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# Thermal sensitive, adhesive, injectable, multiwalled carbon nanotube covalently reinforced polymer conductors with self-healing capabilities

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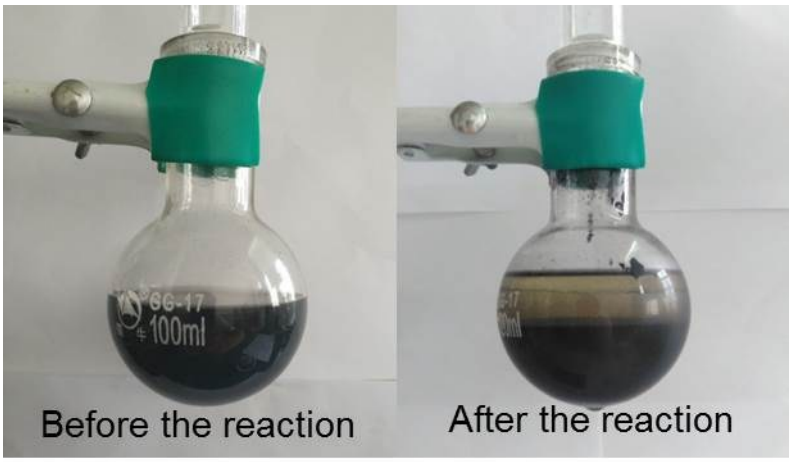


Figure S1. Photograph of the solution before (left) and after (right) multiwalled carbon nanotube reacted with undecylenyl alcohol.

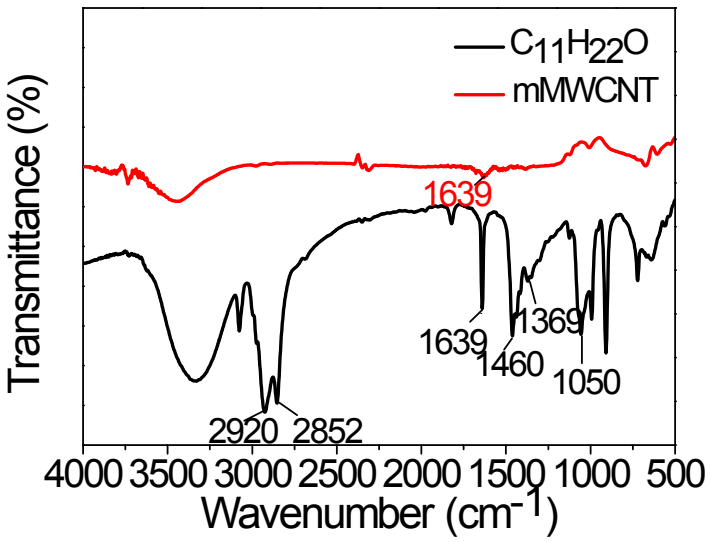


Figure S2. FTIR of undecylenyl alcohol and undecylenyl alcohol modified multiwalled carbon nanotube.

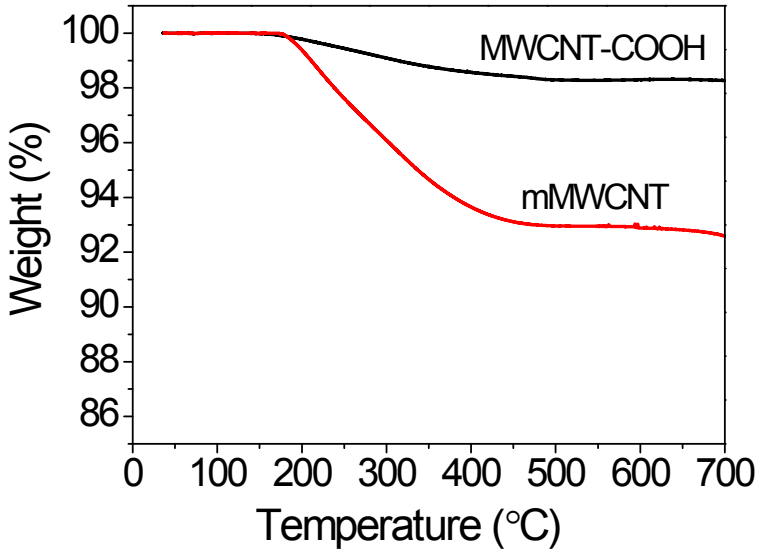


Figure S3. TGA curves of undecylenyl alcohol grafted multiwalled carbon nanotube (mMWCNT) and original acidified MWCNT.

