In situ formation of acidic comonomer during thermal treatment of copolymers of acrylonitrile and its influence on the cyclization reaction

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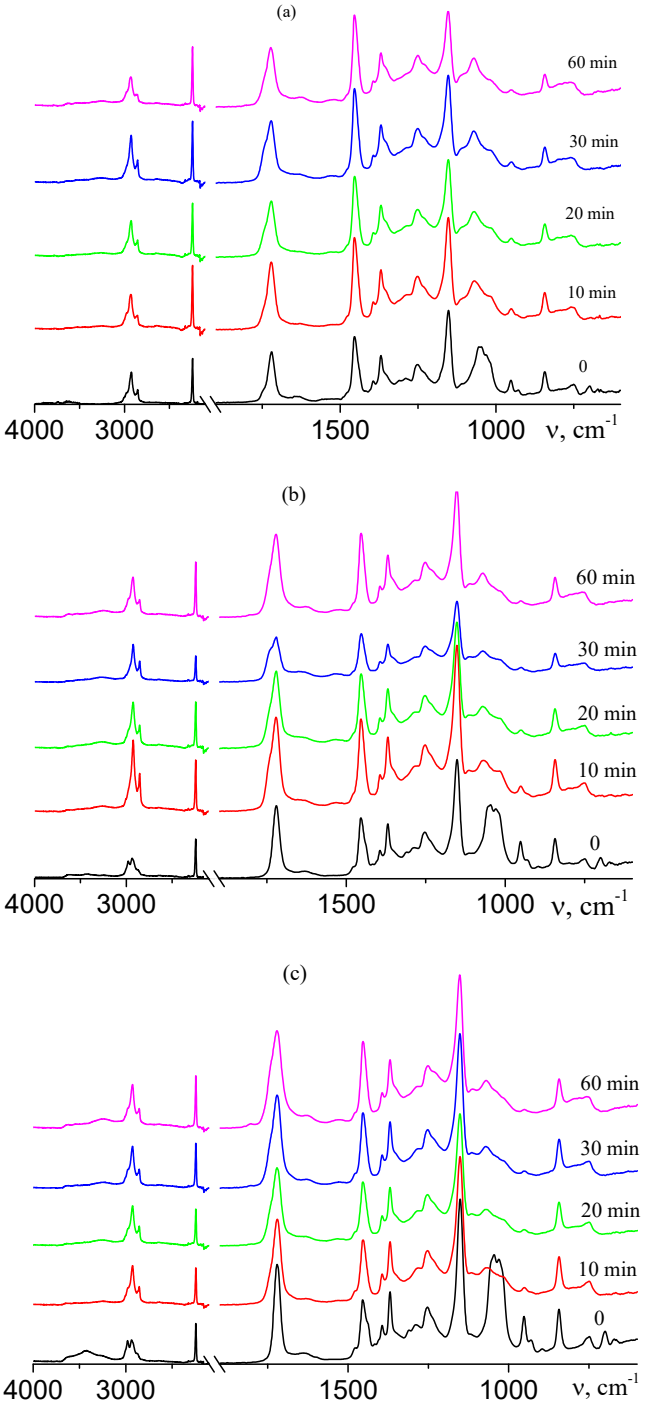
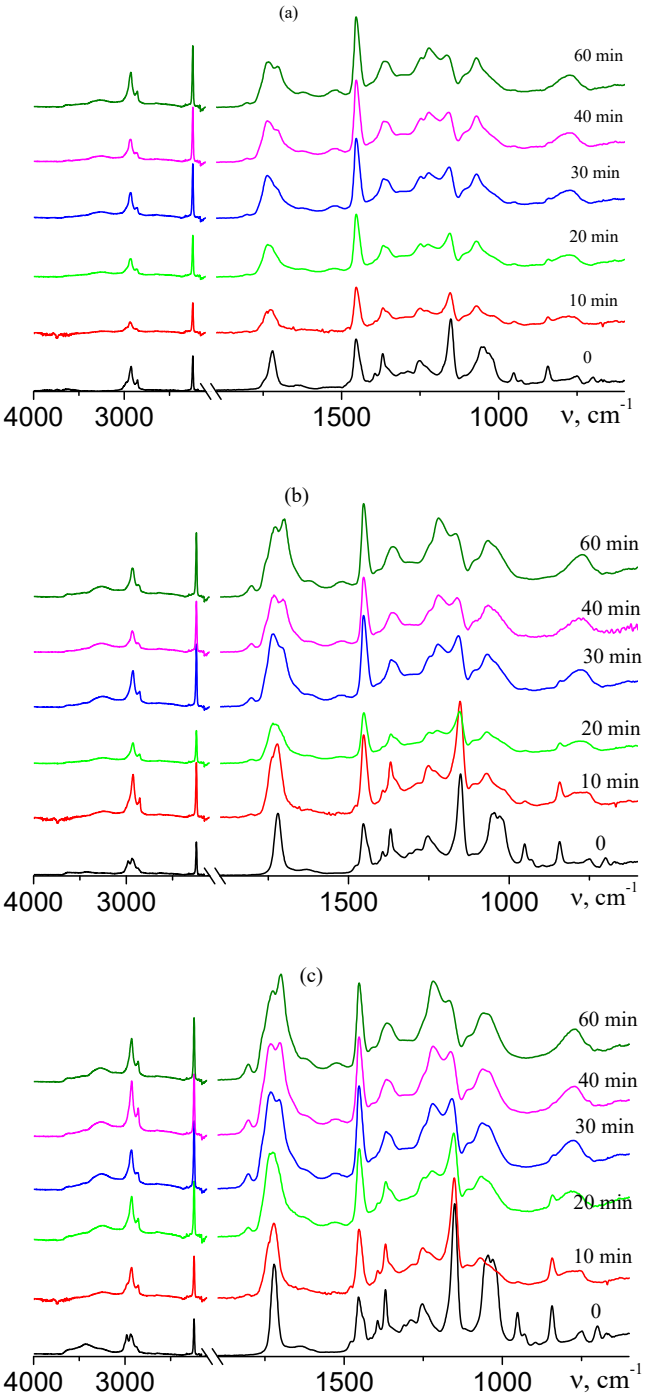


