

Publication List

Original Papers

1. Yu, L.; Liu, H.; Wang, Y.; Kuwata, N.; Osawa, M.; Kawamura, J.; Ye, S. Preferential Adsorption of Solvents on Cathode Surface of Li-ion Batteries. *Angew. Chem. Int. Ed.* **2013**, *in press* (DOI: 10.1002/anie.201209976).
2. Ge, A.; Wu, H.; Darwish, T.; James, M.; Osawa, M.; Ye, S. Structure and Lateral Interaction in Mixed Monolayers of Dioctadecyldimethyl Ammonium Chloride (DOAC) and Stearyl Alcohol. *Langmuir*, **2013**, *in press* (DOI: 10.1021/la400143k).
3. Ye, S.; Kathiravan, A.; Hayashi, H.; Tong, Y.; Infahsaeng, Y.; Chabera, P.; Pascher, T.; Yartsev, A.; Isoda, S.; Imahori, H.; Sundström, V. Role of Adsorption Structures of Zn-Porphyrin on TiO₂ in Dye-Sensitized Solar Cells Studied by Sum Frequency Generation Vibrational Spectroscopy and Ultrafast Spectroscopy. *J. Phys. Chem. C*, **2013**, *117*, 6066–6080.
4. Wu, H.; Yu, L.; Tong, Y.; Ge, A.; Yau, Y.; Osawa, M.; Ye, S. Enzyme-Catalyzed Hydrolysis of the Phospholipid Bilayers Studied by Atomic Force Microscopy. *Biochimica et Biophysica Acta (BBA) - Biomembranes*, **2013**, *1828*, 642–651.
5. Liao, L.; Li, M.; Kang, J.; Chen, D.; Chen, Y.X.; Ye, S. Electrode Reaction Induced pH change at the Pt Electrode/Electrolyte Interface and its Impact on Electrode Processes. *J. Electroanal. Chem.*, **2013**, *688*, 207-215.
6. Darwish, N.; Eggers, P. K.; Ciampi, S.; Tong, Y.; Ye, S.; Paddon-Row, M. N.; Gooding, J. J. Probing the Effect of the Solution Environment around Redox-Active Moieties Using Rigid Anthraquinone Terminated Molecular Rulers. *J. Am. Chem. Soc.*, **2012**, *134*, 18401-18409
7. Darwish, T.; Tong, Y.; James, M.; Hanley, T.; Peng, Q.; Ye, S. Characterizing the Photoinduced Switching Process of Nitrospiropyran Self-Assembled Monolayer Using In Situ Sum Frequency Generation Spectroscopy. *Langmuir*, **2012**, *28*, 13852-13860.
8. Zhang, Y.; Noguchi, N.; Ye, S.; Uosaki, K. Structure of Adsorbed Molecular Layer on Fused Quartz Surface Determined Sequentially in Sodium Stearate Solution, Dry Ar, Pure Water, and Dry Ar by Sum Frequency Generation

- Spectroscopy.
Surf. Sci., **2012**, 602, 92-96.
9. Darwish, N.; Eggers, P.; Silva, P.; Zhang, Y.; Tong, Y.; Ye, S.; Gooding, J.; Paddon-Row, M. N. Electro-active Self-assemble Monolayers of Unique Geometric Structures using Rigid Norbornylogous Bridges.
Chem. Eur. J., **2012**, 18, 283 – 292.
10. Chen, D.; Tao, Q.; Liao, L.; Liu, S.; Chen, Y.X.; Ye, S. Determining the Active Surface Area for Various Platinum Electrodes.
Electrocatalysis, **2011**, 2, 207-219.
11. Liu, S.; Liao, L.; Tao, Q.; Chen, Y.X.; Ye, S. The kinetics of CO pathway in methanol oxidation at Pt electrodes, a quantitative study by ATR-FTIR spectroscopy.
Phys. Chem. Chem. Phys., **2011**, 13, 9725-9735.
12. Tong, Y.; Tyrode, E.; Osawa, M.; Yoshida, N.; Watanabe, T.; Nakajima, A.; Ye, S. Preferential adsorption of amino-terminated silane in a binary mixed self-assembled monolayer.
Langmuir, **2011**, 27, 5420-5426.
13. Darwish, N.; Eggers, P.; Ciampi, S.; Zhang, Y.; Tong, Y.; Ye, S.; Paddon-Row, M.; Gooding, J. Reversible potential-induced structural changes of alkanethiol monolayers on gold surfaces.
Electrochim. Commun., **2011**, 113, 387-390.
14. Zhang, L.; Zhang, H. Wen, M.; Chen, Z.; Osawa, M.; Ye, S.; Uosaki, K.; Sasaki, Y. A butadiyne-linked diruthenium molecular wire self-assembled on a gold electrode surface.
Chem. Commun., **2011**, 47, 923-925.
15. Liao, L.; Liu, S.; Tao, Q.; Geng, B.; Zhang, P.; Wang, C.; Chen, Y.X.; Ye, S. A method for kinetic study of methanol oxidation at Pt electrodes by electrochemical *in situ* infrared spectroscopy.
J. Electroanal. Chem., **2011**, 650, 233-240.
16. Koshima, H.; Kamano, H.; Hisaeda, Y.; Liu, H.; Ye, S. Analyses of the Adsorption Structures of Friction Modifiers by Means of Quantitative Structure-Property Relationship Method and Sum Frequency Generation Spectroscopy.
Tribology Online, **2010**, 5, 165-172.
17. Eggers, P.; Silva, P.; Darwish, N.; Zhang, Y.; Tong, Y.; Ye, S.; Paddon-Row, M.; Gooding, J. Self-Assembled Monolayers Formed using Zero Net Curvature

