Supporting Information

Photoelectrochemical Processes at n-GaAs(100)/Aqueous HCl Electrolyte Interface: A
Synchrotron Photoemission Spectroscopy Study of Emerged Electrodes

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**Figure S1.** As 3d, Ga 3d and O 1s core-level spectra of the native-oxide-covered GaAs(100) surface before and after etching with 1M HCl_{aq} solution for 3 min. The spectra indicate effective removal of the native-oxide layer from GaAs(100) surface by the treatment with 1M HCl_{aq} solution.

**Figure S2.** GaAs(100) surface exposed to 1M HCl_{aq} solution under OCV. Excitation energy dependent As 3d and Ga 3d core level photoemission spectra, surface sensitivity increasing from bottom to top. Dots are data points after background subtraction; dashed red line is a fit with the indicated components. The intensities of all components shifted from the bulk As–Ga and Ga–As ones decreases with the increase of the excitation energy indicating the surface origin of these components.