Supporting information

Magnetic Mesoflowers: Synthesis, Assembly, and Magnetic Properties

P. R. Sajanlal and T. Pradeep*

DST Unit on Nanoscience (DST UNS), Department of Chemistry and Sophisticated Analytical Instrument Facility, Indian Institute of Technology Madras, Chennai 600 036, India

*Address correspondence to pradeep@iitm.ac.in

Fax: + 91-44 2257-0545

Supporting information 1

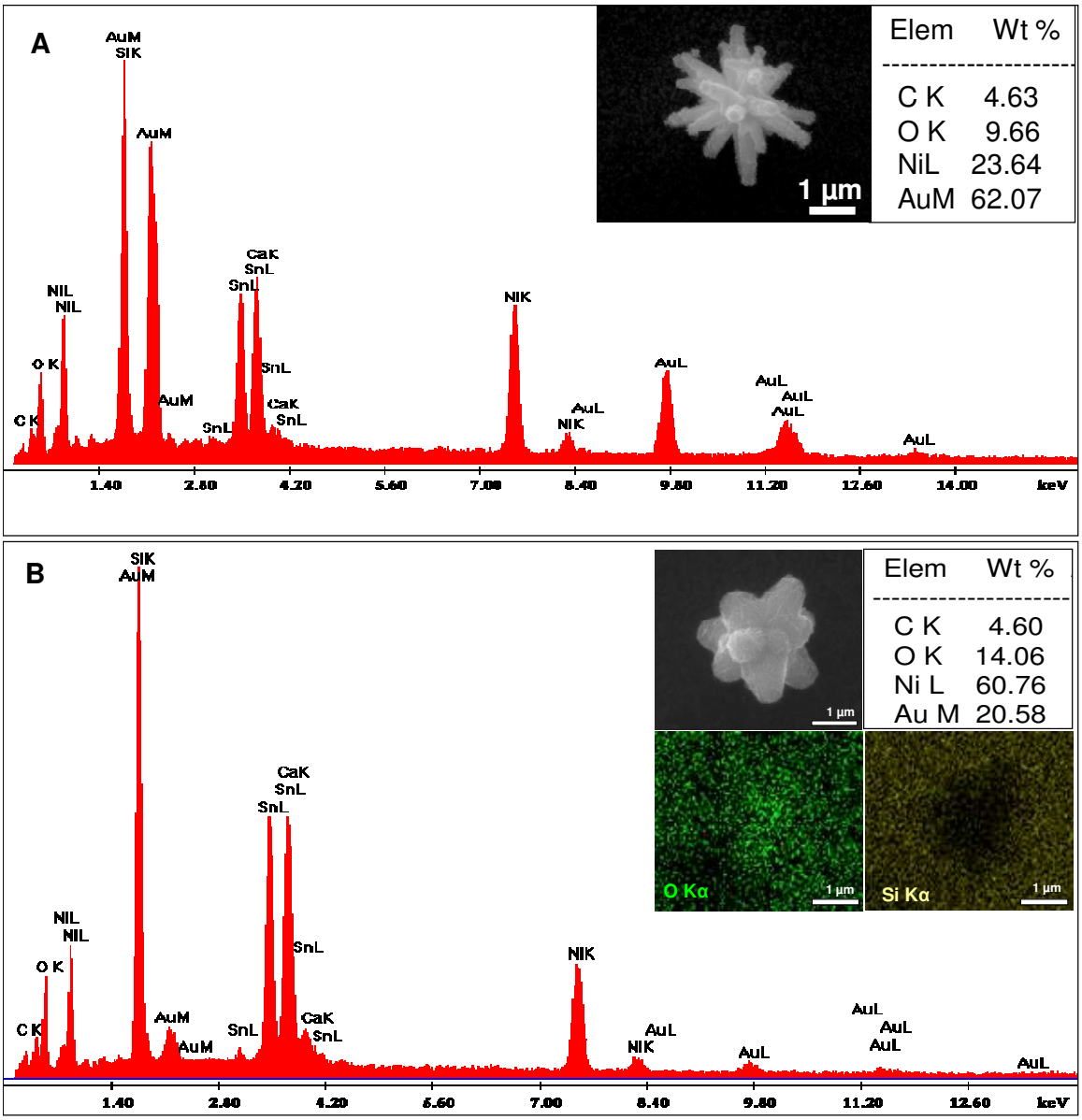

Figure S1. EDAX data of the Au/Ni mesoflowers synthesized at various Ni loading. (A) 150 mM of 0.1 mL and (B) 150 mM of 0.3 mL. Quantification data and the corresponding single mesoflower are also shown. The presence of O is confirmed from the EDAX image shown in B. The peaks corresponds to In, Sn, Ca, and Si are due to the ITO conducting glass substrate.

