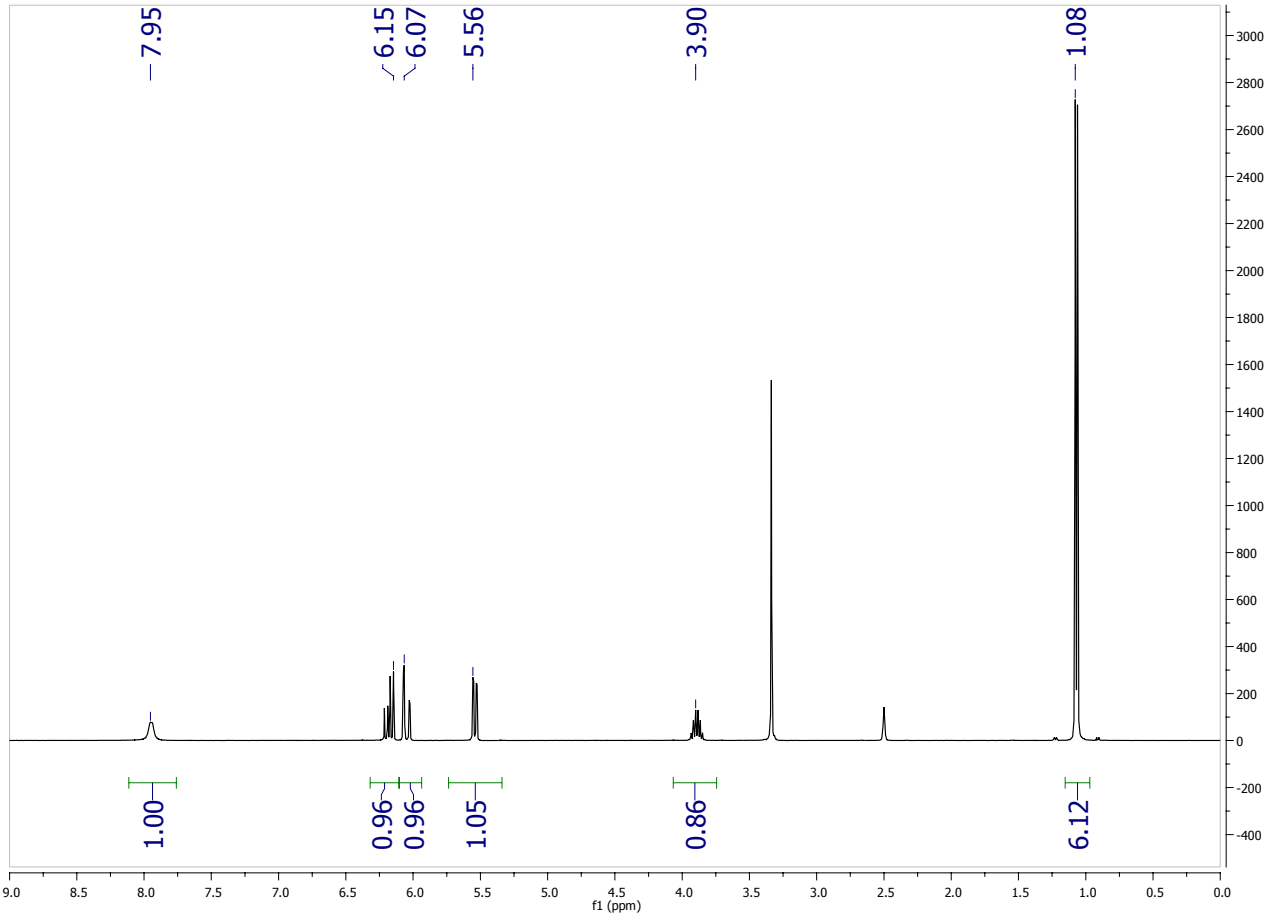
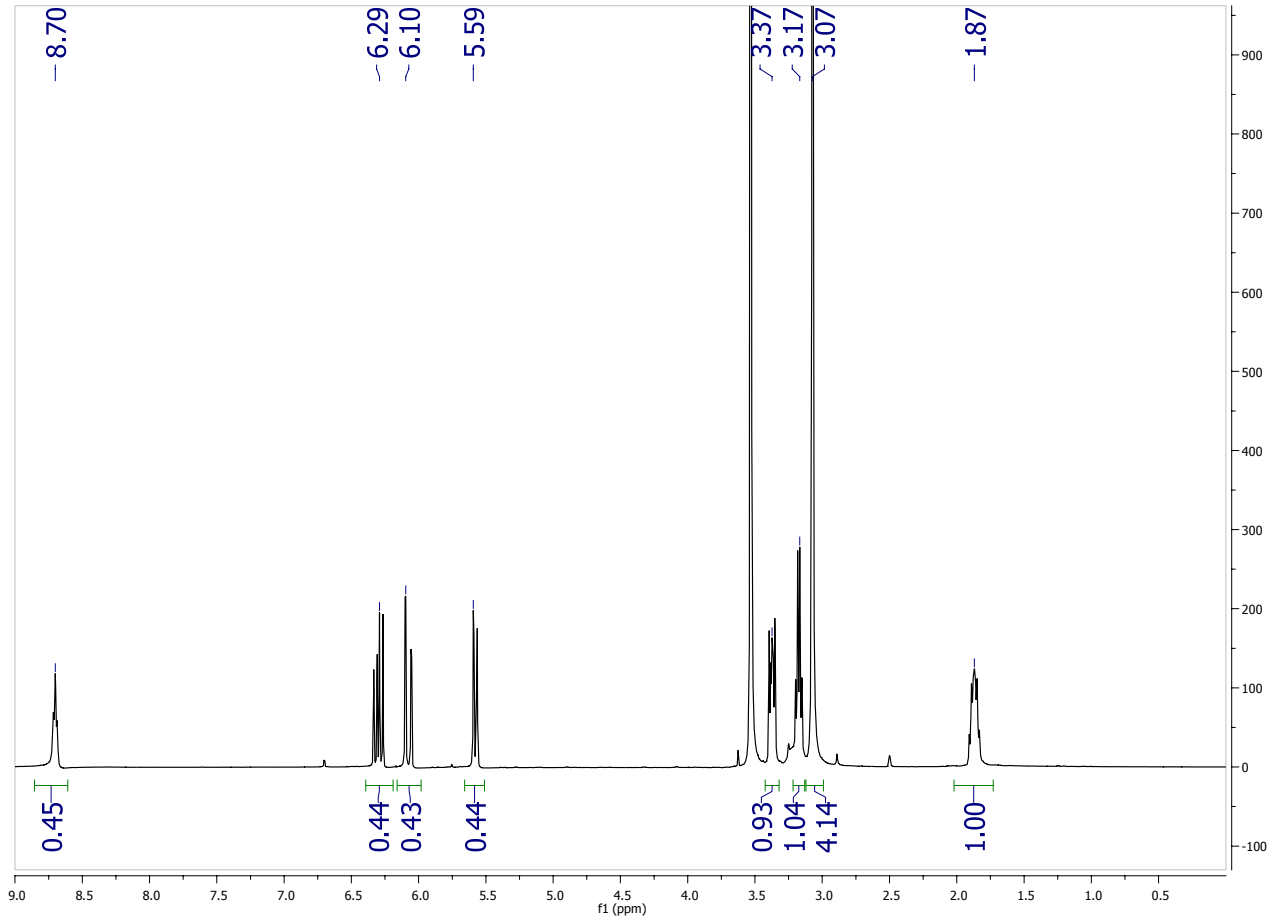
Supporting Information