- Norbornylogous Bridges: Electrochemical and Spectroscopic Characterization.
Langmuir, **2010**, *26*, 15665–15670.
18. Tong, Y.; Li, N.; Liu, H.; Ge, A.; Osawa, M.; Ye, S. Mechanistic Studies by Sum-Frequency Generation Spectroscopy: Hydrolysis of a Supported Phospholipid Bilayer by Phospholipase A₂.
Angew. Chem. Int. Ed., **2010**, *49*, 2319-2323.
19. Tong, Y.; Zhao, Y.; Li, N.; Osawa, M.; Davies, P.; Ye, S. Interference Effects in the Sum Frequency Generation (SFG) Spectra of Organic Thin Films. Part I: Theoretical Modeling and Simulation.
J. Chem. Phys., **2010**, *133*, 034704.
20. Tong, Y.; Zhao, Y.; Li, N.; Osawa, M.; Ma, Y.; Davies, P.; Ye, S. Interference Effects in the Sum Frequency Generation (SFG) Spectra of Organic Thin Films. Part II: Applications to Different Thin Film Systems.
J. Chem. Phys., **2010**, *133*, 034705.
21. Lu, L.; Yin, G.; Tong, Y.; Zhang, Y.; Gao, Y.; Osawa, M.; Ye, S. Electrochemical Behaviors of Dimethyl Ether on Platinum Single Crystal Electrodes Part II: Pt(100).
J. Electroanal. Chem., **2010**, *642*, 82-91.
22. Wei, Q. S.; Tajima, K.; Tong, Y.; Ye, S.; Hashimoto, K. Surface-Segregated Monolayers: A New Type of Ordered Monolayer for Surface Modification of Organic Semiconductors.
J. Am. Chem. Soc., **2009**, *131*, 17597-17604.
23. Liu, H.; Tong, Y.; Kuwata, N.; Osawa, M.; Kawamura, J.; Ye, S. Adsorption of Propylene Carbonate (PC) on the LiCoO₂ Surface Investigated by Nonlinear Vibrational Spectroscopy.
J. Phys. Chem. C, **2009**, *113*, 20531–20534 (Letter).
24. Zhang, Y.; Tong, Y.; Lu, L.; Osawa, M.; Ye, S. Dimethyl Ether (DME) Dissociation Reaction on Platinum Electrode Surface: A Quantitative Kinetic Analysis by in situ Infrared Spectroscopy.
J. Electrochem. Soc., **2010**, *157*, F10-F15
25. Chen, Y.X.; Li, M. F.; Liao, L. W.; Xu, J.; Ye, S. A Thermostatic Cell with Gas Diffusion Electrode for Oxygen Reduction Reaction under Fuel Cell Relevant Conditions.
Electrochim. Commun., **2009**, *11*, 1434-1436.

26. Wang, G.; Takeguchi, T.; Zhang, Y.; Muhamad, E. N.; Sadakane, M.; Ye, S.; Ueda, W. Effect of SnO₂ Deposition Sequence in SnO₂-modified PtRu/C Catalyst Preparation on Catalytic Activity for Methanol Electrooxidation. *J. Electrochem. Soc.*, **2009**, 156, B862-B869.
27. Ye, S.; Osawa, M. Molecular Structures on Solid Substrates Probed by Sum Frequency Generation (SFG) Vibration Spectroscopy. *Chem. Lett.*, **2009**, 38, 386-391 (Highlight Review).
28. Ye, S.; Kondo, T.; Hoshi, N.; Inukai, J.; Yoshimoto, S.; Osawa, M.; Itaya, K. Recent Progress in Electrochemical Surface Science with Atomic and Molecular Levels. *Electrochemistry*, **2009**, 77, 2-20.
29. Zhang, Y.; Tong, Y.; Abe, M.; Uosaki, K.; Osawa, M.; Sasaki, Y.; Ye, S. Fabrication of Photochemical Pattern on a Self-assembled Monolayer (SAM) of a Ruthenium Cluster under Electrochemical Control. *J. Mater. Chem.*, **2009**, 19, 261 – 267.
30. Sadakane, M.; Iimuro, Y.; Tsukuma, D.; Bassil, B. S.; Dickman, M. H.; Kortz, U.; Zhang, Y.; Ye, S.; Ueda, W. Preparation, Structural Characterization and Reactivity of CO Coordinated Ruthenium-substituted α -Keggin-type Tungstosilicate $[\alpha\text{-SiW}_{11}\text{O}_{39}\text{Ru}^{\text{II}}(\text{CO})]^{6-}$: Synthesis, Structure, Redox Studies and Reactivity. *Dalton Trans.*, **2008**, 6692-6698 (Hot Article).
31. Zhang, Y.; Shen, Y.; Kuehner, D.; Wu, S.; Su, Z.; Ye, S.; Niu, L. Directing Single-walled Carbon Nanotubes to Self-assemble at Water/Oil Interfaces and Facilitate Electron Transfer. *Chem. Commun.*, **2008**, 4273-4275.
32. Zhou, W.; Zhang, Y.; Abe, M.; Uosaki, K.; Osawa, M.; Sasaki, Y.; Ye, S. Surface Coordination of Nitric Oxide to a Self-Assembled Monolayer of a Triruthenium Cluster: An *in situ* Infrared Spectroscopic Study. *Langmuir*, **2008**, 24, 8027-8035.
33. Lu, L.; Yin, G.; Tong, Y.; Zhang, Y.; Gao, Y.; Osawa, M.; Ye, S. Electrochemical Behaviors of Dimethyl Ether on Platinum Single Crystal Electrodes. Part I: Pt(111). *J. Electroanal. Chem.*, **2008**, 619-620, 143-151.
34. Zhang, Y.; Lu, L.; Tong, Y.; Osawa, M.; Ye, S. Electrochemical and Infrared Study of Electro-oxidation of Dimethyl Ether (DME) on Platinum Polycrystalline

