Towards photothermal acid catalysts usimg eco-sustainable sulfonated carbon nanoparticles. Part I. Synthesis, characterization, and catalytic activity towards Fischers's esterification.

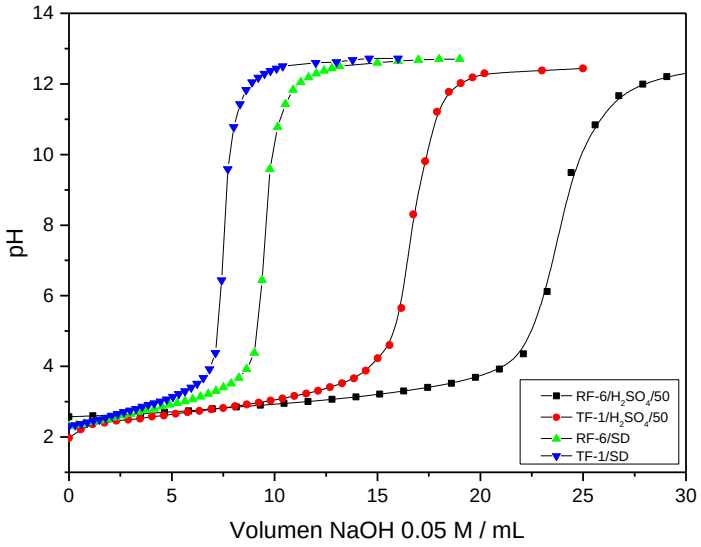

Figure S1 : Potentiometric titration curves with 0.05 M NaOH for sulfonated resins RF-6/H2SO4/50, TF-1/H2SO4/50, RF-6/SD and TF-1/SD - Determination of nGS

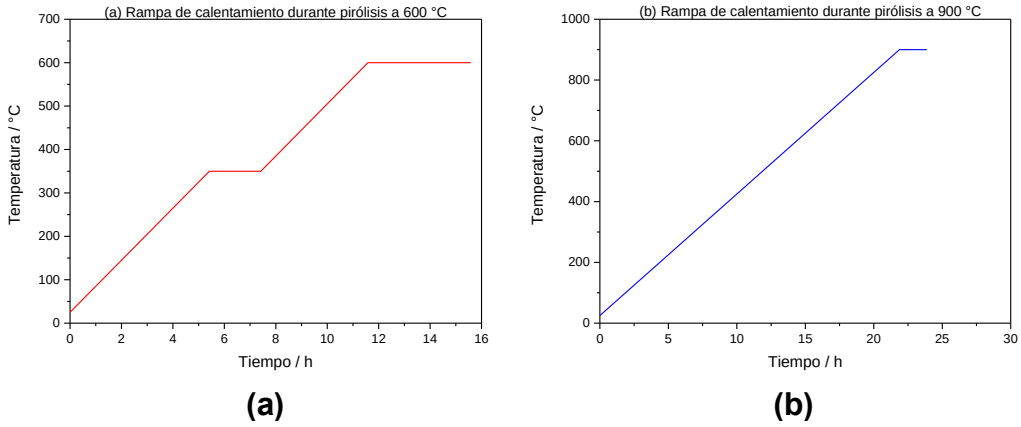

Figure S2 : Heating ramps used to carbonize resins obtained by the Stöber method (a) Heating at 1 °C/minute up to 350 °C, isothermal period at 350 °C for 2 hours, heating at 1 °C/minute until 600 °C, isothermal period at 600 °C for 4 hours, cooling to room temperature, and (b) Heating at 1 °C/minute to

