

Supplementary Information

Electronic Structure of Aqueous-Phase Anatase Titanium Dioxide Nanoparticles Probed by Liquid Jet Photoelectron Spectroscopy

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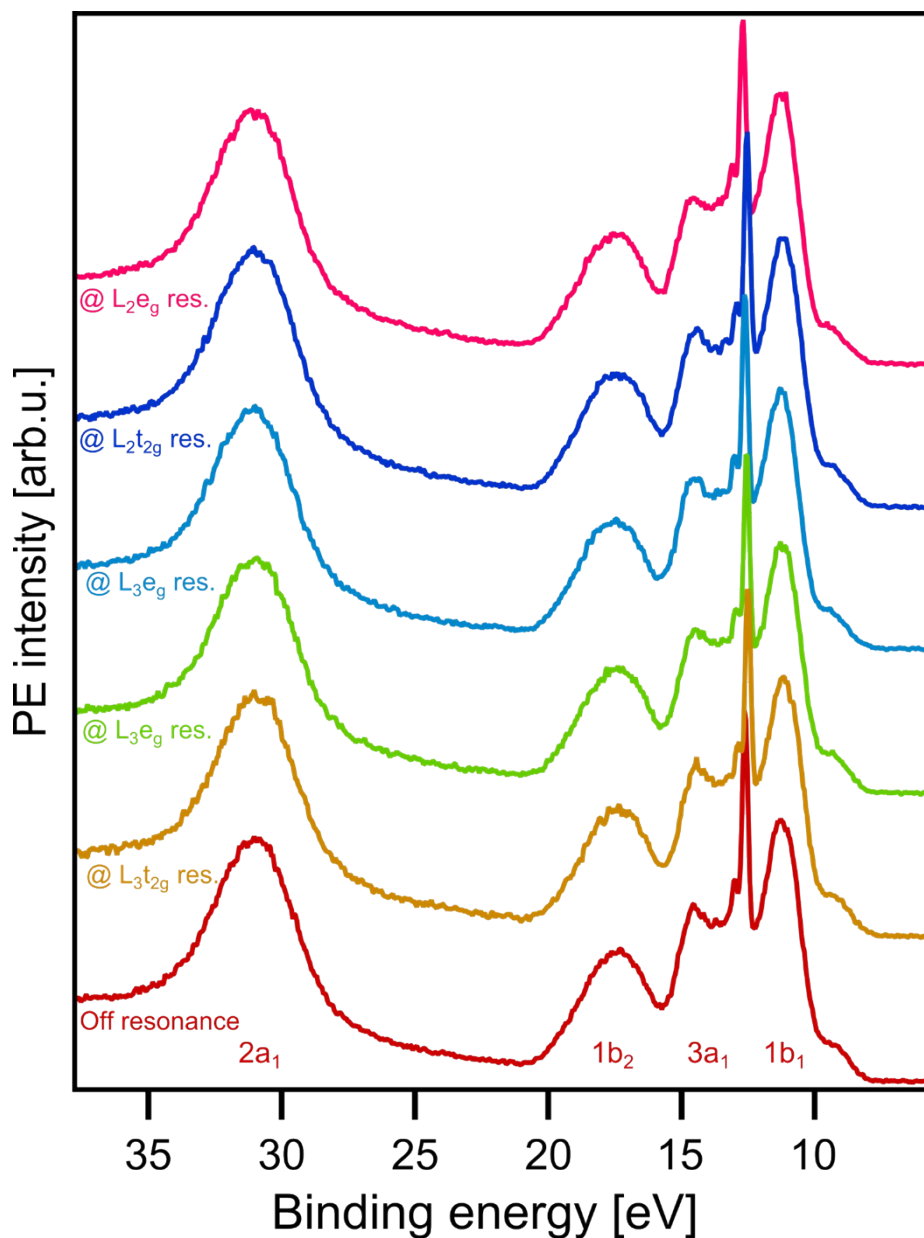


Figure: SI 1

Figure SI-1 Valence band photoelectron spectra measured at off-resonance and on-resonance (A, B, C and D in Figure 1) photon energies for the [2:1]^{NH4+} sample. The off-resonance spectrum was measured at 457 eV photon energy, while the on-resonance spectra were recorded at marked peaks in Figure 1: A (L₃t_{2g}), B (L₃e_g at two positions due to the sub-splitting), C (L₂t_{2g}) and D (L₂e_g). All spectra are almost identical, exhibiting no signal from Ti³⁺.

