

Supporting information for:

Does the monomer sequence influence the thermal behavior of poly(acrylonitrile-co-acrylamide)?

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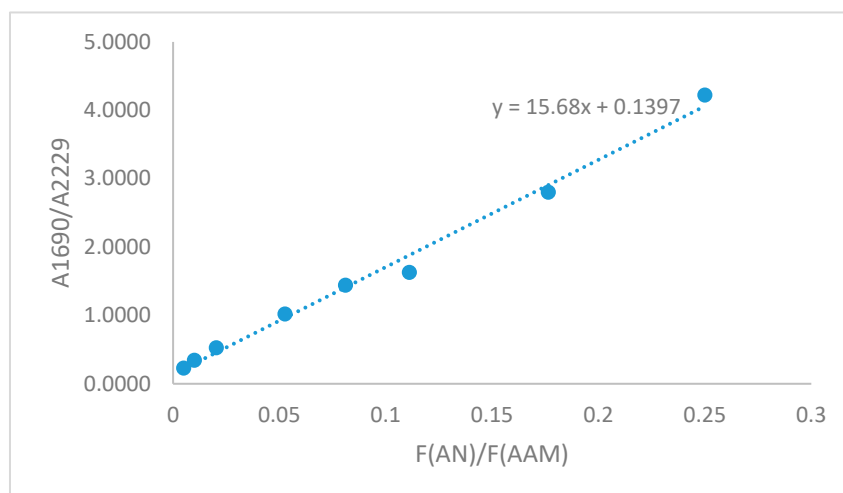
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Table S1. Formulations of the RAFT copolymerization of AN and AAM

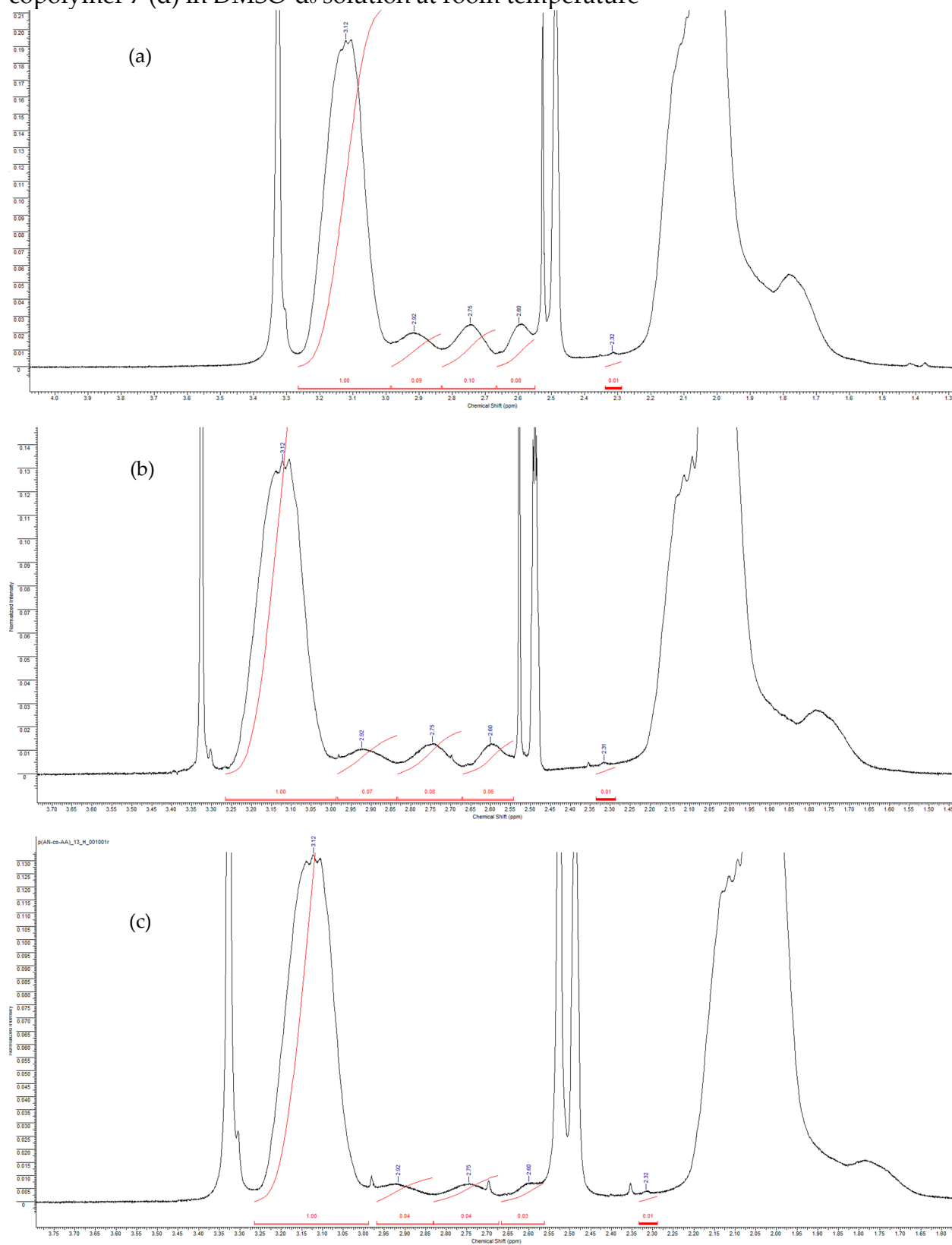
Sample	AN		AAM		DMSO, mL	AIBN		BTC		In semi-batch process		
	g	mmol	g	mmol		g	mmol	g	mmol	DMSO, mL	AAM, g	Addition rate, mL/h
1	19.5	368	0.53	7.5	27.27	0.009	0.0548	0.0155	0.0534	–	–	–
2	18.9	356	1.33	18.7	27.27	0.009	0.0548	0.0155	0.0534	–	–	–
3	18.5	349	1.86	26.2	27.27	0.009	0.0548	0.0155	0.0534	–	–	–
4	18.5	349	1.86	26.2	27.27	0.018	0.1096	0.031	0.1069	–	–	–
5	18.5	349			27.27	0.018	0.1096	0.031	0.1069	4.0	4.44	4
6	18.5	349			27.27	0.018	0.1096	0.031	0.1069	2.5	2.77	2
7	18.5	349			27.27	0.018	0.1096	0.031	0.1069	2.5	2.77	2

