

Supporting information

Table s1 . The physical properties deduced from the Nitrogen adsorption-desorption isotherm.

samples	S_{BET} (m^2/g)	S_{micro} (m^2/g)	S_{meso} (m^2/g)	$S_{\text{micro}}/S_{\text{meso}}$	V_{total} (cc/g)	Average pore size (nm)
MAC	1078	641	437	1.46	0.847	3.143
CAC	1003	724	279	2.59	0.651	2.596
PAC	824	421	403	1.04	0.612	2.974
AC	1912	1219	693	1.76	1.193	2.496

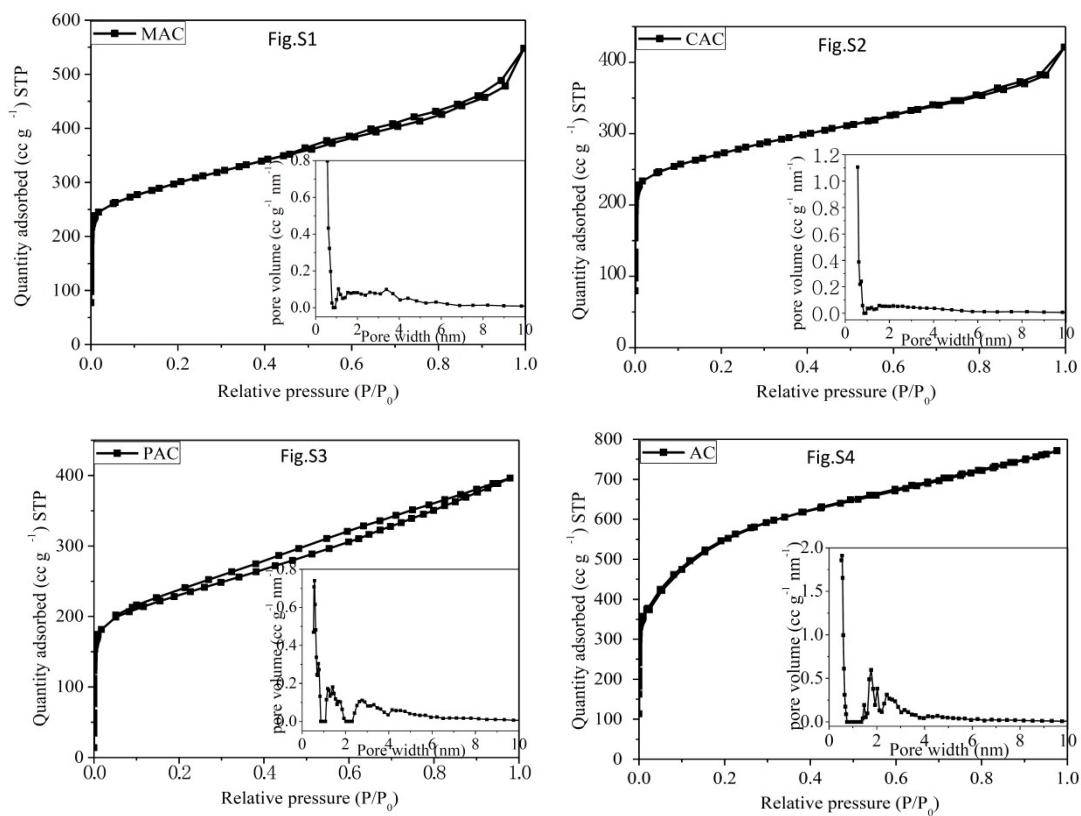


Fig.s1-4 Nitrogen adsorption-desorption isotherm of samples and (insets) pore size distribution calculated from DFT model.

