ESI

Hydrogen Bonded Coassembly of Aromatic Amino Acids and Bipyridines that Serves as Sacrificial Templates in Superstructure Formation

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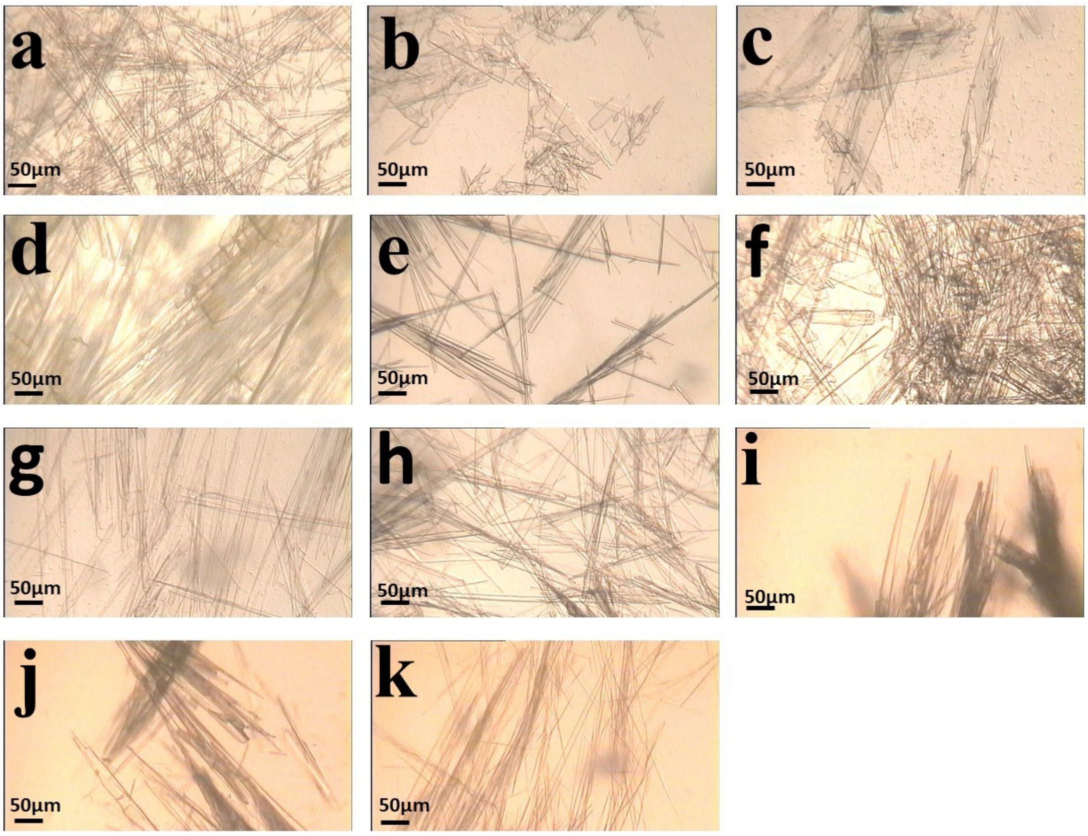

Figure S1. Optical microscopy images. a) Asp-BPE coassembly in MeOH (C_{Asp} =

66.7mM). b) Gly-BP coassembly in acetone (C_{Gly} = 100 mM). c) Gly-BPE coassembly in acetone (C_{Gly} = 100 mM). d) Ala-bpe coassembly in acetone (C_{Ala} = 100 mM). e) Asp-BPE coassembly in acetone (C_{Asp} = 100 mM). f) Gly-BP coassembly in EtOH (C_{Gly} = 66.7 mM). g) Gly-BPE coassembly in EtOH (C_{Gly} = 66.7 mM). h) Asp-BPE coassembly in EtOH (C_{Asp} = 66.7 mM). i) Gly-BPE coassembly in MeCN (C_{Gly} = 15 mM). j) Asp-BPE coassembly in MeCN (C_{Asp} = 66.7 mM). k) Gly-BPE coassembly in THF (C_{Gly} = 66.7 mM). Molar ratio between aromatic amino acids and bipyridine was fixed at 2:1.

