# Supporting Information

## $Co_3O_4$ nanoparticles entrapped, nitrogen and boron codoped mesoporous carbon as efficient electrocatalysts for hydrogen evolving

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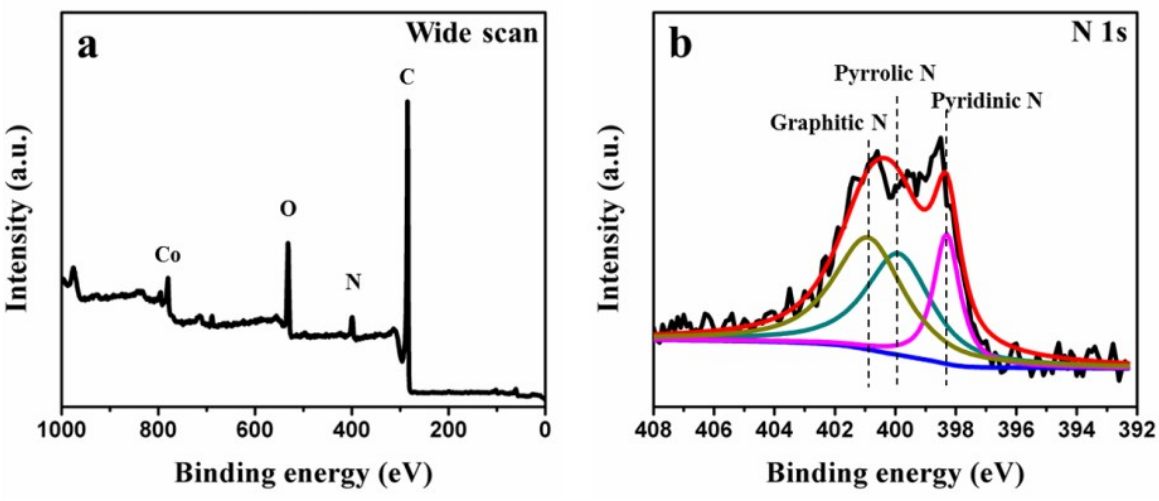


**Fig. S1** (a) XPS survey spectrum of Co0.65B0.0NC800, (b) high-resolution N 1s XPS spectrum of Co0.65B0.0NC800.

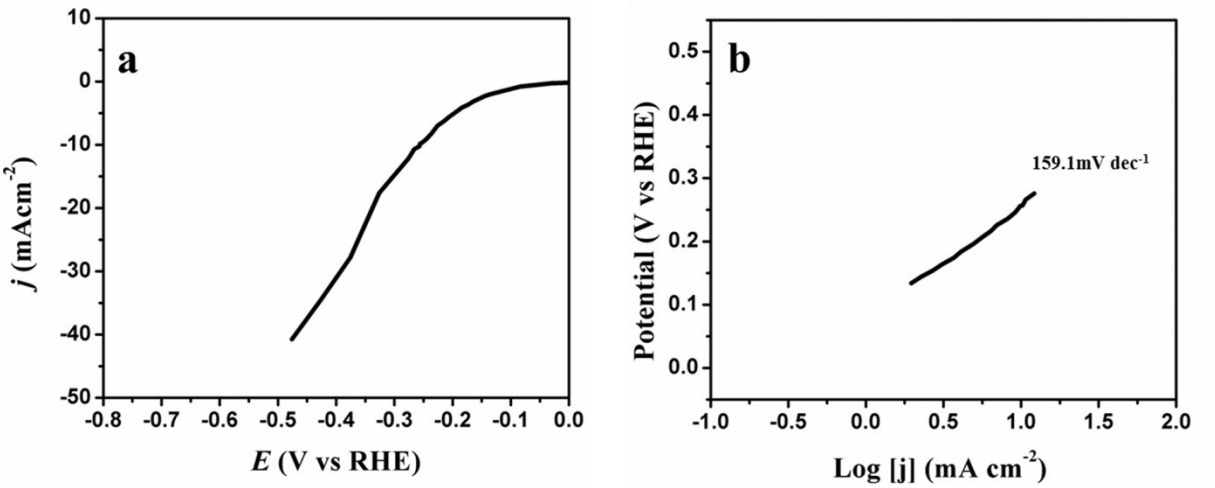


**Fig. S2** (a) LSV curve of Co0.65B0.0NC800 in 1 M KOH. (b) The corresponding Tafel plots in 1 M KOH.

**Table S1** Elements contents of the catalysts analyzed from XPS.

| Samples | Elements contents (%) | | | | |
|---|---|---|---|---|---|
| | C | B | N | O | Co |
| Co0.65B0.3NC600 | 70.51 | 1.31 | 14.62 | 12.14 | 1.43 |
| Co0.65B0.3NC700 | 61.51 | 11.02 | 9.23 | 17.01 | 1.23 |
| Co0.65B0.3NC800 | 64.35 | 8.67 | 8.87 | 15.8 | 2.30 |
| Co0.65B0.3NC900 | 51.88 | 15.96 | 13.22 | 16.82 | 2.12 |
| Co0.49B0.3NC800 | 72.09 | 5.35 | 6.39 | 13.84 | 2.32 |
| Co0.82B0.3NC800 | 40.55 | 16.75 | 16.01 | 23.22 | 3.46 |
| Co0.65B0.1NC800 | 67.11 | 7.53 | 6.68 | 16.08 | 2.61 |
| Co0.65B0.5NC800 | 65.18 | 3.40 | 13.03 | 15.95 | 2.43 |

**Table S2** Double layer capacitance ($C_{dl}$), ECSA, and TOF values of the catalysts.

| Sample | $C_{dl}$ (mF $cm^{-2}$) | ECSA ($cm^2$) | TOF[a] ($S^{-1}$) |
|---|---|---|---|
| Co0.65B0.3NC600 | 0.01 | 0.25 | 0.00001 |
| Co0.65B0.3NC700 | 0.03 | 0.75 | 0.00033 |
| Co0.65B0.3NC800 | 43.71 | 1092.75 | 0.00191 |
| Co0.65B0.3NC900 | 10.23 | 255.75 | 0.00071 |
| Co0.49B0.3NC800 | 19.46 | 486.5 | 0.00171 |
| Co0.82B0.3NC800 | 3.57 | 89.25 | 0.00015 |
| Co0.65B0.1NC800 | 27.56 | 689 | 0.00133 |
| Co0.65B0.5NC800 | 17.32 | 433 | 0.00069 |

[a] TOFs were calculated at the overpotential of 200 mV