

Supporting Information

Reduced graphene oxide aerogel-supported Fe-ZIF-67/ZIF-8 enables scalable synthesis of high-performance bifunctional catalysts for zinc-air batteries

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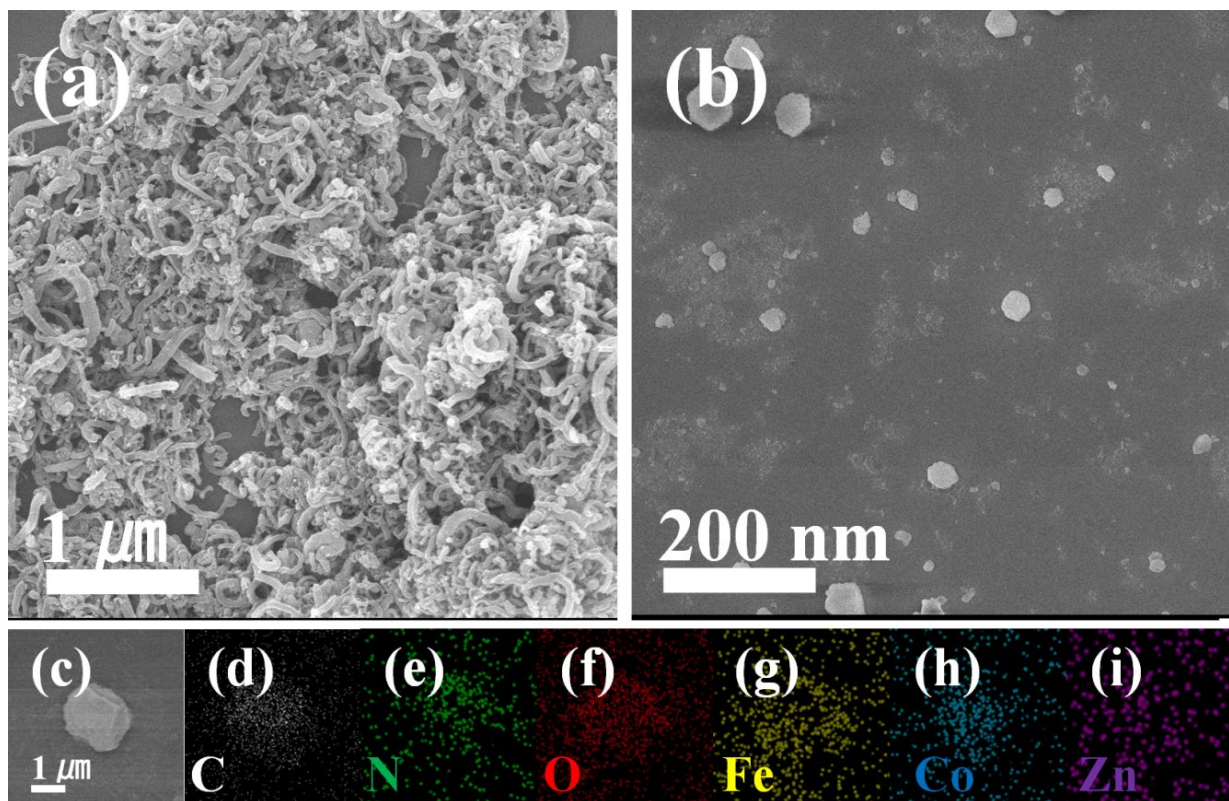


Fig. S1. (a) SEM image of Fe-ZIF-67/ZIF-8, (b) SEM image of FeCo-NC@rGO, and (c-i) EDS elemental maps of Fe-ZIF-67/ZIF-8.

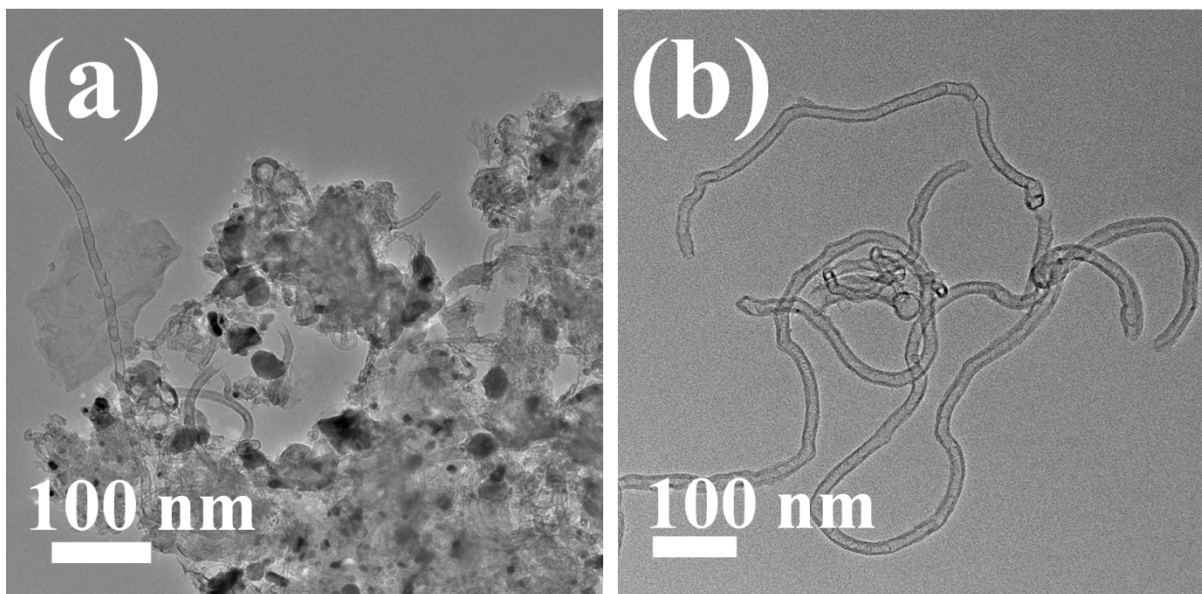


Fig. S2. TEM images of FeCo-NC@rGO.

