

**Sol-gel Fabrication and Performance Evaluation of Graphene-based  
Hydrophobic Solid-phase Microextraction Fibers for Multi-residue Analysis of  
Pesticides in Water Samples**

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## Figure Captions

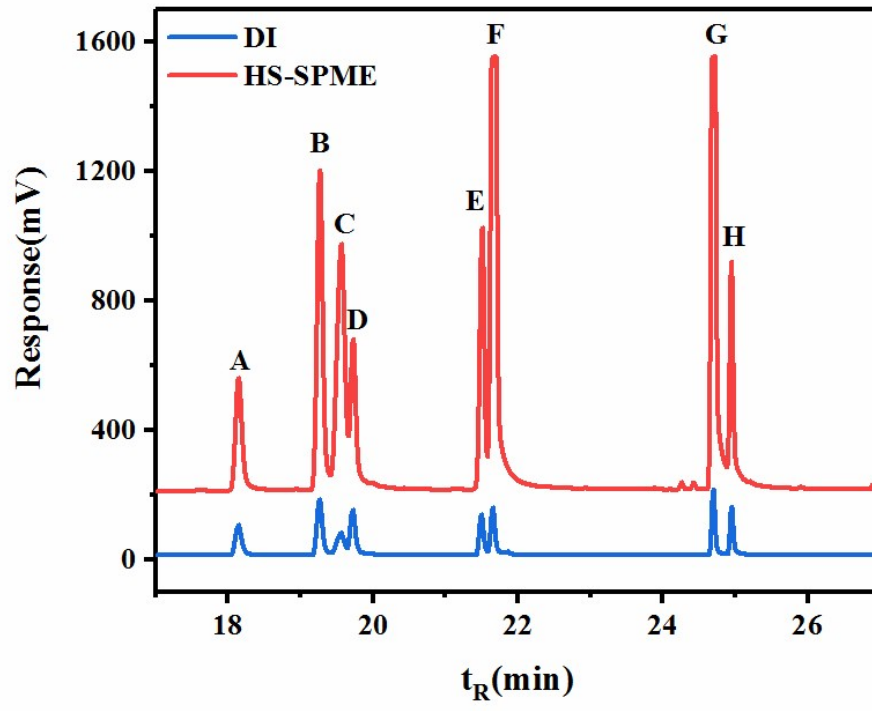
**Fig. S1** The representative GC chromatograms of the eight OPPs mixed standard solution by HS-SPME and Direct injection (DI). The solution used in HS-SPME was 1 mol L<sup>-1</sup> of mixed standard aqueous solution, and the solution used in DI was 2 mol L<sup>-1</sup> of mixed standard solutions. A. ethoprophos ( $t_R = 18.14$ ), B. sulfotep ( $t_R = 19.26$ ), C. cadusafos ( $t_R = 19.56$ ), D. phorate ( $t_R = 19.72$ ), E. terbufos ( $t_R = 21.50$ ), F. fonofos ( $t_R = 21.66$ ), G. chlorpyrifos ( $t_R = 24.70$ ), H. parathion ( $t_R = 24.95$ ).

**Fig. S2** The representative GC chromatograms of single standard sample solutions of eight OPPs (2 mol L<sup>-1</sup>) by Direct injection. A. ethoprophos ( $t_R = 17.85$ ), B. sulfotep ( $t_R = 19.08$ ), C. cadusafos ( $t_R = 19.58$ ), D. phorate ( $t_R = 19.69$ ), E. terbufos ( $t_R = 21.40$ ), F. fonofos ( $t_R = 21.50$ ), G. chlorpyrifos ( $t_R = 24.70$ ), H. parathion ( $t_R = 24.82$ ).

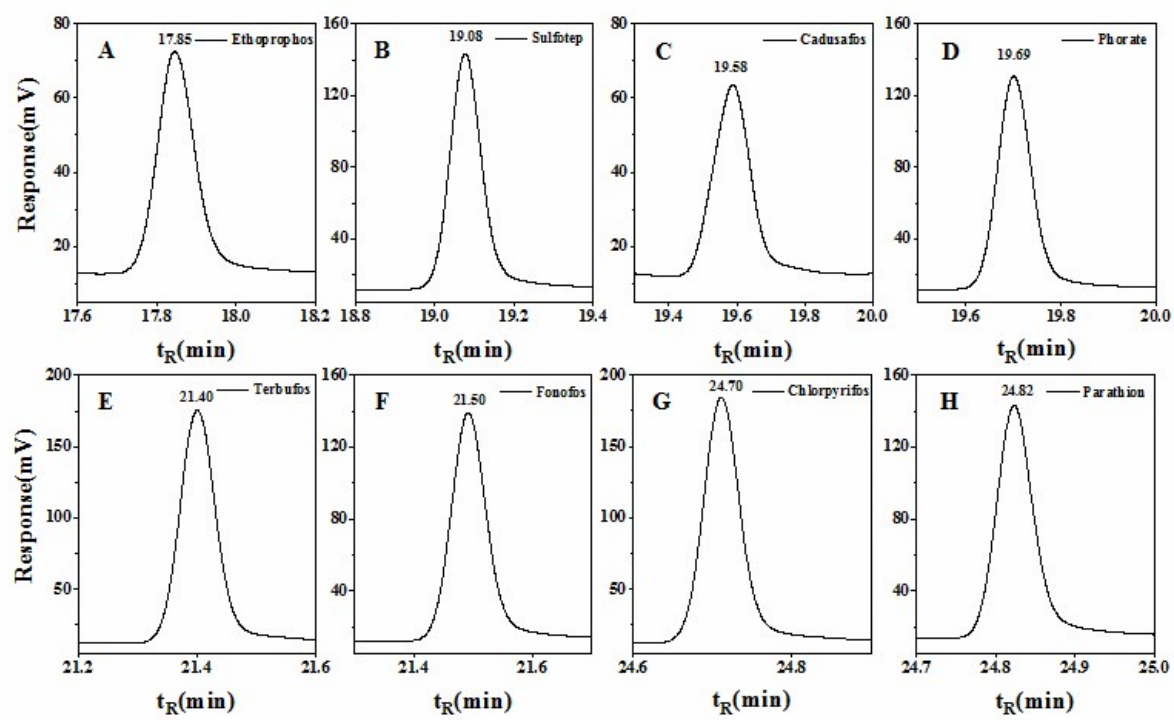
**Fig. S3** Effect of sample volume on extraction efficiency. A. ethoprophos, B. sulfotep, C. cadusafos, D. phorate, E. terbufos, F. fonofos, G. chlorpyrifos, H. parathion.