- Electrode in Acid Solutions.
Electrochimica Acta, **2008**, 53, 6093-6103.
35. Nakata, K.; Kayama, Y.; Shimazu, K.; Yamakata, A.; Ye, S.; Osawa, M. Surface-Enhanced Infrared Absorption Spectroscopic Studies of Adsorbed Nitrate, Nitric Oxide, and Related Compounds 2: Nitrate Ion Adsorption at a Platinum Electrode.
Langmuir, **2008**, 24, 4358-4363.
36. Nakata, K.; Okubo, A.; Shimazu, K.; Yamakata, A.; Ye, S.; Osawa, M. Surface-Enhanced Infrared Absorption Spectroscopic Studies of Adsorbed Nitrate, Nitric Oxide, and Related Compounds 1: Reduction of Adsorbed NO on a Platinum Electrode.
Langmuir, **2008**, 24, 4352-4357.
37. Tong, Y.; Lu, L.; Zhang, Y.; Gao, Y.; Yin, G.; Osawa, M.; Ye, S. Surface Structure Dependent Electro-oxidation of Dimethyl Ether on Platinum Single-Crystal Electrodes.
J. Phys. Chem. C (Letter), **2007**, 111, 18836-18838.
38. Kira, A.; Tanaka, M.; Umeyama, T.; Matano, Y.; Yoshimoto, N.; Zhang, Y.; Ye, S.; Lehtivuori, H.; Tkachenko, N. V.; Lemmetyinen, H.; Imahori, H. Hydrogen Bonding Effects on Film Structure and Photoelectrochemical Properties of Porphyrin and Fullerene Composites on Nanostructured TiO₂ Electrodes.
J. Phys. Chem. C, **2007**, 111, 13618-13626.
39. Nishida, T.; Johnson, M.; Holman, J.; Osawa, M.; Davies, P. B.; Ye, S. Optical Sum-Frequency Emission from Langmuir-Blodgett Films of Variable Thickness: Effects of the Substrate and Polar Orientation of Fatty Acids in the Films.
Phys. Rev. Lett., **2006**, 96, 77402.
40. Samjeske, G.; Miki, A.; Ye, S.; Osawa, M. Mechanistic Study of Electrocatalytic Oxidation of Formic Acid at Platinum in Acidic Solution by Time-Resolved Surface-Enhanced Infrared Absorption Spectroscopy.
J. Phys. Chem. B, **2006**, 110, 16559-16566.
41. Chen, Y.X.; Ye, S.; Heinen, M.; Jusys, Z.; Osawa, M.; Behm, R. Application of *in-situ* ATR-FTIR Spectroscopy for the Understanding of Complex Reaction Mechanism and Kinetics: Formic Acid Oxidation on a Pt Electrode at Elevated Temperatures.
J. Phys. Chem. B, **2006**, 110, 9534-9544.
42. Samjeske, G.; Miki, A.; Ye, S.; Yamakata, A.; Mukouyama, Y.; Okamoto, H.;

- Osawa, M. Potential Oscillations in Galvanostatic Electrooxidation of Formic Acid on Platinum: A Time-Resolved Surface-Enhanced Infrared Study.
J. Phys. Chem. B, **2005**, *109*, 23509-23516.
43. Holman, J.; Davies, P. B.; Nishida, T.; Ye, S.; Neivandt, D. J. Sum Frequency Generation from Langmuir Blodgett Multilayer Films on Metal and Dielectric Substrates.
J. Phys. Chem. B, **2005**, *109*, 18723-18732. (Feature Article).
44. Imahori, H.; Liu, J.; Hotta, H.; Kira, A.; Umeyama, T.; Matano, Y.; Li, G.; Ye, S.; Isosomppi, M.; Tkachenko, N. V.; Lemmetyinen, H. Hydrogen Bonding Effects on the Surface Structure and Photoelectrochemical Properties of Nanostructured SnO₂ Electrodes Modified with Porphyrin and Fullerene Composites.
J. Phys. Chem. B, **2005**, *109*, 18465 -18474.
45. Zhou, W.; Ye, S.; Abe, M.; Nishida, T.; Uosaki, K.; Osawa, M.; Sasaki, Y. Oxidation States and CO Ligand Exchange Kinetics in a Self-Assembled Monolayer of a Triruthenium Cluster Studied by *in situ* Infrared Spectroscopy.
Chem. Eur. J., **2005**, *11*, 5040 - 5054.
46. Holman, J.; Ye, S.; Neivandt, D. J.; Davies, P. B. Studying Nanoparticle-Induced Structural Changes Within Fatty Acid Multilayer Films Using Sum Frequency Generation Vibrational Spectroscopy.
J. Am. Chem. Soc., **2004**, *126*, 14322-14323.
47. Li, G.; Ye, S.; Morita, S.; Nishida, T.; Osawa, M. Hydrogen Bonding on the Surface of Poly(2-methoxyethyl acrylate).
J. Am. Chem. Soc., **2004**, *126*, 12198 – 12199.
48. Ye, S.; Zhou, W.; Abe, M.; Nishida, T.; Cui, L.; Uosaki, K.; Osawa, M.; Sasaki, Y. Electrochemical Control of CO/NO Ligand Exchange in a Triruthenium Cluster Monolayer Assembled on a Gold Electrode Surface.
J. Am. Chem. Soc., **2004**, *126*, 7434 – 7435.
49. Nihonyanagi, S.; Ye, S.; Uosaki, K.; Dreesen, L.; Humbert, C.; Thiry, P.; Peremans, A. Potential Dependent Structure of the Interfacial Water on the Gold Electrode.
Surf. Sci., **2004**, *573*, 11-16.
50. Morita, S.; Ye, S.; Li, G.; Osawa, M. Effect of Glass Transition Temperature on the Absorption of Bisphenol A in Poly(acrylate)s Thin Films.
Vibrational Spectroscopy, **2004**, *35*, 15-19.
51. Li, G.; Morita, S.; Ye, S.; Tanaka, M.; Osawa, M. Quartz Crystal Microbalance and

