Supplementary Material

Atomic Dispersed Ru Supported on Microporous CoO Ultrathin Nanosheets Synthesized by Melamine Induction for Highly Efficient Oxygen Evolution Reaction

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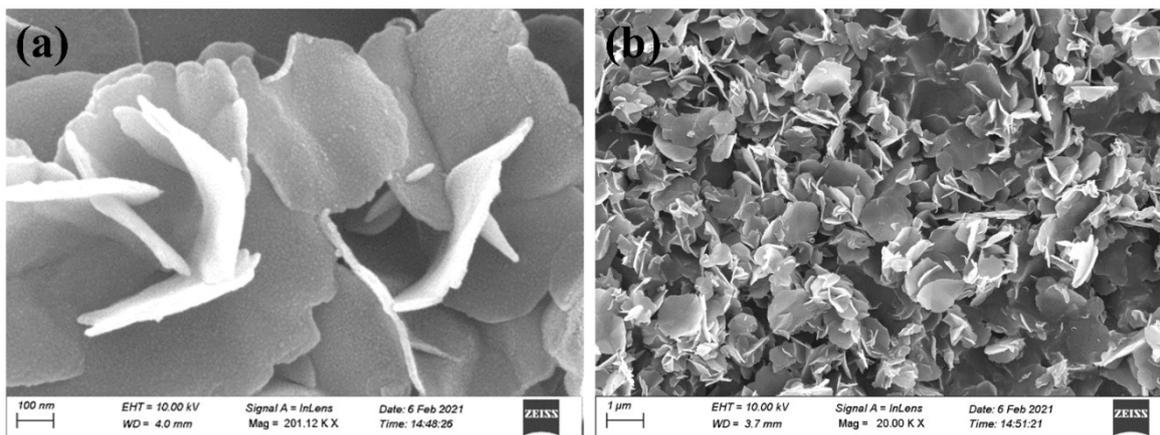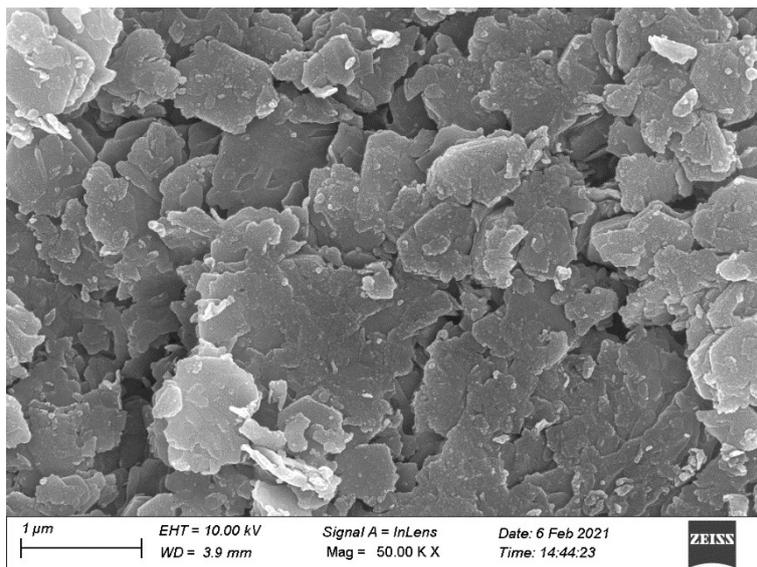
Fig. S1. (a), (b) SEM image of CoO/Ru HPNs.

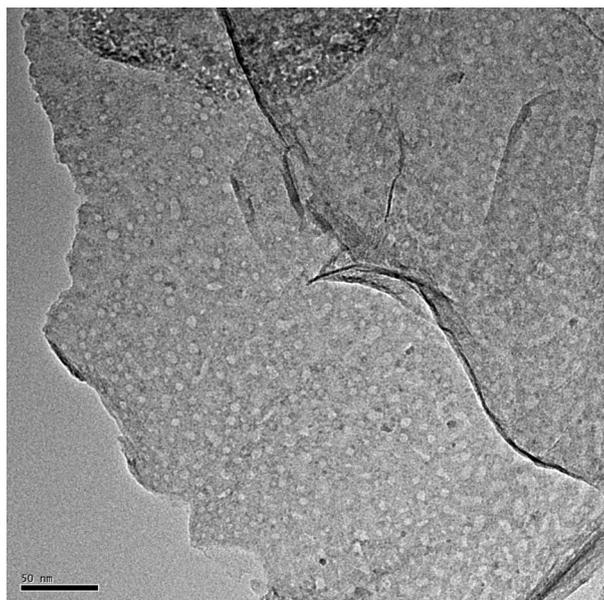**Fig. S2.** SEM image of CoO/Ru HPNs calcined at 625°C.

