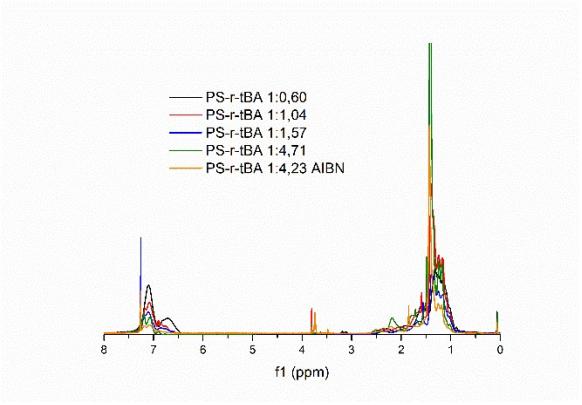
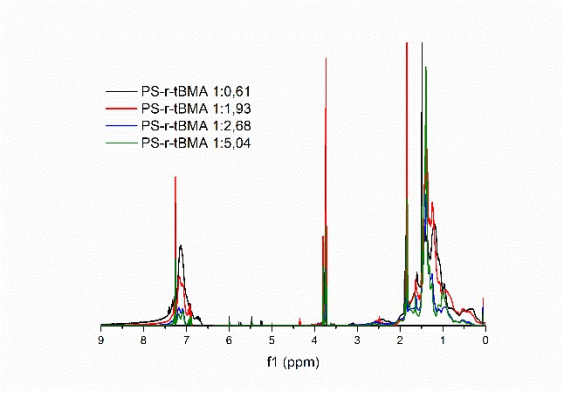
SUPPLEMENTARY INFO

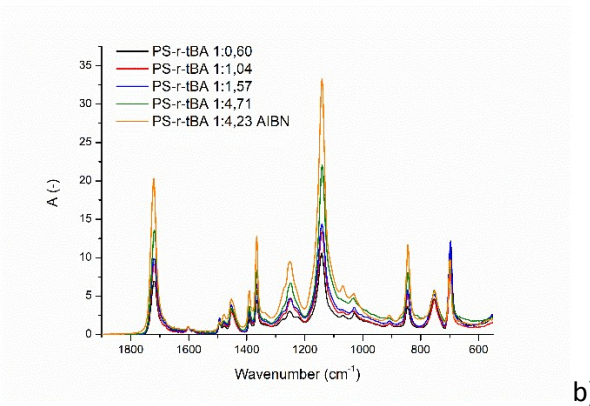


a)

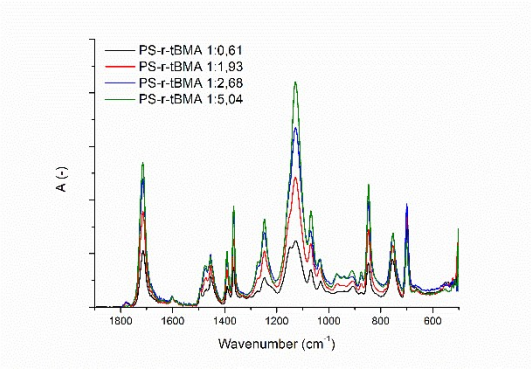


b)

Figure 1S: ^{1}H-NMR of PS-r-tBA (a) and PS-r-tBMA (b) with different ratio of acrylic monomers.

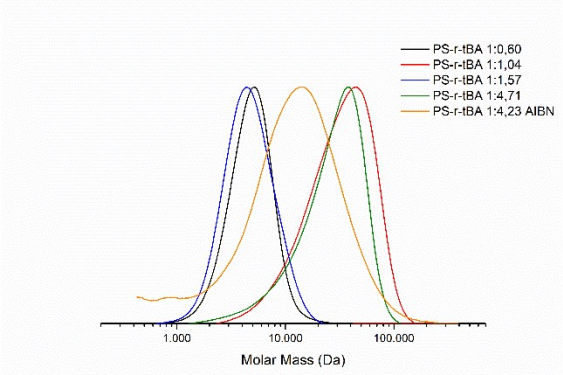


a)