Supporting information 2

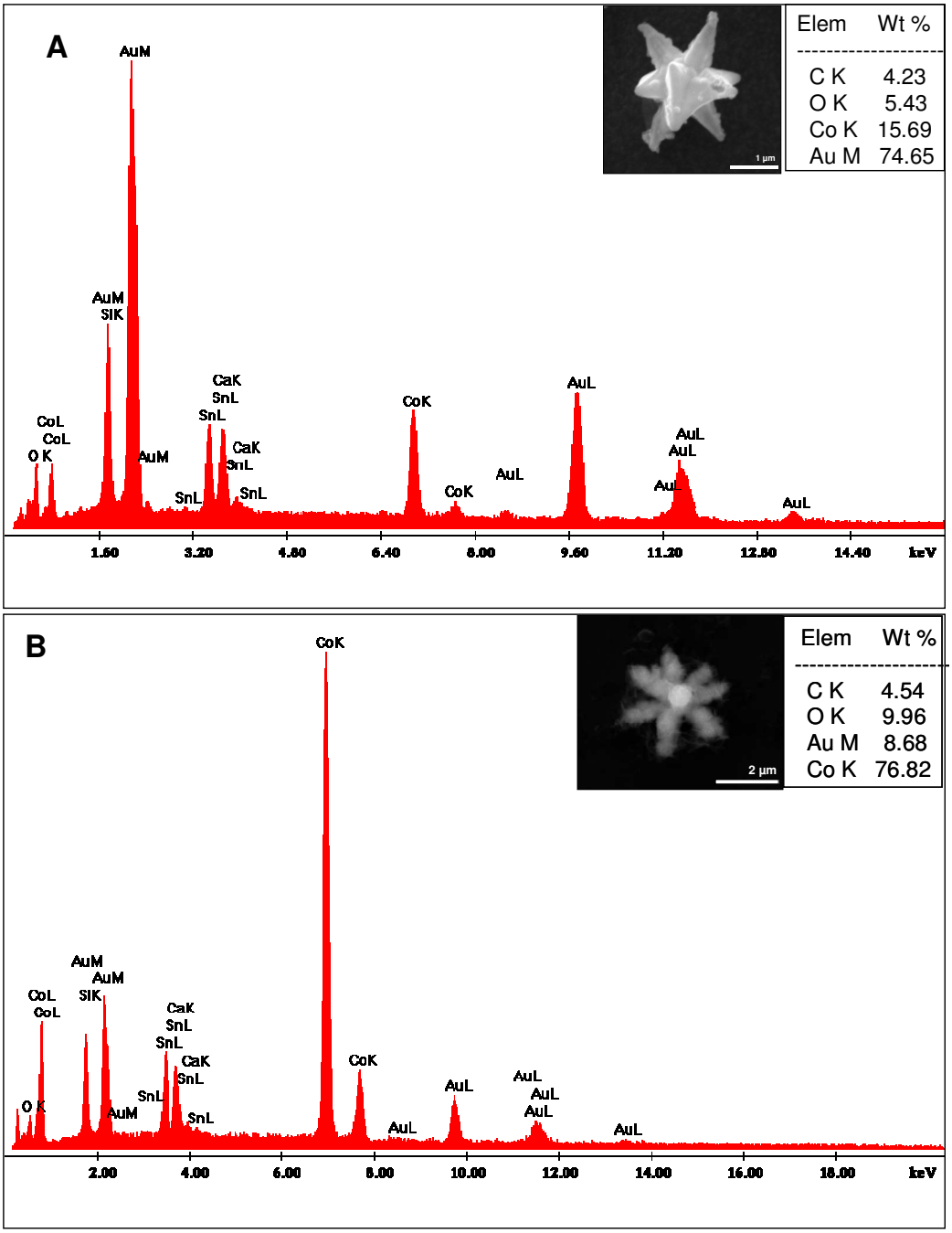

Figure S2. EDAX data of the Au/Co mesoflowers synthesized at various Co loading. (A) 150 mM of 0.1 mL and (B) 150 mM of 0.3 mL. Quantification data and the corresponding single mesoflower are also shown.