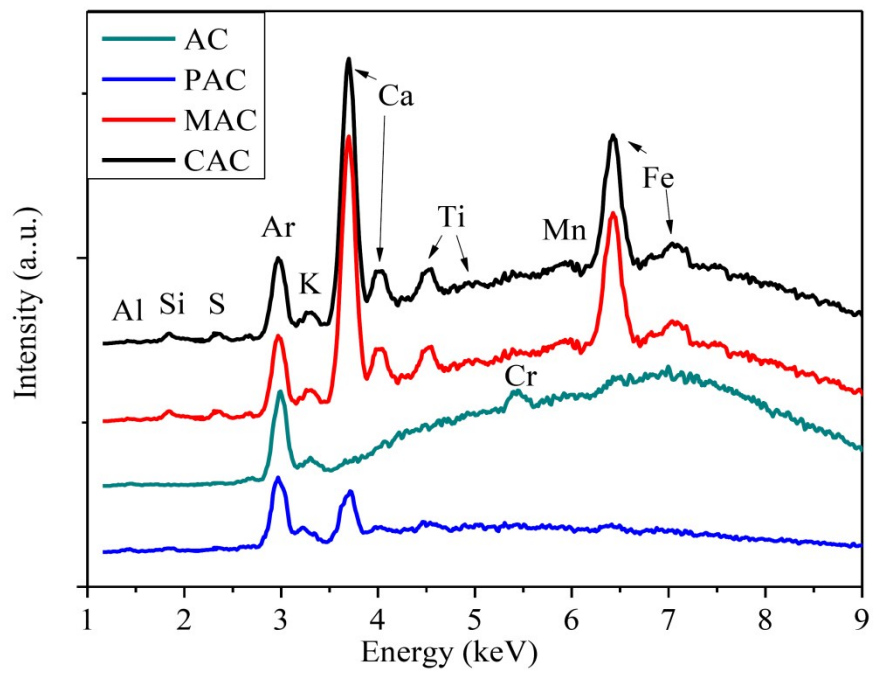


Fig.5 XRF curves of sample MAC, PAC, CAC and AC.

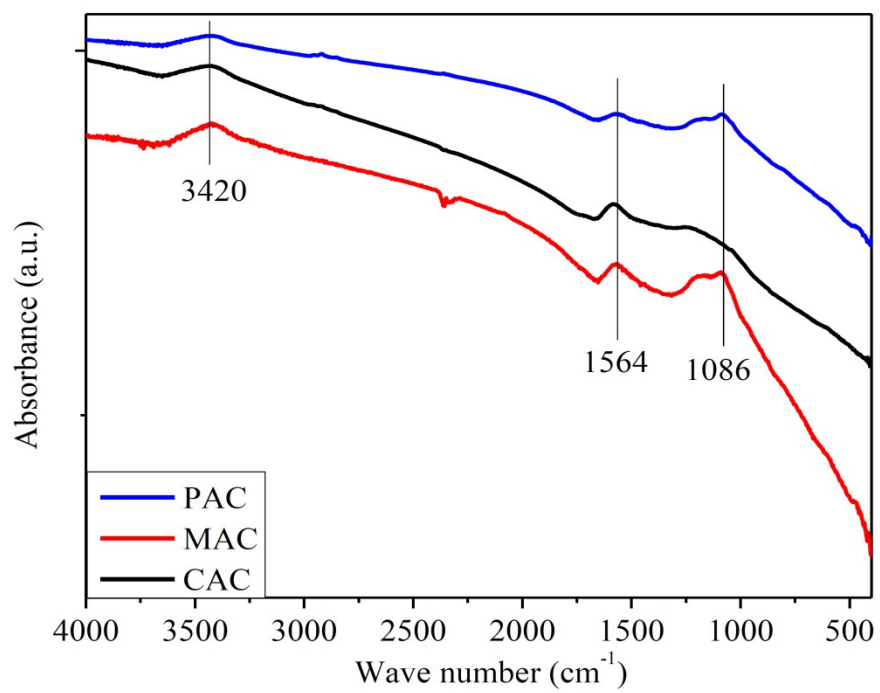


Fig.s6 FT-IR spectra of sample PAC, MAC and CAC.

