High Thermal Conductivity and High Impact Strength of Epoxy Nanodielectrics with Functionalized Halloysite Nanotubes

Hailin Mo*, KeYang*, Shengtao Li and Pingkai Jiang*

*aDepartment of Polymer Science and Engineering and Shanghai Key Lab of Electrical Insulation and Thermal Aging, Shanghai Jiao tong University, 200240 Shanghai, China. E-mail pkjiang@sjtu.edu.cn; Tel 86-021-54746520

bState Key Lab of electrical Insulation and Power Equipment, Xi'anJiaotong University, Xi'an, China

Fig. S1 TEM images of (a) HNTs; (b) hollow tubular appearance of individual HNTs.
The curves of the HNTs and in-situ grafted HNTs were in agreement with the type IV isotherms with hysteresis loops, it was the characteristic of the mesoporous materials. The t-plot curves became convex to the abscissa over a short range of t-values, in which capillary condensation occurred during the adsorption process.
Fig. S3 Pore-size distribution and t-plot curves of HNTs and in-situ grafted HNTs.
Fig. S4 Dielectric properties of epoxy nanodielectrics: (a) HNTs; (b) p-HNTs; (c) b-HNTs and (d) d-HNTs, under the temperature from -40 °C to 180 °C.

Fig. S5 Temperature dependent of dielectric properties of epoxy nanodielectrics: (a) 0.1 Hz and (b) 1kHz.
1 kHz.

Reference