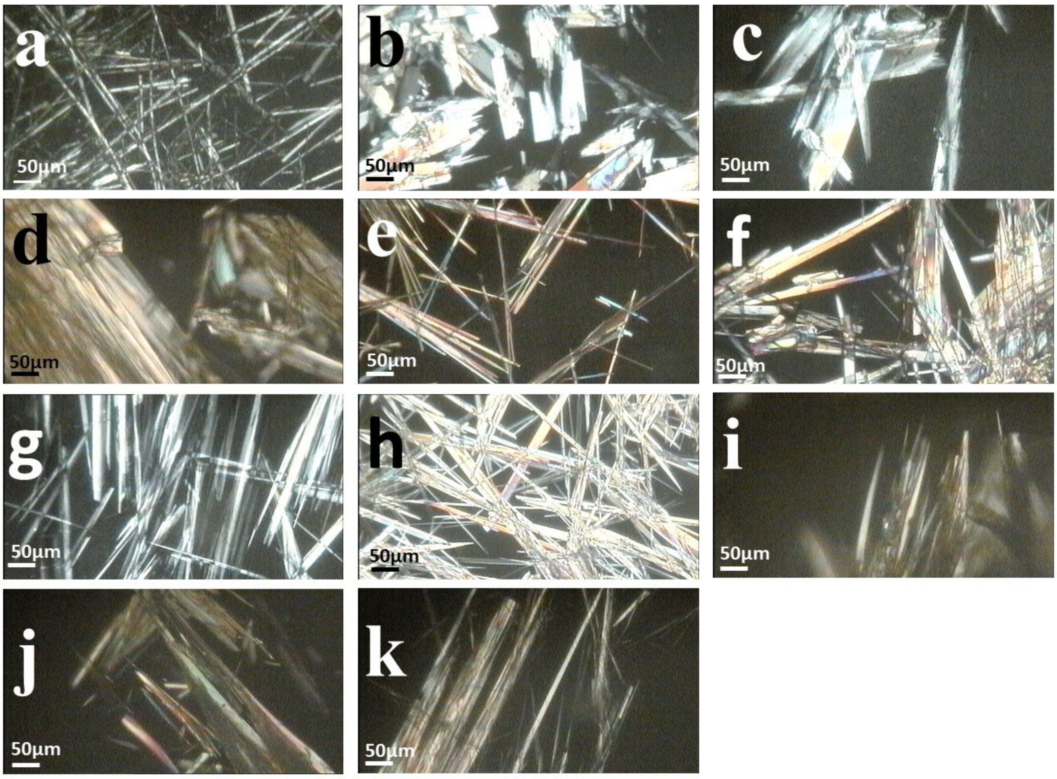

Figure S2. Polarized optical microscopic images. a) Asp-BPE coassembly in MeOH (C_{Asp} = 66.7mM). b) Gly-BP coassembly in acetone (C_{Gly} = 100 mM). c) Gly-BPE coassembly in acetone (C_{Gly} = 100 mM). d) Ala-bpe coassembly in acetone (C_{Ala} = 100 mM). e) Asp-BPE coassembly in acetone (C_{Asp} = 100 mM). f) Gly-BP coassembly in EtOH (C_{Gly} = 66.7 mM). g) Gly-BPE coassembly in EtOH (C_{Gly} = 66.7 mM). h) Asp-BPE coassembly in EtOH (C_{Asp} = 66.7 mM). i) Gly-BPE coassembly in MeCN (C_{Gly} = 15 mM). j) Asp-BPE coassembly in MeCN (C_{Asp} = 66.7 mM). k) Gly-BPE coassembly in THF (C_{Gly} = 66.7 mM). Molar ratio between aromatic amino acids and bipyridine was fixed at 2:1.

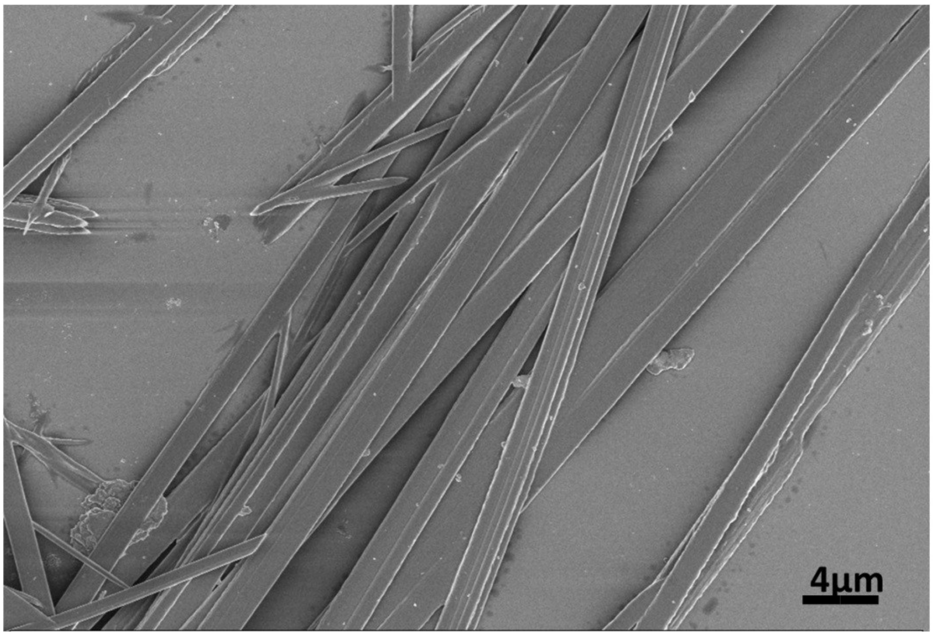

Figure S3. SEM image of Asp-BPE coassembly in MeOH (66.7mM:33.3mM).

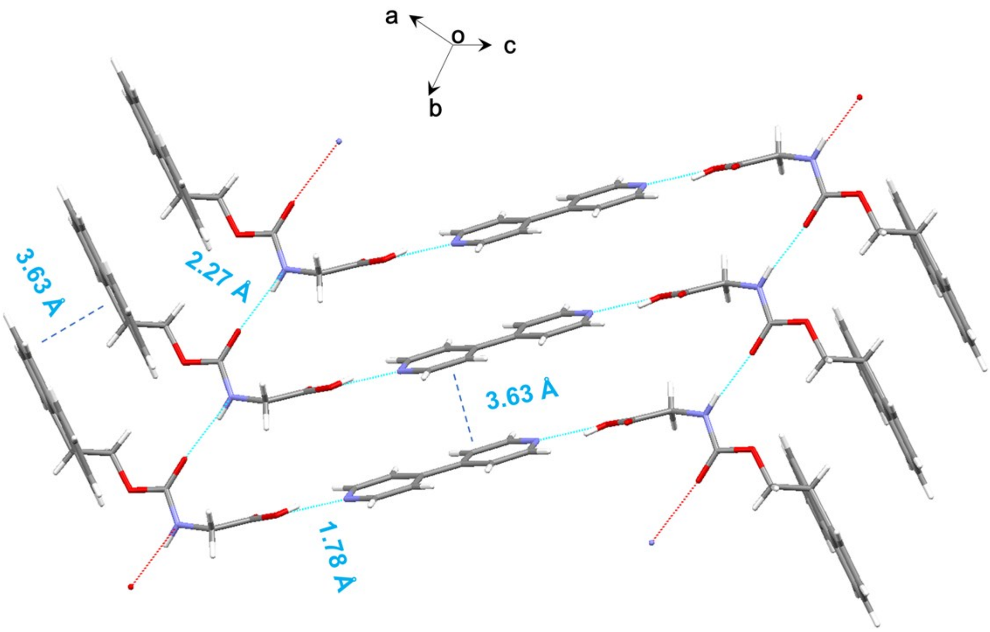

Figure S4. Stacking of Gly-BP in crystal structure.

