

Microwave-Assisted Reduction Method under Nitrogen Atmosphere for Synthesis and Electrical Conductivity Improvement of reduced Graphene Oxide (rGO)

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1. Supplementary Information Experimental Section

1.1 Microwave setup for reduction of graphene oxide (GO)

The reduction process of graphene oxide assisted by microwave under nitrogen atmosphere.

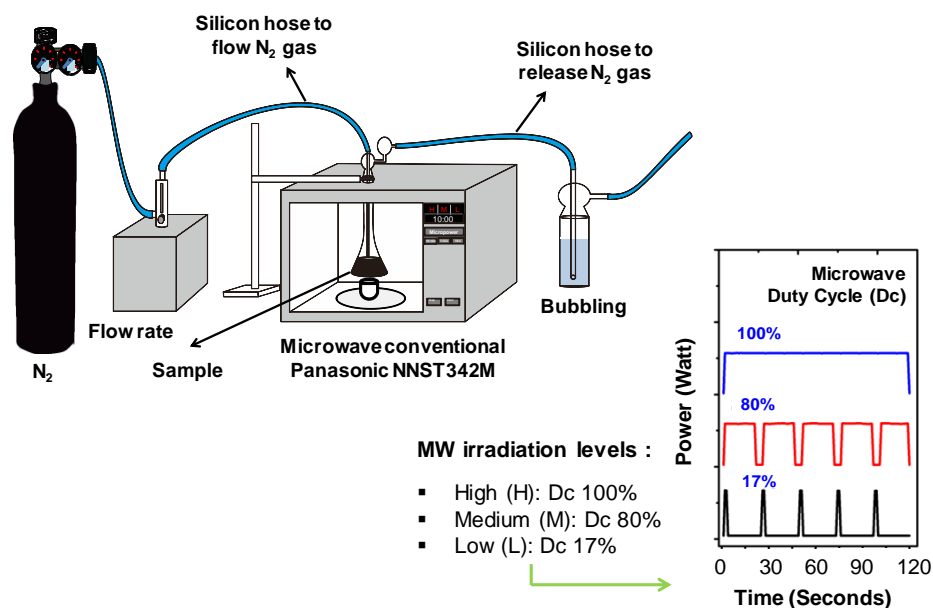


Fig. S1 Illustration of equipment design for reduction of GO microwave-assisted under N₂ atmosphere conditions

1.2 Electrical conductivity measurement of Reduced Graphene Oxide (rGO)

The rGO powder was prepared as pellet using Lab press equipment before measuring the electrical conductivity.



Fig. S2 Sample picture of rGO pellet prepared by pressed equipment

1.3 ATR-FTIR spectra for rGO with and without Microwave irradiation

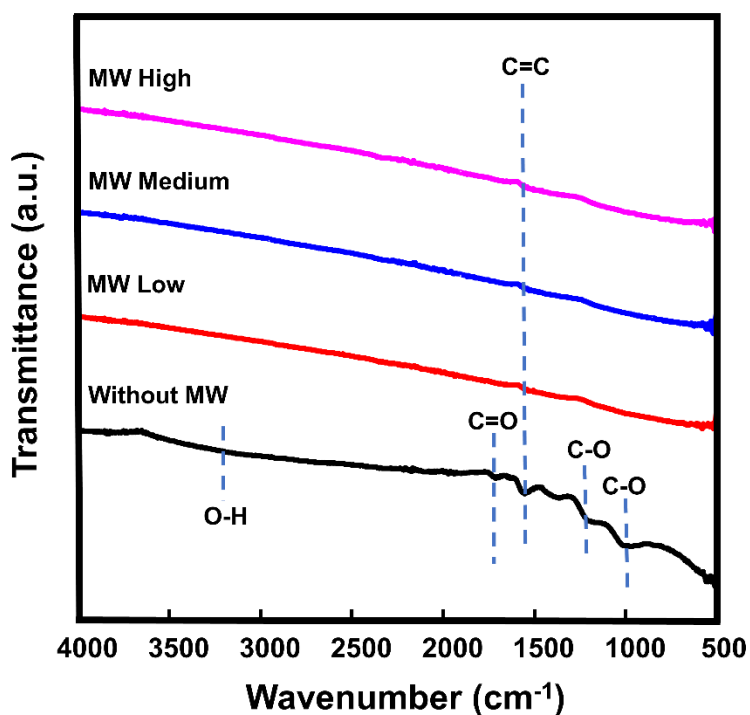


Fig. S3 ATR-FTIR spectra of reduction GO samples with various treatment: without microwave irradiation, and with various microwave irradiation level (high, medium, low) for 5 minutes

