

Supporting information

Exchange counterion in polycationic hydrogels: tunability of hydrophobicity, water state, and floating capability toward for a floating pH device.

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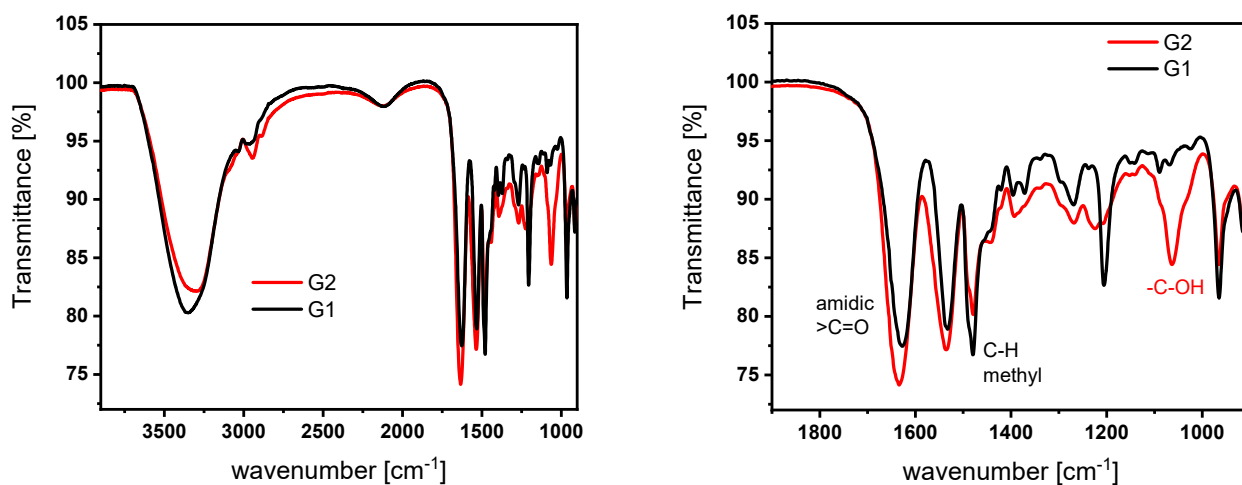


Figure S1: ATR-FTIR spectra of G1 and G2 gel series measured as xerogel after drying.

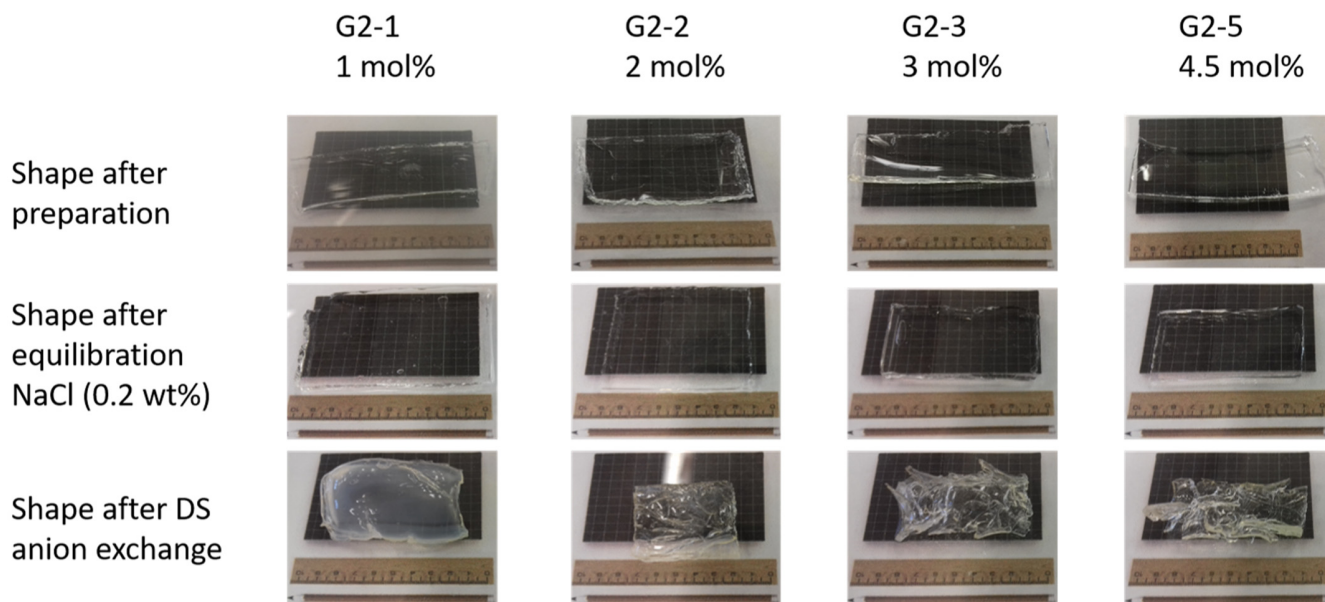


Figure S2: Representative photographs of gel samples as prepared, after washing in NaCl and after DS anion exchange.

