# Electronic Supplementary Information of

# Oxidation of ferrocenemethanol grafted to hydrogel network through cysteine for triggering volume phase transition

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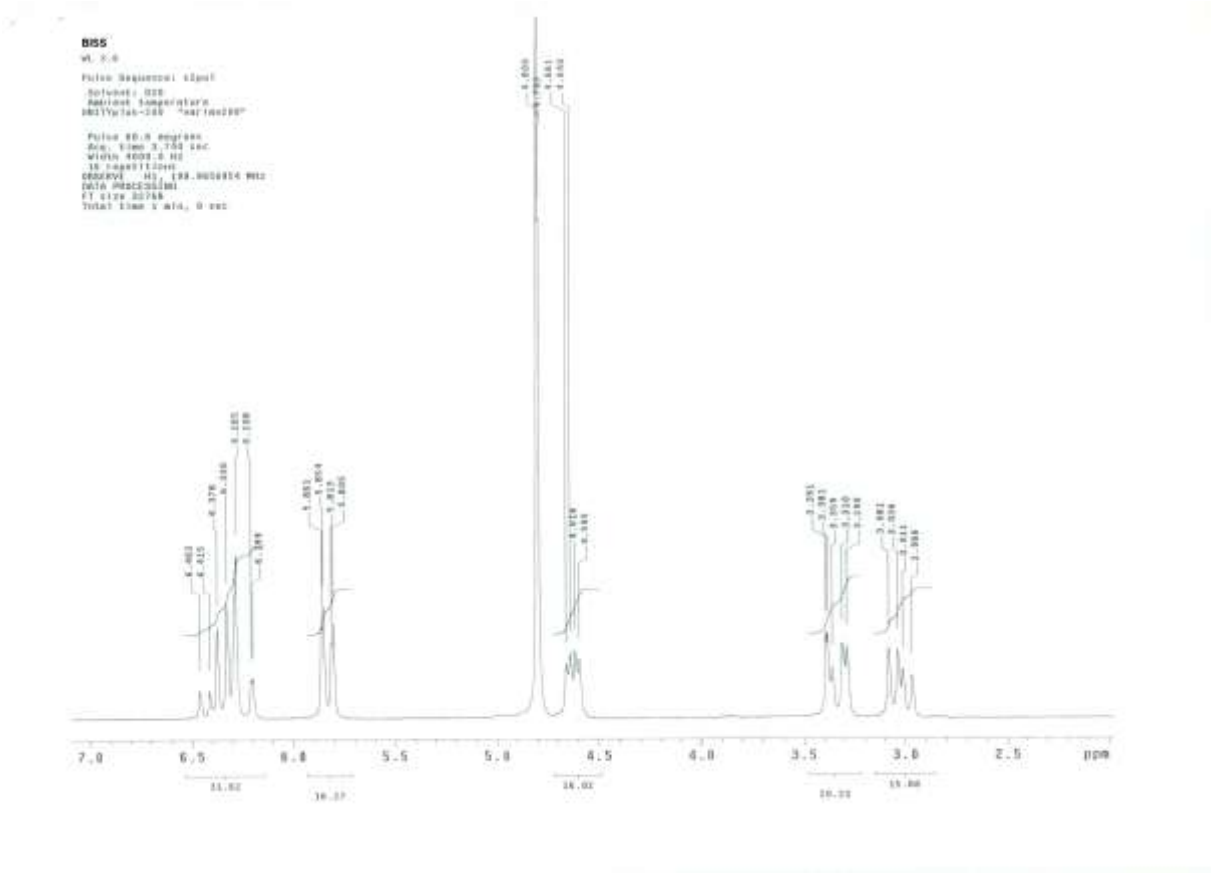