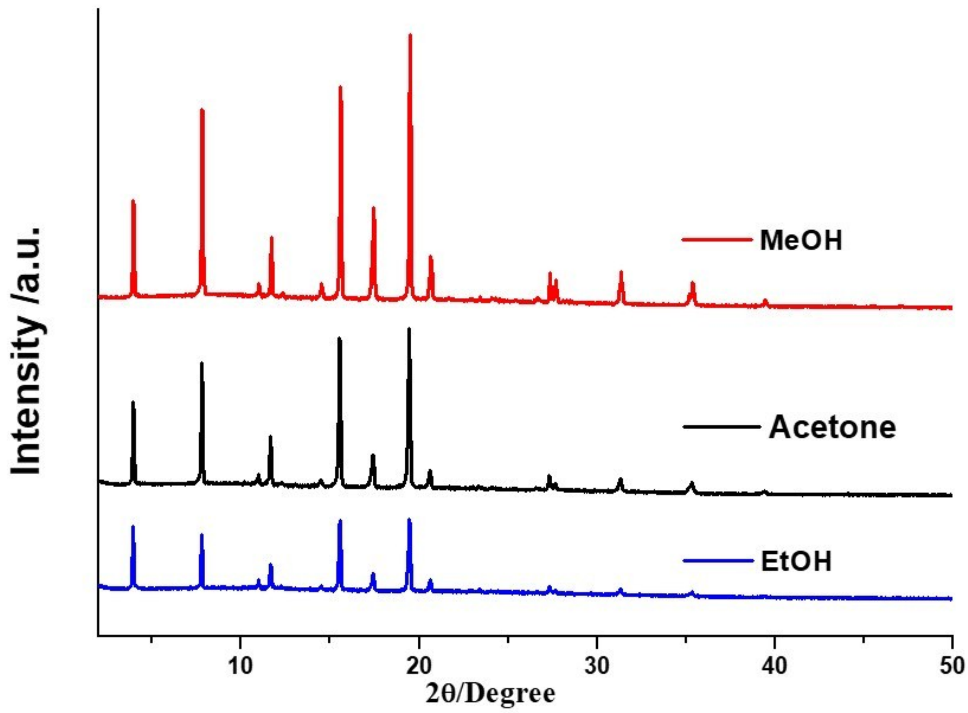

Figure S5. XRD pattern comparison of Gly-BP in MeOH (C_{Gly} = 66.7mM), acetone (C_{Gly} = 200 mM), EtOH (C_{Gly} = 66.7mM). Molar ratio between aromatic amino acids and bipyridine was fixed at 2:1.

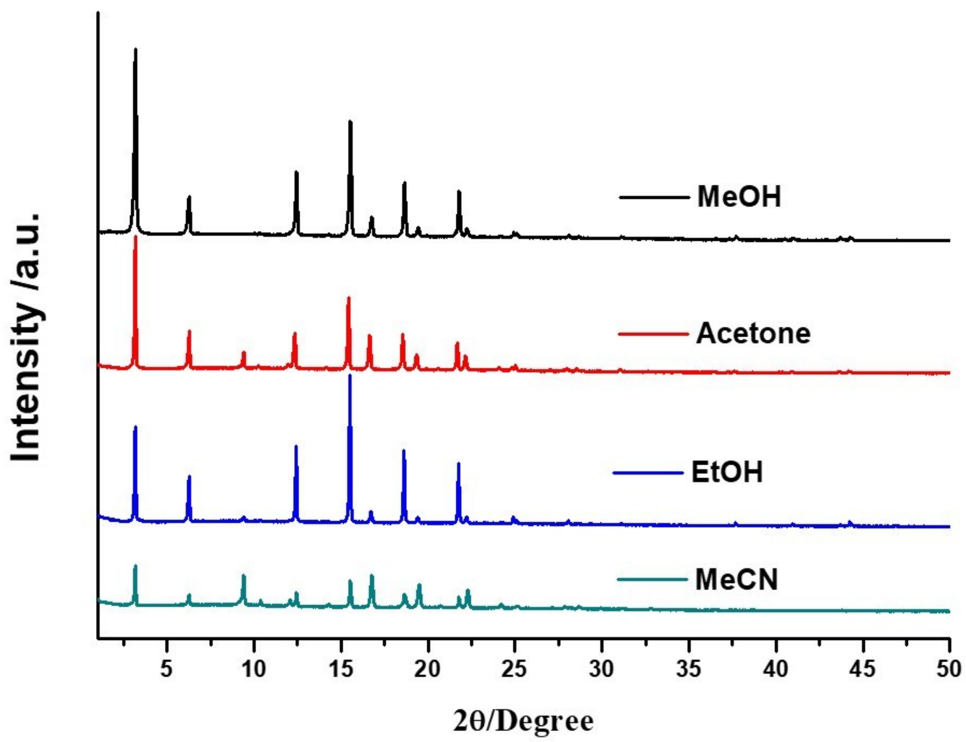

Figure S6. XRD patterns of Asp-BPE coassemblies in MeOH (C_{Asp} = 66.7 mM), acetone (C_{Asp} = 100 mM), EtOH (C_{Asp} = 66.7 mM) and MeCN (C_{Asp} = 66.7 mM). Molar ratio between aromatic amino acids and bipyridine was fixed at 2:1.

