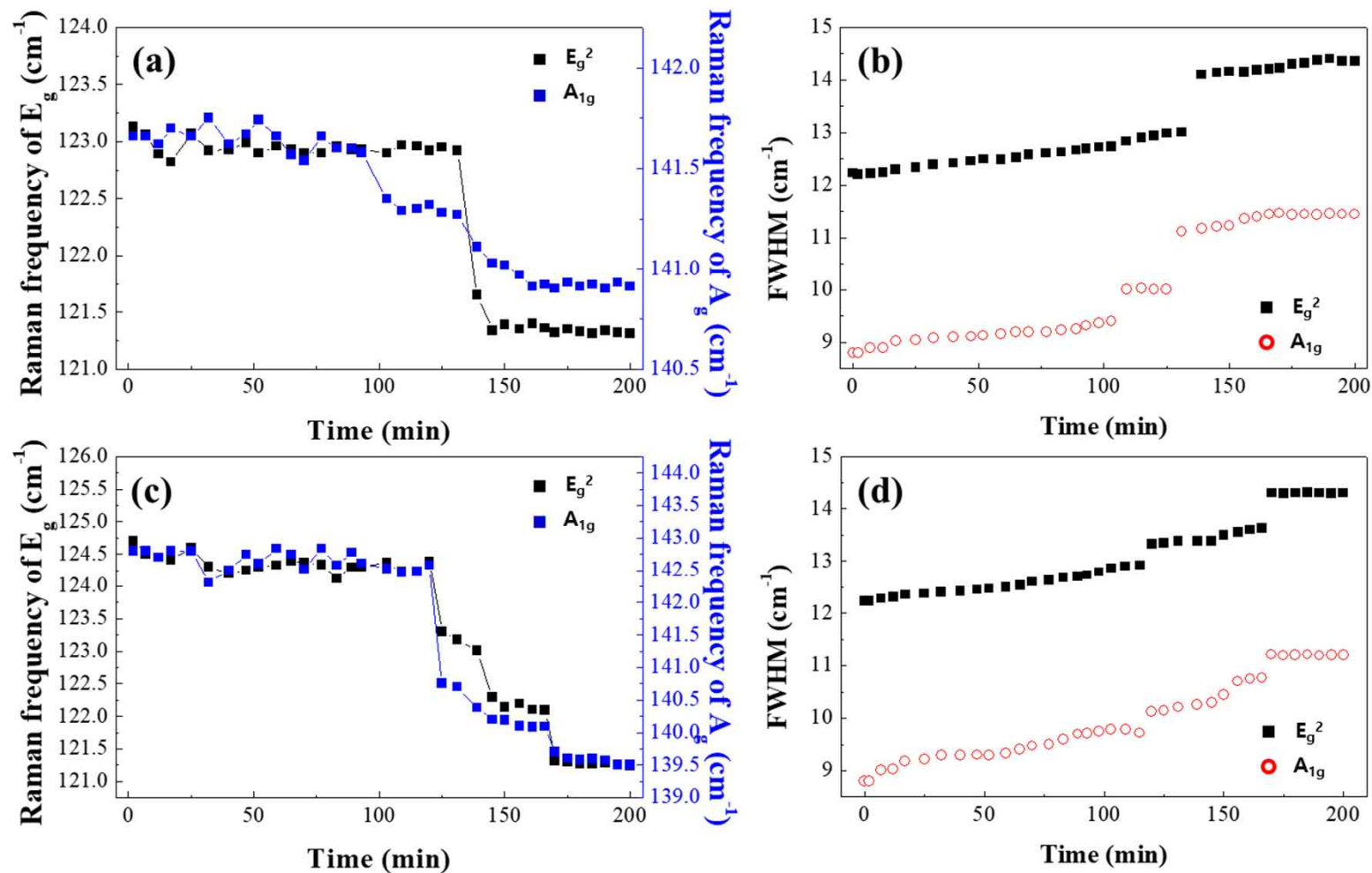


Supporting figure 1



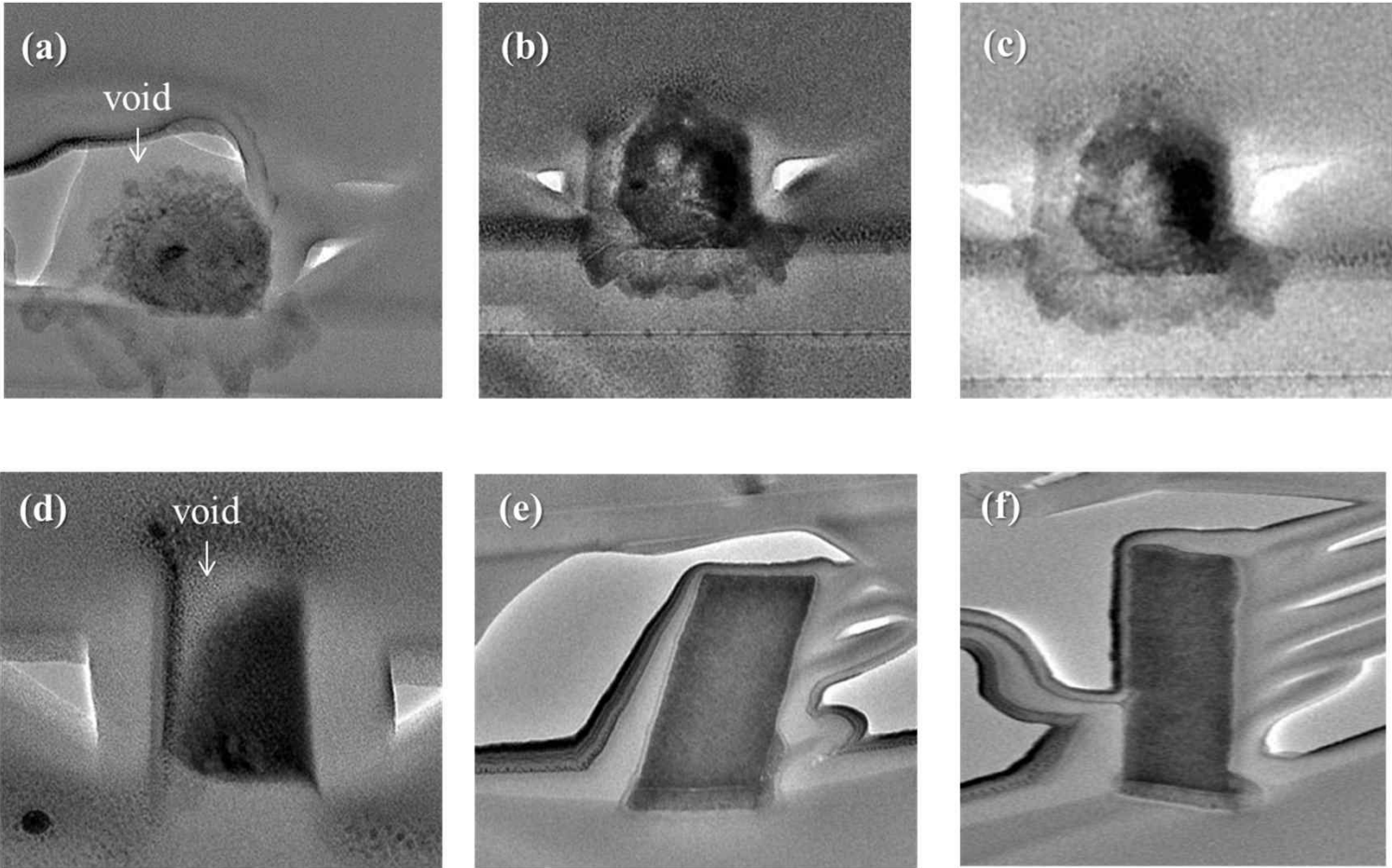
Supporting figure 1. The I-V curve of initial state of (a) GeTe and (b) GST nanowire. The I-V curve of RESET, after isothermal annealing at 130min and 180min of (c) GeTe and (d) GST nanowire. The voltage is swept from -.01V to 0.1V. The red line is RESET state. The green and blue line are after isothermal annealing at 130min and 180min, respectively.