**Fig.S1** $^{1}$H NMR spectra of BISS monomer.

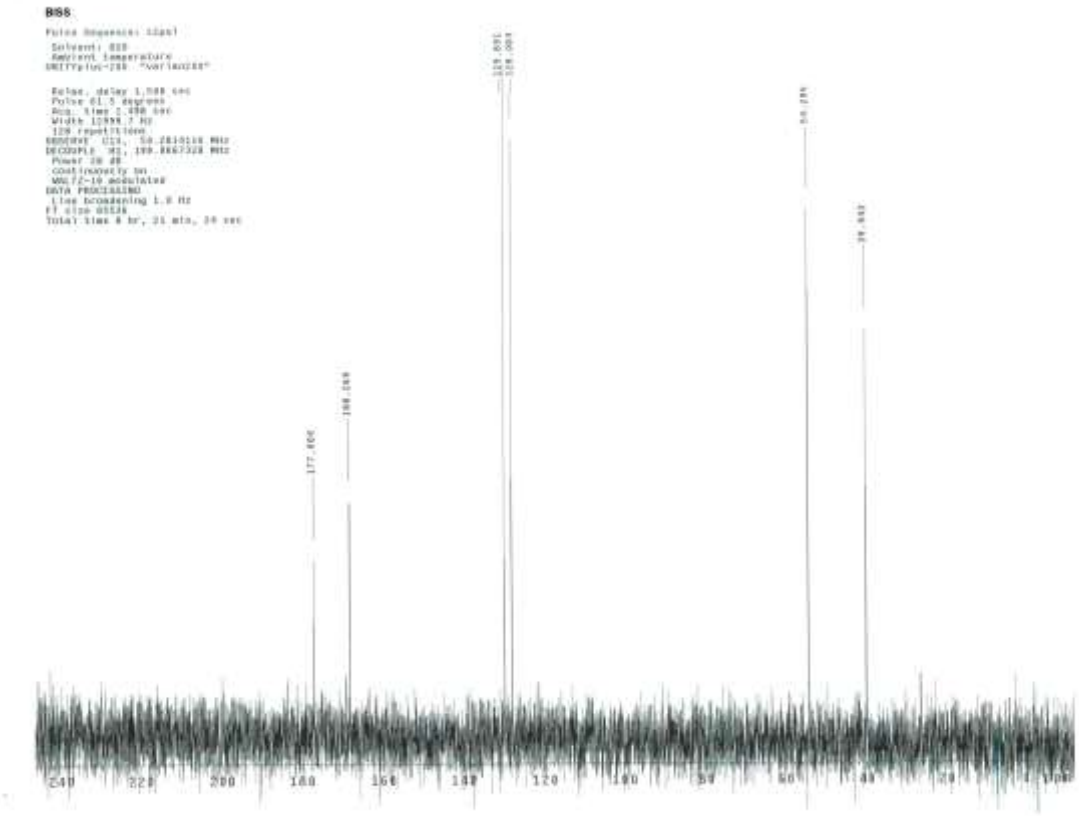


**Fig.S2** $^{13}C$ NMR spectra of BISS monomer.

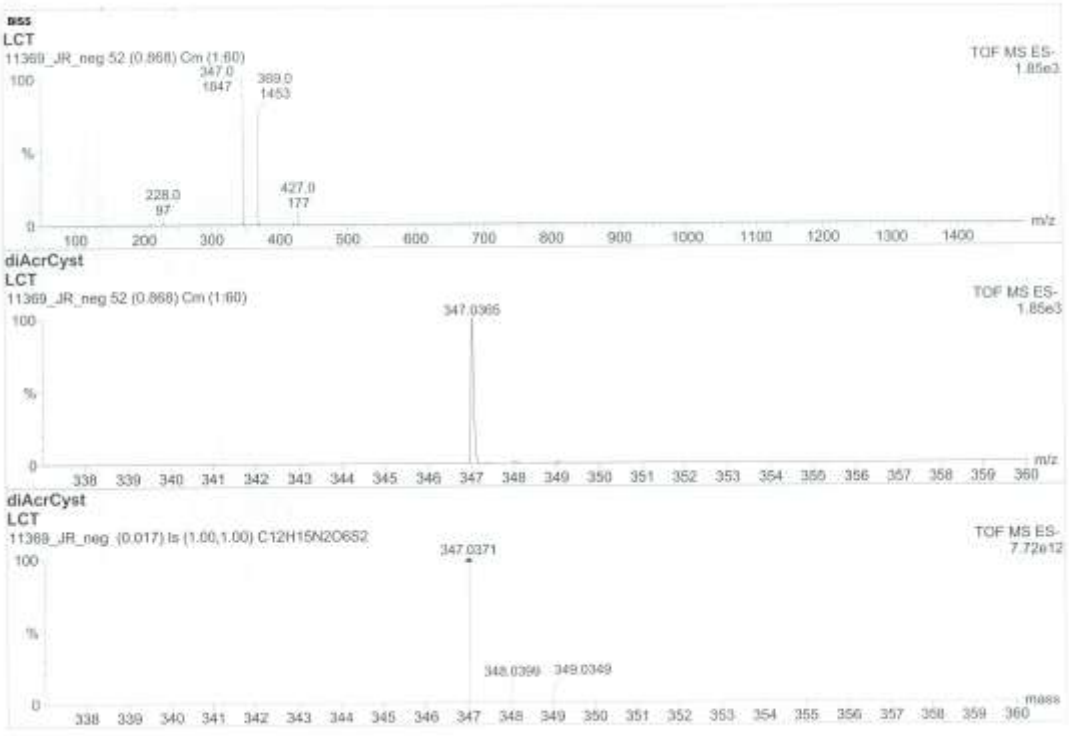


