



Figure 1. (a) A photograph of as-synthesized WS₂ film on 4-inch a Si/SiO₂ substrate. (b) Cross-sectional TEM image of high quality few-layer WS₂ on Si/SiO₂ substrate. (c) Raman spectrum of the wafer-scale WS₂ layers on Si/SiO₂ substrate. (d) PL spectrum of the wafer-scale WS₂ layers on Si/SiO₂ substrate.