

Supporting information

The supporting information included **9 Figures and 1 Table**

Number of Page S2–S9: Figure S1–S9.

Number of Page S9: Table S1.

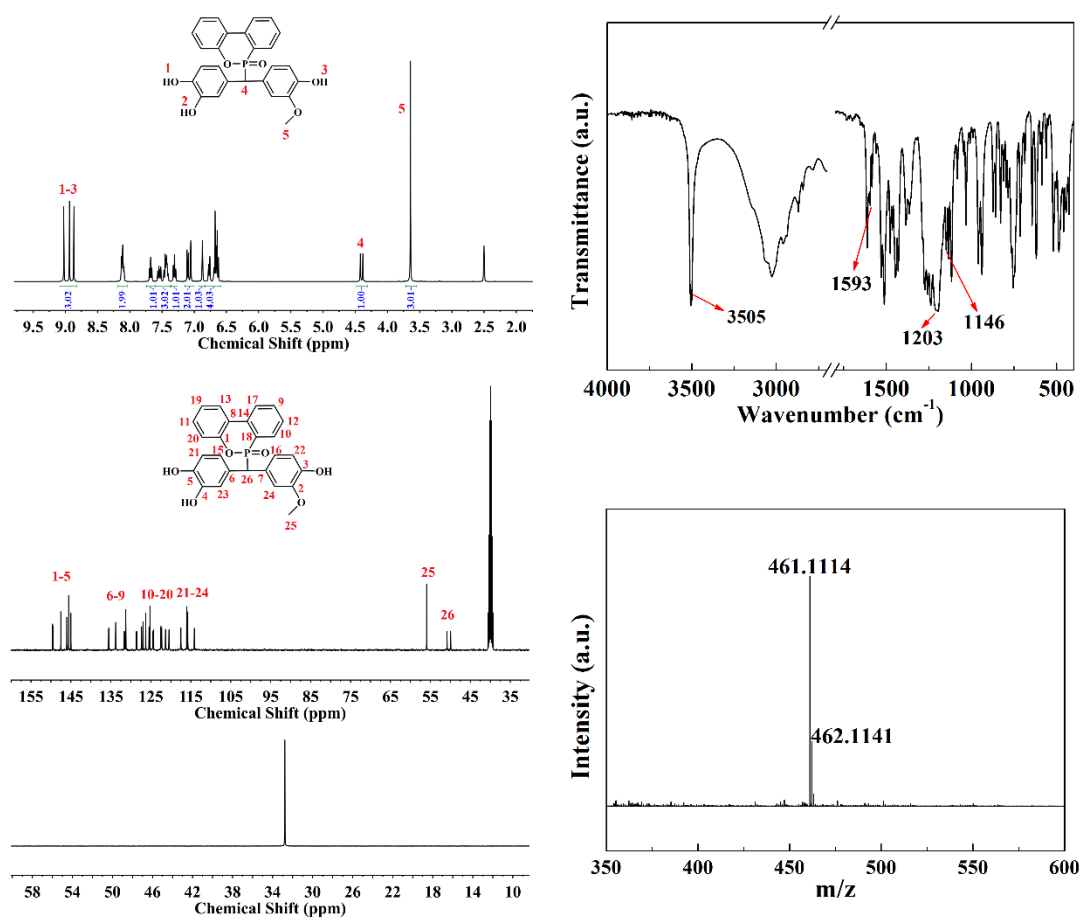


Figure S1. ¹H, ¹³C and ³¹P NMR spectra, FT-IR spectra and HR-MS spectrum of PDG