Figure S2. FTIR spectra of AN–TBA copolymers synthesized from different monomer feeds before and after thermal treatment of their films at 160 ºC for required period, specified on the Figures: f_{TBA} = 5.0 (a), 7.5 (b), and 10.0 mol. % (c).



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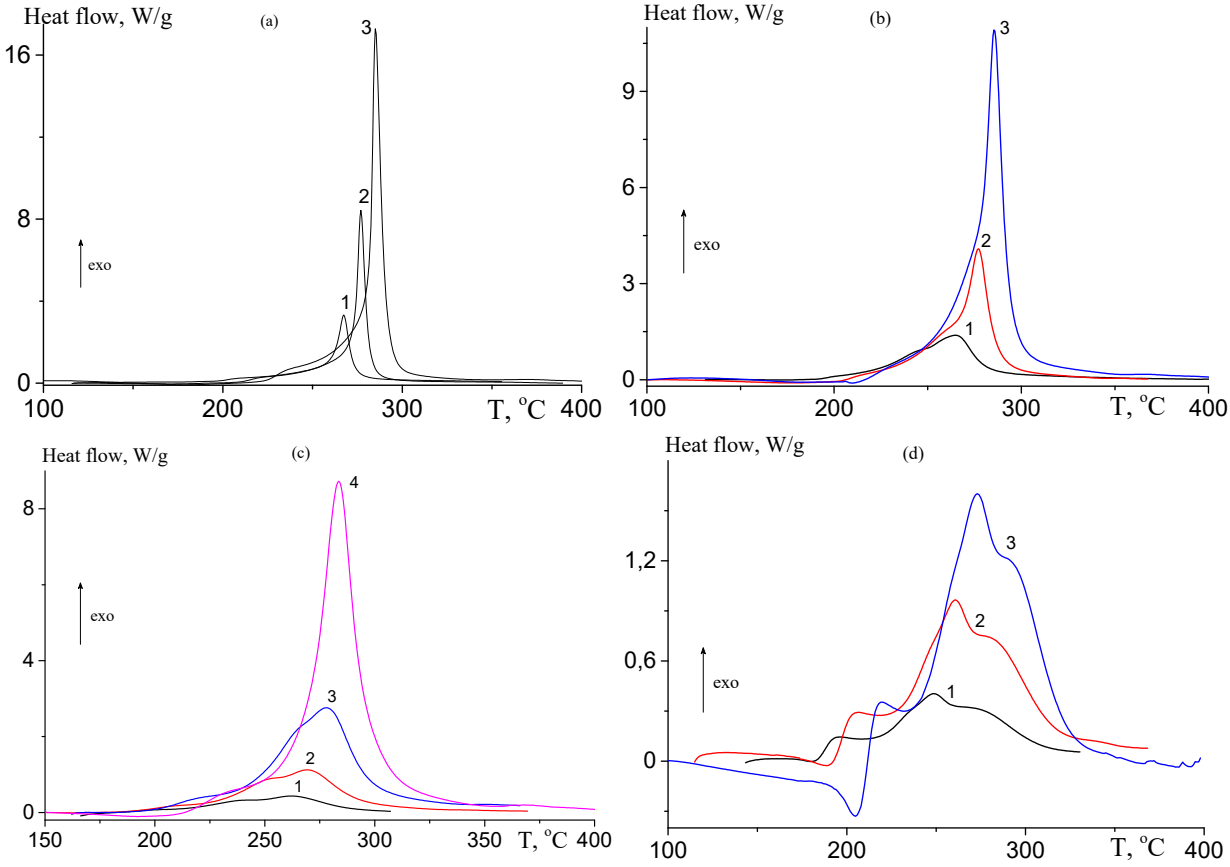
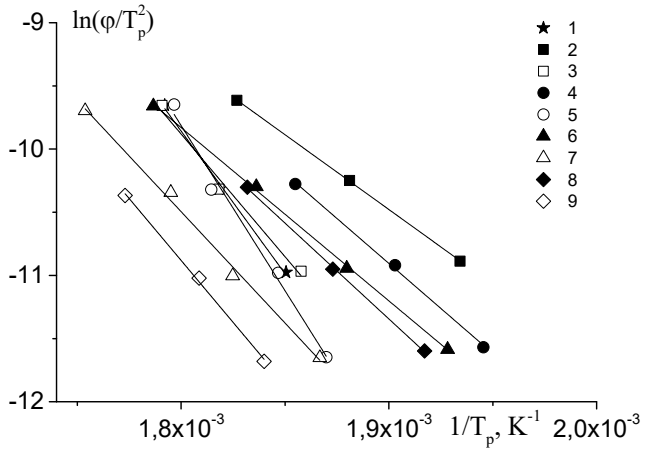


Figure S4. Dependences of $\ln(\varphi/T_p^2)$ on $1/T_p$ obtained from DSC thermograms of copolymers of AN and TBA at various heating rates; f_{TBA} = 1 (1), 2.5 (2, 3), 5 (4, 5), 7.5 (6, 7), and 10 mol. % (8, 9); peak II (2, 4, 6, 8), peak III (1, 3, 5, 7, 9).



