

Supplementary Information (SI)

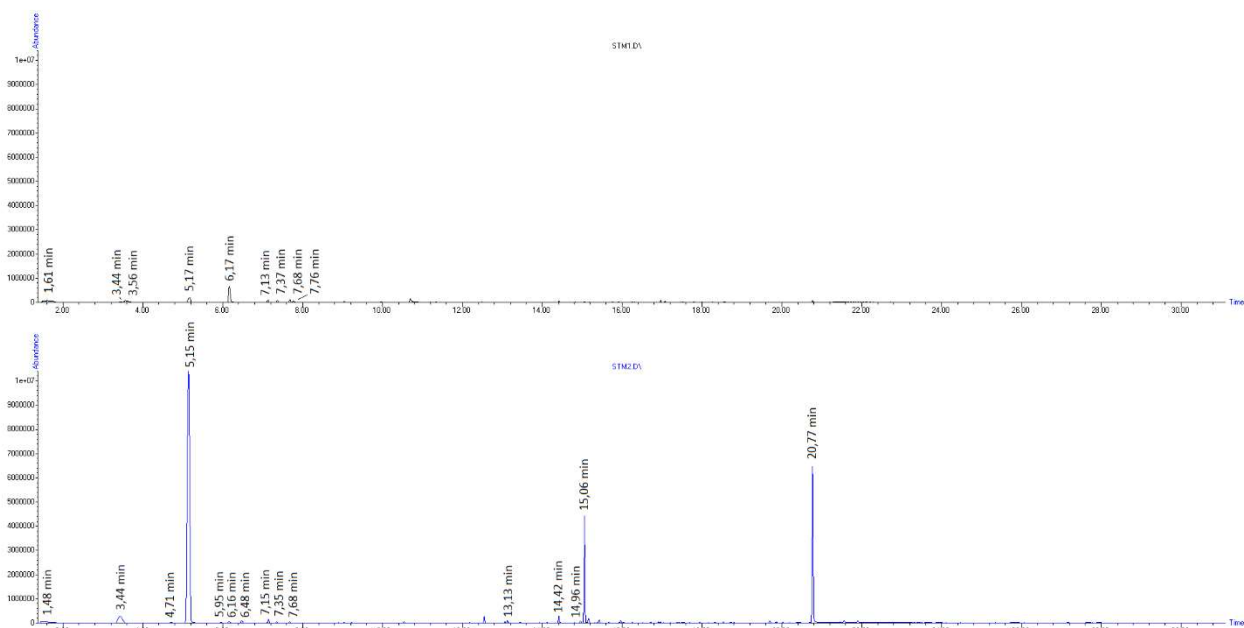


Figure S1. Gas chromatograms of pyrolysis gases released upon the decomposition of PS at 260 °C (black) and 415 °C (blue).

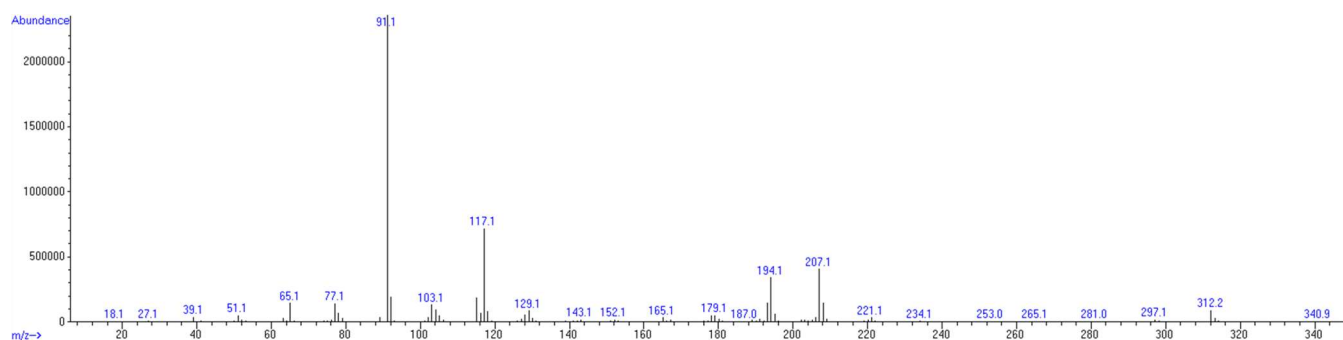


Figure S2. Mass spectrum of gases evolved as a result of PS pyrolysis at 415 °C (20.769 min).

