

## Supporting information

### Giant UV photoresponse of GaN nanowire photodetector through effective Pt nanoparticles coupling

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#### Supporting Information

**Figure S1.** EDS profile of GaN nanowires with Pt NPs decoration. Inset is the table of elements content.

**Figure S2.** (a) TEM image of colloidal Pt NPs. (b) Statistical distribution and Gaussian fitting of the diameters of Pt NPs.

**Figure S3** STEM images of GaN nanowire with (a) 10 h, (b) 24 h, (c) 48 h Pt NPs deposition. (d-f) are the EDS profiles of (a)-(c), respectively. (g) is the table of elements content for Pt-GaN nanowires with different Pt NPs deposition time.

**Figure S4.** (a) and (b) are the responsivity and EQE of bare GaN nanowire UV photodetectors as a dependence on light intensity, respectively. (c) and (d) are the

responsivity and EQE of Pt-GaN nanowire UV photodetectors as a function of light intensity, respectively.

Figure S1

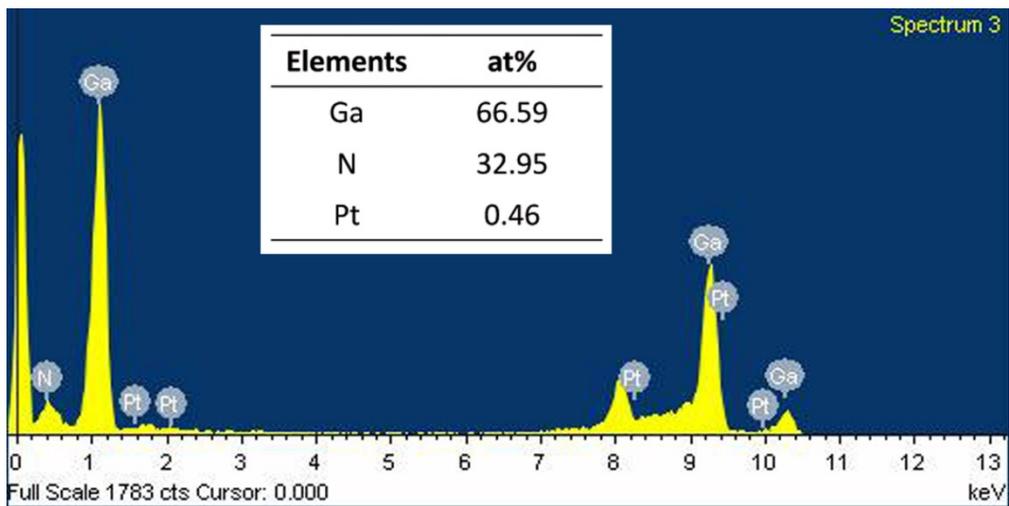


Figure S2

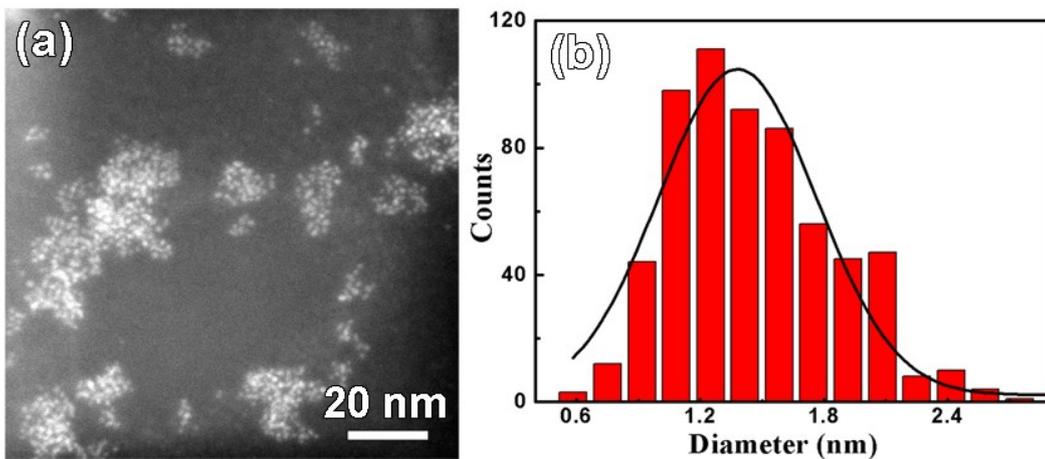


Figure S3

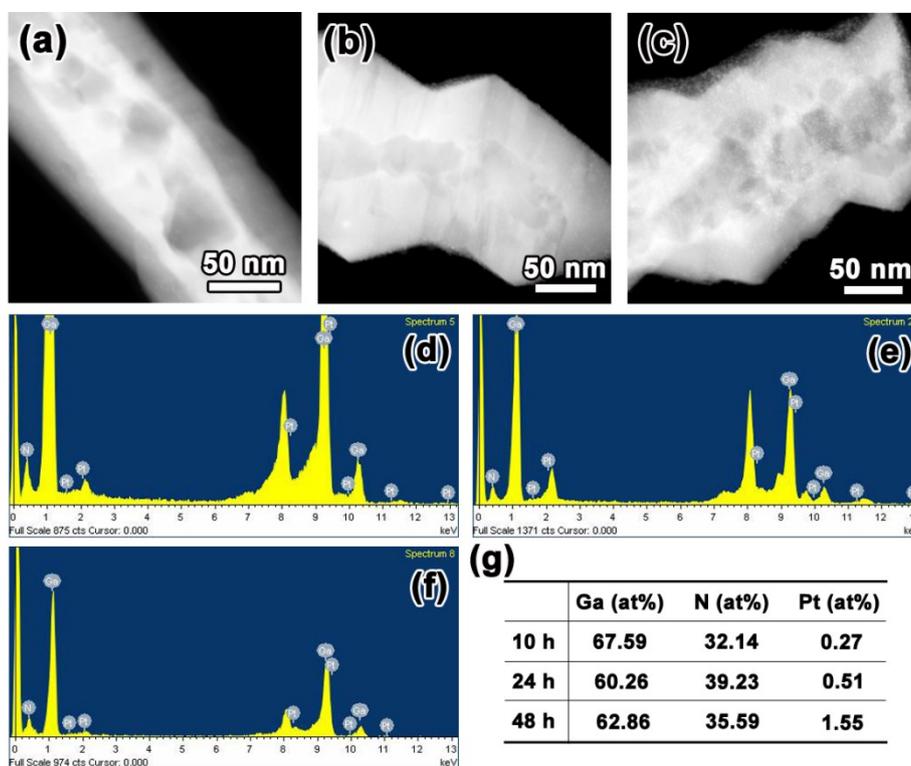


Figure S4

