

Environmentally friendly fire resistant epoxy resins based on a new oligophosphonate with high flame retardant efficiency

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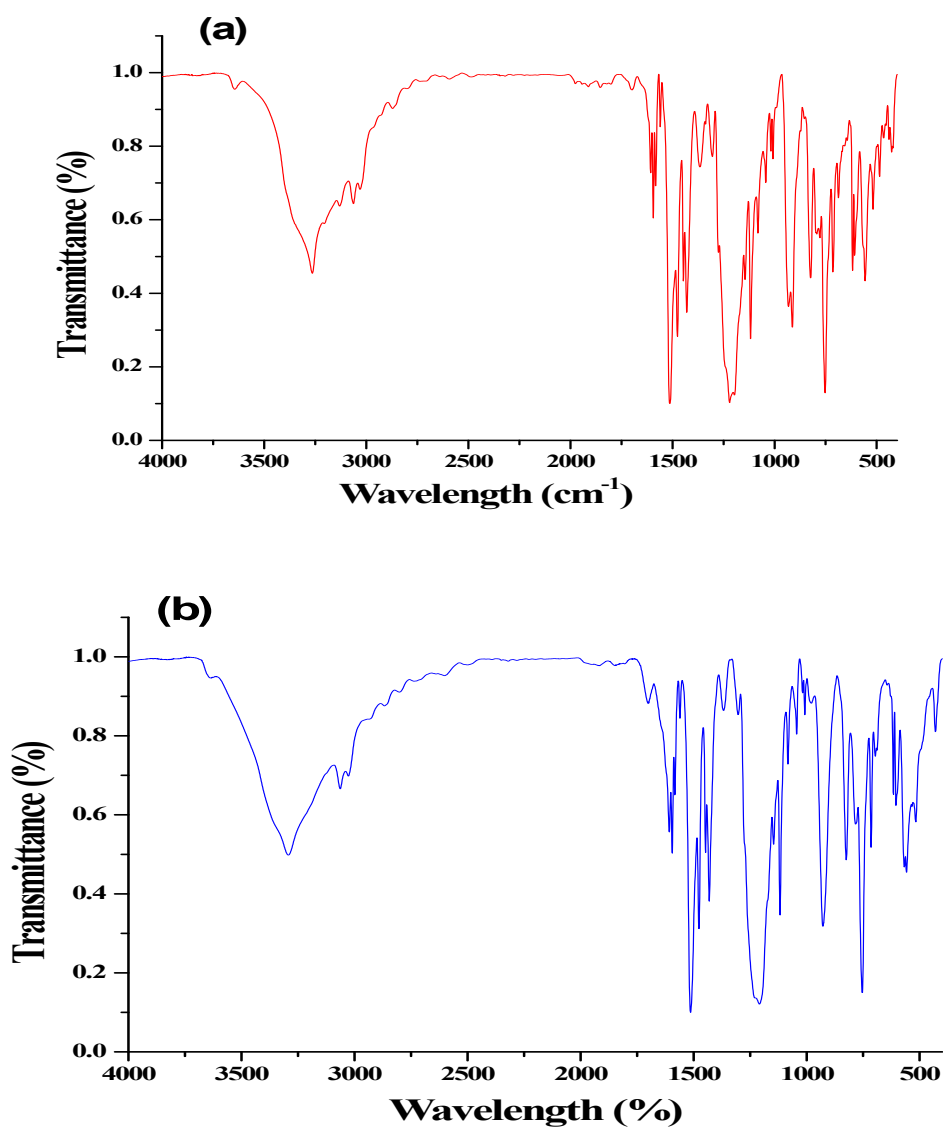


Fig. S1 FTIR spectra of bisphenol 2 (a) and oligophosphonate PFR (b).

