Supplementary materials

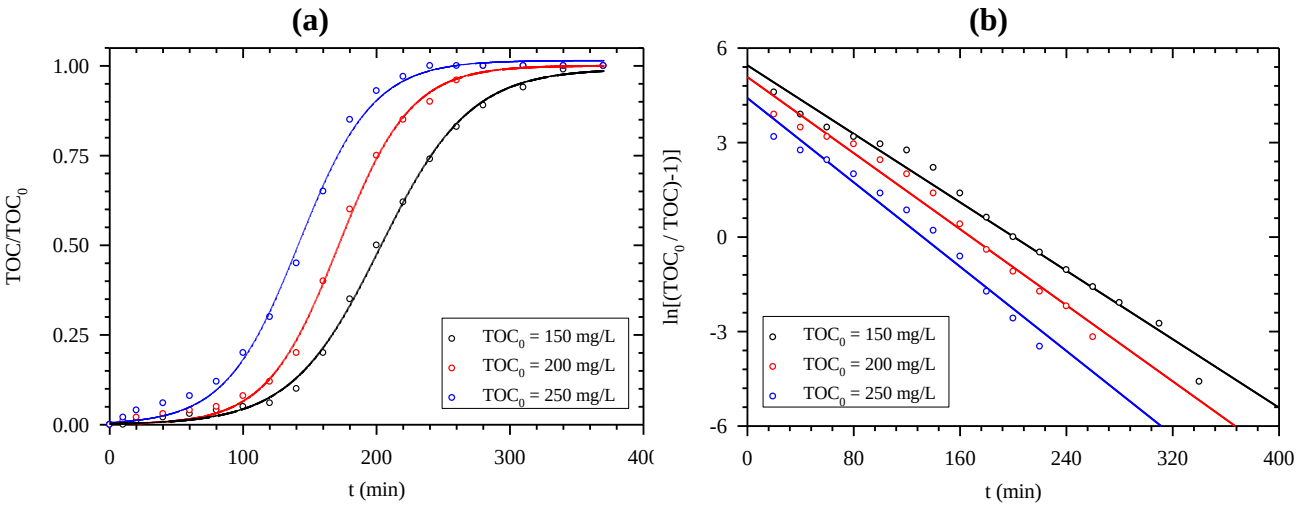


Figure S1: (a) Effect of initial TOC on the breakthrough curves and (b) Linearized Bohart–Adams model at a flow rate of 30 mL min^{-1}, bed height of 10 cm, pH of 5.6, and T of 30 ˚C [25].

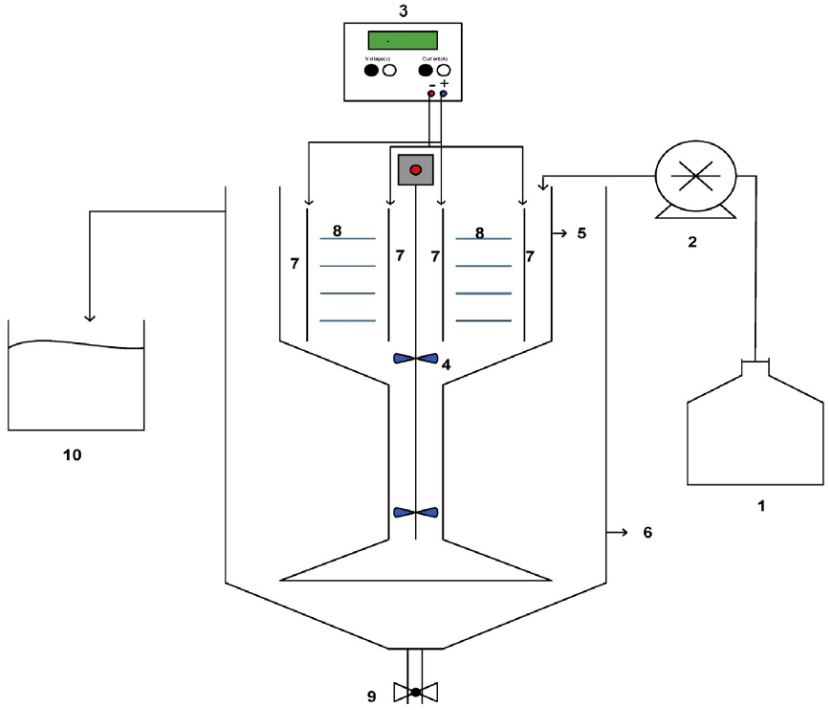


Figure S2: The schematic of continuous electrocoagulation process used in this study (1. Feed tank, 2. Peristaltic pump, 3. DC power supply, 4. Mixer, 5. EC chamber, 6. Sedimentation/flotation chamber, 7. Iron electrodes, 8. Bipolar electrodes, 9. Outlet valve, and 10. Effluent Tank [50].