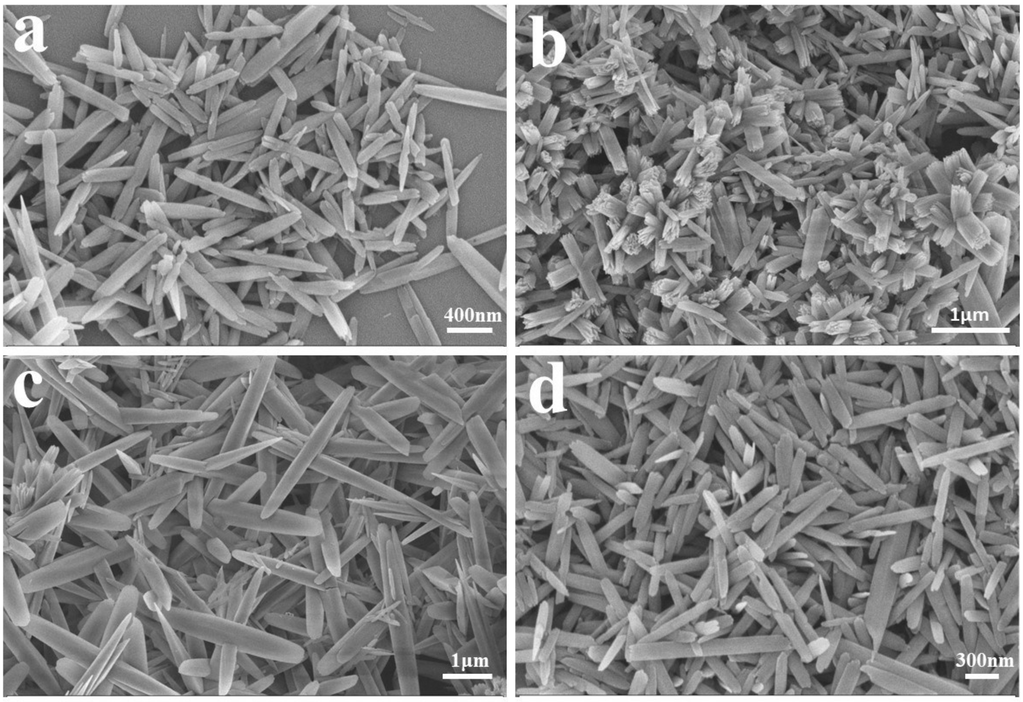

Figure S7. SEM images of Co-BP coassembly (50mM:50mM) in methanol.

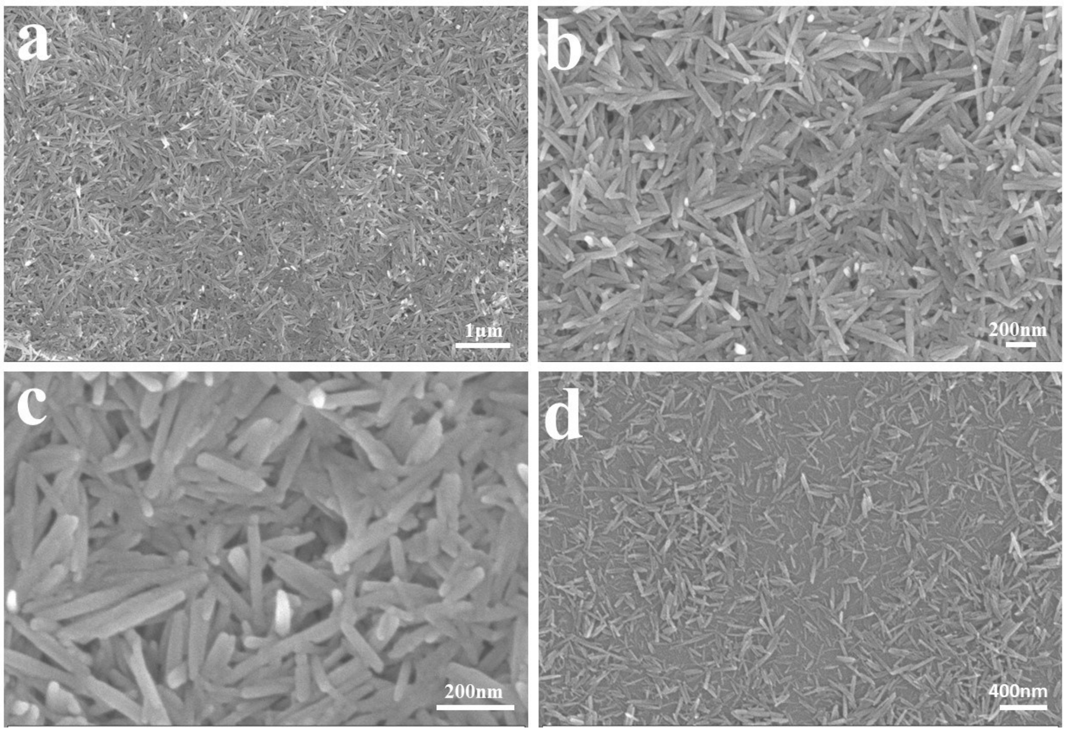

Figure S8. SEM images of Ni-BP coassembly (50mM:50mM) in methanol.

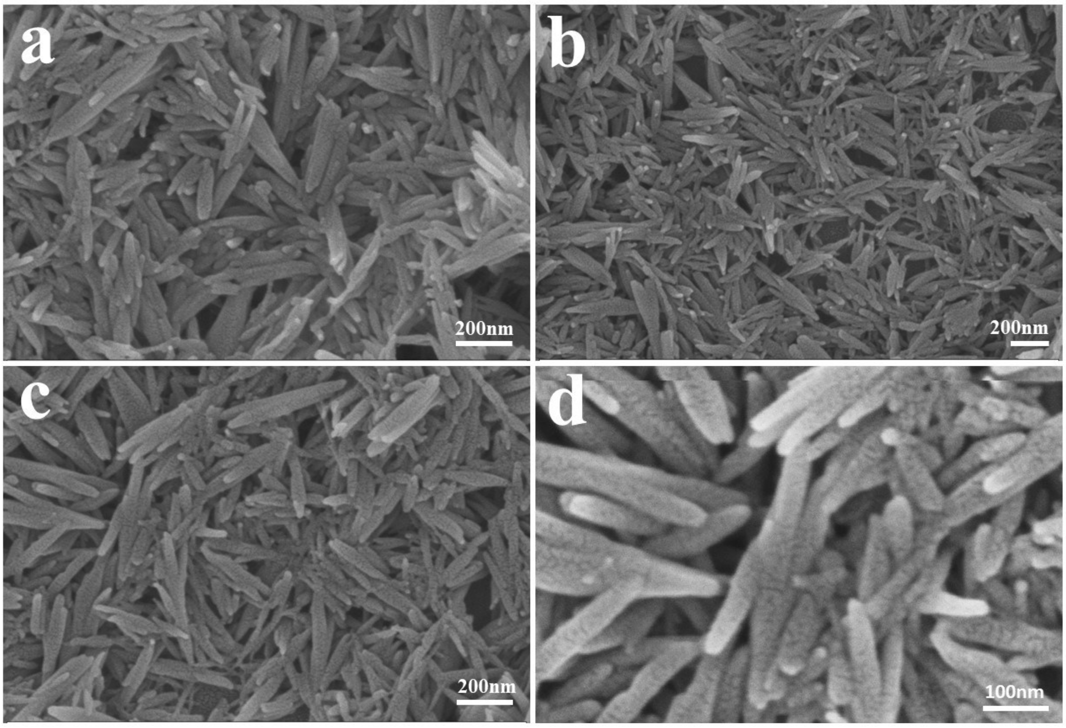

Figure S9. SEM images of Cu-BP coassembly (50mM:50mM) in methanol.