900 °C, isothermal period at 900 °C for 2 hours, cooling to room temperature

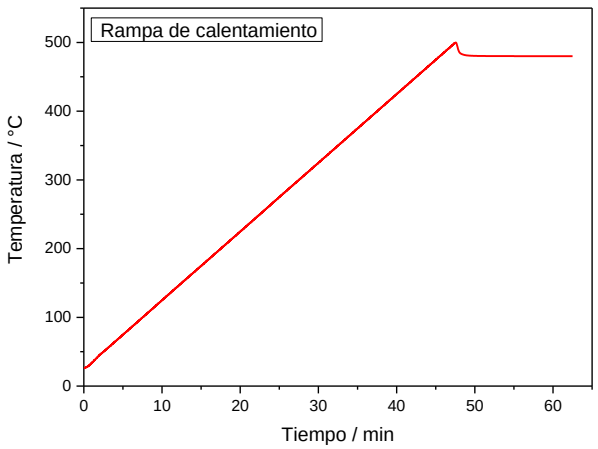

Figure S3: Heating ramp for TGA measurements

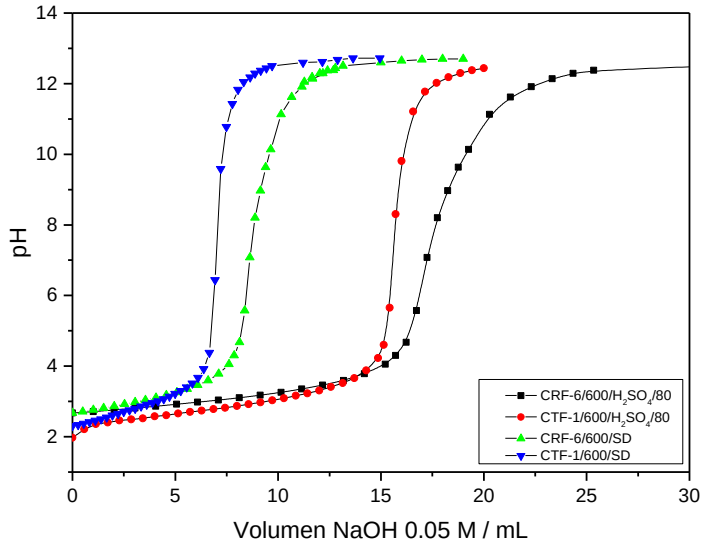

Figure S4 Potentiometric titration curves with 0.05 M NaOH for sulfonated carbons CRF 6/600/SD, CTF 1/600/SD, CRF-6/600/H2SO4/80 and CTF-1/600/H2SO4/80 - Determination of nGS