- Infrared Reflection Absorption Spectroscopy Characterization of Bisphenol A Absorption in the Poly(acrylate) Thin Films.
Anal. Chem., **2004**, 76, 788 – 795.
52. Ye, S.; Noda, H.; Nishida, T.; Morita, S.; Osawa, M. Cd²⁺-Induced Interfacial Structural Changes of *Langmuir-Blodgett* Films of Stearic Acid on Solid Substrates: A Sum Frequency Generation Study.
Langmuir, **2004**, 20, 357 – 365.
53. Miki, A.; Ye, S.; Senzaki, T.; Osawa, M. Surface-enhanced infrared study of catalytic electrooxidation of formaldehyde, methyl formate, and dimethoxy-methane on platinum electrodes in acidic solution.
J. Electroanal. Chem., **2004**, 563, 23-31.
54. Ye, S.; Morita, S.; Li, G.; Noda, H.; Tanaka, M.; Uosaki, K.; Osawa, M. Structural Changes in Poly(2-methoxyethyl acrylate) Thin Films Induced by Absorption of Bisphenol A: an Infrared and Sum Frequency Generation (SFG) Study.
Macromolecules, **2003**, 36, 5694 – 5703.
55. Abe, M.; Michi, T.; Sato, A.; Kondo, T.; Zhou, W.; Ye, S.; Uosaki, K.; Sasaki, Y. Electrochemically Controlled Layer-by-Layer Deposition of Metal Cluster Molecular Multilayers on Gold.
Angew. Chem. Int. Ed., **2003**, 42, 2912-2915.
56. Chen, Y.X.; Miki, A.; Ye, S.; Sakai, H.; Osawa, M. Formate, an Active Intermediate for Direct Oxidation of Methanol on Pt Electrode.
J. Am. Chem. Soc., **2003**, 125, 3680-3681.
57. Ye, S.; Li, G.; Noda, H.; Uosaki K.; Osawa, M. Characterization of Self-Assembled Monolayers of Alkanethiol on GaAs Surface by Contact Angle and Angle-resolved XPS Measurements.
Surf. Sci., **2003**, 529, 163-170.
58. Ye, S.; Noda, H.; Morita, S.; Uosaki, K.; Osawa, M. Surface Molecular Structures of Langmuir-Blodgett Films of Stearic Acid on the Solid Substrate Studied by Sum Frequency Generation Spectroscopy.
Langmuir, **2003**, 19, 2238-2242.
59. Miyake, H.; Ye, S.; Osawa, M. Electroless Deposition of Gold Thin Films on Silicon for Surface-enhanced Infrared Spectroelectrochemistry.
Electrochim. Comm., **2002**, 4, 973-977.
60. Miki, A.; Ye, S.; Osawa, M. Surface-enhanced IR Absorption on Pt Nanoparticles:

- an Application to Real-time Monitoring of Electrocatalytic Reactions.
Chem. Commun., **2002**, 1500-1501.
61. Quayum, M. E.; Ye, S.; Uosaki, K. Mechanism for Nucleation and Growth of Electrochemical Palladium Deposition on an Au (111) Electrode.
J. Electroanal. Chem., **2002**, 520, 126-131.
62. Sato, A.; Abe, M.; Inomata, T.; Kondo, T.; Ye, S.; Uosaki, K.; Sasaki, Y. A Ligand Substitution Reaction of Oxo-centred Triruthenium Complexes Assembled as Monolayers on Gold.
Phys. Chem. Chem. Phys., **2001**, 3, 3420-3426.
63. Ye, S.; Nihonyanagi, S.; Uosaki, K. Sum Frequency Generation (SFG) Study of the pH-Dependent Water Structure on the Fused Quartz Surface Modified by Octadecyltrichlorosilane (OTS) Monolayer.
Phys. Chem. Chem. Phys., **2001**, 3, 3463-3469.
64. Ye, S.; Ichihara, T.; Uosaki, K. Spectroscopic Studies on Electroless Deposition of Copper on a Hydrogen Terminated Si(111) Surface in Fluoride Solutions.
J. Electrochem. Soc., **2001**, 148, C421-C426.
65. Nihonyanagi, S.; Ye, S.; Uosaki, K. Sum Frequency Generation (SFG) Study on the Molecular Structures at the Interfaces between Quartz Modified with Amino-terminated Self-assembled Monolayer and Electrolyte Solutions of Various pH and Ionic Strength.
Electrochim. Acta, **2001**, 46, 3057-3061.
66. Ye, S.; Saito, T.; Nihonyanagi, S.; Uosaki, K.; Miranda, P. B.; Kim, D.; Shen, Y. R. Stability of the Si-H Bond on the Hydrogen Terminated Si(111) Surface Studied by Sum Frequency Generation (SFG).
Surf. Sci., **2001**, 476, 121-128.
67. Ye, S.; Nihonyanagi, S.; Shimazu, K.; Uosaki, K. Sum Frequency Generation (SFG) Studies on the Conformational Order of the Self-assembled Monolayers of Alkanethiols on Silver Surface.
Nonlinear Optics, **2000**, 24, 93-98.
68. Ye, S.; Nihonyanagi, S.; Fujishima, K.; Uosaki, K. Conformational Order of Octadecanethiol (ODT) Monolayer at Gold/ Solution Interface: Internal Reflection Sum Frequency Generation (SFG) Study,
“Studies in Surface Science and Catalysis 132”, Ed. by Y. Iwasawa, N. Oyama, H. Kunieda, Elsevier, 705-710.

69. Naohara, H.; Ye, S.; Uosaki, K. Thickness Dependent Thickness Dependent Electrochemical Reactivity of Epitaxially Electrodeposited Palladium Thin Layers on Au(111) and Au(100) Surfaces.
J. Electroanal. Chem., **2001**, 500, 435-445.
70. Imamura, T.; Funatsu, K.; Ye, S.; Morioka, Y.; Uosaki, K.; Sasaki, Y. Coupling of Ground-State Molecular Vibrations to Low-Energy Electronic Transition of Ruthenium (III,II) Porphyrin Dimers.
J. Am. Chem. Soc., **2000**, 37, 9032-9033.
71. Yu, H. Z.; Ye, S.; Zhang, H. L.; Uosaki, K.; Liu, Z. F. Molecular Orientation and Electrochemical Stability of Azobenzene Self-Assembled Monolayers on Gold: An *In-Situ* FTIR Study.
Langmuir, **2000**, 16, 6948-6954.
72. Ye, S.; Nihonyanagi, S.; Uosaki, K. pH-Dependent Water Structure at a Quartz Surface Modified with an Amino-Terminated Monolayer Studied by Sum Frequency Generation (SFG).
Chem. Lett., **2000**, 734-735.
73. Naohara, H.; Ye, S.; Uosaki, K. Electrocatalytic Reactivity for Oxygen Reduction at Epitaxially Grown Pd Thin Layers of Various Thickness on Au(111) and Au(100).
Electrochim. Acta, **2000**, 45, 3305-3309.
74. Baum, T.; Ye, S.; Uosaki, K. Formation of Self-Assembled Monolayers of Alkanethiols on GaAs Surface with *in situ* Surface Activation by Ammonium Hydroxide.
Langmuir, **1999**, 15, 8577-8579.
75. Abe, M.; Ye, S.; Kondo, T.; Uosaki, K.; Sasaki, Y. Electrochemical and infrared spectroelectrochemical characterization of self-assembled monolayers of a carbonyl-coordinated trinuclear ruthenium complex on a gold electrode.
Electrochemistry, **1999**, 67, 1162-1164.
76. Ye, S.; Ichihara, T.; Uosaki, K. An Attenuated Total Reflection Fourier Transform Infrared Spectroscopy Study of the Adsorption of Organic Contaminants on the Hydrogen Terminated Si(111) Surface in Air.
Appl. Phys. Lett., **1999**, 75, 1562- 1564.
77. Kondo, T.; Horiuchi, S.; Yagi, I.; Ye, S.; Uosaki, K. Electrochemical Control of the Second Harmonic Generation Property of Self-assembled Monolayers Containing a Trans-ferrocenylnitrophenyl Ethylene Group on Gold.