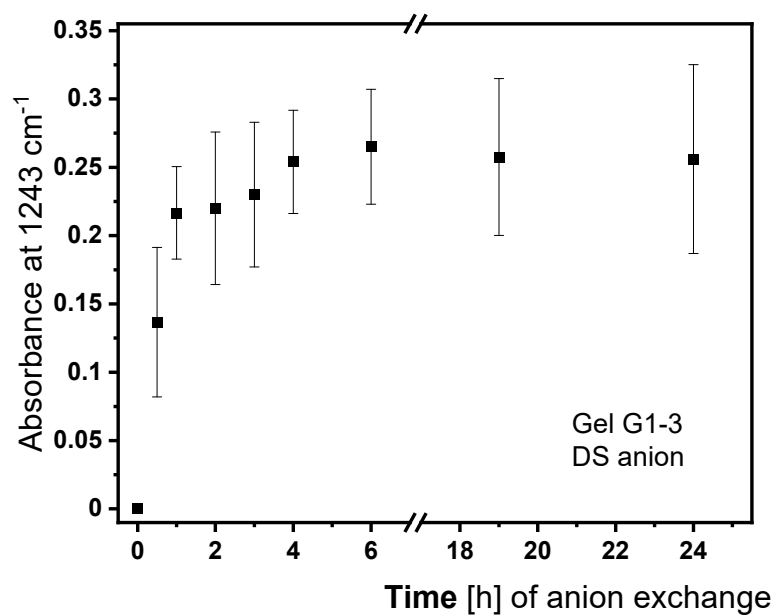


Figure S3: Kinetic of DS anion exchange followed by FTIR at absorption band at 1243 cm⁻¹. The spectra were normalized at 1535 cm⁻¹ absorption band related to polymer backbone.

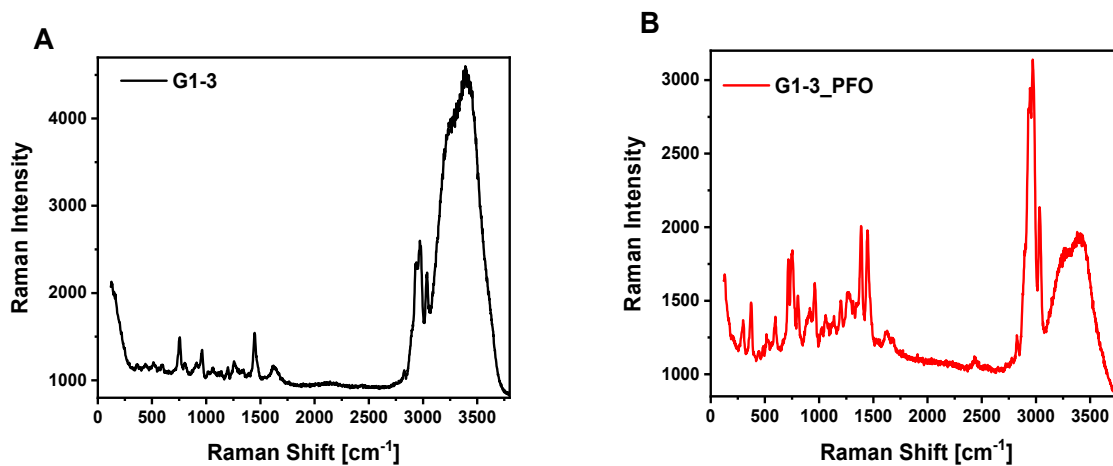


Figure S4: Raman signal of G1-3-Cl (A) and G1-3-PFO (B) gels focused in different layer in the gel sample as that presented in main article Figure 5.

