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Supplementary Material

Macromolecular Design and Engineering of New Amphiphilic *N*-Vinylpyrrolidone Terpolymers for Biomedical Applications

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Figure S1: The region of O-CH_2 and O-CH groups in ^{13}C NMR spectra of terpolymers used for the composition calculation.

Figure S2: Molecular weight distribution curves of the terpolymers and linear PVP.

Figure S3: MALS traces (a) and dependencies of macromolecules root mean square (rms) of radius gyration on (b) M and (c) V_R for the studied terpolymers and linear PVP.

Figure S4: Semilogarithmic dependencies of light scattering intensity *I* on the terpolymer concentration in water at 22 °C.

Figure S5: Mass (MD) and number (ND) distribution on particle size (**a**) in FB7 and (**b**) FB8 water solution at different temperatures. [FB7] = 0.31 mg ml^{-1}, [FB8] = 0.31 mg ml^{-1}.

Figure S6: DSC curves of terpolymers FB8 at 1—3 heating cycle.

Figure S7: TG curves for the studied terpolymers at low degrees of conversion.

Figure S8: FTIR spectra of TP-FB7, TP-FB8 and TP-FB12, TP-PVP, TP in the regions: (**a**) of 4000—2400 cm^{-1} and (b) 1800—400 cm^{-1}.

Figure S9: Absorption spectra of TP-FB12 in water and water/ethanol mixture; cuvette is 1 cm.

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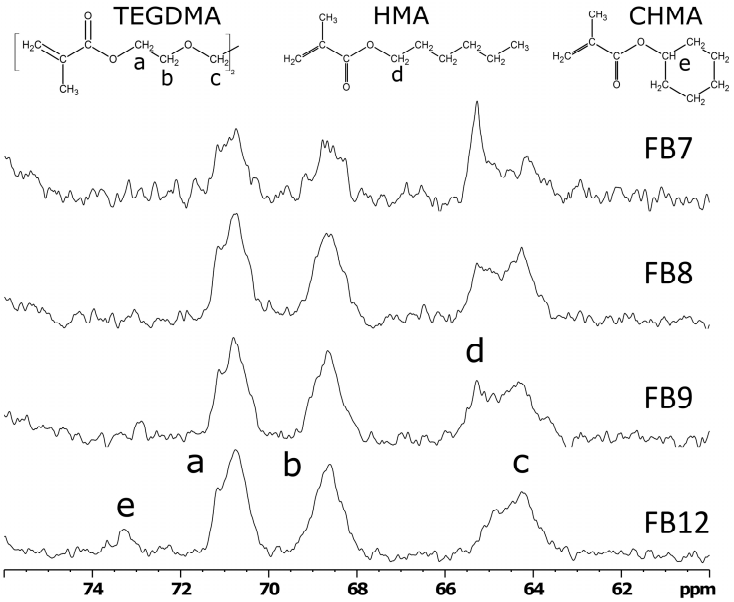