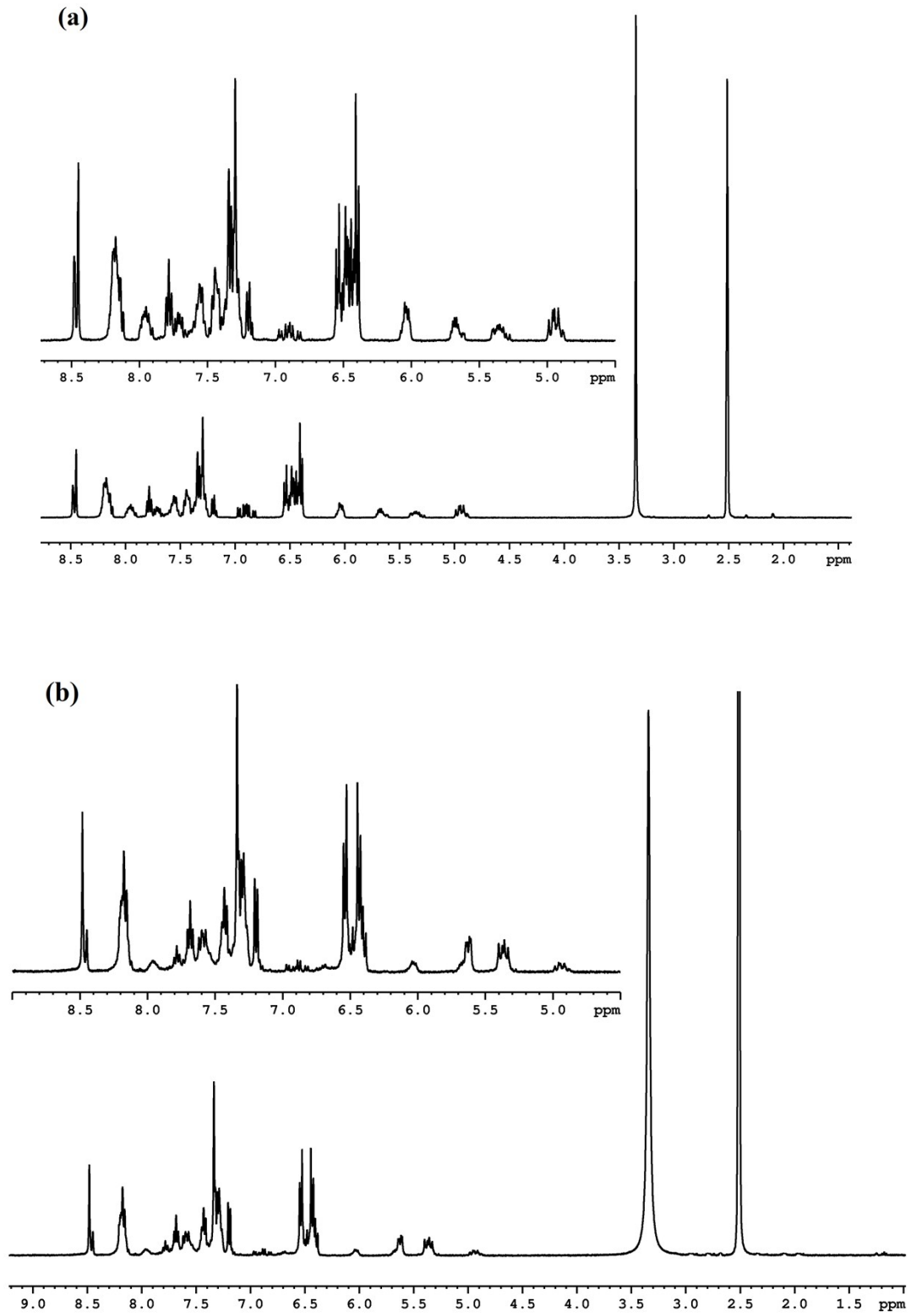


Fig. S2 $^1\text{H-NMR}$ spectra of bisphenol 2 (a) and oligophosphonate PFR (b).