1.4 Characterization results of rGO and rGO-LAA

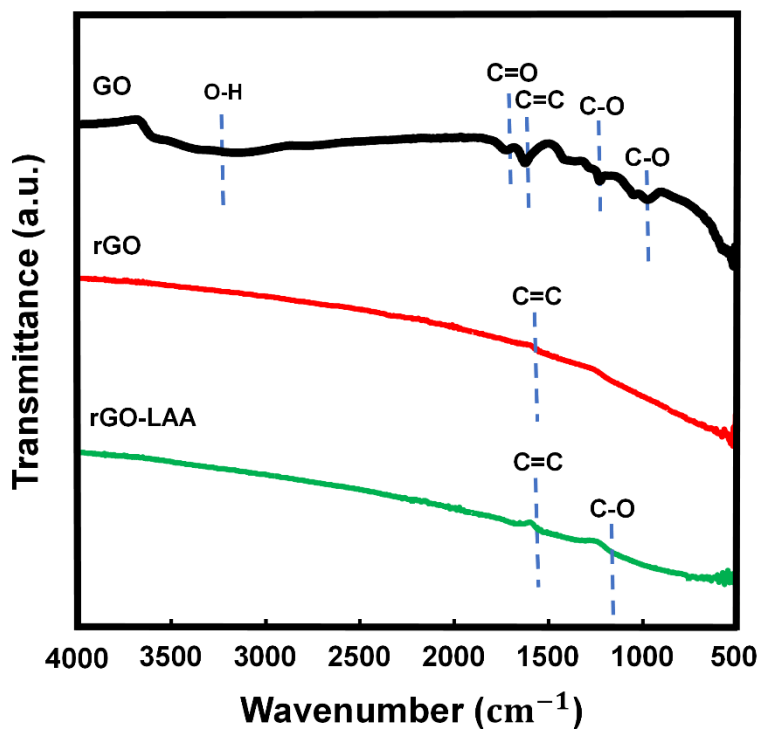


Fig. S4 ATR-FTIR spectra of GO, rGO by hydrazine hydrate, and rGO by L-AA

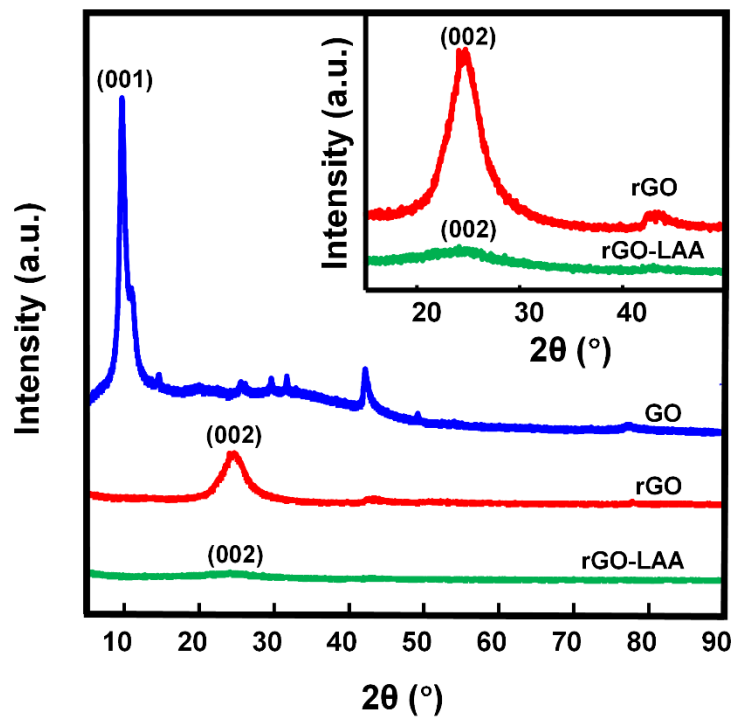


Fig. S5 XRD spectra of GO, rGO reduced by hydrazine hydrate and rGO reduced by L-AA