Fig. S3. TEM image of CoO/Ru HPNs.
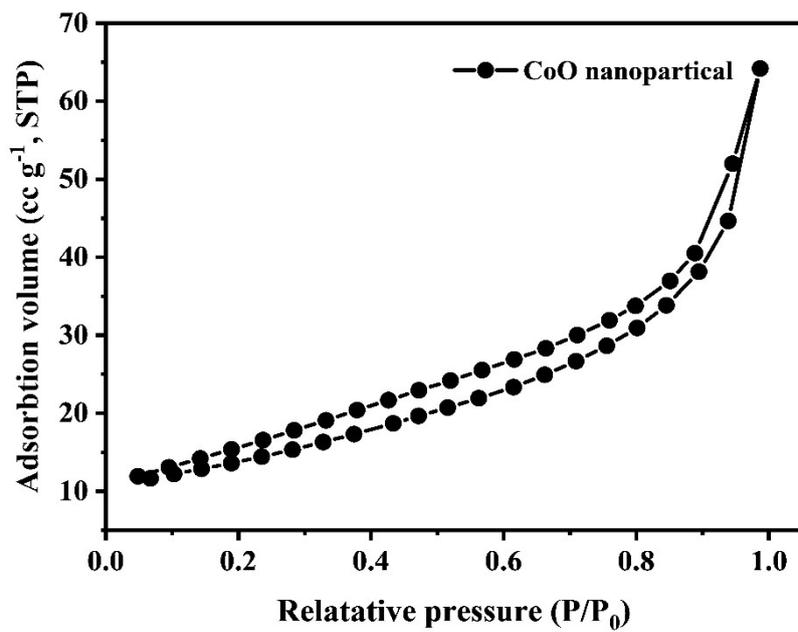
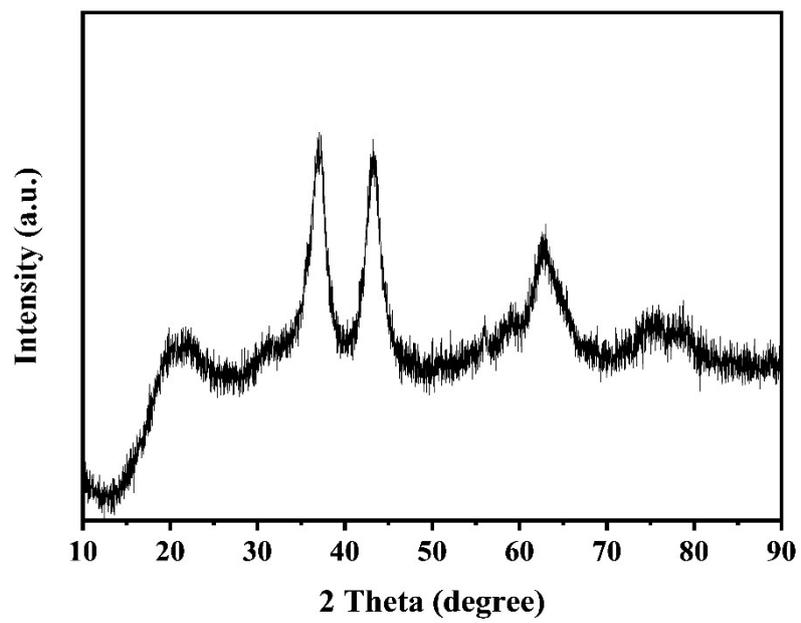**Fig. S4.** BET results of CoO nanoparticles.