Table S1 R_s and R_{ct} values of FeCo-NC@rGO and FeCo-NC.

Samples	R_s (ohm)	R_{ct} (ohm)
FeCo-NC@rGO	12.19	113.2
FeCo-NC	24.92	143.2

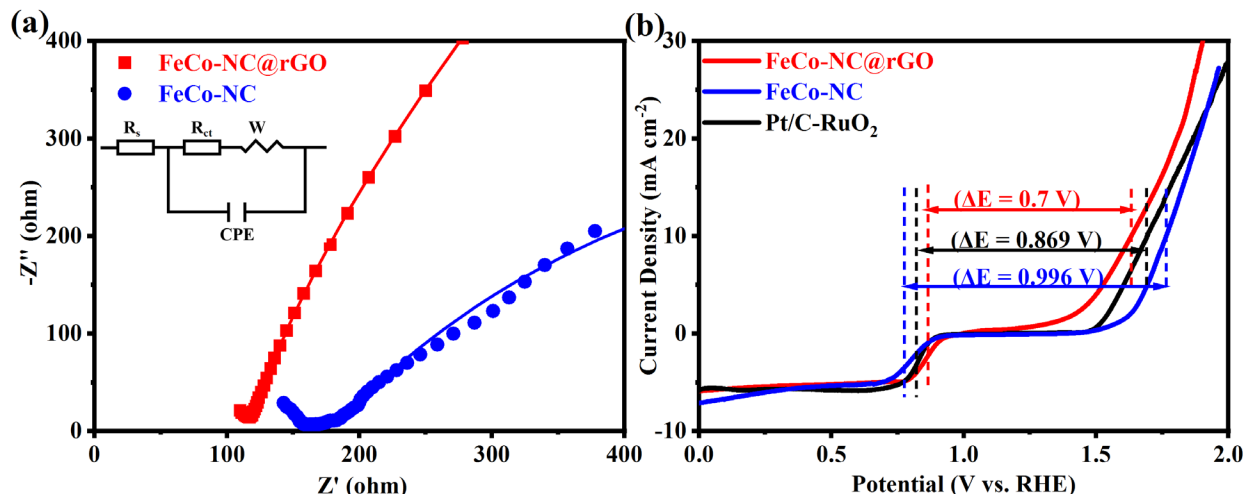


Fig. S3. (a) EIS spectra of FeCo-NC@rGO and FeCo-NC measured in O₂-saturated 0.1 M KOH solution. (b) Overall polarization curves of FeCo-NC@rGO, FeCo-NC, Pt/C, and RuO₂ recorded in 0.1 M KOH. The overall bifunctional oxygen electrocatalytic performance is evaluated using

$$\Delta E = E_{j=10} - E_{1/2}, \text{ where } E_{1/2} \text{ is the ORR half-wave potential and } E_{j=10} \text{ is the OER potential at a current density of } 10 \text{ mA cm}^{-2}.$$

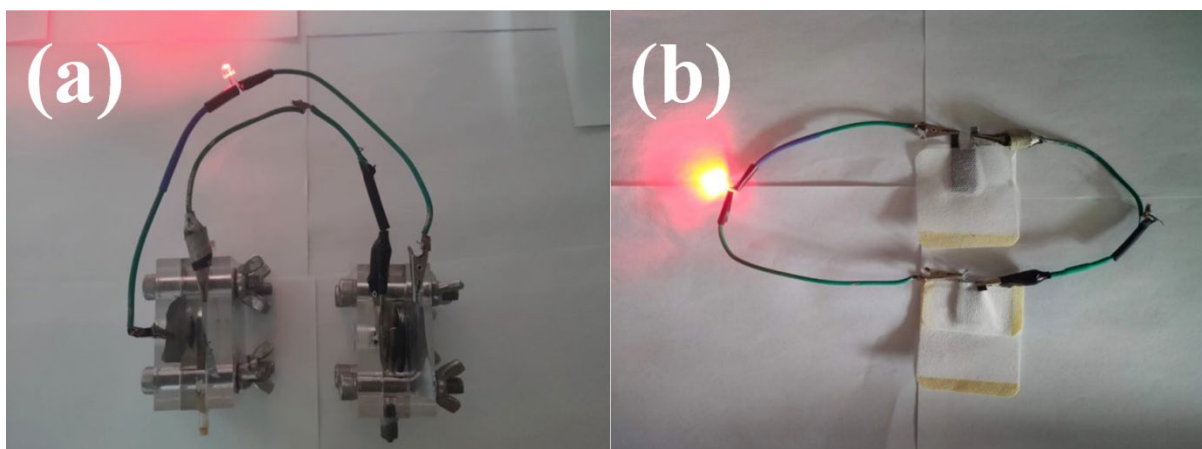


Fig. S4. Photographs showing a red LED powered by FeCo-NC@rGO based devices: (a) liquid Zn-air battery and (b) solid-state flexible battery.