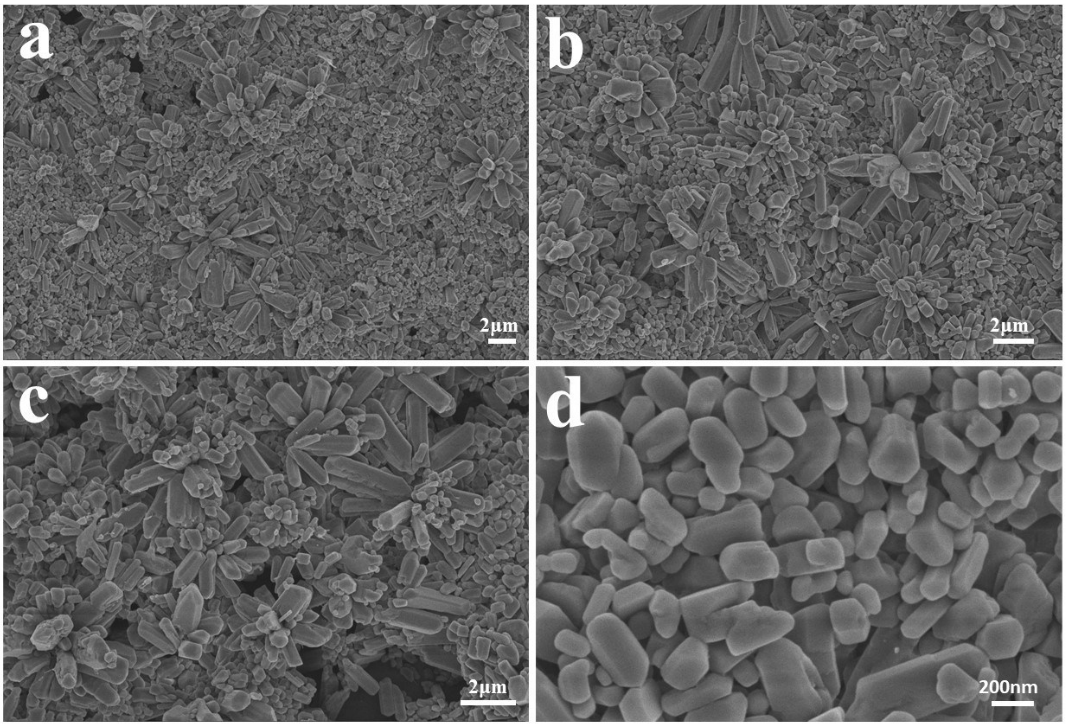

Figure S10. SEM images of Zn-BP coassembly (50mM:50mM) in methanol.

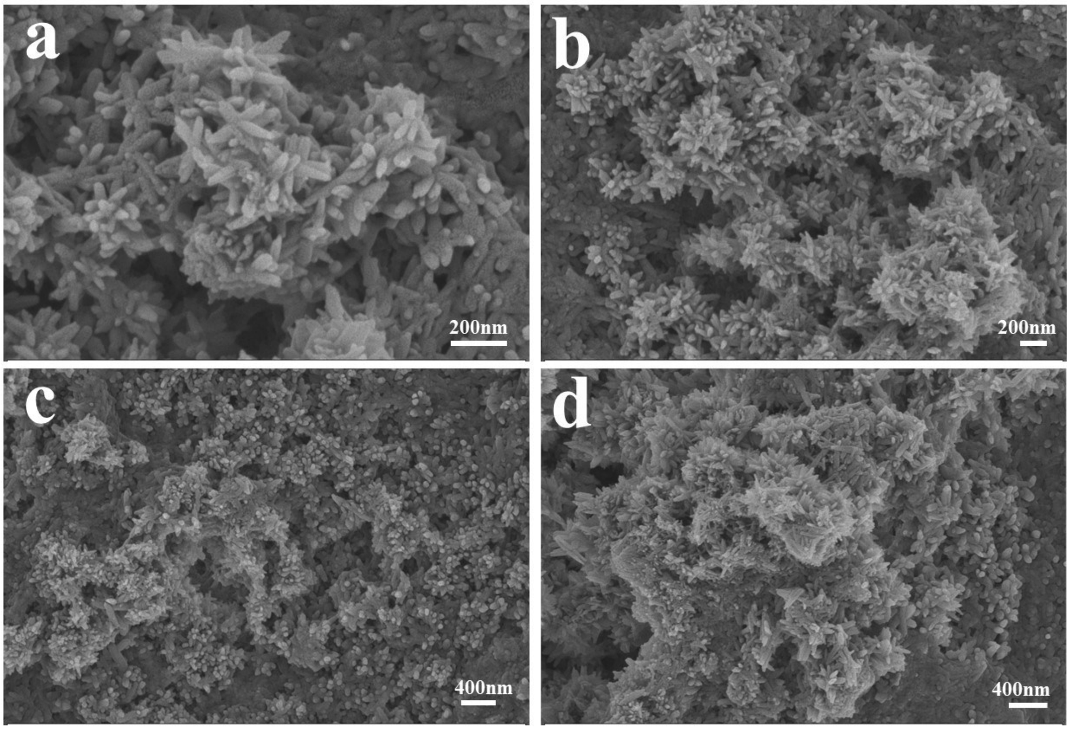

Figure S11. SEM images of Ni-BPE coassembly (50mM:50mM) in methanol.