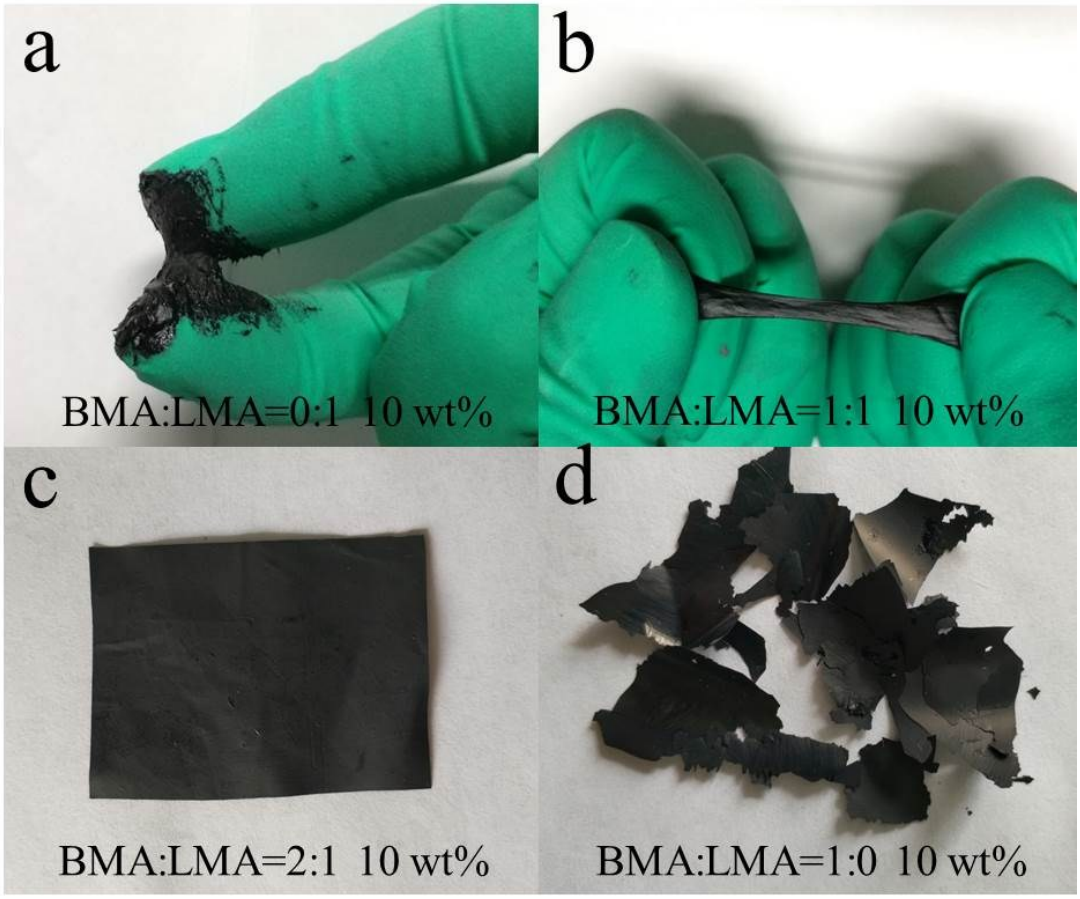


Figure S4. Photograph of P(BMA-co-LMA)/mMWCNT composites with different molar ratio of BMA/LMA and the content of mMWCNT remained at 10 wt%.

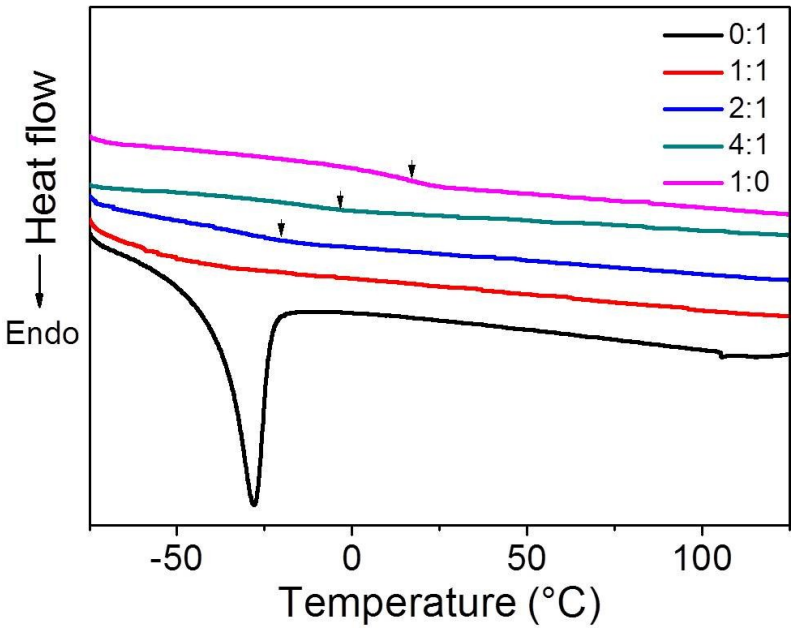


Figure S5. DSC curves of P(BMA-co-LMA)/mMWCNT composites with different molar ratio of BMA/LMA and 7 wt% of mMWCNT content.