Figure S1. Calibration curve for determination copolymer composition.



A_{1690} – intensity of the carbonyl absorbance band of amide group, A_{2240} – intensity of the absorbance band of $-C\equiv N$ group, F_{AAM} and F_{AN} – molar part of AN and AAM in the mixture.

Figure S2. ^1H NMR spectra of copolymers 5 (a), 6(b), 7 (b) and ^{13}C NMR spectrum of copolymer 7 (d) in DMSO- d_6 solution at room temperature



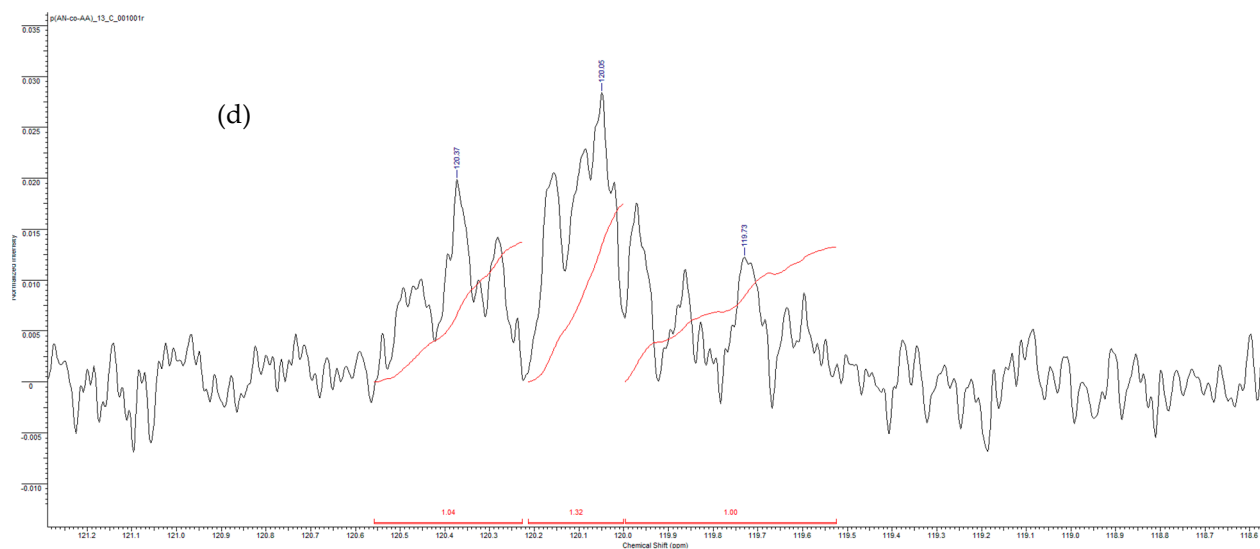


Figure S3. SEC traces of the copolymers formed in the experiments 4 – 7 (Table 1) at various conversions; Samples: 4 (a), 5 (b), 6 (c), and 7 (d).

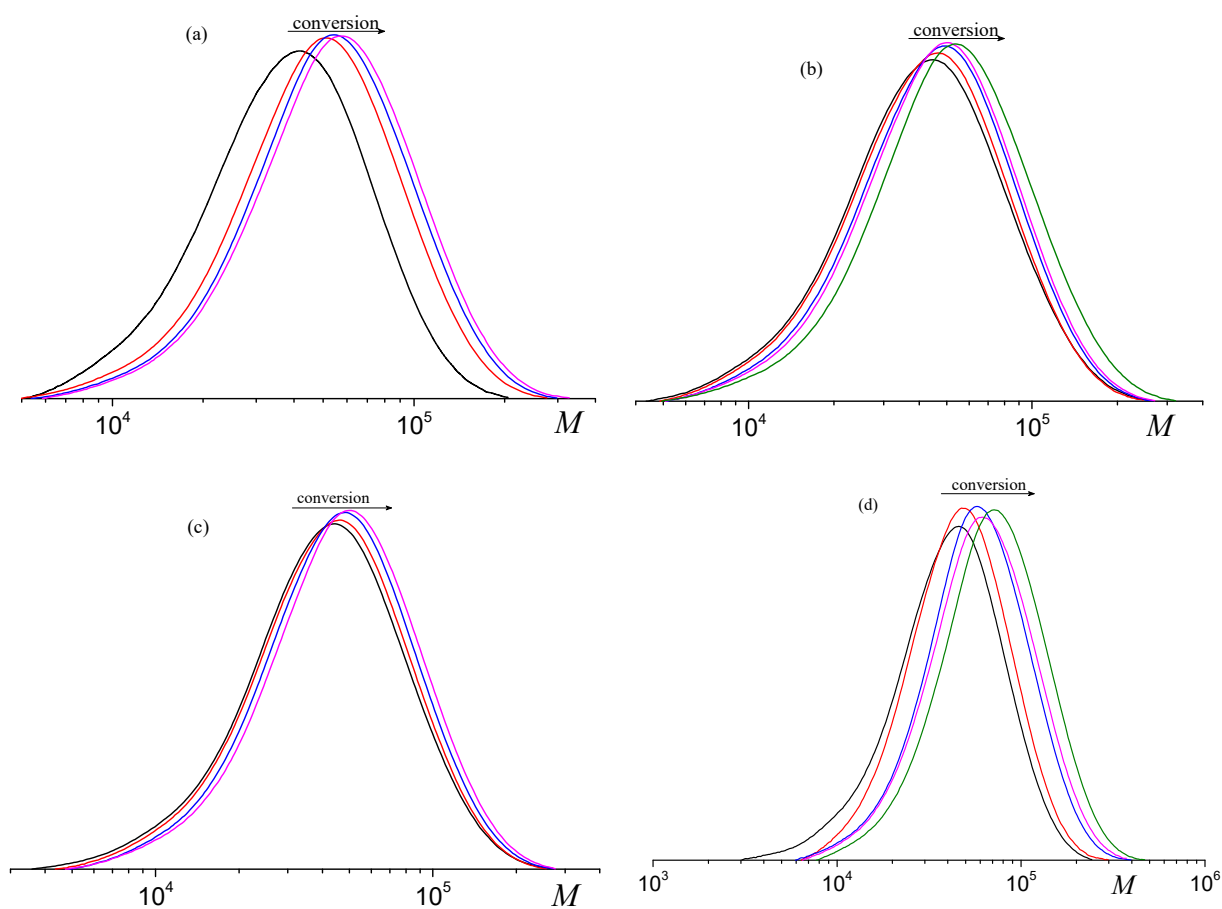


Figure S4. DCS thermograms of samples 1, 2, 4 – 6 registered in argon at different heating rates

