

## SUPPORTING INFORMATION

Kiwi Peels wastes as recyclable adsorbent to remove textile dyes from  
water: The Direct Blue 78 removal and recovering.

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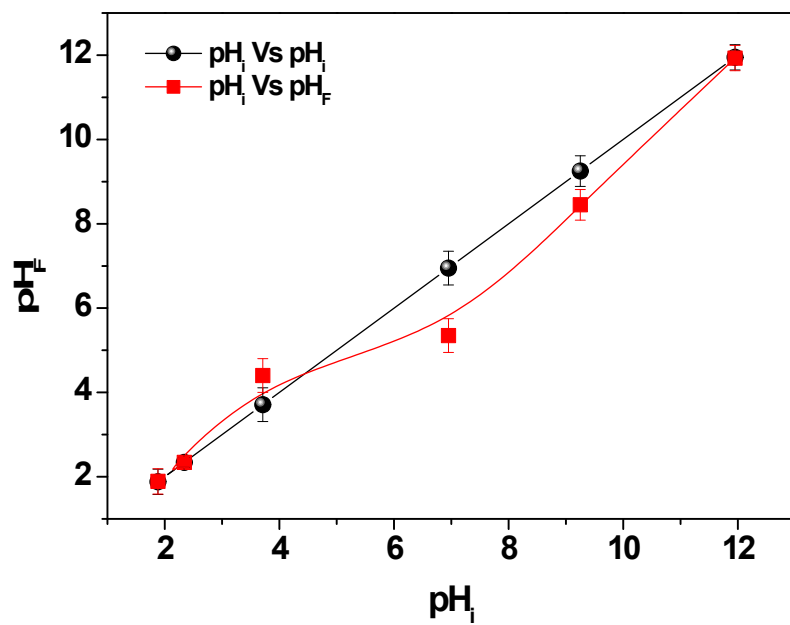
Dipartimento di Chimica

