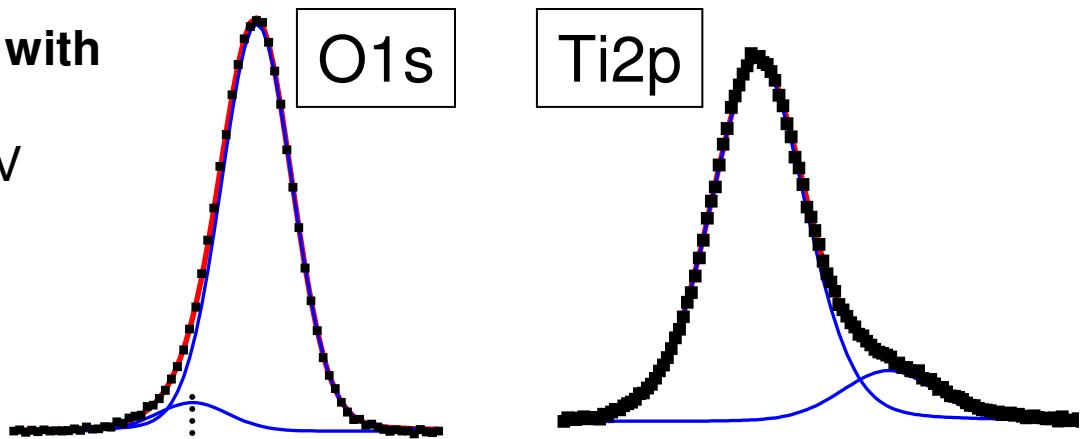
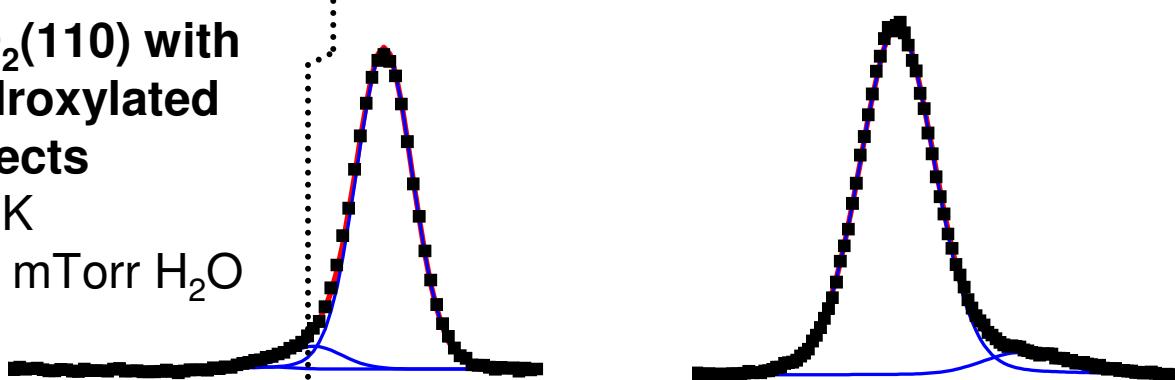