Figure S3. Mass spectrum of gases formed as a result of poly(*S-co*-DEpVBP) pyrolysis at 355 °C (15.76 min).

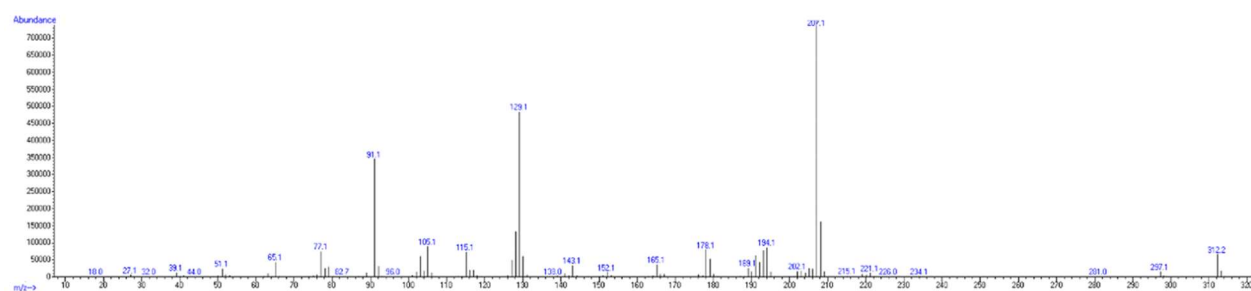
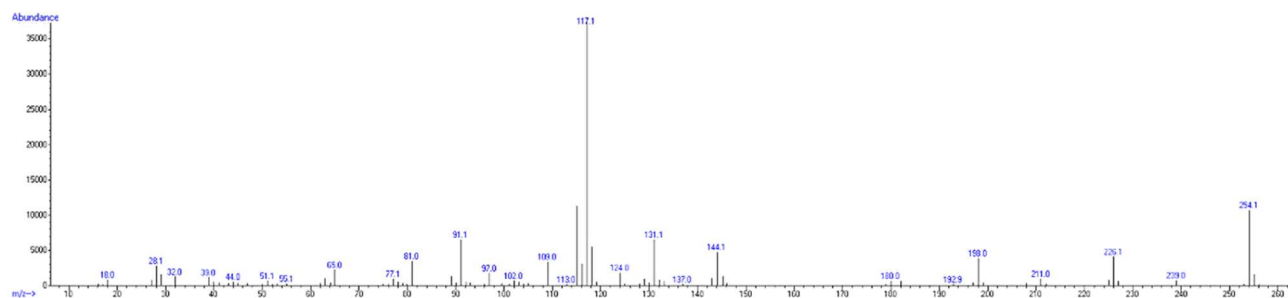


Figure S4. Mass spectrum of gases formed as a result of poly(*S-co*-DEpVBP) pyrolysis at 445 °C (21.49 min).