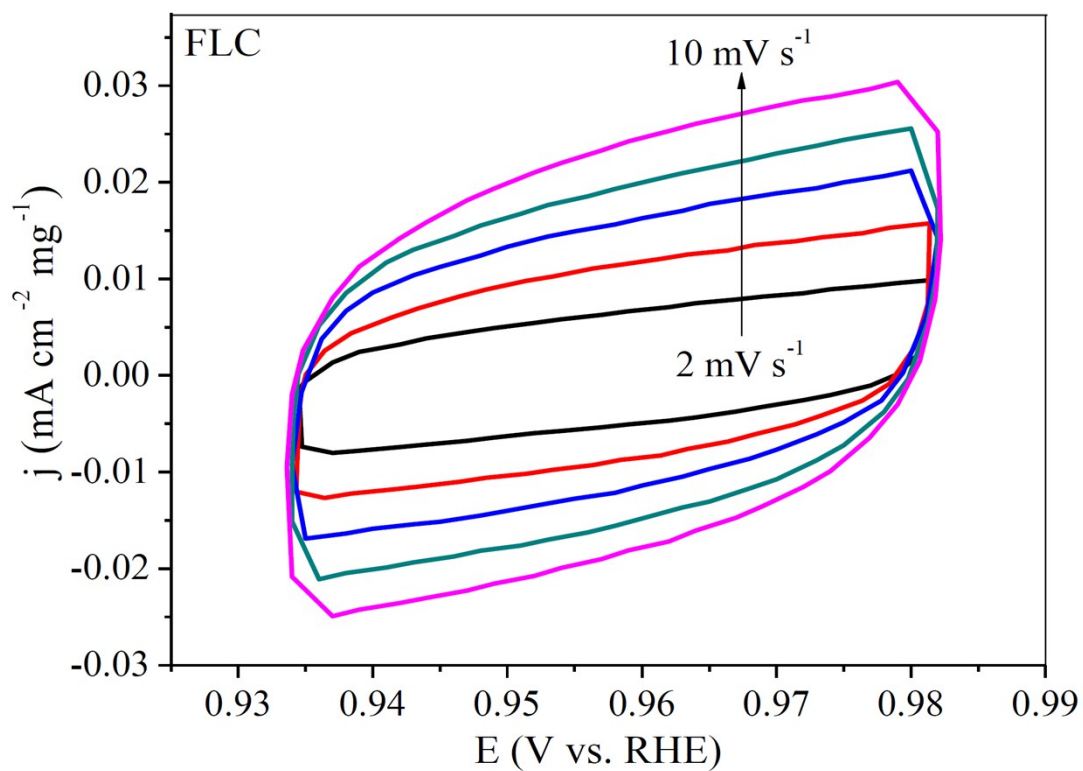


Fig.S7 CV curves of the FLC recorded at 0.93-0.99 V vs. RHE at various scan rates (2-10 mV s^{-1}).

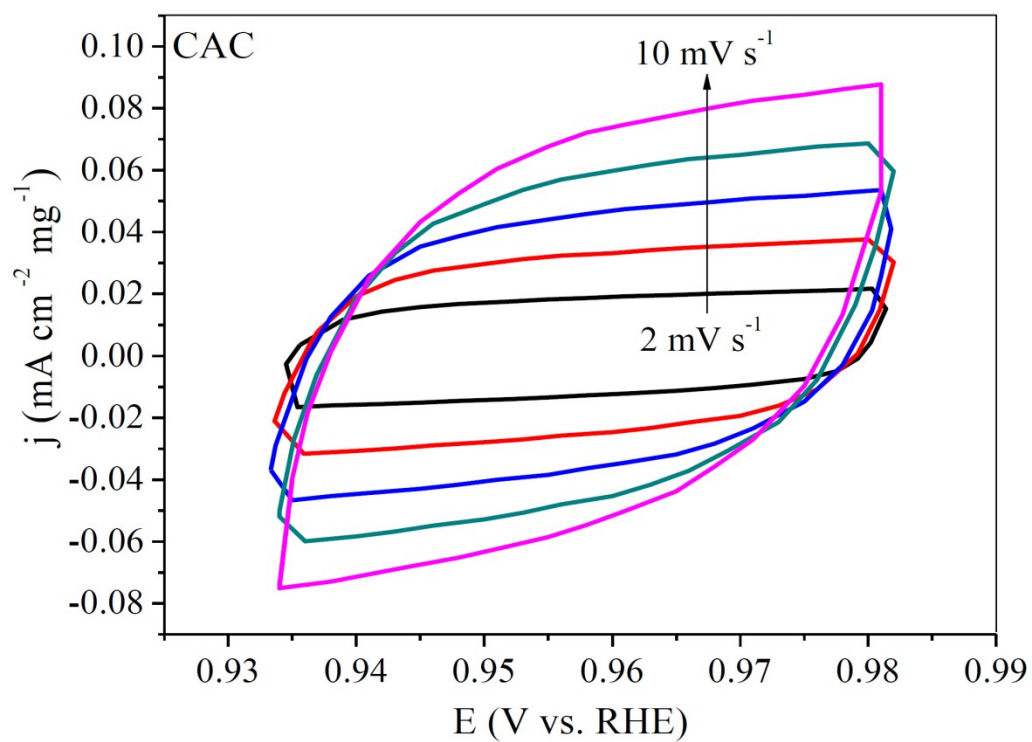


Fig.S8 CV curves of the CAC recorded at 0.93-0.99 V vs. RHE at various scan rates (2-10 mV s⁻¹).