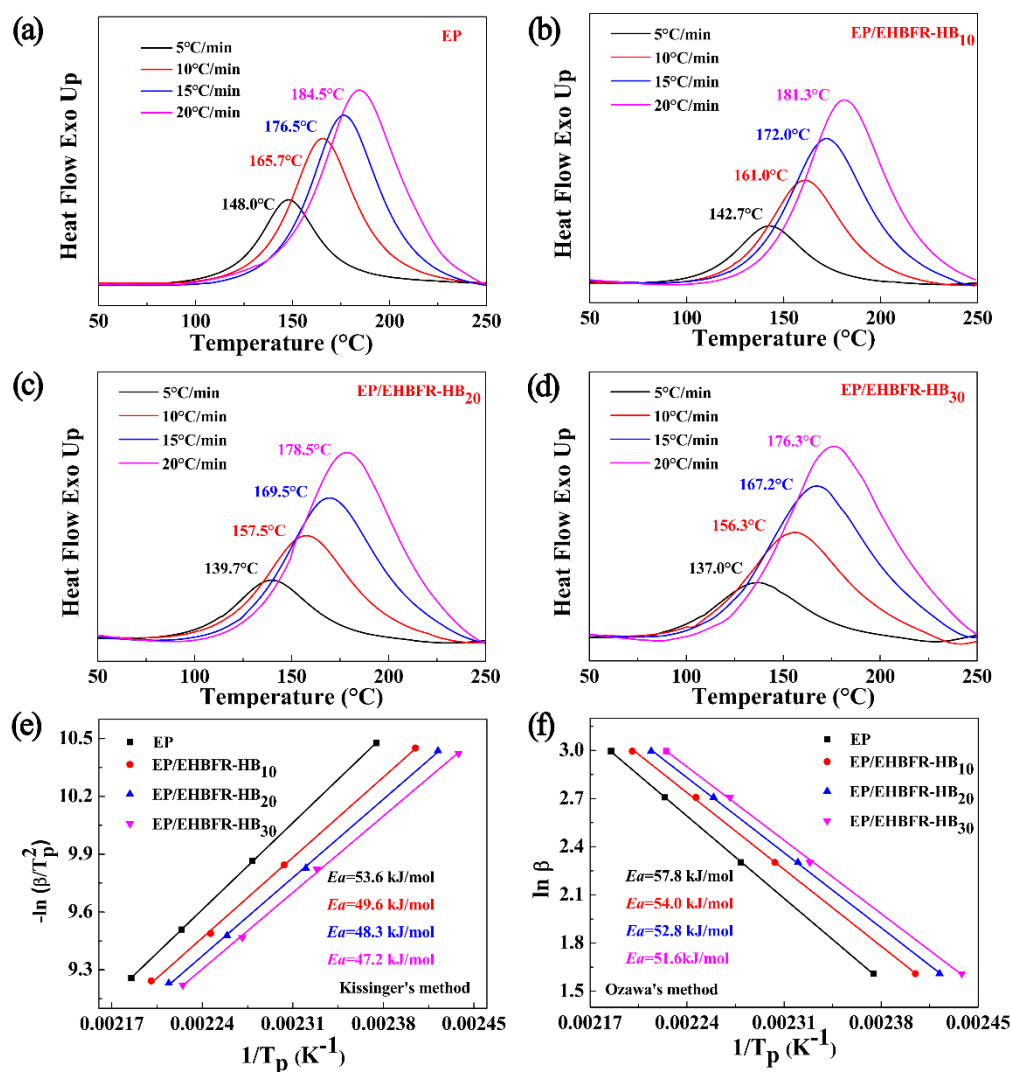


Figure S2. DSC curves of EP/ EHBFR-HB systems (a–d) at different heating rates, as well as plots generated following the Kissinger's (e) and Ozawa's (f) methods for determination of the activation energy of epoxy thermosets