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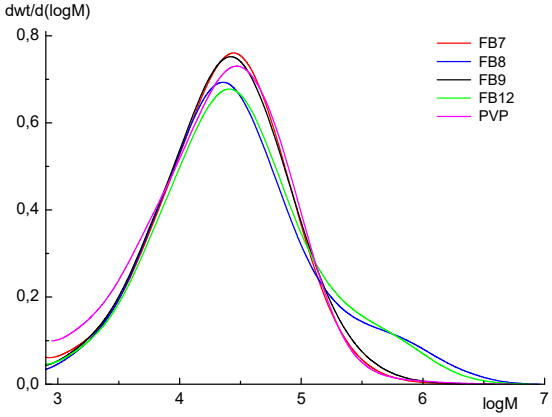
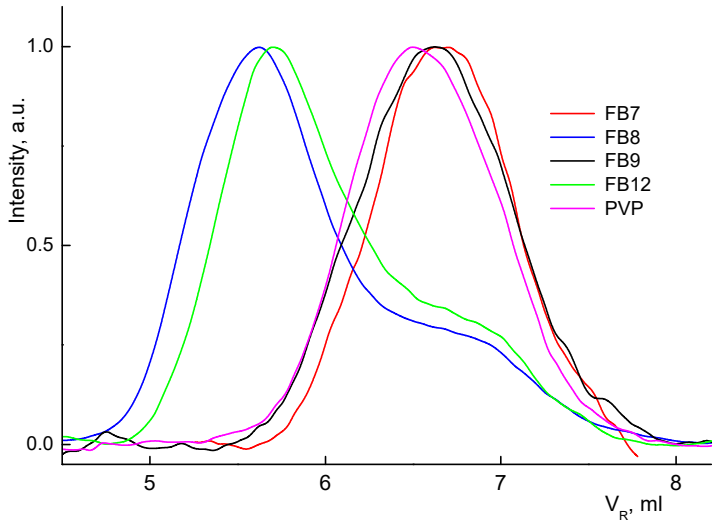
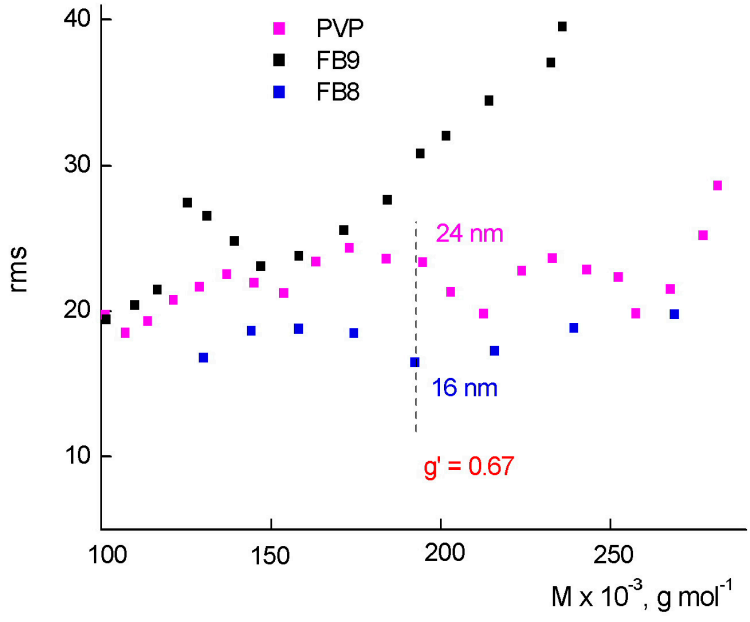


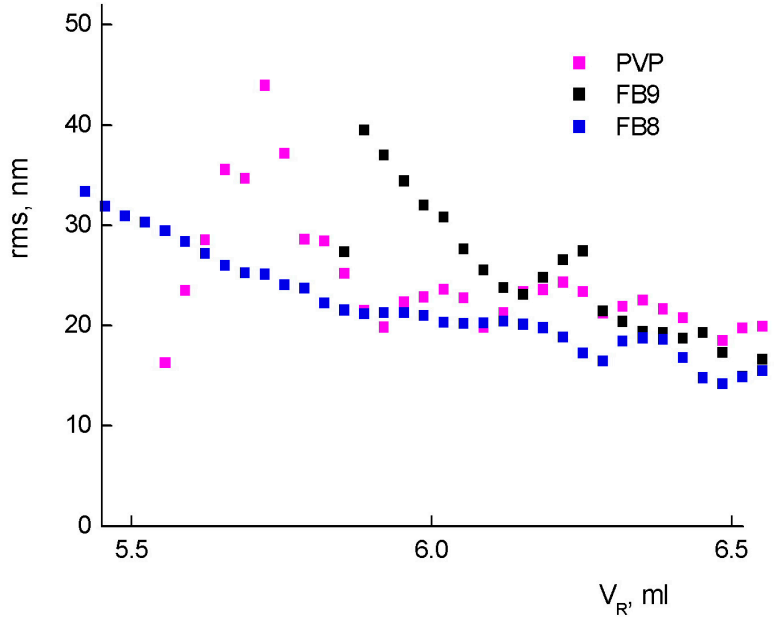
Figure S2: Molecular weight distribution curves of the terpolymers and linear PVP.