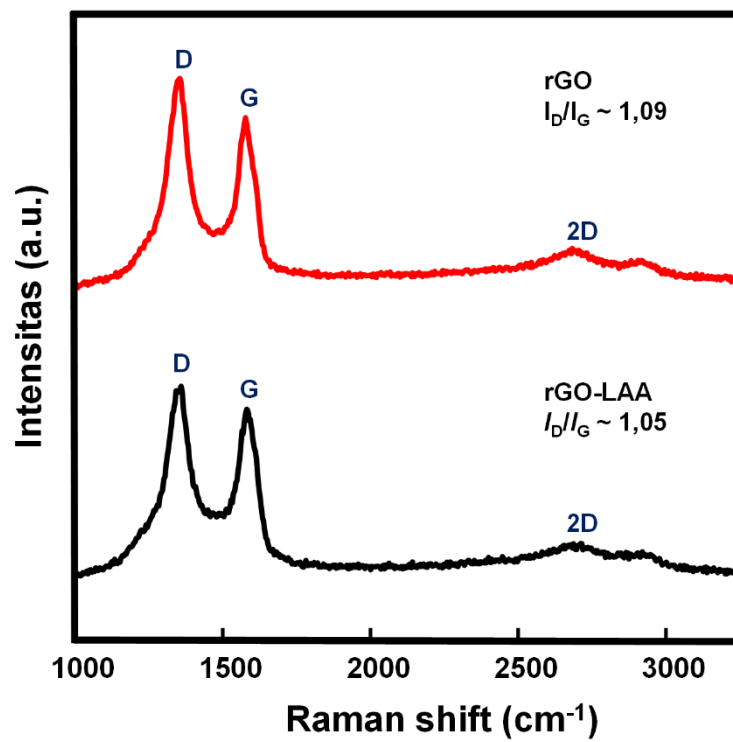


Fig. S6. Raman spectrum of rGO and rGO-LAA

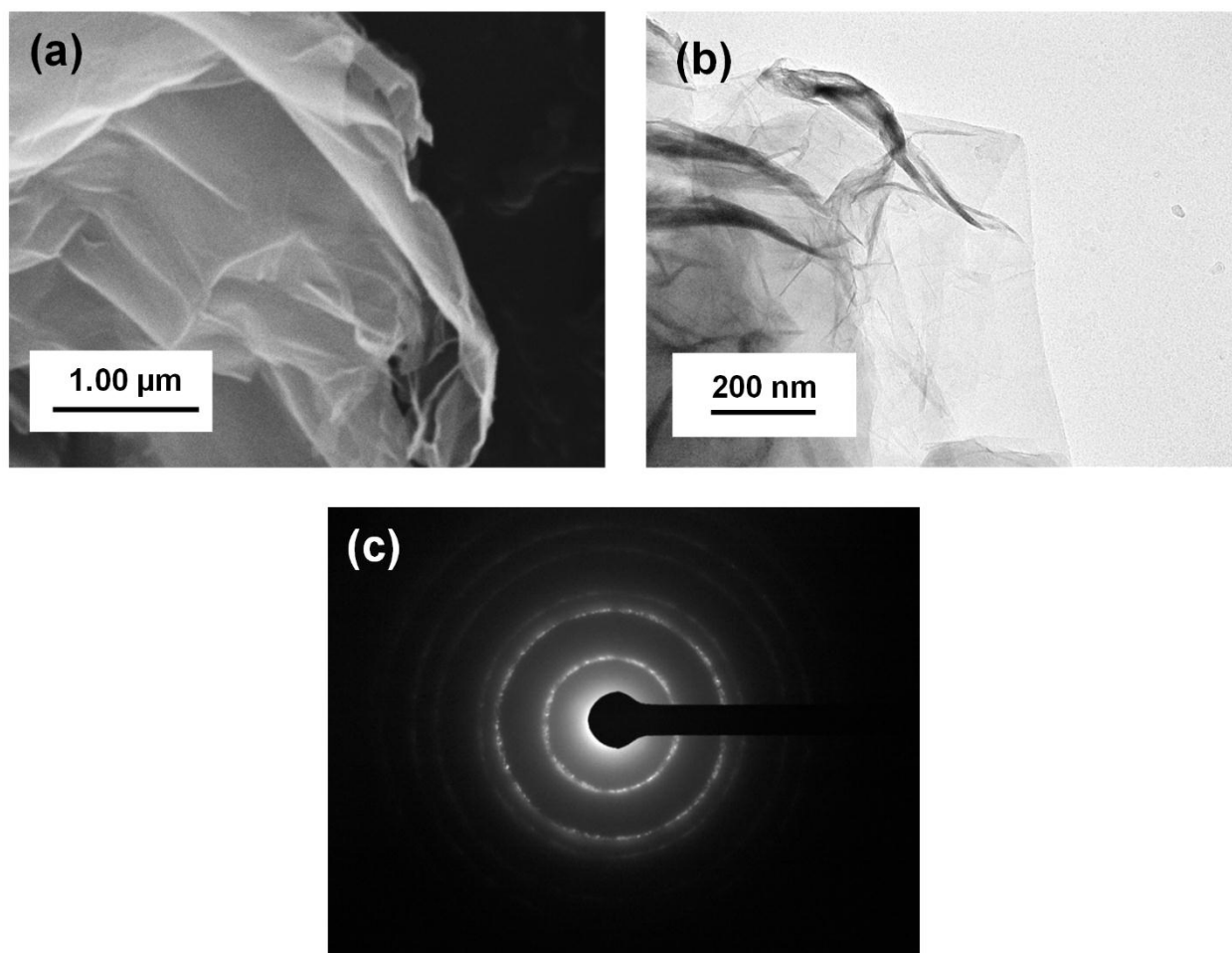


Fig. S7 Pictures of (a) SEM, (b) TEM, and (c) SAED pattern of rGO by L-AA