Electronic Supplementary Material (ESI) for Nanoscale.

Electronic Supplementary Information

Novel cobalt quantum dot/graphene nanocomposites as highly efficient electrocatalysts for water splitting

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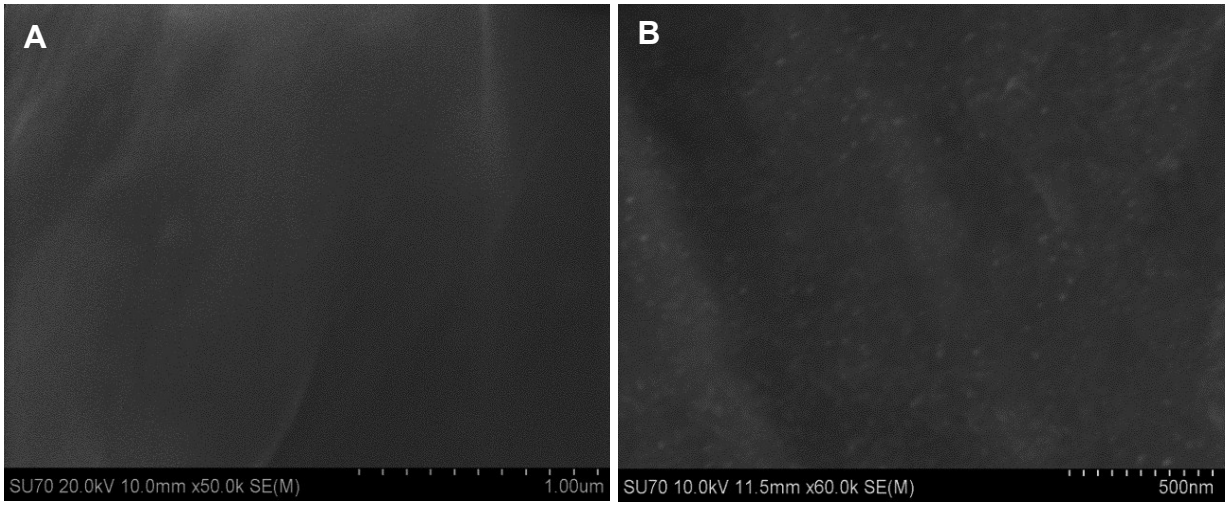

Fig. S1. FE-SEM images of rGO (A) and Co QD/rGO nanocomposite (B).

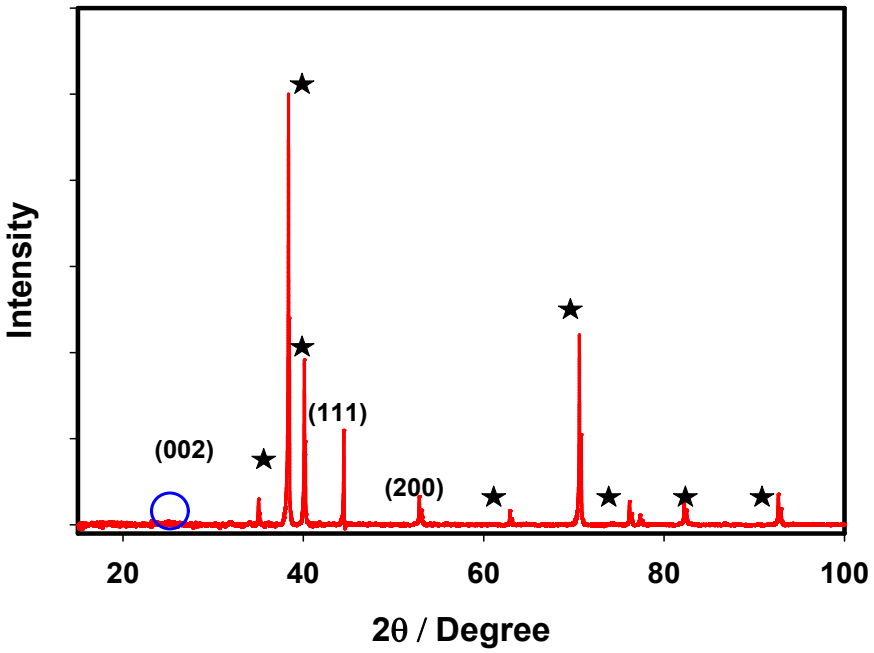

Fig. S2. XRD pattern of the Co QD/rGO nanocomposite. The peaks marked with stars are derived from Ti substrate.

