Supplementary information

Recyclable High Performance Epoxy Composites Based on Double Dynamic Carbon-Nitrogen and Disulfide bonds

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The DSC curve of the curing agent and epoxy resin showed that the curing exothermic peak of the resin was 207 ° C.

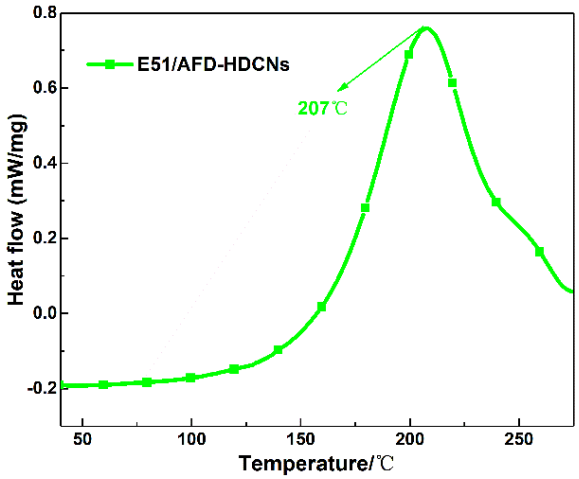

Figure S1 DSC curves of E51/AFD-HDCNs curing process (heating rate = 10 °C/min, nitrogen, flow rate = 20mL/min)

Figure S2. Samples soaked in different solvents (0 day)

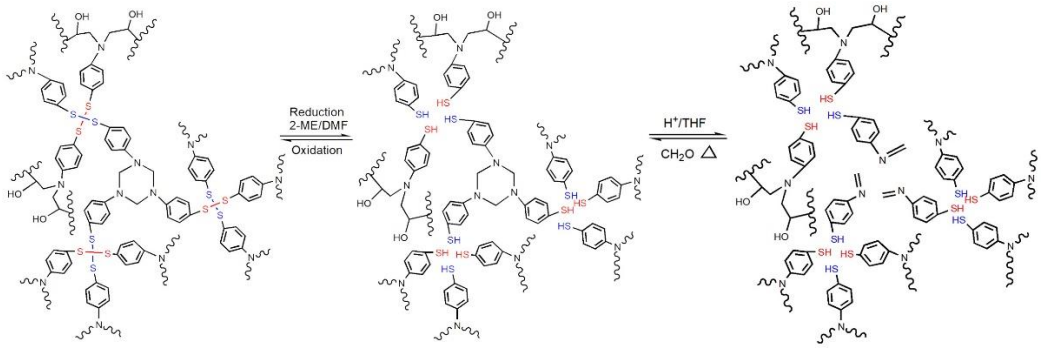

Figure S3. The degradation mechanism diagram of E51/AFD-HDCNs

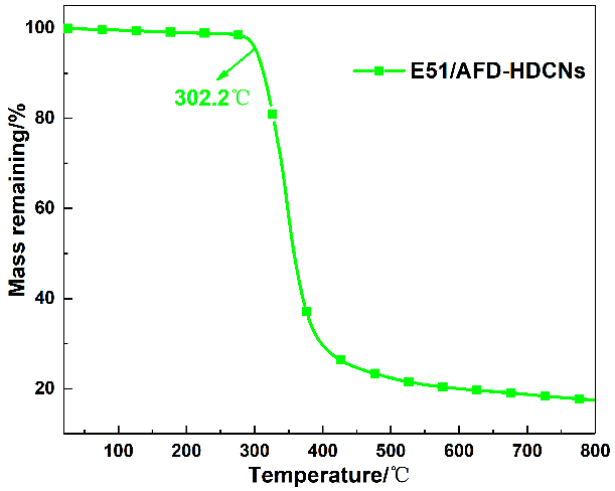

Figure S4. TGA curves of E51/AFD-HDCNs (heating rate = 10 °C/min, nitrogen, flow rate = 20mL/min)

Table S1 shows the static contact angle(θ) of the different solvents to the resin as measured by the room temperature static drop method.

Table S1. Contact angles of different solvents on the surface of the resin

Solvent	Volume ratio	Resin contact Angle number(°) E51/AFD	E51/AFD-HDCNs
2-ME:DMF	2:8	2.0±2.8	16.2±0.2
2-ME:DMF	5:5	14.9±1.1	20.3±1.4
2-ME:DMF	8:2	13.3±0.7	26.0±0.3
2-ME:DMF	1:0	18.4±3.5	29.6±1.0
H^+(3mol/L):THF	2:8	21.1±3.7	17.9±1.4
H^+(3mol/L):THF	5:5	19.5±2.1	27.0±1.5
H^+(3mol/L):THF	8:2	33.5±1.7	35.1±1.2
H^+(3mol/L):THF	1:0	52.3±1.4	59.7±1.5