Distinct and Dramatic Water Dissociation on GaP (111) tracked by Near-Ambient Pressure X-ray Photoelectron Spectroscopy

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Supplementary Information



Fig. S1 Photoelectron survey spectra of the GaP (111) surface for samples as received and after Ar⁺ bombardment.



Fig. S2 High resolution photoelectron spectra of Ga 2p_{3/2}, Ga 3d and P 2p at RT under different H₂O pressures. The photoelectron spectra for Ga 2p_{3/2} and P 2p were normalized to unit intensity of the main peaks and shifted to the same background lines.



Fig. S3 High resolution photoelectron spectra of Ga $2p_{3/2}$, Ga 3d and P 2p at the H₂O pressure of 0.1 mbar (0.5 mabr) and different temperatures. The photoelectron spectra for Ga $2p_{3/2}$ were normalized to unit intensity of the main peaks and shifted to the same background lines.



Fig. S4 High resolution photoelectron spectra of Ga $2p_{3/2}$ at the H₂O pressure of 5 mbar and RT (a) and at the H₂O pressure of 0.1 mbar and 773 K obtained within 4 hours (5 scans) (b).