

Supporting Information

Effect of Side-Chain Structure of Rigid Polyimide Dispersant on Mechanical Properties of Single-Walled Carbon Nanotube/Cyanate Ester Composite

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To study the effect of dispersant on the tensile properties of dispersant/CE mixture, we added dispersants to neat CE (without SWNTs) and tested the tensile properties of the resulting cured films. The dispersant contents we used were 1 wt% and 5 wt%, so that the relative ratios of dispersants to CE in these unreinforced films are similar to those in SWNTs reinforced dispersant/CE films. Detailed tensile properties are listed in Table S1. The results show that 1 or 5 wt% of dispersant has negligible effect on the tensile properties of the resulting CE composites. We conclude that the effect of dispersant-functionalized SWNTs on tensile properties of CE can be mainly attributed to the SWNTs.

Table S1. Mechanical properties of neat CE and dispersant/CE composites

Sample	E (GPa)	σ (MPa)	ε (%)	T^a (MJ m ⁻³)
Neat CE	3.08 ± 0.14	101.1 ± 6.0	4.0 ± 0.3	2.1 ± 0.2
PI(1 wt%)/CE	3.15 ± 0.09	100.3 ± 5.2	3.8 ± 0.3	2.0 ± 0.3
PI-GNE(1 wt%)/CE	3.00 ± 0.17	97.1 ± 5.8	3.9 ± 0.4	2.0 ± 0.2
PI-BDA(1 wt%)/CE	3.06 ± 0.12	103.2 ± 4.4	4.1 ± 0.3	2.2 ± 0.3
PI(5 wt%)/CE	3.31 ± 0.08	96.7 ± 4.0	3.6 ± 0.2	1.9 ± 0.1
PI-GNE(5 wt%)/CE	3.18 ± 0.10	98.6 ± 7.2	3.8 ± 0.3	2.0 ± 0.2
PI-BDA(5 wt%)/CE	3.22 ± 0.09	103.3 ± 5.7	3.8 ± 0.3	2.1 ± 0.3

^a Calculated from the area under the stress-strain curve.