Table S1. Continuous flow electrocoagulation processes.

Pollutant removed	Initial concentration	Type of water	Electrode material	Operating parameters	Cell volume[a]/ Working volume[b]	Removal efficiency (%)	Cost	Aspects evaluated	Reference
Color COD	Color: 1340 PtCo Unit COD: 870 mg/L	Dyeing wastewater	A: Al C: Al	j = 4.45 mA/cm^2 Q = 100 ml/min	1.65 L[a] 1.3 L[b]	Color: 41.4 COD: 51.4	-	Current density Flow rate Initial concentration Electrode number Electrode gap pH	(Kim et al., 2002)
Orange II - dye	10 mg/L	Synthetic	A: Fe C: Fe	I = 4.0 A Q = 350 mL/min	450 mL[a]	98.5	-	Initial concentration Current density Flow rate Electrolyte concentration pH	(Mollah et al., 2004)
Arsenic	0.040 mg/L	Well water	A: Fe C: Fe	I = 5 A Q = 30 L/min R.T. = 1 min	-	>99	0.002 USD/m^3	Effect of air injection	(Parga et al., 2005a)

Chromium	485 mg/L	Wastewater	A: Fe C: Fe	I = 7 A Q = 600 mL/min τ = 2 min	1.2 L[a]	>99	-	Effect of air injection	(Parga et al., 2005b)
Fluoride	5 mg/L	Synthetic	A: Al C: Al	j = 12.5 A/m^2 Q = 200 mL/min τ = 40 min	10.08 L[a]	95	0.36 AUD/m^3	Current density Flow rate Initial concentration pH Residence time	(Emamjomeh & Sivakumar, 2009a)
Red dye COD	Dye: 100 mg/L COD: 2500 mg/L	Wastewater (Textile factory)	A: Al C: Al	j = 31.25 mA/cm^2 τ = 14 min Q = 37.2 L/h	8.6 L[a]	Dye: >85 COD: >80	-	Current density Conductivity pH Initial concentration Flow rate Residence time	(Merzouk et al., 2009)
Zinc and phosphate	Zinc: 40 mg/L Phosphate: 120 mg/L	Wastewater (Automotive assembly plant)	A: Al C: Al	j = 60 A/m^2 Q = 50 mL/min τ = 25 min	1 L[a]	Zinc: 99.8 Phosphate: 99.9	14.5 US$/m^3	Current density pH Residence time	(Kobya et al., 2010)

Arsenic and nitrate	As: 1 mg/L Nitrate: 300 mg/L	Synthetic	A: Fe C: Fe	U = 25 V Q = 2 L/h τ = 3.86 h	4.97 L[a] 4 L[b]	As: 75% Nitrate: 84%	-	Applied potential Type of water Initial concentration	(Kumar and Goel, 2010)
Petroleum hydrocarbons	TPH: 64 mg/L	Groundwater	A: SS C: Fe	j = 18 mA/cm^2 τ = 60 min	200 mL[b]	93.4	-	Electrode material pH Current density Residence time Aeration	(Moussavi et al., 2011)
Turbidity	500 – 600 NTU	Wastewater (Tissue paper factory)	A: Al C: Al	j = 40 A/m^2 Q = 1.6 L	8.19 L[a]	99	-	Current density Current and potential distribution	(Vázquez et al., 2012)
Arsenic	59 μg/L	Groundwater	A: Al C: Al	j =5 mA/cm^2 M.F.R.= 0.91 cm s^{-1}	88.94 mL [a]	>99	-	Current density Mean linear Flow rate	(Flores et al., 2013)
Arsenic	150 μg/L	Drinking water	A: Fe C: Al	j = 2.5 A/m^2 Q = 0.05 L/min	1.57 L[a] 1 L[b]	96	0.0091 €/m^3	Flow rate	(Kobya et al., 2014)

			A: Al C: Fe	τ = 3 min				Initial concentration	
Arsenic	51 μg/L	Groundwater	A: Al C: Al	j = 8.86 mA/cm^2 Q = 7 L/h τ = 80 min	9 L[a]	93	0.25 €/m^3	Treatment time Initial pH Electrode passivation Residual Al	(Mohora et al., 2014)
Turbidity	400 – 450 NTU	Wastewater (Tissue paper factory)	A: Al C: Al	j = 200 A/m^2 Q = 7.57 L/min	50 L[a]	97	-	Flow rate Current distribution	(Vázquez et al., 2014)
Nickel	100 mg/L	Tap water	A: Al C: Al	j = 22.5 A/m^2 τ = 30 min pH = 6	120 mL[a b]	98	-	Current density Residence time Initial pH	(Lu et al., 2015)
Fluoride	10 mg/L	Tap water	A: Al C: Al	j = 7.5 A/m^2 τ = 20 min pH = 6	220 mL[b]	92.74	-	Current density Residence time Initial pH	(Lu et al., 2016)
Arsenic and fluoride	As: 43 μg/L F: 2.5 mg/L	Groundwater	A: Al C: Al	j = 4 mA/cm^2 M.F.R. = 1.82 cm/s	88.94 cm^3 [a]	As: >99 F: 84.4	-	Current density	(Guzmán et al., 2016)

