

## Supplementary information

### **Catalyst-dependent morphological evolution by interfacial stress in crystalline-amorphous core-shell germanium nanowires**

Nithin Devarajulu Palavalli<sup>1</sup>, Alireza Yaghoubi<sup>2</sup>, Chih-Chung Lai<sup>1</sup>, Chin-Che Tin<sup>3,4</sup>, Ali Javey\*<sup>5</sup> and Yu-Lun Chueh\*<sup>1</sup>

<sup>1</sup>Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu 30013, Taiwan, ROC

<sup>2</sup>Center for High Impact Research, University of Malaya, Kuala Lumpur 50603, Malaysia

<sup>3</sup>Materials Engineering Program, Department of Mechanical Engineering, University of Malaya, Kuala Lumpur 50603, Malaysia

<sup>4</sup>Department of Physics, 206 Allison Laboratory, Auburn University, AL 36849, USA

<sup>5</sup>Department of Electrical Engineering and Computer Sciences, University of California at Berkeley, Berkeley, CA 94720, USA

Correspondence to: [ajavey@berkeley.edu](mailto:ajavey@berkeley.edu) and [ylchueh@mx.nthu.edu.tw](mailto:ylchueh@mx.nthu.edu.tw)

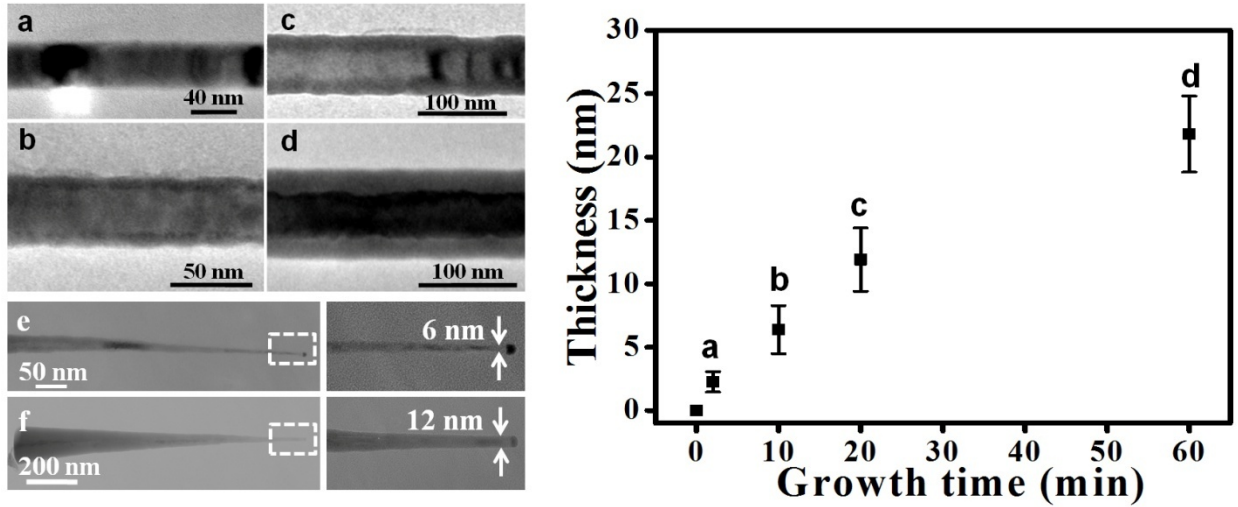


Fig. S1. The XGe seed and in a similar way the crystalline core grows in diameter with increased temperature and growth time. Panels a-d and the corresponding graph represent the variations of NW diameter with time in Au-catalyzed growth at a constant growth temperature. Panel e and f on the other hand show the effect of temperature (280 °C and 300 °C, respectively) on the expansion of the NiGe seed for a constant growth time.