Supporting Information

Synergistic effect in improving the electrical conductivity in polymer nanocomposites by mixing spherical and rod fillers

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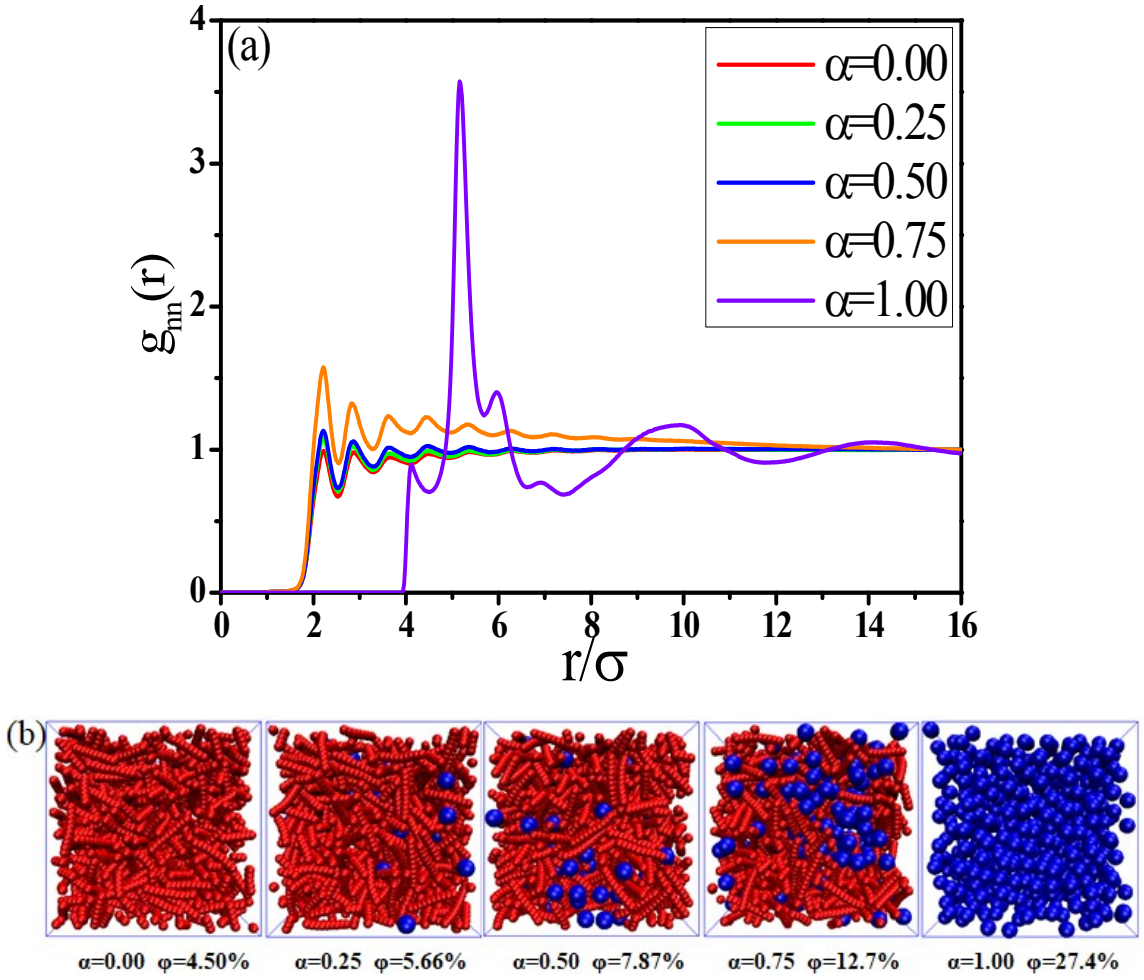

Fig. S1 (a) RDF for systems with different ratio (α) where the filler volume fraction φ is their percolation threshold. (b) Snapshots of fillers with different α where the polymer chains are neglected for clarity. The red spheres denote the nanorods, while the blue spheres denote the nanospheres. (T^* =1.0, $\dot{\gamma}$=0.0)

