

Supplementary Information

Degrading Pesticides with Waste Product: Imidazole-Functionalized Rice Husk Catalyst for Organophosphate Detoxification

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Kinetic profiles were fitted with the equation S1 using the program Origin 9.0 with the algorithm of Levenberg-Marquardt.

$$A = A_0 + (1 + e^{-k_{\text{obs}}t}) \times (A_i - A_0) \quad (\text{S1})$$

where A = absorbance measured at each time (t); A_0 = initial absorbance; A_{inf} = absorbance at $t \rightarrow \infty$; k_{obs} = pseudo-first order rate constant; t = time.

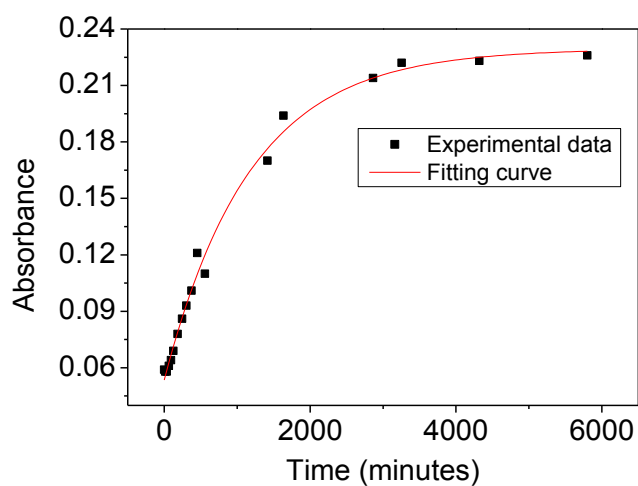


Figure S1. Kinetic profile for the reaction of RHIMZ (5.6 mg) and DEDNPP (2×10^{-5} mol L⁻¹) at pH 5.47 and 25 °C.

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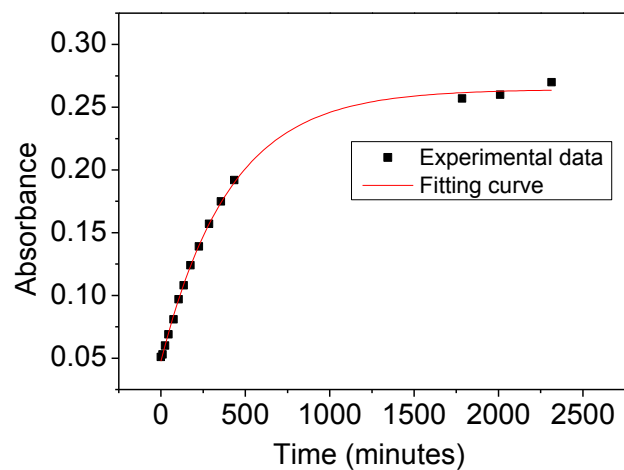


Figure S2. Kinetic profile for the reaction of RHIMZ (5.9 mg) and DEDNPP ($2 \times 10^{-5} \text{ mol L}^{-1}$) at pH 6.48 and 25 °C.

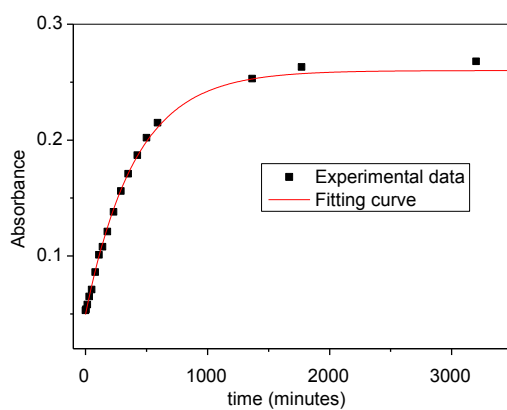


Figure S3. Kinetic profile for the reaction of RHIMZ (6.6 mg) and DEDNPP ($2 \times 10^{-5} \text{ mol L}^{-1}$) at pH 7.06 and 25 °C.

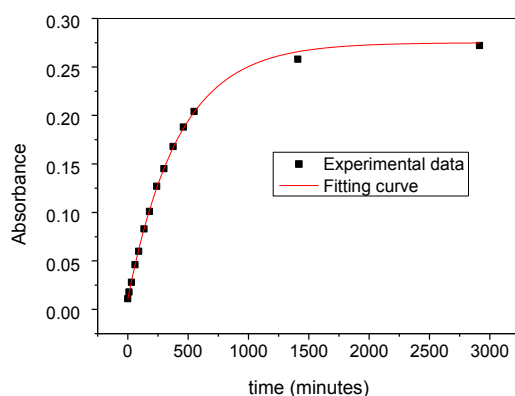


Figure S4. Kinetic profile for the reaction of RHIMZ (5.4 mg) and DEDNPP ($2 \times 10^{-5} \text{ mol L}^{-1}$) at pH 7.49 and 25 °C.

