Supplementary Information

An optimized mild reduction route towards excellent cobalt-graphene catalysts for water oxidation

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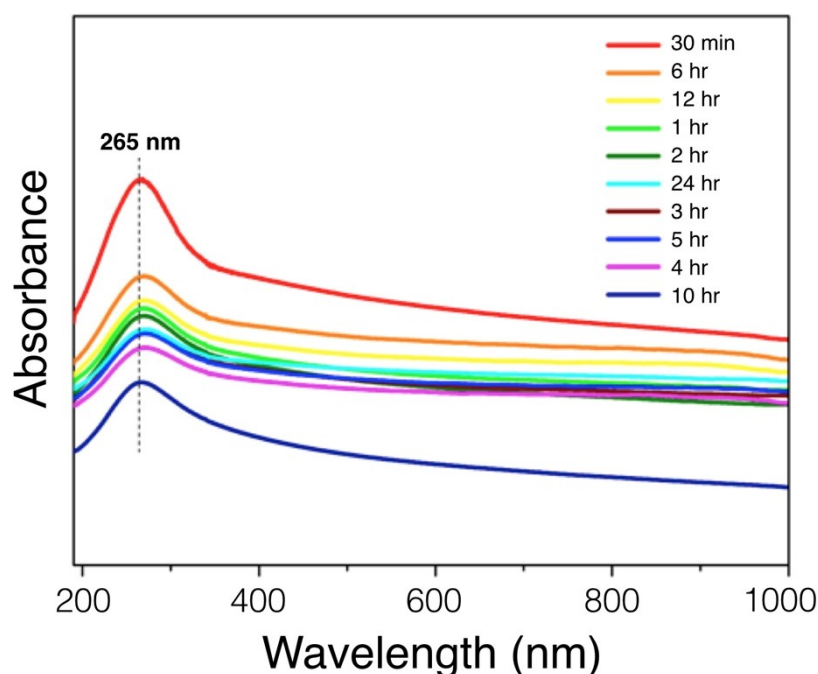
† These authors contributed equally to this work.

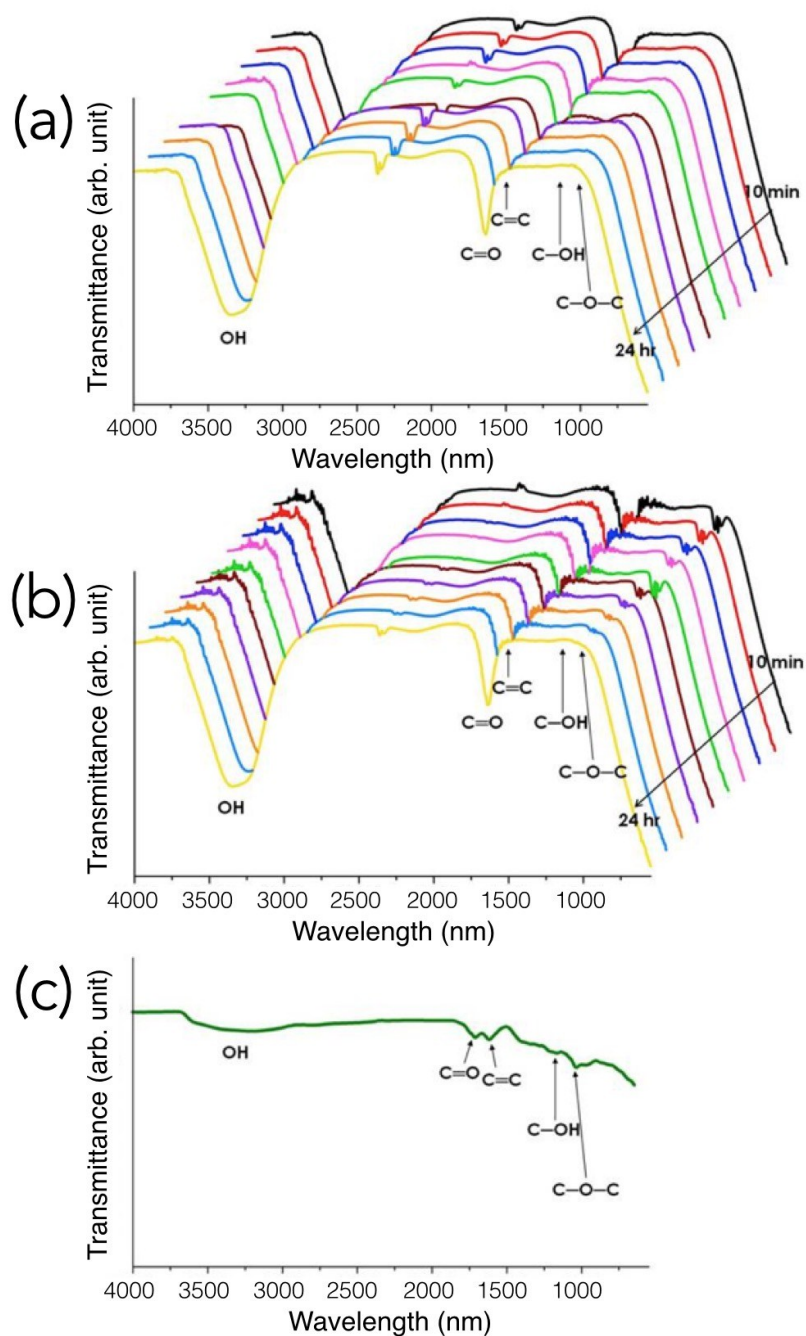**Fig. S1.** UV-Vis absorption spectra of gRGOs reduced at 90 °C with different reduction times.

