

## Supplementary Information

# Promoting Thermal Conductivity of Alumina-Based Composite Materials by Systematically Incorporating Modified Graphene Oxide

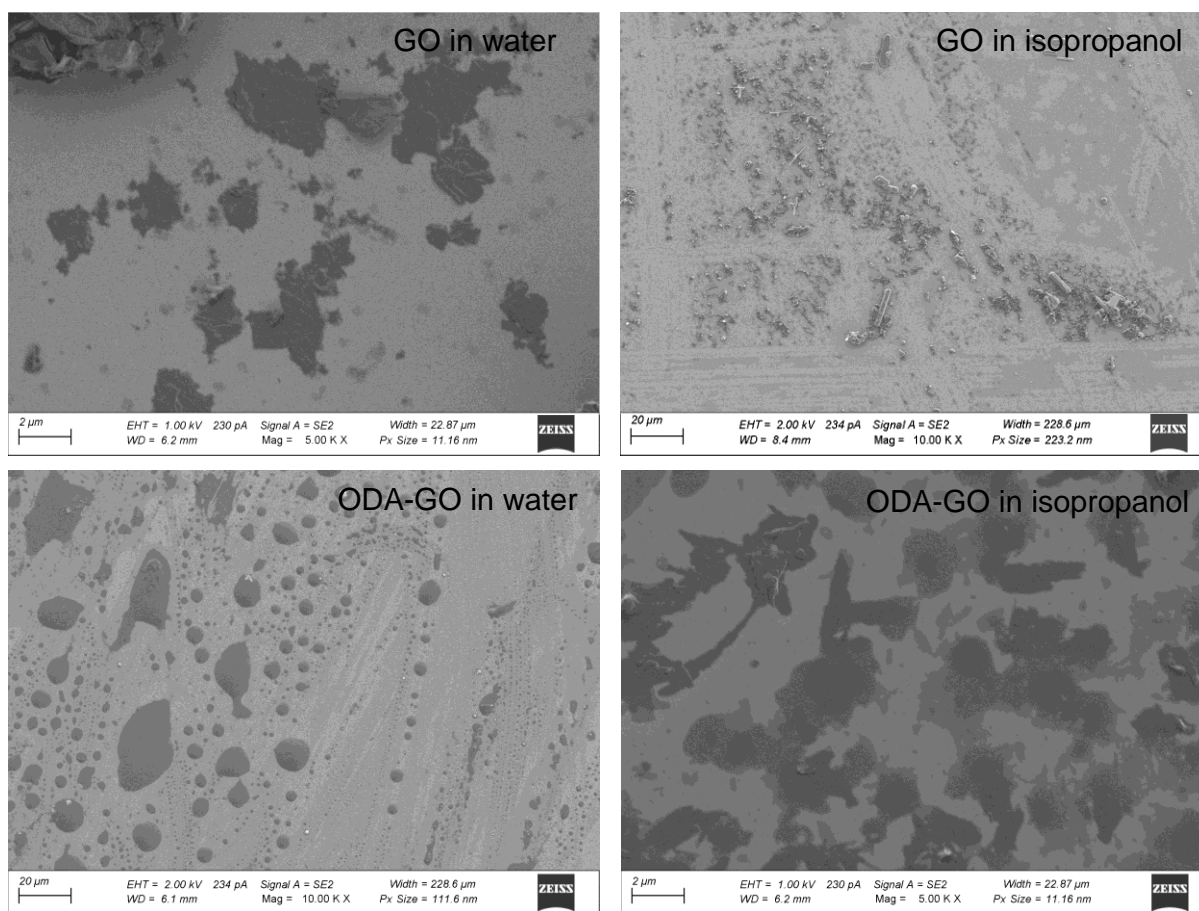
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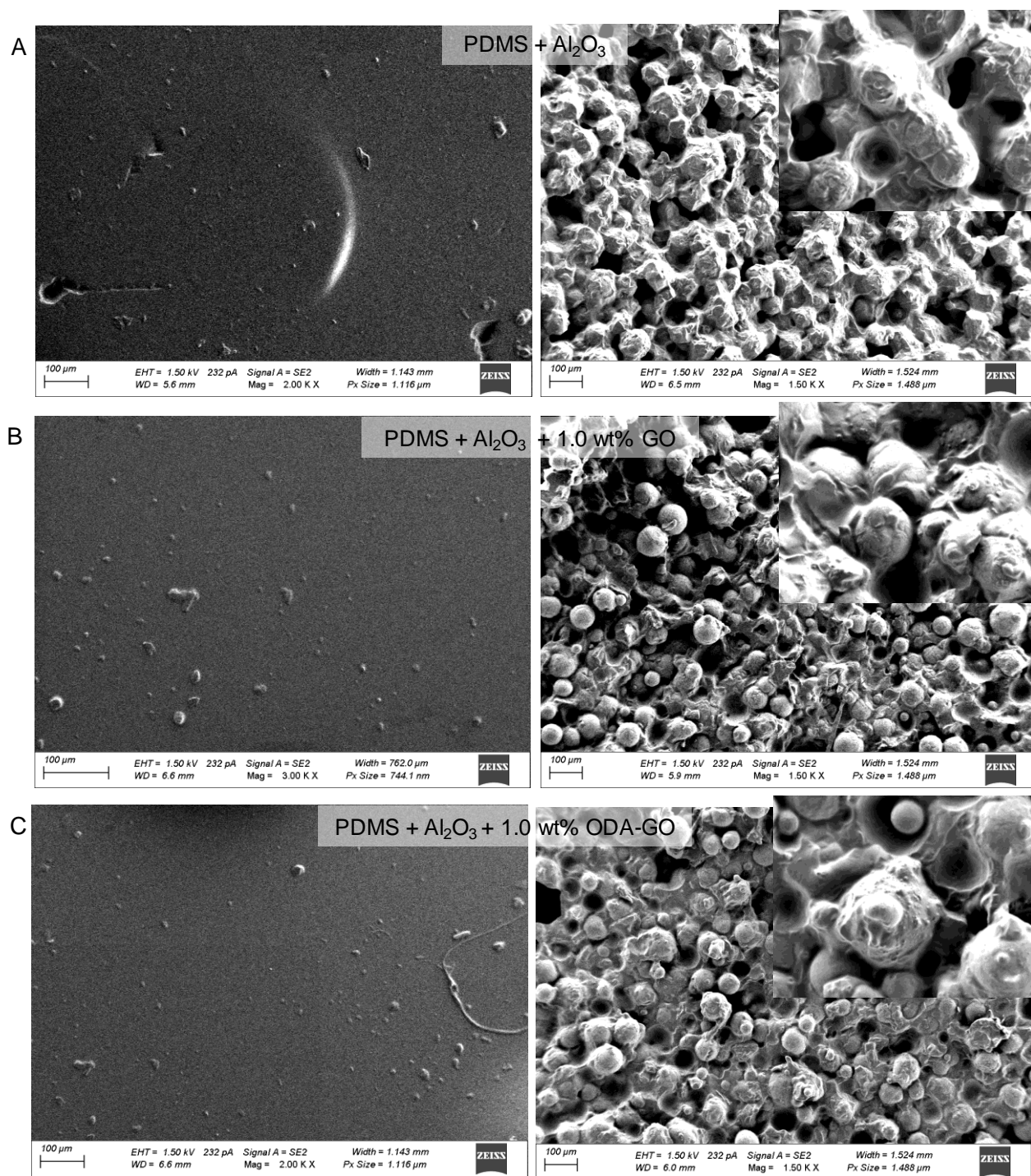
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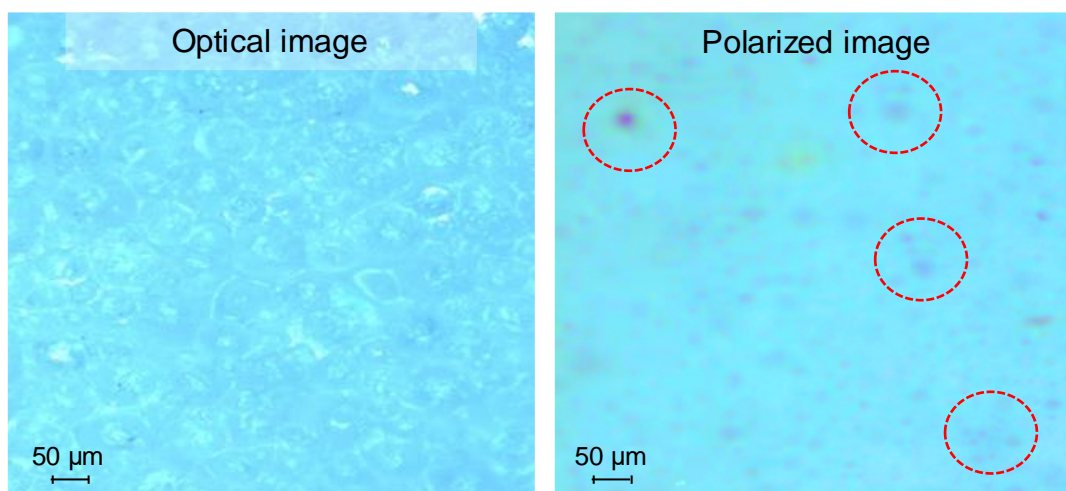
