

## **Journal Name**

## **ARTICLE**

## Layer-dependent Modulation Doping of MoS<sub>2</sub> by Transition Metal Oxides (Supplementary Information)

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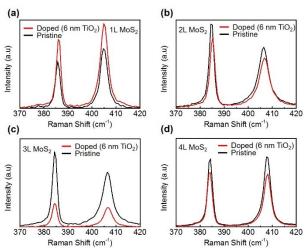
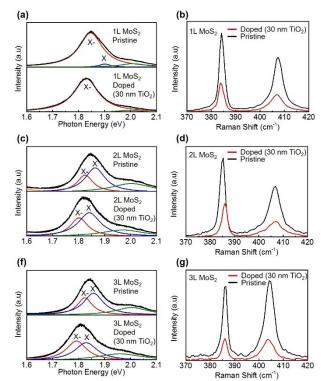


Fig. S1 Raman spectra of 1-4L MoS<sub>2</sub> before (black line) and after (red line) 6-nm-thick TiO<sub>2</sub> doping.

Fig. S2 PL and Raman spectra of 1L-3L MoS<sub>2</sub> before and after being



doped with 30-nm-thick  ${\rm TiO_2}$ . The three panels listed on the left side are PL spectra and those listed on the right side are corresponding Raman spectra.

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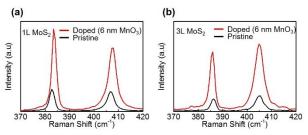


Fig. S3 Raman spectra of 1L (a) and 3L (b)  $MoS_2$  before (black line) and after (red line) 6-nm-thick  $MoO_3$  doping.