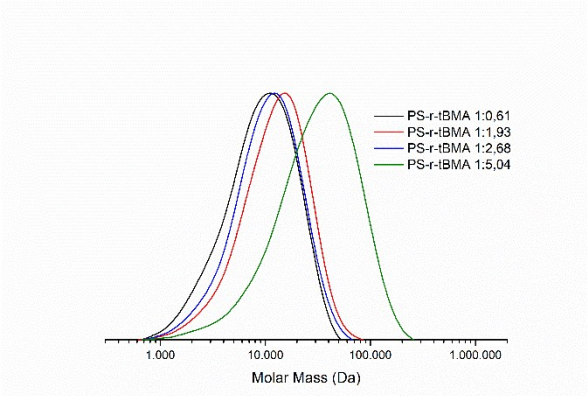


b)

Figure 2S: FT-IR of PS-r-tBA (a) and PS-r-tBMA (b) with different ratio of acrylic monomers.



a)



b)

Figure 3S: GPC chromatographs of PS-r-tBA (a) and PS-r-tBMA (b) with different ratio of acrylic monomers.

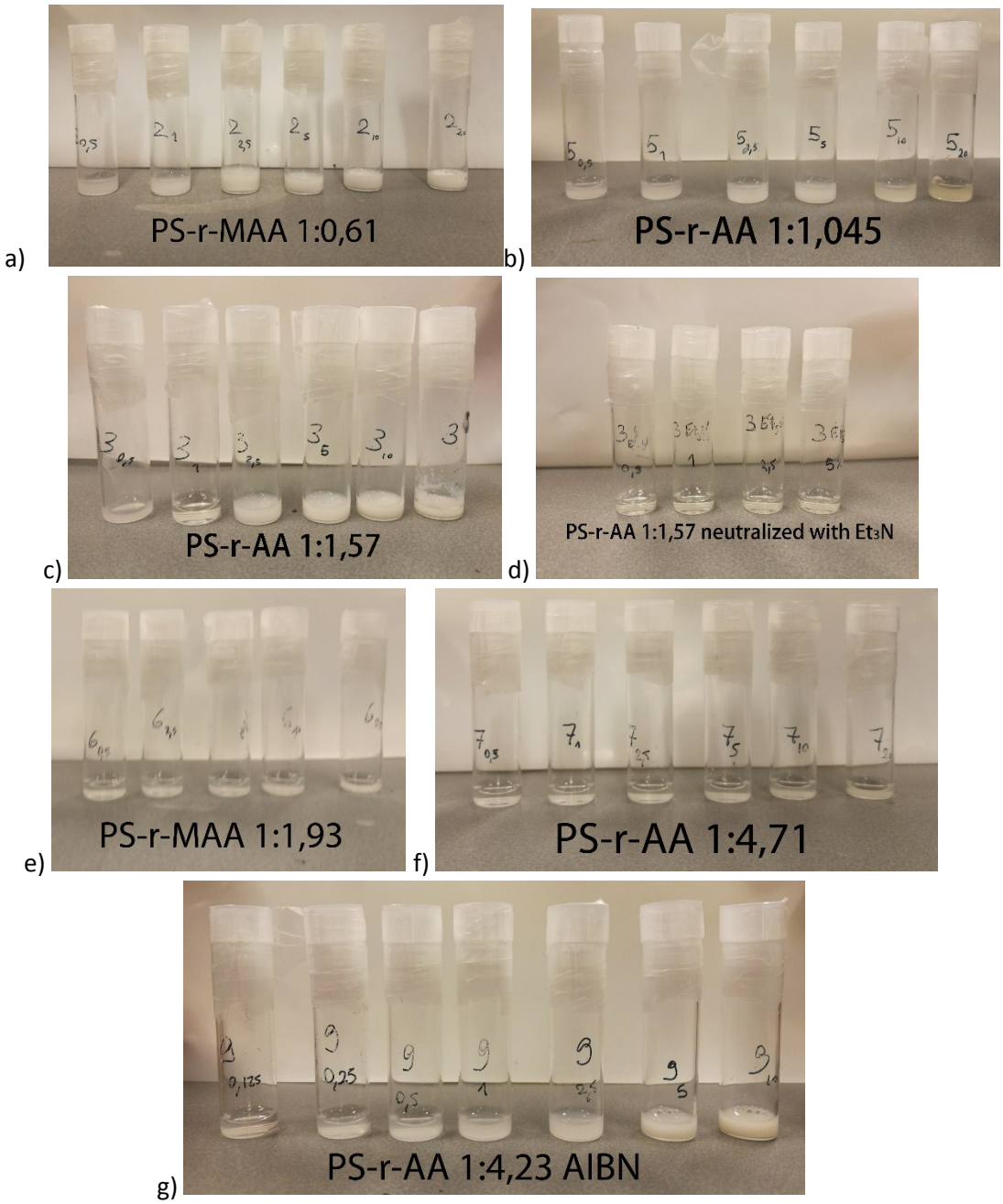


Figure 4S: Water polymer solutions of PS-r-AA and PS-r-MAA with different polymer concentration. It is reported: (a) PS-r-MAA 1:0.61, (b) PS-r-AA 1:1.045, (c) PS-r-AA 1:1.57, (d) PS-r-AA 1:1.57 neutralized with Et_3N, (e) PS-r-MAA 1:1.93, (f) PS-r-AA 1: 4.71, (g) PS-r-AA 1:4.23 AIBN.

