Supporting Information

Containing the Catalyst: Diameter Controlled Ge Nanowire Growth

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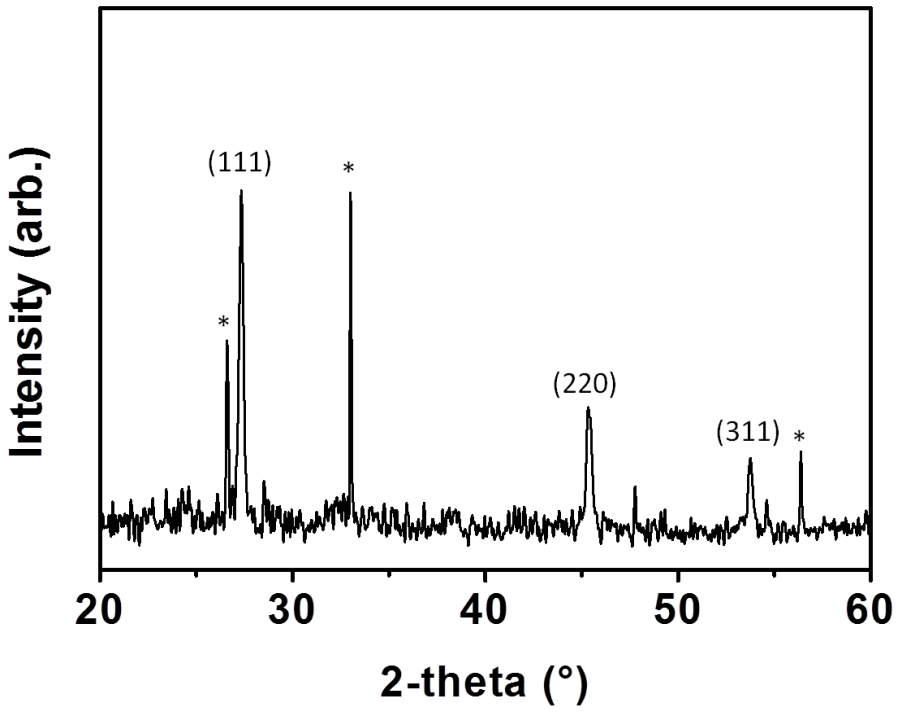

Fig. S1. PXRD (background subtracted) of Ge nanowires displaying crystalline germanium peaks (matched with JCPDS pattern 04-0545). * peaks are due to underlying substrate.

