Figure S1. Cluster size distribution of nanorods with $L= 15$ at $\varphi_R=0.01$ and $\varphi_P= 0.2$. A cluster of size N contains N nanorods. X_N depicts the average nanorod fraction of clusters of size N observed in the system and it can be calculated by $X_N=(<n_N> \cdot N) / N_t$, where $<n_N>$ and N_t denote the mean number of the cluster of size N and the total number of nanorods, respectively.