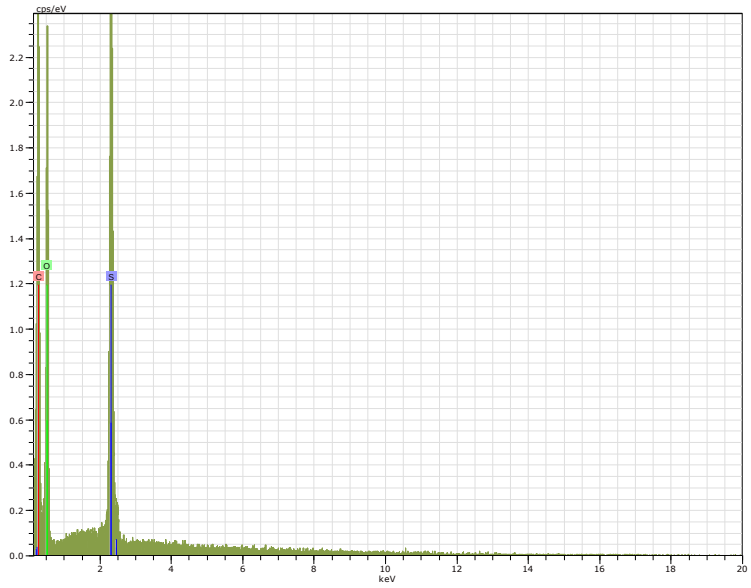

Figure S5: EDX spectrum of CTF-1/600/H2SO4/80 - HV:20.0kV - Puls th.:1.11kcps

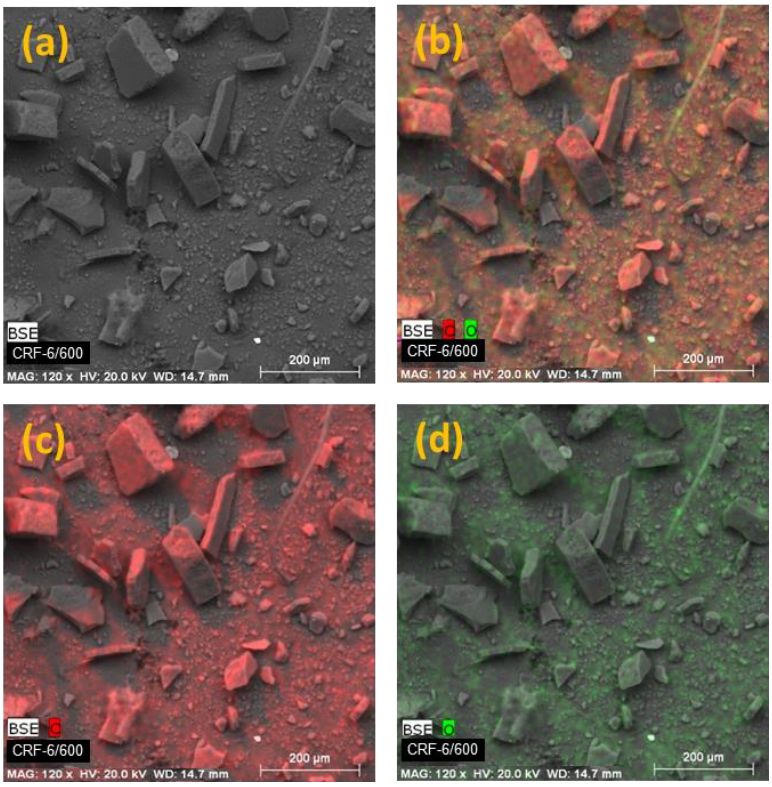

Figure S6: SEM micrograph of CRF-6/600 (a) by BSE. Elemental mapping by EDX: (b) total, (c) carbon and (d) oxygen

