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Direct Growth of Graphene on Boron Nitride/Copper by Chemical Vapor Deposition

Xiaozhan Jin, J. Park, W. Kim, Chanyong Hwang

Center for Nano-Characterization, Korea Research Institute of Standards and Science, Daejeon 305-340, Korea

Direct growth of graphene using CVD method has been done on CVD grown boron nitride substrate. From the SEM image, we have shown that the size of grain of graphene could be clearly controlled by varying the amount of injected hydrocarbon. To convince the existence of graphene on boron nitride, XPS and Raman has been checked. Both B1s and N1s peaks in XPS spectra and the Raman peak around $1,370\text{ cm}^{-1}$ demonstrated that boron nitride did remain after high temperature treatment during the graphene growth process. And along the graphene grain boundary, the Raman fingerprint of graphene was neatly appeared.

Keyword: Graphene boron nitrid chemical vapor deposition