S1 Table 1. Structural Parameters of monolithic activated carbon (MAC) used in this work (PO_4^{3-}-MAC).
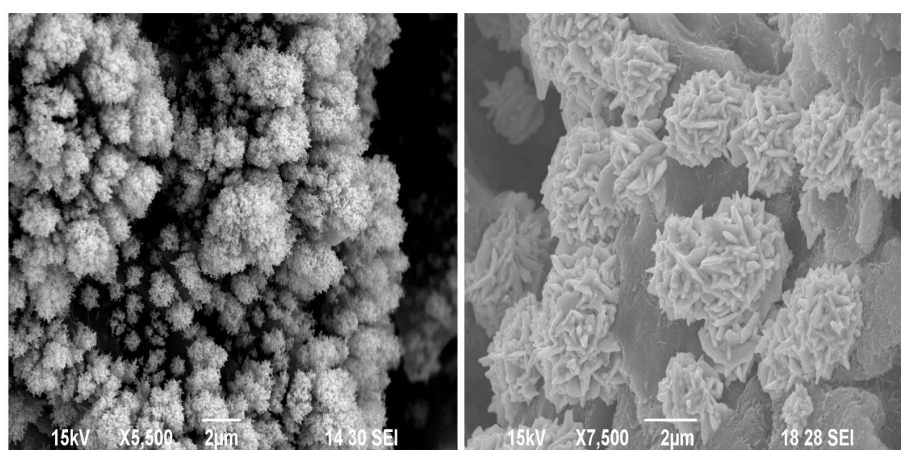
monolithic activated carbon	BET Surface Area (m²/g)	Pore Volume (single point) (cm³/g)	Pore Size (4V/A by BET) (nm)	Apparent Density (g/cm³)
MAC	380	0.226	2.38	0.740

S2 Table 2. Major elemental composition in atomic percent (%) of monolithic activated carbon (MAC) as determined by X-ray photoelectron Spectroscopy (XPS).

monolithic activated carbon	C	O	P
MAC	59.29	36.85	3.87

S3 Table 3. Elemental analysis with the energy-dispersive x-ray spectrum of PO_4^{3-}-MAC being treated by HCl (Cl⁻-MAC) and NaOH (OH⁻-MAC).

Element	Atom% (PO_4^{3-}–MAC)	Atom% (Cl⁻–MAC)	Atom% (OH⁻–MAC)
C	75.57	82.76	74.69
O	18.25	6.45	21.37
Si	0.84	3.54	0.87
Na	/	/	1.56
P	3.82	0.27	0.57
Cl	/	1.54	/
K	0.8	0.75	0.53
Zn	0.72	4.7	0.4
Total	100	100	100

S4 Fig.1. SEM images of （a）Pd fractal and （b）Au fractal samples

obtained on monolithic activated carbon (MAC).