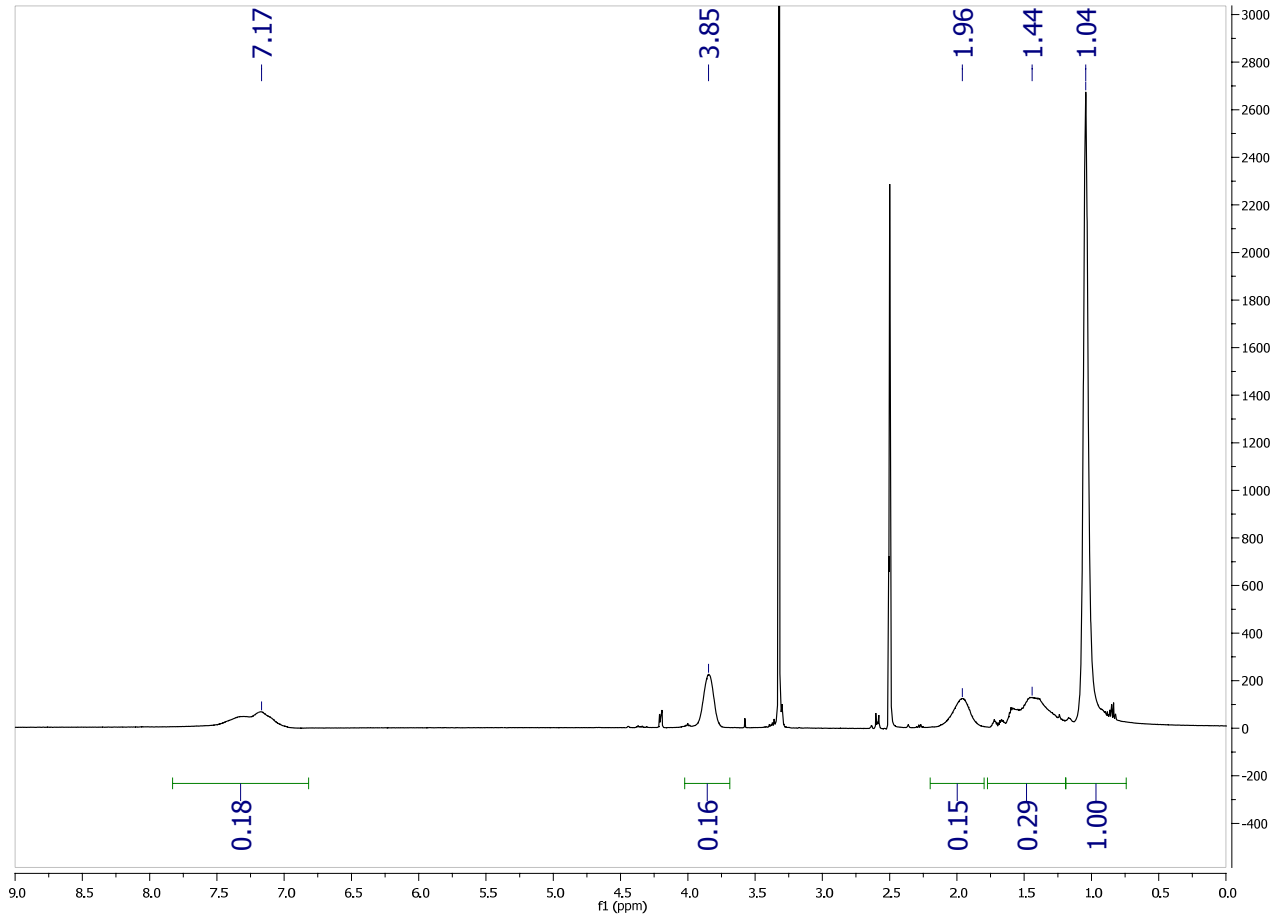
^{1}H-NMR of P(B30/30) block copolymer, pure PNIPAAm and the monomers NIPAAm and APTAC in deuterated DMSO.



