

Pentacene as a Protection Layer of Graphene on 6H-SiC(0001)

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We report that pentacene can be used as a protection layer of graphene using synchrotron radiation-based photoemission spectroscopy (SRPES). When pentacene was deposited on a single layer graphene, molecular states of pentacene were clearly observed, yet no change in the band structure of graphene could be identified. Unique electronic properties of graphene can be preserved in the presence of pentacene layers, and this finding can be exploited for fundamental research as well as application of graphene in electronic devices. After exposing the pentacene-covered graphene to air followed by a subsequent annealing under vacuum, band structure of graphene was completely maintained.