Supplementary Materials for

On the potential of using dual-function hydrogels for brackish water desalination

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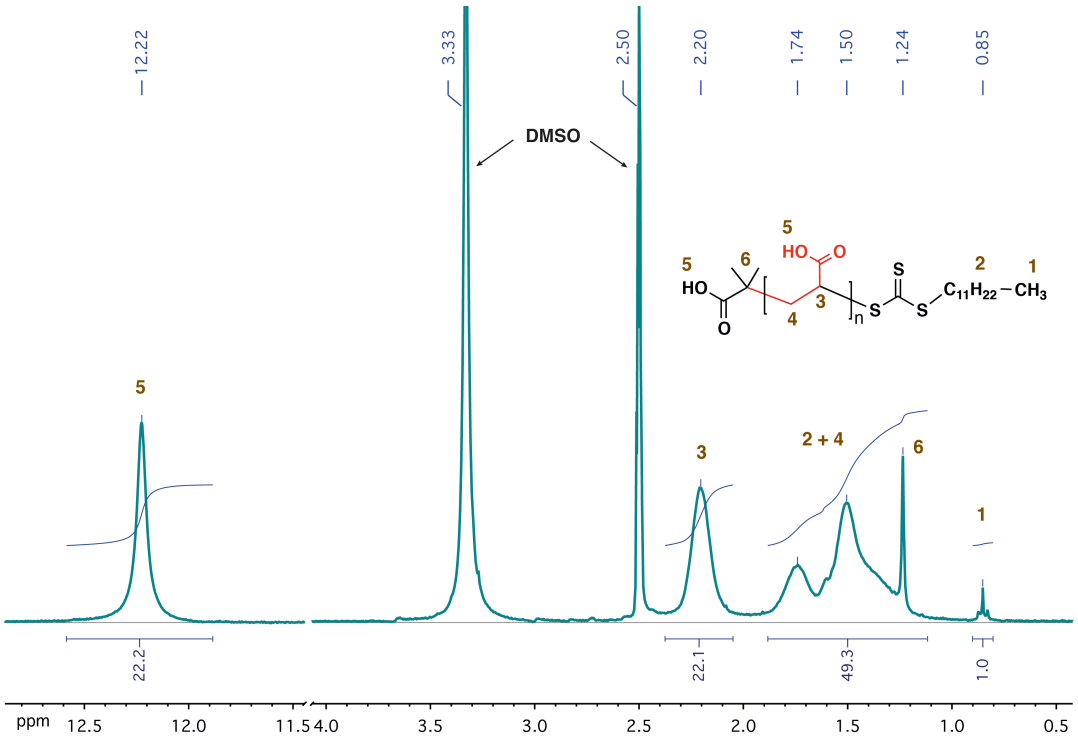

Figure S 1 Partial ^{1}H-NMR spectrum of poly(acrylic acid) macromolecular RAFT agent (PAA-TTC).

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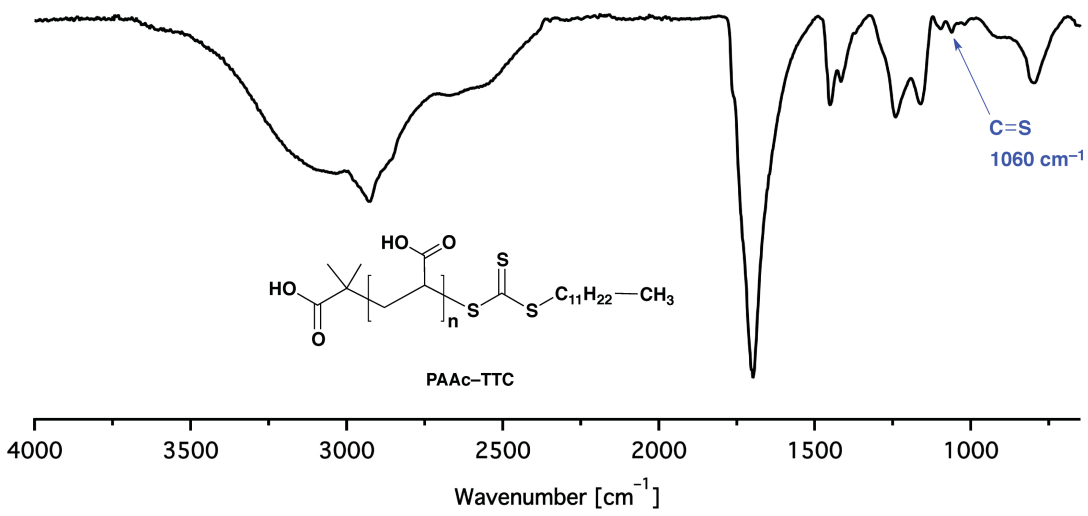

Figure S 2 FTIR spectrum of poly(acrylic acid) macromolecular RAFT agent (PAA-TTC).

