

Electronic Supplementary Information (Fig. S1~S6)
Figure S1

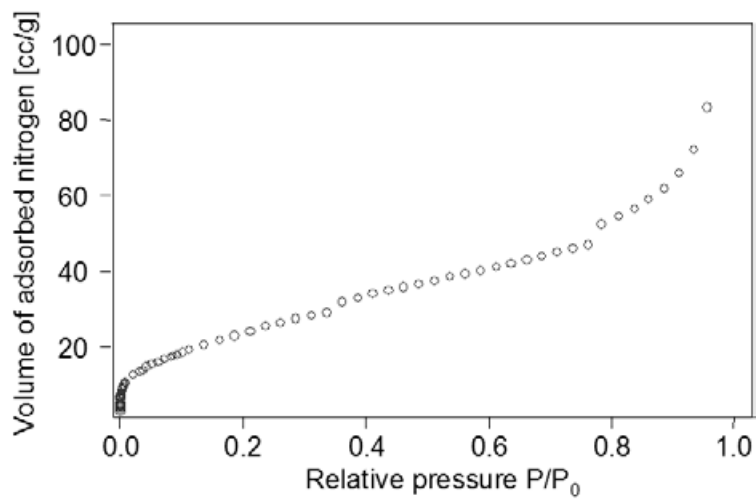


Fig. S1 N₂ adsorption isotherm of mesoporous Pt–Ni alloy (Sample 3).

Figure S2

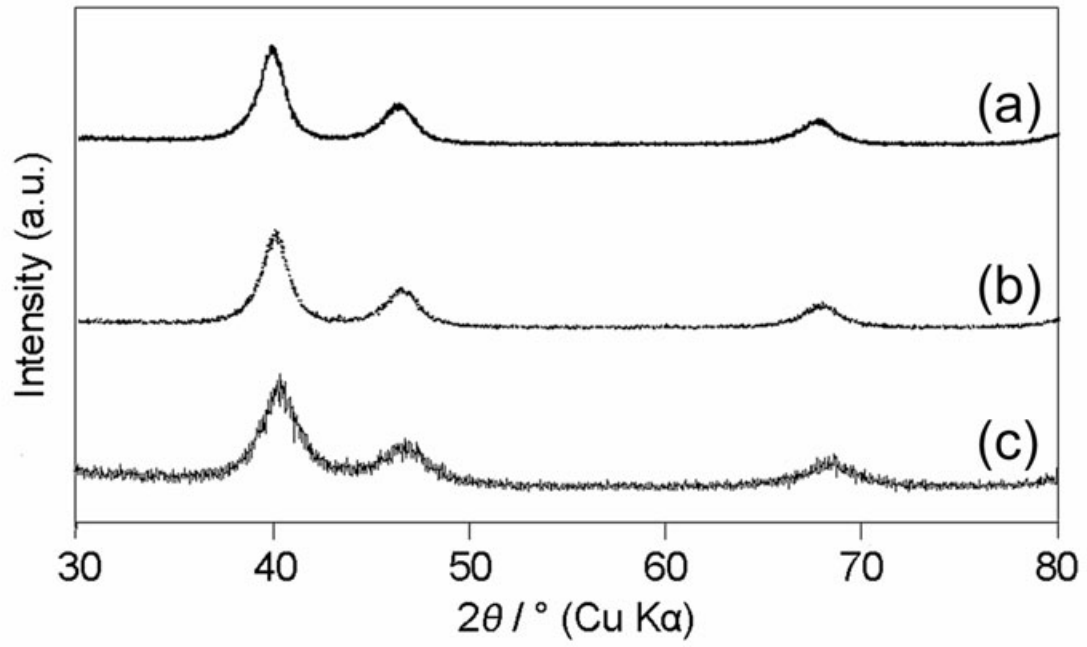


Fig. S2 High-angle XRD patterns of mesoporous Pt and Pt–Ni alloys. [Trace (a): sample 1, trace (b): sample 3, and trace (c): sample 4.]