(simultaneous removal)								Mean linear flow rate	
COD	274 mg/L	Municipal wastewater	A: Al C: Al	j = 2 mA/cm^2 τ = 5 min	8.3 L[a] 1.5 L[b]	67.15	0.07 USD/m^3	Current density Residence time Initial concentration	(Makwana and Ahammed, 2016)
Iron	50 mg/L	Synthetic	A: Fe C: SS	j = 10 mA/cm^2 Q = 40 L/h τ = 46 s	-	>99	-	Current density pH	(Gaalova et al., 2018)
Arsenic	38.15 µg/L	Groundwater	A: Fe C: Fe	j = 1.98 A/m^2 Q = 12 L/h	7.9 L[b]	96	0.0135 €/m3	Current density pH evolution Residual Fe concentration Flow rate Electrode passivation	(Mohora et al., 2018)
Arsenic and antimony	As: 500 µg/L Sb: 500 µg/L	Synthetic	A: Fe C: Fe	j = 13.89 A/m^2 Q = 0.043 L/min	-	As: 99.73 Sb: 94.87	-	Flow rate Potential and current distribution	(Song et al., 2018)
Nitrate	100 mg/L	Tap water	A: Al C: Al	j = 70-80 A/m^2 Q = 100 mL/min	2.4 L[b]	>60	DC:	Effect of AC and DC	(Karamati-Niaragh et al., 2019)

				τ = 48 min			54 US$/ (kg nitrate removed) AC: 29 US$/ (kg nitrate removed)	Initial concentration Flow rate Current density Initial pH	
Arsenic and fluoride (simultaneous removal)	As: 50.4 µg/L F: 5.5 mg/L	Groundwater	A: Al C: Al	j = 6 mA/cm^2 M.F.R. = 0.23 cm/s	-	As: 81.74 F: 91.63	-	Current density Mean linear flow rate	(Sandoval et al., 2019)
Arsenic and fluoride (simultaneous removal)	As: 550 µg/L F: 12 mg/L	Synthetic	A: Al C: Al	Q = 0.88 L/h τ = 95 min	1.4 L^b	As: 98.83 F: 87.5	0.358 USD/m^3	Flow rate Residence time	(Thakur et al., 2019)
Color COD Turbidity Alkalinity	COD: 1500-1600 mg/L Turbidity: 39-45 NTU Alkalinity: 230-285 mg $CaCO_3$/L	Industrial licorice wastewater	A: Fe C: Fe	j = 350 A/m^2 τ = 81.8 min	5.88 L^b	Color: 90.1 COD: 89.4 Turbidity: 82 Alkalinity: 73.3	-	Current density Treatment time NaCl concentration Mixing intensity	(Abbasi et al., 2020)
Boron	15 mg/L	Produced water	A: Al C: Al	j = 12.5 mA/cm^2 Q = 20 mL/min τ = 45 min	0.9 L^b	84	0.2 USD/m^3	Initial concentration Electrode material Electrode gap	(Ezechi et al., 2020)

								Residence time	
Algae *Chlorella vulgaris*	195 mg/L	Synthetic	A: Fe C: SS	j = 3.2 mA/cm^2 Q = 10 L/h τ = 1.32 min	0.073 L[a]	88	0.03 €/m^3	Electrode material	(Parmentier et al., 2020)
Color (Reactive Blue)	140 mg/L	Synthetic	A: Fe (Particles) C: Al	I = 3 A pH = 3 Q = 24 L/h τ = 0.2 min	-	98	-	Initial pH Flow rate Current	(Rodrigues et al., 2020)
Arsenic	0.1 mg/L	Synthetic	A: SS C: SS	Q= 12 L/h τ = 5 min	1.0 L[b]	>91	0.240 AUD/m^3	Flow rate Residence time	(Nguyen et al., 2021)
Iron	10 mg/L	Synthetic	A: Al C: Al	j = 3 mA/cm^2 τ = 50 min	1.0 L[a]	>99.9	0.623 £/m^3	Current density pH Initial concentration Treatment time	(Abdulhadi et al., 2021)
Color COD TSS	Color: 2846 Pt-Co COD: 2180 mg/L TSS: 420 mg/L	Wastewater (Textile factory)	A: Fe C: Fe	U = 70 V Q = 0.5 L/min	1.4 L[a] 1.0 L[b]	Color: 96.87 COD: 89.77 TSS: 84.46	0.75 USD/m^3	pH Voltage Flow rate	(Hendaoui et al., 2021)

Turbidity COD Al Cr Zn	Turbidity: 1095 NTU COD: 330 mg/L Al: 3.81 mg/L Cr:3.63 mg/L Zn:70.4 mg/L	Wastewater (Metallurgical industry)	A: Fe C: Al	I = 12 A Q = 135 L/h	155 L[a]	Turbidity: 91 COD: >91 Al: 85 Cr: 95 Zn: 93	0.07 €/m^3	Anode material Current	(Kuokkanen et al., 2021)
Methyl orange	134 mg/L	Synthetic	A: Fe C: Fe	j = 10.1 mA/cm^2 Q = 60 L/h τ = 30 min	1.15 L[a]	92.35	-	Current density Initial concentration Flow rate Treatment time Electrode gap	(Wu et al., 2021)
Turbidity	108 NTU	Synthetic	A: Al C: Al	U = 6.85 V Q = 79.4 L/h τ = 6.5 min	8.6 L[b]	85.6	$0.031 USD	Number of electrodes	(Ntambwe Kambuyi et al., 2022)

j: Current density; I: Operating current; Q: Inlet flow rate; τ: Residence time in the EC cell; COD: Chemical oxygen demand; TSS: Total suspended solid; TPH: total petroleum hydrocarbon; SS: Stainless Steel; U: Cell potential; TOC: Total organic carbon