Supporting Information.

Characterization of Platinum Electrode Surfaces by Electrochemical Surface Forces Measurement

Sho Fujii,[†,§] *Motohiro Kasuya,*[‡] *Kazue Kurihara**[†,‡]

†Advanced Institute for Materials Research (AIMR), Tohoku University

[‡]Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577

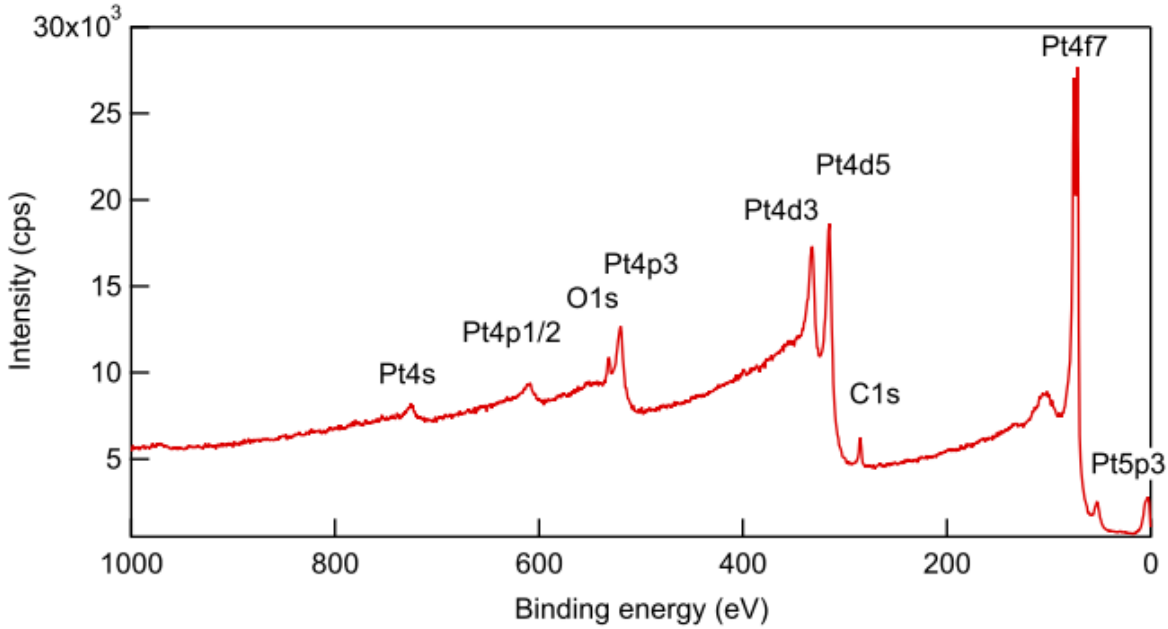
Corresponding Author

* kurihara@tagen.tohoku.ac.jp

Present Addresses

[§]Department of Chemistry, Faculty of Science, Hokkaido University, Kita-10, Nishi-8, Kita-ku, Sapporo, 060-0810, Japan

(a)



(b)

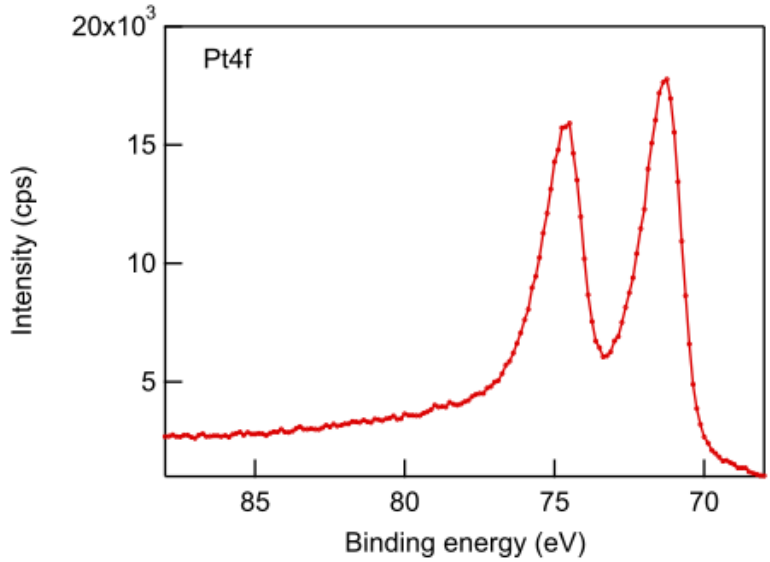


Figure S1. (a) XPS wide-scan spectrum of template-stripped Pt surface. (b) High-resolution spectrum for the Pt4f region.