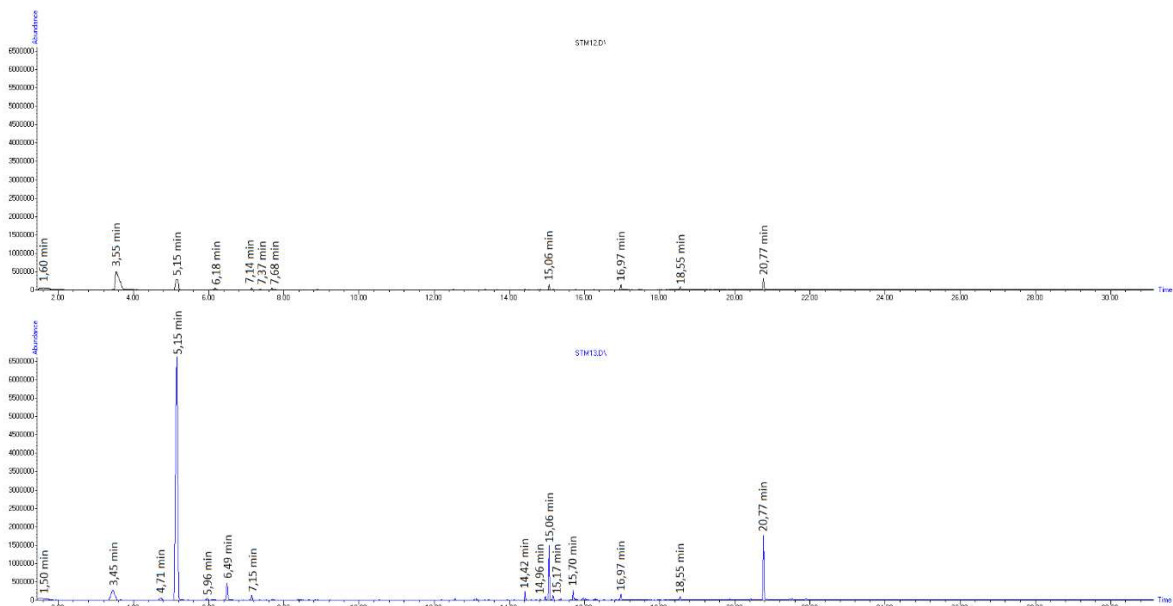


Figure S5. Gas chromatograms of pyrolysis gases released upon the decomposition of poly(S-co-MI) at 210 °C (black) and 420 °C (blue).

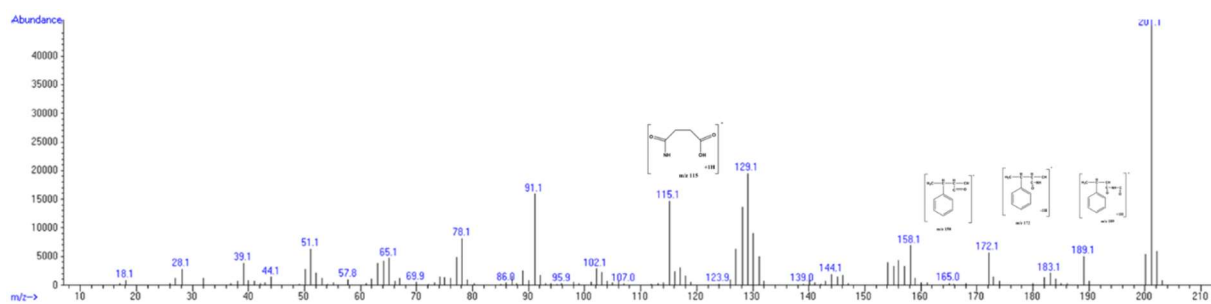


Figure S6. Mass spectrum of gases formed as a result of poly(S-co-MI) pyrolysis at 420 °C (15.698 min).

