

Supporting Information

Leveling Effects of Ammonium Salts on Thermal Stabilities of Polyethylene Glycols

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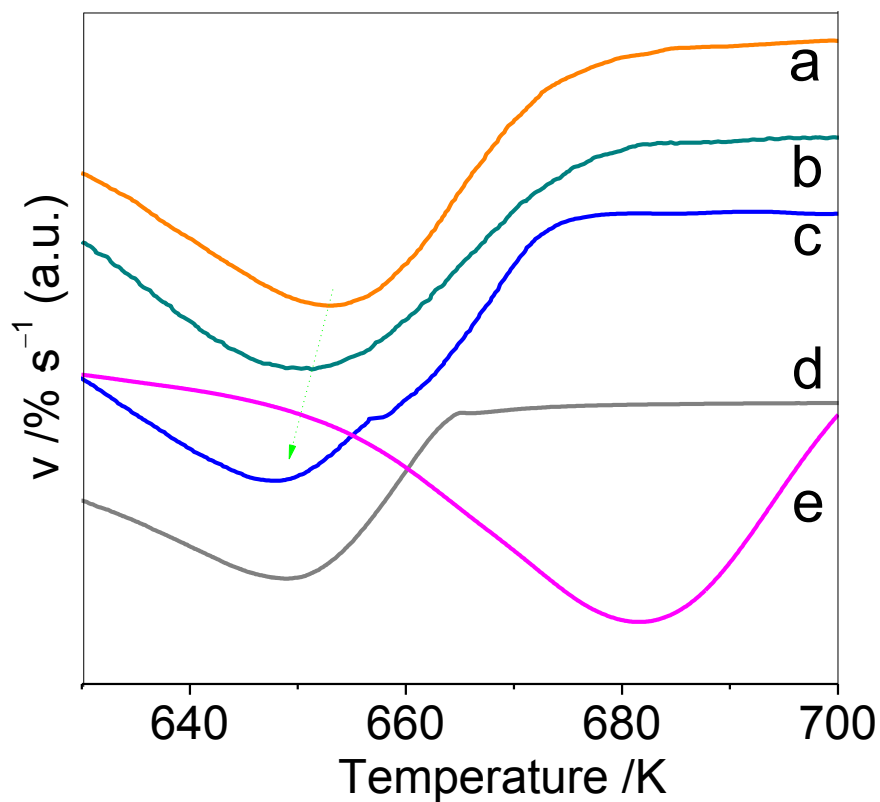


Fig. 1 DTG curves of PEG 6000 in the presence of AMT with the initial molar ratios: (a) 1:0.001, (b) 1:0.01, (c) 1:0.1, (d) 1: 1 and (e) 1: 0 in the range from 630 to 700 K.

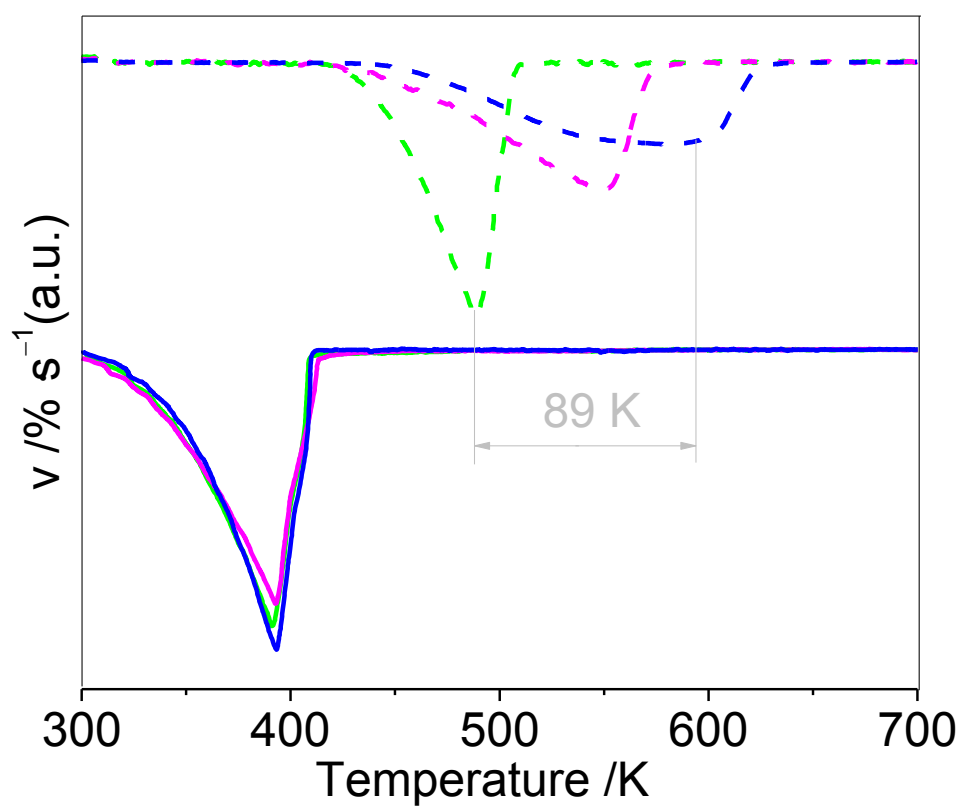


Fig. 2 DTG curves of PPG 2000 (green), 3000 (magenta) and 4000 (blue) in the absence (dashed lines) and presence (solid lines) of AMT in the range from 300 to 700 K.

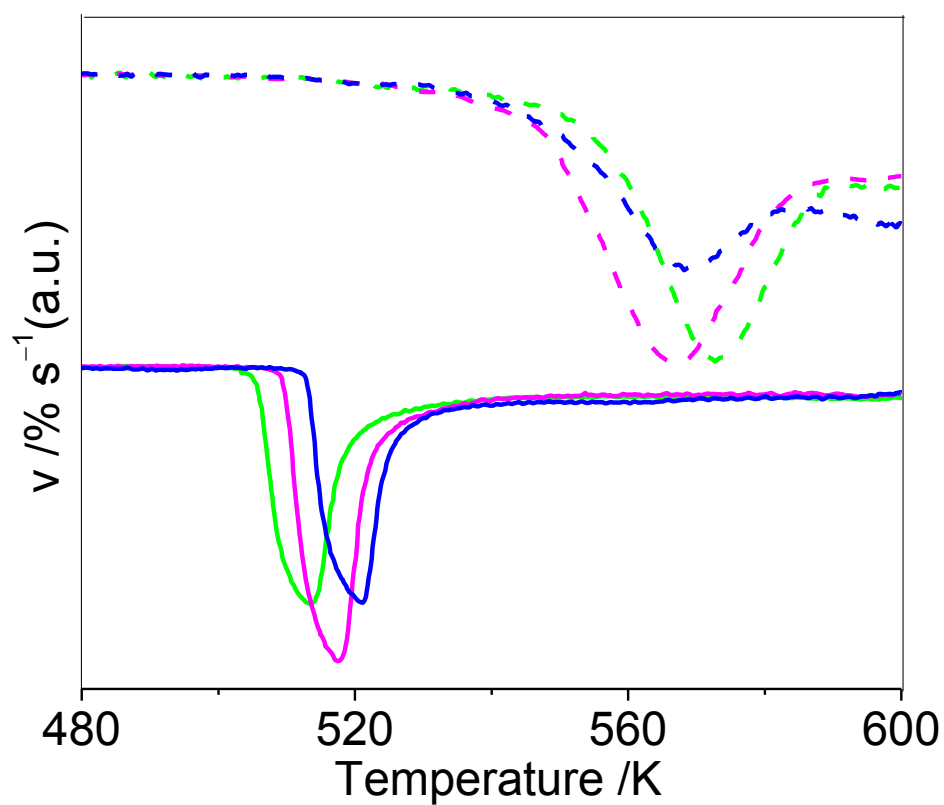


Fig. 3 DTG curves of PVC 55-59 (green), PVC 65-68 (magenta) and PVC 70-72 (blue) in the absence (dashed lines) and presence (solid lines) of AMT in the range from 480 to 600 K.

