

Abstract Submitted
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Synthesis of white graphene (h-BN) from polymeric precursors and its physical properties¹ MYUNG JONG KIM, SUNGCHAN PARK, HYUNJIN CHO, KIST, BYUNG SOO LEE, Chonbuk National University, KIST COLLABORATION, CHONBUK NATIONAL UNIVERSITY COLLABORATION — Large area and high quality white graphene (h-BN, hexagonal boron nitride) has been effectively synthesized from borazine oligomer on Ni catalysts. Synthetic methods for white graphene only included spin coating and subsequent annealing steps, and the thickness of white graphene was controlled with variation of spin coating speed. Characterization methods such as TEM, SAED, XPS, Raman, and EELS revealed highly crystalline boron nitride structures with stoichiometric B/N ratio close to 1. Catalytic activity of Ni catalyst for the phase conversion reaction through crosslinking and BN crystallization was clearly demonstrated and proper mechanism was suggested. Considering thermal conductivity and capacitance measured from this white graphene, it has potential applications such as gate dielectric layers for graphene, and thermal management coatings.

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