Via Orabona, 4

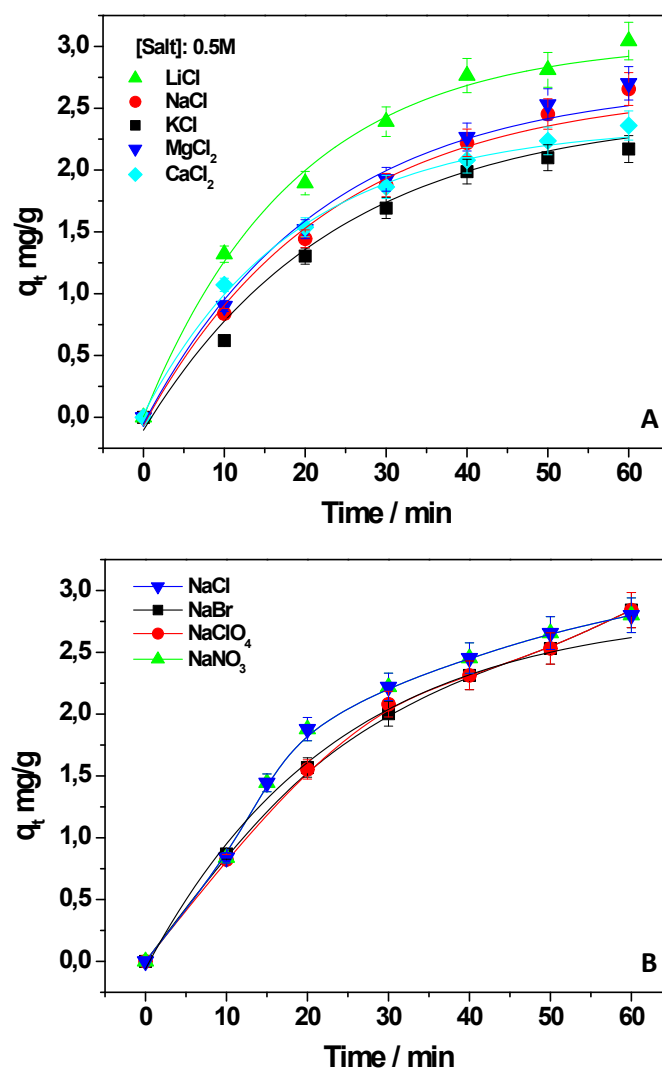
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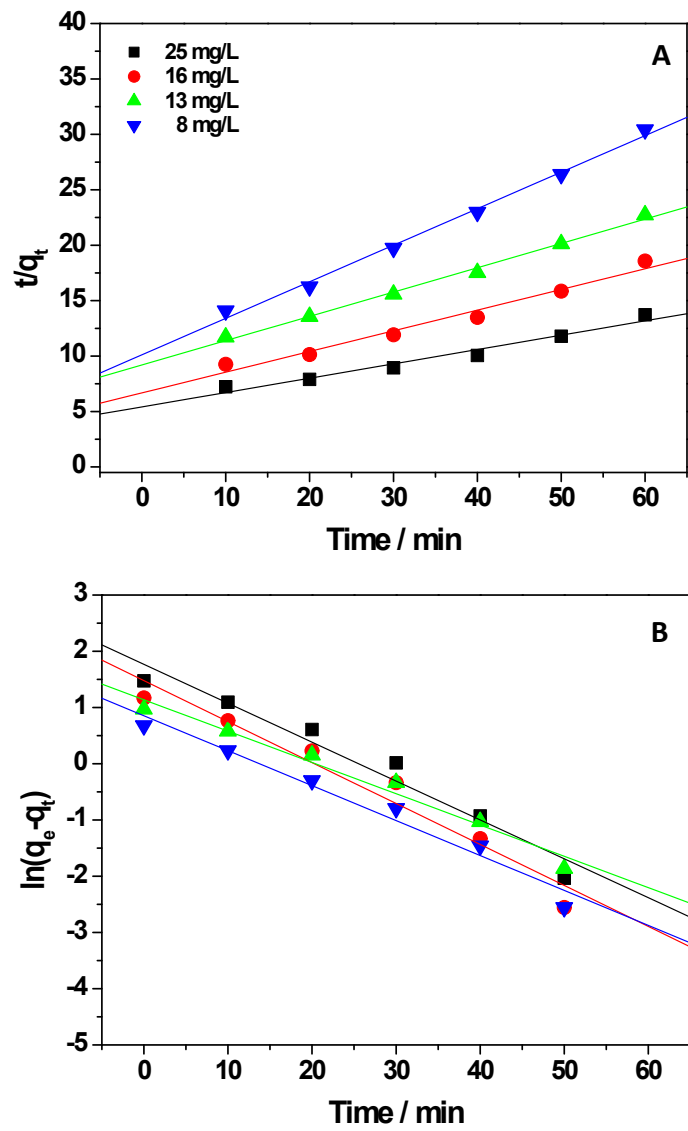
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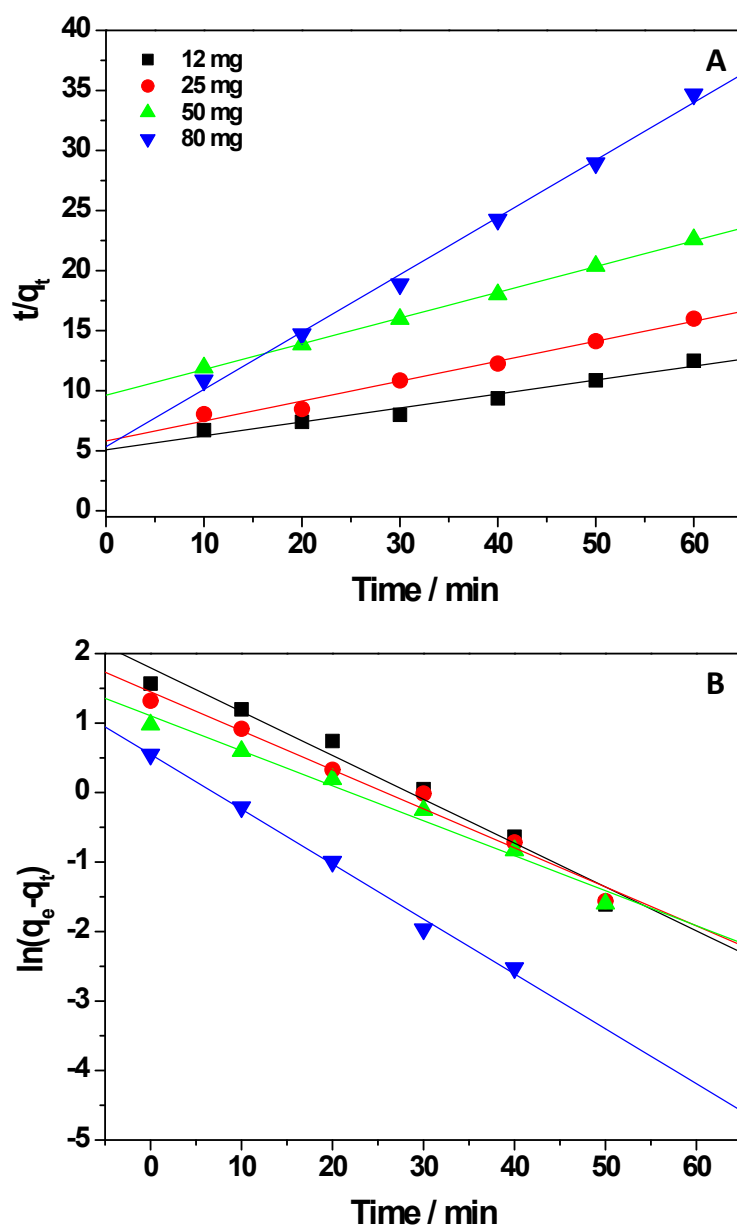
**Figure S1:** Application of the drift method to calculate the adsorbent PZC.