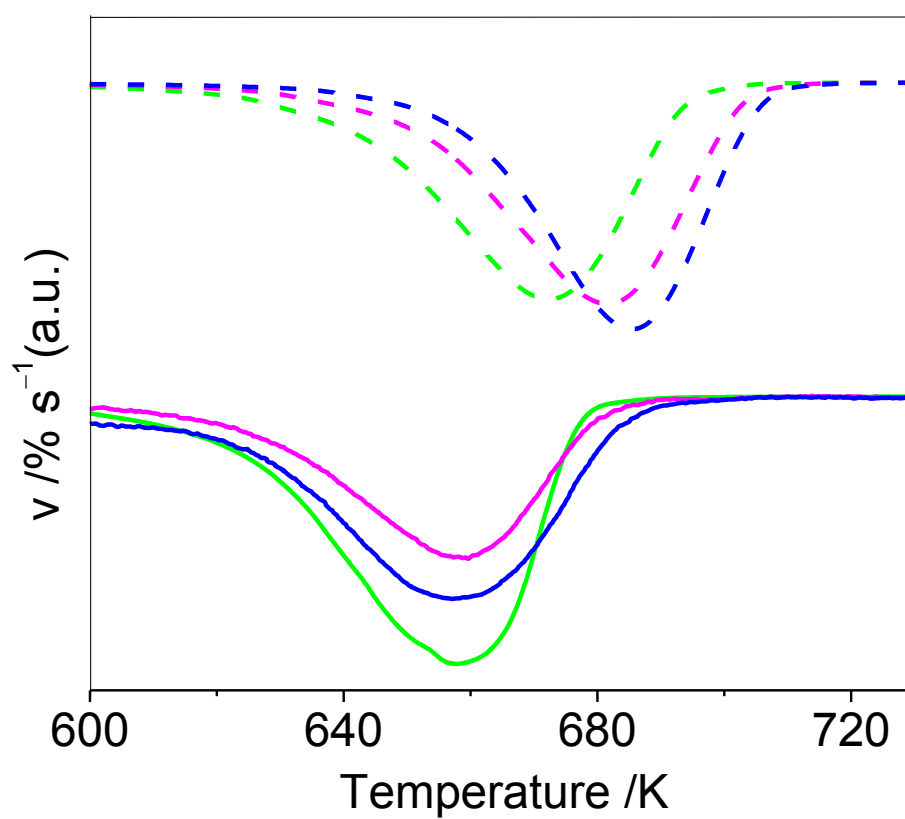


Fig. 4 DTG curves of PEG 4000 (green), PEG 6000 (magenta) and PEG 10000 (blue) in the absence (dashed lines) and presence (solid lines) of AV in the range from 600 to 730 K.

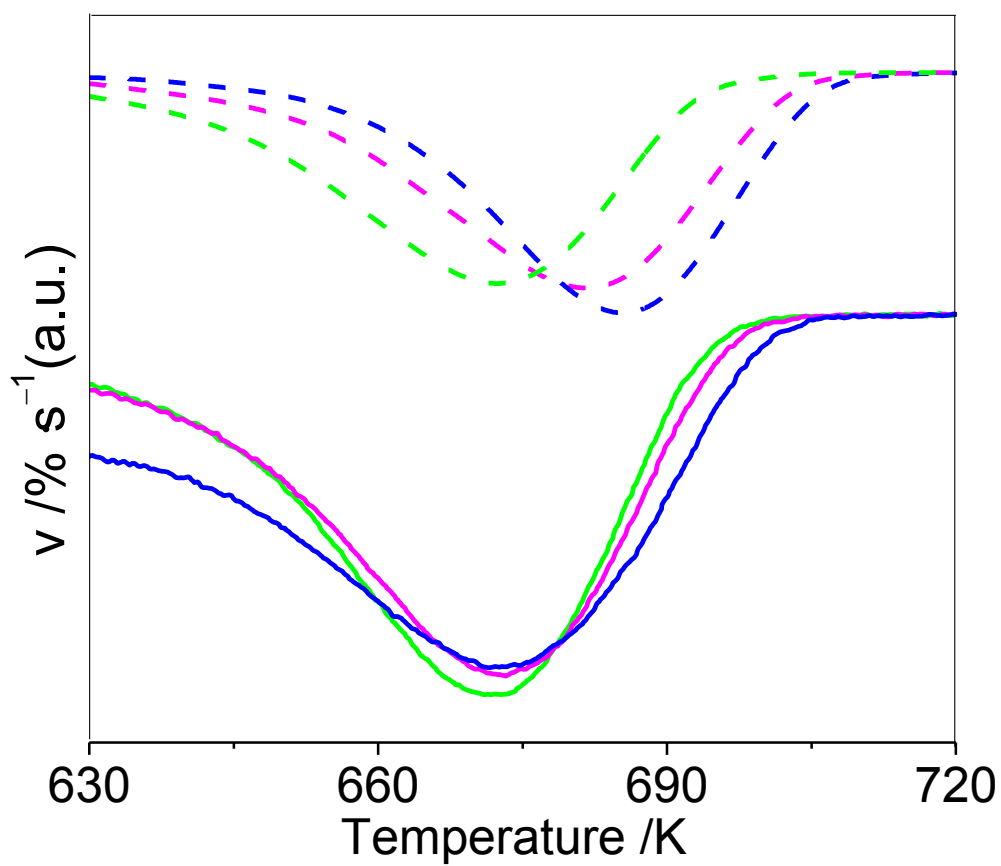


Fig. 5 DTG curves of PEG 4000 (green), PEG 6000 (magenta) and PEG 10000 (blue) in the absence (dashed lines) and presence (solid lines) of AS in the range from 630 to 720 K.