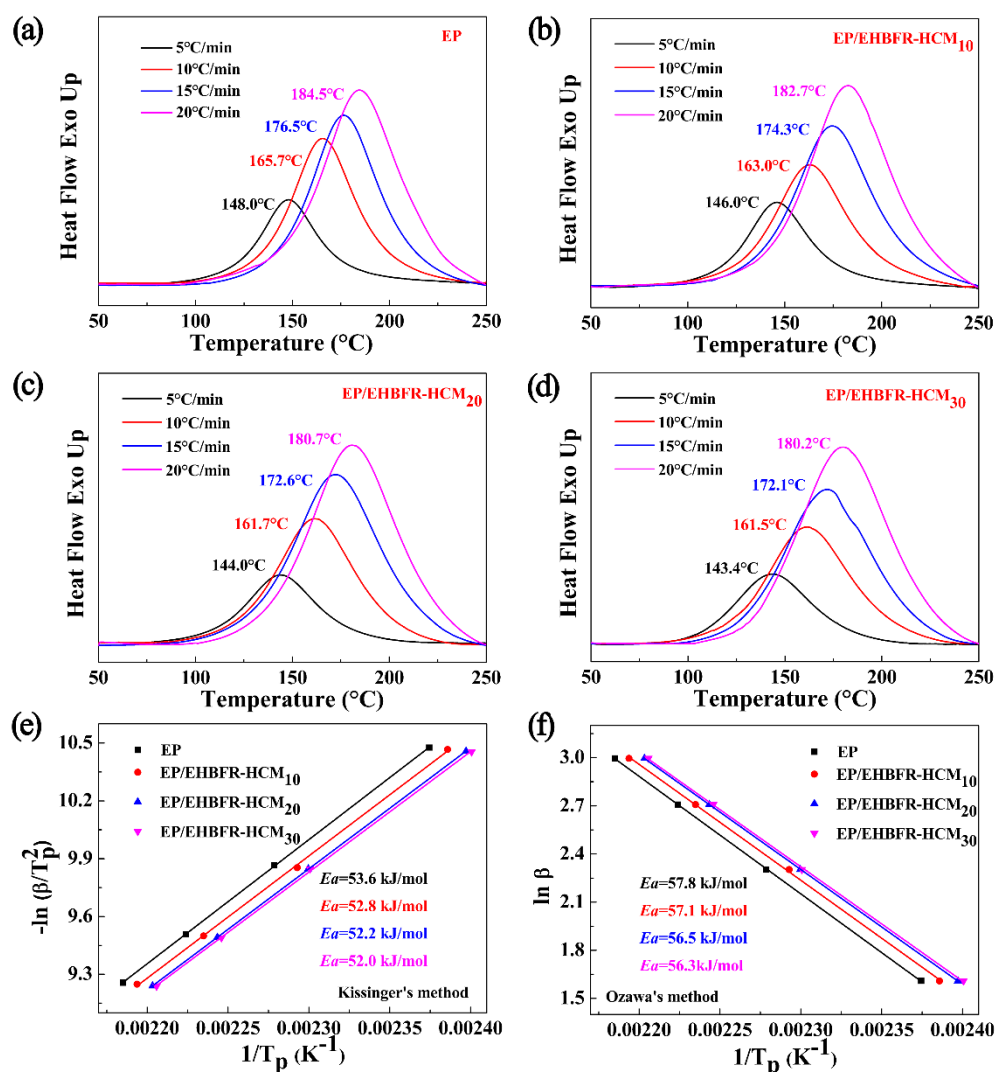


Figure S3. DSC curves of EP/ EHBFR-HCM systems (a–d) at different heating rates, as well as plots generated following the Kissinger's (e) and Ozawa's (f) methods for determination of the activation energy of epoxy thermosets