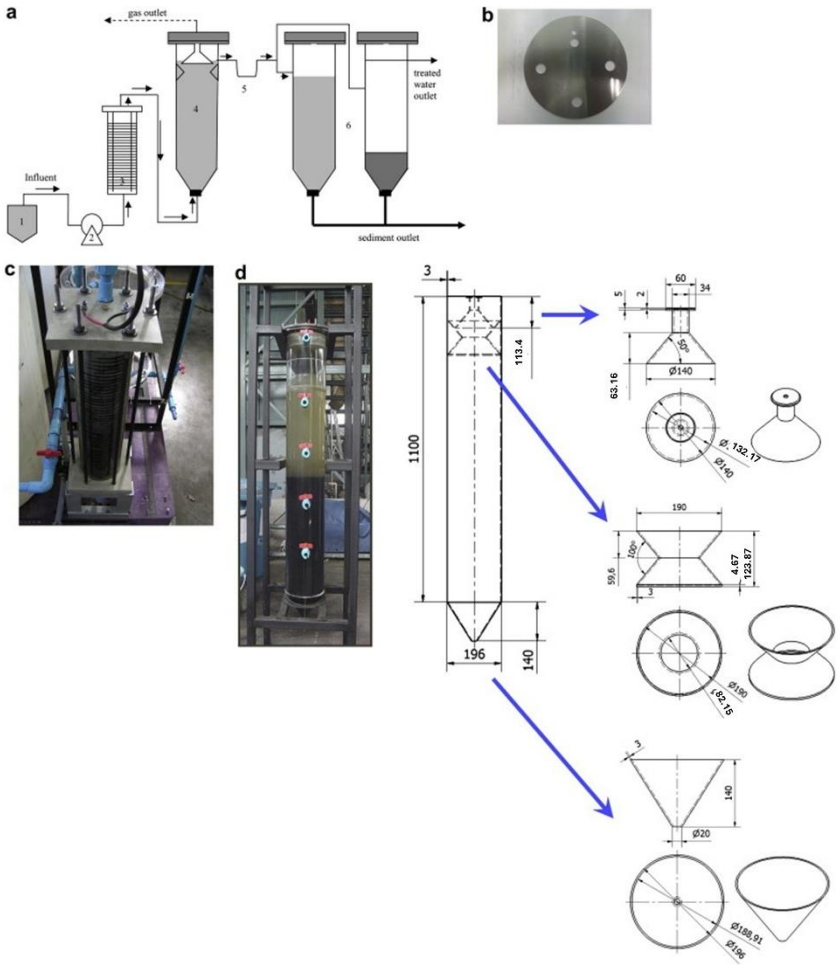


Figure S3: The electrocoagulation treatment unit. (a) Process diagram. (1) A wastewater storage tank; (2) a pump; (3) the electrochemical reactor; (4) a gas separation tank; (5) a U-tube connecter; and (6) two sedimentation tanks. (b) Electrode; (c) 25 pairs of electrodes sealed with rubbers connected vertically and located in an acrylic column; and (d) diagram of the gas separation tank [60.