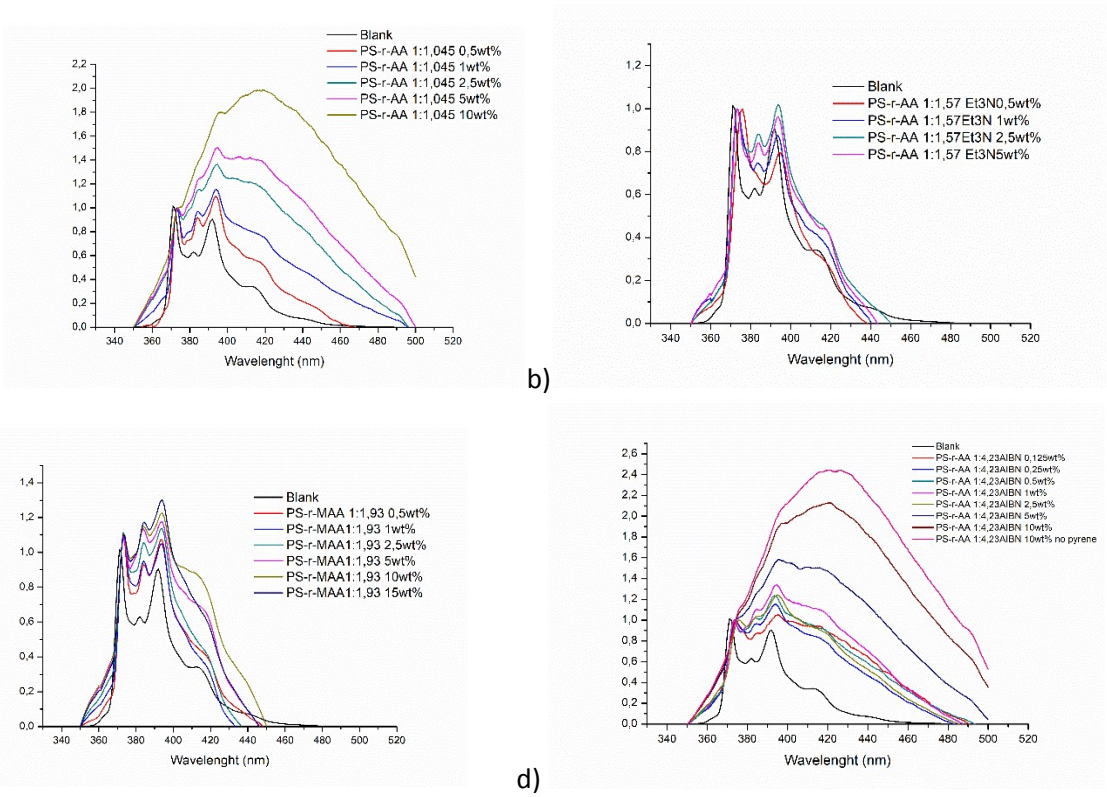


Figure 5S: Emission spectra of water polymer solution with $2.5x10^{-7}$ M of pyrene solution at different concentration of polymers, as example are reported (a) PS-r-AA 1:1.045, (b) PS-r-AA 1:1.045 neutralized