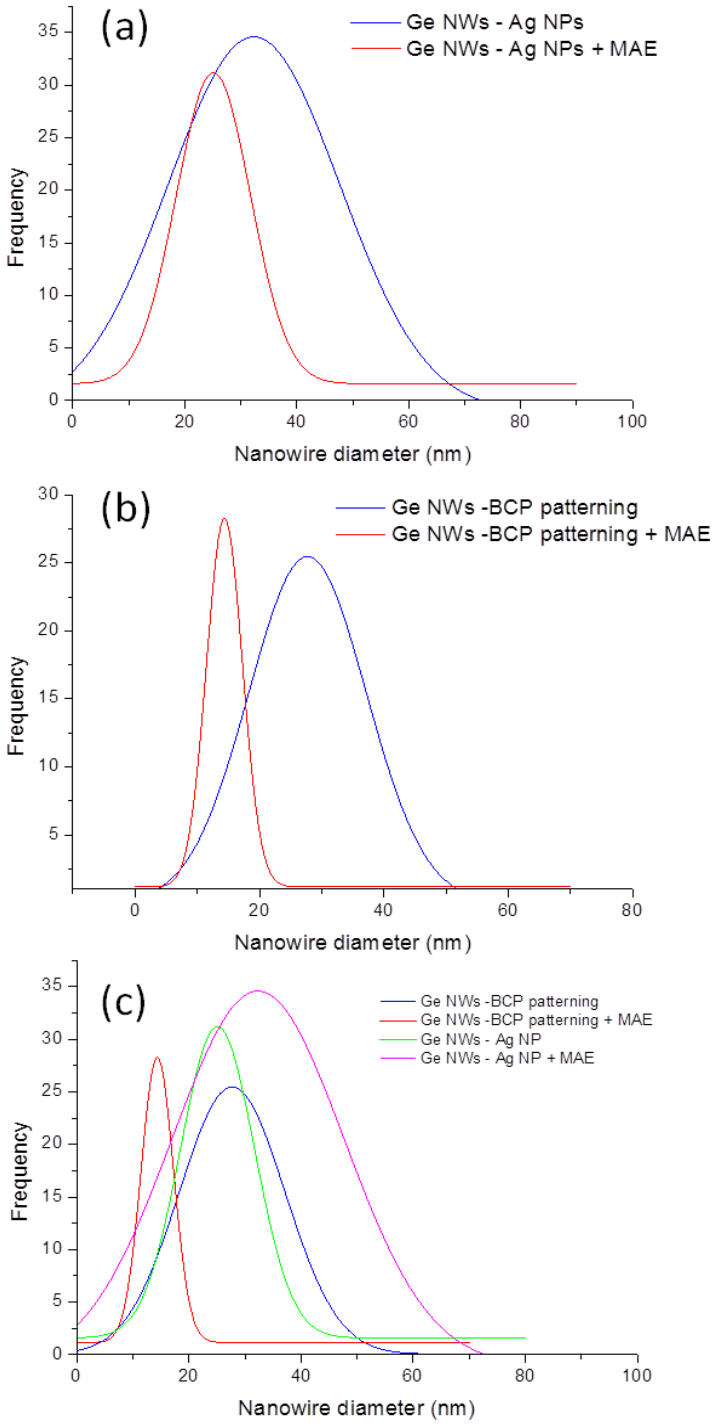

Fig. S2. Gaussian fits to the diameter distributions of Ge nanowires grown from (a) Ag nanoparticles, (b) BCP patterned Ag nanodots and (c) all of the above combined.