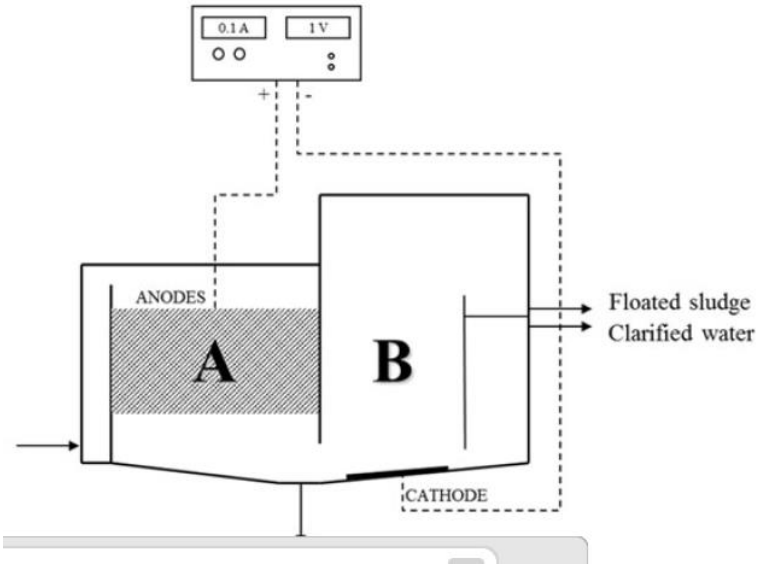


Figure S4: Experimental setup: anodic zone (A) and cathodic zone (B) [63].

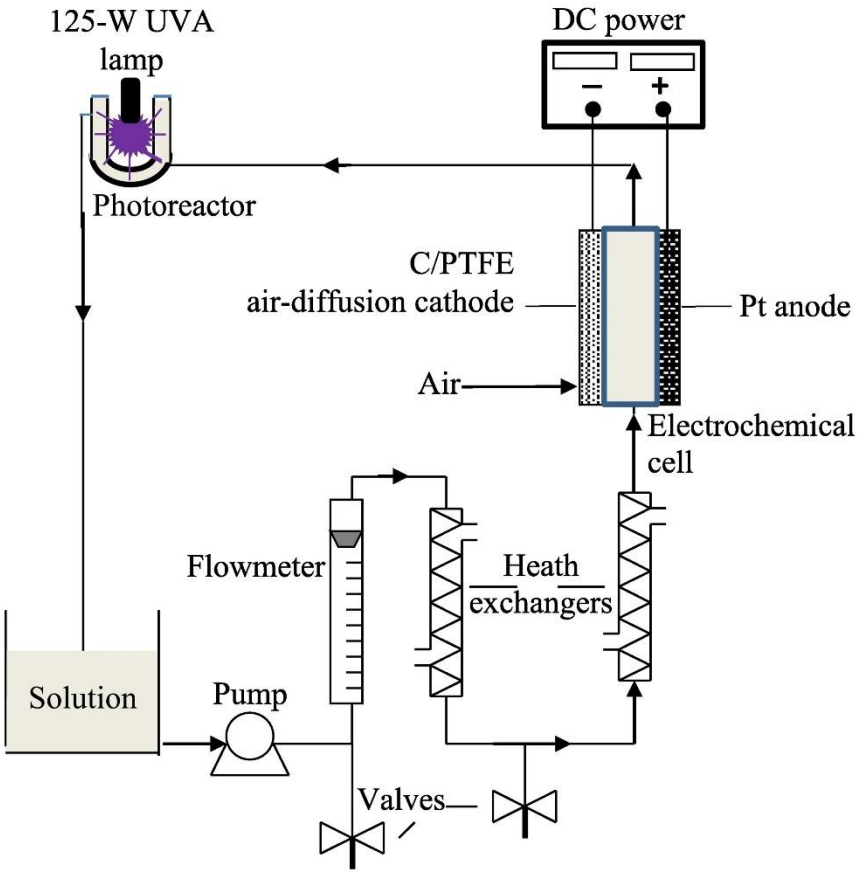


Figure S5. Sketch of the pre-pilot flow plant used for the EF or PEF treatments performed after the EC treatment of AB14 solutions. In EF, the lamp was switch off and the photoreactor was covered with an opaque cloth [74].