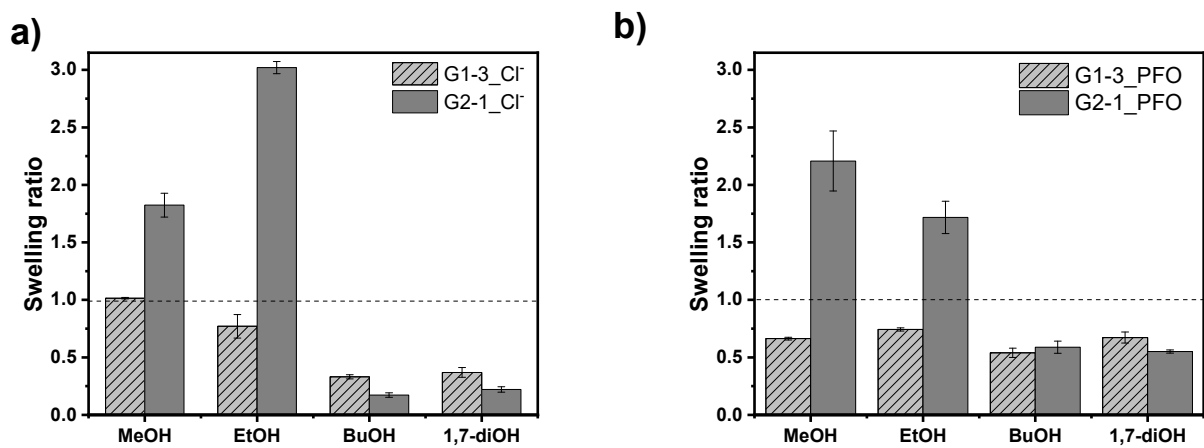
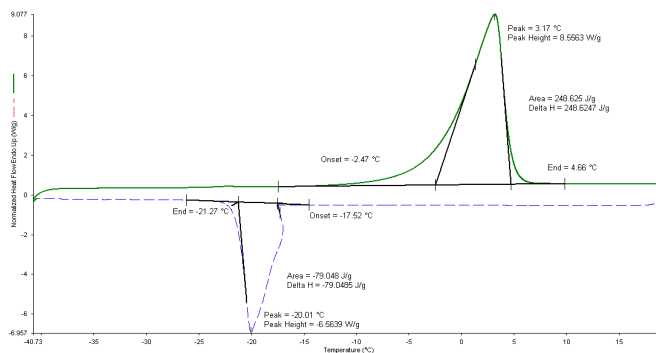
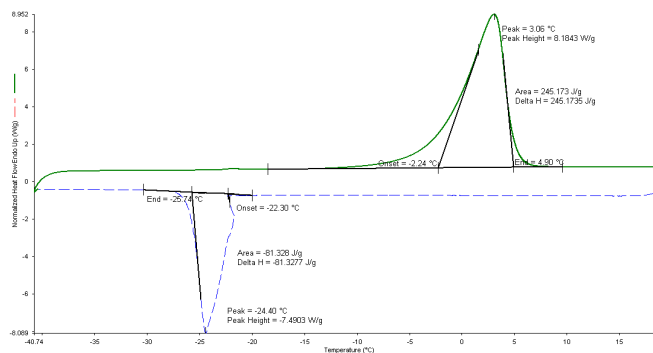


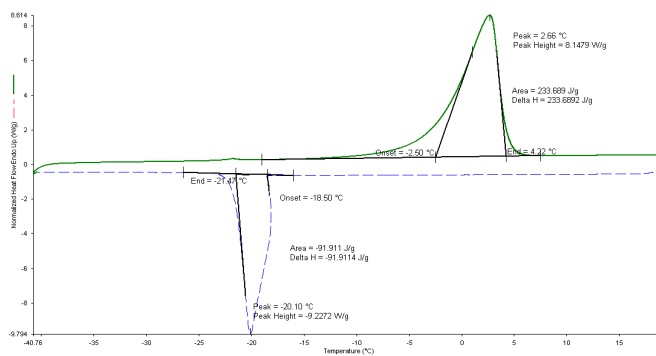
Figure S5: Swelling behavior of G1-3 and G2-1 in various alcohols - (a) G1-3-Cl, G2-1-Cl and (b) G1-3-PFO, G2-1-PFO gels. Dashed line represents no weight or dimension change with respect to equilibrated gels in 0.9 wt% NaCl/water solution.



