Supplementary information for “Epitaxial Silicides: The Case of Fe, Ni, and Ti”

Cheng-Lun Hsin¹,* and Yu-Shin Tsai¹

¹Department of Electrical Engineering, National Central University, Taoyuan, Taiwan, 32001

* Correspondence author E-mail: clhsin@ee.ncu.edu.tw

Supplementary Information

List of contents.

Figure S1 | XRD spectrum of the β-FeSi₂ nanodots on the (001)Si substrate.

Figure S2 | TEM image of β-FeSi₂ nanodots on the (001)Si substrate.
Figure S1 | XRD spectrum of the β-FeSi$_2$ nanodots on the (001)Si substrate. We have examined our samples by XRD to confirm the phase of FeSi$_2$ on the Si substrate annealed at 850 °C. The spectrum shows multiple distinct XRD peaks. The crystal structure and lattice constant of FeSi$_2$ is identified as the orthorhombic Cmca space group with lattice constant 0.9863 nm, 0.7791 nm and 0.7833 nm, respectively. The XRD spectrum of our sample confirmed the poly-crystallinity of FeSi$_2$ on the Si substrate.
Figure S2 | TEM image of β-FeSi$_2$ nanodots on the (001)Si substrate. We have examined our samples by TEM to confirm the structure of FeSi$_2$ on the Si substrate annealed at 850 °C. FeSi$_2$ has become nanodot-like structure, as shown in Fig. S2(a). For the crystallinity of each nanodot, the HRTEM image in (b) proves that each nanodot is single-crystalline. Figure S2(c) and (d) are the diffraction patterns made by FFT from the HRTEM image of FeSi$_2$ and Si, respectively.