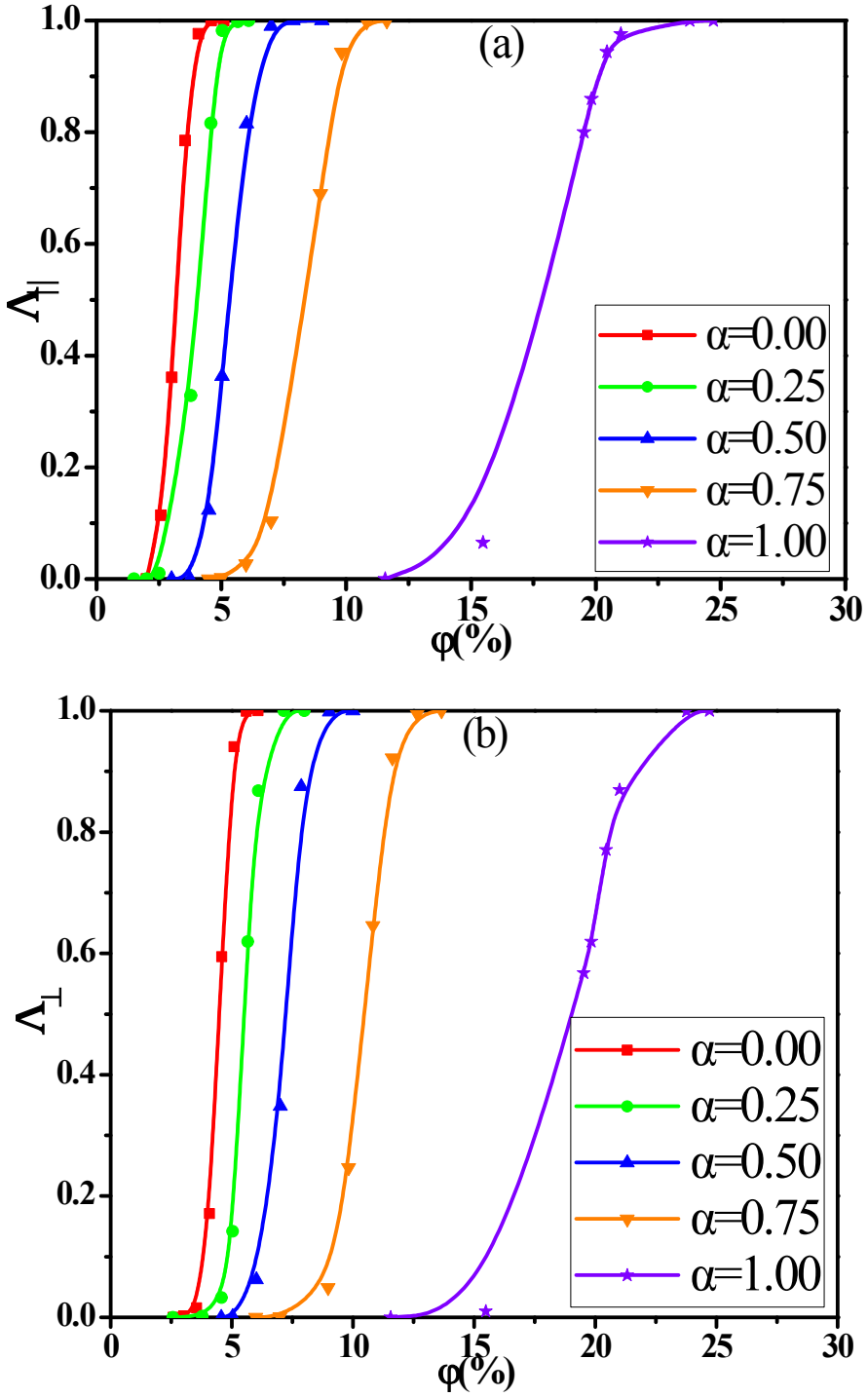

Fig. S2 (a) The directional conductive probability $\Lambda_{\parallel}$ parallel to the shear direction, (b) directional conductive probability $\Lambda_{\perp}$ perpendicular to the shear direction as a function of the filler volume fraction φ for different ratio (α). (T^*=1.0, $\dot{\gamma}$=0.1)

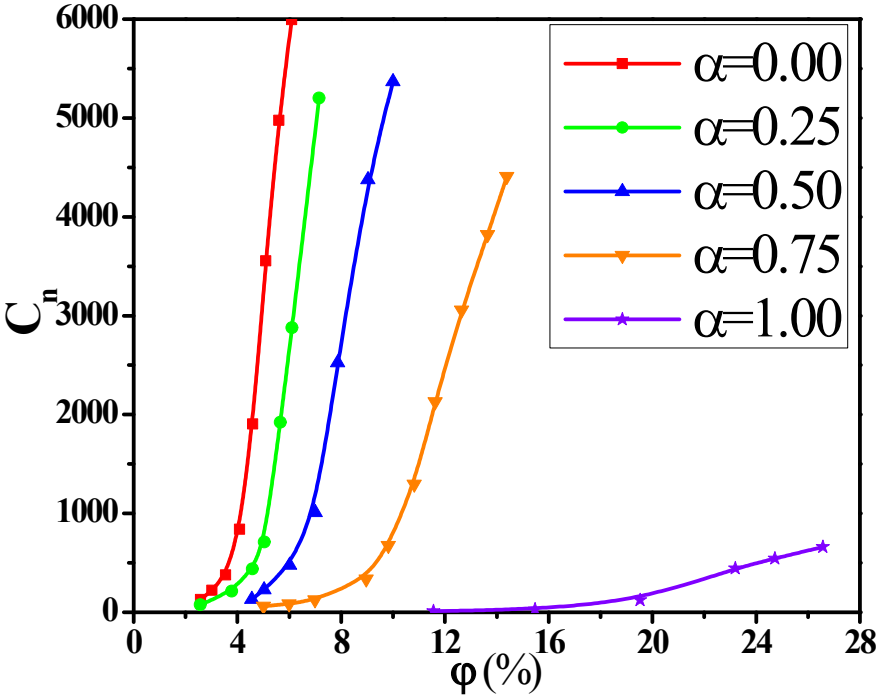

Fig. S3 Change of the largest cluster size C_n as a function of the filler volume fraction φ for different ratio (α). (T^* =1.0, $\dot{\gamma}$=0.1)