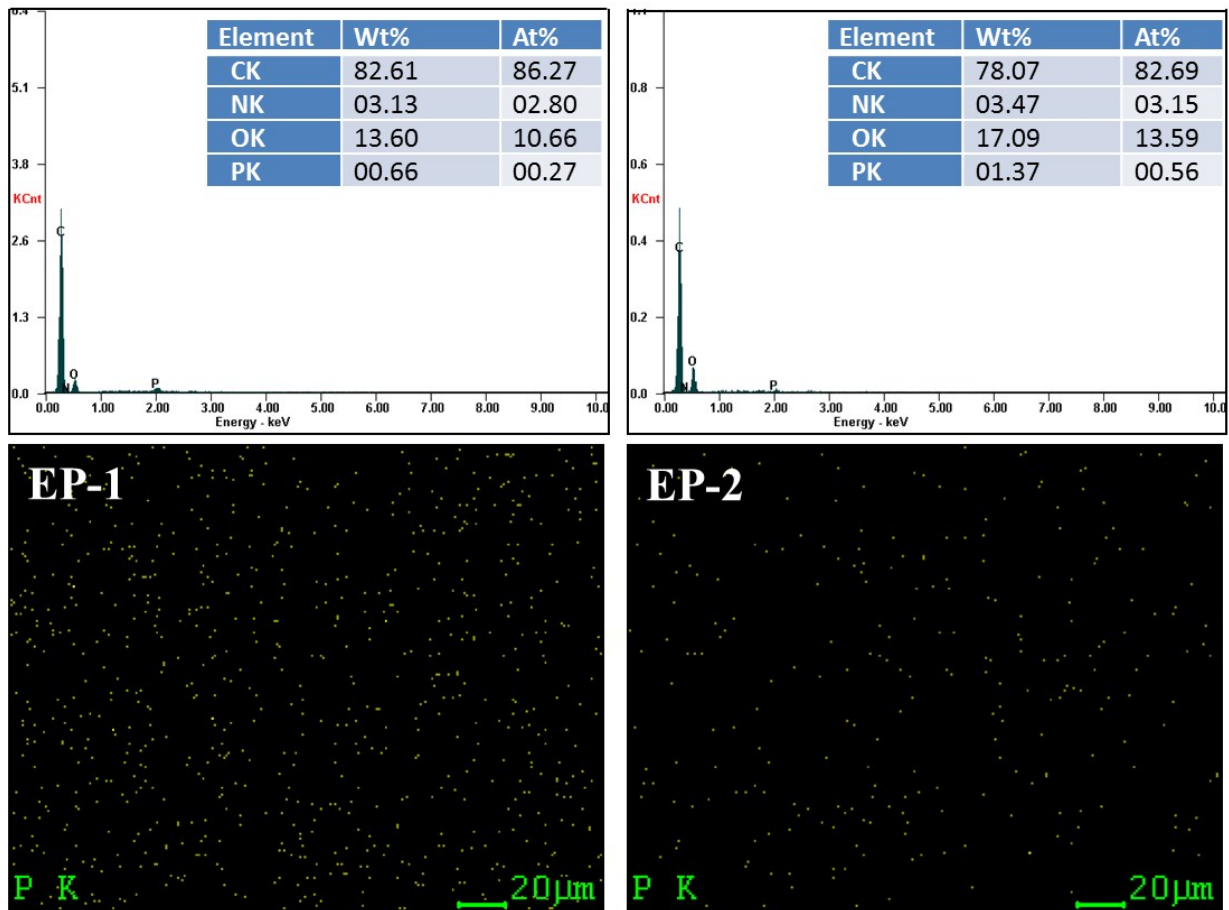
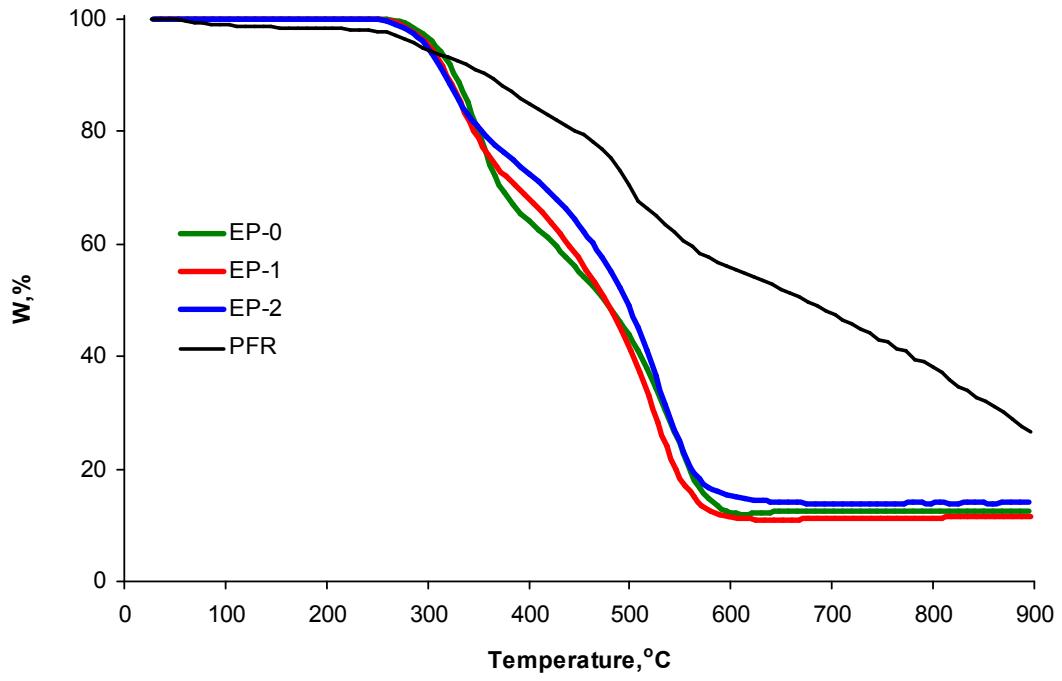