**Figure S2:** Kiwi Peels adsorption capacities obtained in presence of different salts at concentration 0.5M, by changing the cation (A) and anion nature (B). All the experiments are related to a DB solution 13 mg/L, pH 6 in presence of 50 mg of Peels.



**Figure S3:** Pseudo-second (A) and Pseudo-first (B) order kinetic models applied to experimental data in which the amounts of DB are changed.



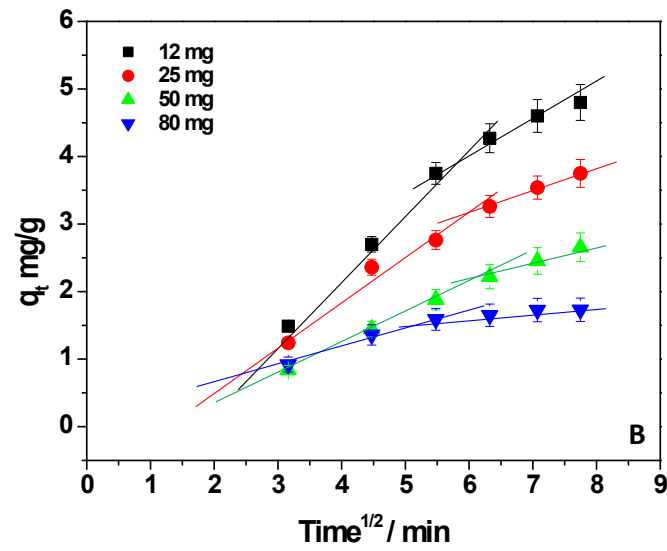
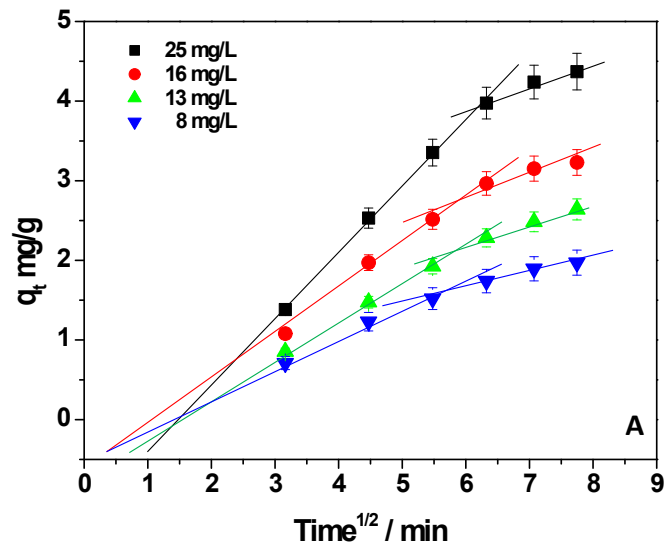
**Figure S4:** Pseudo-second (A) and Pseudo-first (B) order kinetic models applied to experimental data in which the amounts of Kiwi Peels are changed.