- J. Am. Chem. Soc.*, **1999**, *121*, 391-398.
78. Ye, S.; Ishibashi, C.; Uosaki, K. Anisotropic Dissolution of an Au(111) Electrode in Perchloric Acid Solution Containing Chloride Anion Investigated by *in situ* STM – the Important Role of Adsorbed Chloride Anion.
Langmuir, **1999**, *15*, 807-812.
79. Ye, S.; Haba, T.; Sato, Y.; Shimazu, K.; Uosaki, K. Coverage-Dependent Behavior of Redox Reaction-Induced Structure Change and Mass Transport at an 11-Ferrocenyl-1-Undecanethiol Self-Assembled Monolayer on a Gold Electrode Studied by an *in situ* IRRAS/EQCM Combined System.
Phys. Chem. Chem. Phys., **1999**, *1*, 3653-3659.
80. Naohara, H.; Ye, S.; Uosaki, K. Epitaxial Growth of Palladium Layer on an Au(100) Electrode.
J. Electroanal. Chem., **1999**, *473*, 2-9.
81. Naohara, H.; Ye, S.; Uosaki, K. Electrochemical Deposition of Palladium on an Au(111) Electrode: Effects of Adsorbed Hydrogen for a Growth Mode.
Colloids and Surfaces A, **1999**, *154*, 201-207.
82. Naohara, H.; Ye, S.; Uosaki, K. Electrochemical Layer-by-layer Growth of Palladium on an Au(111) Electrode Surface: Evidence for Important Role of Adsorbed Pd Complex.
J. Phys. Chem. B, **1998**, *102*, 4366-4373.
83. Naohara, H.; Ye, S.; Uosaki, K. Tip-induced Nano-scale Electrochemical Deposition of Palladium and Platinum on an Au(111) Electrode Surface.
Appl. Phys. A, **1998**, *A66*, S457-S461.
84. Ye, S.; Ishibashi, C.; Shimazu, K.; Uosaki, K. An *in situ* EQCM Study of the Anodic Dissolution Process of a Gold Electrode in Perchloric Acid Solution Containing Chloride Ion.
J. Electrochem. Soc., **1998**, *145*, 1614-1623.
85. Yu, H.; Zhang, H.; Liu, Z.; Ye, S.; Uosaki, K. Monitoring Electron Transfer in an Azobenzene Self-Assembled Monolayer by *in situ* Infrared Reflection Absorption Spectroscopy.
Langmuir, **1998**, *14*, 619-624.
86. Ye, S.; Sato, Y.; Uosaki, K. Redox-induced Orientation Change of a Self-assembled Monolayer of 11-Ferrocenyl-1-undecanethiol on a Gold Electrode Studied by *in situ* FT-IRRAS.

- Langmuir*, **1997**, *13*, 3157-3161.
87. Uosaki, K.; Ye, S.; Naohara, H.; Oda, Y.; Haba, T.; Kondo T. Electrochemical Epitaxial Growth of a Pt(111) Phase on an Au(111) Electrode. *J. Phys. Chem. B*, **1997**, *101*, 7566-7572.
88. Uosaki, K.; Ye, S.; Oda, Y.; Haba, T.; Hamada, K. Adsorption of Hexachloroplatinate Complex on Au(111) Electrode. An *in situ* Scanning Tunneling Microscopy and Electrochemical Quartz Microbalance Study. *Langmuir*, **1997**, *13*, 594-596.
89. Uosaki, K.; Koinuma, M.; Kondo, T.; Ye, S.; Yagi, I.; Noguchi, H.; Tamura, K.; Takeshita, K.; Matsushita, T. *In situ* observation of anodic dissolution process of p-GaAs(001) in HCl solution by surface X-ray diffraction. *J. Electroanal. Chem.*, **1997**, *429*, 13-17.
90. Sato, Y.; Mizutani, F.; Shimazu, K.; Ye, S.; Uosaki, K. Mass Transport Accompanied with Electron Transfer Between the Gold Electrode Modified with 11-Ferrocenylundecanethiol Monolayer and Redox Species in Solution - An Electrochemical Quartz Crystal Microbalance Study. *J. Electroanal. Chem.*, **1997**, *434*, 117-121.
91. Ye, S.; Yashiro, A.; Sato, Y.; Uosaki, K. Electrochemical *in situ* FT-IRRAS studies of a self-assembled monolayer of 2-(11-mercaptoundecyl)hydroquinone. *J. Chem. Soc., Faraday Trans.*, **1996**, *92*, 3813-3822.
92. Sato, Y.; Ye, S.; Haba T.; Uosaki, K. Potential Dependent Orientation and Oxidation of Mercaptoalkanenitrile Monolayer on Gold. An *in situ* Fourier Transform Infrared Spectroscopy study. *Langmuir*, **1996**, *12*, 2726-2736.
93. Yamada, R.; Ye, S.; Uosaki, K. Novel Scanning Probe Microscope for Local Elasticity Measurement. *Jpn. J. Appl. Phys.*, **1996**, *35*, L846-L848.
94. Uosaki, K.; Ye, S.; Sekine, N. Study of the Electronic Structure of GaAs(100) Single Crystal Electrode/Electrolyte Interface by Electrochemical Tunneling Spectroscopy. *Bull. Chem. Soc. Jpn.*, **1996**, *69*, 275-288.
95. Uosaki, K.; Ye, S.; Kondo, T. Preparation of a Highly Ordered Au(111) Phase on a Polycrystalline Gold Substrate by Vacuum Deposition and its Characterization by XRD, GISXRD, STM/AFM and Electrochemical Measurement.