Figure S3

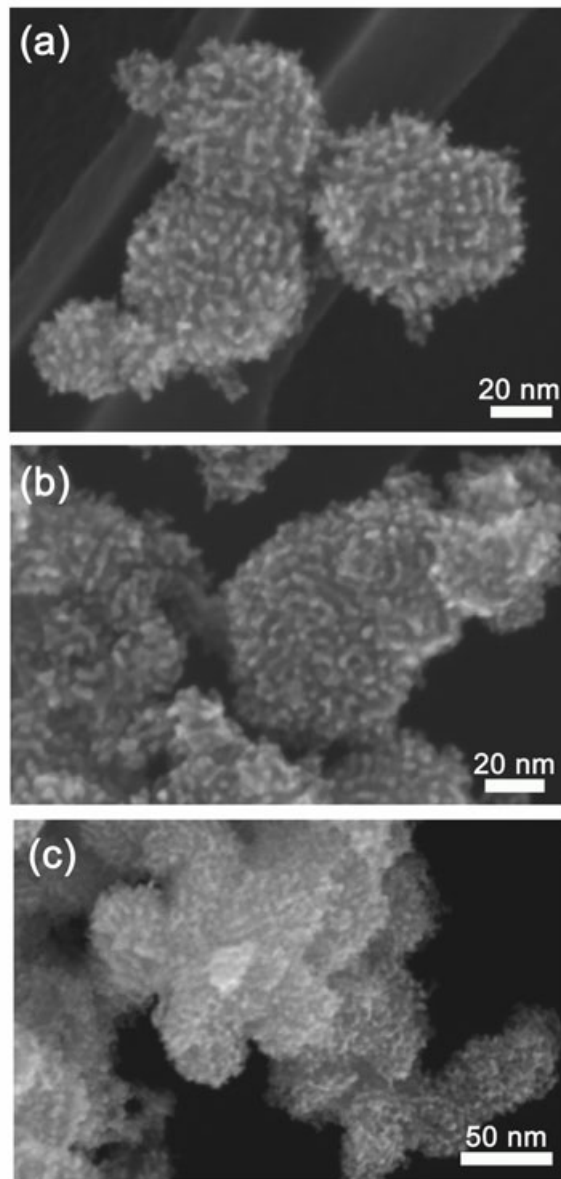


Fig. S3 HR-SEM images of mesoporous Pt and Pt-Ni alloys. [Image (a): sample 1, image (b): sample 3, and image (c): sample 4.]