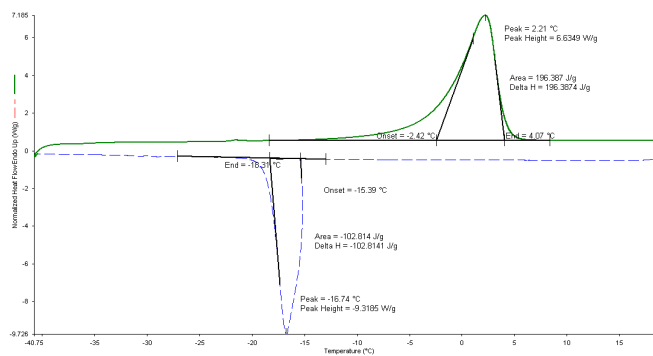
G1-1-CI



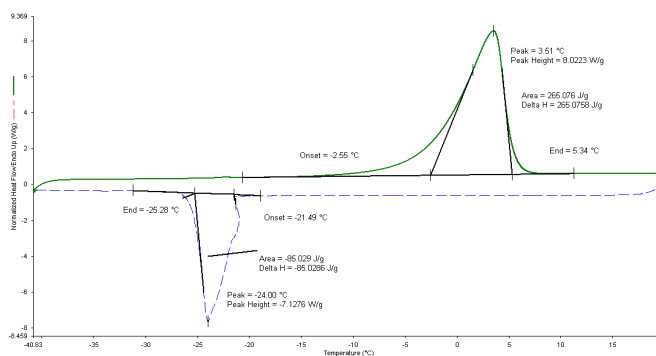
G1-2-CI



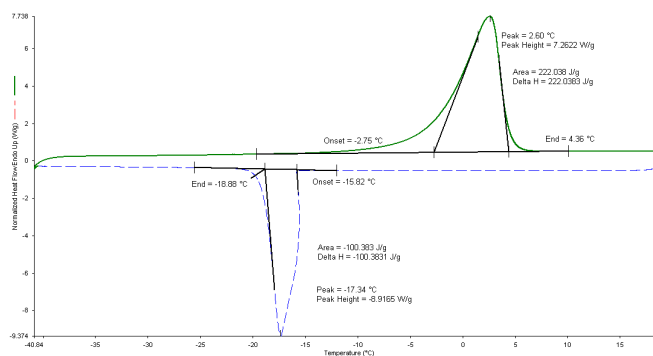
G1-3-CI



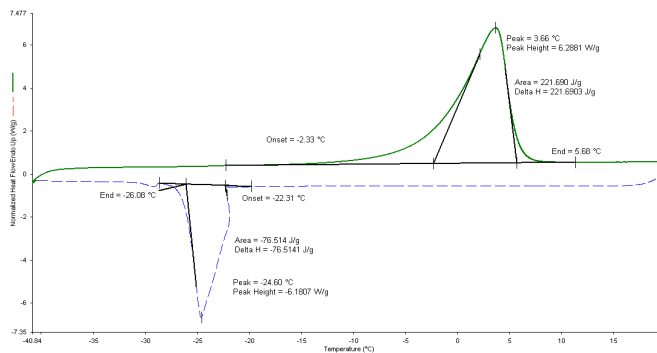
G1-5-CI



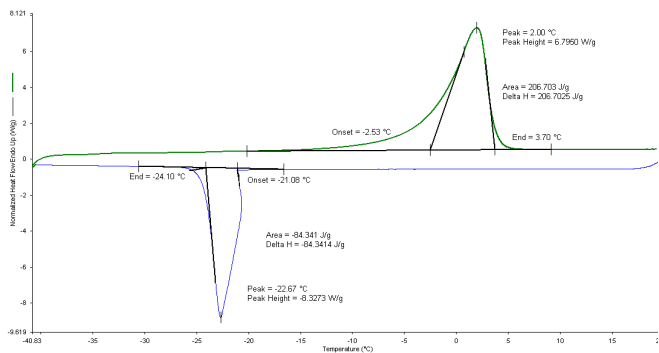
G2-1-CI



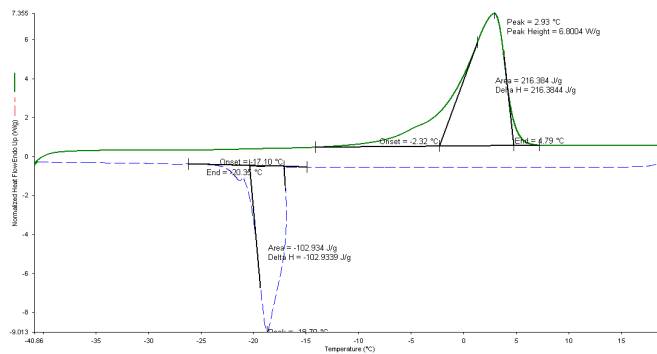
G2-2-CI



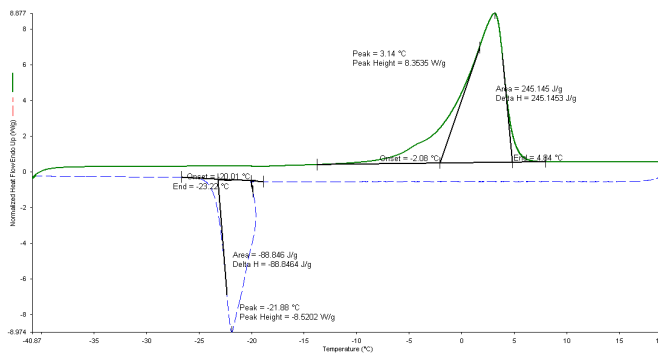
