

Mass Synthesis and Application of Graphene Flower and Graphene-Related Products

Kazuo Muramatsu

Koichi Sutani, Kazuma Takahashi, Hidesato Iwata, Koichi Kimijima and Arnel Concepcion
Incubation Alliance, Inc., 1-2-25, Wadayama-dori, Hyogo-ku, Kobe, Japan
sales@incu-alliance.co.jp

Since its establishment in 2007, Incubation Alliance, Inc. has been working on the development of a method for mass synthesis of graphene. In 2009, we succeeded in developing a method for a mass production of few-layer, flower-shaped graphene, which we call Graphene Flower[®], without substrates or catalysts.¹⁾ In 2010, we became the first company in the world to start selling graphene dispersions for research and development, and we continue to actively do research on the practical applications of graphene.²⁾ Our commercially available graphene and graphene-related products include (1) bulk materials and dispersions of Graphene Flower[®], (2) Graphene Flower[®] Cloth in which self-supporting few-layer graphene are grown on the surface of carbon fibers,³⁾ and (3) Graphene Flower[®] Block, which is molded from graphene into a large shape and has performance comparable to that of HOPG,⁴⁾ and (4) cold neutron reflector materials in which nano-sized graphene are controlled three-dimensionally.^{5), 6)} Regarding these products, applications of Graphene Flower[®] Cloth as electrode materials for field emission devices, biofuel cells, supercapacitors, and fuel cells; and applications of Graphene Flower[®] Block as heat dissipation materials in medical equipment, IT equipment, and next-generation energy furnaces will be discussed. Application and recent topic on graphene as reflectors of cold neutron will also be introduced.

References

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Figures

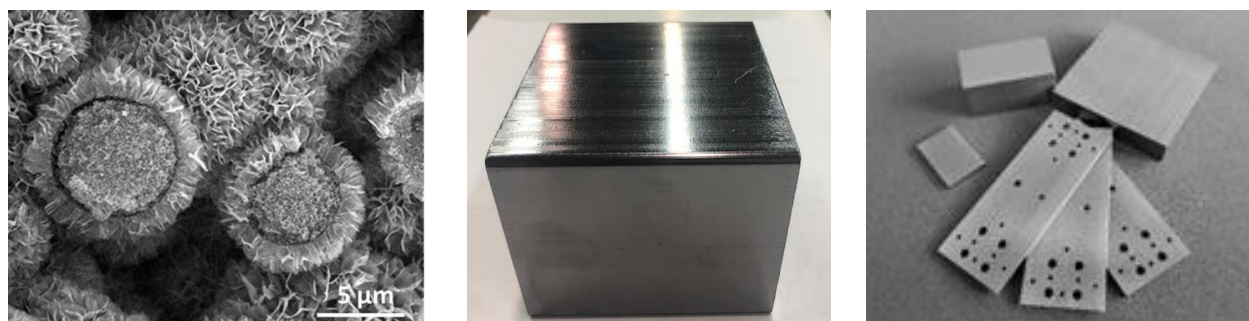


Figure 1: Graphene Flower[®], Graphene Flower[®] Block and heat dissipation products