



UNLEASHING THE POWER OF CARBON IN THE WORLD OF NANOTECHNOLOGY

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ABSTRACT

Graphene is a two-dimensional material of sp^2 hybridization carbon atoms that has unique properties including, magnetic and thermal conductivity, mechanical properties as well as large surface area. The synthesis of Graphene oxide is made from graphite flakes with a mixture of aqua regia and H_2O_2 . The Parameter such as reaction time, reaction temperature, and amount of concentration were varied to the study the degree of oxidation of graphite-to-graphite oxide. The result showed that treating graphite powder with H_2O_2 and a mixture of concentrated acid for few hours give a better result.

INTRODUCTIONS

Graphene is an allotrope of carbon that exists as a two-dimensional planar sheet. One way to think of graphene is as a single atomic graphite layer. Graphene oxide (GO) is useful and promising material for graphene-based applications electronic, optics,

chemistry, energy storage, and biology. At the beginning of graphene history GO was only a simple and cheap step for preparation of single and multilayer graphene films and bulk structures by reduction. In recent years, with the further study of GO, scientists have found that it also has excellent until now and is the same as activated carbon. properties with rich active oxygen-containing functional groups. Graphene's theoretical specific surface area (SSA) which is way more than what the value is for carbon nanotubes (CNTs) or carbon black

METHODOLOY

Material that used to synthesize graphene oxide are as follow:

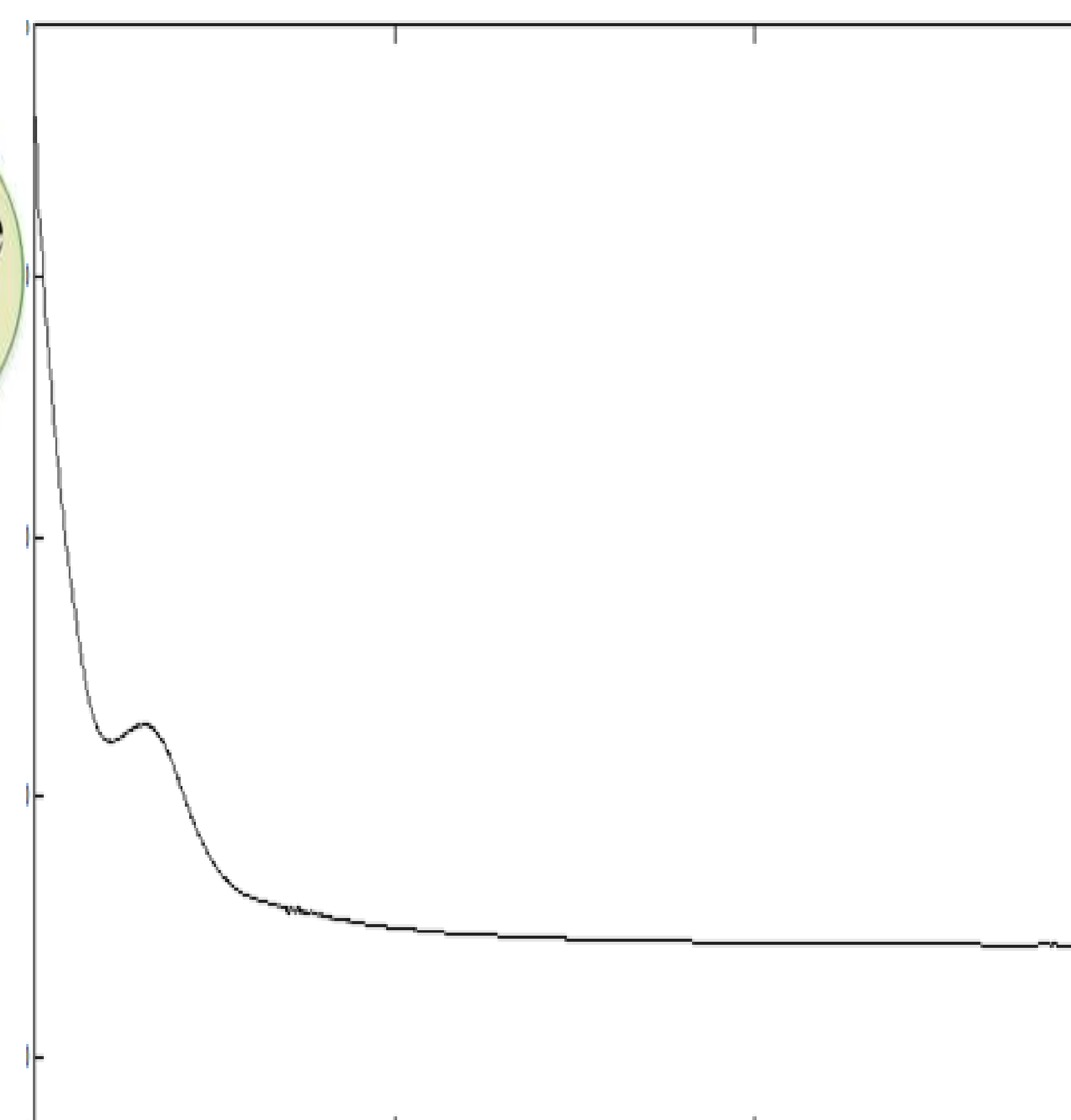
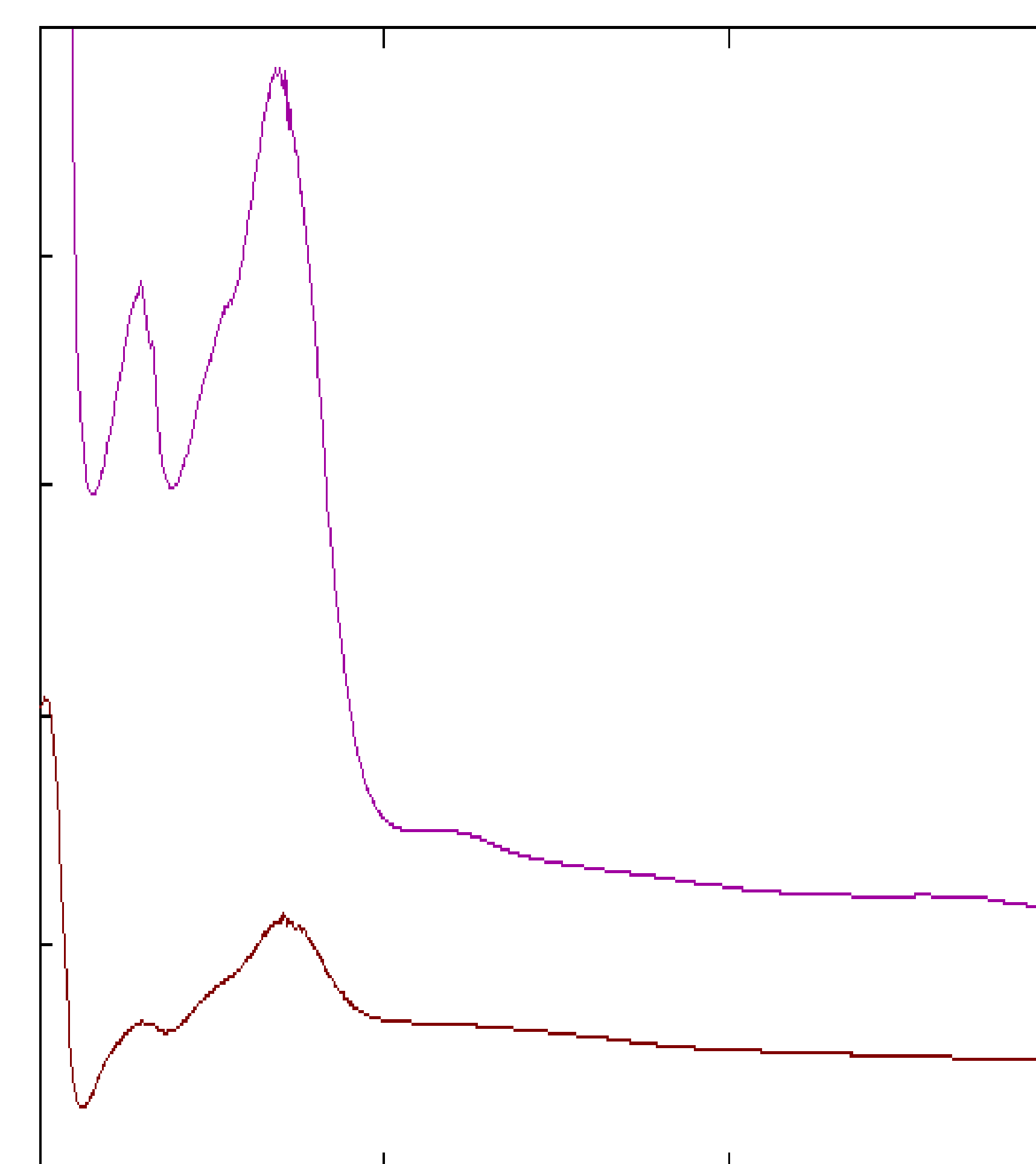
Graphene flakes, aqua regia, H_2O_2 .

Method uses to synthesis graphene are follow:

- Take 3gm of graphite flakes obtained from graphite pencil.
- Add 4ml aqua regia in the graphite flakes.
- Stir the mixture or 5 hours.
- Now add reducing agent H_2O_2 in a mixture further stir the solution for 5 hours.
- Now neutralize the solution and filter the material.



RESULT



CONCLUSION

In conclusion graphene oxide is a derivative of graphene, consisting of a single layer of carbon atom densely packed into a two dimensional lattice structure. Graphene oxide is a versatile nonmaterial with remarkable properties and diverse applications in material science, nanotechnology, electronics and biomedicine. The unique properties of graphene oxide make it suitable for a wide range of application. It can also be used for flexile and transparent displays.

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REFERENCES

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