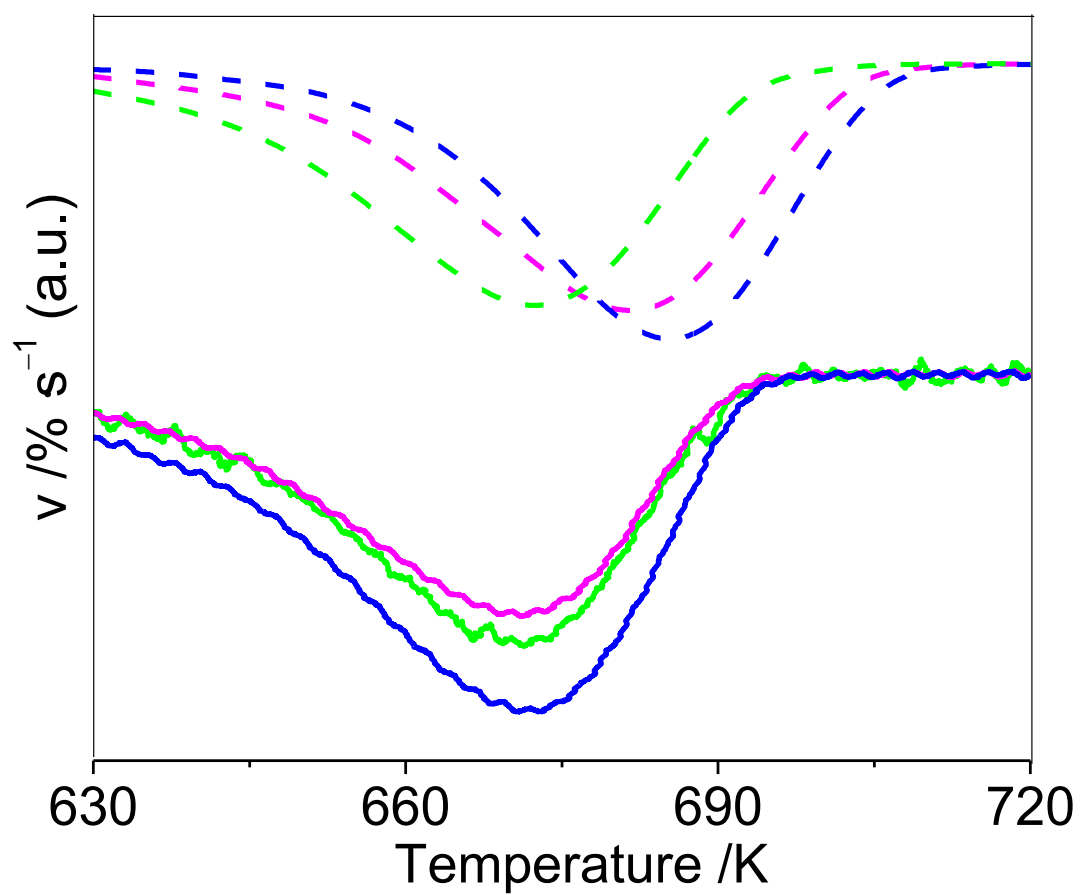


Fig. 6 DTG curves of PEG 4000 (green), PEG 6000 (magenta) and PEG 10000 (blue) in the absence (dashed lines) and presence (solid lines) of AN in the range from 630 to 720 K.

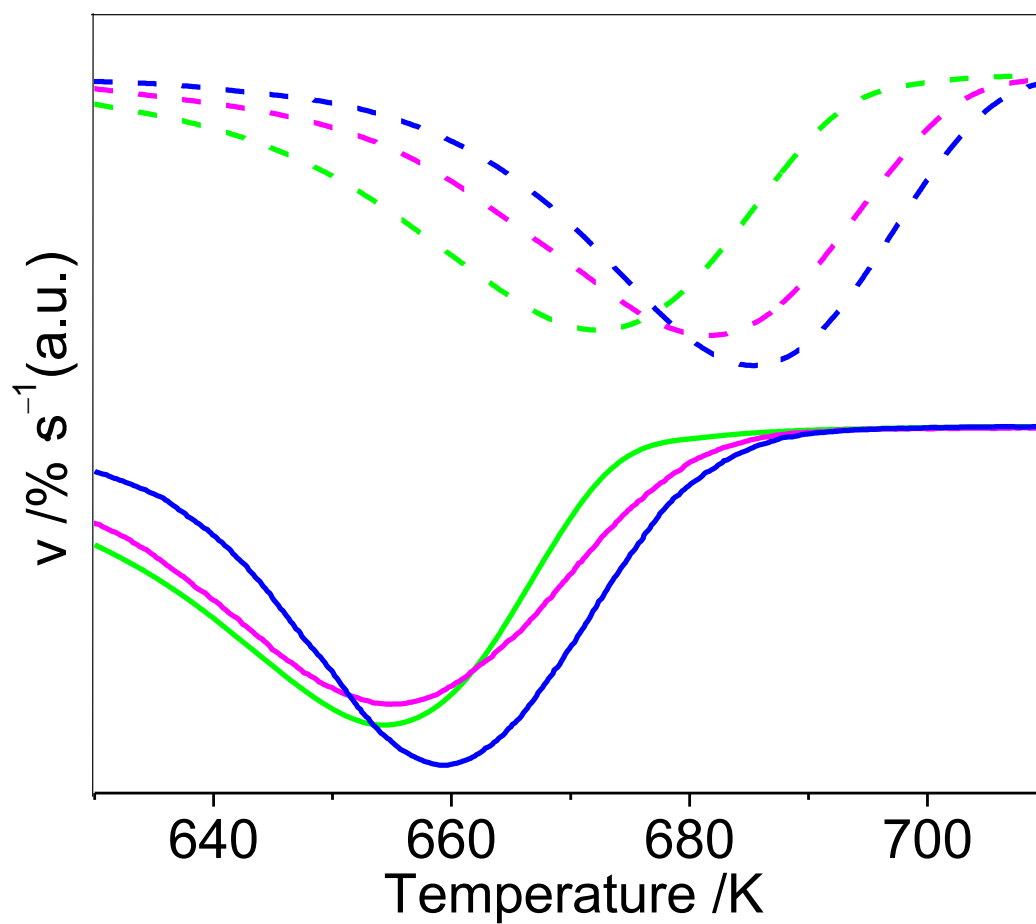


Fig. 7 DTG curves of PEG 4000 (green), PEG 6000 (magenta) and PEG 10000 (blue) in the absence (dashed lines) and presence (solid lines) of MoO_3 in the range from 630 to 710 K.

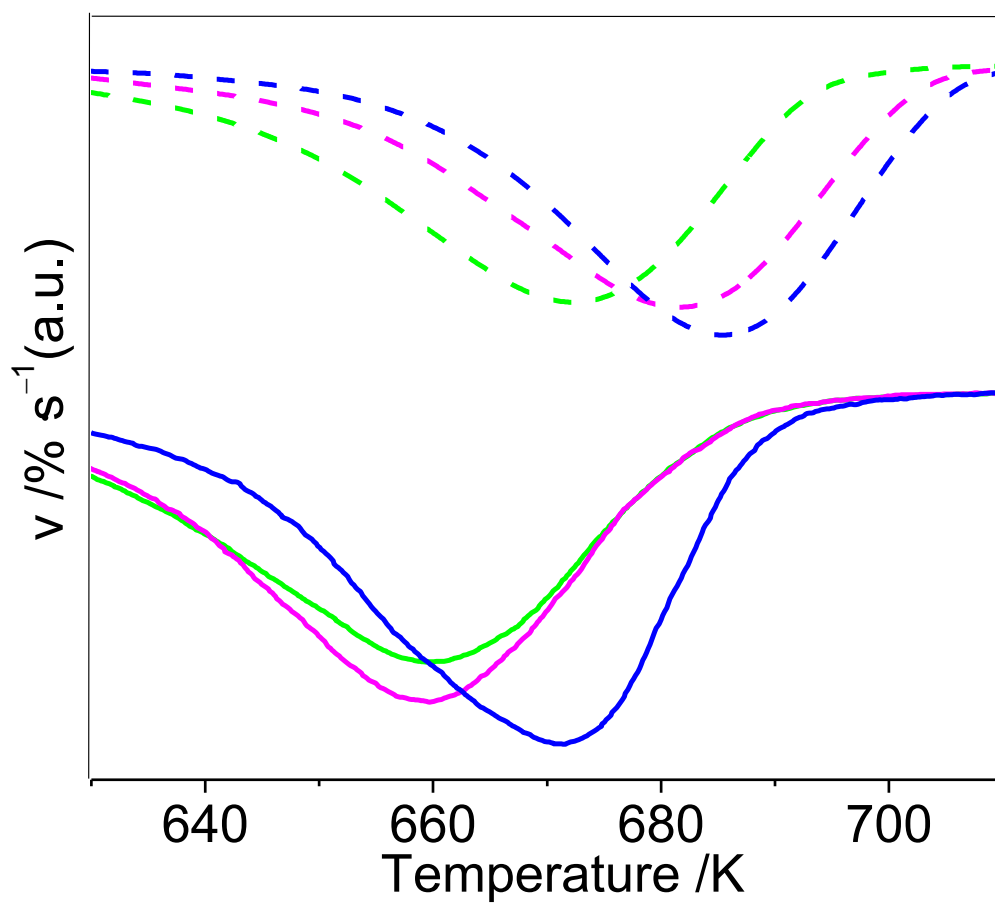


Fig. 8 DTG curves of PEG 4000 (green), PEG 6000 (magenta) and PEG 10000 (blue) in the absence (dashed lines) and presence (solid lines) of Na_2MoO_4 in the range from 630 to 710 K.