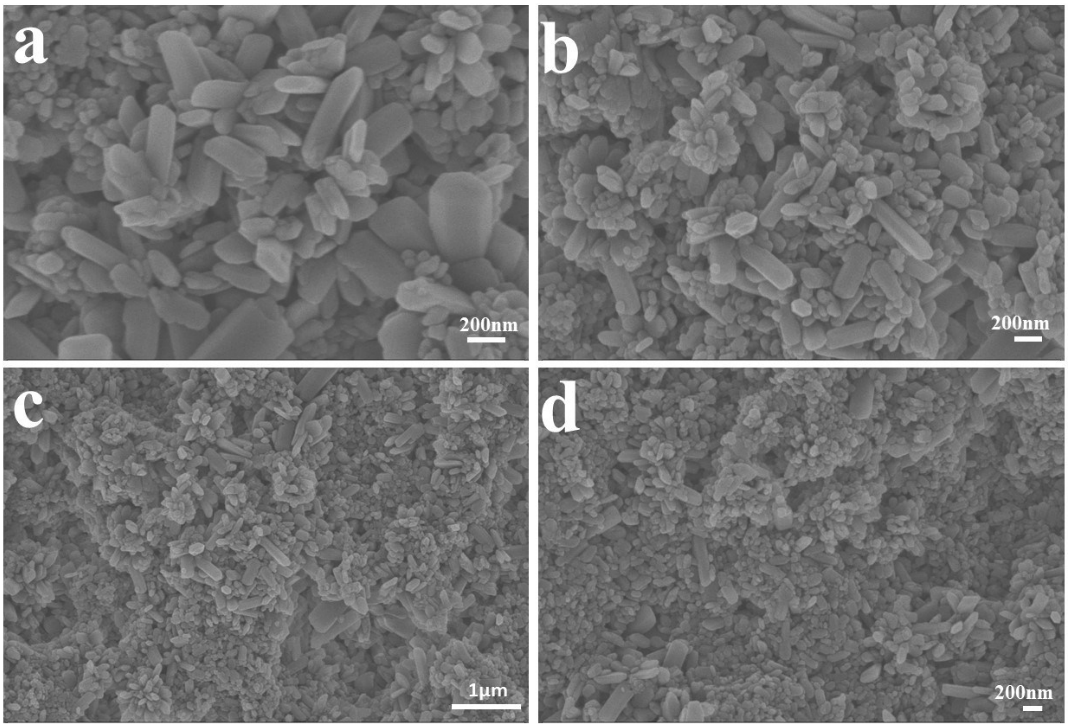

Figure S12. SEM images of Zn-BPE coassembly (50mM:50mM) in methanol.

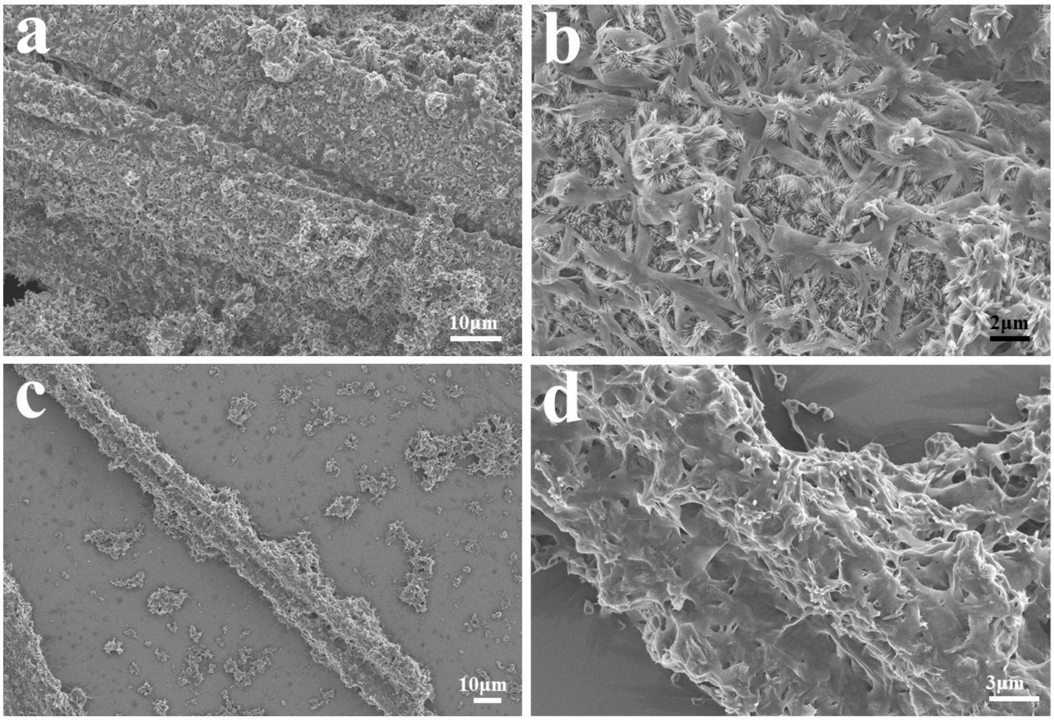

Figure S13. SEM image of Ni(II) treated Gly-BP (66.7 mM:33.3 mM) coassemblies (C_{Ni} = 25 mM).