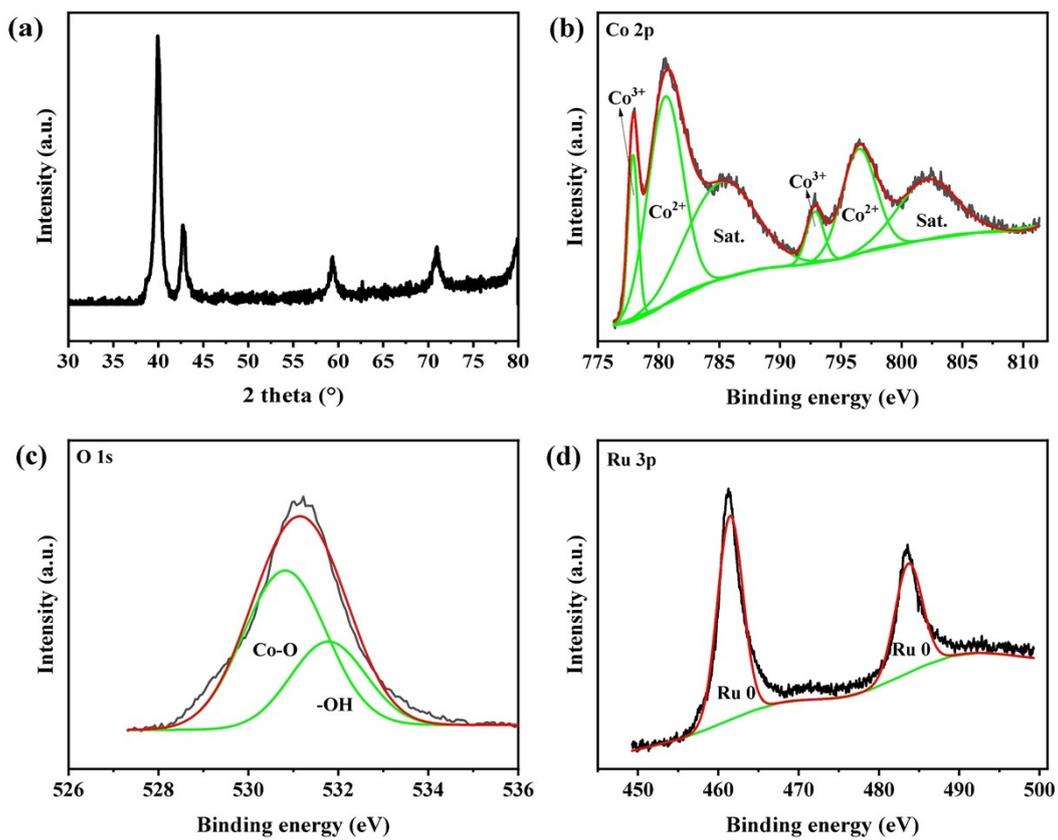**Fig. S5.** CoO/Ru HPNs calcined at 425 °C.
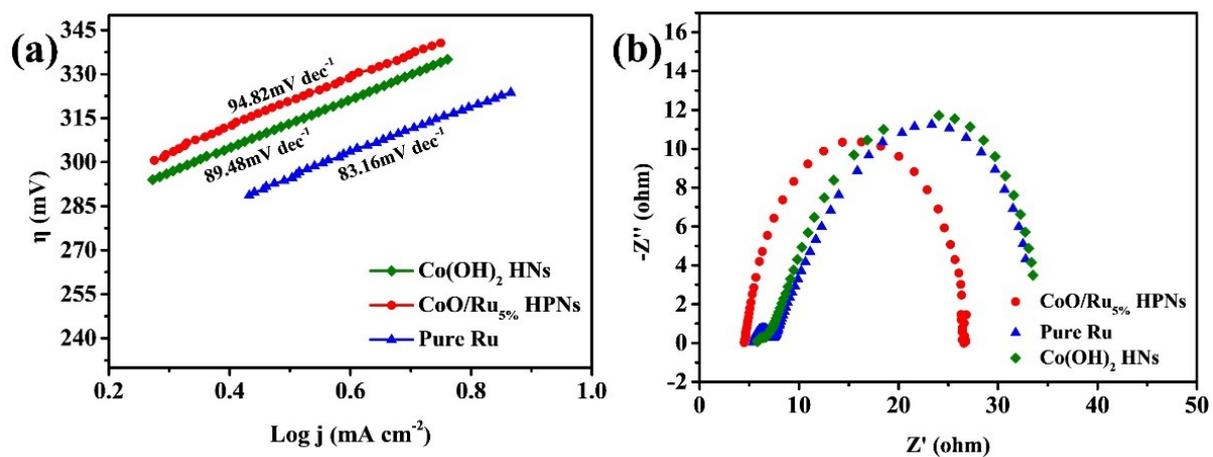
Fig. S6. CoO/Ru HPNs after long-term stability tests.

