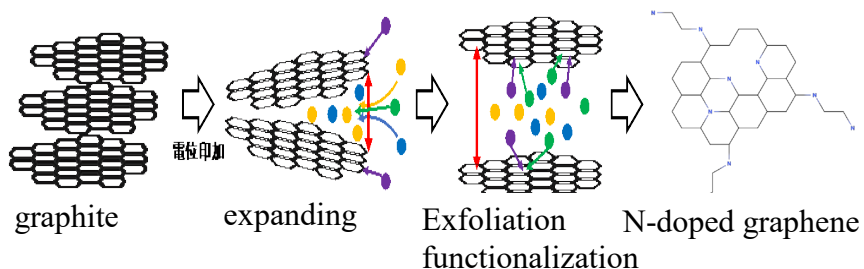


Fabrication of modified graphene using one-pot electrochemical exfoliation

Assistant Professor Haruya Okimoto

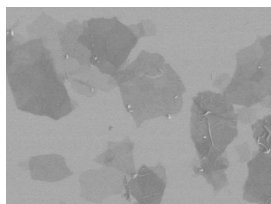
One-pot synthesis of N-doped graphene



Tailored synthesis for application

- Transparent electrode
- fuel cell catalyst

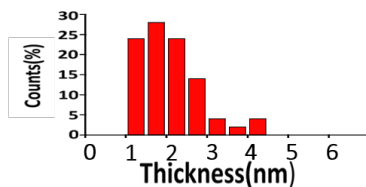
Various controlled synthesis



Structure



Dispersibility



thickness

Content:

Graphene is a material in which carbon atoms are spread out in a two-dimensional manner, and applied research is being actively conducted to utilize its functions such as electrical conductivity, thermal conductivity, and transparency. In recent years, it has attracted much attention as a catalyst for fuel cells, which provide clean energy due to its environmental impact, but it is important to develop chemical methods for mass production. In our laboratory, we are conducting research to break apart inexpensive graphite (a material made of stacked graphene, also called graphite) into graphene. In particular, we are working on developing methods to obtain graphene from graphite and graphene with various functional groups on the surface using electrochemical reactions.

Appealing point:

Modified graphene can be produced using only a few volts of voltage, salt, and a modification reagent. We believe that we can meet a wide variety of graphene synthesis requests, from graphene production to dispersion preparation, depending on the application

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