Fabrication of exfoliated graphene using wet process

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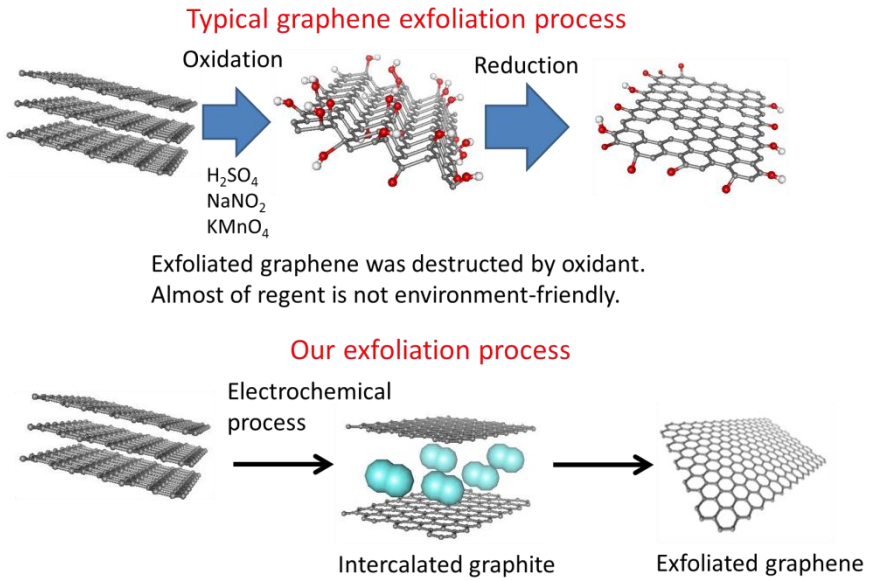

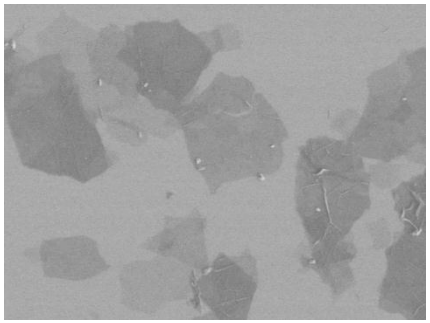

SEM image of Exfoliated graphene

Content :

Graphene, an atom-thick graphite, has attracted intensive interest due to its two-dimensional and unique physical properties such as high carrier mobility, mechanical strength, and elasticity. Wet process for graphene synthesis is usually used oxidation process called Hummers method. In this method, the strongest oxidant such as KMnO4 was used for exfoliation of graphite. In addition, graphene is usually functionalized by oxygen moiety(-OH, -COOH).

For this issue, we aim the new exfoliation process without destruction and functionalization for graphene. We develop the new exfoliation technique using electrochemical intercalation for graphite. Our method need only graphite, salt electrolyte, which are very environment-friendly regent.

Currently, we develop the transparent electrode using our exfoliated graphene.

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