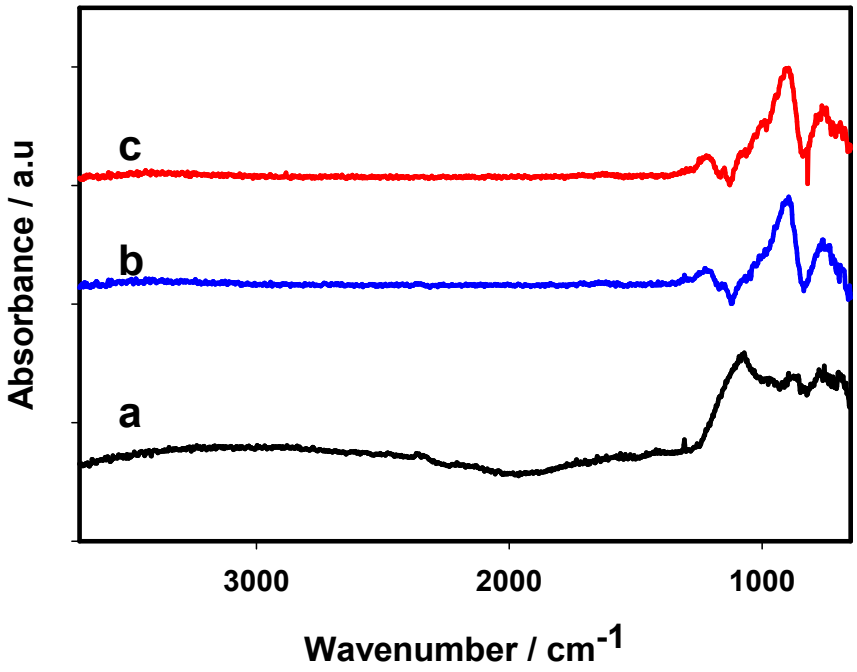

Fig. S3. FT-IR spectra of GO (a), rGO (b), and Co QD/rGO composites (c).

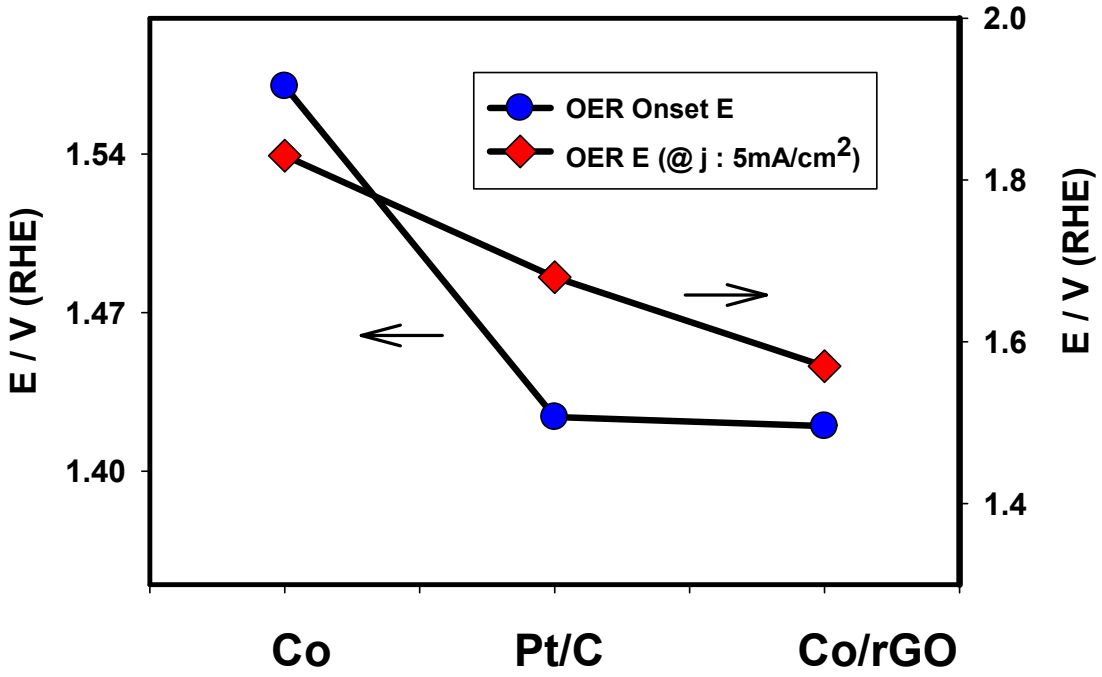

Fig. S4. The onset potentials (E_{onset}) and oxidation potentials measured at 5 mA cm^{-2} of the GC electrode modified with the Co nanoparticles, Co QD/rGO nanocomposites and the state-of-the-art Pt/C electrocatalyst.