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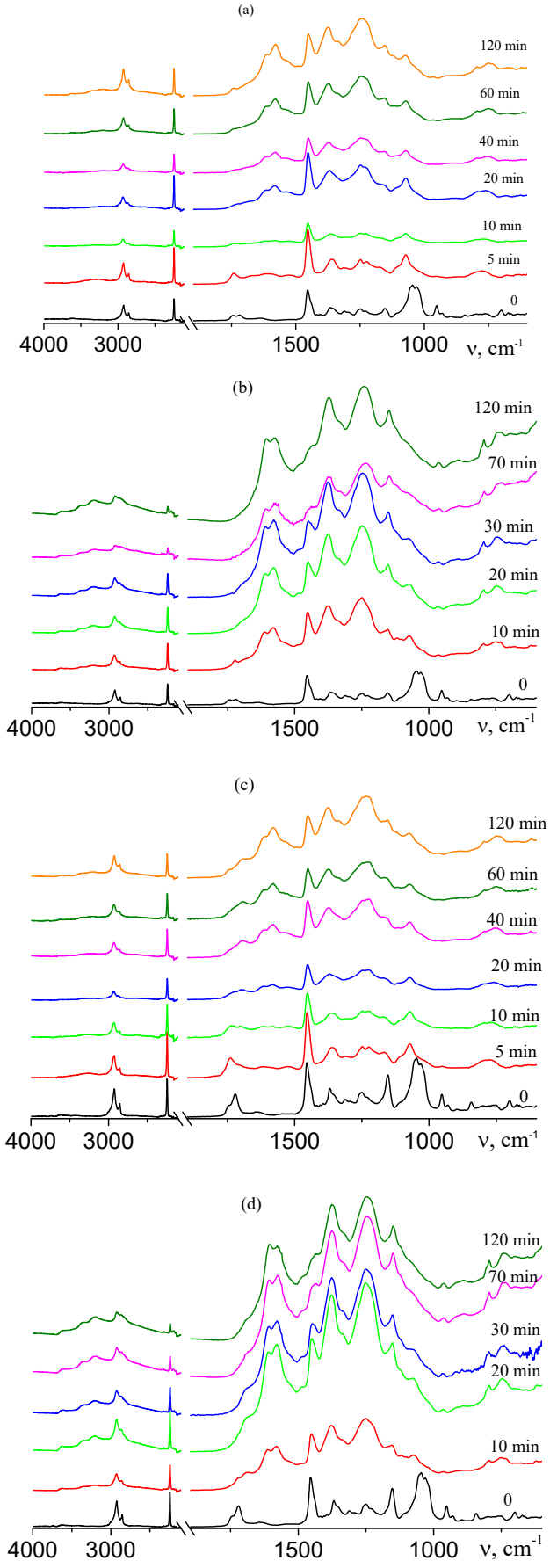

