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2D and 3D Plasmonic-Magnetic Hybrid Graphene Oxide Architecture For Biology and Medicine

For several decades, cancer and multi drug resistance bacteria (MDRB) present a great challenge to public health care and the global economy. Chemically derived graphene oxide holds great potential for sensing and therapy capability. Attaching the surface of graphene oxide with plasmonic-magnetic nano-shell has ability to open a new avenue of research with significant opportunities in biomedical field. Here we will discuss our recent report on the development of 2D and 3D plasmonic-magnetic graphene oxide based architecture. Our experimental report demonstrated that hybrid 2D & 3D graphene oxide can be excellent candidate for contrast agent and therapeutic actuators to overcome drug resistance problem. We will discuss the possible mechanism and operating principle for the targeted imaging and combined therapy.

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