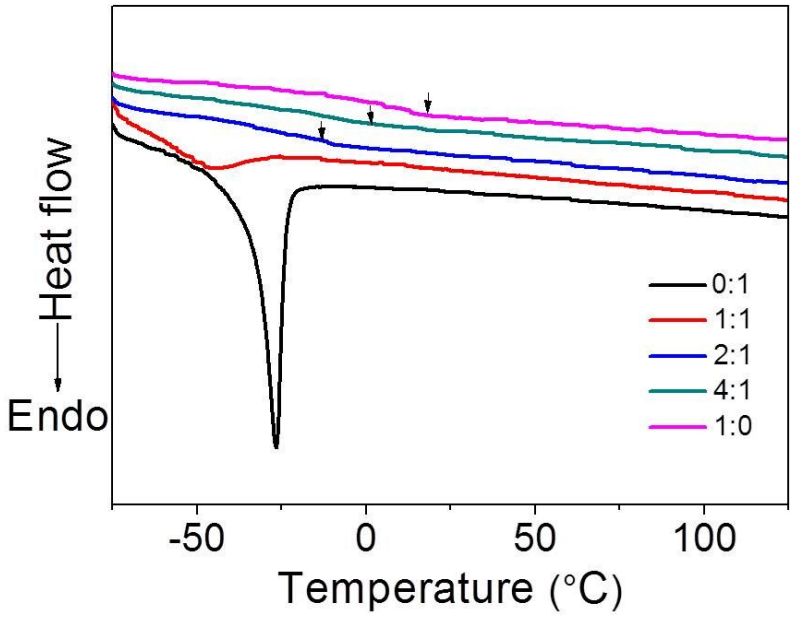


Figure S6. DSC curves of P(BMA-co-LMA)/mMWCNT composites with different molar ratio of BMA/LMA and 10 wt% of mMWCNT content.

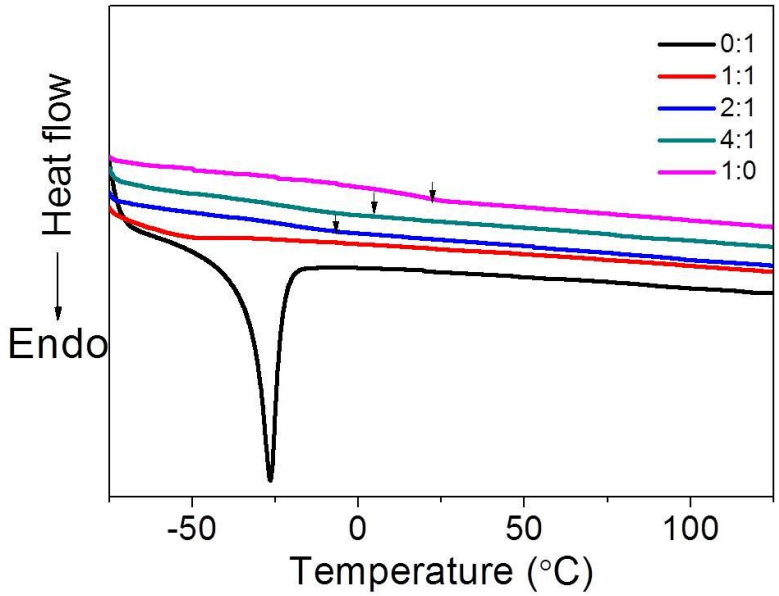


Figure S7. DSC curves of P(BMA-co-LMA)/mMWCNT composites with different molar ratio of BMA/LMA and 13 wt% of mMWCNT content.

