

# Layer-by-Layer Inkjet Printing of Fabricating Reduced Graphene-Polyoxometalate Composite Film for Chemical Sensors

Hui Zhang<sup>a,c</sup>, Anjian Xie<sup>c</sup>, Yuhua Shen<sup>\*,b</sup>, Lingguang Qiu<sup>b</sup>, Xingyou Tian<sup>\*,a</sup>

a Key Laboratory of Materials Physics, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei 230031, P. R. China. Fax: +86-0551-5108702; Tel: +86-0551-5108702; E-mail: zhhui@ahu.edu.cn; xytian@issp.ac.cn

b School of Chemistry and Chemical Engineering, Anhui University, Hefei 230039, P. R. China Fax: +86-0551-5108702; Tel: +86-0551-5108702; E-mail: [s\\_yuhua@163.com](mailto:s_yuhua@163.com); lgqiu@ahu.edu.cn

c School of Physics and Materials Science, Anhui University, Hefei 230039, P. R. China Fax: +86-0551-5108702; Tel: +86-0551-5108702; E-mail: anjx@163.com

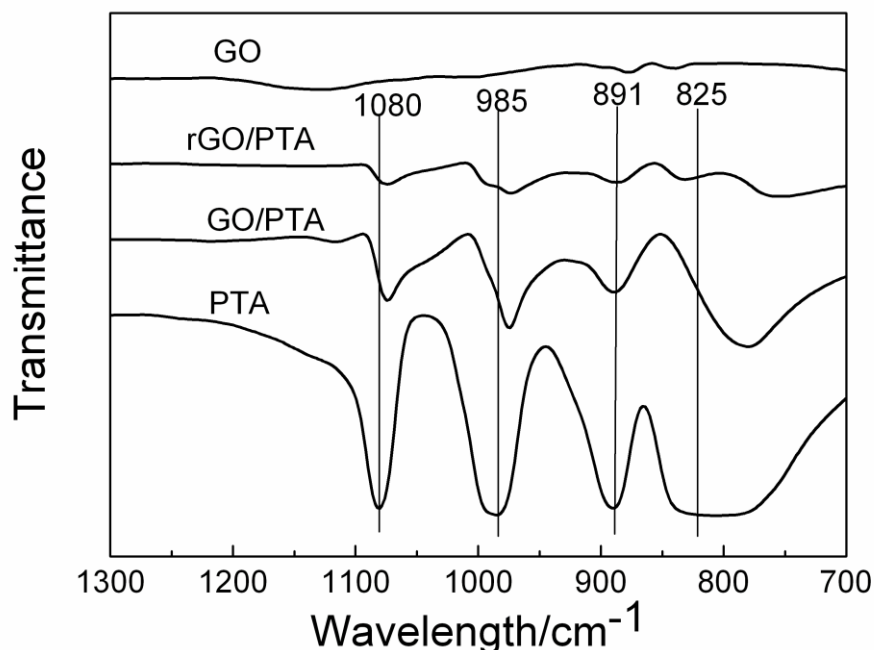


Fig. S1. Fourier transform infrared (FTIR) spectra of original GO, pure PTA, GO/PTA and rGO/PTA composites. 1080 cm<sup>-1</sup>: the stretching vibration absorption of P-O bonds; 985 cm<sup>-1</sup>: the stretching mode of terminal W-O groups; 891 cm<sup>-1</sup>: the stretching mode of corner-sharing W-O-W bonds; 825 cm<sup>-1</sup>: the stretching mode of edge-sharing W-O-W bonds.

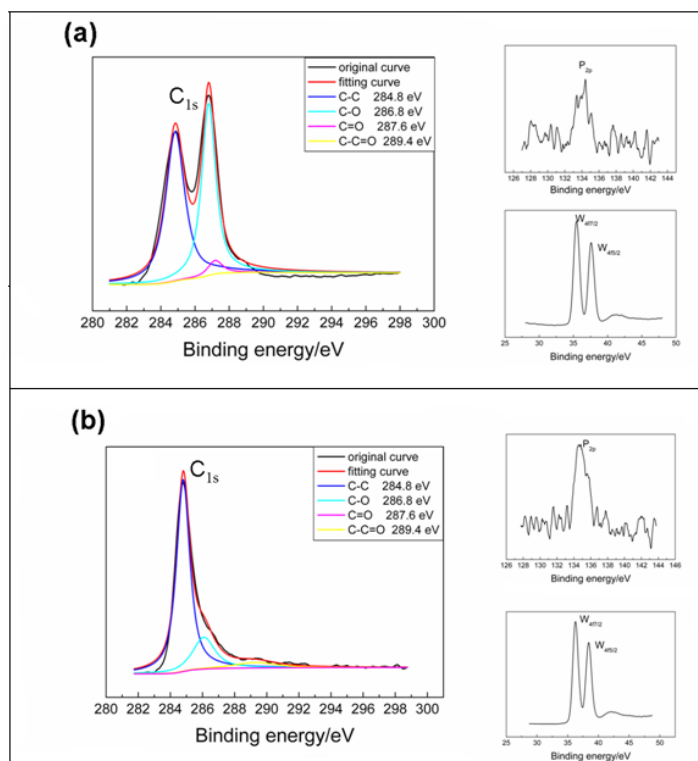


Fig. S2. XPS spectra of C 1s, P 2p and W 4f core level acquired from the as-prepared film before ( a) and after (b) UV-irradiation.