**Fig.S3** MS spectra of BISS monomer.

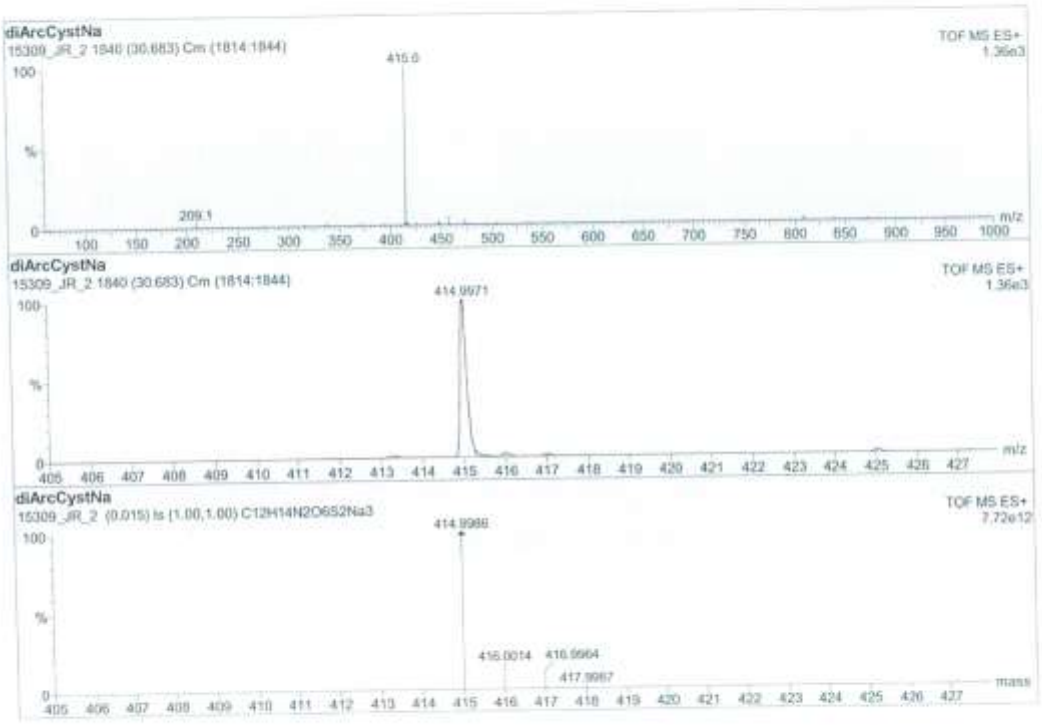


**Fig.S4** MS spectra of disodium salt of BISS monomer.

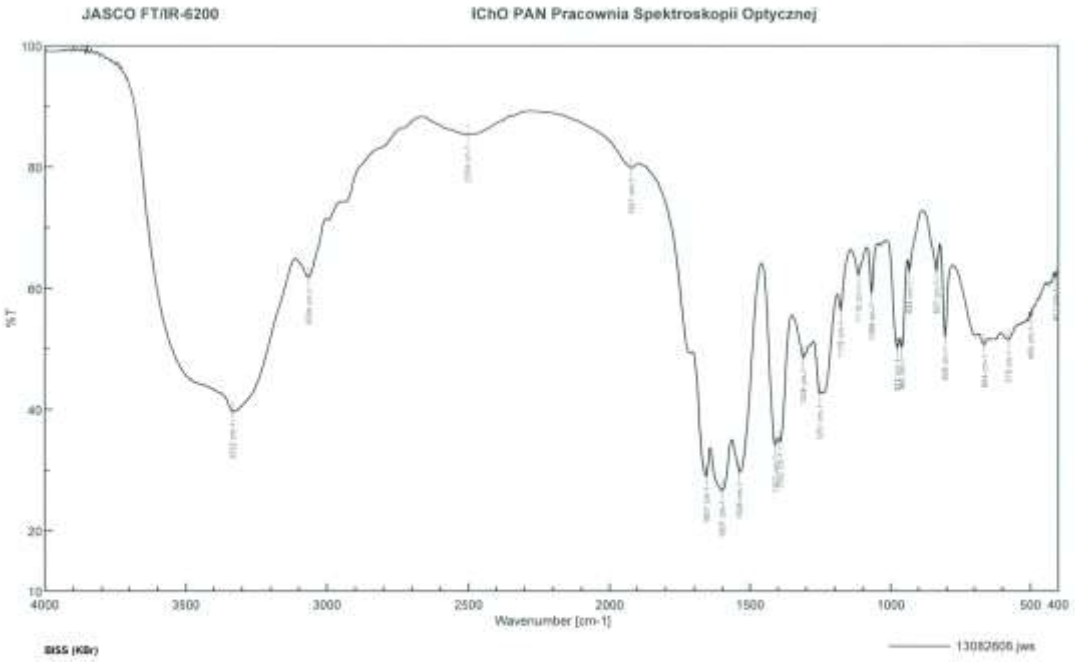