Supporting information 3

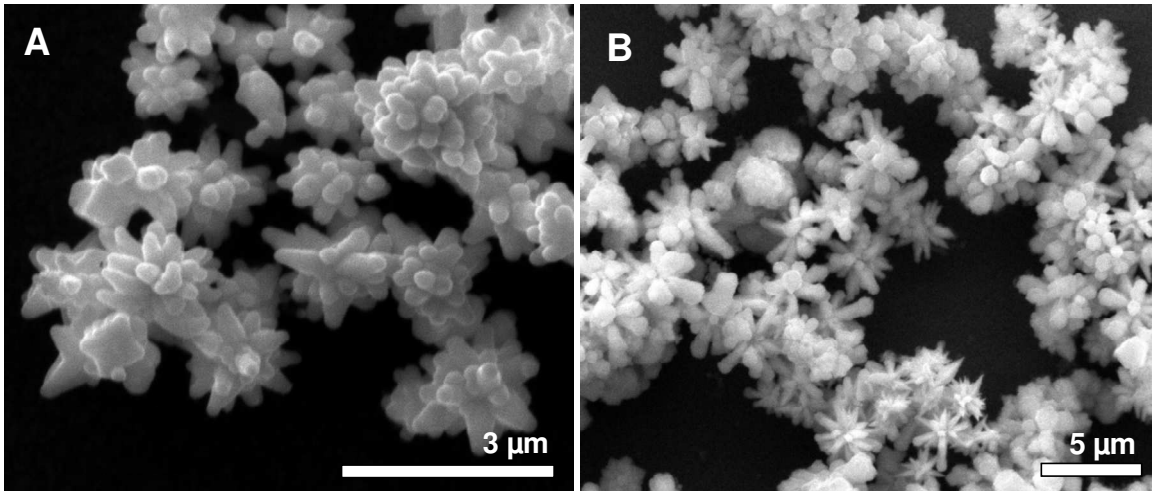

Figure S3. A and B are the large area SEM images of Au/Ni and Au/Co mesoflowers. In both the cases, the amount of Ni and Co ions used during the synthesis was 0.3 mL (150 mM). Unlike in the case of Figure 1, the morphology has also been modified significantly, compared to the parent Au MFs.