1.0
0.5
0.0
Intensity, a.u.
5
6
7
8
V_R, ml
FB7
FB8
FB9
FB12
PVP

(**a**)


40
30
20
10
rms
100
150
200
250
M x 10^{-3}, g mol^{-1}
PVP
FB9
FB8
24 nm
16 nm
g' = 0.67

(**b**)



(**c**)

Figure S3: MALS traces (**a**) and dependencies of macromolecules root mean square (rms) of radius gyration on (**b**) *M* and (**c**) V_R for the studied terpolymers and linear PVP.

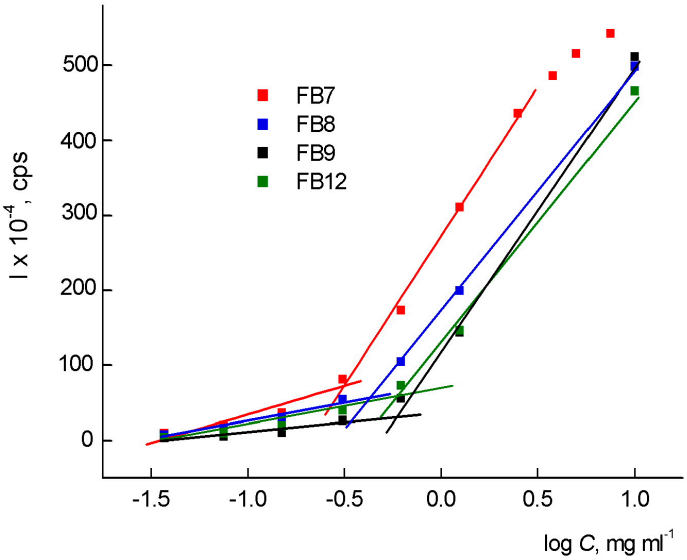
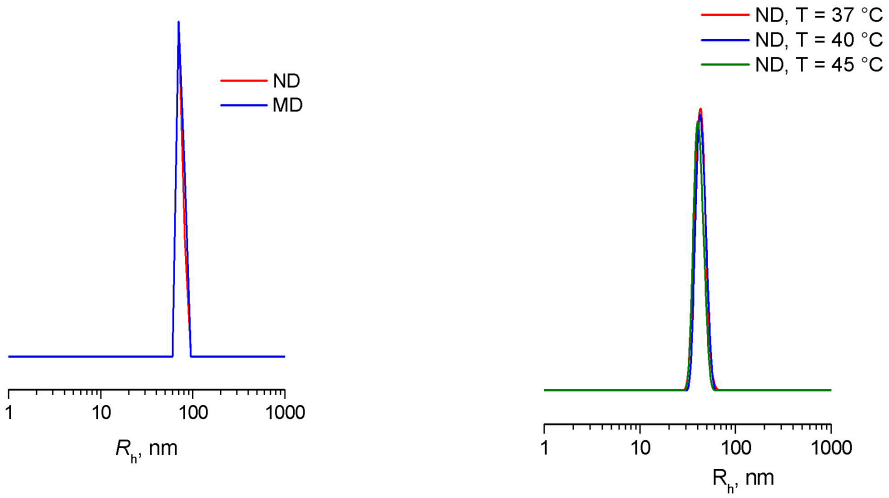
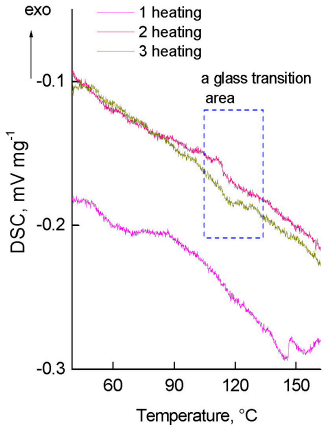


Figure S4: Semilogarithmic dependencies of light scattering intensity *I* on the terpolymer concentration in water at 22 °C.



(**a**) (**b**)

Figure S5: Mass (MD) and number (ND) distribution on particle size (**a**) in FB7 and (**b**) FB8 water solution at different temperatures. [FB7] = 0.31 mg ml^{-1}, [FB8] = 0.31 mg ml^{-1}.



(**a**)

Figure S6: DSC curves of terpolymers FB8 at 1—3 heating cycle.

