

Supporting Information

**Highly stretchable electromagnetic interference (EMI) shielding
polyurethane/carbon nanotubes composites fabricated by microwave selective
sintering**

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Table. S1 Comparison of EMI SE of our MS composites and the carbon-based filler/polymer composites reported in the literatures.

Polymer	Filler type	Distribution	Filler content	Thickness (mm)	EMI SE (dB)	Ref.
TPU	CNTs	Segregated	5 wt%	2	35.3	This work
TPU	CNTs	Segregated	3 wt%	2	25.6	This work
PS	CNTs	Segregated	4 wt%	2.5	31.8	55
PE	CNTs	Segregated	3 wt%	2.1	~35	19
UHMWPE	CNTs	Segregated	4 wt%	1.6	32.6	20
PVDF	CNTs	Segregated	5 wt%	2	17.7	15
PPS	CNTs	Segregated	5 wt%	2	49.6	17
TPU	CNTs	Random	20 wt%	2	17	56
PE	CNTs	Random	10 wt%	1.65	22.4	57
PC	CNTs	Random	5 wt%	1.85	~25	58
PS	CNTs	Random	5 wt%	2	~25	12
PVDF	Graphite	Random	15 wt%	3	~27	59
PMMA	Graphene	Random	4.23 vol%	3.4	~30	60

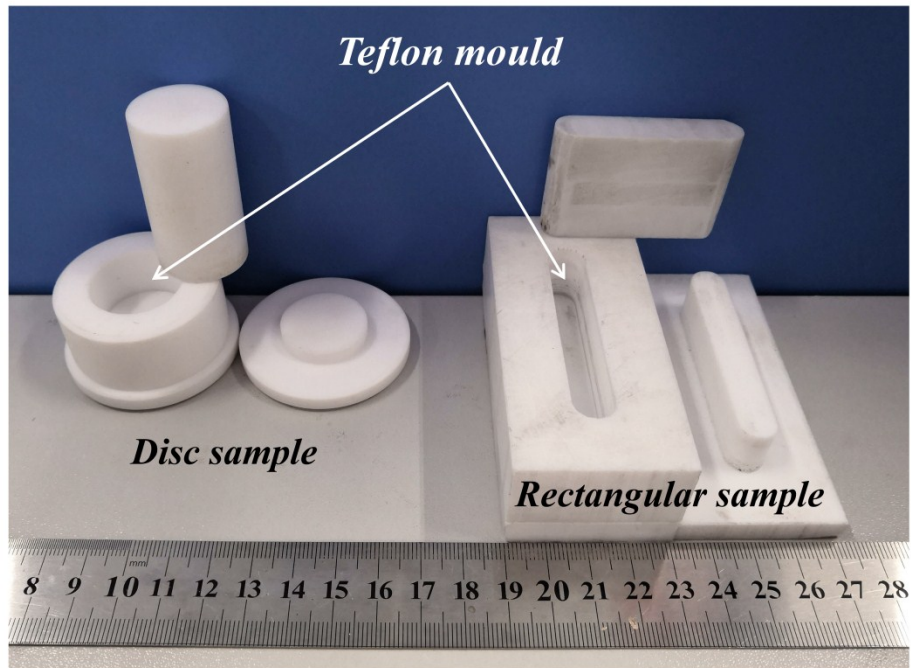


Fig. S1 Teflon mould for sintering TPU/CNTs composite in microwave oven.

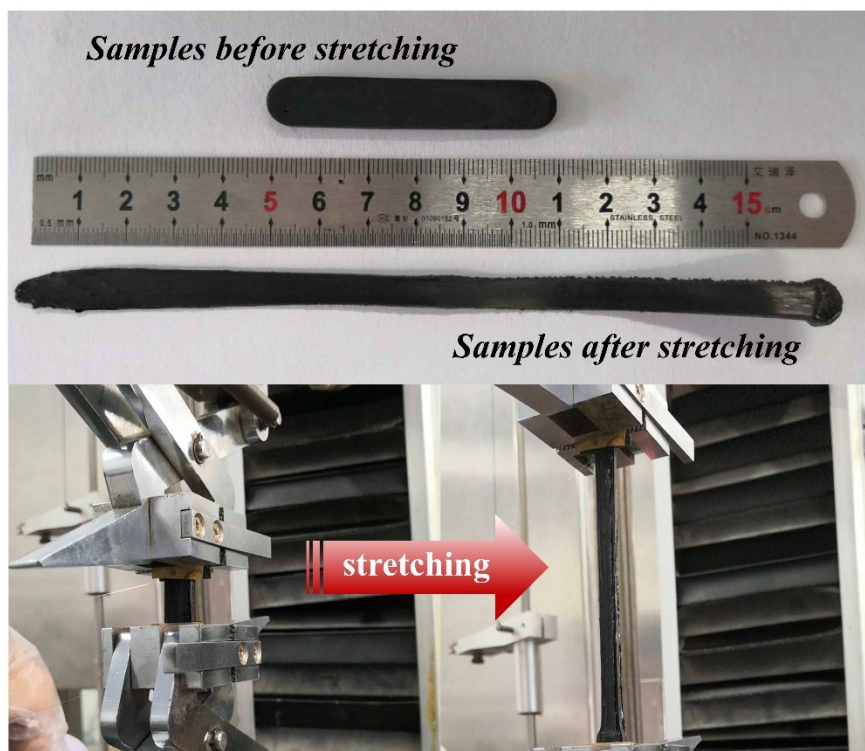


Fig. S2 Photograph showing MS_{5.0} sample before stretching and stretched one at strain of 250%.

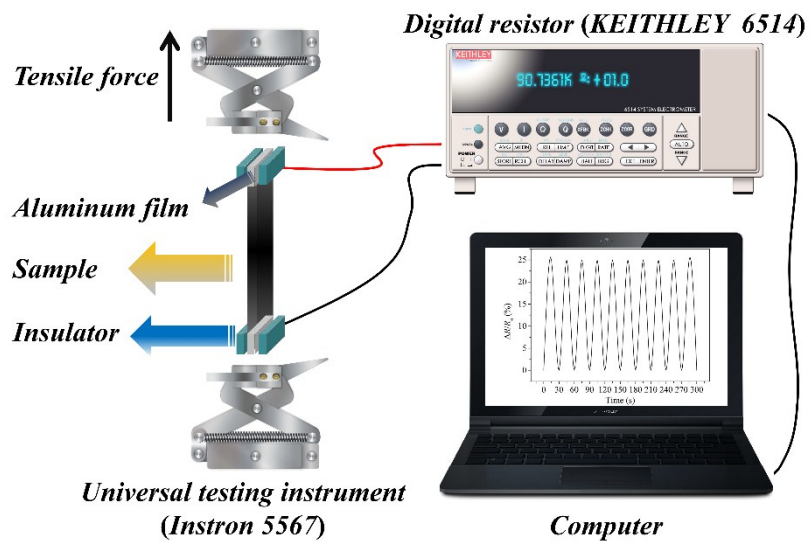


Fig. S3 Illustration showing the apparatus for real-time monitoring of electrical resistance of sample during stretching process.