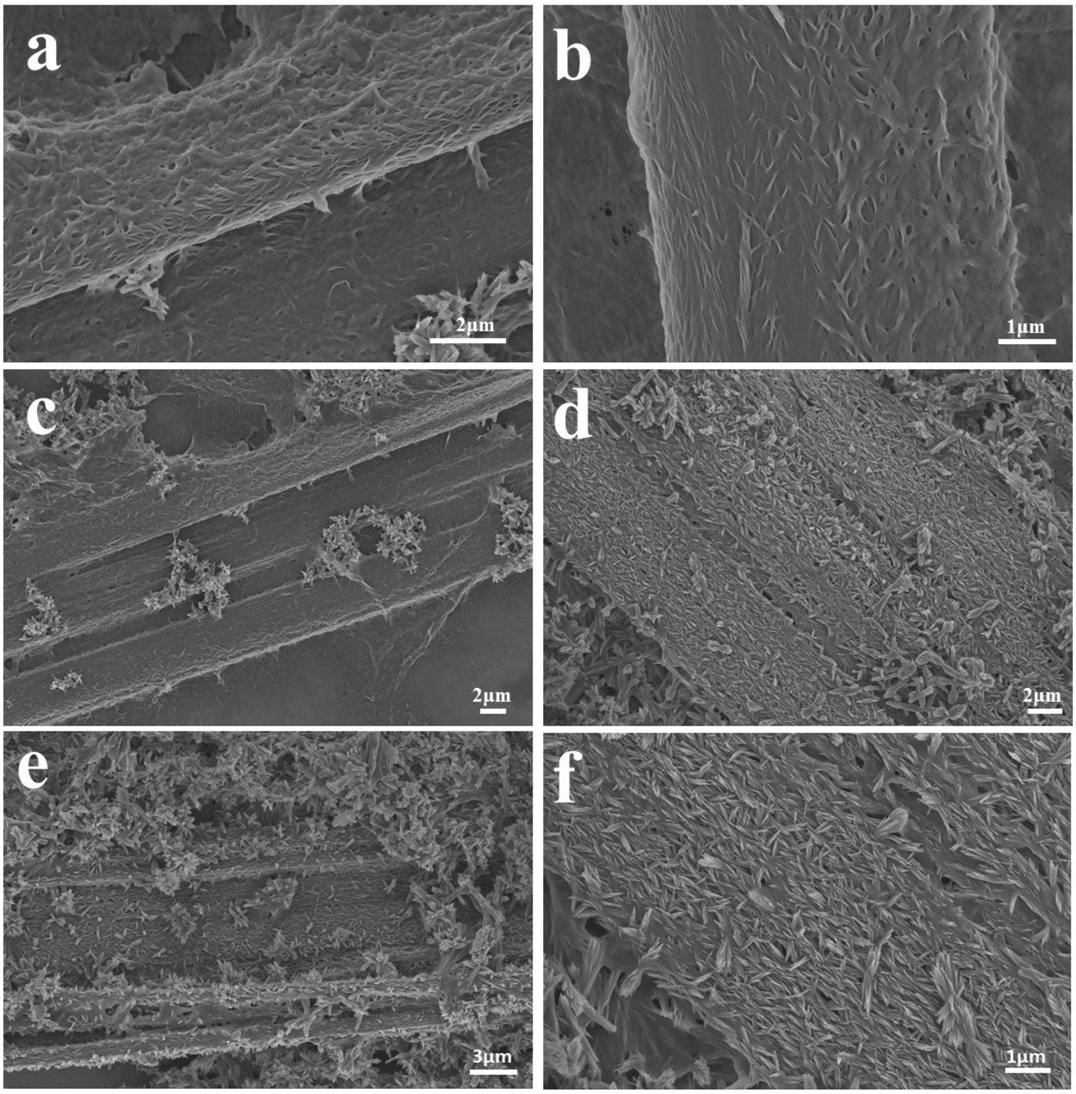

Figure S14. SEM image of Ni(II) treated Gly-BPE (66.7 mM:33.3 mM) coassemblies (C_{Ni} = 11.8 mM for a-c; C_{Ni} = 6.25 mM for d-f).

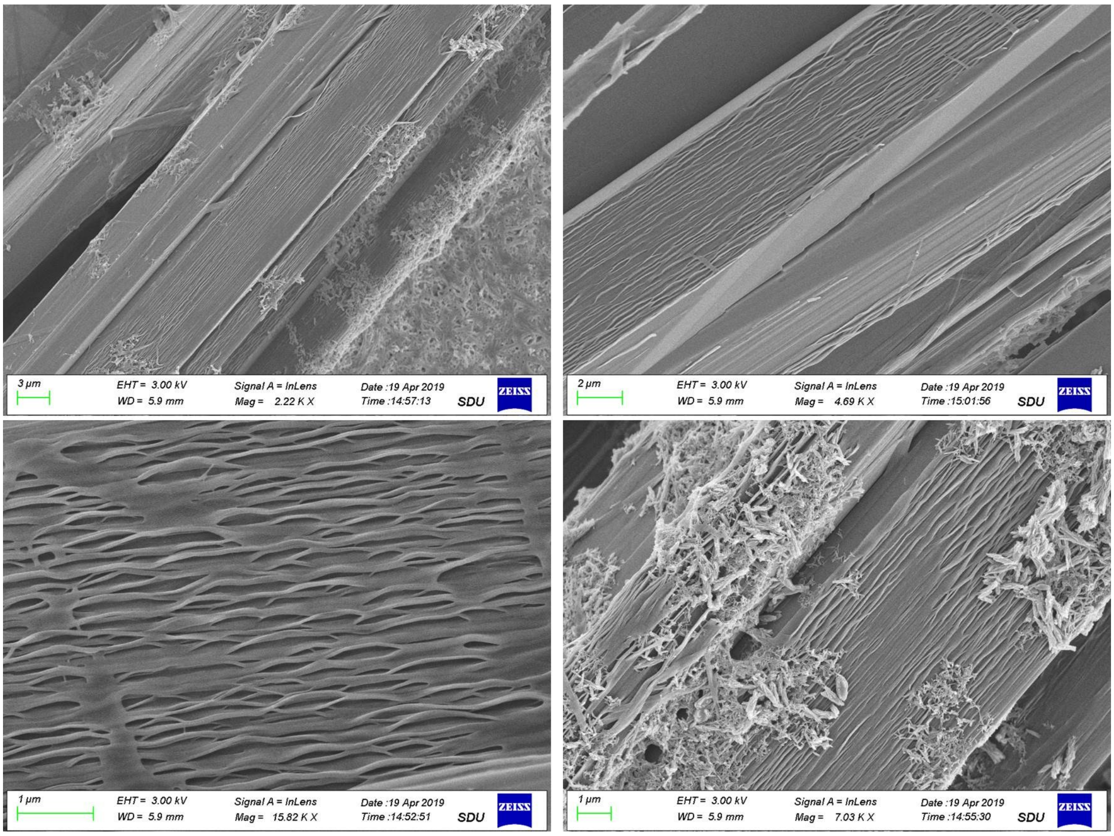

Figure S15. SEM image of Cu(II) treated Gly-BP (66.7 mM:33.3 mM) coassemblies (C_{Ni} = 11.8 mM).