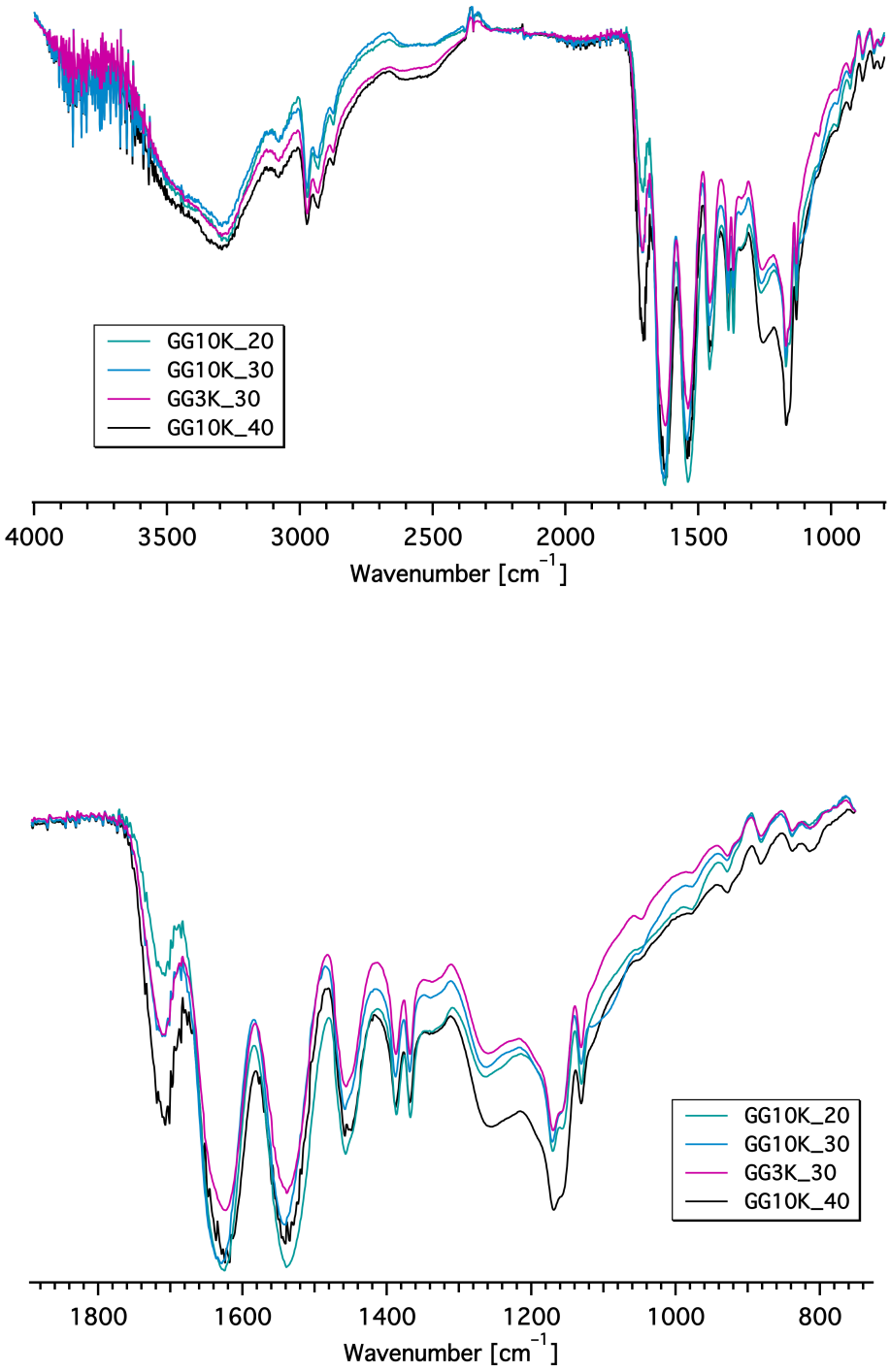

Figure S 3 FTIR spectra of hydrogels investigated in detail in this work.