Fig. S2. FT-IR spectra of gRGOs reduced with different reduction times at (a) 25 °C and (b) 90 °C and (c) pristine graphene oxide (GO).
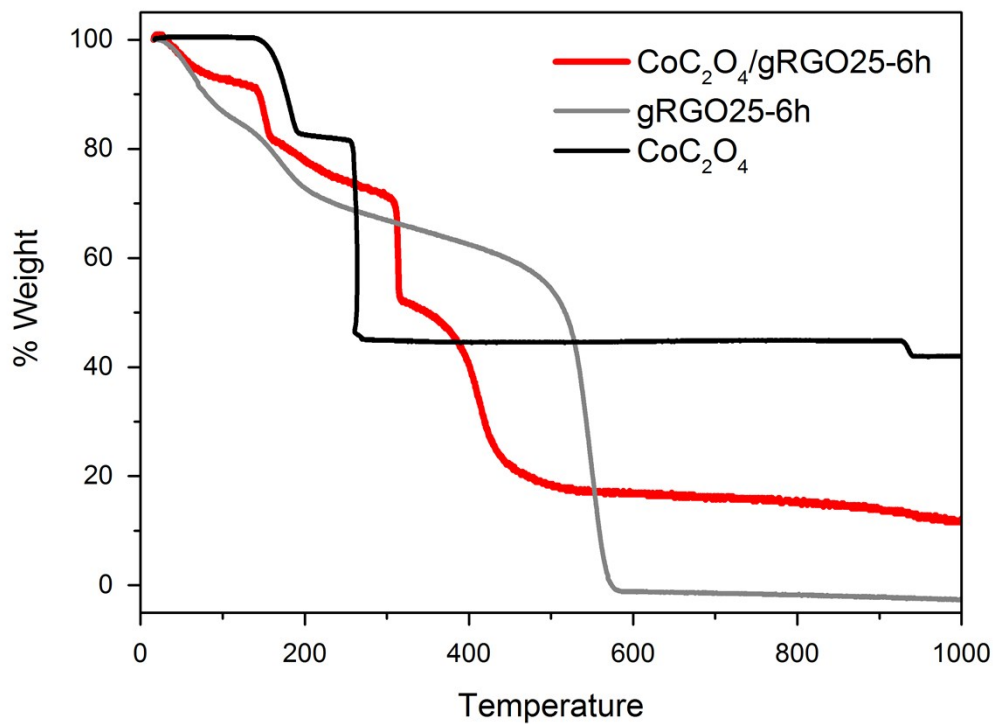
Fig. S3. Residual mass loss curves of the CoC_2O_4/gRGO electrocatalyst reduced at 25°C for 6 hr and its individual components.