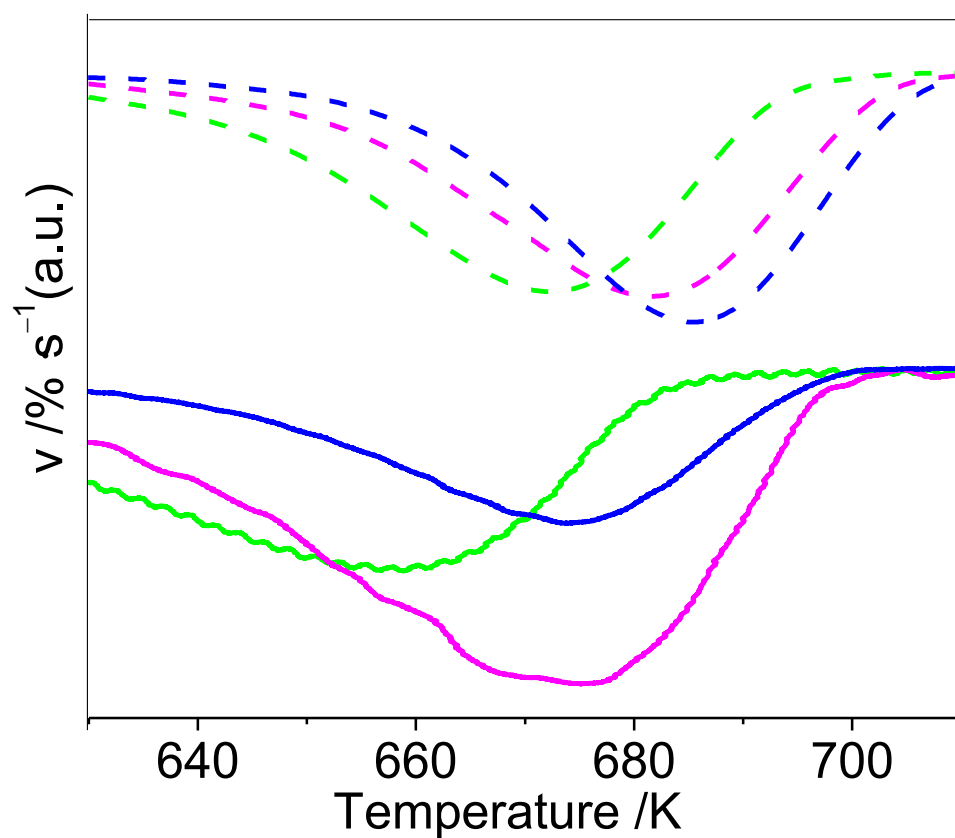


Fig. 9 DTG curves of PEG 4000 (green), PEG 6000 (magenta) and PEG 10000 (blue) in the absence (dashed lines) and presence (solid lines) of Na_2SO_4 in the range from 630 to 710 K.

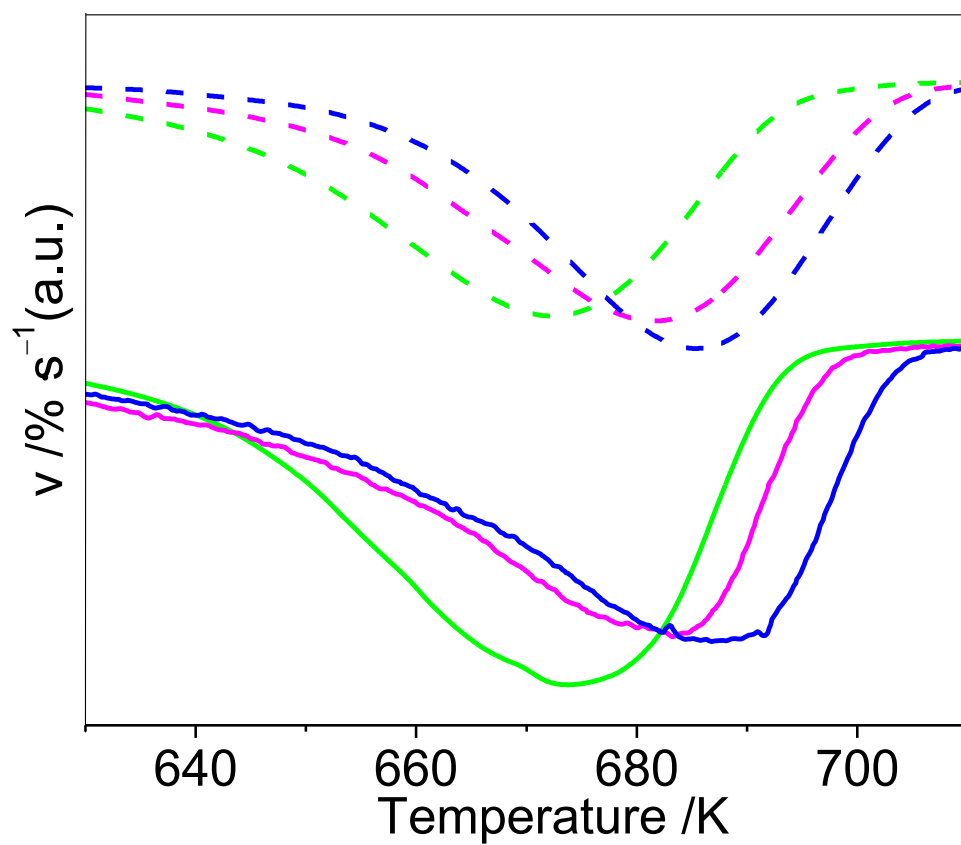


Fig. 10 DTG curves of PEG 4000 (green), PEG 6000 (magenta) and PEG 10000 (blue) in the absence (dashed lines) and presence (solid lines) of $KMnO_4$ in the range from 630 to 710 K.

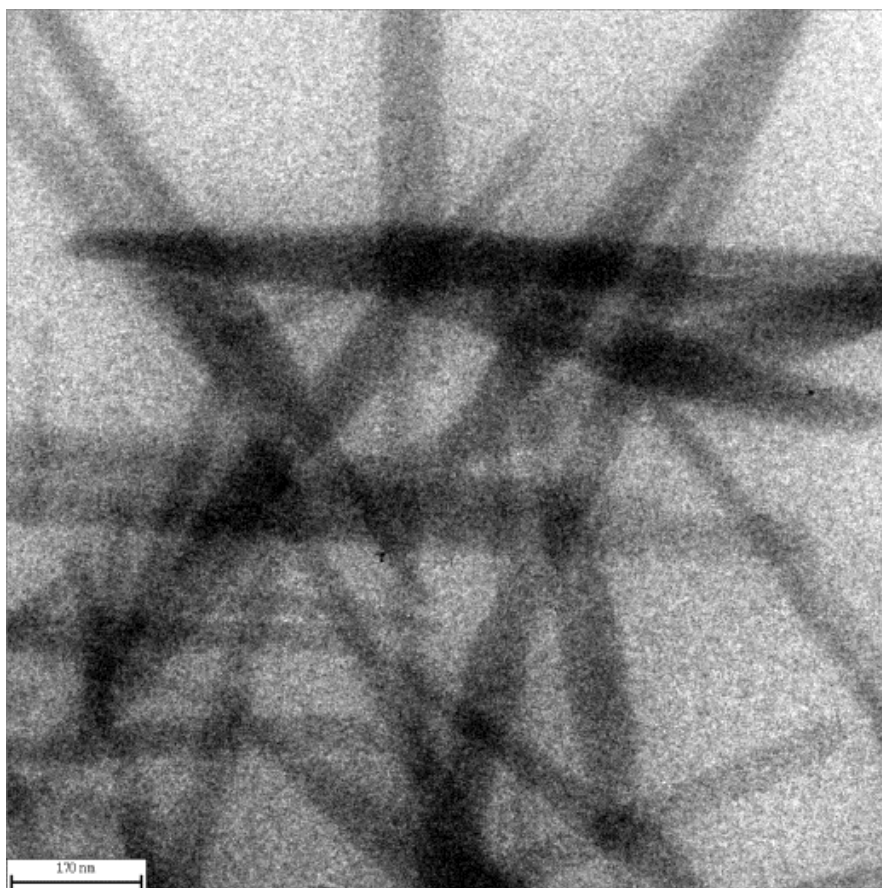


Fig. 11 TEM image of AMT-PEG 4000.