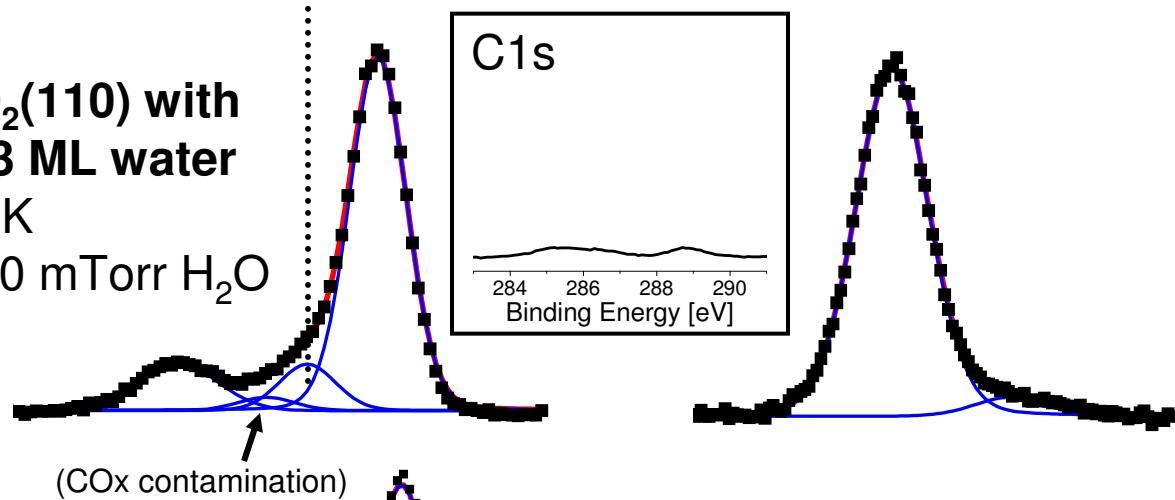
**TiO₂(110) with
defects**
900K, UHV



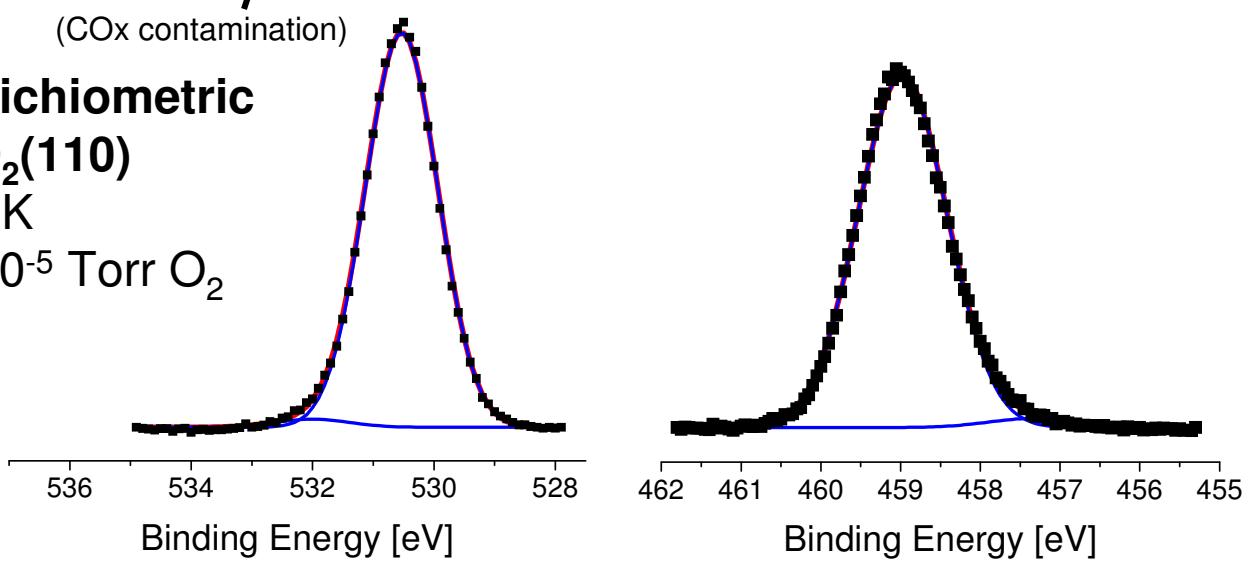
**TiO₂(110) with
hydroxylated
defects**
295K
in 1 mTorr H₂O

