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Supporting Information for

Terahertz photodetectors arrays based on large scale $MoSe_2$ monolayer

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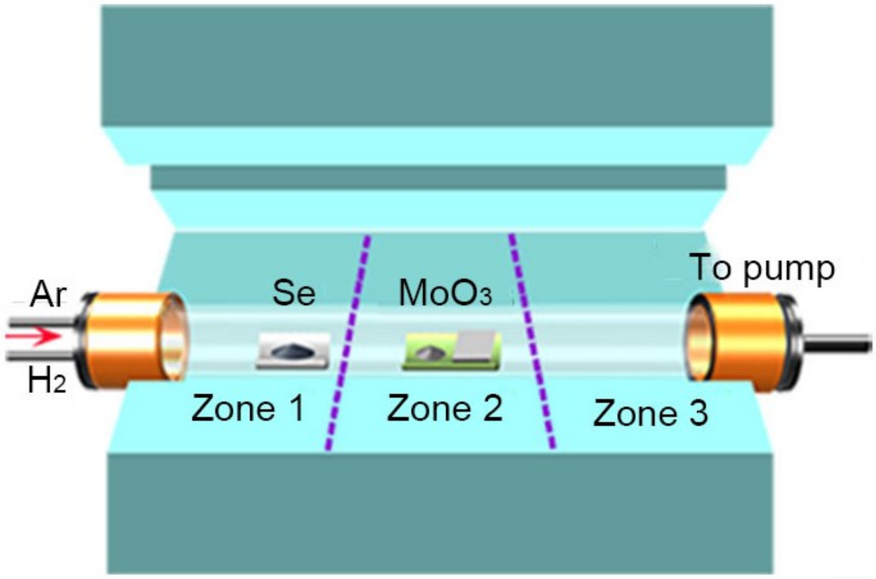
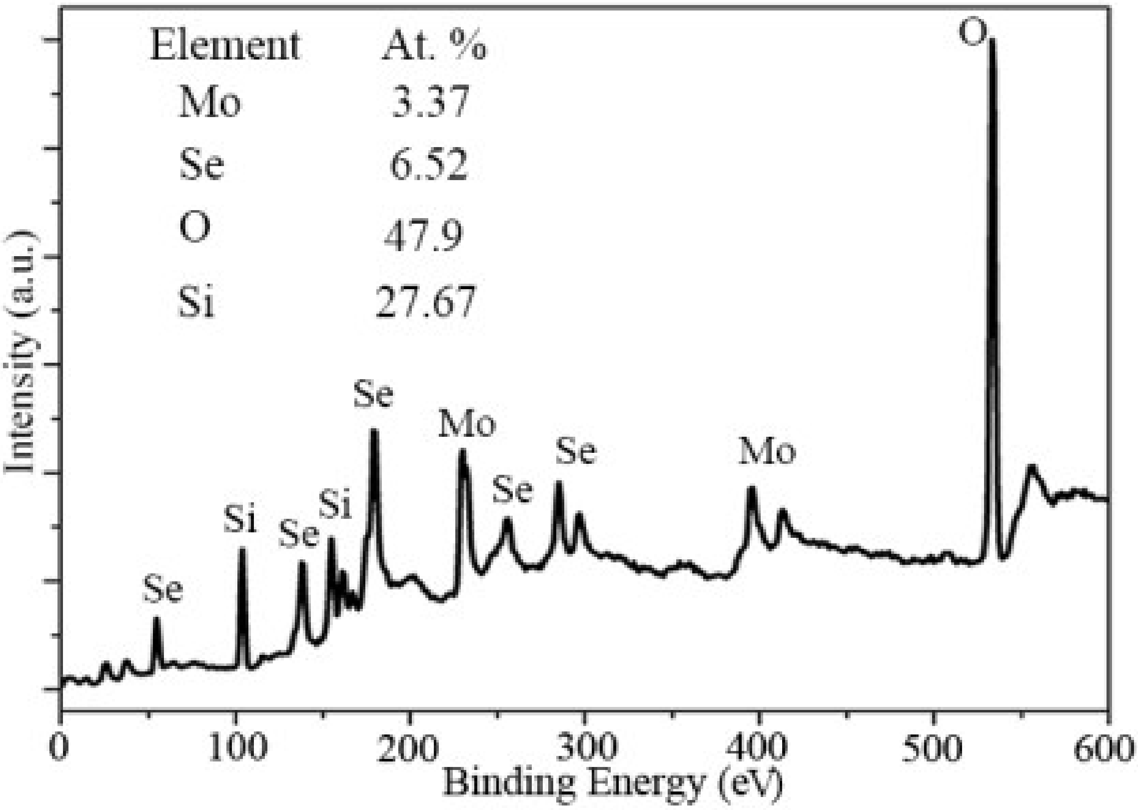


Supplementary Figure 1. A schematic illustration of the $MoSe_2$ CVD system. It should be noted that the SiO_2/Si substrate with the polished side faced downward.



Element	At. %
Mo	3.37
Se	6.52
O	47.9
Si	27.67

Supplementary Figure 2. XPS spectrum of the sample. Four elements are present: Mo and Se (from the sample), Si and O (from the substrate).