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Structure and thermal properties of phosphorus-containing polyol synthesized from cardanol

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SI.1 The FT-IR spectra of 9,10-dihydro-9-oxa-10-phosphaphenanthrene-10-oxide (DOPO)

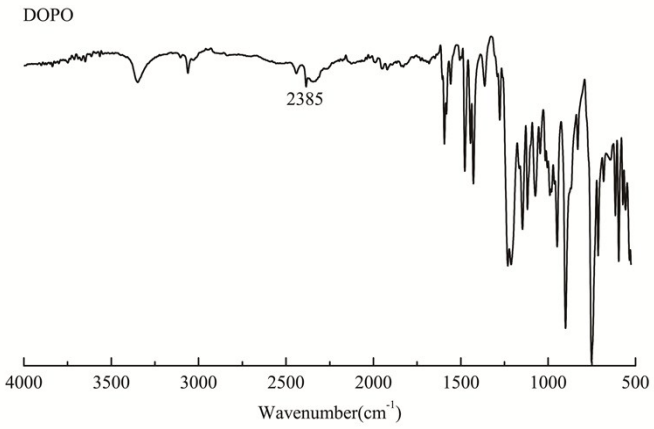

Figure SI.1 the FT-IR spectra of DOPO

Figure SI.1 shows the FT-IR spectra of the DOPO, in FT-IR analyses on DOPO, the stretching vibration at 2385 cm^{-1} is for P—H,[1] the stretching vibration disappeared in PCP, implying that the reaction of P(O)—H of DOPO with cardanol diol (ECD) had occurred.

SI.2 The ^{1}H NMR spectra of DOPO

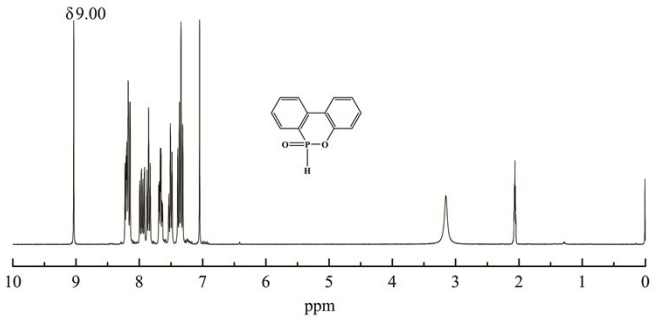

Figure SI.2 the ^{1}H NMR spectra of DOPO

Figure SI.2 shows the ^{1}H NMR spectra of the DOPO, in ^{1}H NMR analyses on DOPO, the peak at δ 9.00 is associated with the P—H,[2] which disappeared in the ^{1}H NMR spectrum of the resulting cardanol polyols (PCP). This result indicates that the epoxy groups of ECD was reacted with DOPO.

References

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