- J. Phys. Chem.*, **1995**, 99, 14117-14121.
96. Ye, S.; Akutagawa, H.; Uosaki, K.; Sasaki, Y. *In-situ* FT-IR Spectro-electrochemical Study of the Trinuclear Complex $[\text{Ru}_3(\mu_3\text{-O})(\mu\text{-CH}_3\text{COO})_6(\text{CO})(\text{pyridine})_2]$ in Acetonitrile.
Inorg. Chem., **1995**, 34, 4527-4528.
97. Shimazu, K.; Ye, S.; Sato, Y.; Uosaki, K. Simultaneous Detection of Structural Change and Mass Transport Accompanying the Redox of a Ferrocenyl-undecanethiol Monolayer with the Novel FT-IR Reflection Absorption Spectroscopy/Electrochemical Quartz Crystal Microbalance System.
J. Electroanal. Chem., **1994**, 375, 409-413.
98. Kita, H.; Gao, Y.; Ye, S.; Shimazu, K. Different Routes in the Forward and Backward Occurrences of the Hydrogen Electrode Reaction on Pt Single Crystal Electrodes in Acid Solution.
Bull. Chem. Soc. Jpn., **1993**, 66, 2877-2882.
99. Kita, H.; Narumi, H.; Ye, S.; Naohara, H. Analysis of Irreversible Oxidation Wave of Adsorbed CO at Pt(111), Pt(100) and Pt(110) Electrodes.
J. Appl. Electrochem., **1993**, 23, 589-596.
100. Ye, S.; Kita, H.; Adsorbed HNO_2/NO Redox Couple at Pt(111) Single Crystal Electrode.
J. Electroanal. Chem., **1993**, 346, 489-495.
101. Ye, S.; Hattori, H.; Kita, H. Reduction of Nitrite and NO on Pt Single Crystal Electrodes in Alkaline Solution.
Ber. Bunsenges. Phys. Chem., **1992**, 96, 1884-1886.
102. Kita, H.; Ye, S.; Gao, Y. Mass Transfer Effect in Hydrogen Evolution Reaction on Pt Single Crystal Electrodes in Acid Solution.
J. Electroanal. Chem., **1992**, 334, 351-357.
103. Ye, S.; Kita, H.; Aramata, A. Hydrogen and Anion Adsorptions at Platinum Single Crystal Electrodes in Phosphate Solutions over a Wide Range of pH.
J. Electroanal. Chem., **1992**, 333, 299-312.
104. Kita, H.; Ye, S.; Sugimura, K. Effects of Adsorbed CO on the Electrode Reactions at a Platinum Electrode.
J. Electroanal. Chem., **1991**, 297, 283-296.
105. Kita, H.; Ye, S.; Aramata, A.; Furuya, N. Adsorbed Hydrogen on Pt Single Crystal Electrodes in Acid and Alkali Solutions.

J. Electroanal. Chem., **1990**, 295, 317-331.

106. Kita, H.; Ye, S.; Aramata, A. Reaction Route of Hydrogen Electrode Reaction on Platinum.

DENNKI KAGAKU, **1990**, 58, 41-48.

総説類

1. 叶 深, 大澤雅俊, 和周波発生(SFG)分光法による擬似生体膜界面の分子構造解析, 触媒, **2011**, 54, 216-222
2. 叶 深, 非線形振動分光法による界面分子構造の解析, ぶんせき, **2006**, 632-639
3. 叶 深, 和周波発生(SFG)振動分光法, ぶんせき, **2006**, 500-505
4. 叶 深, 非線形振動分光法によるリン脂質二分子膜の構造評価, 分光研究, **2005**, 54, 109-110
5. 魚崎浩平, 叶 深, 和周波発生(SFG)による固液界面における水分子の構造評価, 真空, **2004**, 47, 529-534
6. 叶 深, 大澤雅俊, 魚崎浩平, 和周波発生(SFG)による水素終端 Si 表面の研究, 真空, **2004**, 47, 439-445.
7. 叶 深, 大澤雅俊, 和周波発生(SFG)による有機薄膜の界面分子構造の研究, 表面科学, **2003**, 24, 740-746.
8. 叶 深, 魚崎浩平, 電気化学的界面における吸着の *in situ* 測定と評価, (1) 吸着状態-STM による評価, 電気化学, **1998**, 66, 145-150
9. 葉(叶) 深, 単結晶電極上の電極反応と吸着種, 電気化学, **1993**, 61, 124-125
10. 喜多英明, 葉(叶) 深, 嶋津克明, 白金単結晶電極における吸着水素, 表面, **1988**, 26, 561-571

著書

1. 叶深, 和周波(SFG)分光法による電極溶液界面の構造変化測定, 「高性能リチウムイオン電池開発最前線」, 第1編第四章第6節, 83-91, エヌ・ティー・エス, 東京, 2013年.
2. 叶深, 和周波発生振動分光法, 「現代界面コロイド科学の事典」, II-3-10節, 100-101, 丸善, 2010
3. 叶深, 大澤雅俊, 和周波分光法(SFG), 「現代界面コロイド化学の基礎」(第3版), 日本化学会, 9.4.5節, 437-439, 丸善, 2009.
4. Ye, S.; Uosaki, K. "Sum Frequency Generation (SFG) Evaluation of the Chemically Modified Solid Surface" in *Encyclopedia of Electrochemistry* (ed. Bard, A. J.), Vol. 10, Section 7.1 (ed. Fujihira, M.), Wiley-VCH, Weinheim, 513-551, 2007.
5. 叶深, 西田拓磨, 光触媒反応の振動分光的研究, 「光触媒」(橋本, 大谷, 工藤編著), 2.9節, 80-89, エヌ・ティー・エス, 2005年.
6. 叶深, 魚崎浩平, SFG計測, 「ナノテクノロジーハンドブック」, II編, 69-74, オーム社, 2003年.
7. Ye, S.; Uosaki, K. "Atomically Controlled Electrochemical Deposition and Dissolution of Noble Metals" in *Encyclopedia of Electrochemistry* (ed. Bard, A. J.), Vol. 1, Section 4.1 (eds. Gileadi, E.; Urbakh, M.), Wiley-VCH, Weinheim, 471-512, 2002.
8. 魚崎, 猶原, 叶, 電極界面構造制御, 「界面ハンドブック」(岩澤, 梅澤, 澤田, 辻井編著), 722-729, エヌ・ティー・エス, 東京, 2001年.
9. Ye, S.; Ishibashi, C.; Uosaki, K. In situ STM Studies on Anisotropic Electrochemical Dissolution of Au(111) and Au(100) Electrodes in Perchloric Acid Solution Containing Chloride Anion in *Scanning Probe Microscopy for Electrode Characterization and Nanometer Scale Modification*, Volume: PV2000-35, 133-147, ed. Hansen, D., Isaacs H. and Sieradzki, K., The Electrochemical Society (2001).
10. Uosaki, K.; Koinuma, M.; Ye, S. Electronic and Morphological Structures of Semiconductor Electrodes in *Interfacial Electrochemistry*, ed. Wieckowski, A., Chapter 41, 737-755, Marcel Dekker, INC (1999).
11. Uosaki, K.; Ye, S.; Oda, Y.; Haba, T.; Hamada, K. Adsorption and Desorption of Platinum Complex on Au(111) Electrode in *Electrode Processes VI* ed. A. Wieckowski and K. Itaya, 168-179, The Electrochemical Society (1996)
12. Uosaki, K.; Koinuma, M.; Sekine, N.; Ye, S. Structure of the GaAs(100) Surface