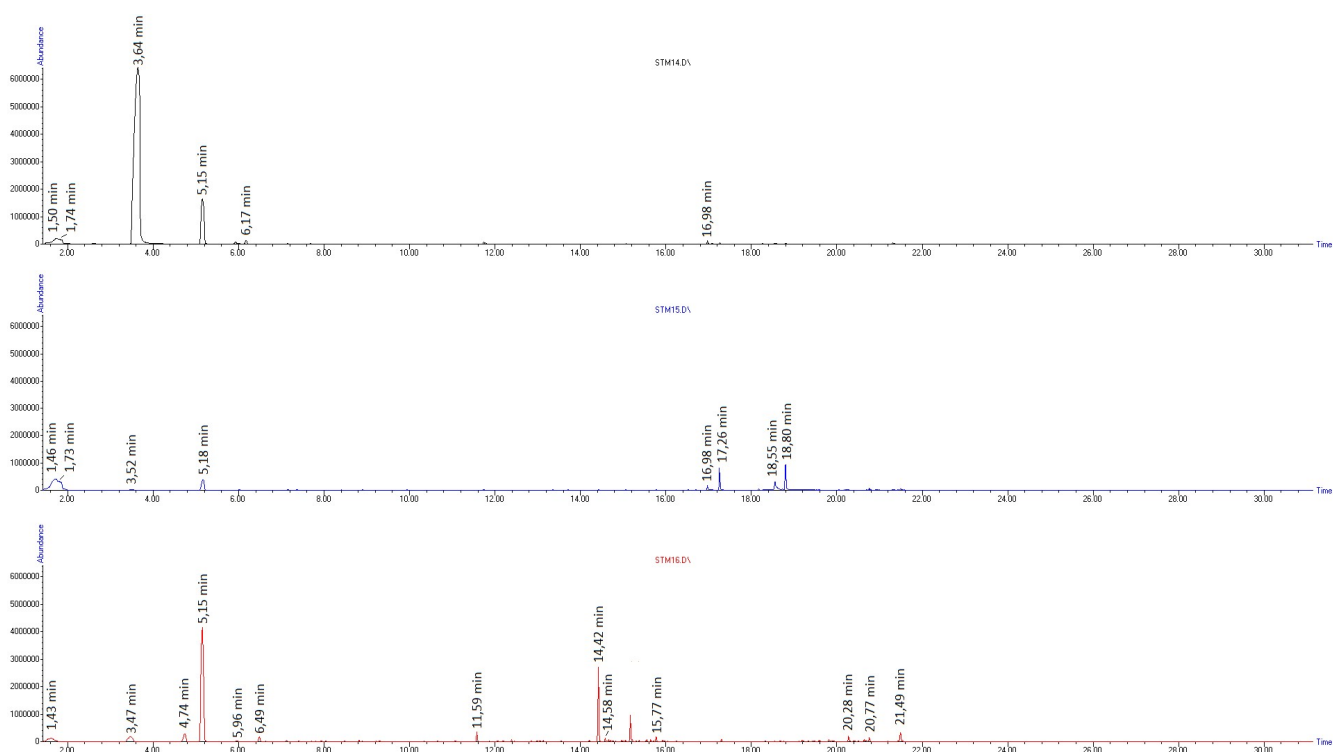


Figure S7. Gas chromatograms of pyrolysis gases evolved during the decomposition of poly(S-ter-DEAMP-ter-MI) at 240 °C (black), 320 °C (blue) and 375 °C (red).

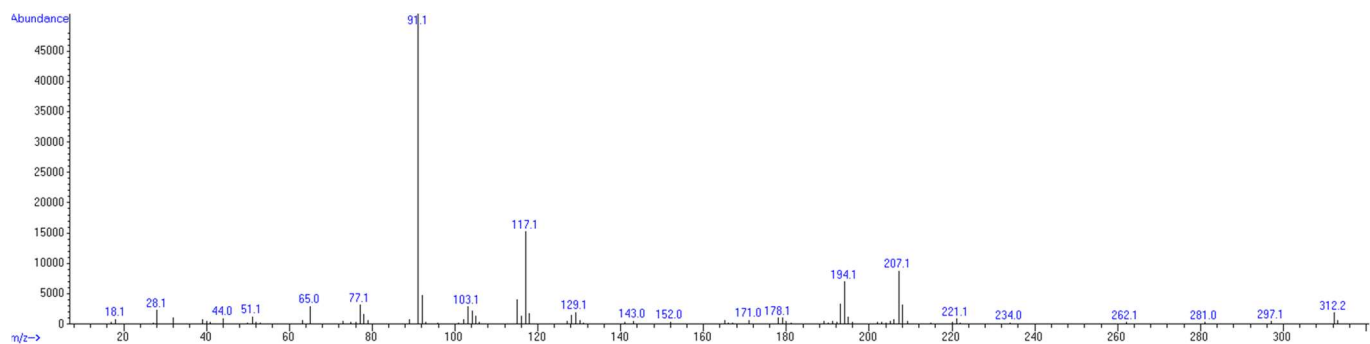


Figure S8. Mass spectrum of gases evolved as a result of poly(S-ter-DEAMP-ter-MI) pyrolysis at 375 °C (20.763 min).