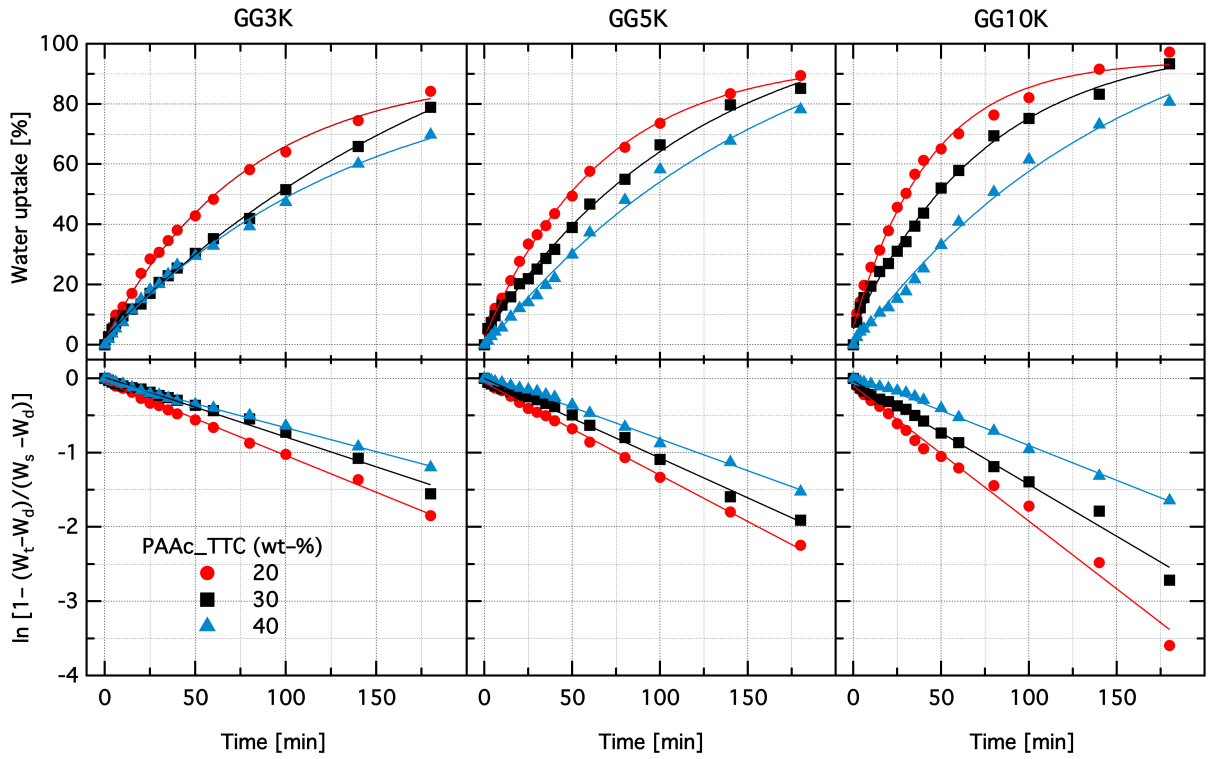

Figure S 4 Plots of water uptake as a function of swelling time in deionised water (DI) at room temperature (23 °C) (*upper plots*) and a semilogarithmic plots as first-order rate analysis was applied to the time dependence of the swelling (*lower plots*) to obtain the swelling rate constant, from which the half-swelling time ($t_{1/2}$) was obtained. The sample shape and size were constant for all hydrogels (cylinder, 5 mm in diameter and 2 mm in thickness).