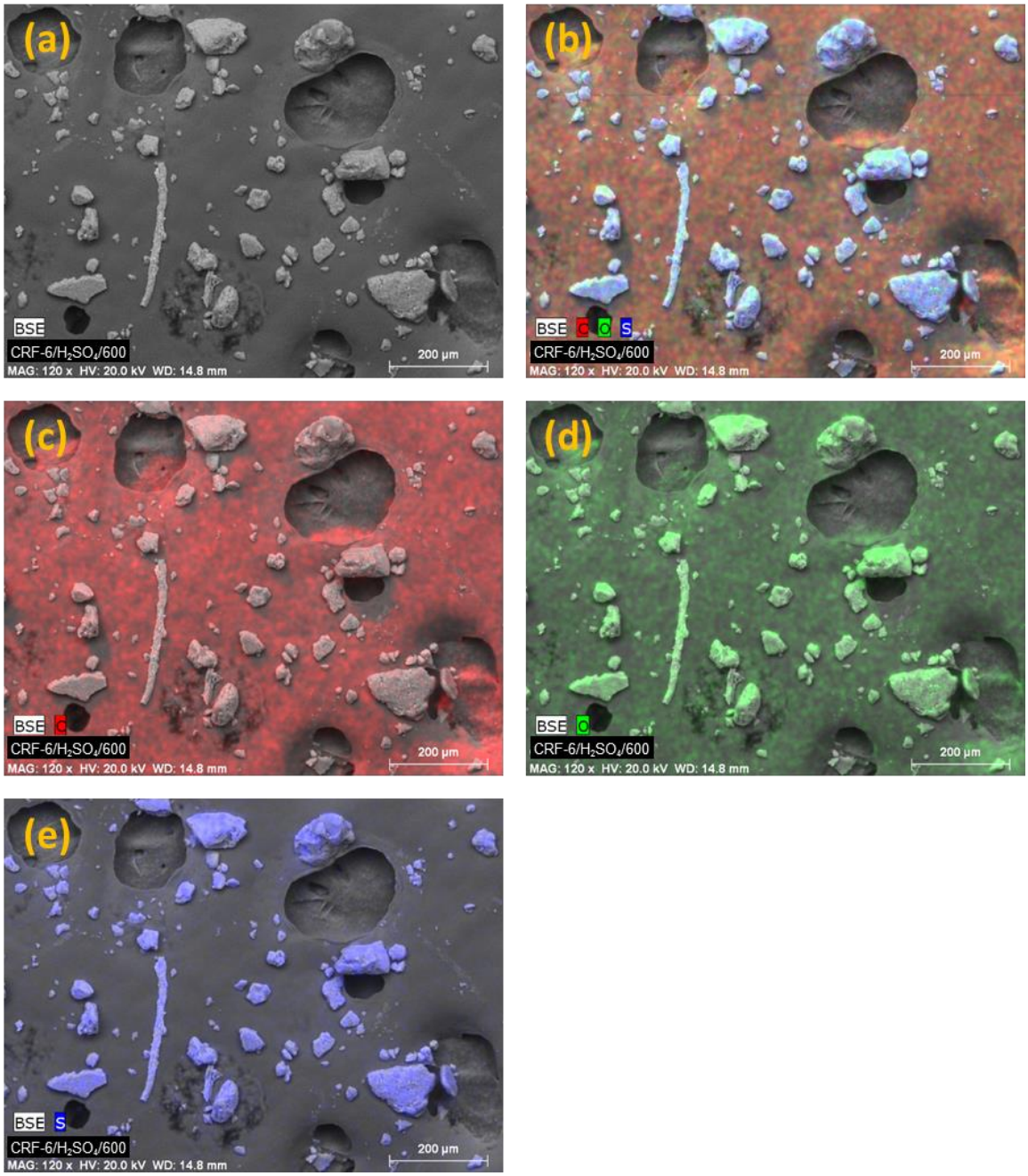

Figure S7: SEM micrograph of CRF-6/600/H2SO4/80 (a) by BSE. Elemental EDX mapping: (b) total, (c) carbon, (d) oxygen, and (e) sulfur