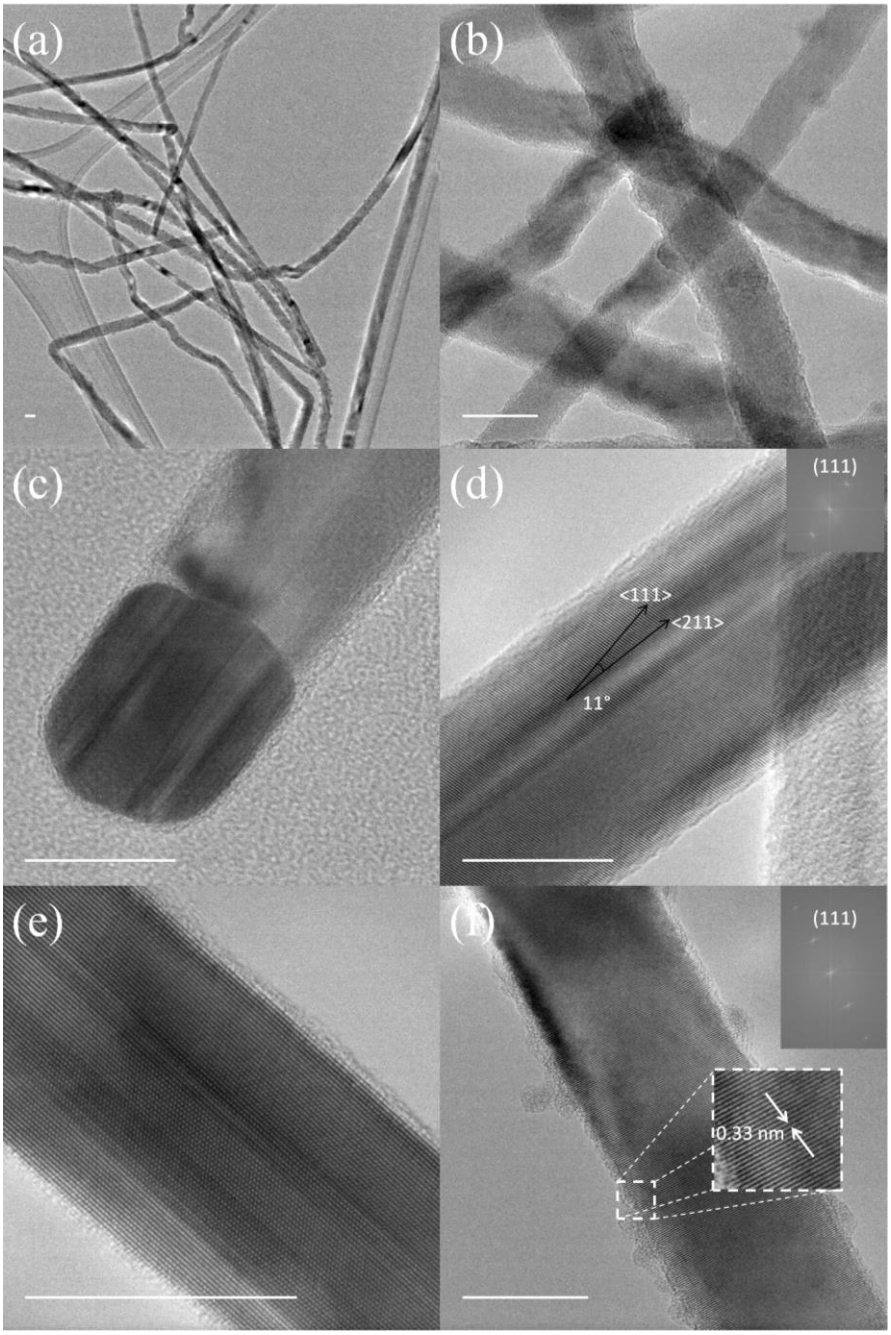

Fig. S3. TEM images of Ge nanowires grown from: BCP patterned Ag nanodots after MAE (a & b), BCP nanodots without MAE (c & d) and Ag nanoparticles without MAE (e & f). Scale bars = 20 nm.

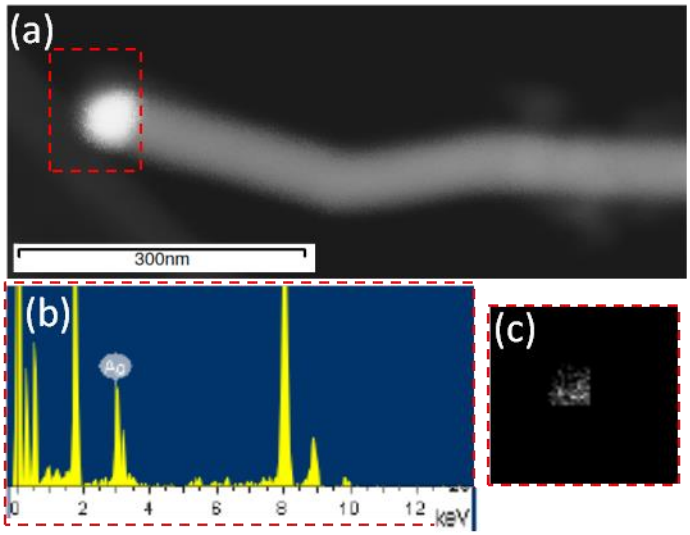

Fig. S4. (a) STEM image of an Ag seeded Ge nanowire grown from an Ag nanoparticle without BCP patterning or MAE. (b) EDX scan of the seed area showing a clear Ag content. (c) Ag elemental map of scanned area highlighting the presence of Ag only in the seed area.

Table S1. Tabulated data of mean diameters and diameter distributions for Ag nanoparticles (NPs), Ge nanowires (NWs) grown from NPs before and after undergoing metal assisted etching (MAE), BCP patterned Ag nanodots (NDs) and Ge NWs grown from NDs before and after undergoing MAE.

	Diameter **(Mean Diameter ± Std. dev.)**	**Diameter Distribution** **(FWHM)**
Ag NPs	8.4 ± 1.8 nm	4.2 nm
Ge NWs: Ag NPs	32.3 ± 15.3 nm	36.1 nm
Ge NWs: Ag NPs + MAE	25.1 ± 6.6 nm	15.6 nm
BCP Ag NDs	13.7 ± 1.5 nm	3.5 nm
Ge NWs: BCP Ag NDs	27.7 ± 9.4 nm	22.2 nm
Ge NWs: BCP Ag NDs + MAE	14.4 ± 2.9 nm	6.8 nm