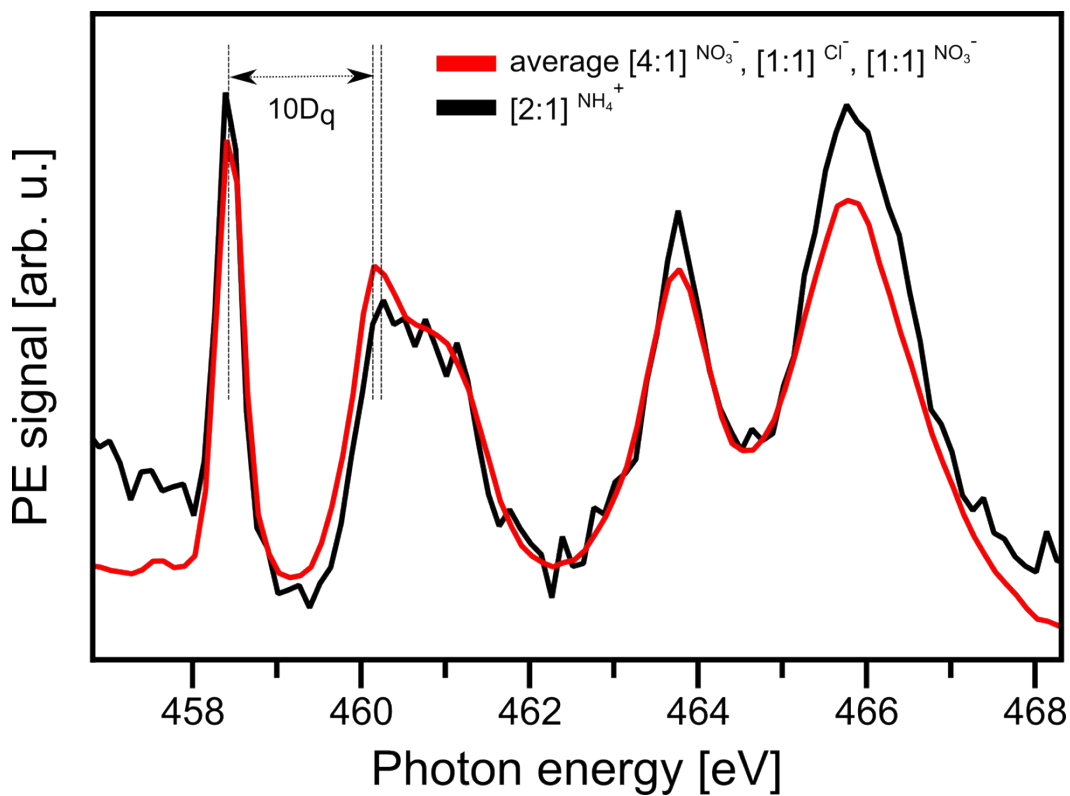


Figure SI-2 Ti L-edge PEY-XA spectrum in black from anatase TiO_2 NPs $[2:1]^{\text{NH}_4^+}$ sample in comparison with an average spectrum of the TiO_2 NPs $[4:1]^{\text{NO}_3^-}$, $[1:1]^{\text{Cl}^-}$ and $[1:1]^{\text{NO}_3^-}$ solutions shown in Figure 1. The $10D_q$ splitting is indicated by dashed lines.