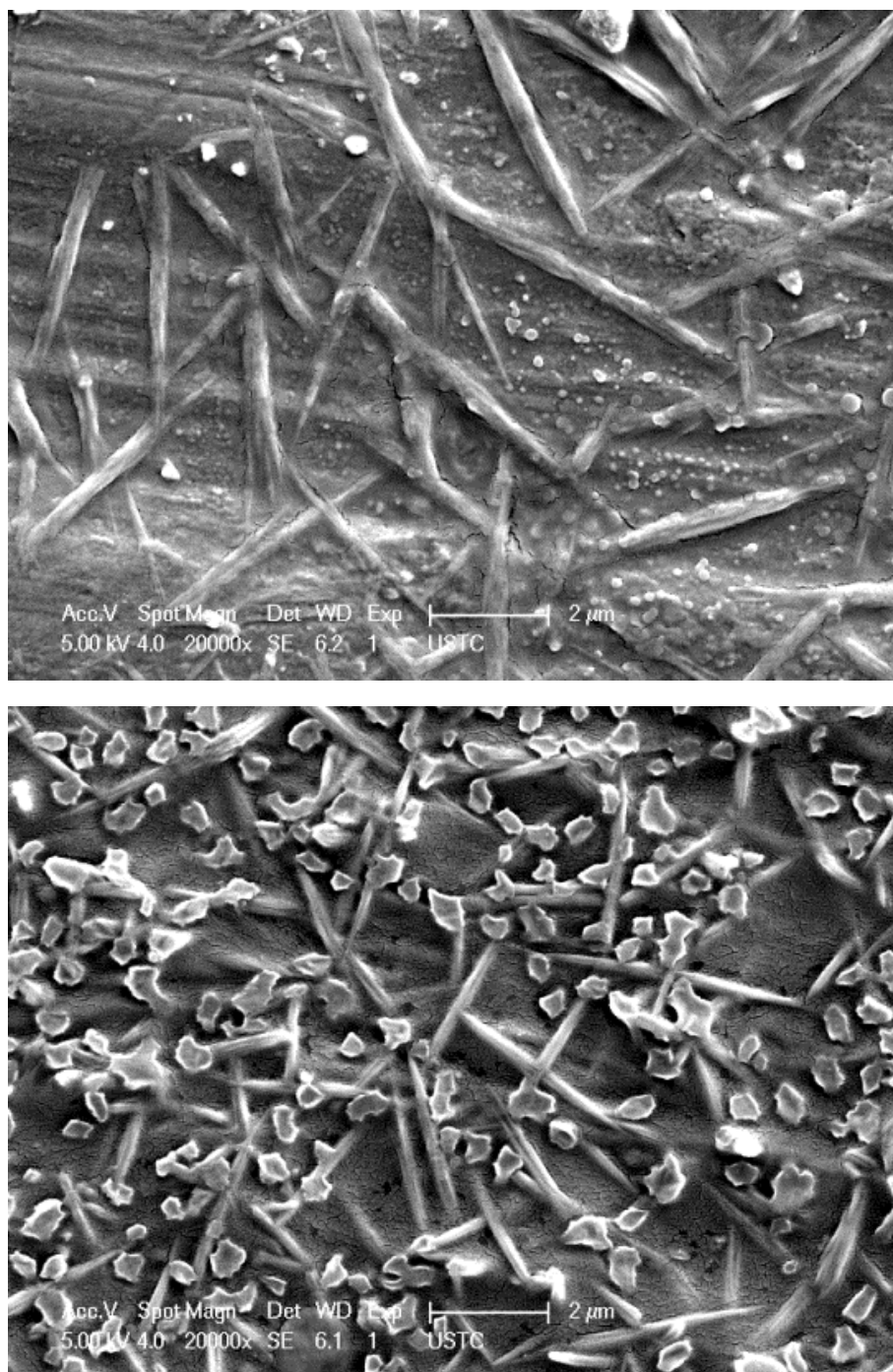


Fig. 12 FE-SEM images of AMT-PEG 6000 (top) and AMT-PEG 10000 (below).

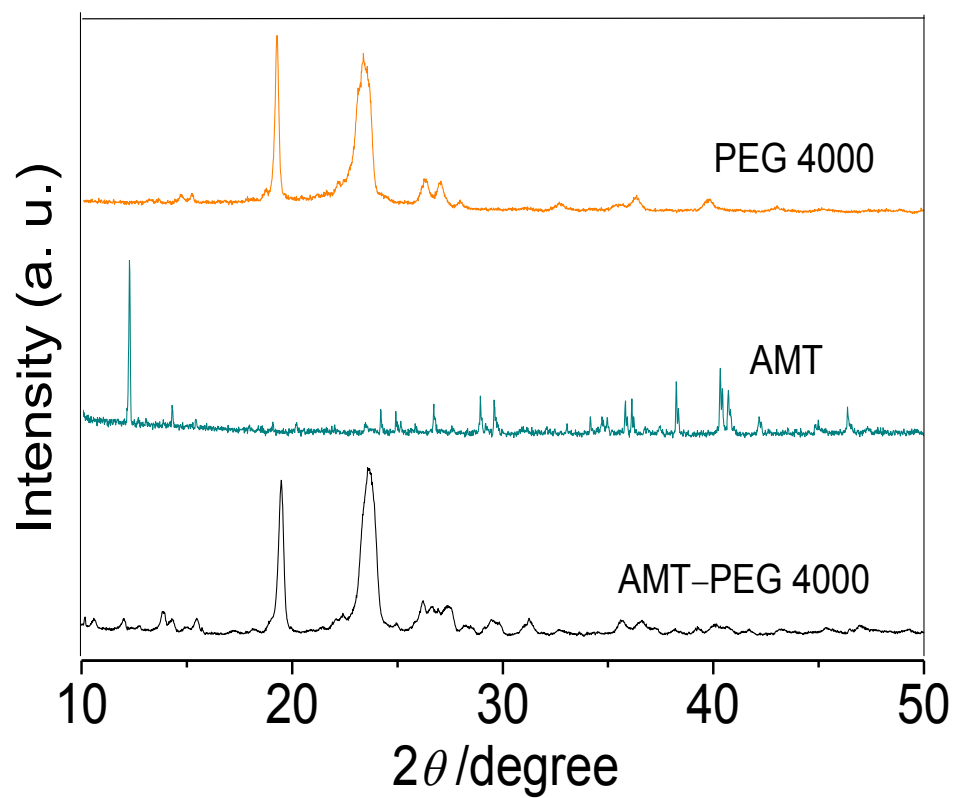


Fig. 13 XRD patterns of PEG 4000, AMT and AMT-PEG 4000.