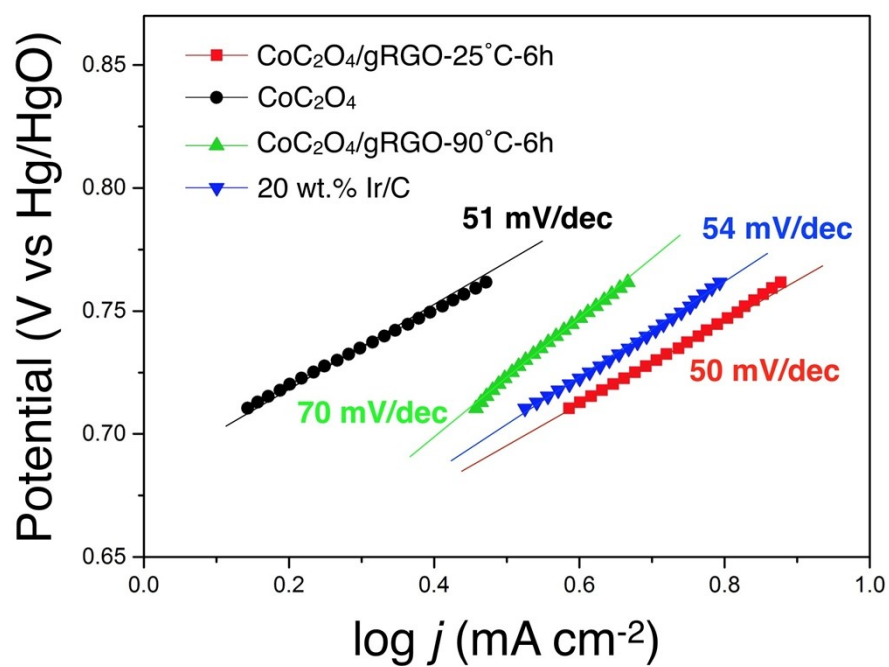
Fig. S4. Steady-state Tafel slope measurements of CoC_2O_4/gRGO-25°C-6h (red), 20 wt.% Ir/C (blue), CoC_2O_4/gRGO-90°C-6h (green), and CoC_2O_4 (black).
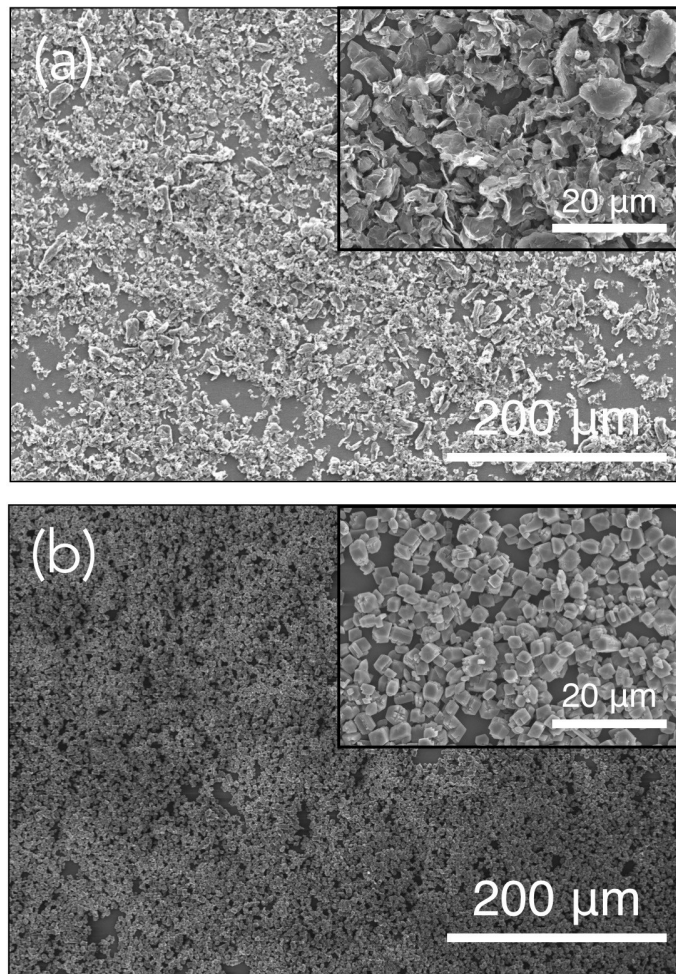
Fig. S5. SEM images of (a) CoC$_2$O$_4$/gRGO reduced at 90°C for 6 hr and (b) CoC$_2$O$_4$ structures formed at 25 °C for 6 hr.