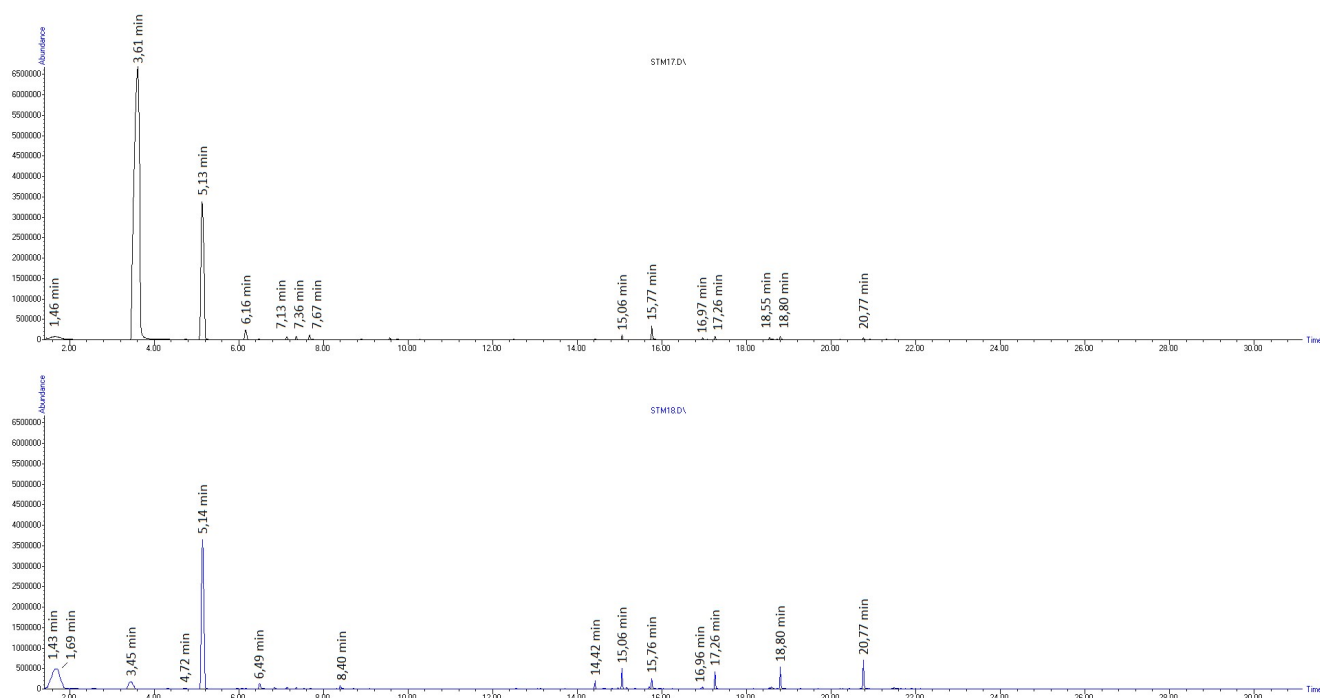


Figure S9. Gas chromatograms of pyrolysis gases evolved during the decomposition of poly(*S-ter*-DEpVBP-*ter*-MI) at 270 °C (black) and 375 °C (blue).

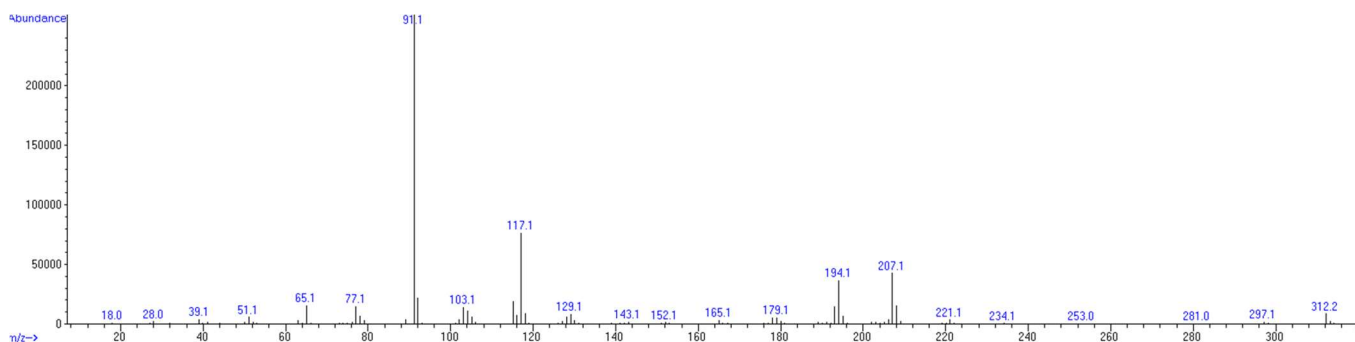


Figure S10. Mass spectrum of gases evolved as a result of poly(*S-ter*-DEpVBP-*ter*-MI) pyrolysis at 375 °C (20.763 min).