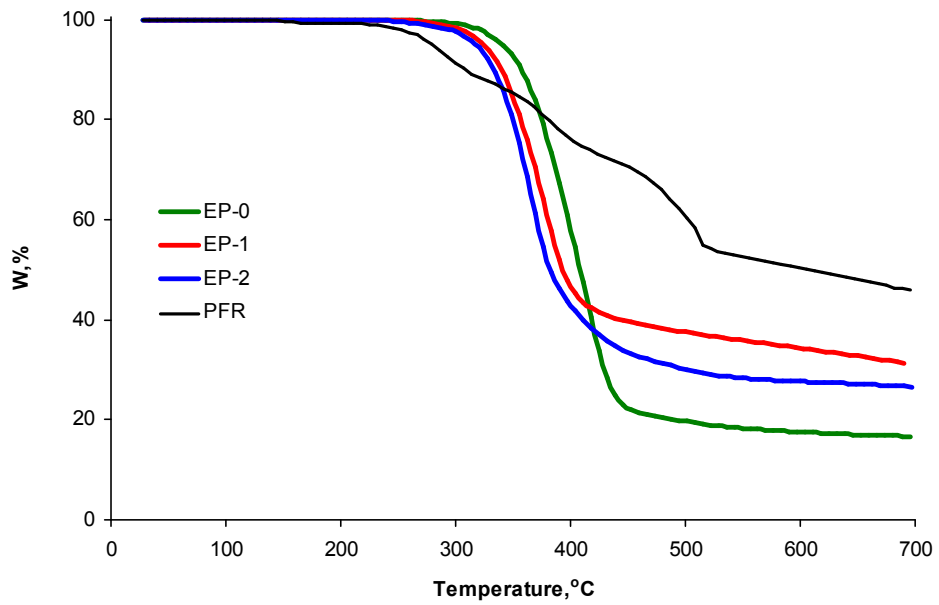