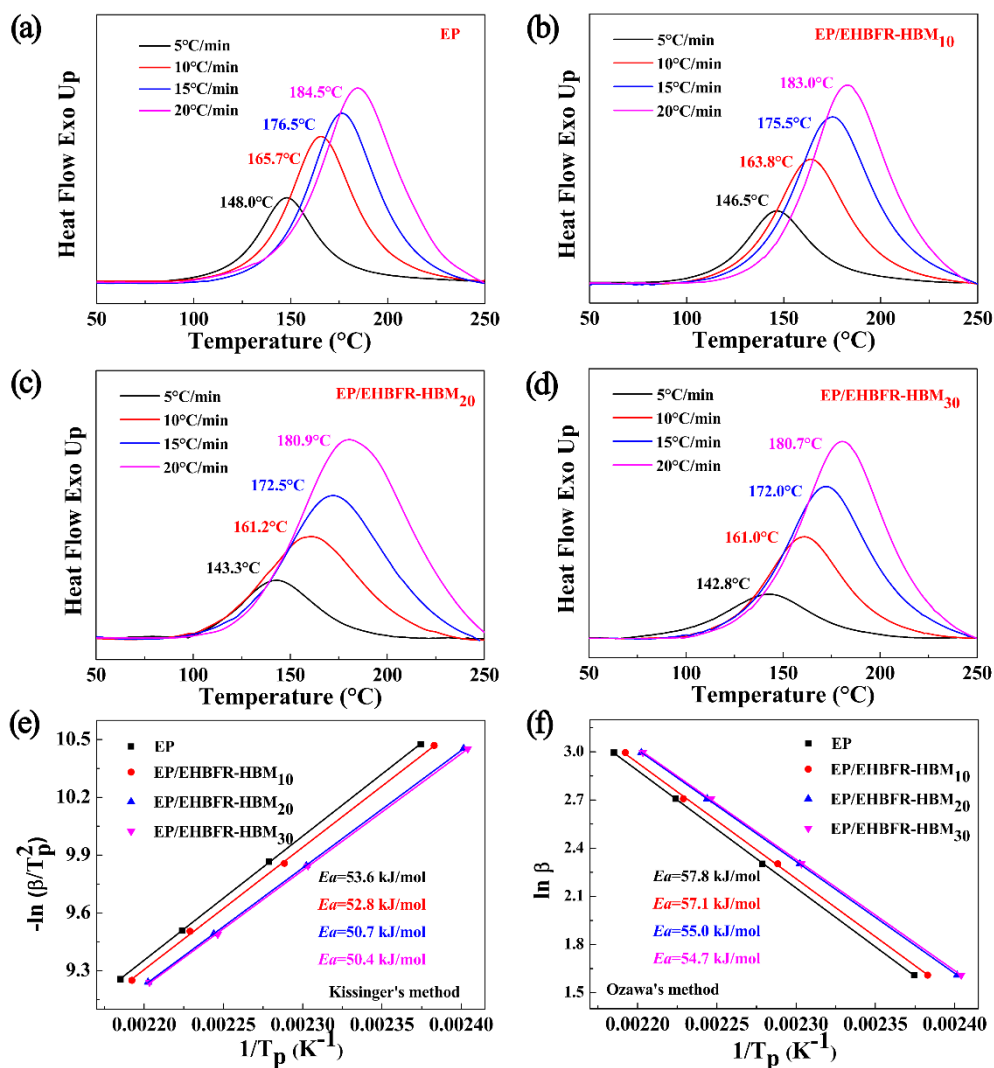


Figure S4. DSC curves of EP/ EHBFR-HBM systems (a–d) at different heating rates, as well as plots generated following the Kissinger's (e) and Ozawa's (f) methods for determination of the activation energy of epoxy thermosets.

