**Surface modification of microporous carbonaceous fiber for the growth of zinc oxide micro/nanostructures for the decontamination of malathion**

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**Supplementary file**

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**FIG S1.** The variation in carbon content of pristine ACF and treated ACF determined by total organic carbon analyzer

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**FIG S2.** N2 adsorption desorption isotherms at 77K of ACF

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**FIG S3.** Thermal profile of ACF-0, ACF-5 and ZnO/ACF

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**FIG S4.** FTIR spectrum of ACF, ACF-5, ZnO/ACF

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**FIG S5.** Scanning electron micrograph of ZnO/ACF a) low magnification and b) high magnification after the second cycle of photocatalytic experiments

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**FIG S6.** EDS spectrum of a) ACF-0 b)ACF-5 c) S-ACF d) ZnO impregnated ACF at pH 7; 10 h and e) pH 9; 10 h