

Supplementary information

1 Curing kinetics curve

Synchronous Thermal Analyzer: Temperature range 25~220°C, heating rate (Φ) 1, 3, 5, 10°C/min, nitrogen atmosphere. T_p : The highest temperature of the sample at a specific heating rate.

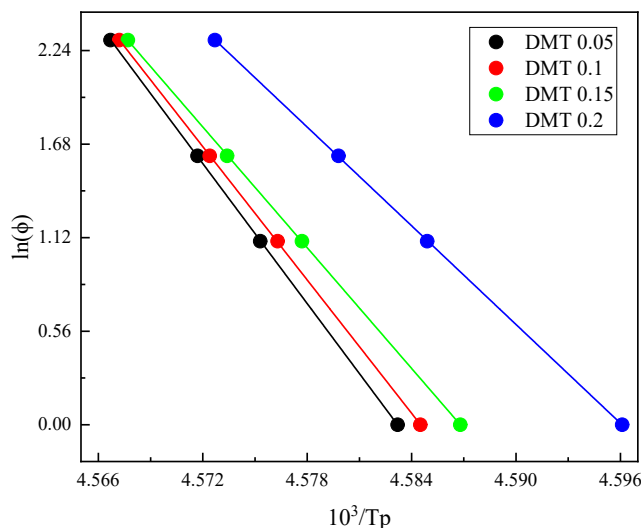


Figure S1 Curing kinetics curve. The slope of the curve is the activation energy. The higher the TEOA content, the lower the activation energy.

Table S1 Effects of TEOA content on curing activation energy of materials

Sample	DMT 0.05	DMT 0.1	DMT 0.15	DMT 0.2
activation energy (kJ/mol)	139.66	133.03	120.45	98.49

2 Gel content, cross-linking degree, soluble amount

The gel content of the sample was determined using the solvent extraction method. The initial mass of the sample was A, extracted with xylene in an extractor for 12 hours, and then dried in a vacuum oven at 80°C for 12 hours to obtain the final mass B of the sample.

$$\text{gel content (\%)} = \frac{B}{A} \quad (1)$$

The cross-linking degree of the material was measured by electron paramagnetic resonance spectrometer, the magnetic field intensity was 40-100 mT, and the scanning speed was 1 mT/s. The skeleton spin density of the powder material is measured. This data can directly represent the

crosslinking degree of the material.

Table S2 Effects of TEOA content on gel content, cross-linking degree, soluble amount of materials

Sample	gel content(%)	cross-linking degree(%)	Amount dissolved in 10g TEOA(g)
TEI	97.9	94.1	-
DMT 0.05	98.6	93.4	4.1
DMT 0.1	99.2	94.1	4.5
DMT 0.15	99.2	93.8	4.9
DMT 0.2	99.1	93.6	5.1

3 Multiple recycling

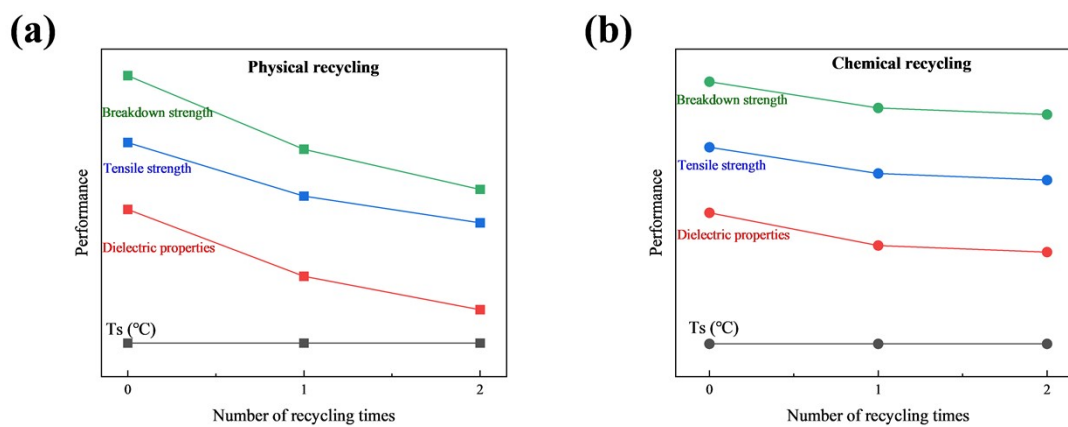


Figure S2 Multiple recycling performance changes. (a) physical recycling, (b) chemical recycling.