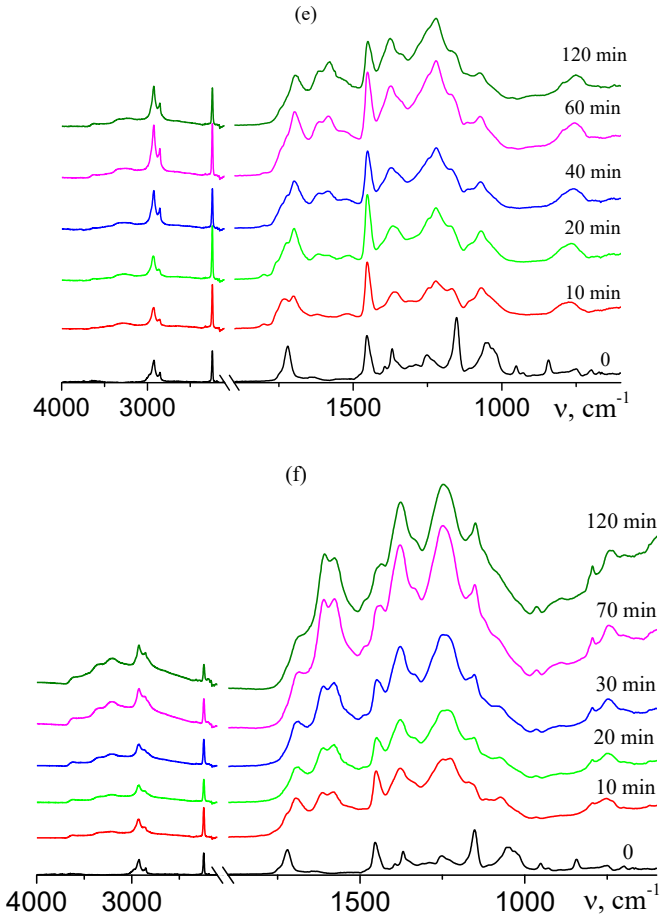
(e)
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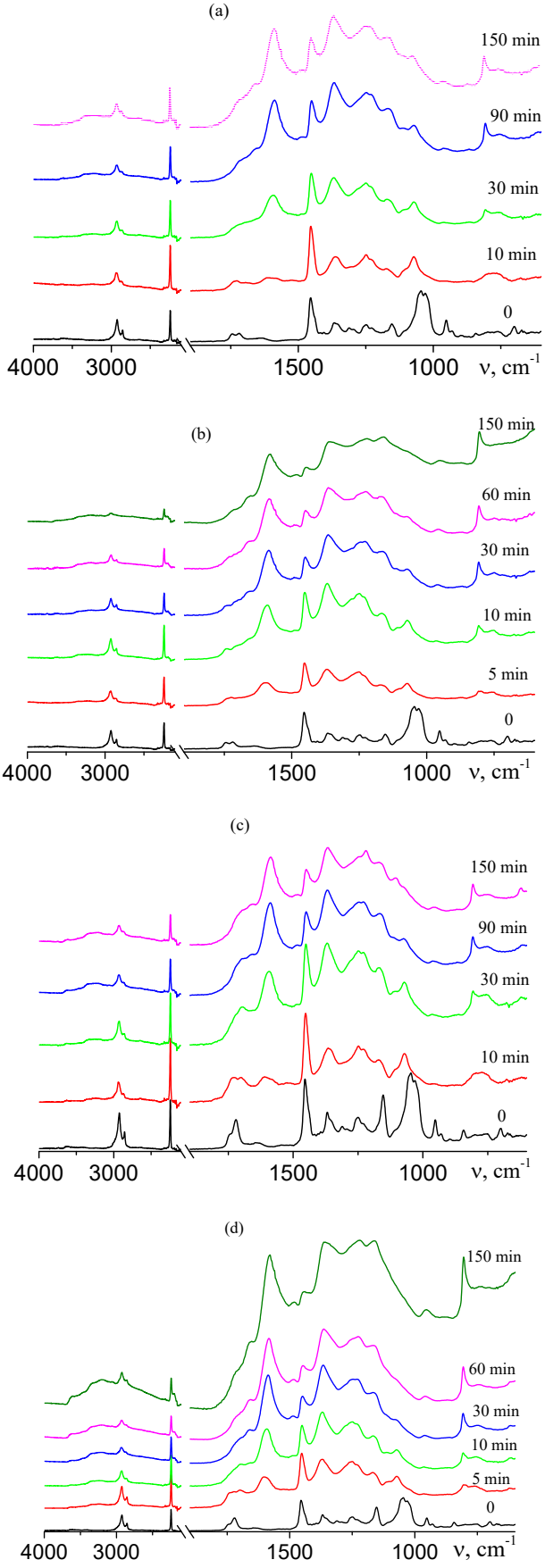
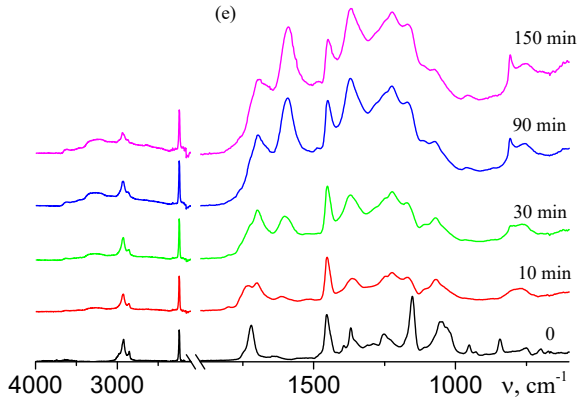
60 min
40 min
20 min
10 min
0
4000
3000
1500
1000
ν, cm-1
(f)
120 min
70 min
30 min
20 min
10 min
0
4000
3000
1500
1000
ν, cm-1

Figure S6. FTIR spectra of the films of AN–TBA copolymers subjected to thermal treatment at 200 (a, c, e) and 225 °C (b, d, f) in air atmosphere at various times (indicated on Figure): f_{TBA} = 1 (a, b), 2.5 (c, d), and 5 mol. % (e, f).