Supporting figure 2



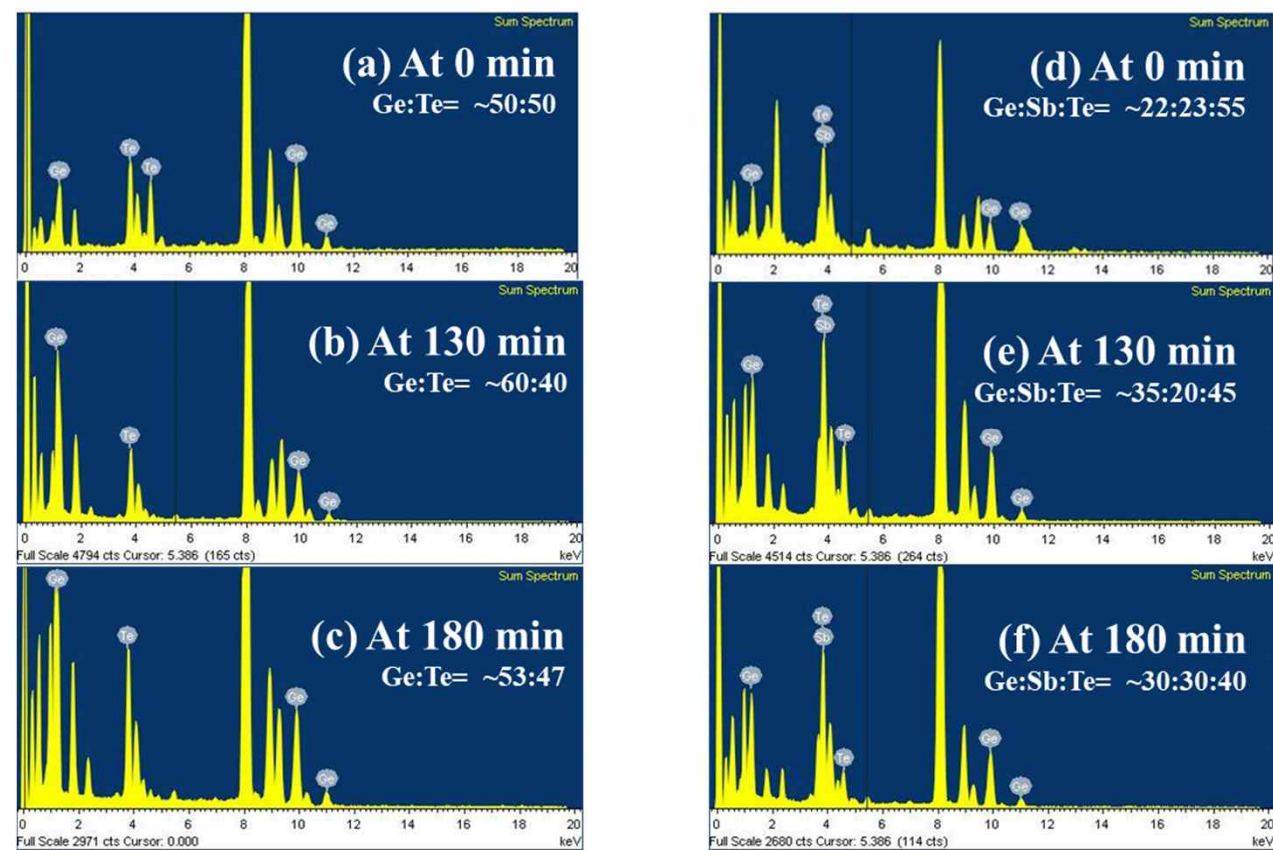
Supporting figure 2. The insitu Raman data of GeTe and GST nanowire during isothermal annealing(120°C, 200min). (a)The frequency change of E_g^2 and A_{1g} peaks of GeTe nanowire. (b) The FWHM change E_g^2 and A_{1g} peaks of GeTe nanowire. (c)The frequency change of E_g^2 and A_{1g} peaks of GST nanowire. (d) The FWHM change E_g^2 and A_{1g} peaks of GeTe nanowire.