During Electrochemical Reactions Determined by Electrochemical Atomic Force Microscopy in *Solid-Liquid Electrochemical Interfaces*, ed. G. Jerkiewicz, M. P. Soriaga, K. Uosaki and A. Wieckowski, 189-201, American Chemical Society (1996)

招待講演

1. 叶 深, 「非線形振動分光法によるリチウムイオン電池の電極溶液界面の構造追跡」, 新日鐵住金－北海道大学交流講演会, 2013.3.22, 札幌
2. Ye, S. Enzyme Catalyzed Hydrolysis of the Supported Lipid Bilayers Probed by Sum Frequency Generation (SFG) and Atomic Force Microscopy (AFM), *CRC International Symposium: New Challenges on the Bio-interfaces*, 2013.2.5-6, Sapporo, Japan
3. Ye, S. Molecular Study on the Lipid Membrane Surface Probed by Sum Frequency Generation (SFG), *The 14th International Conference on Vibrations at Surfaces (VAS14)*, 2012.9.24~28, Kobe, Japan
4. Ye, S. Solvent Adsorption on the LiCoO₂ Electrode Surface Probed by Nonlinear Vibrational Spectroscopy, *Spectroelectrochemistry 2012*, 2012.8.27, Dresden, Germany
5. Ye, S. *in situ* AFM and SFG Studies on the Hydrolysis Reaction of Supported Lipid Bilayer Catalyzed by Phospholipase A₂, *244th ACS, Structure, Dynamics, and Reactivity at Charged Interfaces Symposium*, 2012.8.22, Philadelphia, USA
6. 叶 深, 「SFG 分光法による界面水分子構造に関する研究」, 「水と界面」ワークショップ, 2012.1.26, 東京
7. 叶 深, 「白金単結晶電極におけるジメチルエーテル(DME)の電気化学的酸化反応の機構研究」, 第 31 回表面科学学術講演会, 2011.12.15~12.17, 東京.
8. Wu, H., Tong, Y., Yu, L., Ge, A., Osawa, M., Ye, S. Enzyme Reaction on the Phospholipid Bilayer Surface Evaluated by *in situ* SFG and AFM Observations, *The 3rd Asian Spectroscopy Conference*, 2011.11.28~12.1, Xiamen, China.
9. 叶 深, 「和周波発生(SFG)分光法による有機薄膜界面の分子構造解析」, 日本物理学会北陸支部特別講演会, 2011.11.8, 金沢
10. Tong, Y., Wu, H., Ge, A., Osawa, M., Ye, S. In *situ* Structural Study on the Hydrolysis Reaction of Lipid Bilayer Catalyzed by Phospholipase A₂ (PLA₂) Enzyme, *The 13th International Symposium on Electroanalytical Chemistry (13th ISEC)*, 2011.8.22, Changchun, China.
11. 叶 深, 「非線形振動分光法による固液界面分子構造に関する研究」, 電気化学学会第 78 回大会, シンポジウム : ナノスケール界面・表面の構造とダイナミクス,

2011.3.29～3.31, 横浜.

12. Ye, S. Solvent Adsorption on the LiCoO₂ Surface Studied by Sum Frequency Generation (SFG) Spectroscopy, *Symposium: Recent Advances in Studies of Molecular Processes at Liquid Interfaces*, in *Pacifichem 2010*, 2010.12.17, Honolulu, USA.
13. Ye, S. Electro-oxidation Reaction of Dimethyl Ether (DME) on Platinum Electrode, *Instituto de Quimica Fisica "Rocasolano" - CRC Joint Symposium*, 2010.5.31, Sapporo.
14. Ye, S. Mechanistic Studies Phospholipase A₂-catalyzed Hydrolysis of a Supported Phospholipid Bilayer by Sum Frequency Generation (SFG) Spectroscopy, *FHI-CRC Joint International Symposium*, 2010. 4. 1, Sapporo.
15. Ye, S. Nonlinear Vibrational Spectroscopy Study on Biomembrane Surface, The 5th LSW Symposium on Soft & Wet Matter, 2010.1.8, Sapporo.
16. Ye, S.; Liu, H.; Tong, Y.; Kuwata, N.; Osawa, M.; Kawamura, J. Solvent Adsorption on the LiCoO₂ Surface Investigated by Sum Frequency Generation (SFG) Spectroscopy, Workshop on Liquid Surfaces, *Workshop on Liquid Surfaces*, 2009.12. 3, Seoul, Korea.
17. Ye, S.; Liu, H.; Tong, Y.; Osawa, M.; Kuwata, N.; Kawamura, J. Adsorption Structure of Solvent on the LiCoO₂ Surface Studied by Nonlinear Vibrational spectroscopy, *The 3rd International Conference on Physics of Solid State Ionics (ICPSSI-3)*, 2009.10.24, Kumamoto.
18. Ye, S.; Liu, H.; Tong, Y.; Osawa, M.; Kuwata, N.; Kawamura, J. Structural Changes on Electrode Surface of Li-ion Battery Studied by Sum Frequency Generation (SFG) Spectroscopy, *ISE 2009 Post-conference*, Xiamen, 2009.8.23-26. Xiamen, China.
19. Ye, S. Molecular Structures of Lipid Films Investigated by Sum Frequency Generation (SFG) Spectroscopy, *The 2nd CRC Research Cluster Symposium on Structure and Function of Bio-interface*, 2008.10.30, Sapporo.
20. Ye, S.; Nishida, T.; Tong, Y.; Holman, J.; Osawa, M. "Molecular Structures on Solid Interface Probed by Sum Frequency Generation (SFG) Vibrational Spectroscopy", *WPI & IFCAM Joint Workshop "Challenge of Interdisciplinary Materials Science to Technological Innovation of the 21st Century"*, 2008.2.18, Sendai.
21. Ye, S.; Tong, Y.; Nishida, T.; Zhao, Y.; Tyrode, E.; Osawa, M. "Structural study on lipid bilayer interface by sum frequency generation (SFG) spectroscopy", *Symposium "Structure, Property, and Function of Cell Membranes and Membrane Related Biomolecules"*, 235th American Chemical Society (ACS) National Meeting, 2008.4.7, New Orleans, USA.
22. Ye, S.; Tong, Y.; Nishida, T.; Zhao, Y.; Tyrode, E.; Osawa, M. "Nonlinear Vibrational Spectroscopy Study on Molecular Structure on TiO₂ Photocatalyst Surface", *NIMS International Workshop on Photocatalysis* 2008. 2008.2.21, Inawasiro.

