

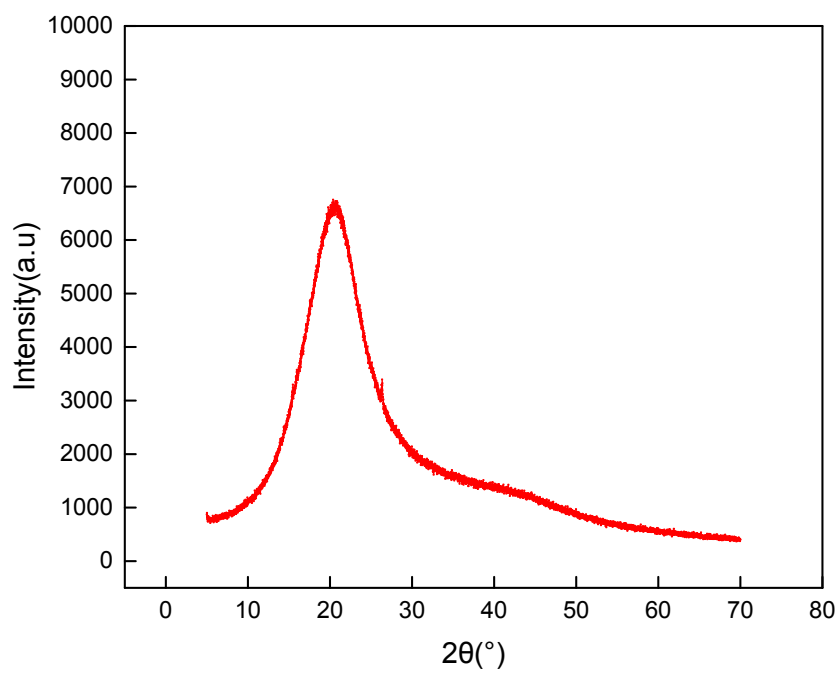
## **Highly Stretchable and Strong Poly(Butylene Maleate) Elastomers via Metal–Ligand Interactions**

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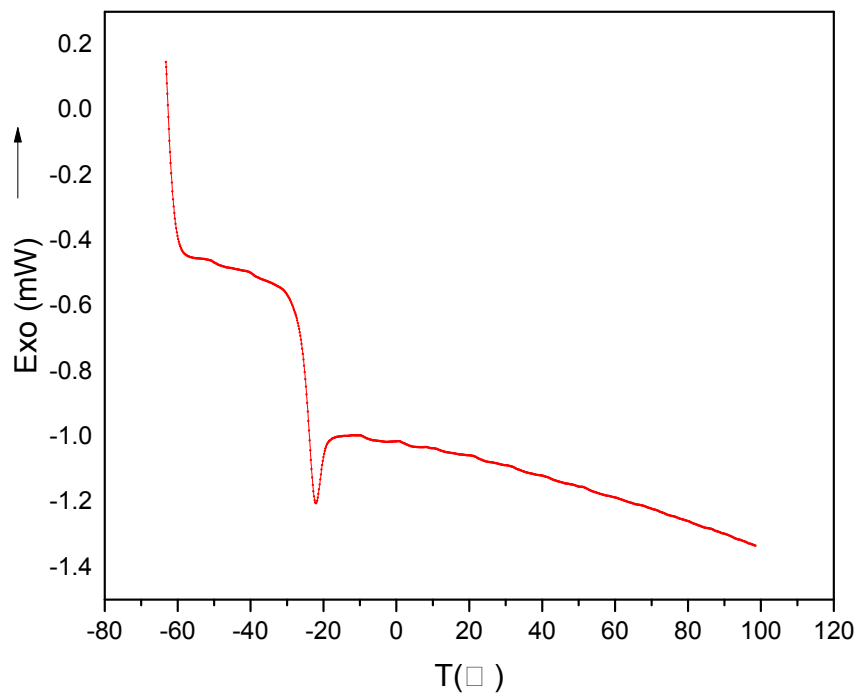