**Fig.S5** IR spectra of BISS monomer.

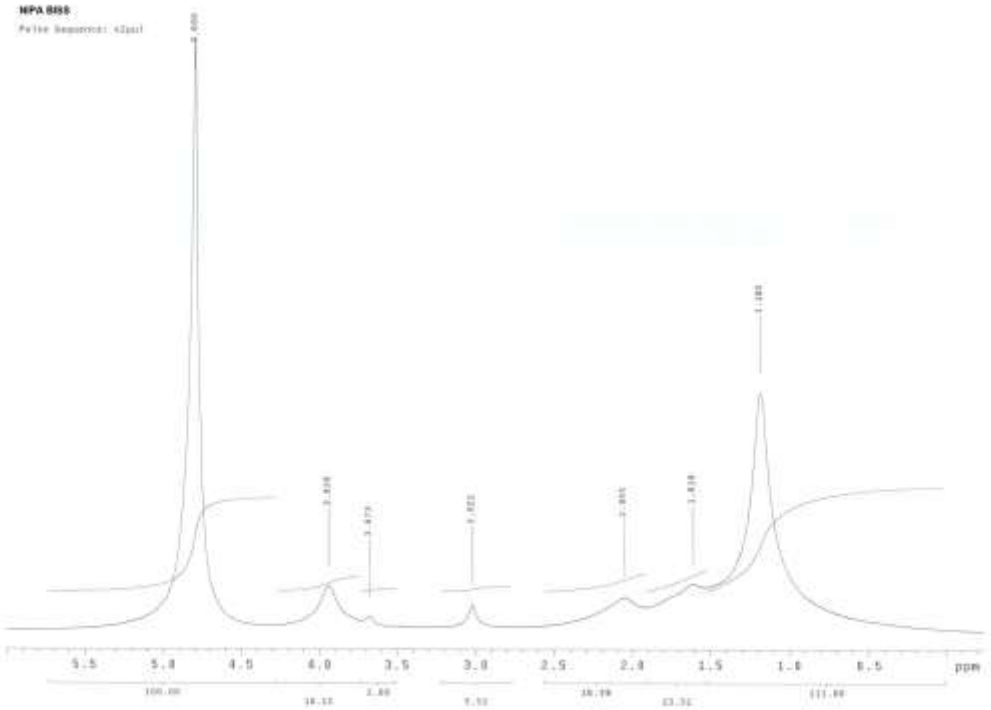


**Fig.S6** $^{1}$H NMR spectra of 6%NIPA-BISS gel.

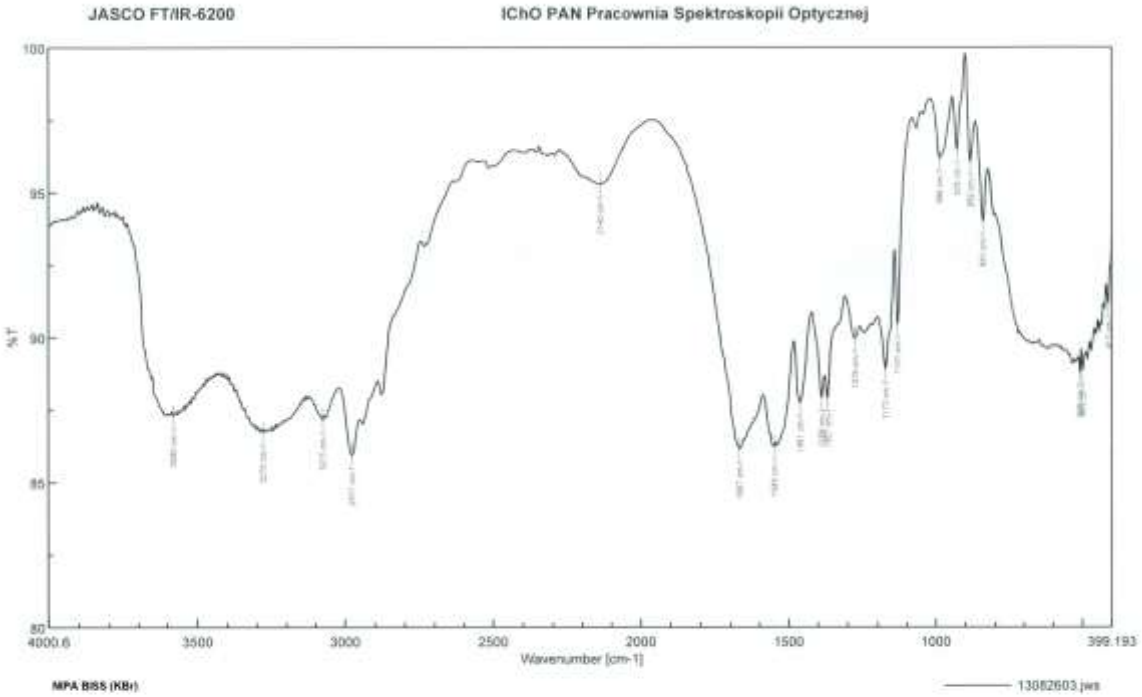