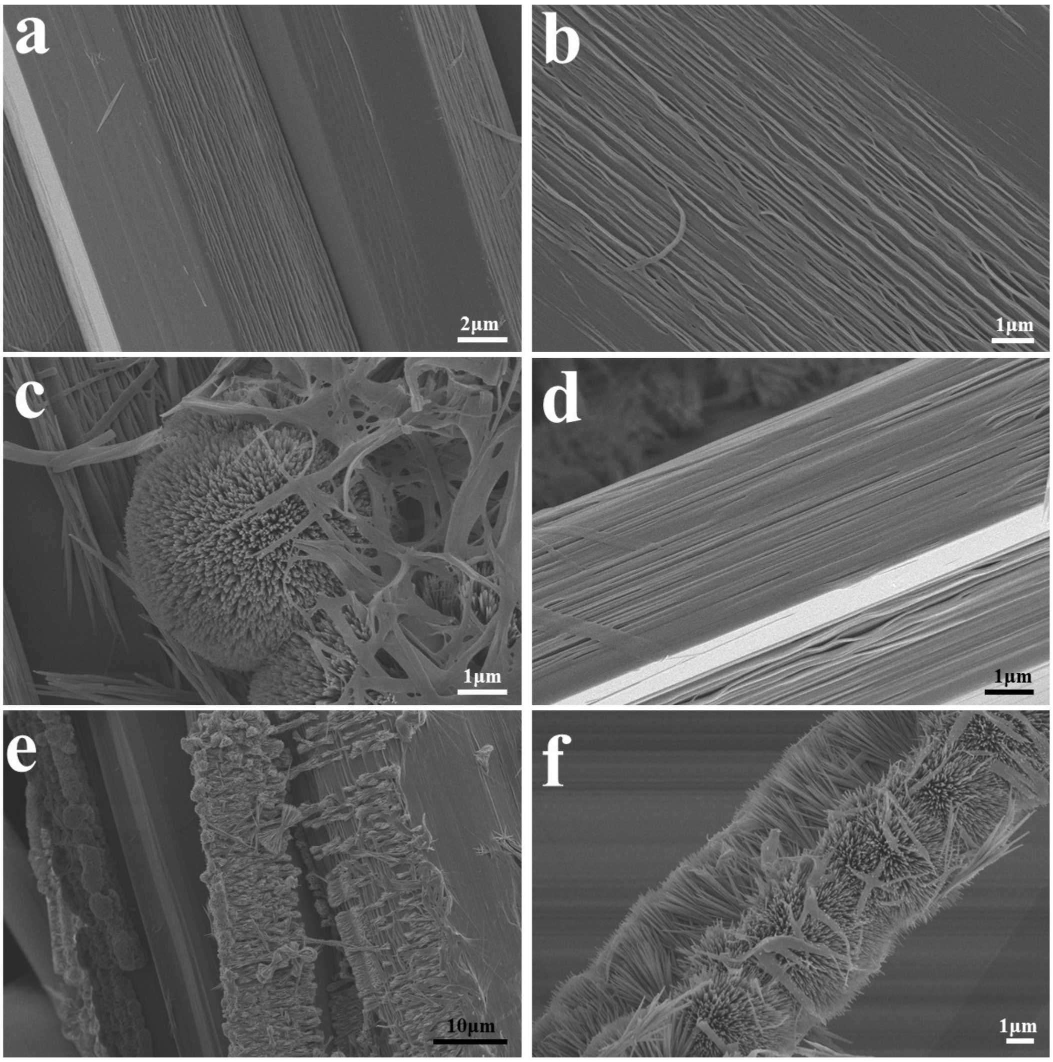

Figure S16. SEM image of Co(II) treated Gly-BP (66.7 mM:33.3 mM) coassemblies (C_{Co} = 11.8 mM for a-c; C_{Co} = 9.1 mM for d-f).

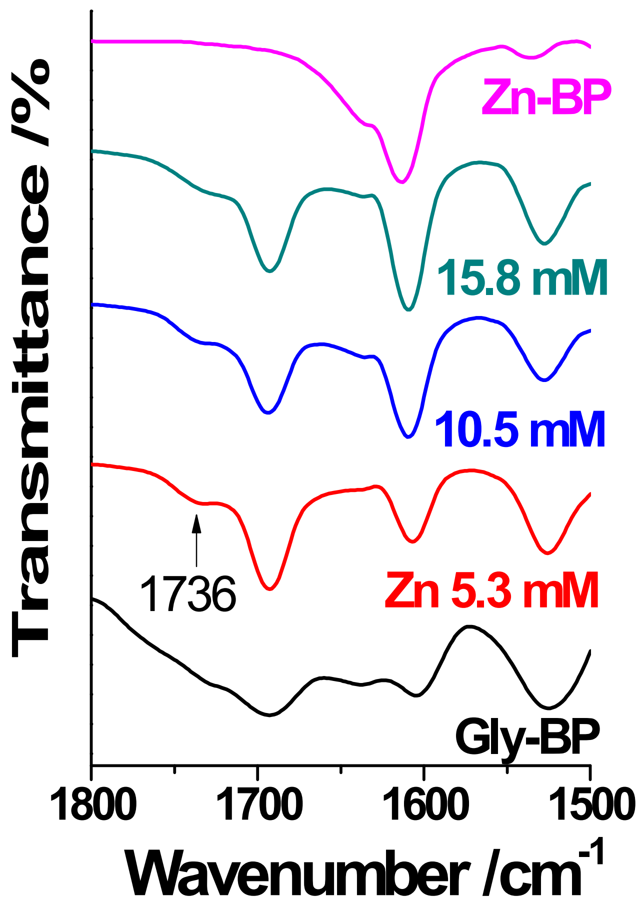

Figure S17. FT-IR spectra of Zn-treated Gly-BP samples with different Zn^{2+} concentrations. (Zn-BP 50 mM:50 mM; Gly-BP 66.7 mM:33.3 mM)