(e)
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30 min
10 min
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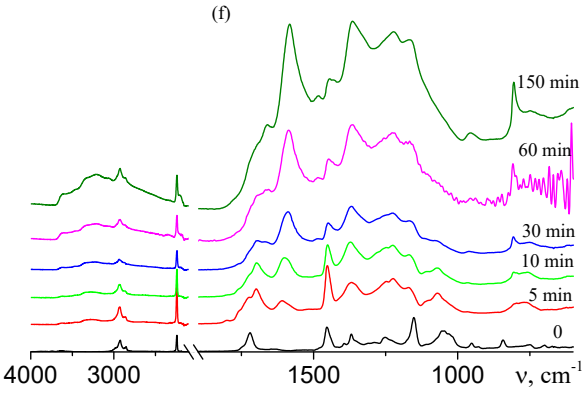
1500
1000
ν, cm-1


(f)
150 min
60 min
30 min
10 min
5 min
0
4000
3000
1500
1000
ν, cm-1

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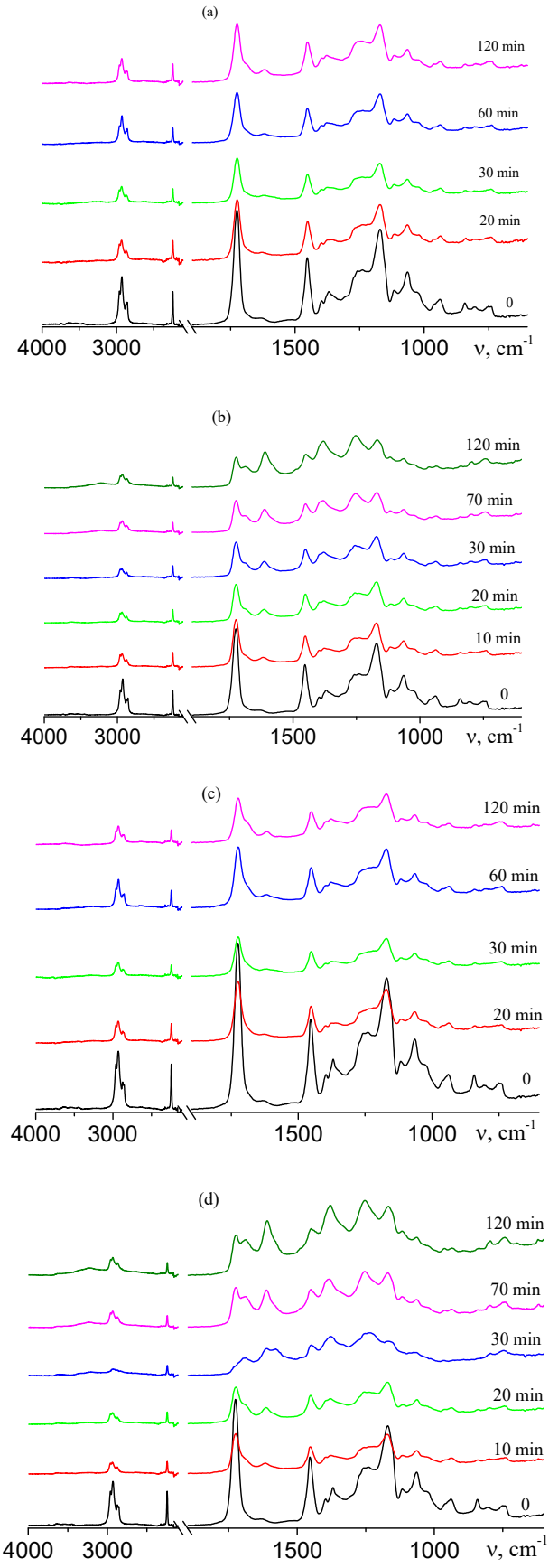

Figure S8. FTIR spectra of the films of AN–BA–TBA copolymers subjected to thermal treatment at 200 (a, c) and 225 ºC (b, d) in air atmosphere at various times (indicated on Figures): f_{TBA} = 1.0 (a, b) and 2.5 mol. % (c, d).