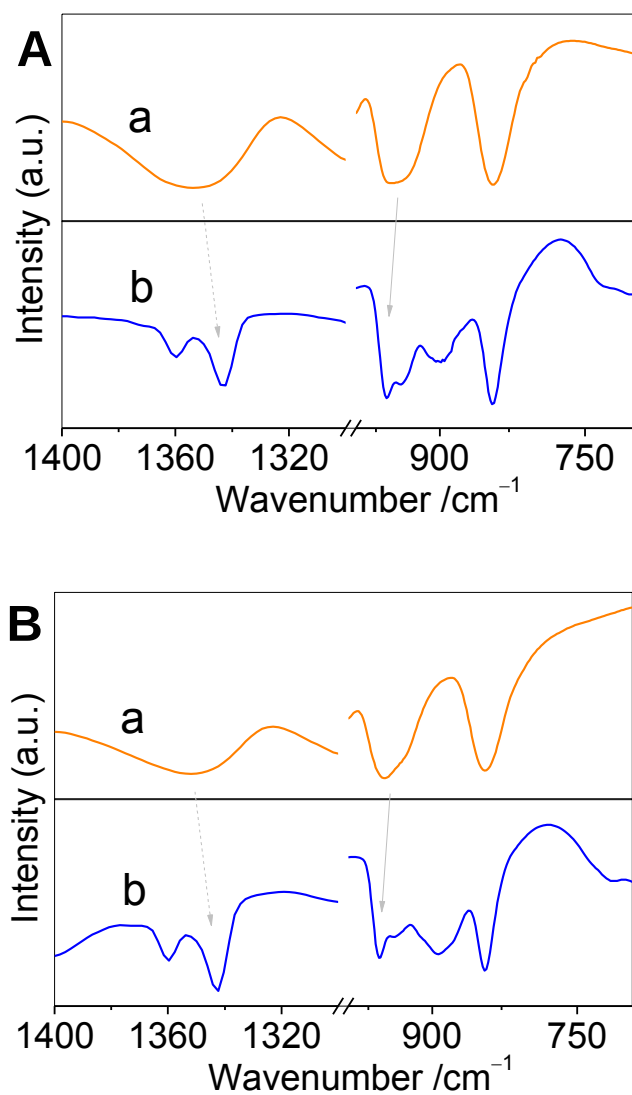


Fig. 14 FTIR spectra of (A) PEG 6000 (a) and AMT-PEG 6000 (b) and (B) PEG 10000 (a) and AMT-PEG 10000 (b).

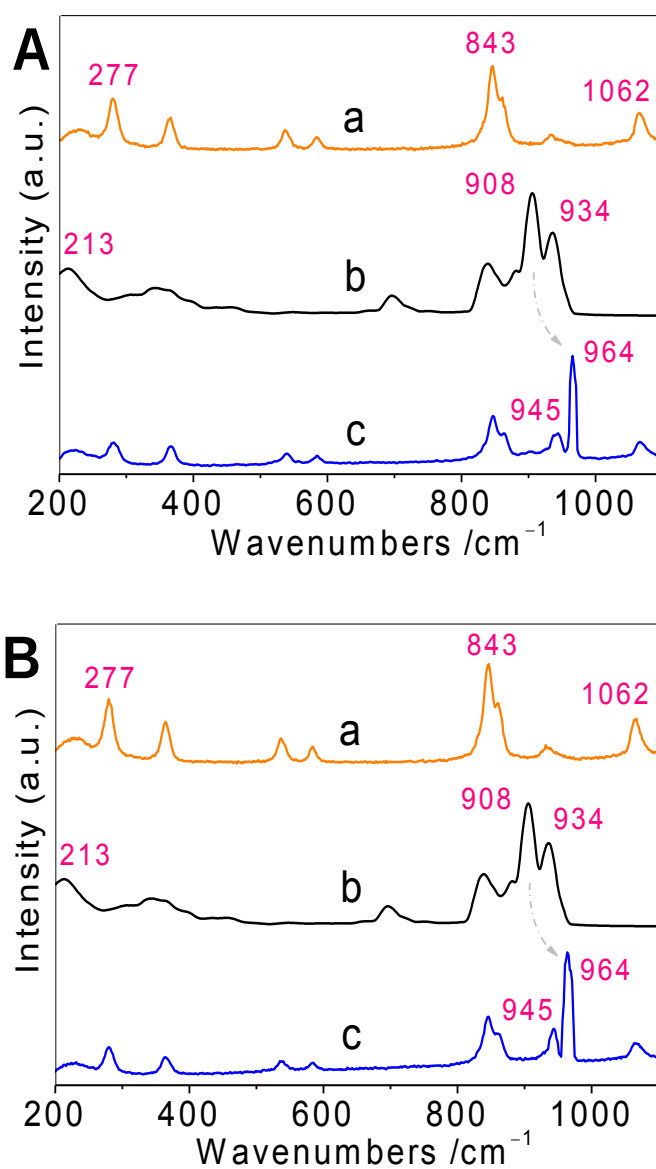


Fig. 15 Raman spectra of (A) PEG 6000 (a), AMT (b) and AMT-PEG 6000 (c) and (B) PEG 10000 (a), AMT (b) and AMT-PEG 10000 (c) at 298 K.

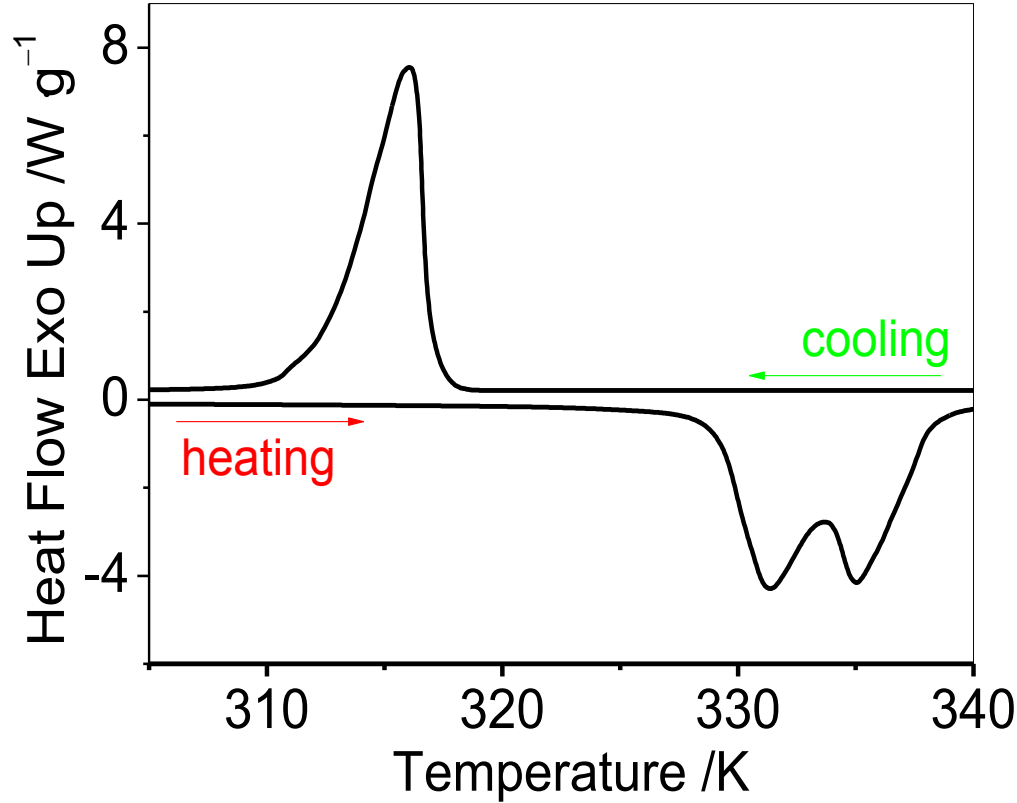


Fig. 16 Continuous DSC heating and cooling curve of the PEG 4000 untreated by water from 305 to 340 K.