Fig. S3 EDX spectra and EDX mapping (P = phosphorus) of EP-1 (left) and EP-2 (right).



(a)



(b)

Fig. S4 Comparative TG curves, in air (a) and nitrogen (b).

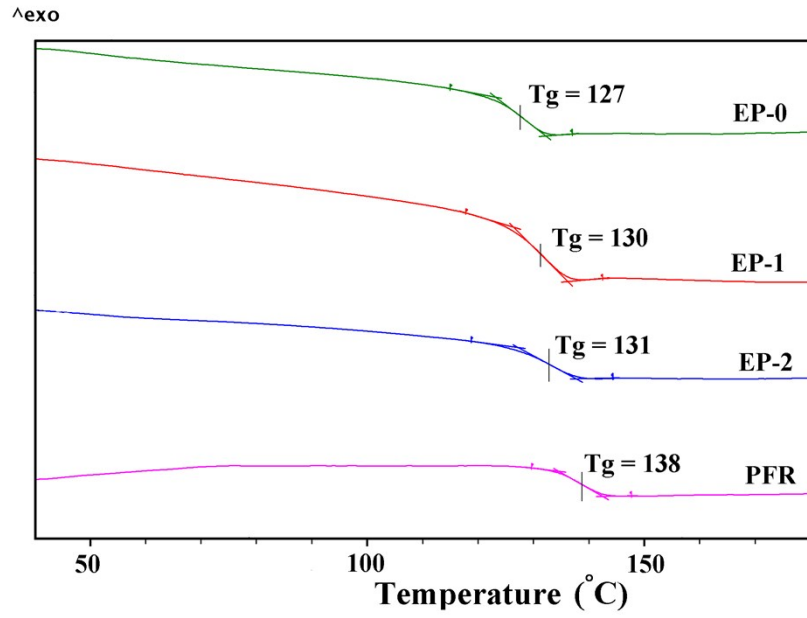


Fig. S5 DSC curves of PFR, EP-0, EP-1 and EP-2.

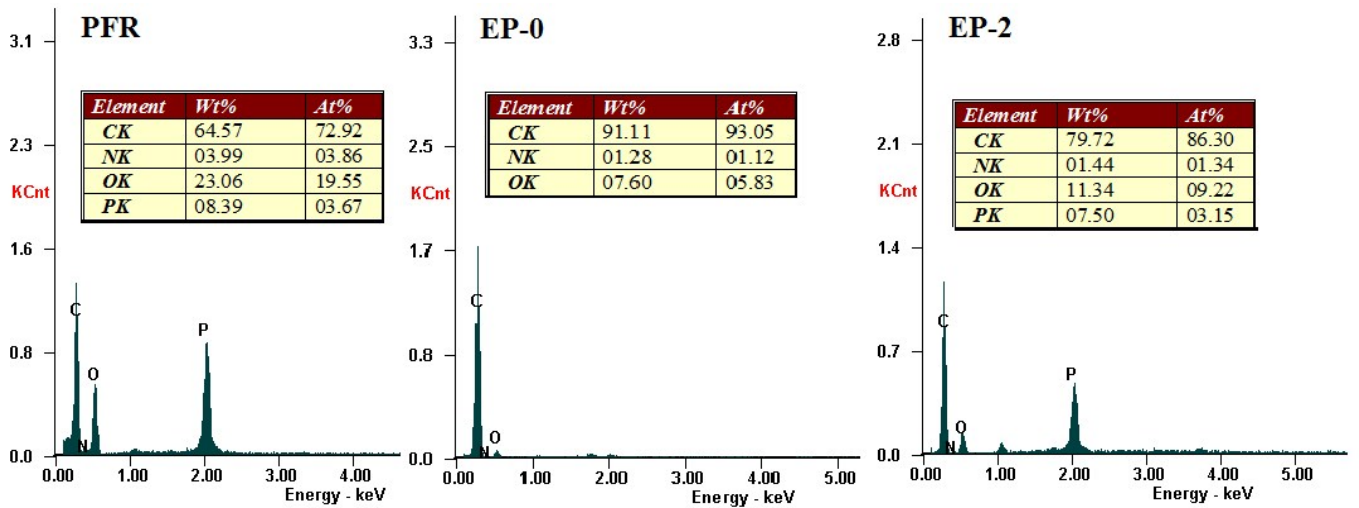


Fig. S6 EDX spectra of PFR, EP-0 and EP-2 heated up to 700°C with the heating rate of $10^{\circ}\text{C min}^{-1}$, in nitrogen.