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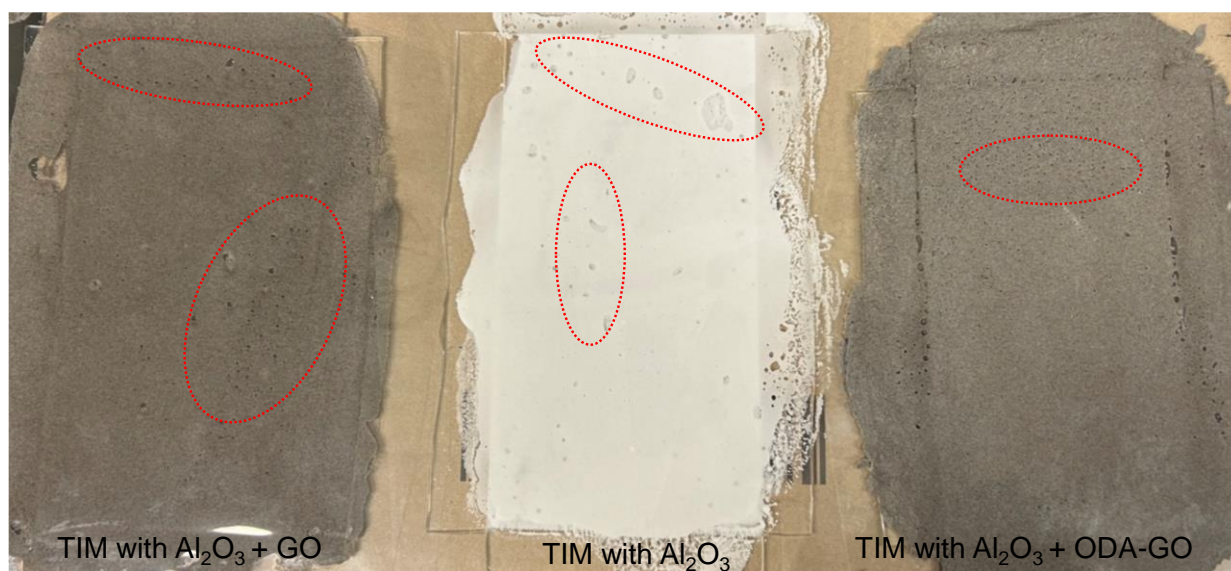
**Figure S1.** SEM images of GO and ODA-GO after suspending in water and isopropanol.



**Figure S2.** Top-view and cross-sectional SEM images of various TIMs prepared with (A) PDMS + Al<sub>2</sub>O<sub>3</sub>, (B) PDMS + Al<sub>2</sub>O<sub>3</sub> + GO, and (C) PDMS + Al<sub>2</sub>O<sub>3</sub> + ODA-GO.



**Figure S3.** Conventional optical images of TIMs prepared only with  $\text{Al}_2\text{O}_3$  particles (note: small dark spots in red circles for impurities or void gaps).



**Figure S4.** Large-scale preparation of TIMs (red circles for defects caused by air pockets).