Supporting information 4

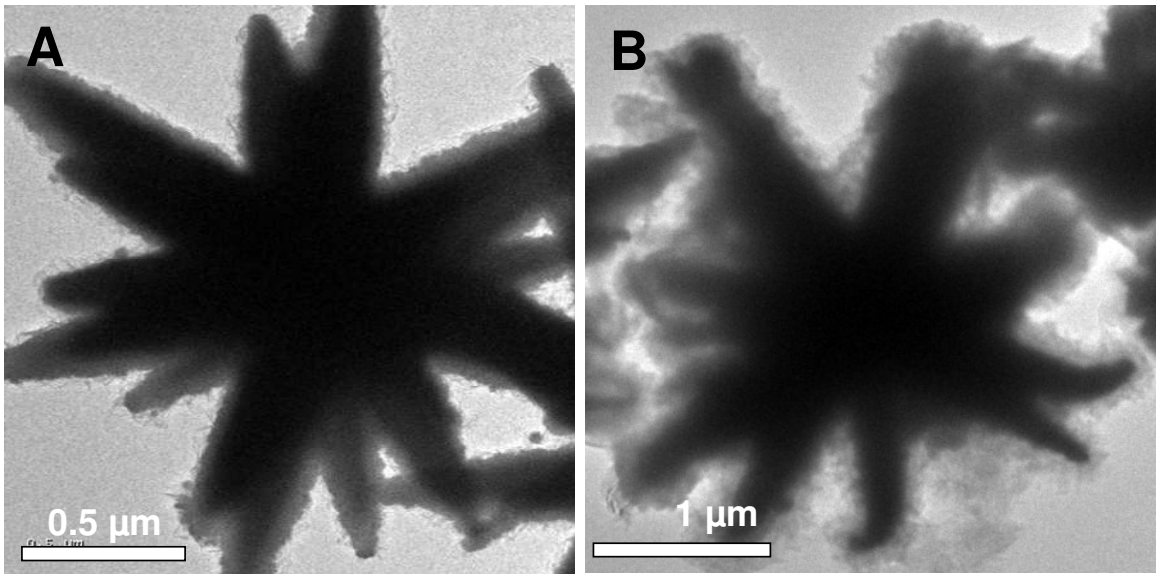

Figure S4. Single particle TEM images of (A) Au/Ni and (B) Au/Co MF. The amount of Ni and Co ions used during the synthesis was 0.1 mL (150 mM) and 0.3 mL (150 mM), respectively.

Supporting information 5

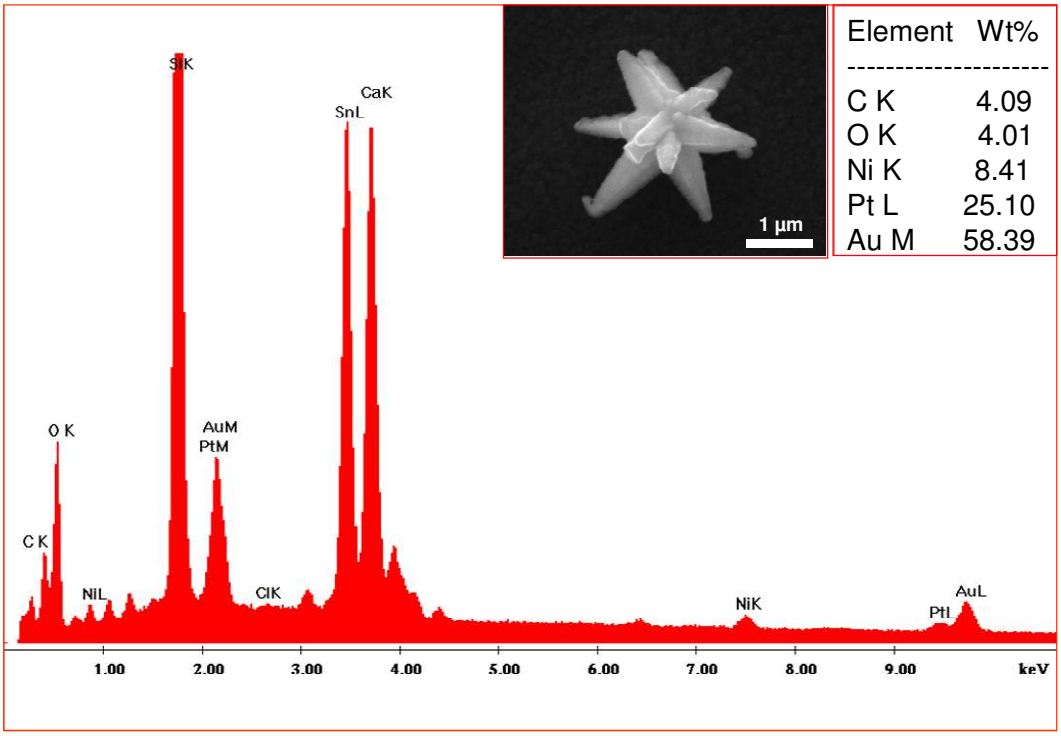

Figure S5. EDAX spectrum and quantification data of a single Au/Pt/Ni mesoflower. SEM image of the mesoflower used is shown in the inset.

