

RGO-Co₃O₄ photocatalysts for UV-induced hydrogen evolution reaction

Sundaram Chandrasekaran, *

(ejkim@ulsan.ac.kr*)

Three dimensional (3D) crumpled reduced graphene oxide (RGO)-Co₃O₄ nanohybrids were synthesized via a novel and facile solution method for use in UV-induced hydrogen evolution reaction (HER). The synthesized RGO-Co₃O₄ was calcined at a temperature from 300 °C to 500 °C to examine the effect of calcination on its HER activity. The 500 °C-calcined 3D-crumpled RGO-Co₃O₄ exhibited the highest photocurrent density under UV illumination due to the improved interfacial hole transfer and suppressed electron recombination. In addition, it also showed excellent durability even after 1000 cycles in acidic solution.