Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

Synthesis of N-doped graphene-functionalized $Zn_{1.231}Ge_{0.689}N_{1.218}O_{0.782}$ solid solution and application as a photocatalyst for CO_2 reduction and oxidation of benzyl alcohol under visible-light irradiation

Jun Liang*, Li Li,

College of Chemistry and Chemical Engineering, Ningxia University, Yinchuan 750021, China.

*E-mail: junliang@nxu.edu.cn

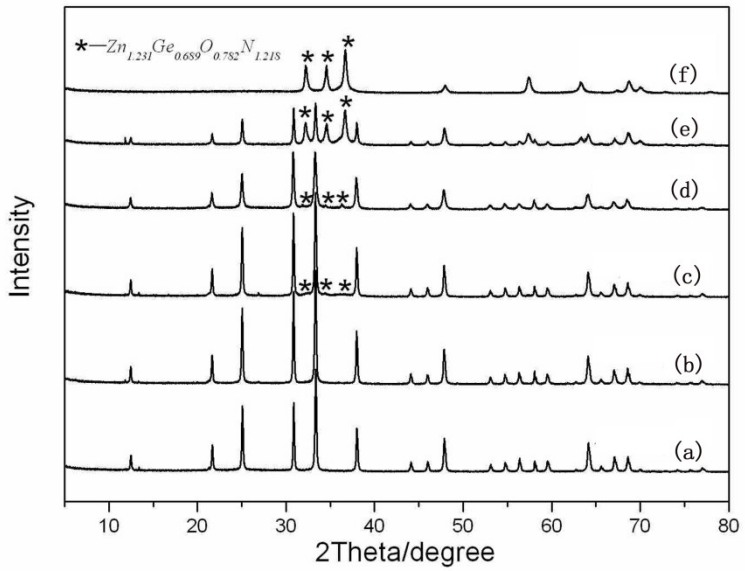

Figure S1. XRD patterns of the products obtained by nitridation of GO/Zn_2GeO_4 composite for 1 h at different temperature of (a) 600 ℃, (b) 650 ℃ (c) 700 ℃, (d) 720 ℃, (e) 750 ℃, (f) 800 ℃.

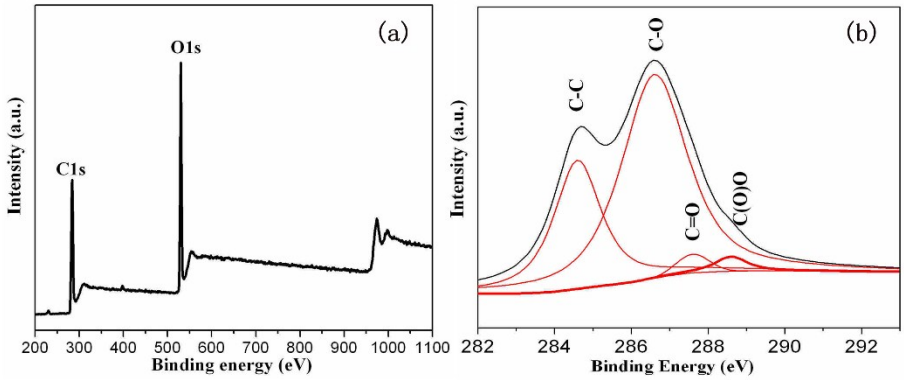

Figure S2. XPS spectra (a) and C1s (b) spectrum (b) of GO.

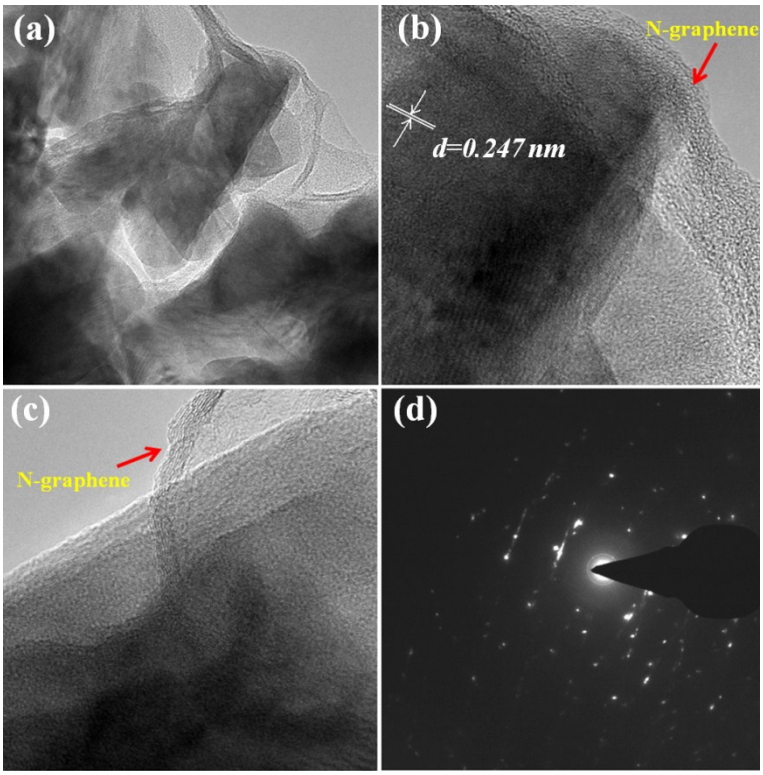

Figure S3. Typical TEM (a) and HRTEM (b, c) images of the (2.0 wt %) N-graphene/ZnGeON nanocomposite. The SAED pattern (d) of the (2.0 wt %) N-graphene/ZnGeON nanocomposite.

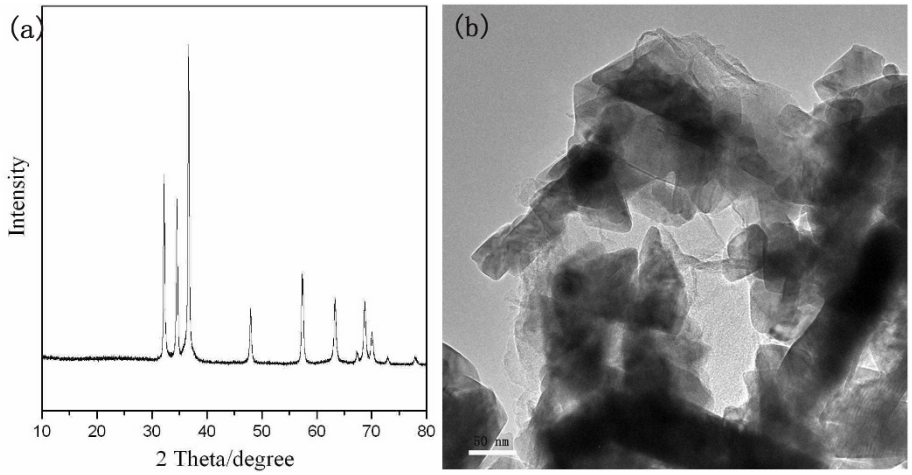

Figure S4. XRD pattern (a) and TEM image (b) of the as-obtained N-graphene/ZnGeON hybrid after the photocatalytic reaction.