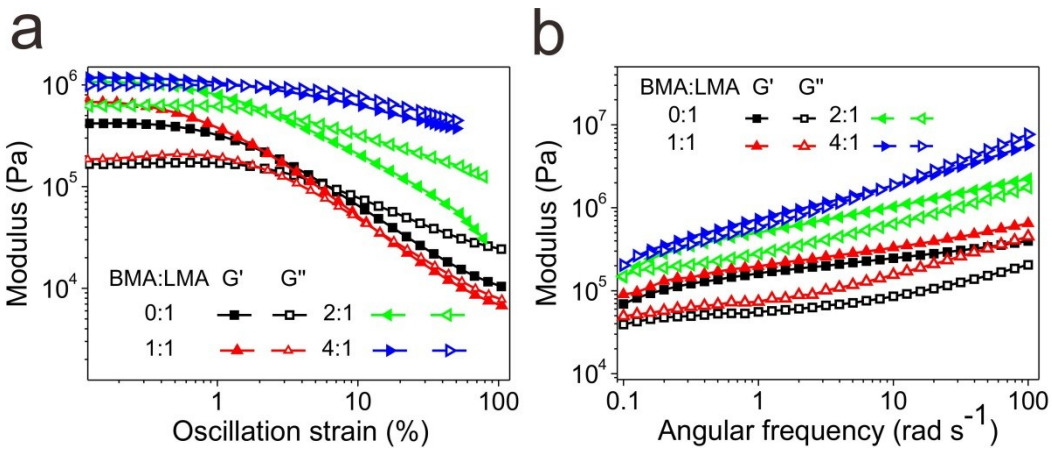


Figure S8. Rheology measurements of the composite containing 7 wt% mMWCNT. (a) Dynamic oscillation strain dependence of storage (G', filled symbols) and loss (G'', open symbols) modulus at 1 rad $s^{-1}$ and (b) frequency dependence of G' and G'' at a strain of 0.5%.

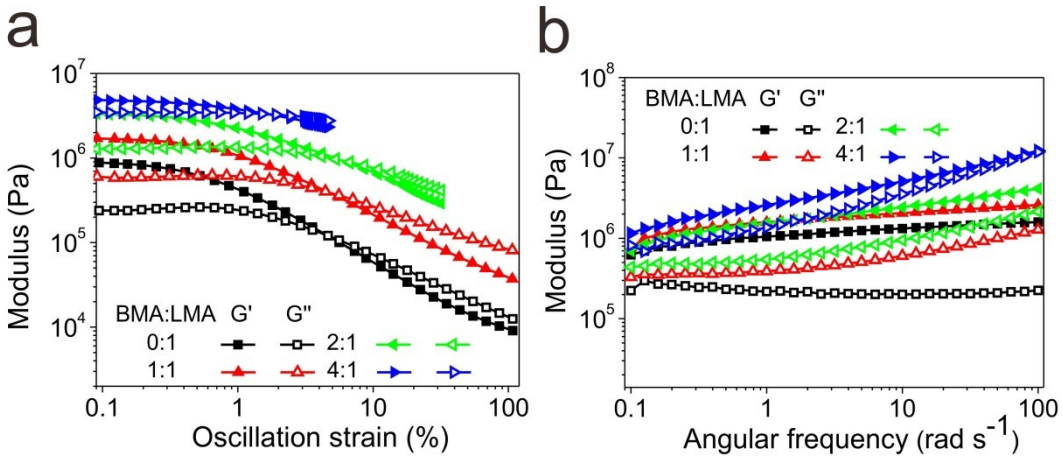


Figure S9. Rheology measurements of the composite containing 10 wt% mMWCNT. (a) Dynamic oscillation strain dependence of storage (G', filled symbols) and loss (G'', open symbols) modulus at 1 rad $s^{-1}$ and (b) frequency dependence of G' and G'' at a strain of 0.5%.

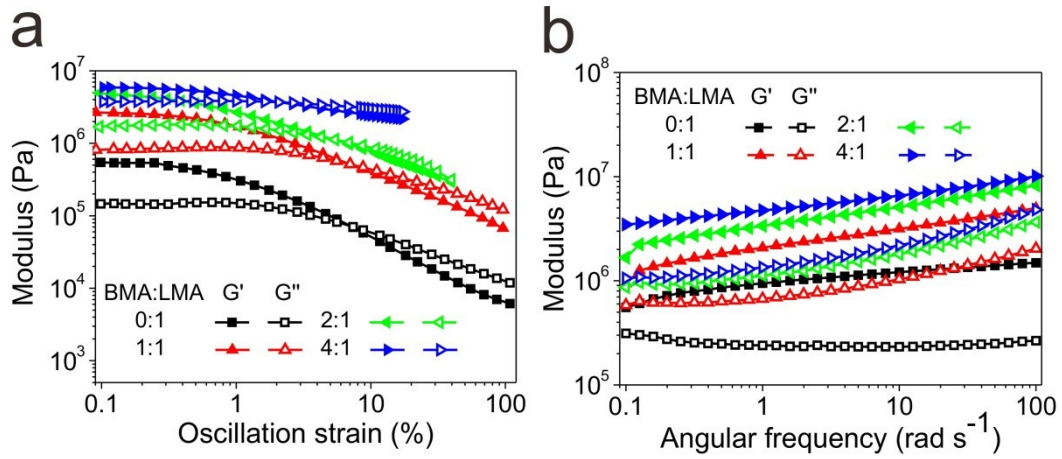


Figure S10. Rheology measurements of the composite containing 13 wt% mMWCNT. (a) Dynamic oscillation strain dependence of storage (G', filled symbols) and loss (G'', open symbols) modulus at 1 rad $s^{-1}$ and (b) frequency dependence of G' and G'' at a strain of 0.5%.