

Two dimensional materials for emerging electronics

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The integration of two dimensional materials such as MoS₂ and WS₂ that provides outstanding electrical, optical and mechanical properties with excellent and reliable inorganic semiconducting materials makes them attractive for applications in high performance flexible and transparent electronics. However, the lack of efficient methods to produce and fabricate two dimensional materials has limited the integration of two dimensional materials into electronic devices. Here, we present a route to synthesis and fabricate two dimensional materials such as MoS₂ for high performance, flexible transistor. In addition, we introduce the fabrication and the device applications of Si nanomembrane which has ultrathin thickness less than 10 nm like two dimensional materials.