Figure S4

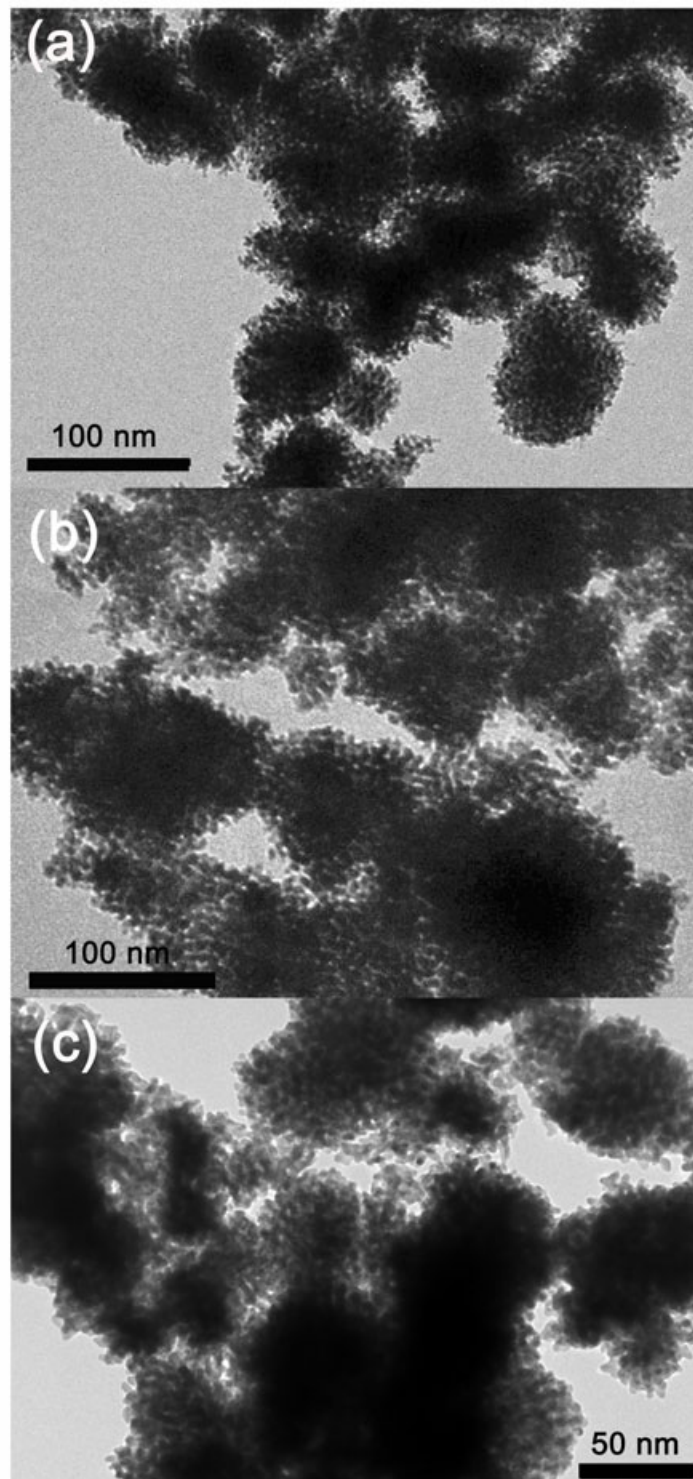


Fig. S4 TEM images of mesoporous Pt and Pt–Ni alloys. [Image (a): sample **1**, image (b): sample **3**, and image (c): sample **4**.]

