Supplementary material

Banana peel powder biosorbent for removal of hazardous organic pollutants from wastewater

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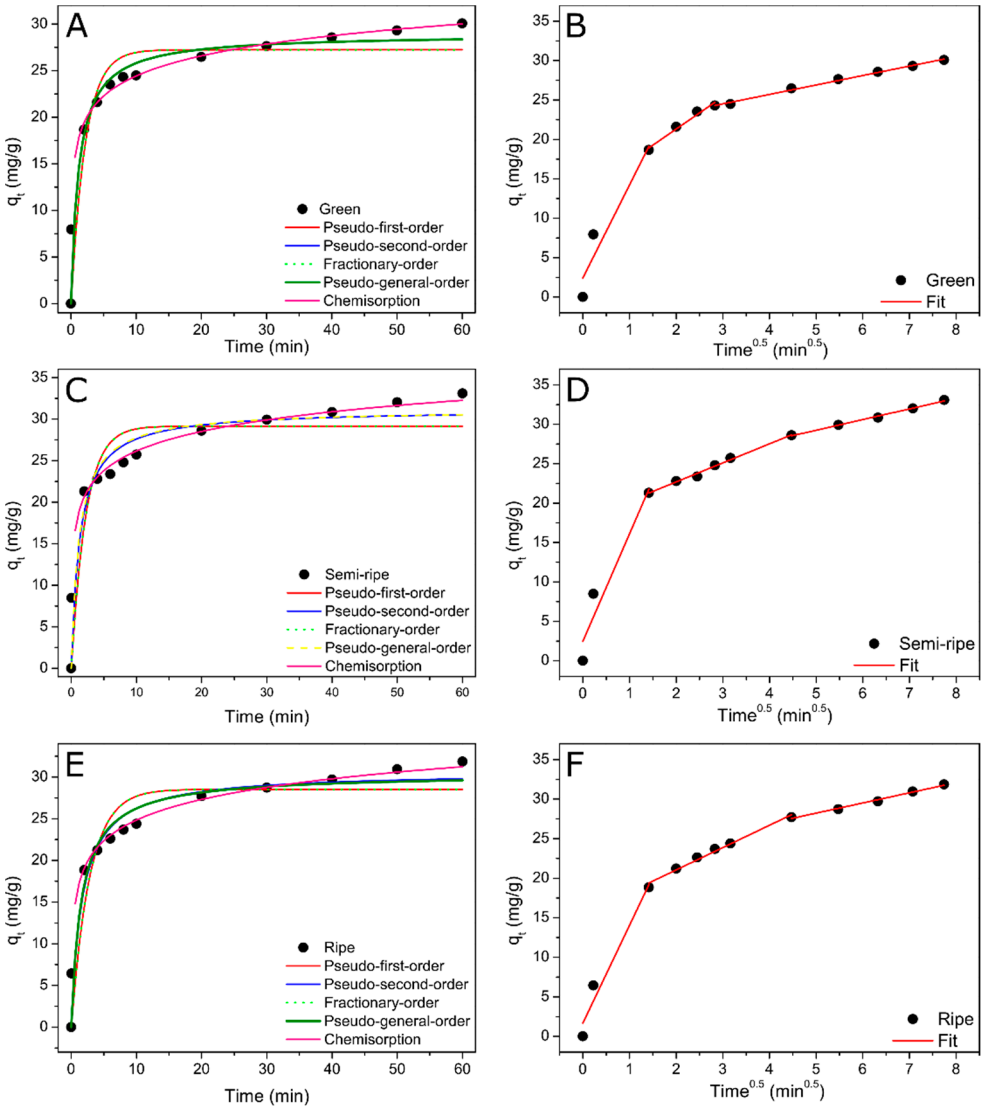

Figure S1. Kinetic models and intraparticle diffusion fits for MB removal using green (A, B), semi-ripe (C, D), and ripe (E, F) BPP. Conditions: 50 mg of BPP (biosorbent) and 50 mL MB dye solution at C_0 = 50 mg L^{-1}.