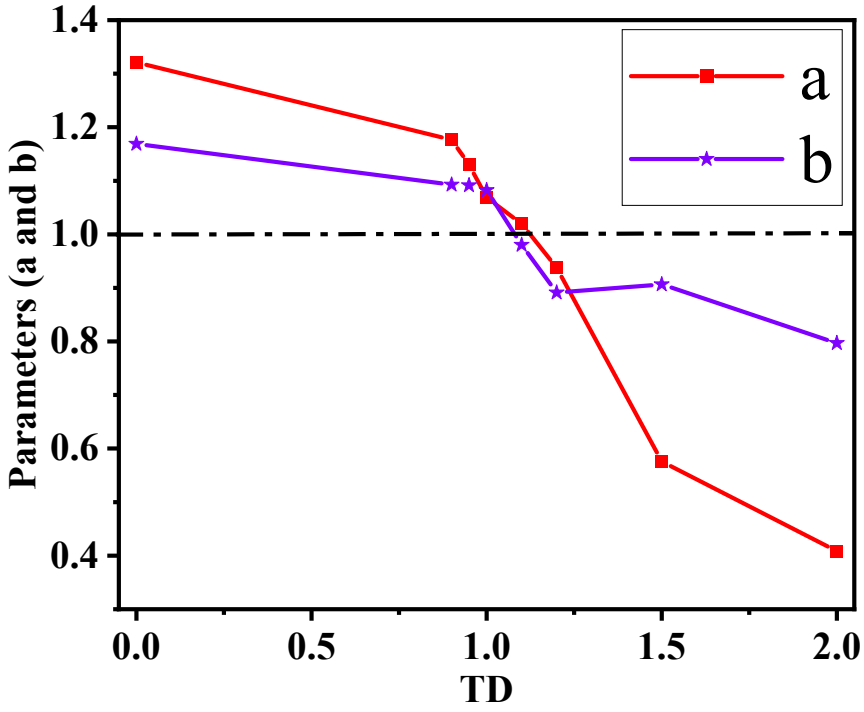

Fig. S4 Change of the fitted parameters (a and b) as a function of the NS-NR tunneling distance

(TD).

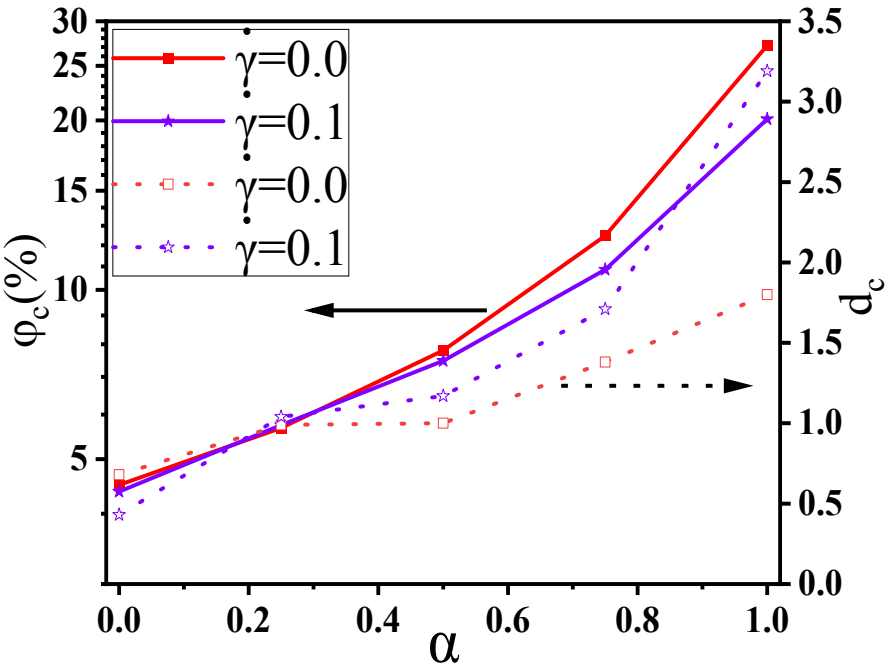

Fig. S5 Both the percolation values φ_c and the percolation range d_c at the shear rate $\dot{\gamma}$=0.0 and 0.1 for different ratio (α). (T^*=1.0)