Supporting information 6

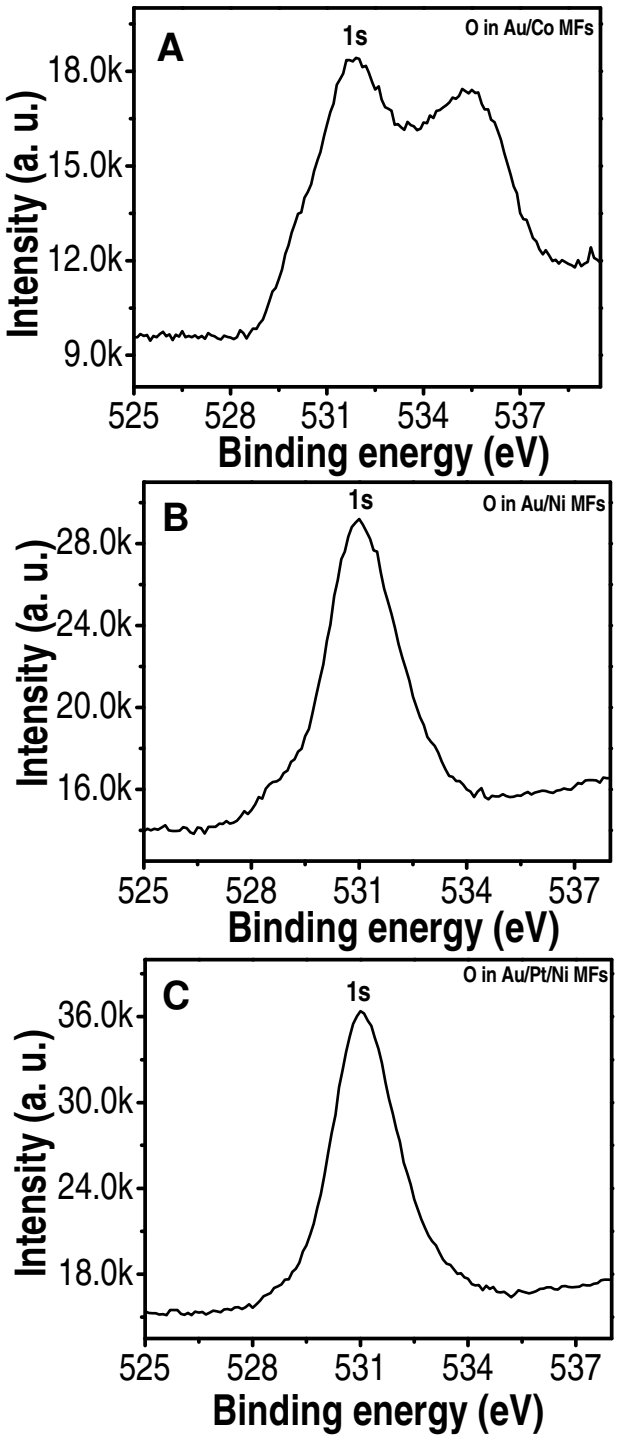

Figure S6. XPS spectra of O 1s in various hybrid mesoflowers. (A) Au/Co MF, (B) Au/Ni MF, and (C) Au/Pt/Ni MFs.