**Fig.S7** IR spectra of 6%NIPA-BISS polymer.

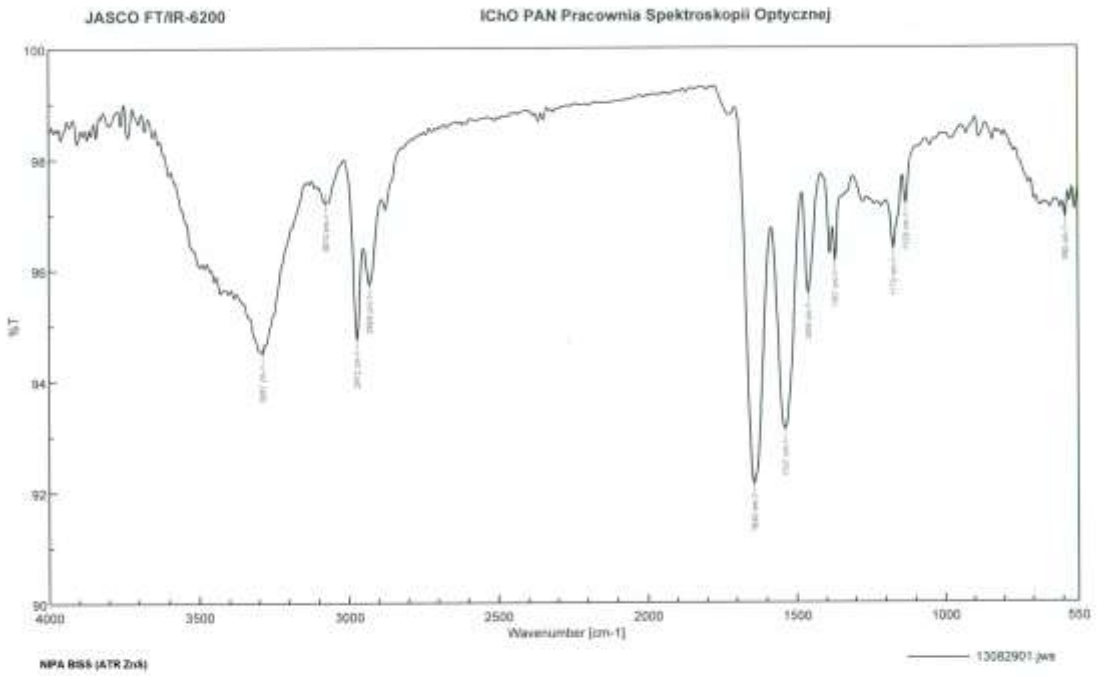


**Fig.S8** IR (ATR) spectra of 6%NIPA-BISS polymer.

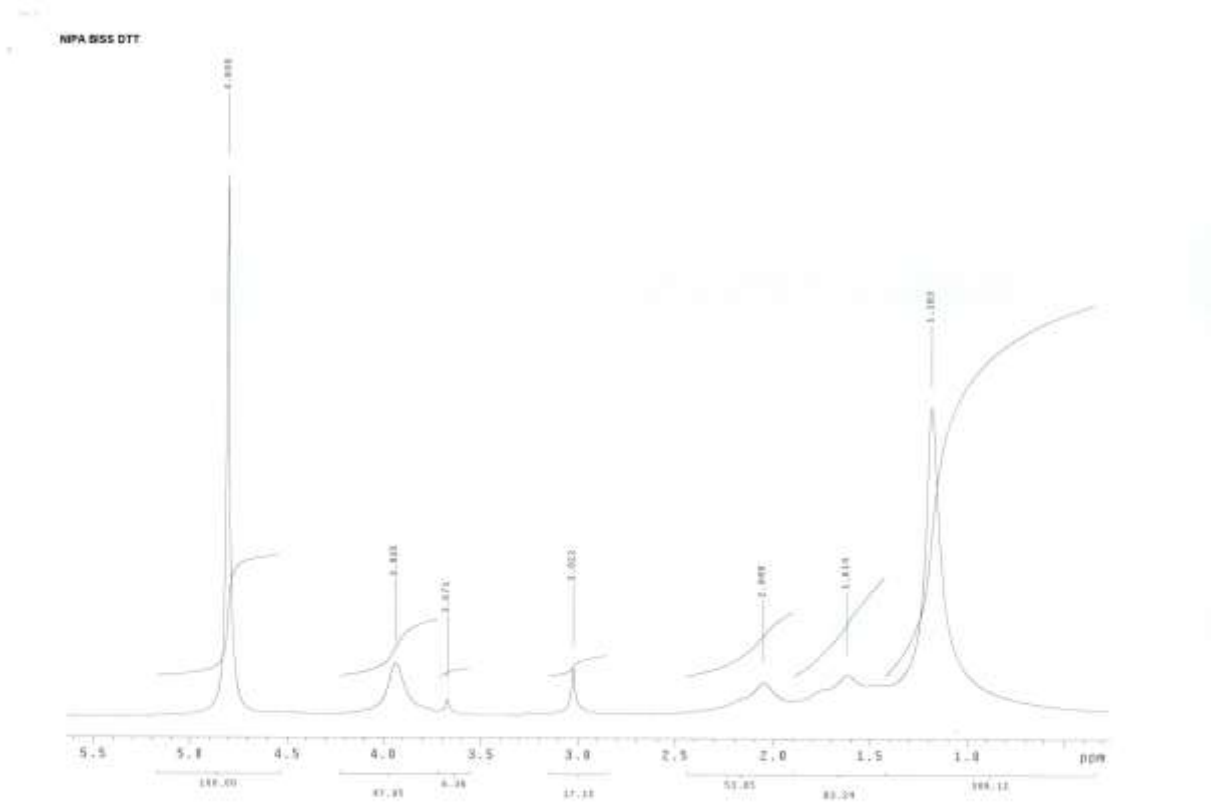