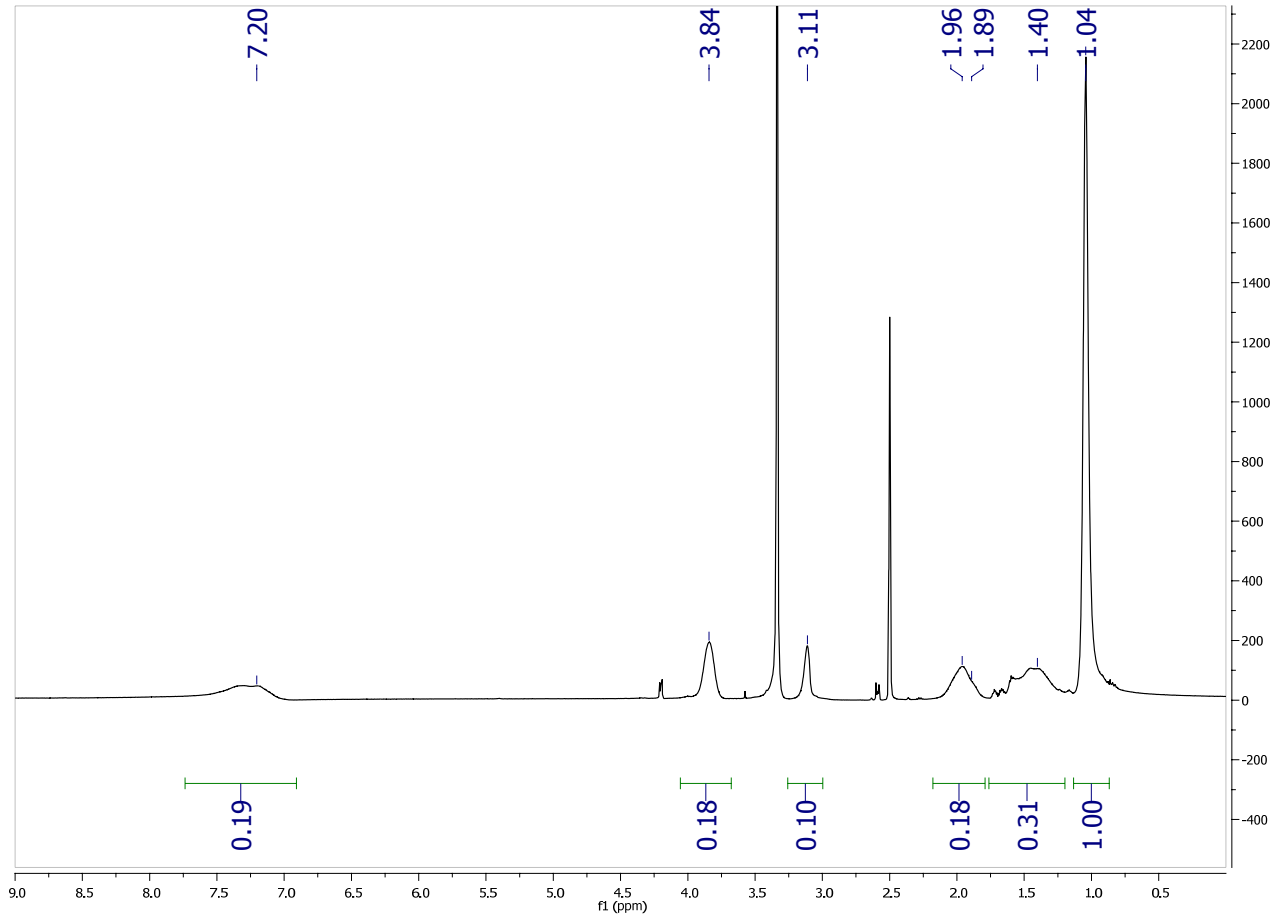
Signals of NIPAAm at 1.08 ppm (-CH(C*H*$_3$)$_2$), 3.90 ppm (-C*H*(CH$_3$)$_2$), 5.56 ppm and 6.07 ppm (C*H*$_2$=), 6.15 ppm (=C*H*-), 7.95 ppm (-N*H*-).