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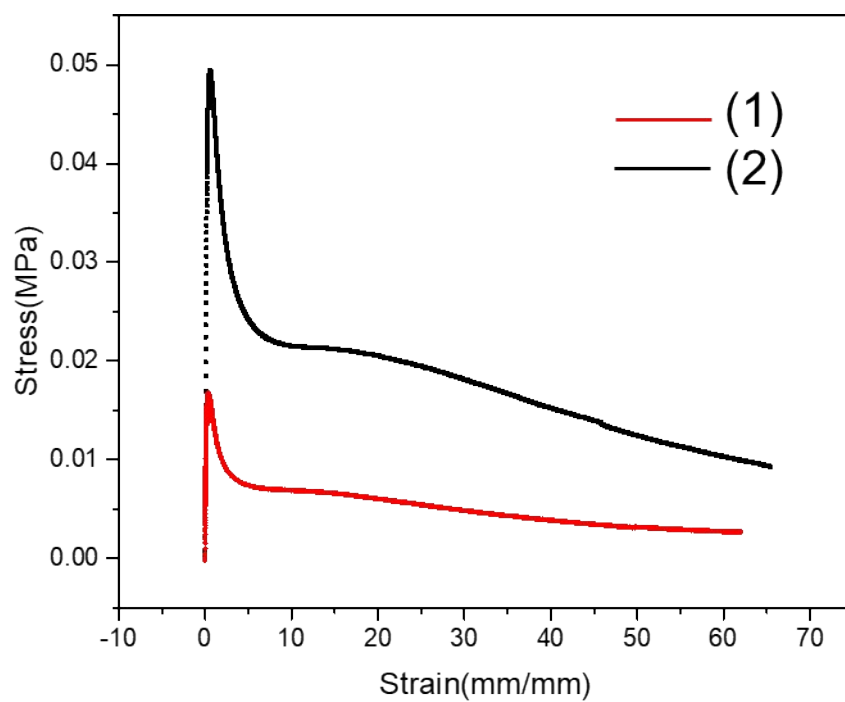
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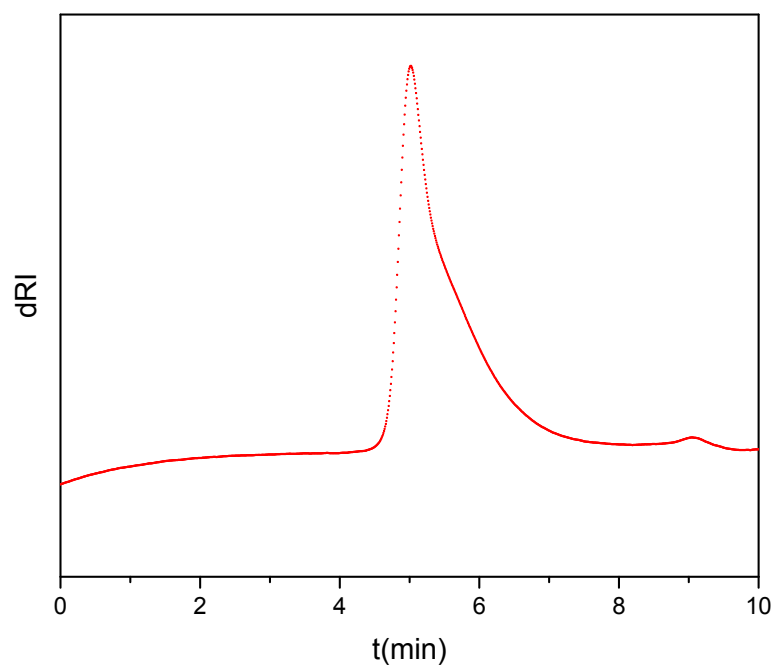
**Fig. S1** Wide-angle X-ray Diffractograms of PBM