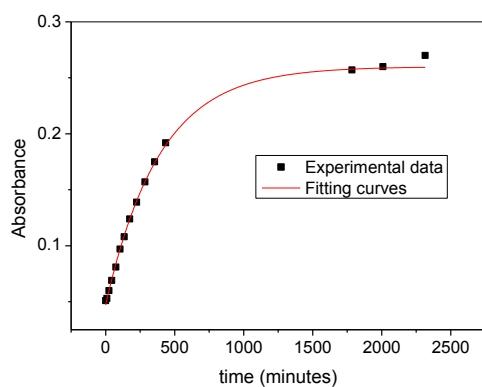


Figure S5. Kinetic profile for the reaction of RHIMZ (5.8 mg) and DEDNPP ($2 \times 10^{-5} \text{ mol L}^{-1}$) at pH 9.03 and 25 °C.

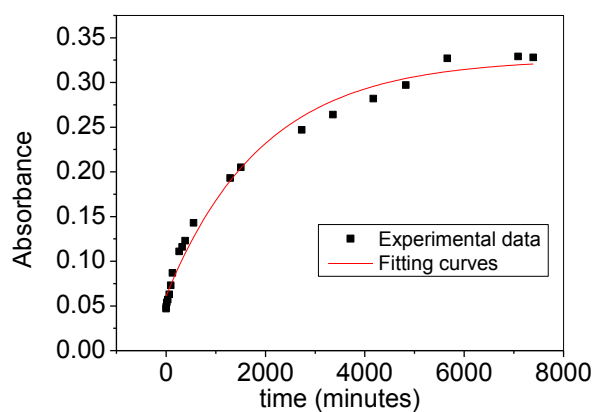


Figure S6. Kinetic profile for the reaction of RHCOOH (5.8 mg) and DEDNPP ($2 \times 10^{-5} \text{ mol L}^{-1}$) at pH 7.03 and 25 °C.

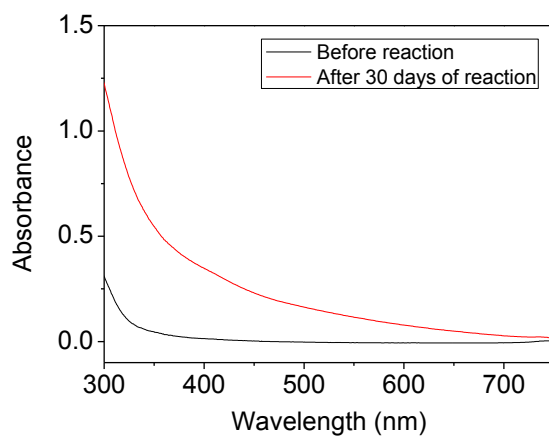


Figure S7. Spectra in the beginning and after 20 days for the reaction of Paraoxon ($6 \times 10^{-5} \text{ mol L}^{-1}$) with RHIMZ (6.8 mg).

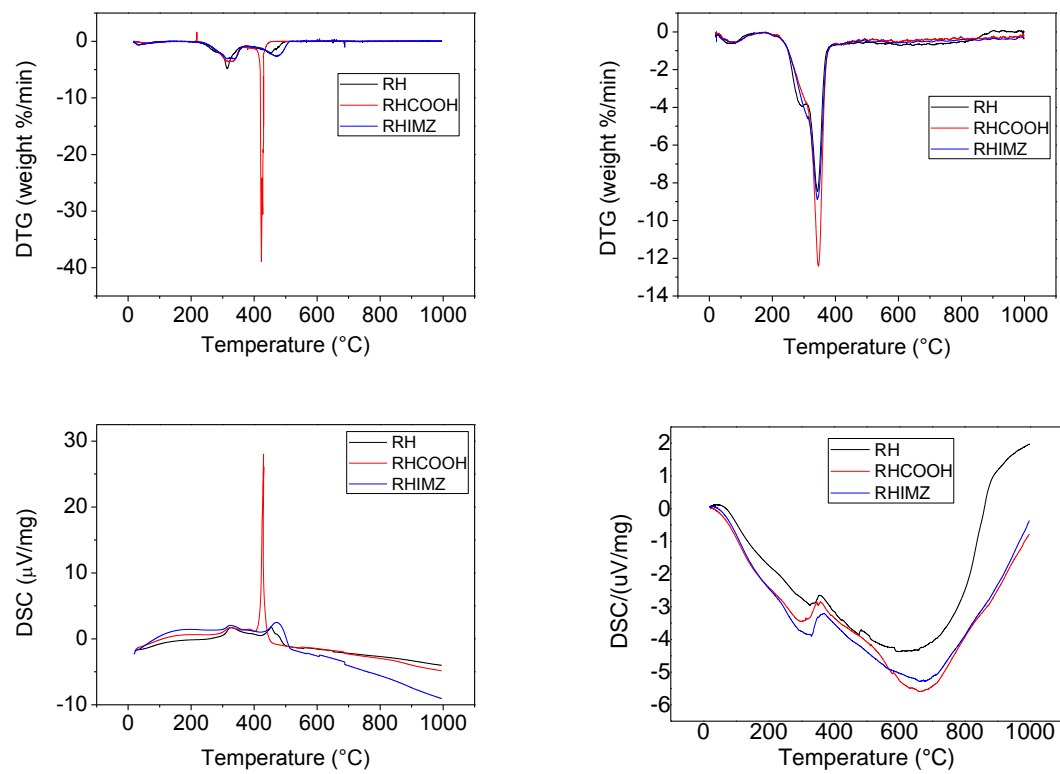


Figure S8. DTG and DSC spectra for RH, RHCOOH and RHIMZ.