with Et_3N, (c) PS-r-MAA 1:1.93, (d) PS-r-AA 1:4.23 AIBN.

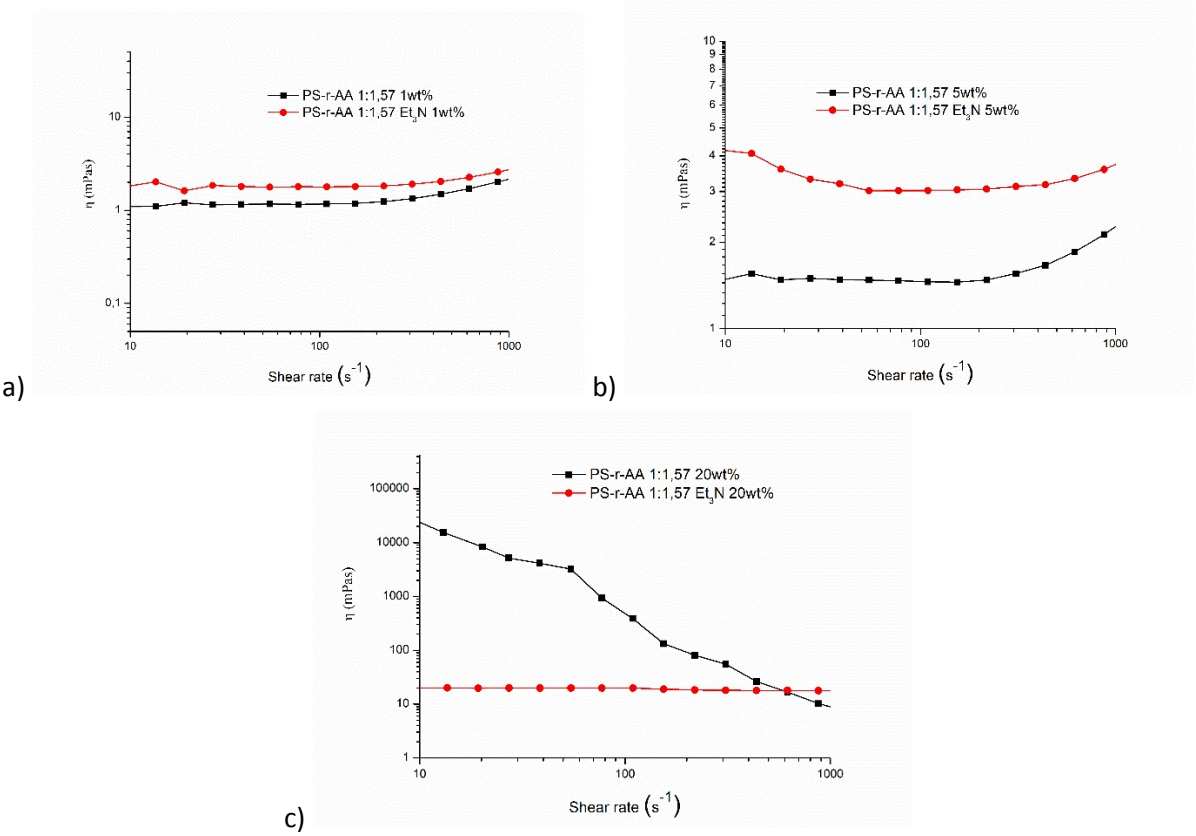


Figure 6S: Viscosity as function of Shear of PS-r-AA 1:1.57 neutralize or with NaOH or with Et_3N at 1wt% concentration (a), 5wt% (b) and 20 wt% (c).

