

**Atomic scale investigations on the wet etching kinetics of Ge versus SiGe in
acidic H₂O₂ solutions: a *post operando* synchrotron XPS analysis**

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SUPPLEMENTARY INFORMATION

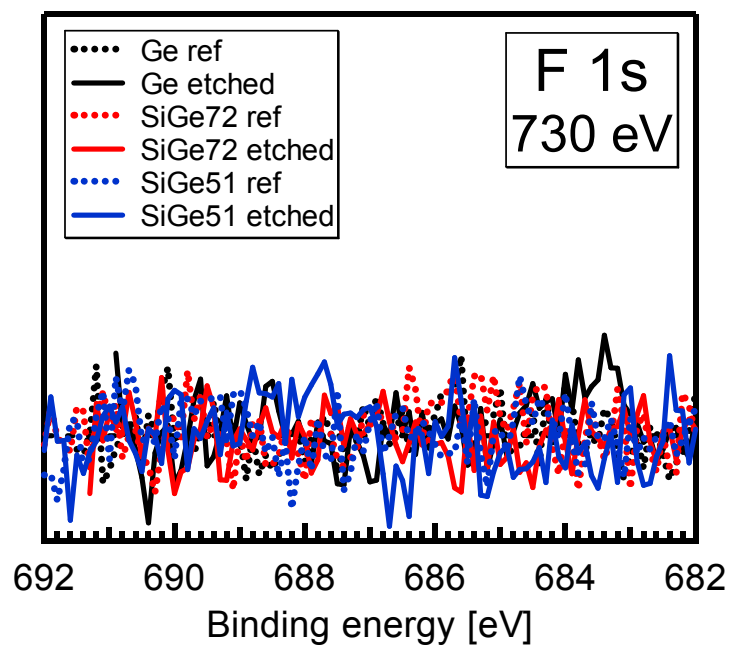


Figure S1. F1s (730 eV) core-level spectra of Ge, $\text{Si}_{0.28}\text{Ge}_{0.72}$ and $\text{Si}_{0.49}\text{Ge}_{0.51}$ before and after etching in 0.1 M HCl/10 mM H_2O_2 .

