# Supplementary Information

# Coupled Nickel-Cobalt Nanoparticles/N,P,S-co-doped Carbon Hybrid Nanocages with High Performance for Catalysis and Protein Adsorption

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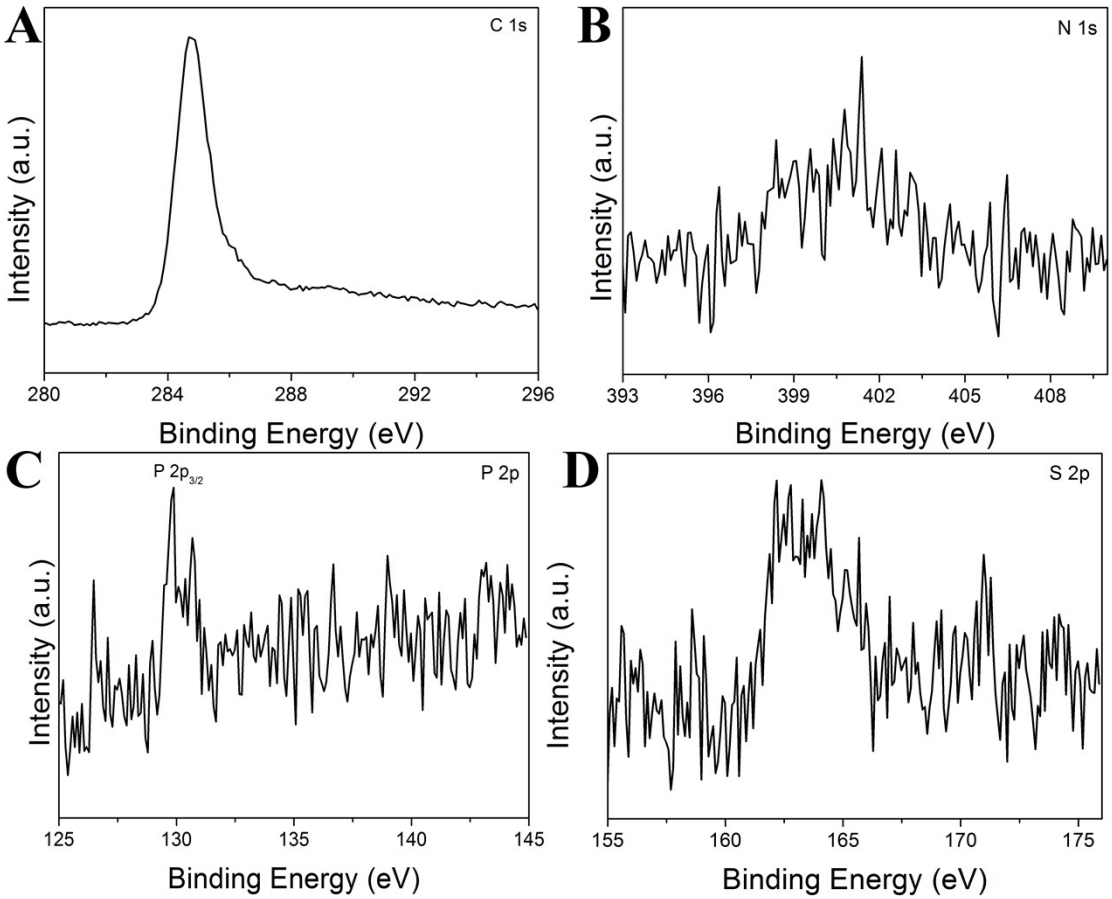


**Figure S1** (A-D) The XPS spectra of C 1s, N 1s , P 2p and S 2p of NiCo@NPSC-700

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**Table S1.** Isotherm parameters for the adsorption of BHb on the NiCo@NPSC-700 nanocages

| Models | Hollow | NiCo@NPSC-700 |
|---|---|---|
| Langmuir model | $K_d$ (L $mg^{-1}$) | 0.12 |
| | $Q_m$ (mg $g^{-1}$) | 1831.39 |
| | $R^2$ | 0.9946 |
| Freundich model | n | 1.22 |
| | $K_f$(mg/g) | 19.81 |
| | $R^2$ | 0.9390 |