Signals of APTAC at 1.87 ppm (-CH_2-C*H*$_2$-CH_2-), 3.07 ppm (-N^+(CH_3)$_3$), 3.17 ppm (-NH-C*H*$_2$-), 3.37 ppm (-C*H*$_2$-N^+(CH_3)$_3$), 5.59 ppm and 6.10 ppm (C*H*$_2$=), 6.29 ppm (=C*H*-), 8.70 ppm (-N*H*-).



Signals of PNIPAAm at 1.04 ppm (-CH(C*H*$_3$)$_2$), 1.44 ppm (C*H*$_2$-), 1.96 ppm (CH$_2$-C*H*-), 3.85 ppm (-C*H*(CH$_3$)$_2$), 7.17 ppm (-N*H*-).



Signals of P(B30/30) at 1.04 ppm (-CH(CH_3)$_2$) NIPAAm, 1.40 ppm (CH_2-) NIPAAm and APTAC, 1.89 ppm (-CH_2-CH_2-CH_2-) APTAC, 1.96 ppm (CH_2-CH-) NIPAAm and APTAC, 3.11 ppm (-CH_2-CH_2-CH_2-N^+(CH_3)$_3$)) APTAC, 3.84 ppm (-CH(CH_3)$_2$) NIPAAm, 7.20 ppm (-NH-) NIPAAm and APTAC.

Table 5. Summary of how the dissipation changes with temperature both for the bare crystals and for the crystals with a single adsorbed polymer layer. The slope dD/dT for a quartz crystal with water has been subtracted from the dD/dT of a quartz crystal with a single layer of adsorbed polymer. The difference gives a measure of how the viscoelastic properties of the adsorbed polymer change with temperature in the interval 24-40°C.

Adsorbed polymer	**dD/dT ·10^6, quartz crystal + water [K^{-1}]**	**dD/dT ·10^6, quartz crystal + 1 layer polymer [K^{-1}]**	**dD/dT ·10^6, 1 layer polymer [K^{-1}]**
P(R15)	-1.595	-1.6111	*-0.0161*
P(B30/30)	-1.6275	-2.002	*-0.3745*
P(B60/20)	-1.6177	-2.1189	*-0.5012*
P(B20/60)	-1.6233	-1.8351	*-0.2118*
PEI	-1.6164	-1.603	*0.0134*