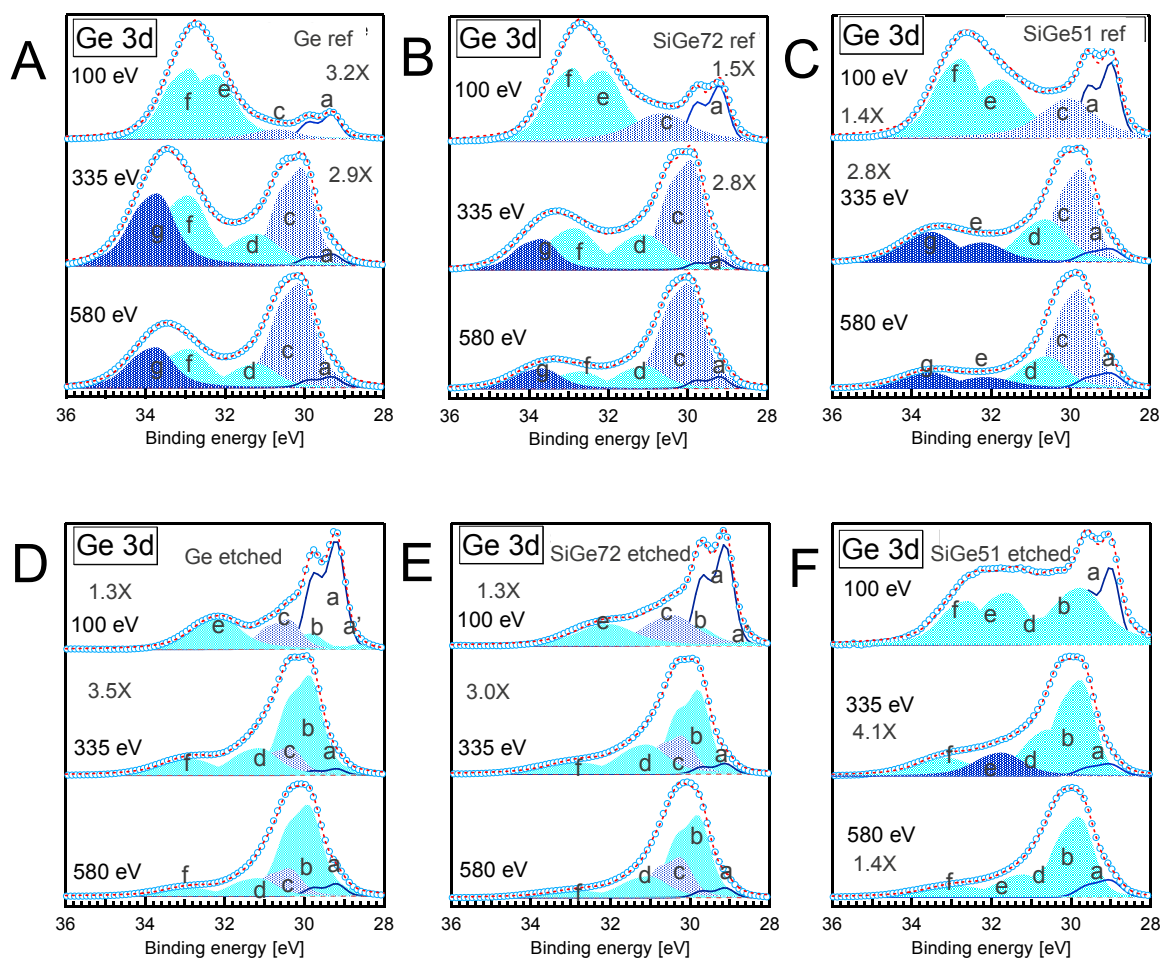


Figure S2. Comparison of Ge3d core-level spectra for different excitation energies of A, D) Ge, B, E) $\text{Si}_{0.28}\text{Ge}_{0.72}$ and C, F) $\text{Si}_{0.49}\text{Ge}_{0.51}$ before and after etching in 0.1 M HCl/10 mM H_2O_2 . Label: a') $\text{Ge}_{(s)}$, a) Ge_{bulk} , b) Ge-Cl, c) Ge-OH, d) Ge^{2+} , e) Ge^{3+} , f) Ge^{4+} and g) $\text{Ge}(\text{OH})_2^{2+}$.

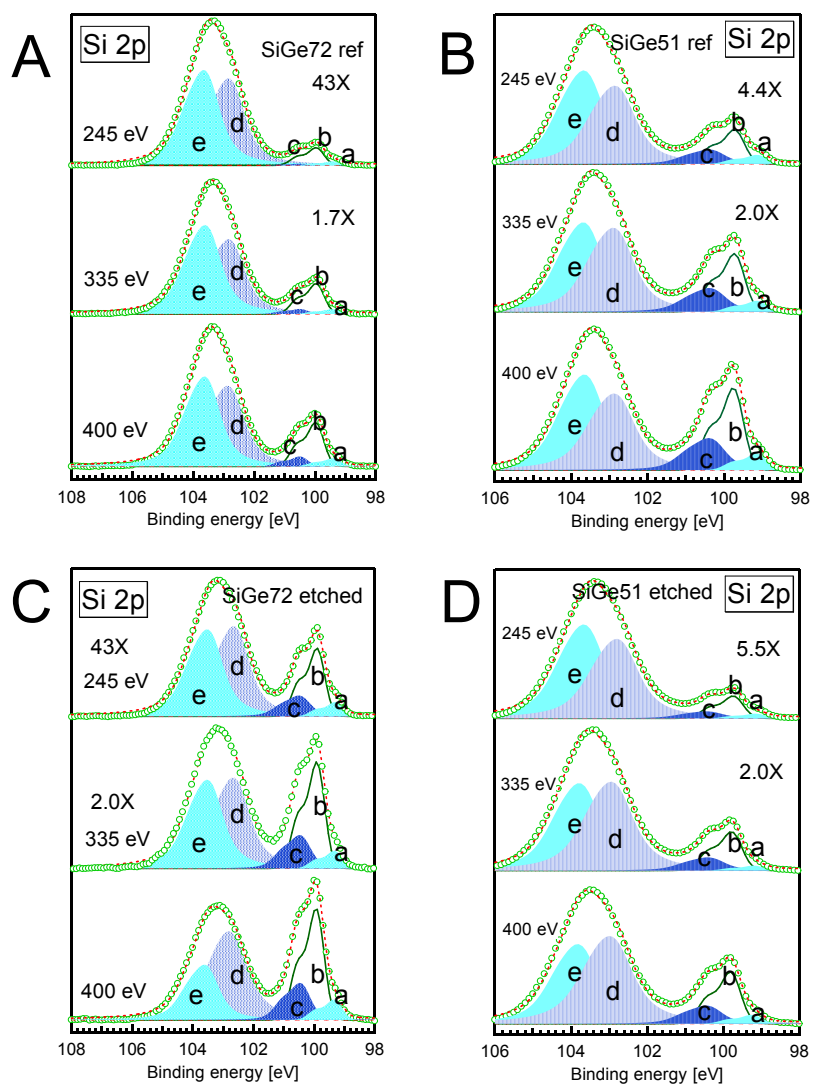


Figure S3. Comparison of S2p core-level spectra for different excitation energies of A, C) $\text{Si}_{0.28}\text{Ge}_{0.72}$ and B, D) $\text{Si}_{0.49}\text{Ge}_{0.51}$ before and after etching in 0.1 M HCl/10 mM H_2O_2 . Label: a) Si-Ge_(s), b) Si_{bulk}, c) Si¹⁺, d) Si³⁺ and e) Si⁴⁺.