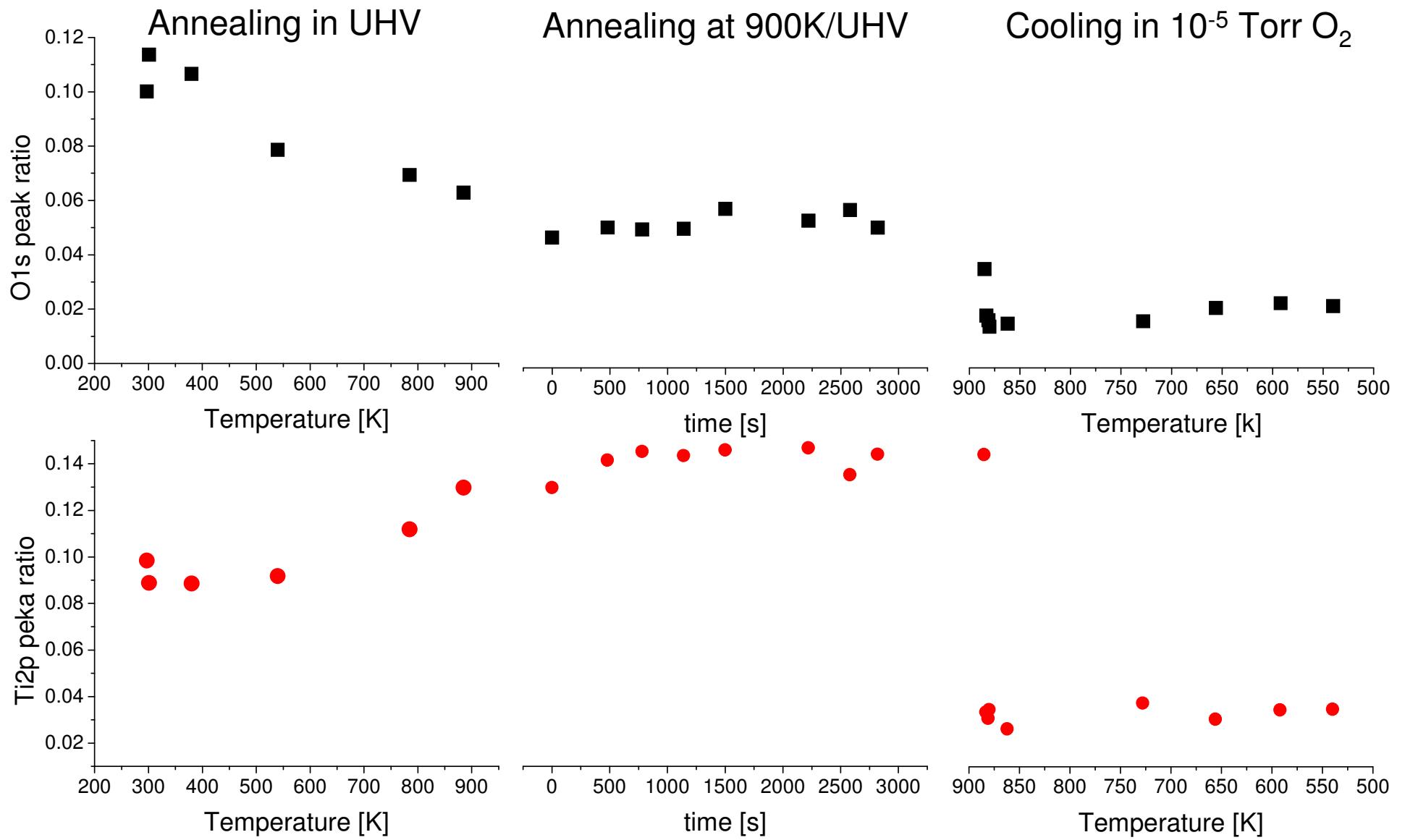


**TiO₂(110) with
0.63 ML water**
295K
in 30 mTorr H₂O



**Stoichiometric
TiO₂(110)**
600K
in 10^{-5} Torr O₂





Annealing to 900K increases the Ti_{2p} shoulder due to defects and reduces the O_{1s} shoulder (probably due to desorption of OH and contaminations >500K).

Both the O_{1s} and Ti_{2p} remain constant upon continued annealing at 900K supporting a saturation defect concentration (corresponding to 0.125 ML).

Introduction of O₂ immediately heals almost all defects (Ti_{2p}). The O_{1s} shoulder also vanishes showing that O atoms neighboring a vacancy also contribute to the O_{1s} shoulder.