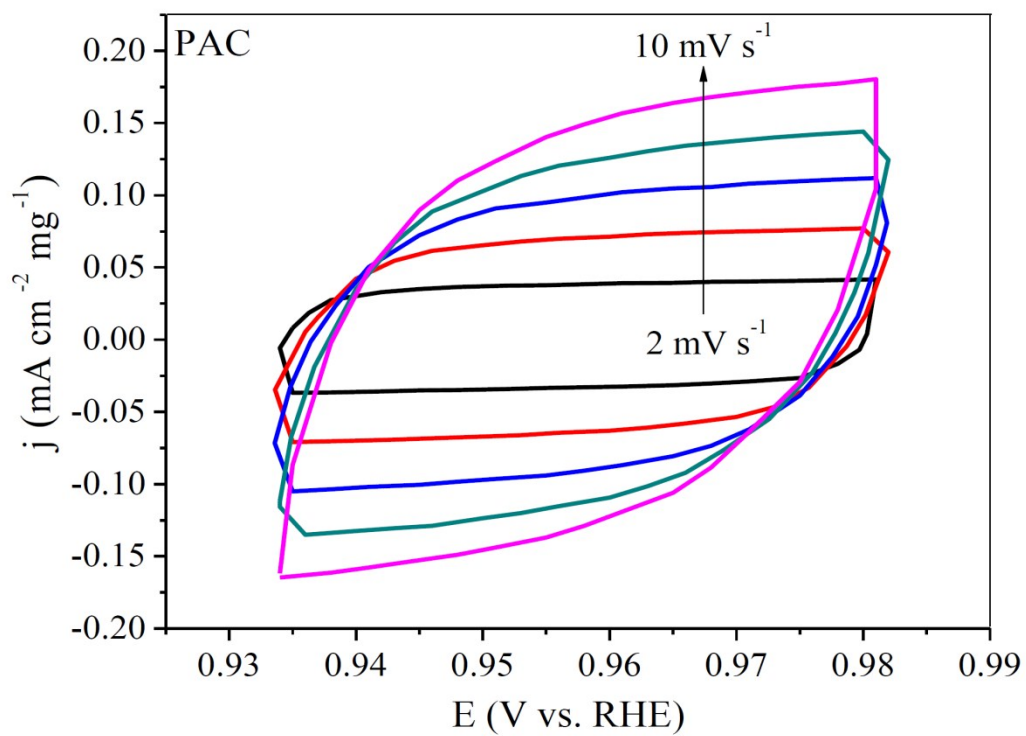


Fig.S9 CV curves of the PAC recorded at 0.93-0.99 V vs. RHE at various scan rates (2-10 mV s^{-1}).

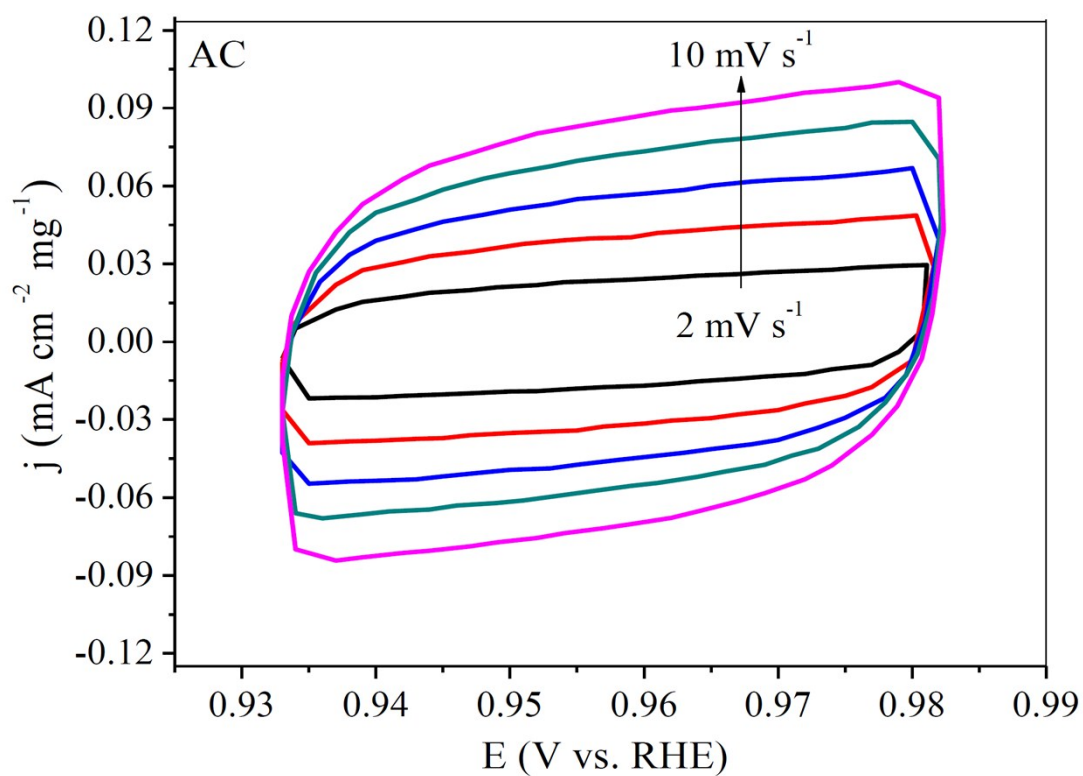


Fig.S10 CV curves of the AC, recorded at 0.93-0.99 V vs. RHE at various scan rates (2-10 mV s^{-1}).