

Fig. 1 (a) C-Vs of ALD- Al_2O_3 on p- and n- $\text{GaAs}(001)-4\times 6$ ¹

Fig. 1 (b) C-Vs of ALD- Al_2O_3 on p- and n- $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$.

Fig. 1 (c) C-Vs of ALD- HfO_2 on p- and n- $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$.²

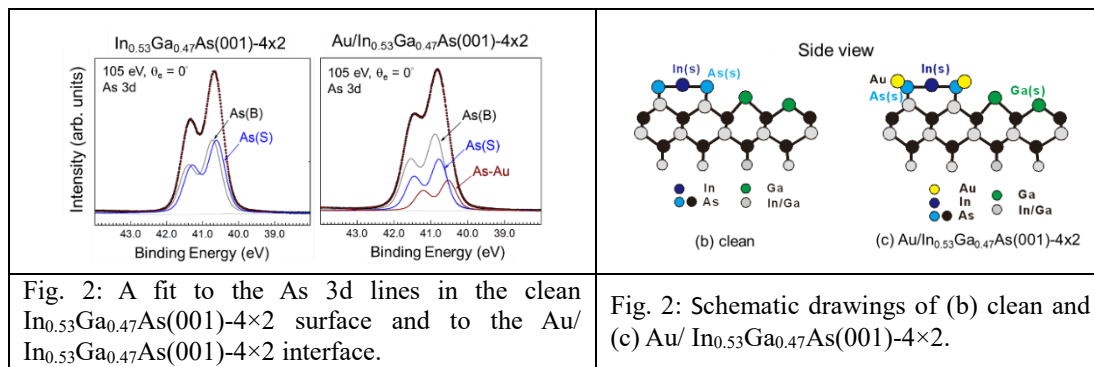


Fig. 2: A fit to the As 3d lines in the clean $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}(001)-4\times 2$ surface and to the Au/ $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}(001)-4\times 2$ interface.

Fig. 2: Schematic drawings of (b) clean and (c) Au/ $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}(001)-4\times 2$.

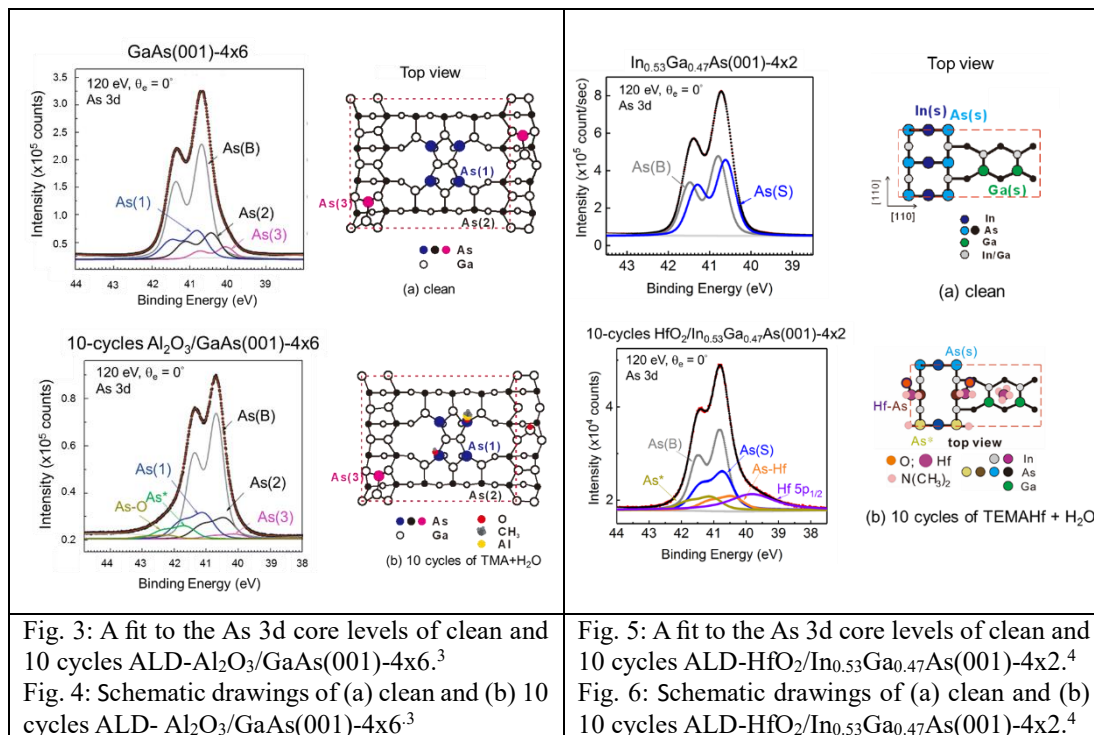


Fig. 3: A fit to the As 3d core levels of clean and 10 cycles ALD- $\text{Al}_2\text{O}_3/\text{GaAs}(001)-4\times 6$.³

Fig. 4: Schematic drawings of (a) clean and (b) 10 cycles ALD- $\text{Al}_2\text{O}_3/\text{GaAs}(001)-4\times 6$.³

Fig. 5: A fit to the As 3d core levels of clean and 10 cycles ALD- $\text{HfO}_2/\text{In}_{0.53}\text{Ga}_{0.47}\text{As}(001)-4\times 2$.⁴

Fig. 6: Schematic drawings of (a) clean and (b) 10 cycles ALD- $\text{HfO}_2/\text{In}_{0.53}\text{Ga}_{0.47}\text{As}(001)-4\times 2$.⁴

¹H. W. Wan, *et al.*, *J. Cryst. Growth* (2017), <http://dx.doi.org/10.1016/j.jcrysgro.2016.11.118>.

²T.D. Lin, *et al.*, *Appl. Phys. Lett.* **100**, 172110 (2012).

³T.W. Pi, *et al.*, *Appl. Surf. Sci.* **601**, 284 (2013).

⁴T.W. Pi, *et al.*, *Appl. Phys. Lett.* **104**, 042904 (2014).