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Thermal conductivity of graphene oxide-enhanced polyvinyl alcohol composites depending on molecular interaction

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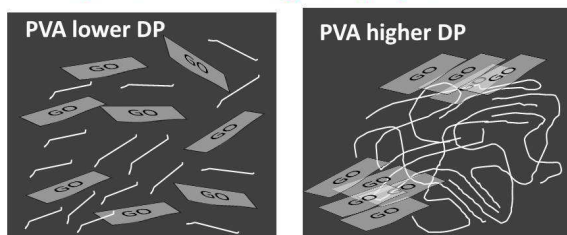
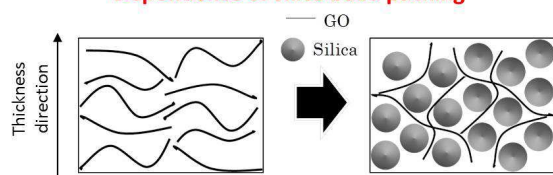
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Dependence of PVA degree of polymerization**Dependence of silica bead packing**

GO/PVA composites are successfully prepared owing to their high compatibility via hydrogen bonds between PVA and GO. The thermal conductivity of PVA depends on its degree of crystallinity. PVA with a lower DP shows a higher degree of crystallinity with molecular interaction between GO and PVA. A phonon conductive path in the thickness direction is formed by silica-bead packing that prevents aggregation of GO.

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