**Fig. S4** Optimization of extraction efficiency for the commercial PA fibers: (a) extraction temperature; (b) extraction time; (c) stirring speed. A. ethoprophos, B. sulfotep, C. cadusafos, D. phorate, E. terbufos, F. fonofos, G. chlorpyrifos, H. parathion.

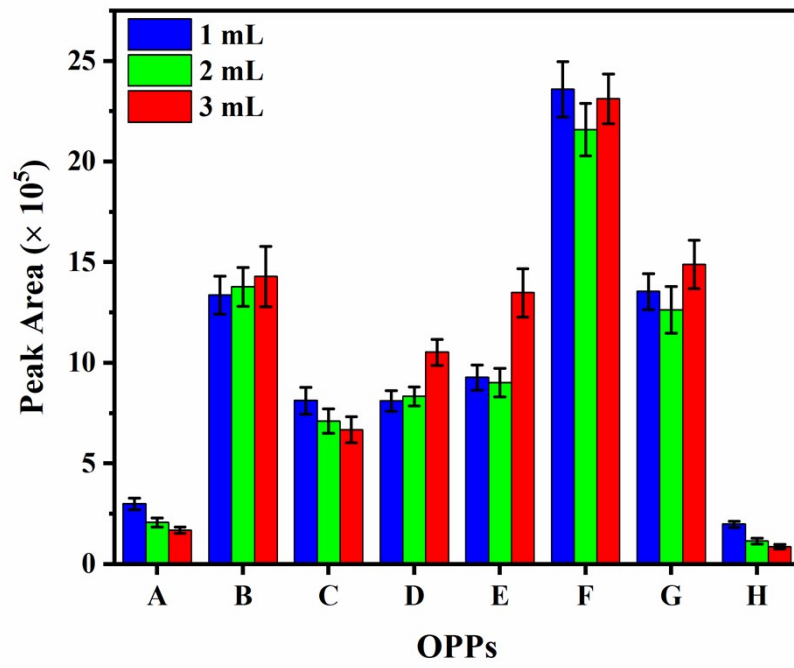
**Fig. S5** Effect of ionic strength (a) and pH (b) on the extraction efficiency of eight prohibited or restricted OPPs by the commercial PA fibers. A. ethoprophos, B. sulfotep, C. cadusafos, D. phorate, E. terbufos, F. fonofos, G. chlorpyrifos, H. parathion.



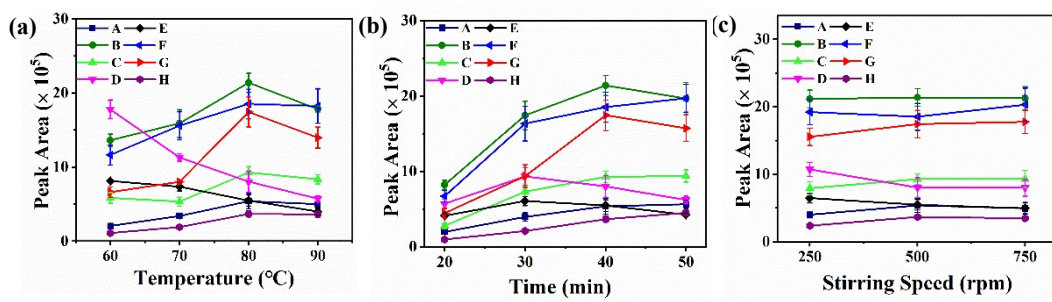
**Fig. S1**



**Fig. S2**



**Fig. S3**



**Fig. S4**

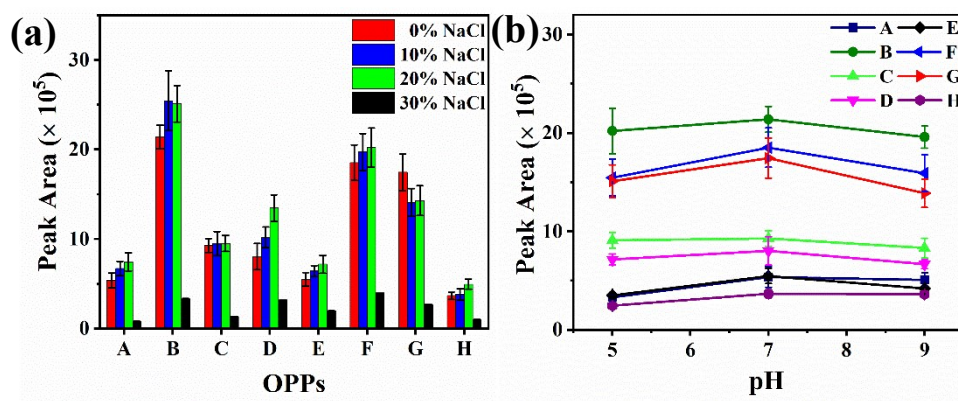


Fig. S5