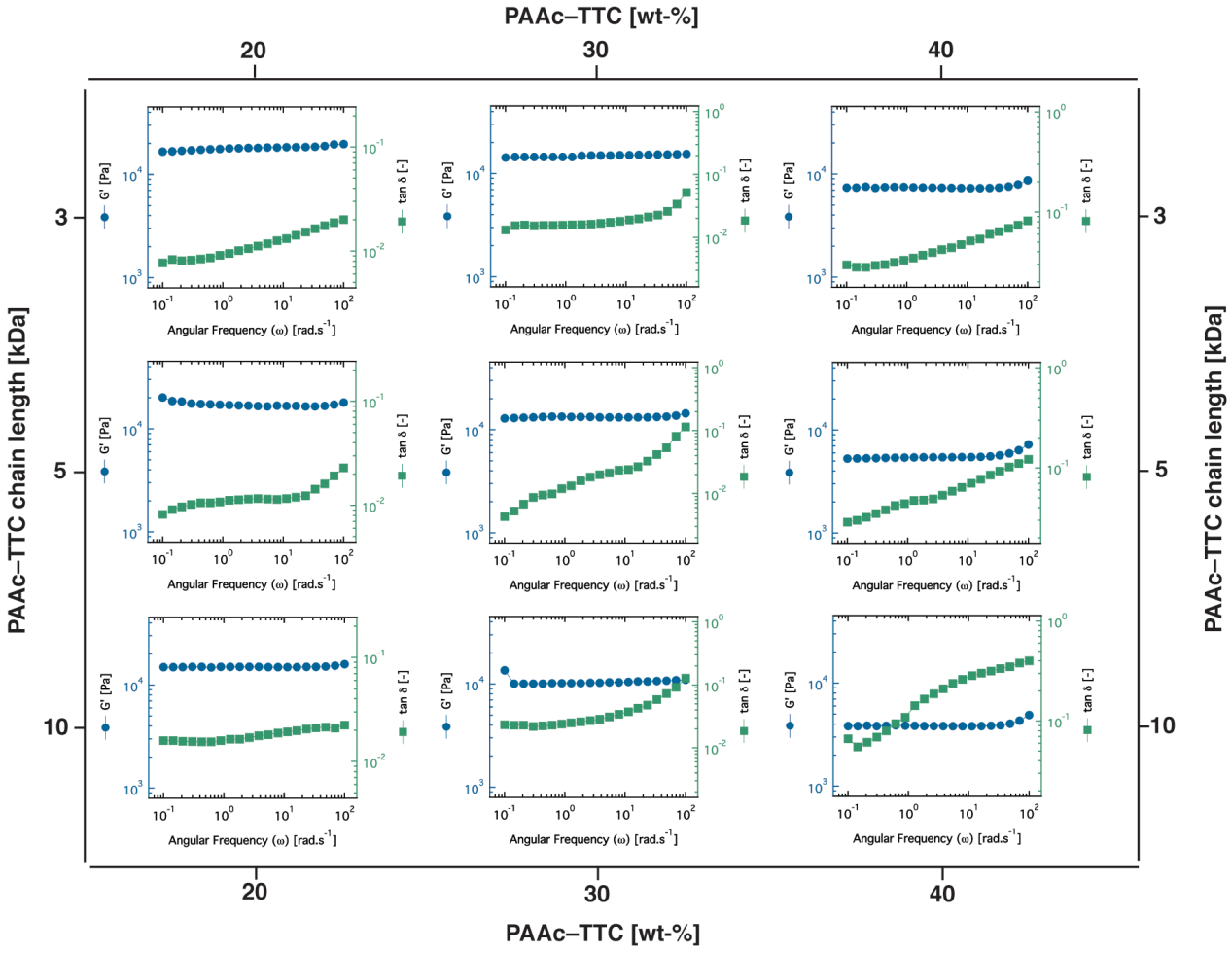

Figure S 5 Storage modulus (G') and loss tangent ($tan\delta$) as a function of angular frequency (ω) of all hydrogels.

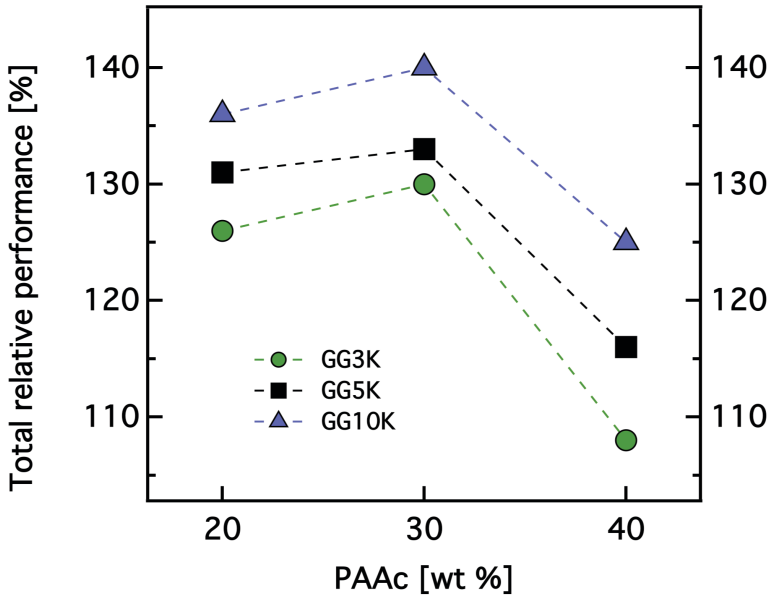

Figure S 6 The performance of hydrogels in terms of total relative performance (water recovery and salt rejection) as a function of grafted-PAAc content. The dashed lines are a guide to eye.