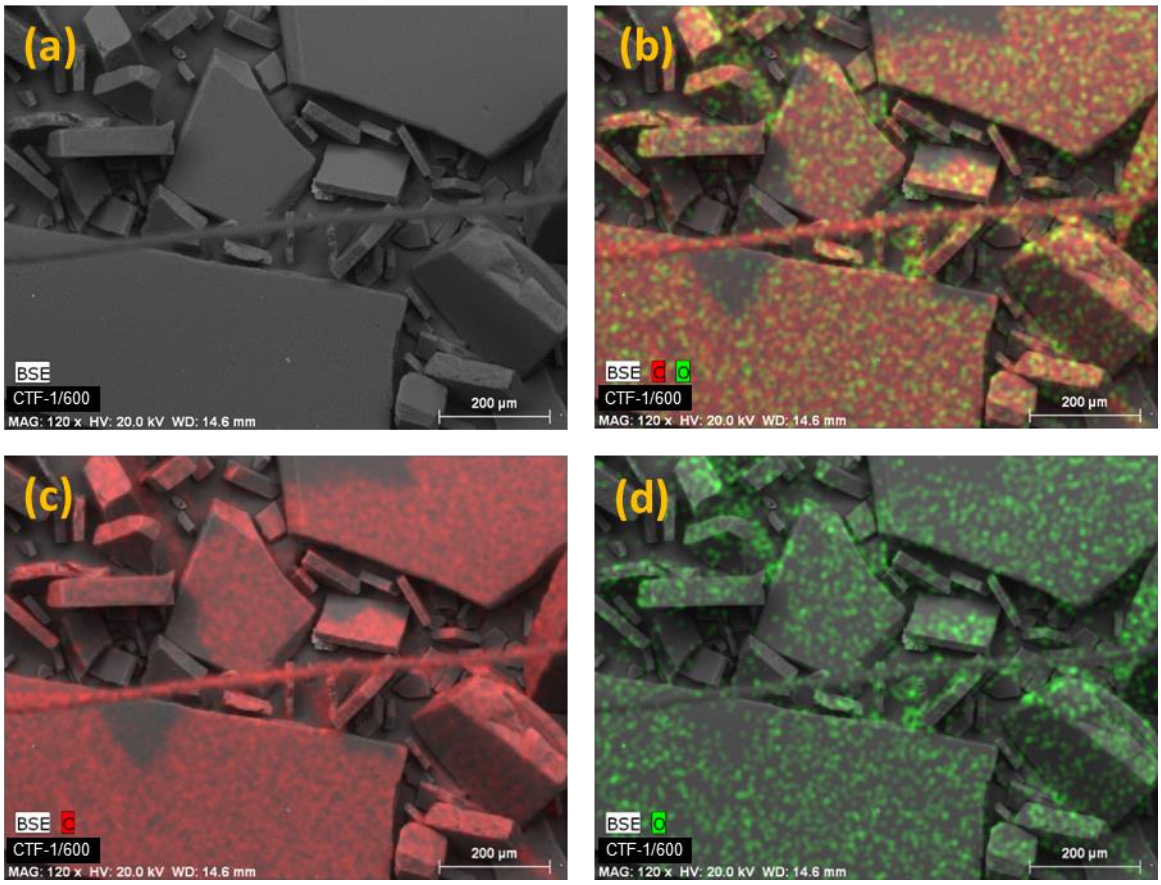

Figure S8: SEM micrograph of CTF-1/600 (a) by BSE. Elemental mapping by EDX: (b) total, (c) carbon and (d) oxygen

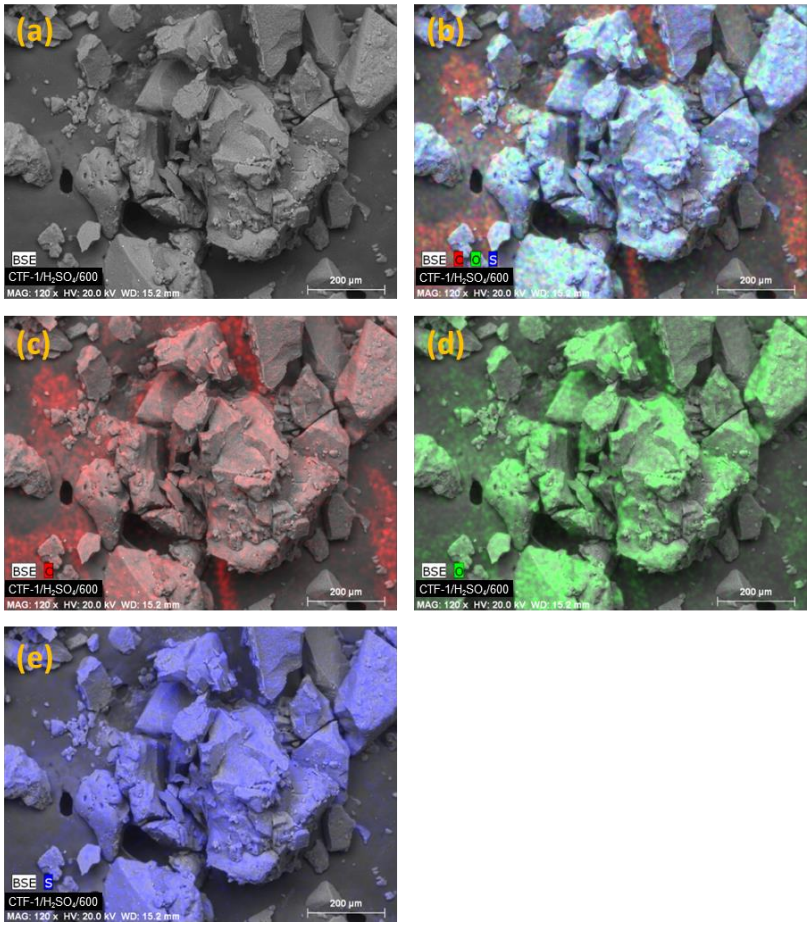

Figure S9: SEM micrograph of CTF-1/600/H2SO4/80 (a) by BSE. Elemental EDX mapping: (b) total, (c) carbon, (d) oxygen, and (e) sulfur