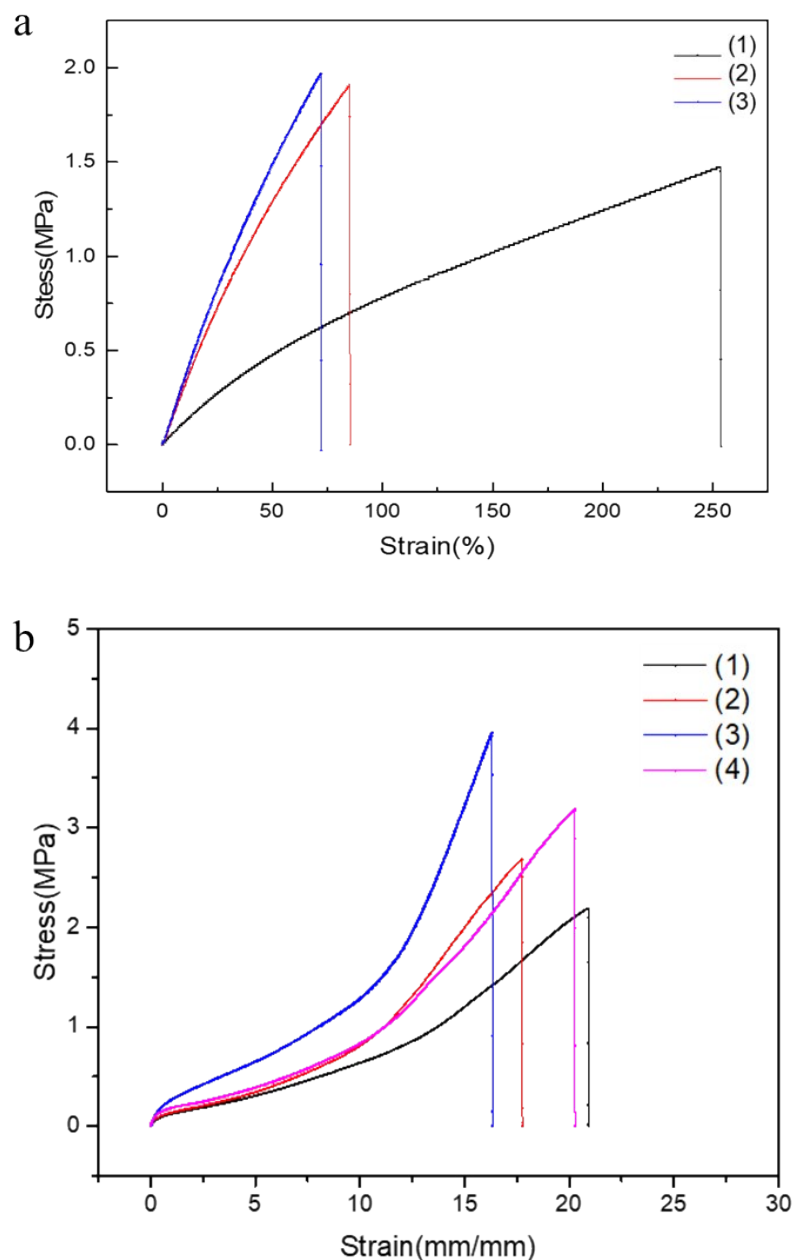
**Fig. S2** DSC of PBM



**Fig. S3** The stress–strain curves of virgin PBM  
 (1) 20 mm/min (2) 100 mm/min.

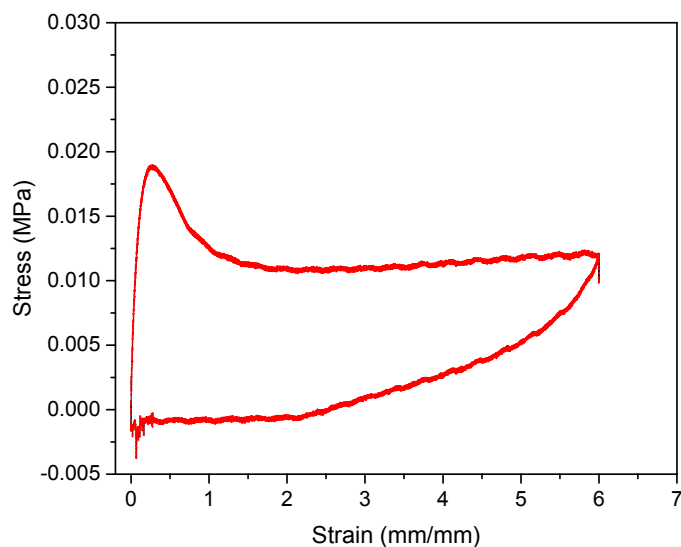


**Fig. S4** GPC curve of PBM



**Fig. S5 a.** The stress-strain curves of PBM-DOT elastomers at 50 mm/min, the molar ratio of DOT (3,6-dioxa-1,8-octanedithiol) : C=C bonds of PBM was (1) 2.5%, (2) 3.75%, (3) 5%.

**b.** The stress-strain curves of Fe(BF<sub>4</sub>)<sub>2</sub> crosslinked PBM-PyEt:10 elastomers, the molar ratio of Fe(BF<sub>4</sub>)<sub>2</sub> : PyEt was (1) 1:10, (2) 1:7.5, (3) 1:6, (4) 1:5.



**Fig. S6** The stress-strain curve of PBM-PyEt:10 sample for the first cyclic stress-strain tests at 50 mm/min (up to 600% strain). The specimen undergoes significant plastic deformation during the first stretching; specimen coiling occurs during unloading, and thus further cyclic tests are impossible.

**Table S1** Mechanical Properties of M-L crosslinked PBM-PyEt:10 elastomers prepared with different metal salts

Entry	Sample	Tensile strength (MPa)	Elongation at break (mm/mm)
1	PBM-PyEt:10-Fe(OTf) <sub>3</sub> :5/3	3.64±0.18	21.8±1.1
2	PBM-PyEt:10-Fe(NO <sub>3</sub> ) <sub>3</sub> :5/3	4.13±0.21	18.3±0.9
3	PBM-PyEt:10-FeCl <sub>3</sub> :5/3	1.36±0.08	14.4±0.6
4	PBM-PyEt:10-Fe(OTf) <sub>2</sub> :5/3	2.08±0.13	13.7±0.7
5	PBM-PyEt:10-Fe(BF <sub>4</sub> ) <sub>2</sub> :5/3	3.96±0.15	16.3±0.8
6	PBM-PyEt:10-FeCl <sub>2</sub> :5/3	1.06±0.07	9.4±0.5
7	PBM-PyEt:10-NiCl <sub>2</sub> :5/3	2.34±0.14	18.2±0.6
8	PBM-PyEt:10-Cu(OTf) <sub>2</sub> :5/3	0.25±0.05	>18
9	PBM-PyEt:10-Zn(OTf) <sub>2</sub> :5/3	-	>20