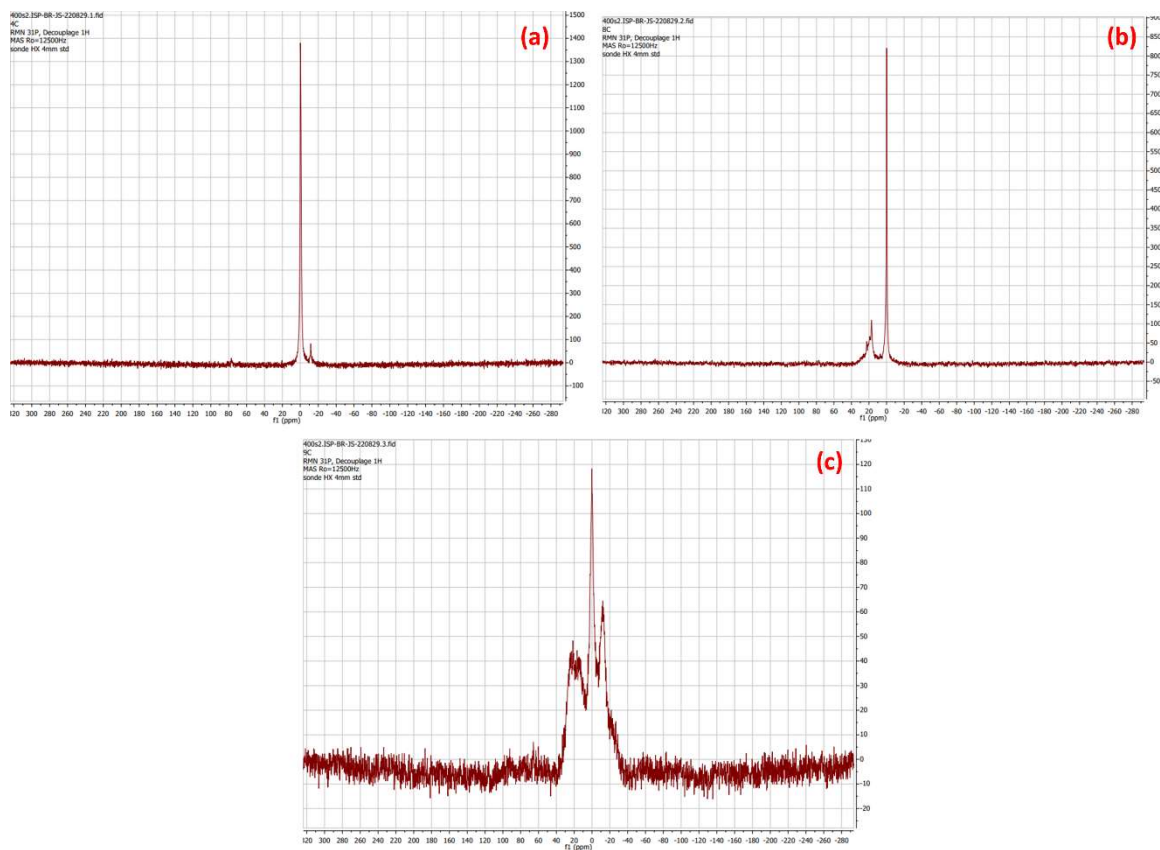


Figure S11. The solid-state ^{31}P NMR spectra of char residues obtained from the samples of poly(*S-co*-ADEPMAE) (a), poly(*S-ter*-DEAMP-*ter*-MI) (b), poly(*S-ter*-DEpVBP-*ter*-MI) (c).