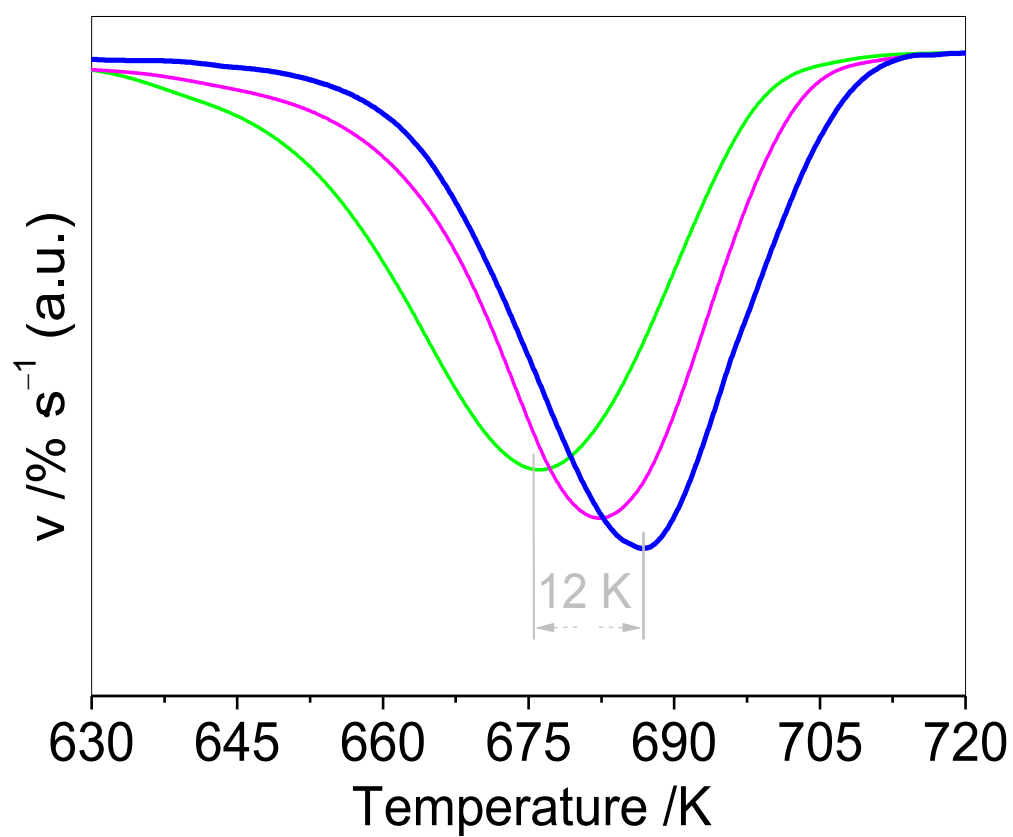


Fig. 17 DTG curves of the untreated PEG 4000 (green), 6000 (magenta) and 10000 (blue) in the range from 630 to 720 K.

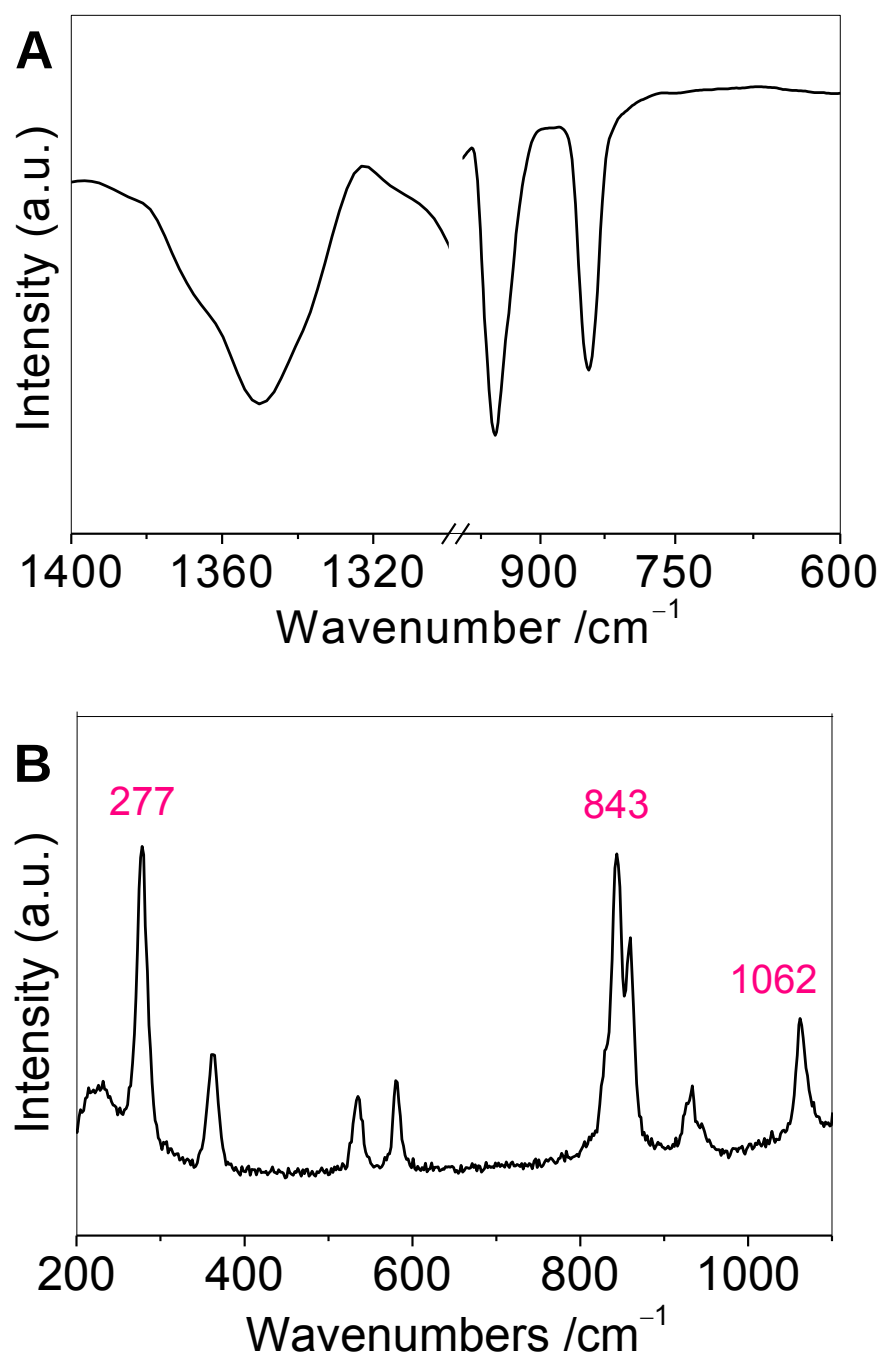


Fig. 18 FTIR (A) and Raman (B) spectra of the untreated PEG 4000.

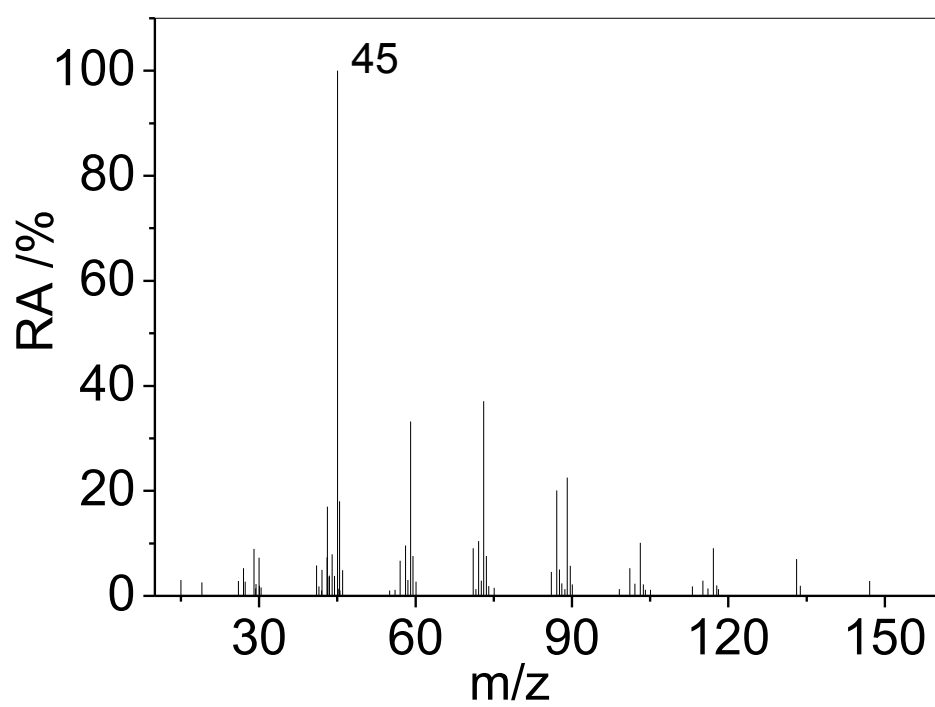


Fig. 19 Mass spectrum of the untreated PEG 4000 at 25.6 min.