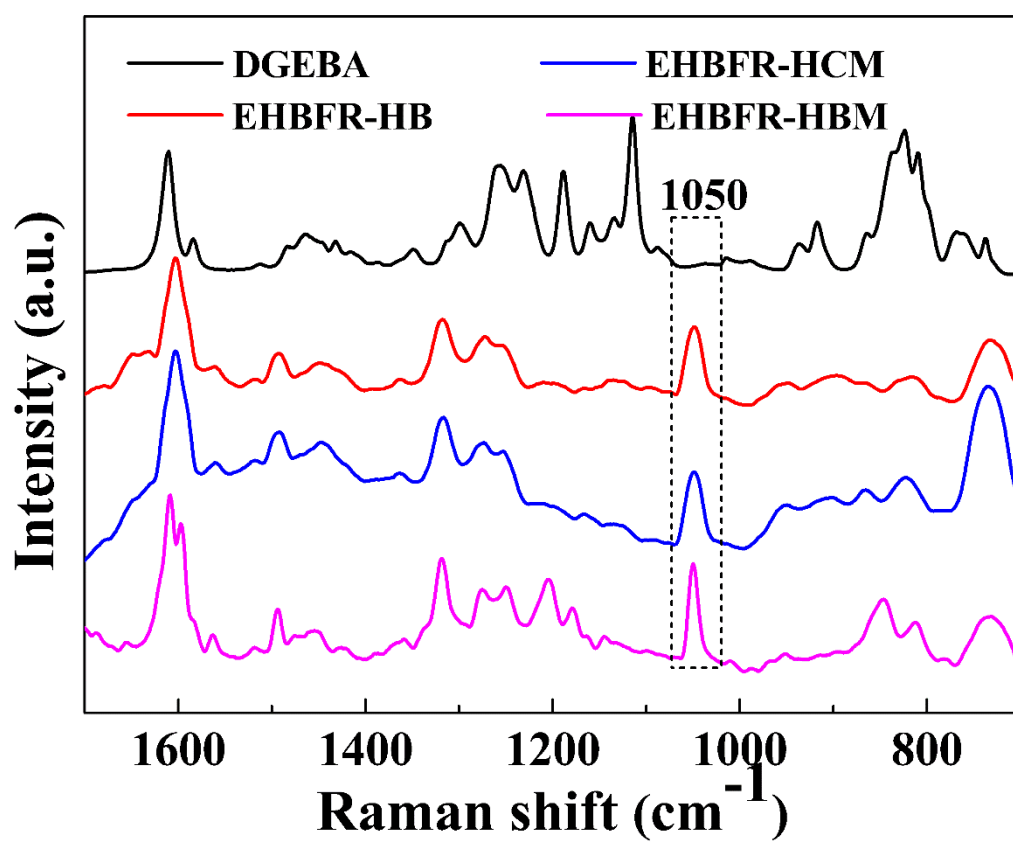


Figure S5. Raman spectra of EHBFR-HB, EHBFR-HCM, EHBFR-HBM, and pure DGEBA

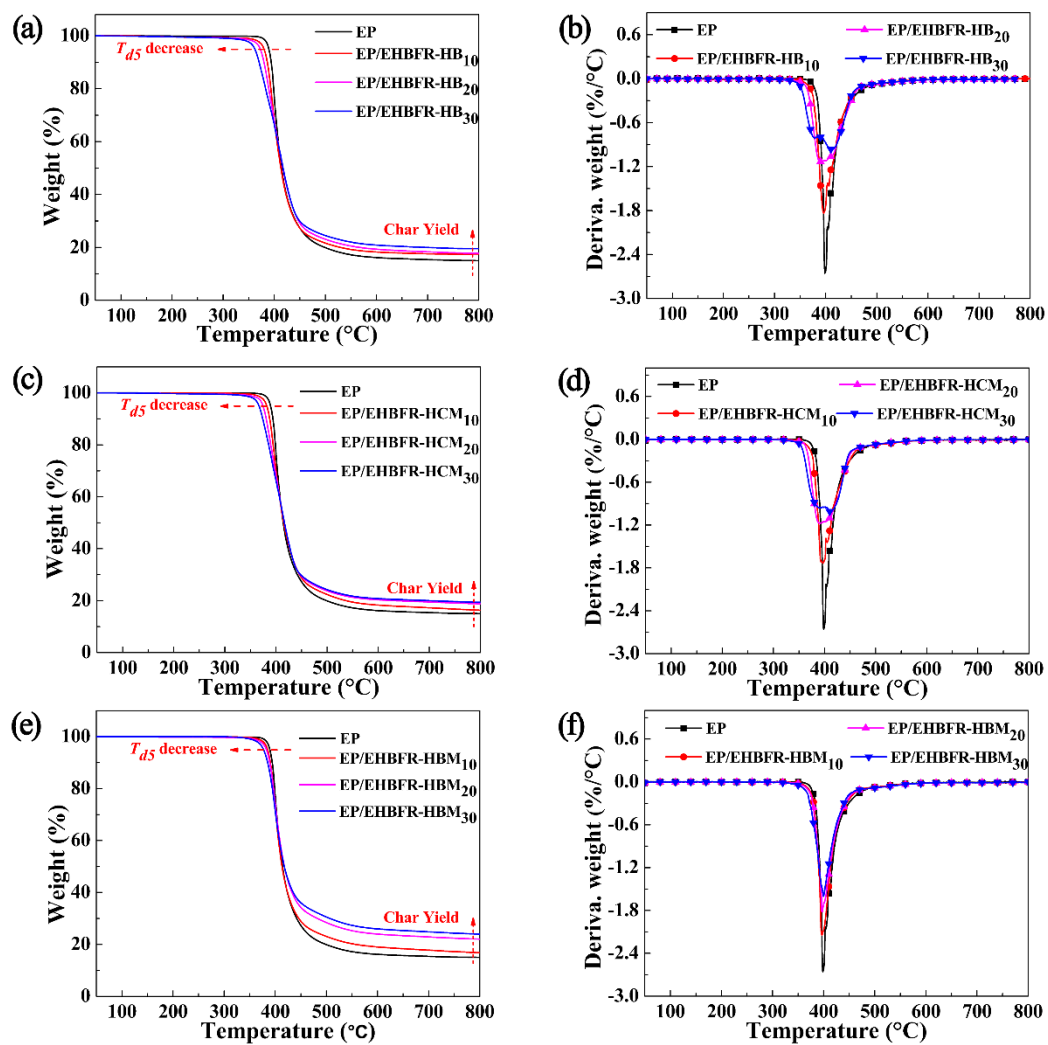


Figure S6. Non-isothermal TGA and DTG curves for cured EP/ EHBFR-HB (a,b), cured EP/ EHBFR-HCM (c,d), and cured EP/ EHBFR-HBM (e,f)

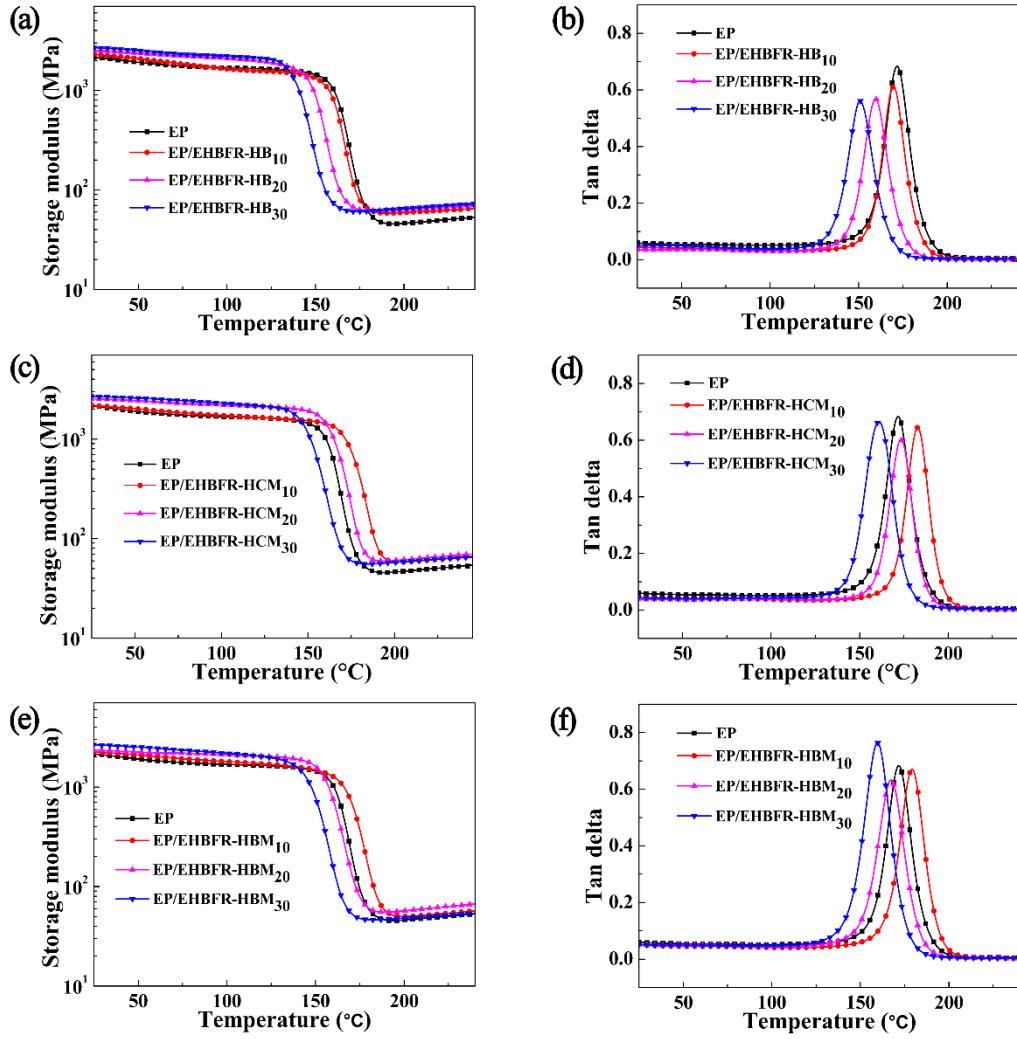


Figure S7. Variation of storage modulus and $\tan\delta$ with temperature for cured EP/EHBFR-HB (a,b), cured EP/EHBFR-HCM (c,d), and cured EP/EHBFR-HBM (e,f)