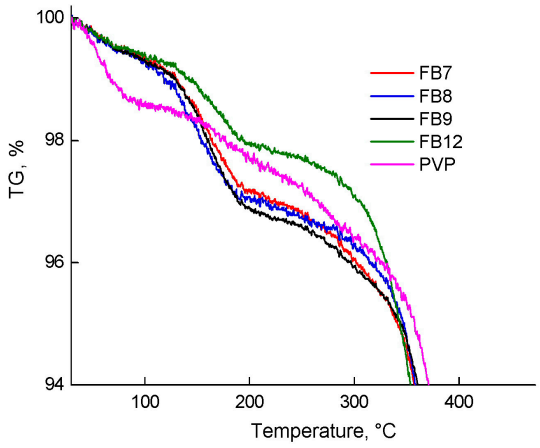
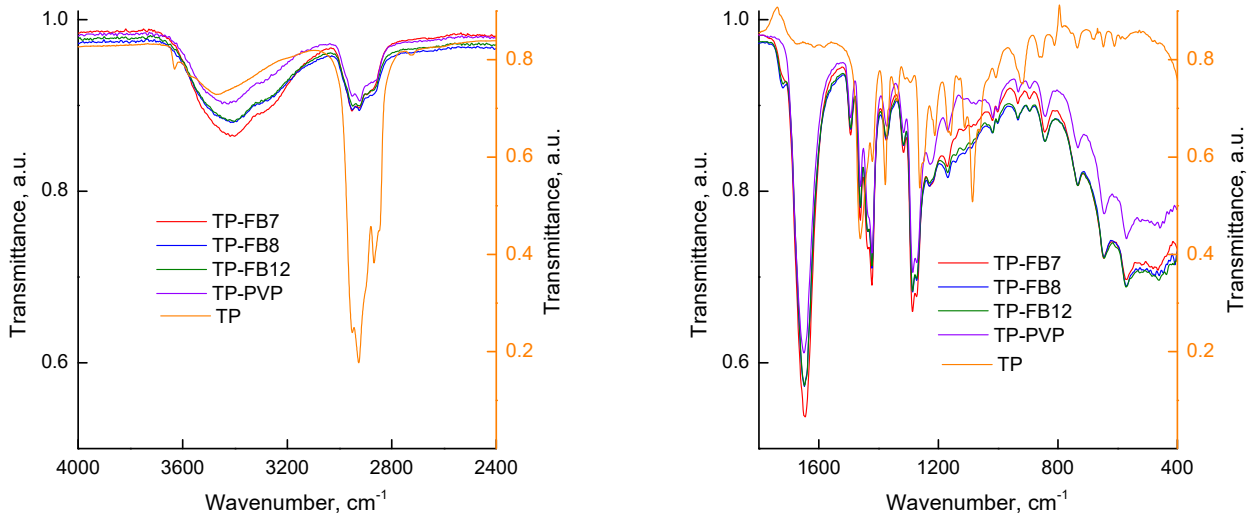


Figure S7: TG curves for the studied terpolymers at low degrees of conversion.



(**a**) (**b**)

Figure S8: FTIR spectra of TP-FB7, TP-FB8 and TP-FB12, TP-PVP powders, and TP in the regions: (a) of 4000—2400 cm^{-1} and (b) 1800—400 cm^{-1}.

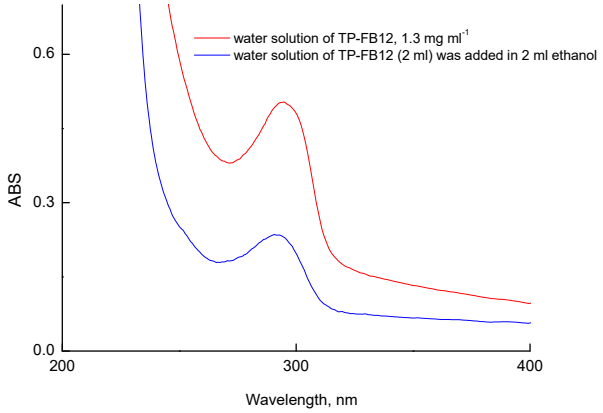


Figure S9: Absorption spectra of TP-FB12 in water and water/ethanol mixture; cuvette is 1 cm.