23. Ye, S.; Nishida, T.; Tong, Y.; Holman, J.; Osawa, M. "Molecular Structures on Solid Interface Probed by Sum Frequency Generation (SFG) Vibrational Spectroscopy", *WPI & IFCAM Joint Workshop "Challenge of Interdisciplinary Materials Science to Technological Innovation of the 21st Century"*, 2008.2.18, Sendai.
24. Ye, S. "Molecular Structure on the Solid Substrate Surface Modified by Organic Thin Films Probed by Sum Frequency Generation (SFG) Spectroscopy", *In-situ Characterization of Catalyst - Presence and Future Aspects, 2007 CRC Symposium*, 2007.9.21~22, Sapporo.
25. Ye, S.; Nishida, T.; Holman, J.; Tong, Y.; Osawa, M. "Interfacial Structures of Thin Film Materials Probed by Sum Frequency Generation (SFG) Spectroscopy," *Joint Symposium on Fundamental Aspects of Nanostructured Materials and Electrocatalysis*, 2007.6.24, Sapporo.
26. Ye, S. "Molecular Structures on the Organic Thin Film Interfaces Studied by SFG Vibrational Spectroscopy", 分子化学研究所研究会「和周波分光で拓く分子科学の新展開」, 2006.12.5~6, Okazaki.
27. Ye, S.; Nishida, T.; Johnson, M.; Tyrode, E.; Osawa, M. "Sum Frequency Generation (SFG) Study on the Interfacial Structures of Organic Thin Films", 第59回コロイドおよび界面化学討論会国際シンポジウム, 2006.9.13~15, Sapporo.
28. Ye, S.; Nishida, T.; Ma, Y.; Johnson, M.; Tyrode, E.; Osawa, M. "Molecular Structures on the Organic Thin Film Interfaces Probed by Sum Frequency Generation (SFG)", Symposium: "Advanced Vibrational Spectroscopy Studies on Organic, Polymer, and Biological Surfaces" in 232nd ACS National Meeting, 2006.9.10~14, San Francisco.
29. 叶 深, 「非線形振動分光法による界面分子構造の研究」, 平成17年度日本表面科学会東北支部講演会, 2006.3.9~10, 仙台
30. 叶 深, 「非線形分光による界面分子構造の研究」, 固液界面における物理化学と機能性界面物質相構築, 2005/11/26, 札幌.
31. 叶 深, 「生体高分子表面の分子構造の解明と機能性評価」, バイオテクノロジーの新展開, 応用物理学会, 有機分子・バイオエレクトロニクス分科会, 2005.11.17~18, 東京.
32. Ye, S. "Molecular Structure on the Interface of Organic Thin Films Investigated by Non-linear Vibrational Spectroscopy (Young Scientist Lecture), *Nanoscale Surface Self-Assembly a EuCheMS Conference*, 2005.6.19~23, Stockholm, Sweden.
33. 叶 深, 「SFG 振動分光法による有機薄膜の界面分子構造の研究」, 第二回 SFG ワークショップ, 2005/3/22~23, 名古屋.
34. 叶 深, 「非線形振動分光法による界面分子構造の解明」, 物質材料研究機構 (NIMS)・エコマテリアルセンター, 2005.1.21, 筑波.
35. Ye, S. "Sum Frequency Generation (SFG) Studies on the Organic Thin Films",

Analytical Seminar, Department of Chemistry, University of Michigan, 2004.8.13,
Ann Arbor.

36. Ye, S.; Noda, H.; Morita, S.; Nishida, T.; Osawa, M. "Interfacial Structure and Stability of Langmuir-Blodgett Films on Solid Substrates Studied by Sum Frequency Generation (SFG)", *The 10th International Conference on Organized Molecular Film*, 2003.10.6~11, Beijing.
37. 叶 深, 「和周波発生(SFG) 分光法による固液界面分子構造に関する研究の進展」, 2003年電気化学秋季大会, 2003.9.11~12, 札幌.
38. 叶 深, 「和周波発生(SFG)分光法による超親水 TiO₂ 表面における分子構造の研究」, 第3回光触媒研究討論会, 2003.7.7, 東京
39. 叶 深, 「ブロードバンド SFG 分光測定による LB 膜の界面分子構造の解析」, 名大物質国際研ワークショップ「和周波混合分光法」, 2003.3.13~14, 名古屋.

特許

1. 叶 深, 森田成昭, 「簡易ビスフェノールAセンサーおよび微量ビスフェノールAの検出方法」, 出願番号: 特願 2003-389078, 出願日: 平成 15 年 11 月 19 日