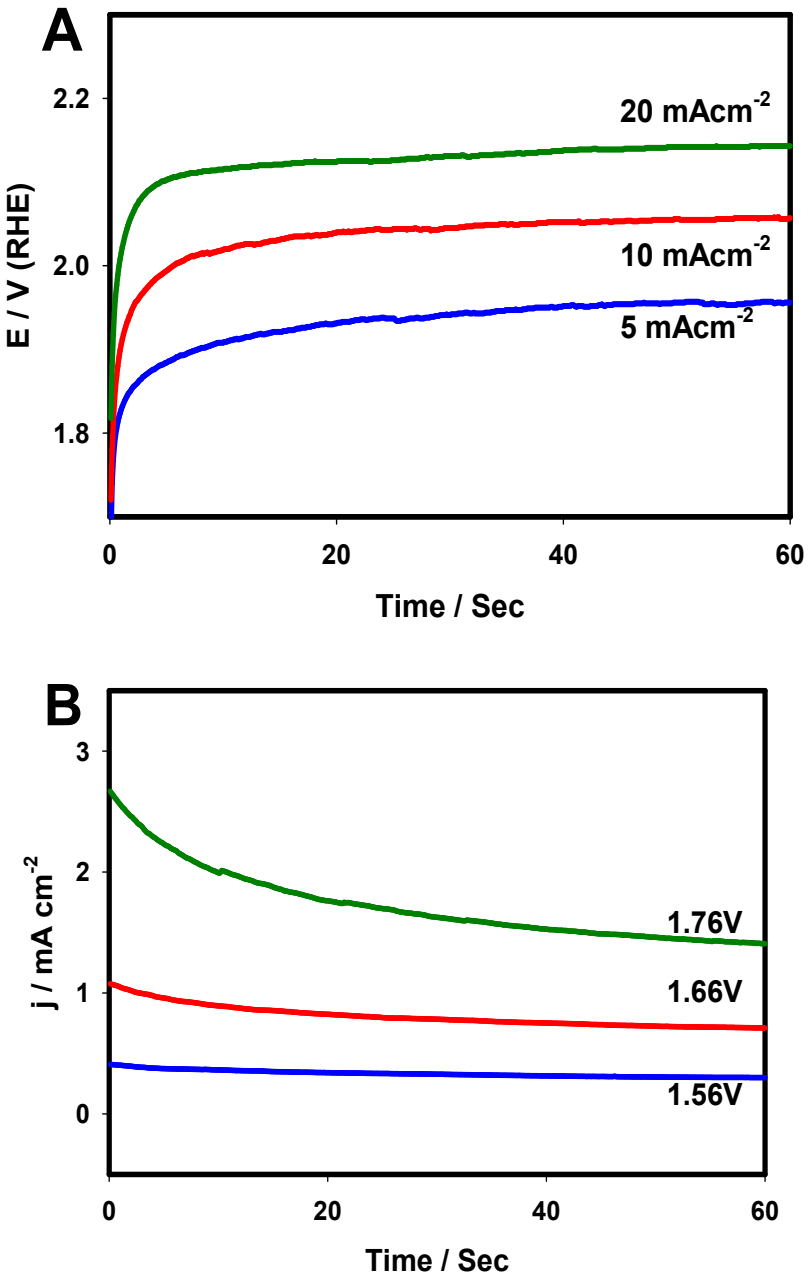

Fig. S5. (A) Chronopotentiometric curves of the Co/GC electrode under the applied current densities of 5, 10, and 20 mA cm^{-2}. (B) Amperometric response of the Co/GC electrode under the applied electrode potentials of 1.56, 1.66 and 1.76V. Electrolyte: 0.1M KOH.