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Graphene production by CVD from various carbon sources & their mechanisms

Graphene is a new breed of carbon allotrope in the form of a single layer of carbon atoms arranged in an sp²-hybridized structure with a combination of properties far superior compared to other materials. Research and development in graphene synthesis have been soaring to astonishing heights the past few years especially using chemical vapor deposition (CVD) method as the race for graphene supremacy become more intense than ever. The nature and the kind of carbon source used is one of the most important key factors in the commercialization of graphene to the real world market. However, effects of the used carbon source on graphene growth mechanisms and production are rarely discussed. In the course of large-scale and low cost graphene preparation, this talk will address the recent trends regarding the utilization of diverse carbon sources used to synthesize graphene via the CVD method, the mechanisms involved and some of the works that we are working on towards a better understanding of their impact towards low cost graphene production..