Supporting information 7

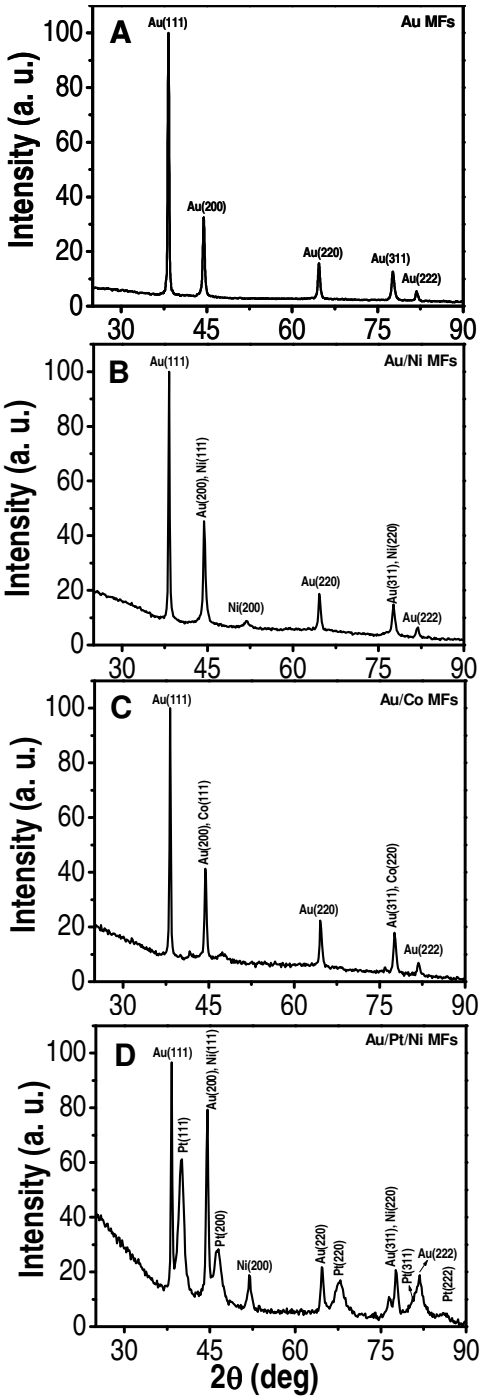

Figure S7. XRD pattern of (A) Au, (B) Au/Ni, (C) Au/Co, and (D) Au/Pt/Ni mesoflowers. Various peaks are labeled. The features due to Co are weak, unlike in the cases of Au/Ni and Au/Pt/Ni.