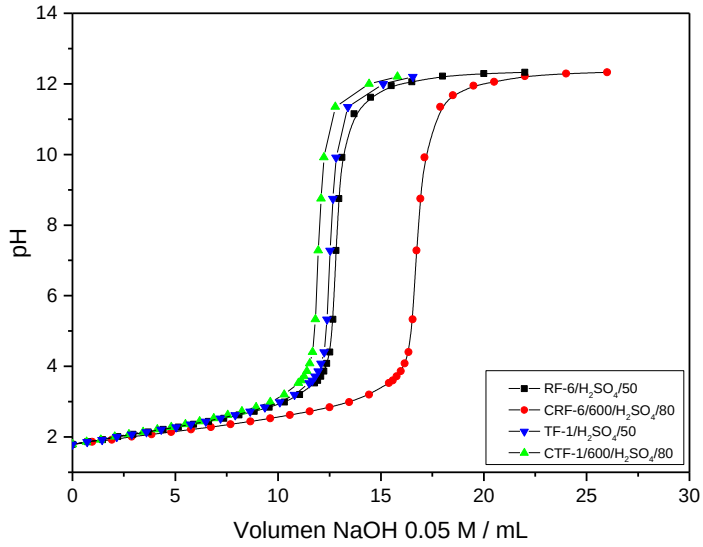

Figure S10: Potentiometric back titration curves with 0.25 M NaOH for RF 6/H2SO4/50, CRF-6/600/H2SO4/80, TF 1/H2SO4/50 and CTF 1/600/H2SO4/80, treated with 0.05 NaOH M and 0.05 M HCl – Determination of nGT

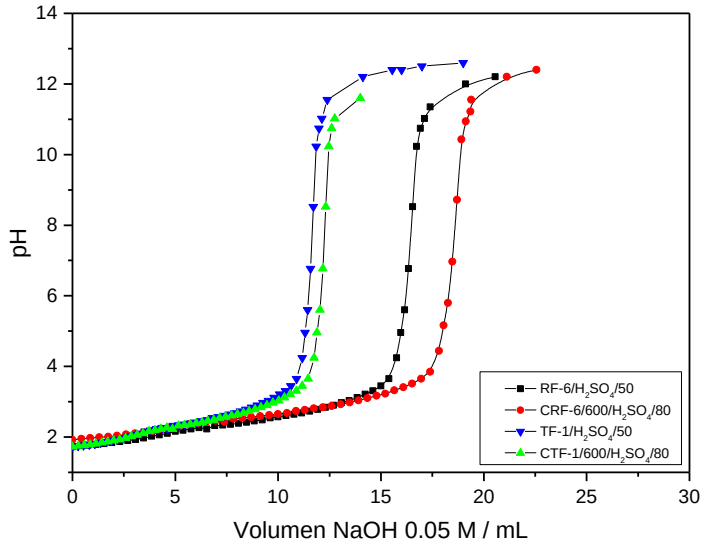

Figure S11: Potentiometric back titration curves with 0.25 M NaOH for RF 6/H2SO4/50, CRF-6/600/H2SO4/80, TF 1/H2SO4/50 and CTF 1/600/H2SO4/80, treated with Na2CO3 0.05 M and 0.05 M **HCl**

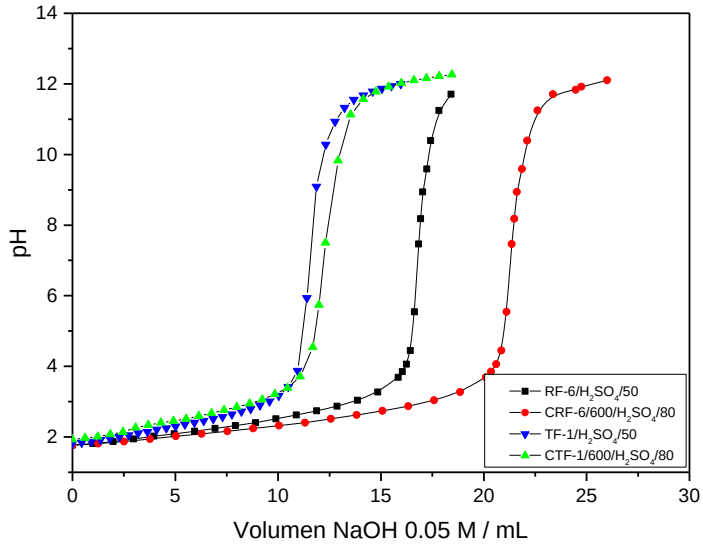

Figure S12: Potentiometric back titration curves with 0.25 M NaOH for RF 6/H2SO4/50, CRF-6/600/H2SO4/80, TF 1/H2SO4/50 and CTF 1/600/H2SO4/80, treated with 0.05 NaHCO3 M and 0.05 M HCl