

Mass Production and Advanced Application of Graphene Flower® and Related Products

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Incubation Alliance, Inc., since its establishment in 2007, has been dedicated to developing a method for mass synthesis of graphene. In 2009, we successfully pioneered a technique for producing few-layer, flower-shaped graphene, which we call Graphene Flower®, without the need for substrates or catalysts.¹⁾ In 2010, we became the first company in the world to commercially sell graphene dispersions for research and development, and we actively pursued research into 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 - a self-supporting few-layer graphene structure grown on the surface of carbon fibers,³⁾ and (3) Graphene Flower® Block – a large, molded graphene structure with performance comparable to that of HOPG,⁴⁾ and (4) cold neutron reflector materials – graphene structures engineered with precise three-dimensional control at the nanoscale.⁵⁾⁻⁷⁾ We are actively exploring 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. We will also discuss recent developments on graphene as cold neutron reflectors and its potential in advanced scientific applications.

References

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Figures



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