**Fig.S9** $^{1}$H NMR spectra of 6%NIPA-BISH gel.

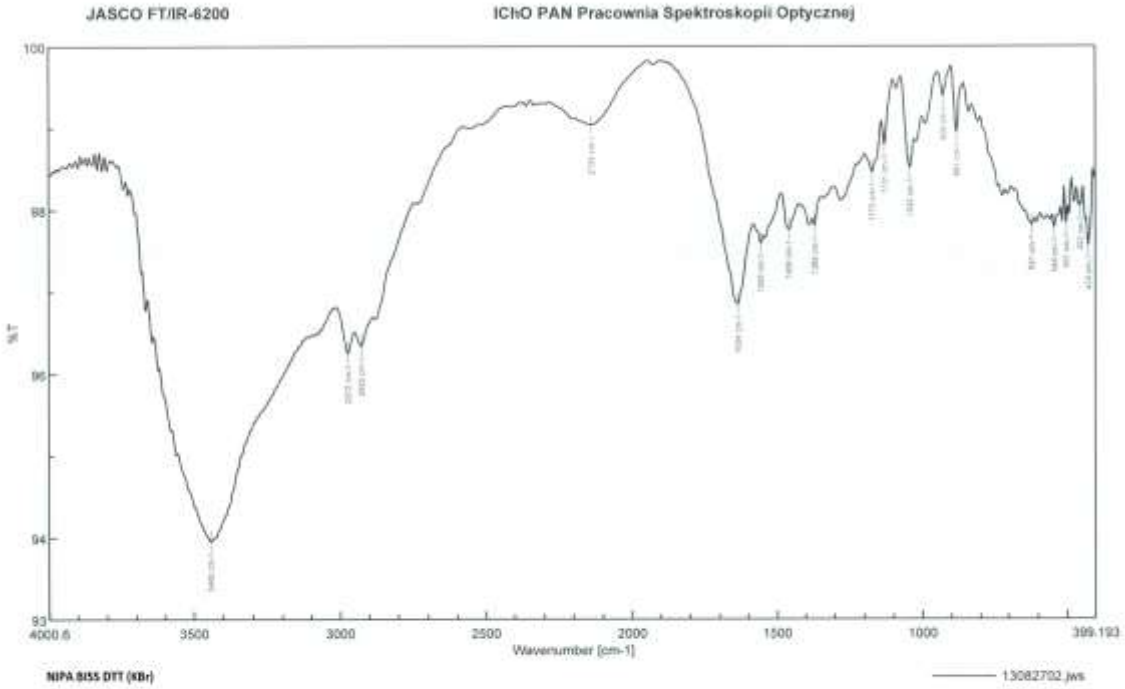


**Fig.S910** IR spectra of 6%NIPA-BISH polymer.

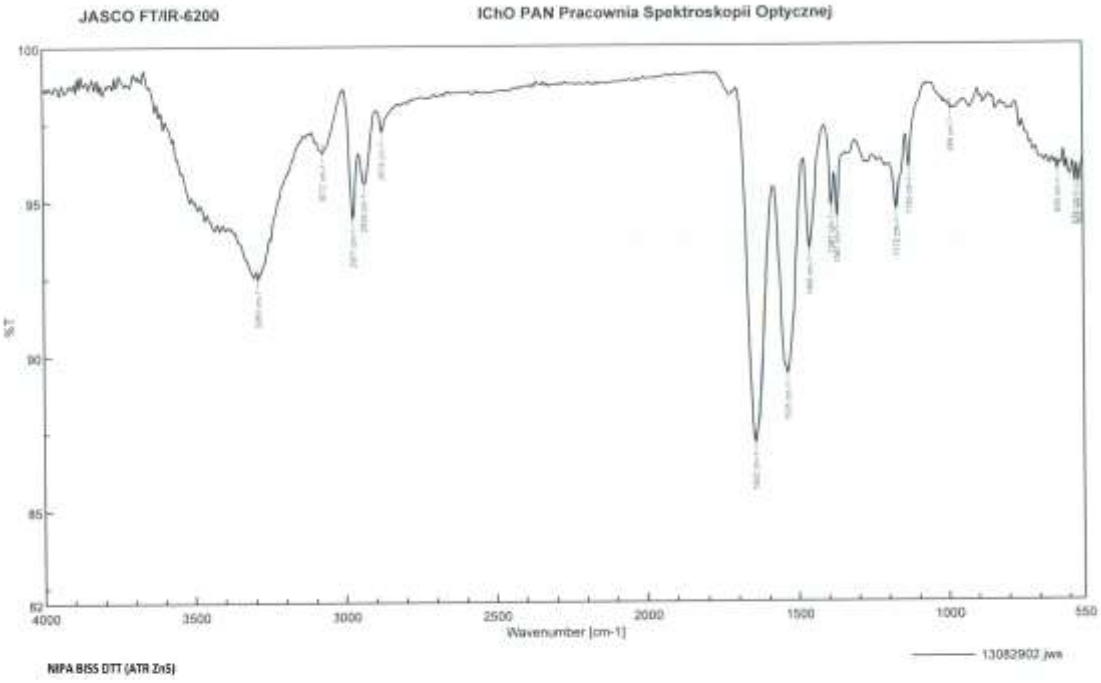