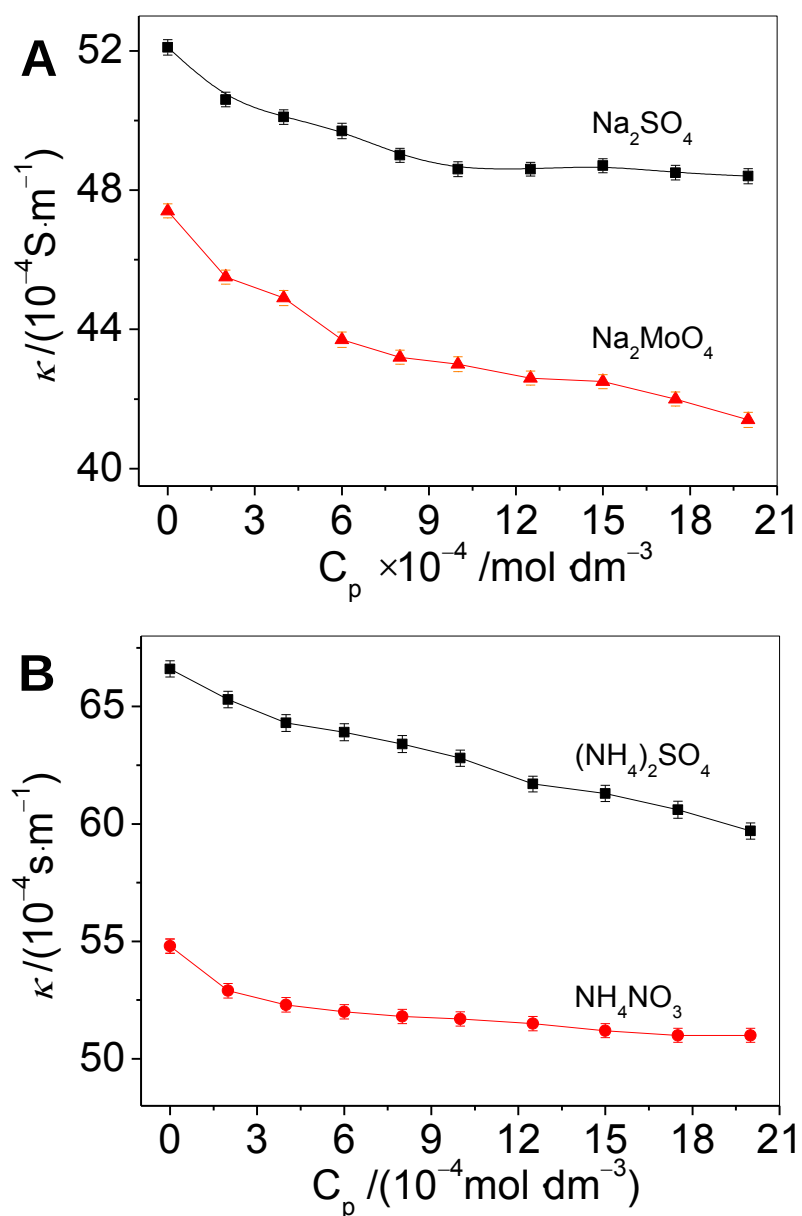


Fig. 20 The κ values of Na_2SO_4 ($2.00 \times 10^{-4} \text{ mol dm}^{-3}$) and Na_2MoO_4 ($2.00 \times 10^{-4} \text{ mol dm}^{-3}$) (A) and AS ($2.00 \times 10^{-4} \text{ mol dm}^{-3}$) and NH_4NO_3 ($4.00 \times 10^{-4} \text{ mol dm}^{-3}$) (B) solutions in the presence of PEG 4000 with a concentration (C) range from 0 to $20.00 \times 10^{-4} \text{ mol dm}^{-3}$. Typical error bars are shown in the figure.

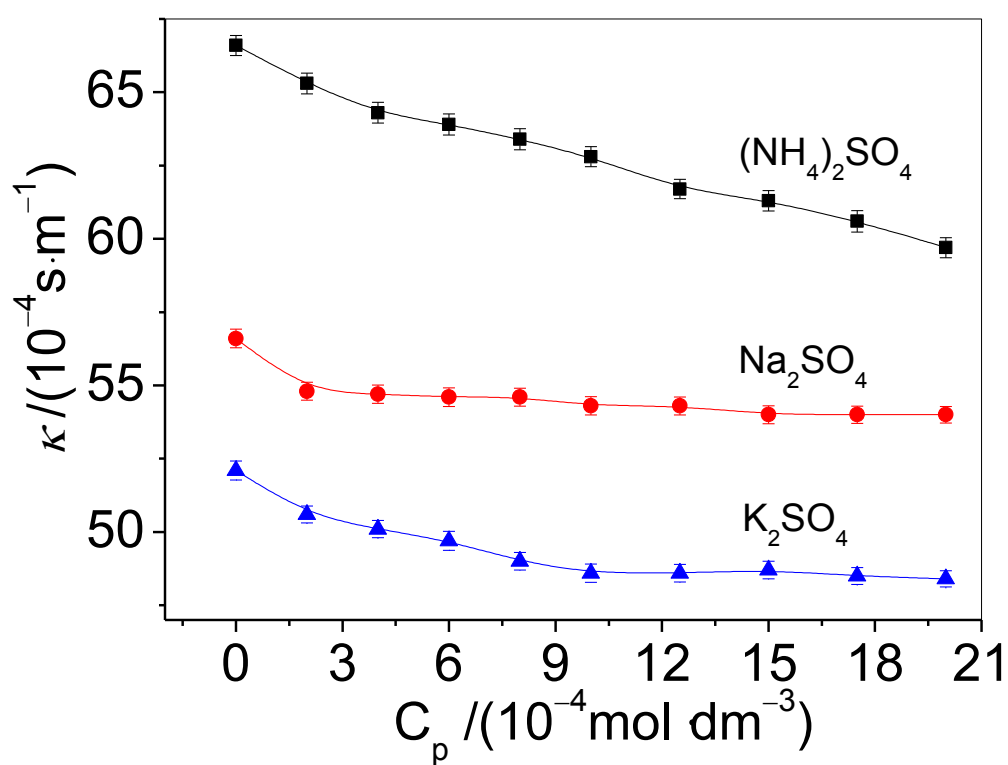


Fig. 21 The κ values of AS ($2.00 \times 10^{-4} \text{ mol dm}^{-3}$), Na_2SO_4 ($2.00 \times 10^{-4} \text{ mol dm}^{-3}$) and K_2SO_4 ($2.00 \times 10^{-4} \text{ mol dm}^{-3}$) solutions in the presence of PEG 4000 with a concentration (C) range from 0.00 to $20.00 \times 10^{-4} \text{ mol dm}^{-3}$. Typical error bars are shown in the figure.