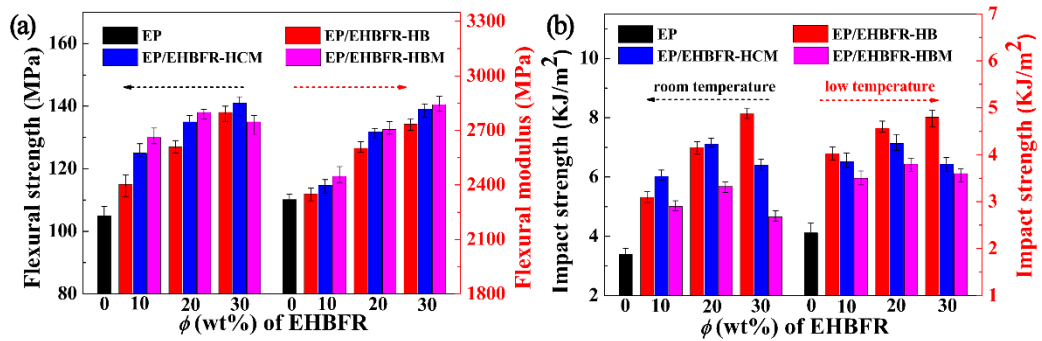


Figure S8. Flexural properties (a) and impact strength (b) for epoxy thermosets

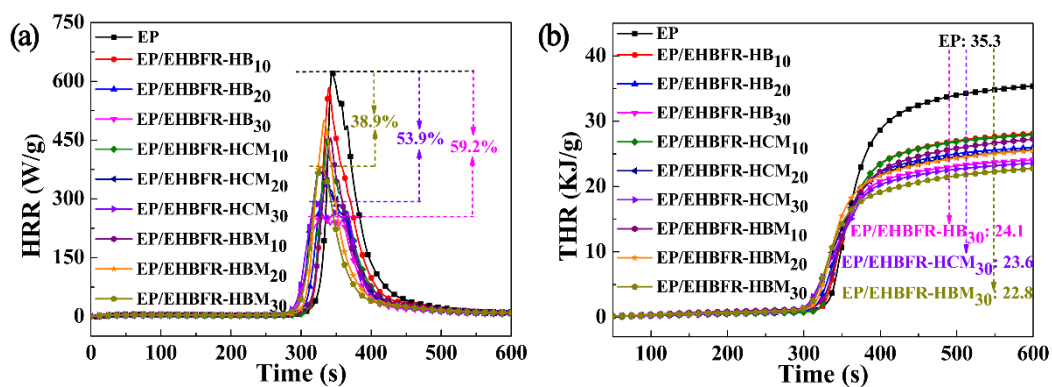


Figure S9. HRR (a) and THR (b) curves of epoxy thermostets

Table S1. UL-94 vertical burning and LOI results of epoxy thermostets.

Samples	LOI value (vol%)	Vertical burning test			
		After-flame time		Dripping	UL-94 rating
		t ₁ (s)	t ₂ (s)		
EP	23.6	74.6	—	Yes	No rating
EP/HB ₁₀	27.1	38.9	—	No	No rating
EP/HB ₂₀	28.8	7.0	10.8	No	V-1
EP/HB ₃₀	30.9	3.7	5.3	No	V-0
EP/HCM ₁₀	27.2	35.4	—	No	No rating
EP/HCM ₂₀	29.1	9.6	7.8	No	V-1
EP/HCM ₃₀	30.5	3.4	4.5	No	V-0
EP/HBM ₁₀	27.3	33.2	—	No	No rating
EP/HBM ₂₀	29.3	9.6	7.8	No	V-1
EP/HBM ₃₀	30.7	4.7	2.5	No	V-0