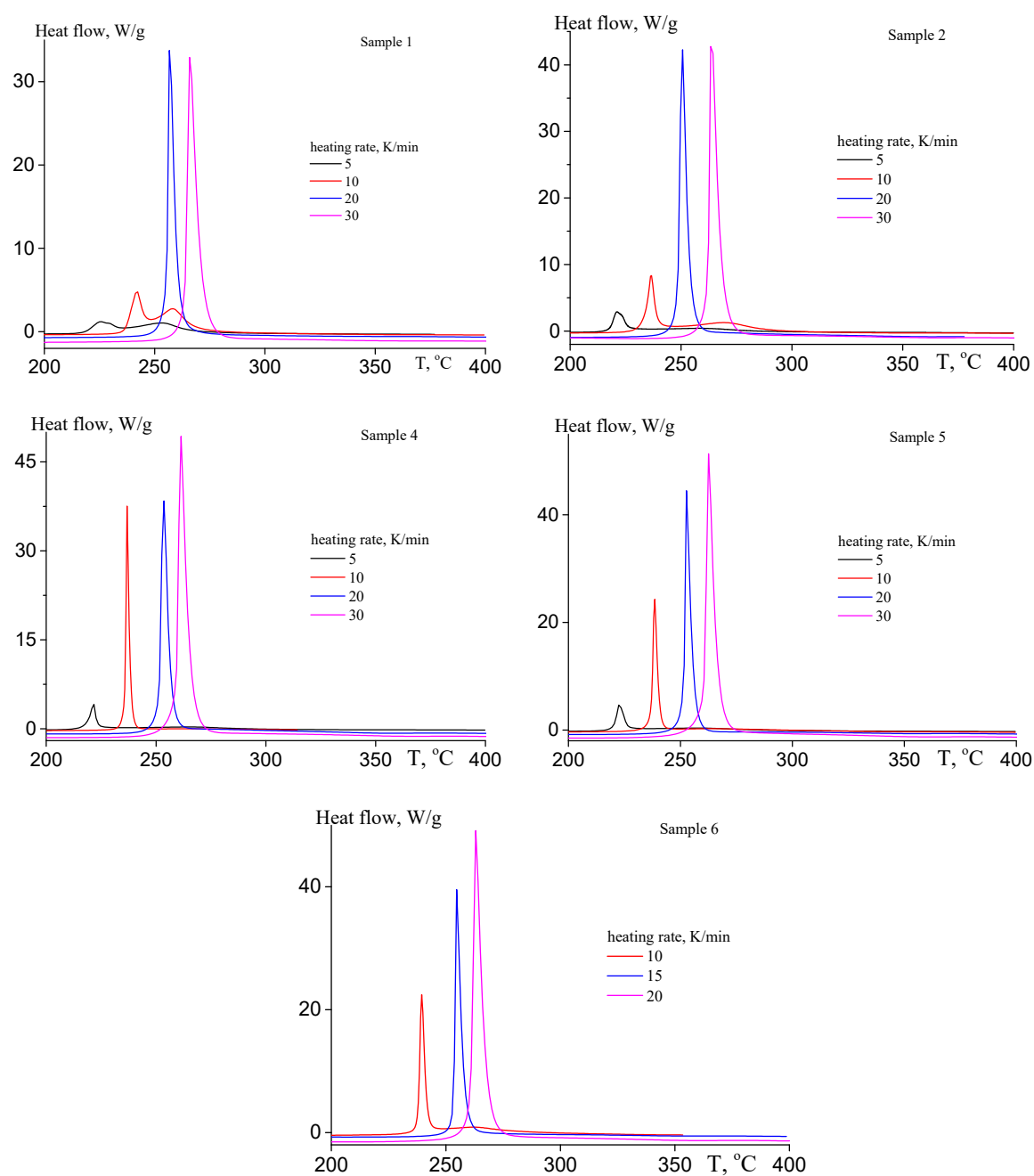


Figure S5. FTIR spectra of AN and AAM copolymers subjected to thermal treatment in Ar atmosphere at 200 °C for 0 (1), 5 (2), 10 (3) 20 (4), 60 (5), and 120 min (6)