Supporting Information 8

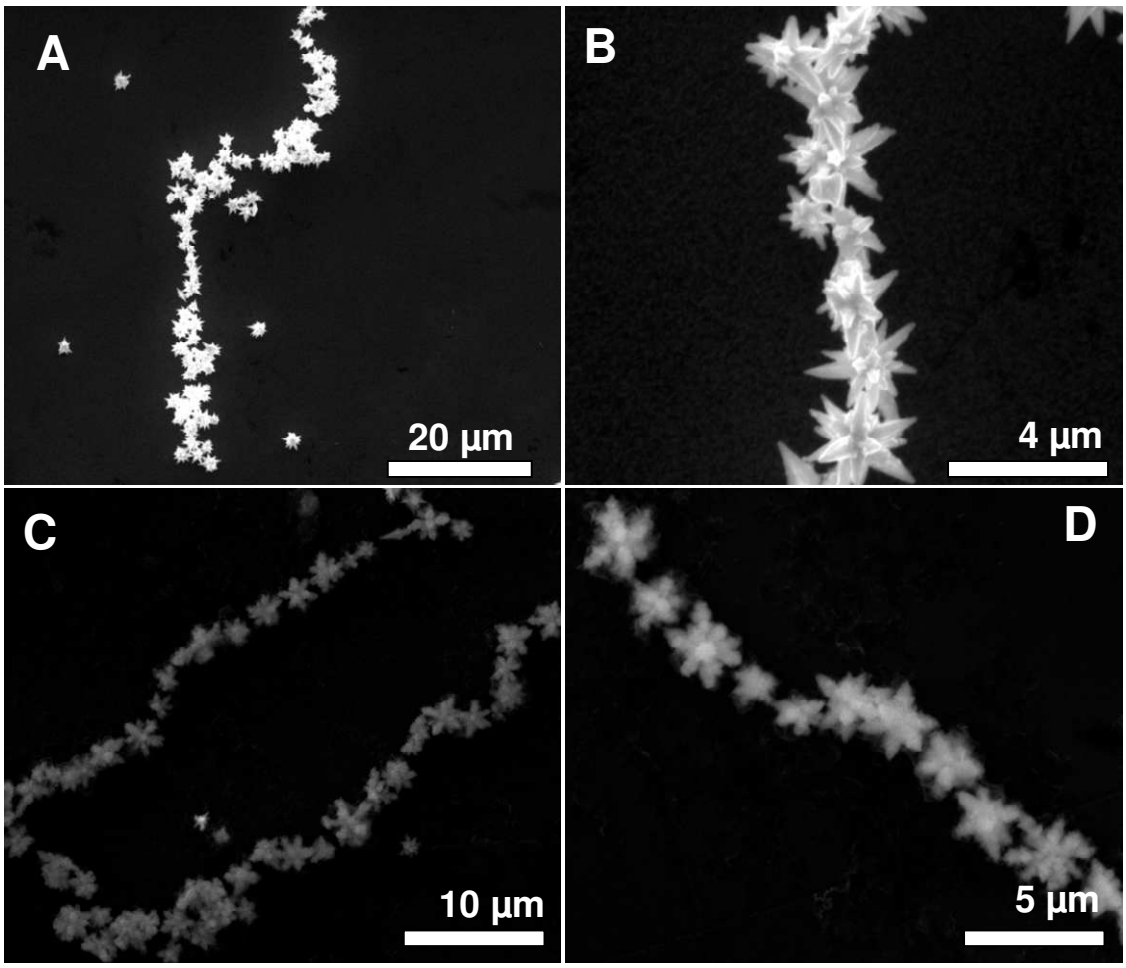

Figure S8. SEM images of individual chains formed by the assembly of Au/Ni (A, B) and Au/Co (C, D) MFs.

Supporting information 9

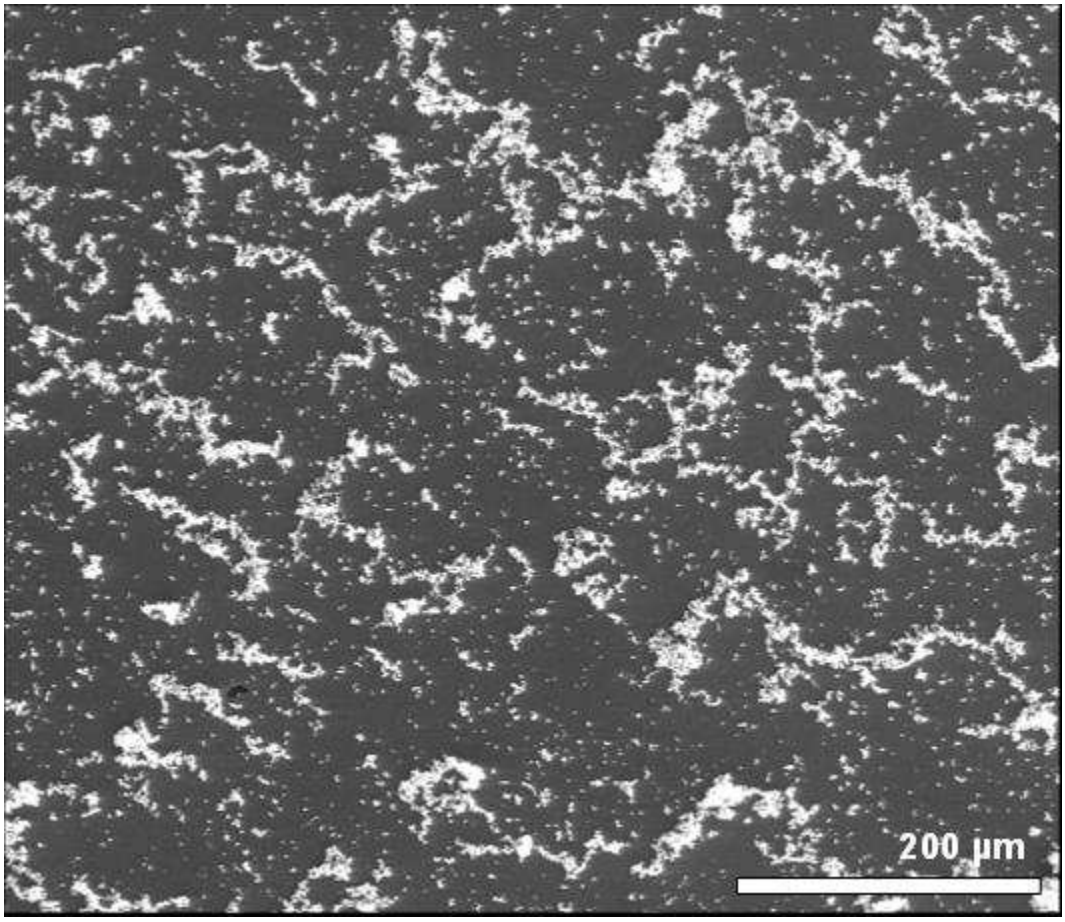

Figure S9. Large area SEM image of an assembly of Au/Pt/Ni MFs.