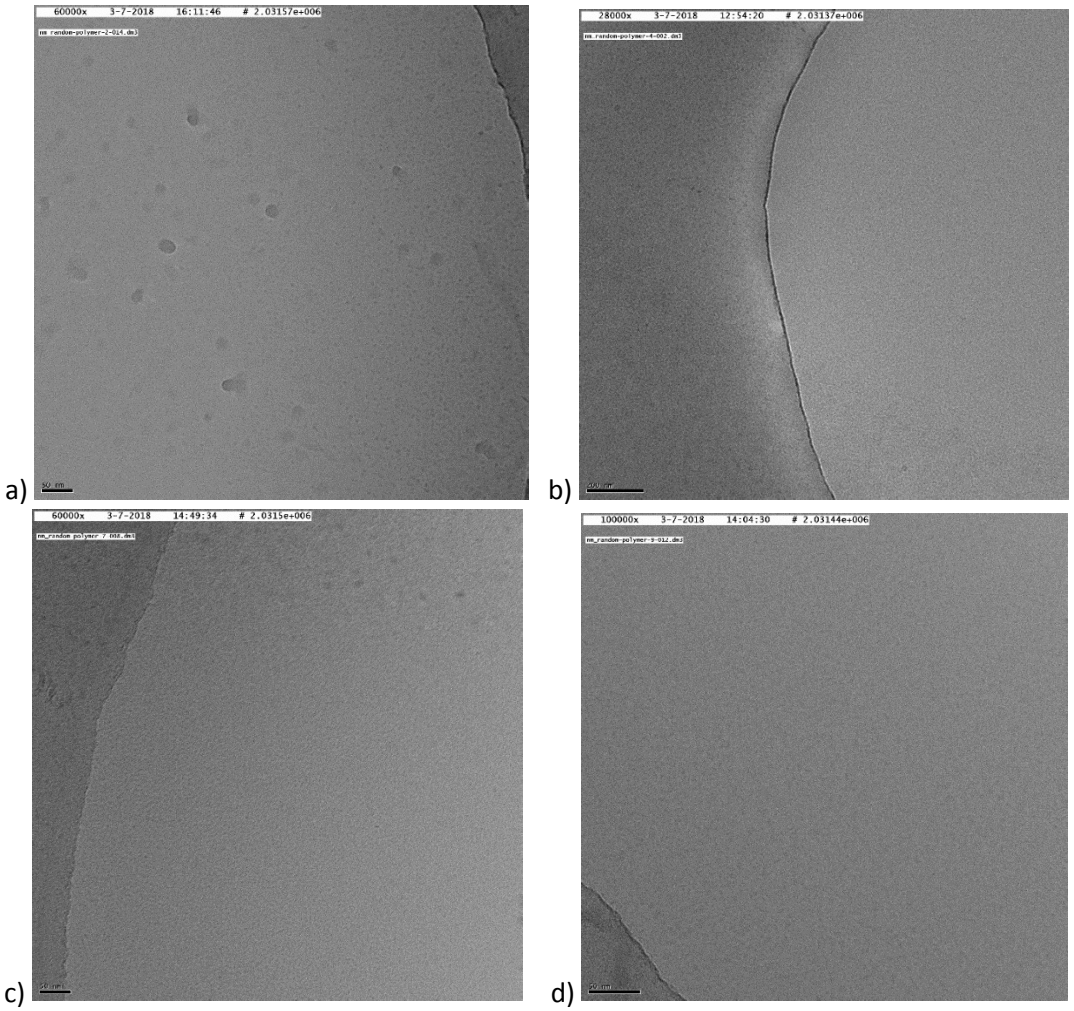


Figure 7S: Cryo-TEM images of PS-r-MAA 1:0.61 (a), PS-r-MAA 1:1.93 (b), PS-r-AA 1:4.71(c) PS-r-AA 1:4.23AIBN (d). Only a few images are reported as examples.