**Fig.S11** IR (ATR) spectra of 6%NIPA-BISH polymer.

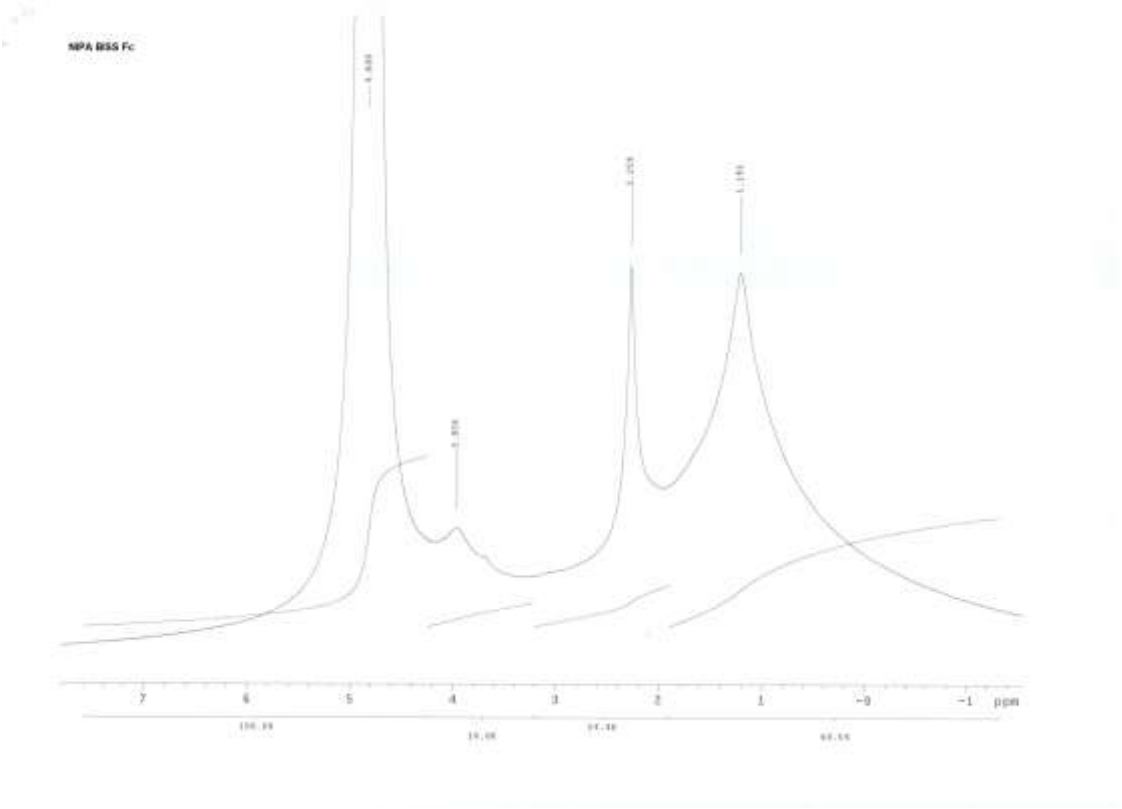


**Fig.S12** $^{1}$H NMR spectra of 6%NIPA-BISFc gel.