G2-3-Cl



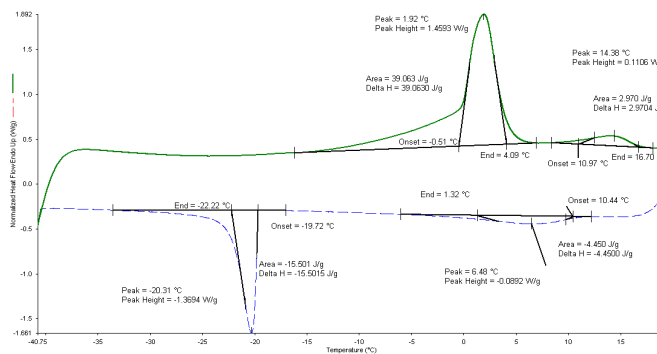
G2-5-Cl



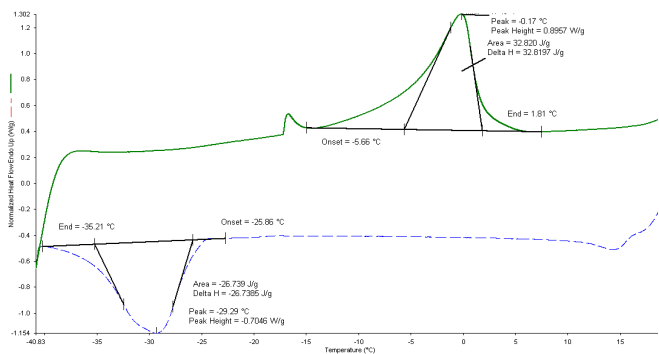
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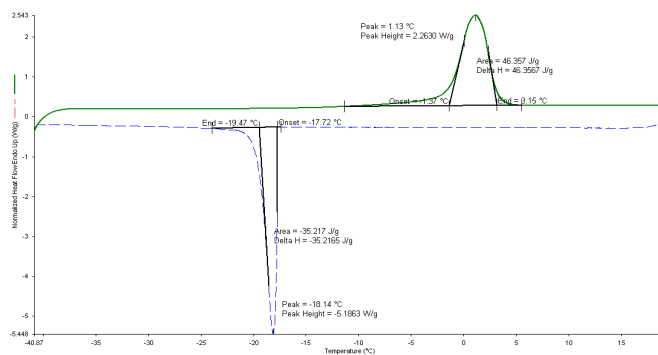
G2-1-CaS



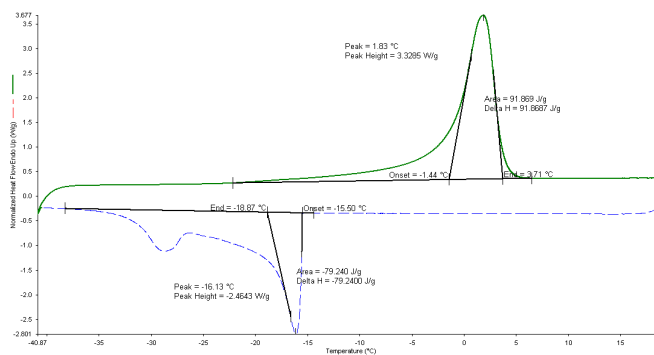
G1-3-DS



G2-1-DS



G1-3-PFO



G2-1-PFO

Figure S6: DSC thermograms