Abstract Submitted
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Facile growth of Metal dichalognide nanostrusstures JI-HYUN JANG, KWANGHYUN KIM, JIN-WOOK MIN, UNIST — We report an easy and industrial friendly chemical vapour deposition (CVD) technique to make various two dimensional transition metal dichalcogenide (TMD) nanostructures ($MoSe_2$, $MoTe_2$). To the best of our knowledge, this is the first report on synthesizing $MoTe_2$ nanosheets using a CVD method. The optimized conditions for making few layer films as well as vertical nanostructures are presented. The morphology, structure and crystallinity of the TMD nanostructures are evaluated by means of SEM, XRD, XPS, spectroscopic ellipsometry, Raman spectroscopy techniques. The optical bandgap of the $MoSe_2$, $MoTe_2$ nanosheets are confirmed to be 1.535 eV and 1.252 eV respectively from the photoluminescence spectroscopy results.

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