Concentration (DB) mg/L	Pseudo first-order				Pseudo second-order			
	q <sub>e</sub> exp mg/g	q <sub>e</sub> calc mg/g	K <sub>1</sub> min <sup>-1</sup>	R <sup>2</sup>	q <sub>e</sub> exp mg/g	q <sub>e</sub> calc mg/g	K <sub>2</sub> g/(mg×min)	R <sup>2</sup>
25	4.50	5.30	0.07	0.97896	4.50	8.00	0.003	0.99066
16	3.50	4.30	0.07	0.97719	3.50	5.50	0.005	0.99624
13	3.00	3.00	0.06	0.98794	3.00	4.50	0.006	0.99716
8	2.00	2.30	0.06	0.99857	2.00	2.50	0.020	0.99953

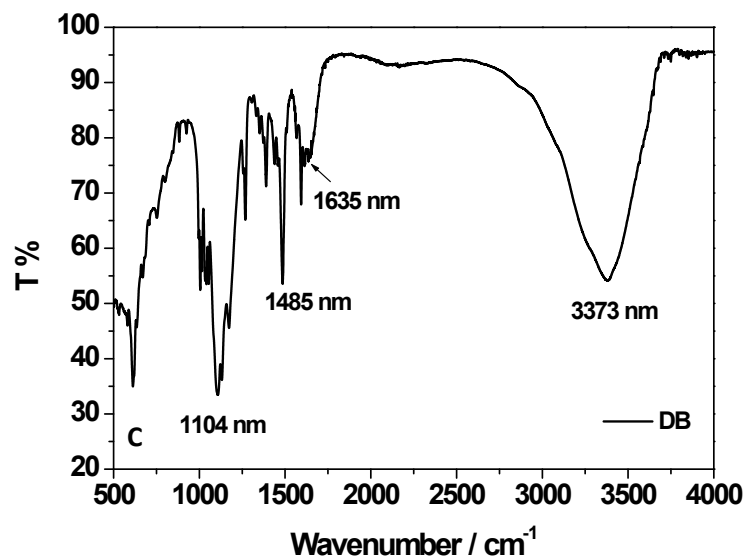
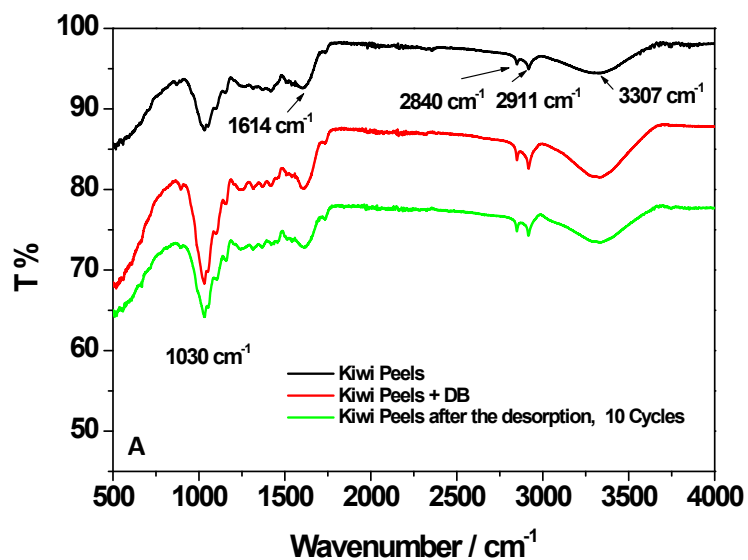
**Table S1:** Kinetic parameters referred to experiments in which the DB amount is changed.

Kiwi Peels mg	Pseudo first-order				Pseudo second-order			
	q <sub>e</sub> exp mg/g	q <sub>e</sub> calc mg/g	K <sub>1</sub> min <sup>-1</sup>	R <sup>2</sup>	q <sub>e</sub> exp mg/g	q <sub>e</sub> calc mg/g	K <sub>2</sub> g/(mg×min)	R <sup>2</sup>
80	2.00	1.80	0.80	0.99753	2.00	2.00	0.050	0.99921
50	3.00	3.00	0.06	0.99006	3.00	4.50	0.005	0.99948
25	4.00	4.20	0.05	0.98985	4.00	5.50	0.004	0.99123
12	5.00	6.00	0.05	0.98673	5.00	8.40	0.003	0.98187

**Table S2:** Kinetic parameters referred to experiments in which the adsorbent amount is changed.



**Figure S5:** Weber-Morris plot referred to experiments in which the DB (A) and Kiwi Peels (B) amounts are changed.



**Figure S6:** ATR-FTIR spectra of Kiwi Peels (black line), Kiwi Peels after the DB adsorption from a solution NaCl 0.5M at pH 6 (red line), and after 10 cycles of adsorption/desorption in hot water at 323K (green line) (A); ATR-FTIR spectrum of DB (B).