Supporting figure 3



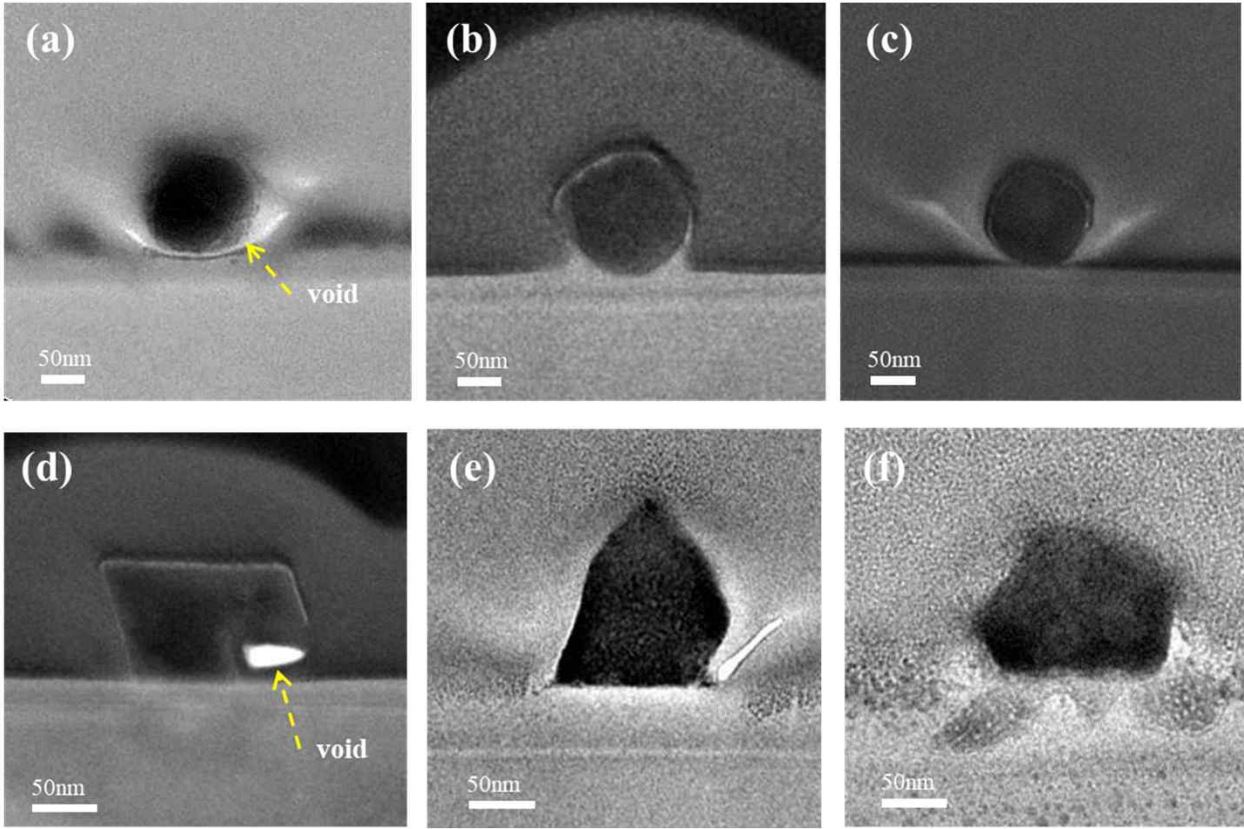
Supporting figure 3. Low-mag TEM image of GeTe nanowire (a) at 0 min, (b) at 130 min, and (c) at 180 min after the isothermal annealing. Low-mag TEM image of GST nanowire (d) at 0 min, (e) at 130 min, and (f) at 180 min after the isothermal annealing.

Supporting figure 4



Supporting figure 4. EDS spectrum of (a) at 0 min, (b) at 130 min and (c) at 180 min of GeTe nanowire after the isothermal annealing. EDS spectrum of (d) at 0 min, (e) at 130 min and (f) at 180 min of GST nanowire after the isothermal annealing.

Supporting figure 5



Supporting figure 5. The cross-sectional TEM images of GeTe nanowire with a void(a) and hillocks(b,c) in device. The cross-sectional TEM images of GST nanowire with a void(d) and hillocks(e,f) in device.