Development of ground-breaking graphene products in AirMembrane

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Abstract

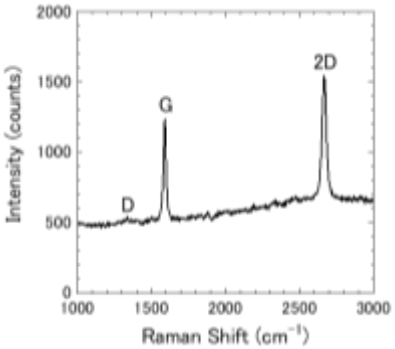
AirMembrane Corporation is a venture company established in July 2017 that manufactures graphene and develops applications. By using high-speed graphene synthesis method [1] and high-quality graphene transfer technology developed by AIST we develop, manufacture, and supply graphene products. In this talk, we will introduce the features of our graphene synthesis technology and some ground-breaking products.

Bilayer graphene TEM grid (see Figures)
Bilayer graphene TEM grid [2] utilizes high-purity CVD-synthesized bilayer graphene free-standing film over grid holes which has high durability against electron beam irradiation. It is an ideal sample support film for TEM observations of ultrafine particles, viruses, etc. Our bilayer graphene TEM grid is strong against hydrophilic treatment using UV irradiations. Very thin vitreous ice layer with uniform thickness, which is indispensable to cryo-TEM observations, can be formed by applying hydrophilic treatment.

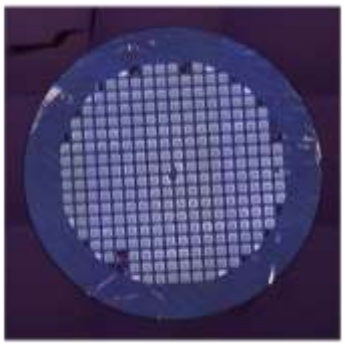
REFERENCES

[1] R. Kato, S. Minami, Y. Koga, M. Hasegawa, Carbon 96 (2016) 1008-1013.
[2] R. Kato, Y. Hatano, N. Kasahata, C. Sato, K. Suenaga, M. Hasegawa, Carbon 160 (2020) 107-112.

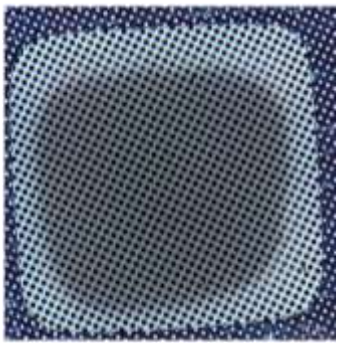
FIGURES



Raman spectrum of bilayer graphene (Laser 532 nm)

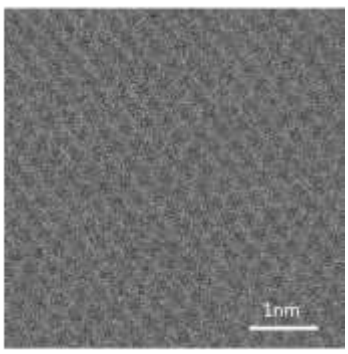


Graphene TEM Grid (Diameter 3mm)



One square of mesh

Free standing graphene on grid hole (Diameter 1.2 μ m)



Atomic image of graphene (monolayer)