

# Graphene oxide preparation with different sonication times

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Graphene oxide, graphene and derivatives thereof has shown a significant increase in the number of scientific research devoted to their study. One of the most studied areas is its application as nanofillers in polymer nanocomposites. This paper describes obtaining graphene oxide by simplified Huang procedure, by chemical oxidation. Purified aqueous dispersions of graphene oxide were sonicated for 15 min, 1.0 h; 2.0 h; and 3.0 h. Thickening of sonicated dispersions was accompanied by rheological measurements. After drying and grounded, the obtained materials were characterized by techniques such as XRD, FTIR, SEM and TEM. The reduction in average diameter with sonication time was followed by laser particle size distribution assays. Examples of substantial gains in mechanical and barrier properties obtained with graphene oxide/EVOH nanocomposites are shown.

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