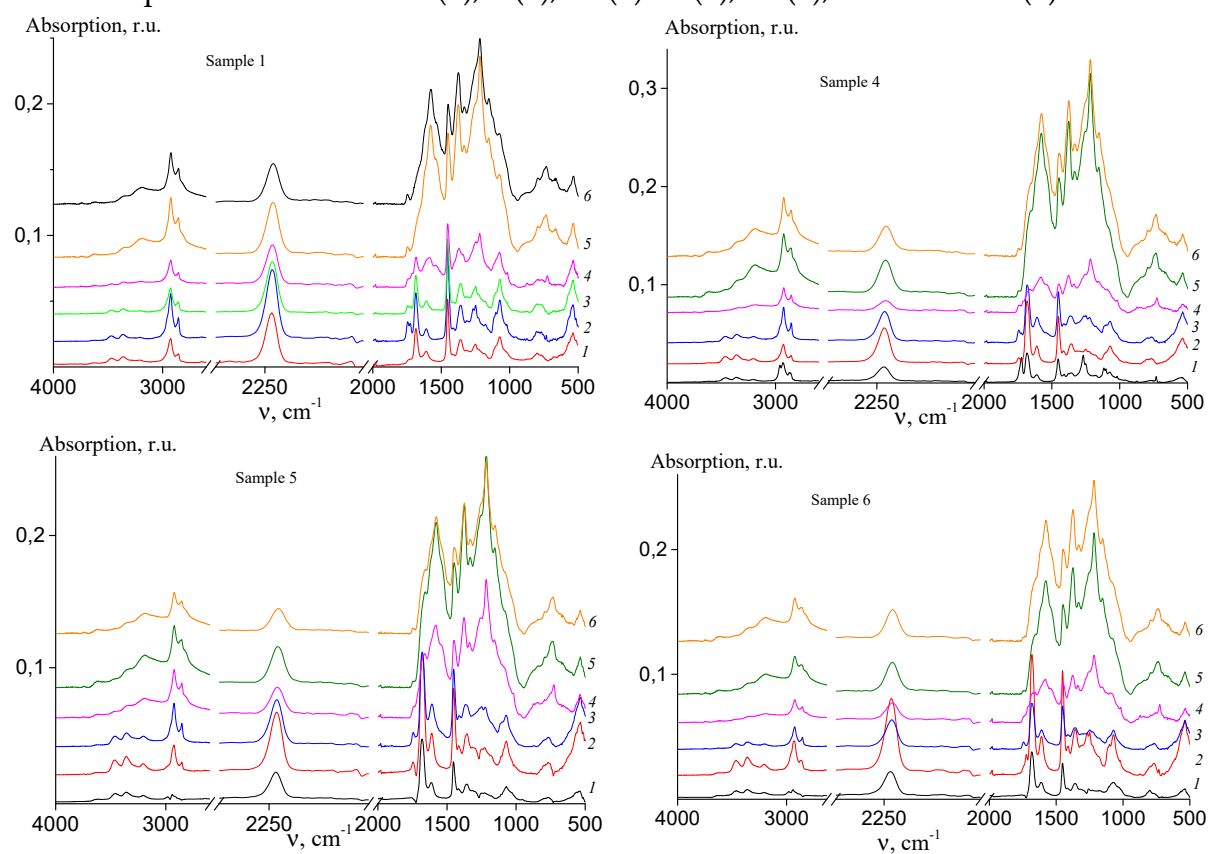


Figure S6. FTIR spectra of AN and AAM copolymers subjected to thermal treatment in Ar atmosphere at 225 °C for 0 (1), 7 (2), 30 (3) 60 (4), and 120 min (5)

