Porous gold nanoparticle/graphene oxide composite as efficient catalysts for reduction of 4-nitrophenol

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**Fig. S1** Top view (a) and cross-section (b) SEM images of Au/PEI/GO composite film prepared from vacuum-filtering.

**Fig. S2** SEM-EDX analysis of Au/PEI/GO composites from freeze-drying.
**Fig. S3** TGA curves of porous Au/PEI/GO composite and GO, with the final weight of 53.5% and 41.3%, respectively, at 700 °C.

**Fig. S4** FT-IR spectra of porous Au/PEI/GO composite and GO.
Fig. S5 XRD pattern of Au/PEI/GO composite film prepared from vacuum-filtering.