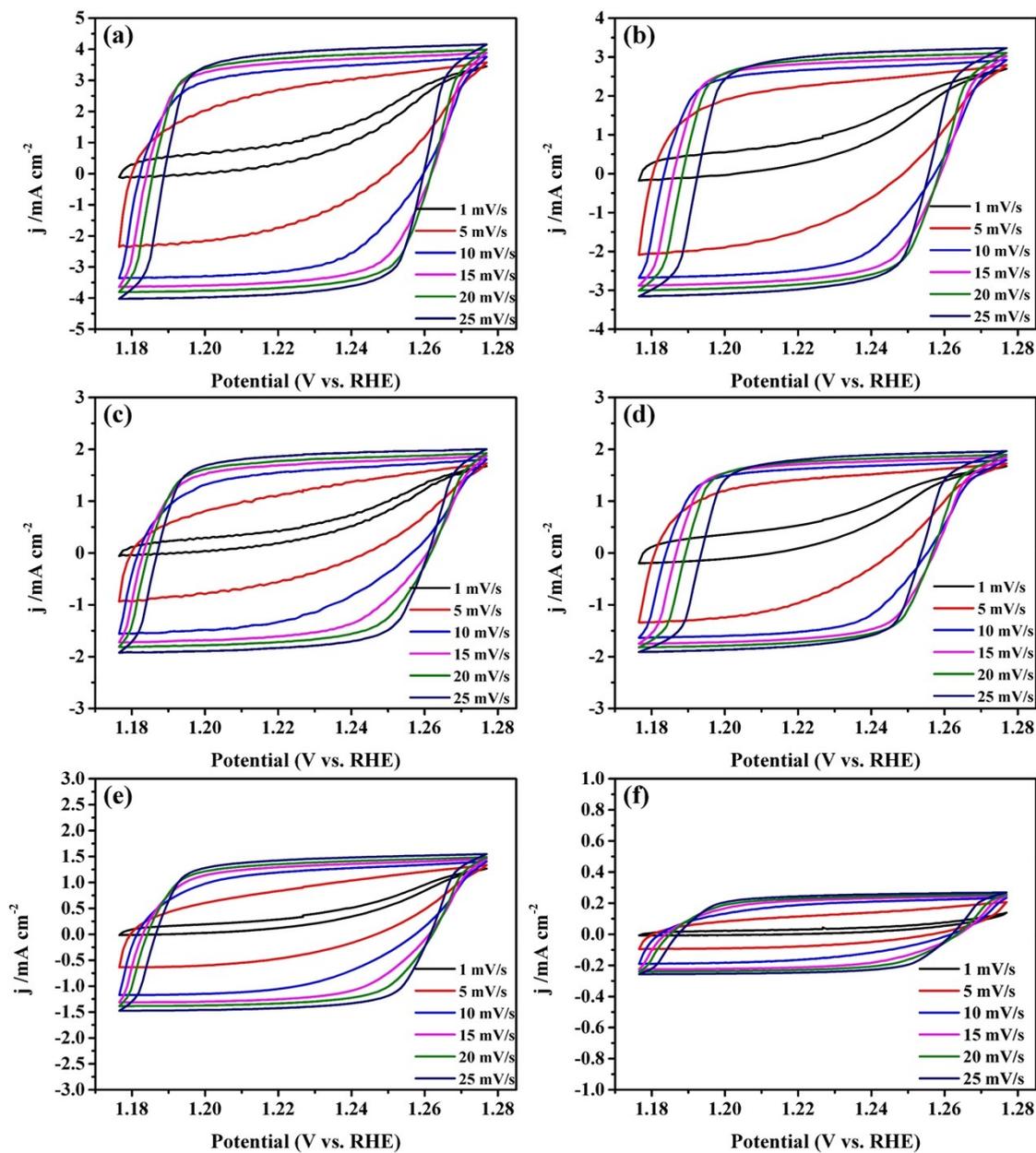**Fig. S7.** (a) Tafel slope and (d) EIS curves of OER on CoO/Ru$_{5\%}$ HPNs, Co(OH)$_2$ HNs and pure Ru.

Fig. S8. CV curves for (a) CoO/Ru$_{1.25\%}$ HPNs, (b) CoO HPNs, (c) Pure Ru, (d) Co(OH)$_2$ HNs, (e) CoO/Ru$_{5\%}$ HPNs, (f) CoO nanoparticle at various scan rates from 1 to 25 mV/s.

Table S1. The fitting calculation results

Samples	R_{sol} (Ω)	R_h (Ω)	R_{ct} (Ω)
CoO/Ru$_{1.25\%}$ HPNs	5.0	0.2	11.6
CoO HPNs	5.4	0.6	23.7
Pure Ru	5.8	1.0	27.7
Co(OH)$_2$ HNs	5.5	1.8	27.8
CoO/Ru$_{5\%}$ HPNs	5.2	N/A	25.3
CoO nanoparticle	5.1	5.3	36.6