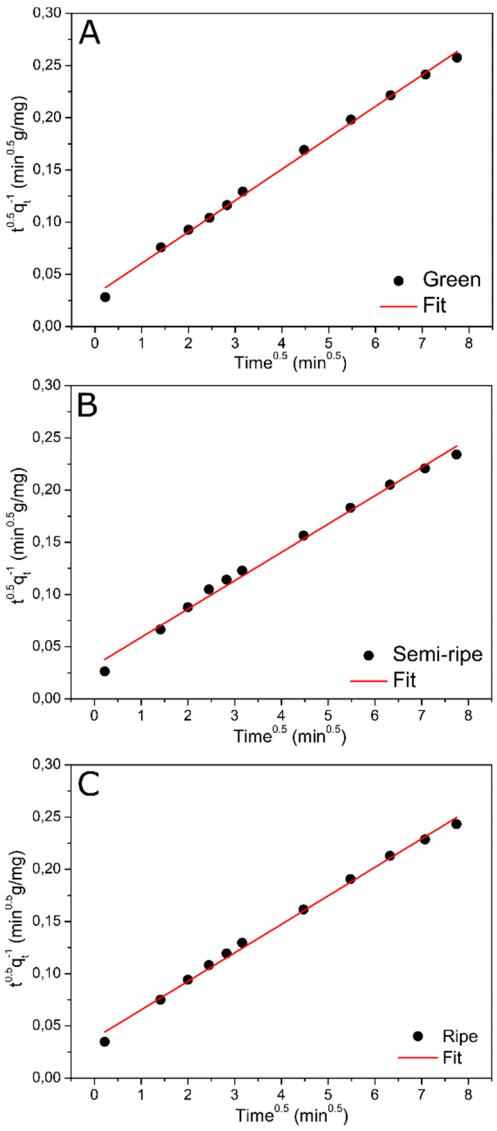

Figure S2. Fitted curves of the diffusion-chemisorption model for green (A), semi-ripe (B), and ripe (C) BPP. Conditions: 50 mg of BPP (biosorbent) and 50 mL MB dye solution at C_0 = 50 mg L^{-1}.

Table S1. Parameters obtained from the diffusion-chemisorption model for MB removal using green, semi-ripe, and ripe banana peel flour as biosorbent.

Parameters	**Ripeness stage**		
	Green	*Semi-ripe*	*Ripe*
Diffusion-chemisorption			
$k_{DC}(mg\ g^{-1}\ min^{-0.5})$	32.76 ± 2.78	31.40 ± 3.58	26.25 ± 1.98
$q_e(mg\ g^{-1})$	33.26 ± 0.63	36.85 ± 1.08	36.61 ± 0.84
R^2_{adj}	0.9965	0.9916	0.9948
Residual sum of squares	$1.92 \cdot 10^{-5}$	$3.79 \cdot 10^{-5}$	$2.37 \cdot 10^{-5}$

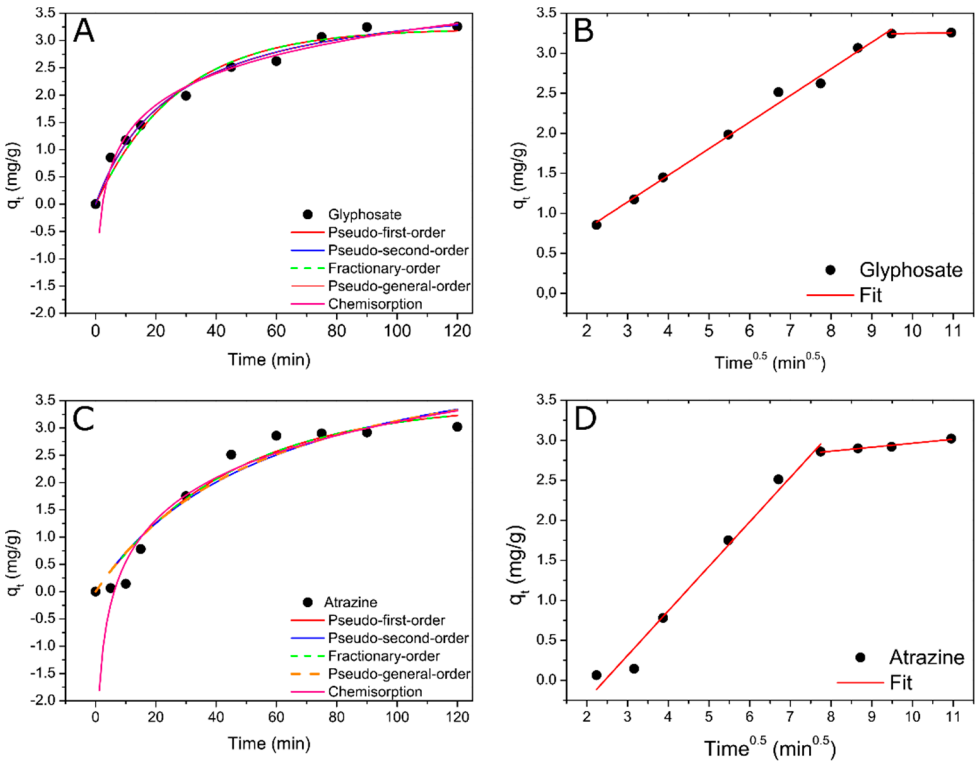

Figure S3. Fitted curves of the different kinetic models studied for semi-ripe BPP using glyphosate (A) and atrazine (C) as a pollutant and the intraparticle diffusion fit for glyphosate (B) and atrazine (D). Conditions: 60 mg of semi-ripe BPP and 10 mL of the pesticide at C_0 = 20 mg L^{-1}.