Figure S5

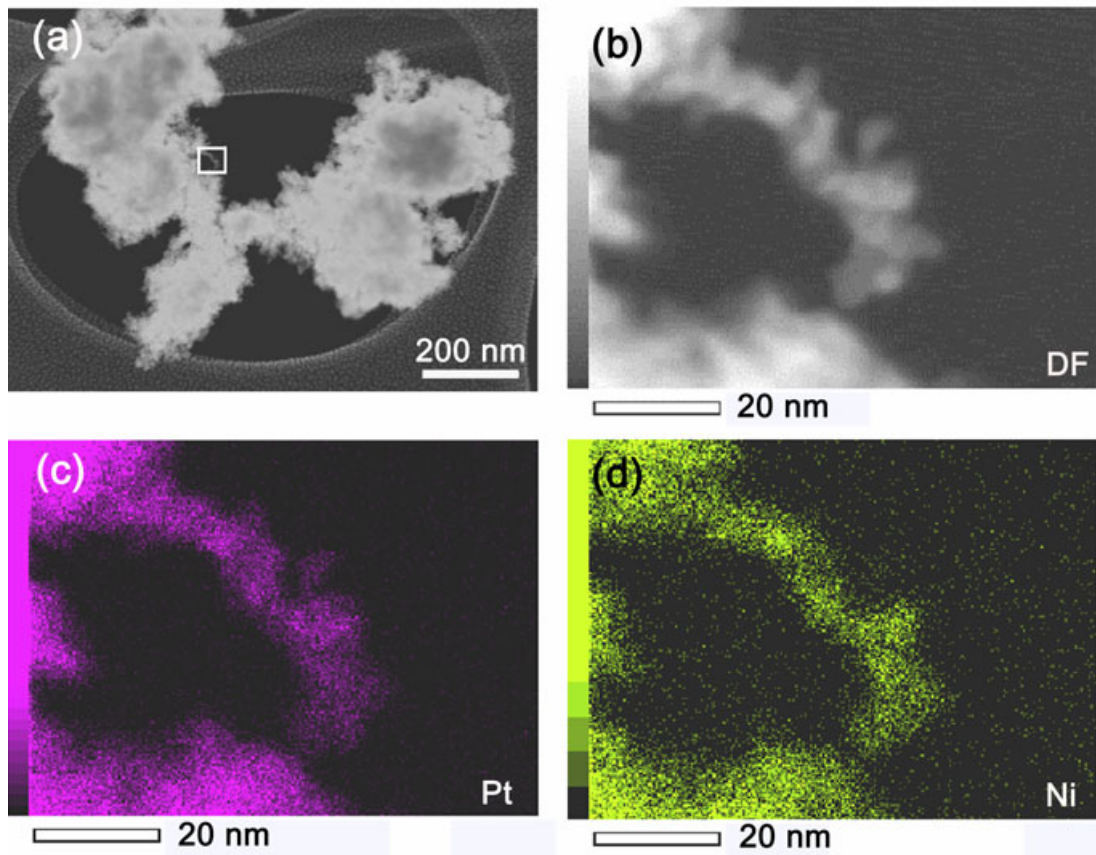


Fig. S5 Highly magnified EDS mapping of a mesoporous Pt–Ni alloy (sample 4). [Image (a): dark field (DF) STEM image, image (b): Highly magnified DF image of the square area, image (c): distribution of Pt, and image (d): distribution of Ni.]

Figure S6

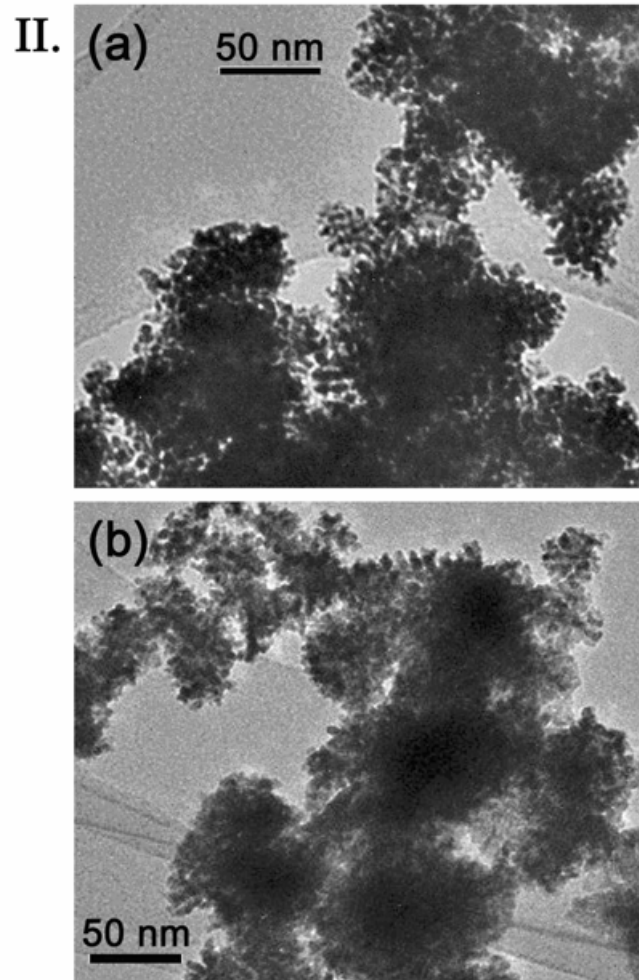
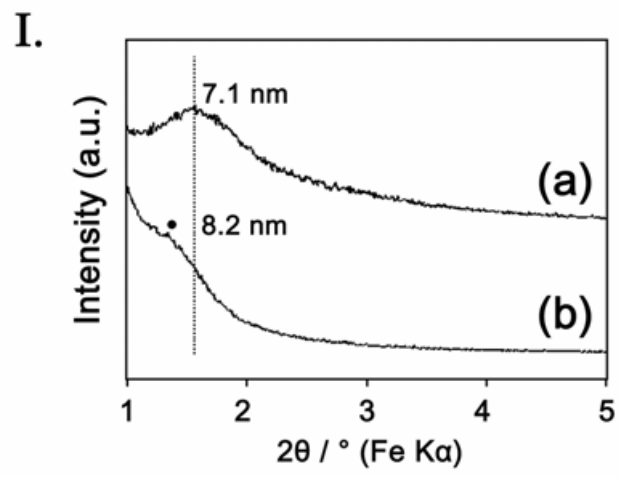


Fig. S6 Low-angle XRD patterns (Image (I)) and TEM images (Image (II)). [(a) Mesoporous Pt–Ni alloy prepared from a LLC templating mixture made of Brij 56 and (b) mesoporous Pt prepared from a LLC templating mixture made of Brij 76.]