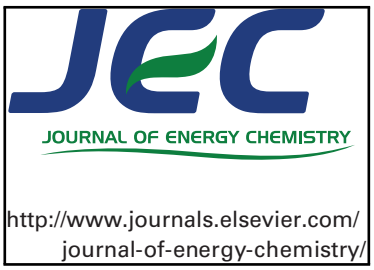

The critical role of bulk density of graphene oxide in tuning its defect concentration through microwave-driven annealing

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Highlights

- Tuning of defect density and in-plane crystallite size of graphene-based materials is demonstrated.
- Synthesis of high-quality graphene-based materials via microwave annealing is demonstrated.
- Crucial role of bulk density of reduced graphene oxide on extent of defect annealing is reported.
- High corrosion resistance and electrical conductivity of annealed materials are demonstrated.