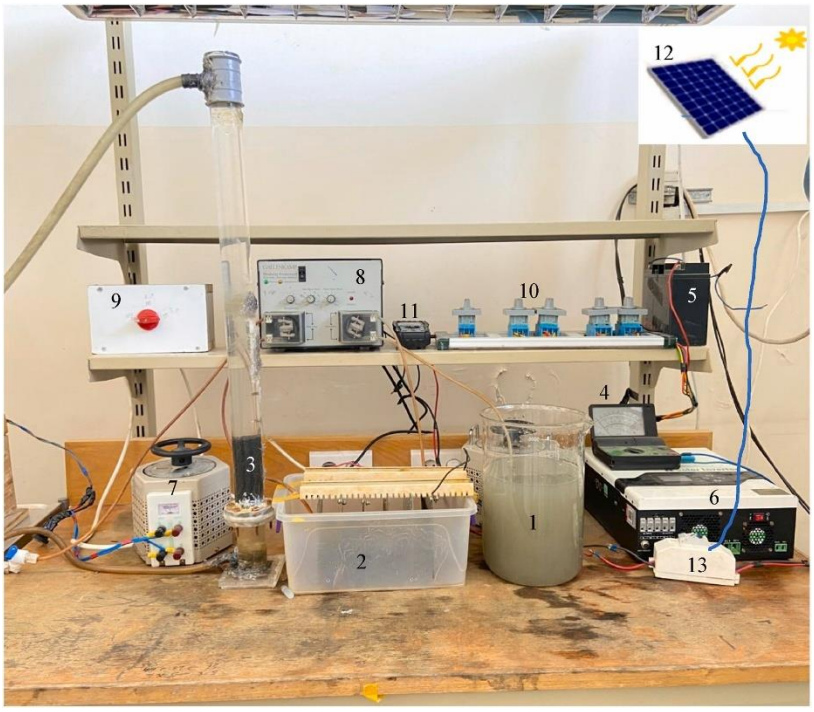


Figure S6: Combined continuous treatment system used in ref [25] 1) Chemical coagulated wastewater tank; 2) Electrocoagulation cell; 3) Adsorption bed; 4) Voltmeter; 5) Battery; 6) AC-DC Current inverter, 7) Variable resistance; 8) Peristaltic pumps; 9) Solar-tradition electric switch; 10) Electrodes configuration switchers; 11) Ammeter; 12) Solar panels; 13) On/off solar energy connecter [25].

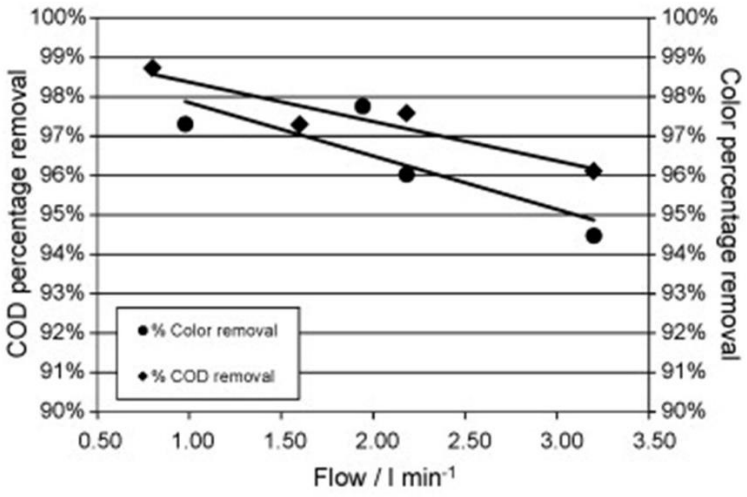


Figure S7. Effect of flowrate on COD and color percentage removal. Parameters variation: COD (725 - 1800 mg L^{-1}); initial color (260 – 428 U (Pt-Co)); conductivity (500 µS cm^{-1}); CD (110Am^{-2}); and final pH (~7) [28].

Table S1. The values of "Bohart–Adams" model parameters calculated at different initial values of TOC concentrations, flow rates, and bed heights [25].

"Operating condition		**Bohart–Adams Model constants**		**R^2**
		K_{AB} (L/(mg.min))	N_0 (mg/L)	**(-)**
Initial concentration (TOC_o) (mg/L)	150	0.00018114	4597	0.9825
	200	0.00015089	5143	0.9772
	250	0.00013375	5039	0.9702
Flow rate (F) (mL/min)	19	0.000150505	1914	0.9674
	30	0.000135857	4086	0.9825
	40	0.000109372	6765	0.9928
Bed Height (Z) (cm)	10	0.000149608	4553	0.9853
	15	0.000135857	4086	0.9825
	20	0.000106944	3816	0.9897"