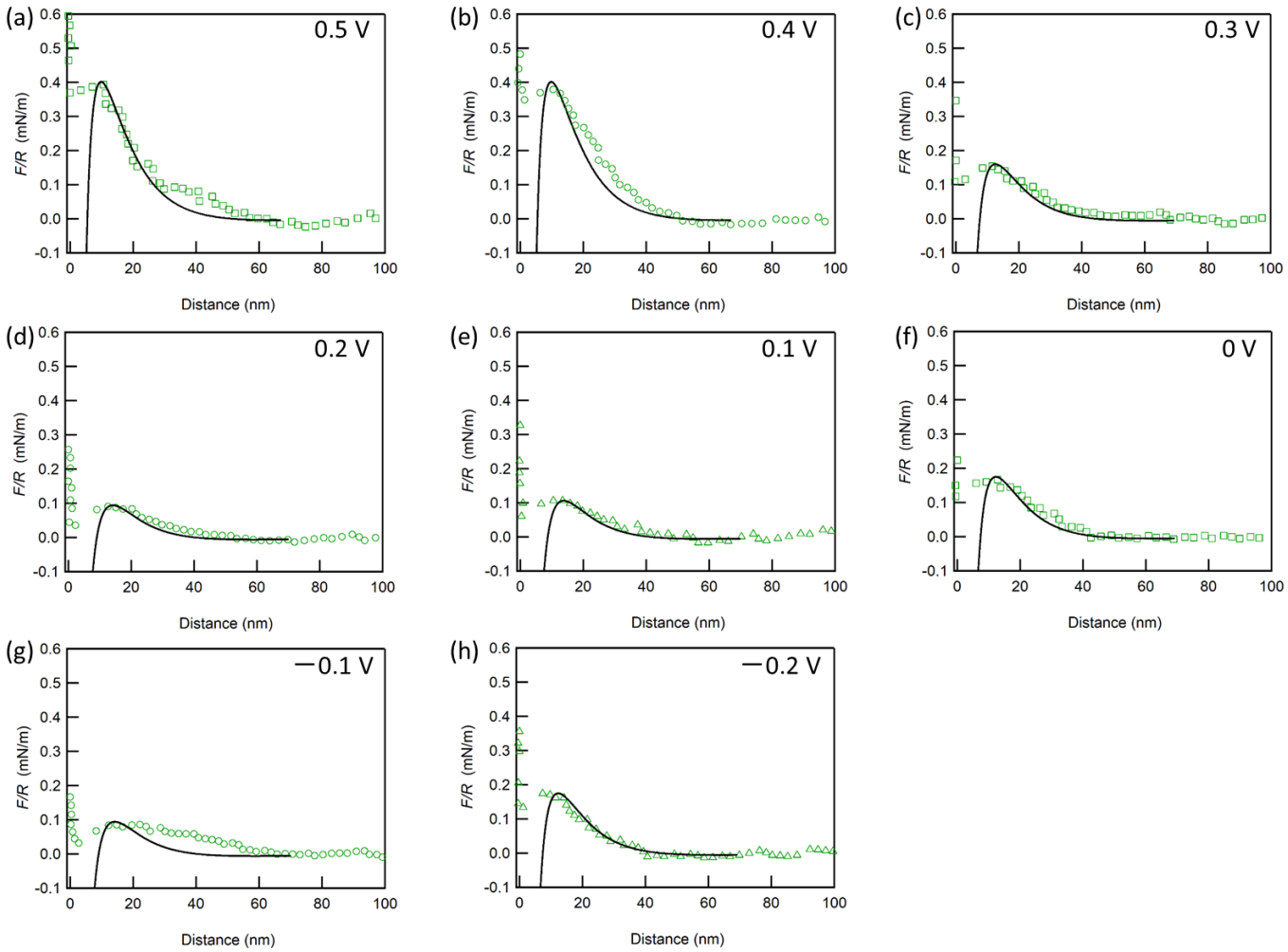


Figure S2. Surface force curves between Pt electrode surfaces and their fitting curves with the DLVO theory (solid lines) at applied potential = 0.5 V, 0.4 V, 0.3 V, 0.2 V, 0.1 V, 0 V, -0.1 V, and -0.2 V vs. Ag/AgCl.

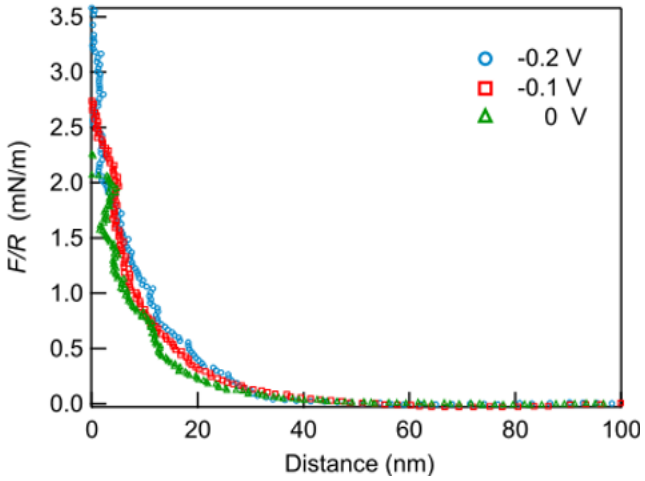


Figure S3. Surface force curves between mica and Pt electrode surface of which electrochemical potential was controlled at −0.2, −0.1, 0 V vs. Ag/AgCl.