

Supporting Information

Laser-induced Potential Jump at The Electrochemical Interface Probed by Picosecond Time-Resolved Surface-Enhanced Infrared Absorption Spectroscopy

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Direct measurement of the potential transient

The negative shift of the potential caused by the laser pulse irradiation (35 ps duration and 3 mJ cm⁻²) monitored with ps time-resolved IR is supported by the direct measurement of the potential transient shown in Figure S1. The potential transient was measured with a home-built potentiostat and a digital oscilloscope. Due to the slow response of the potential controlling circuit (time constant of 10 ms), the electrode potential is not forced to change to the set potential in the time-region shorter than 1 ms. The observed shift of potential in the μ s time-region is much smaller than that in the ps time-region observed by ps-IR (> 100 mV) and is consistent with literature data.¹⁻⁴

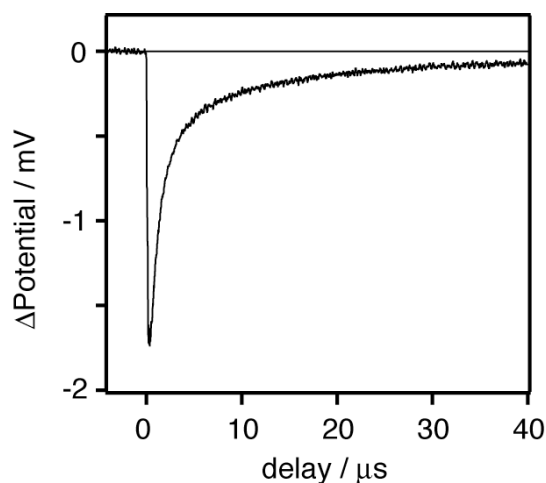


Figure S1. Transient potential change of the CO-adsorbed Pt electrode caused by the 532 nm laser pulse (35 ps, 3 mJ cm⁻²) irradiation measured at the initial potential of 0.4 V (vs. RHE).

References

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