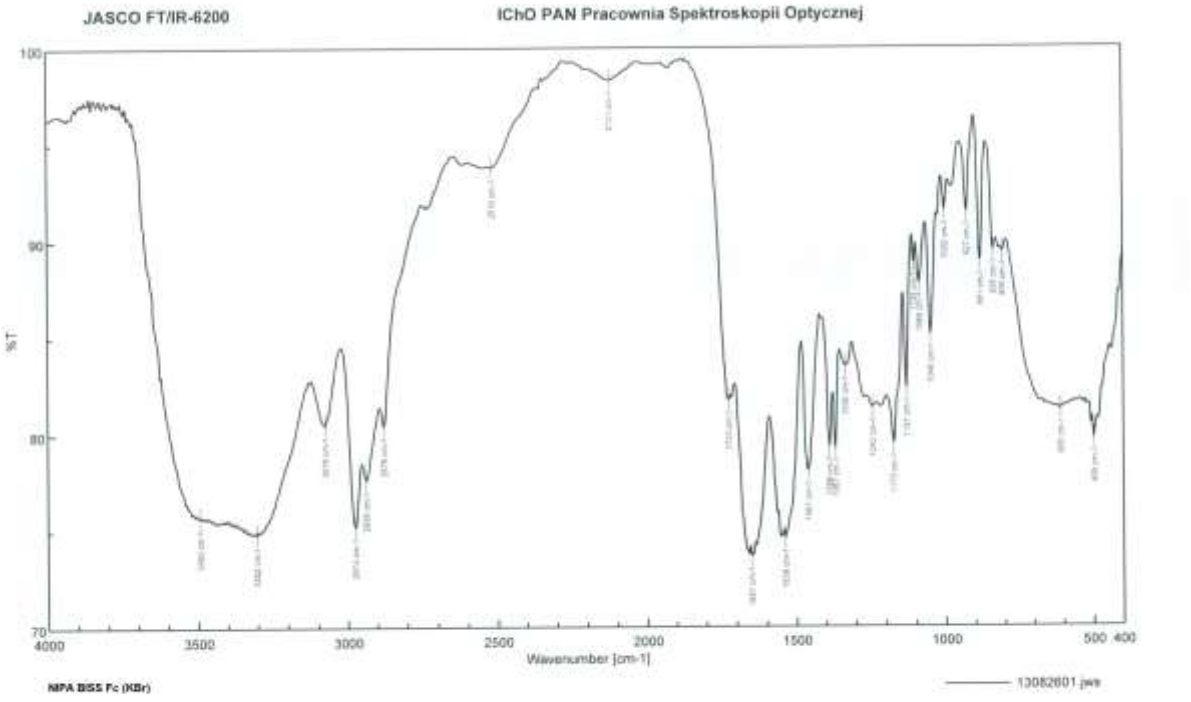


**Fig.S13** IR spectra of 6%NIPA-BISFc polymer.

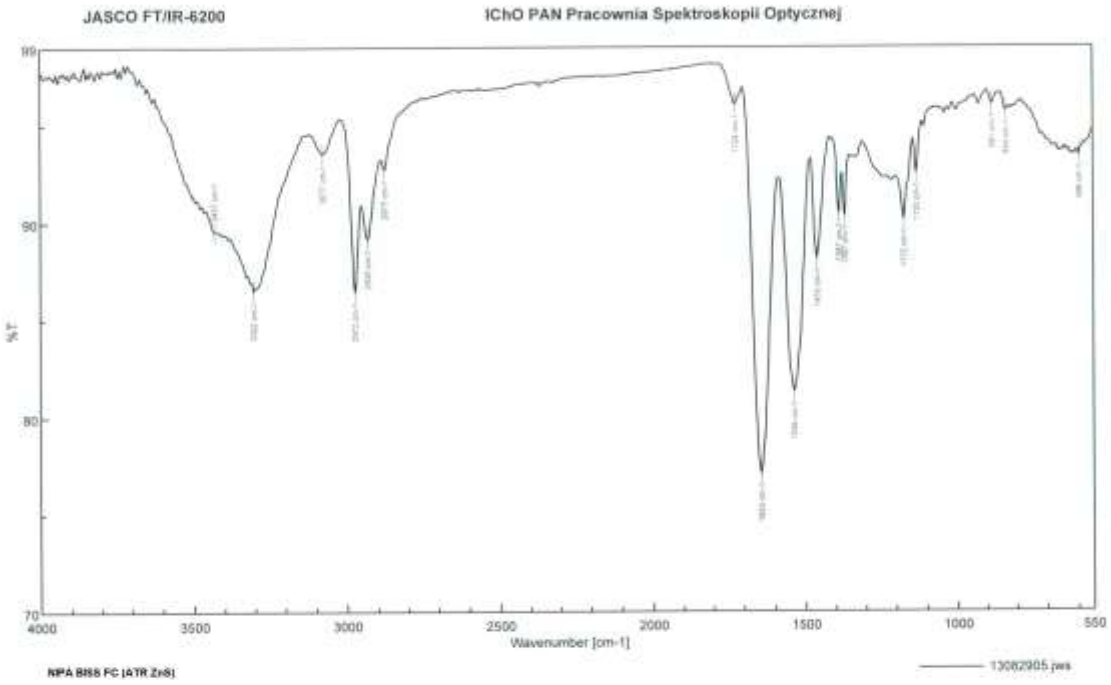


**Fig.S14** IR (ATR) spectra of 6%NIPA-BISFc polymer.