

Literaturverzeichnis

- [1] A. Ulman. Formation and Structure of Self-Assembled Monolayers. *Chem. Rev.* **96**, 1533–1554 (1996).
- [2] G. E. Poirier, M. J. Tarlov. Molecular Ordering and Gold Migration Observed in Butanethiol Self-Assembled Monolayers Using Scanning Tunneling Microscopy. *J. Phys. Chem.* **99**, 10966–10970 (1995).
- [3] G. E. Poirier. Characterization of Organosulfur Molecular Monolayers on Au(111) using Scanning Tunneling Microscopy. *Chem. Rev.* **97**, 1117–1127 (1997).
- [4] M. E. Napier, H. H. Thorp. Modification of Electrodes with Dicarboxylate Self-Assembled Monolayers for Attachment and Detection of Nucleic Acids. *Langmuir* **13**, 6342–6344 (1997).
- [5] G. E. Poirier, E. D. Pylant. The Self-Assembly Mechanism of Alkanethiols on Au(111). *Science*. **272**, 1145–1148 (1996).
- [6] R. L. Garrell, J. E. Chadwick, D. L. Severance, N. A. McDonald, D. C. Myles. Adsorption of Sulfur Containing Molecules on Gold: The Effect of Oxidation on Monolayer Formation and Stability Characterized by Experiments and Theory. *J. Am. Chem. Soc.* **117**, 11563–11571 (1995).

- [7] H. Ron, S. Matlis, I. Rubinstein. Self-Assembled Monolayers on Oxidized Metals. 2. Gold Surface Oxidative Pretreatment, Monolayer Properties, and Depression Formation. *Langmuir* **14**, 1116–1121 (1998).
- [8] H. M. Schessler, D. S. Karpovich, G. J. Blanchard. Quantitating the Balance between Enthalpic and Entropic Forces in Alkanethiol/Gold Monolayer Self Assembly. *J. Am. Chem. Soc.* **118**, 9645–9651 (1996).
- [9] C. A. Widrig, C. A. Alves, M. D. Porter. Scanning tunneling microscopy of ethanethiolate and n-octanedecanethiolate monolayers spontaneously adsorbed at gold surfaces. *J. Am. Chem. Soc.* **113**, 2805 (1991).
- [10] J. J. Calvente, Z. Kováčvá, M. D. Sanchez, R. Andreu, W. R. Fawcett. Desorption of Spontaneously Adsorbed and Electrochemically Readsorbed 2-Mercaptoethanesulfonate on Au(111). *Langmuir* **12**, 5696–5703 (1996).
- [11] D. E. Weisshaar, M. M. Walczak, M. D. Porter. Electrochemically Induced Transformations of Monolayers Formed by Self-Assembly of Mercaptoethanol at Gold. *Langmuir* **9**, 323–329 (1993).
- [12] A. S. Dakkourie, D. M. Kolb, R. Edelstein-Shima, D. Mandler. Scanning Tunneling Microscopy Study of L-Cystein on Au(111). *Langmuir* **12**, 2849–2852 (1996).
- [13] A. N. Nukhin, K. K. Ospanov, V. P. Vasilév, V. Y. Garavin. Thermodynamics of Unithiol complexes of lead(II) in aqueous solution. *Russ. J. Ionorg. Chem.* **37**, 571–573 (1992).
- [14] A. N. Nukhin. Thermochemistry of Unithiolate Mercury(II) Complexes in Aqueous Solution. *Russ. J. Ionorg. Chem.* **40**, 610–611 (1995).

- [15] K. K. Ospanov, V. A. Mirkin, G. S. Urazalina. Stability of Copper(I) Unithiolate in Ammoniacal Solutions. *Russ. J. Ionorg. Chem.* **32**, 1063 (1987).
- [16] J. Bockris, A. Reddy. *Modern Elektrochemistry 2*. Plenum/Rosetta, New York, (1970).
- [17] C. Hamann, W. Vielstich. *Elektrochemie II*. Elektrodenprozesse und angewandte Elektrochemie. Verlag Chemie - Physik Verlag, Weinheim, (1981).
- [18] W. Schmickler. *Grundlagen der Elektrochemie*, 29. Vieweg, Braunschweig/Wiesbaden.
- [19] J. Lipkowski, P. Ross. *Frontiers of Electrochemistry*, Vol. 2 of *Structure of electrified interfaces*. VCH, New York, (1993).
- [20] D. L. Abernathy, D. Gibbs, G. Grübel, K. G. Haung, S. Mochrie, A. R. Sandy, D. Zehner. Reconstruction of the (111) and (001) surfaces of Au and Pt: thermal behavior. *Surf. Sci.* **283**, 189–195 (1981).
- [21] D. M. Kolb. *Advances in Electrochemistry and electrochemical Engineering*, Vol. 11 of *Advances in Surface Science*. Springer, New York, (1978).
- [22] K. Jüttner, W. Lorenz. Underpotential Metal Deposition on Single Crystal Surfaces. *Z. Phys. Chem.* **122**, 163 (1980).
- [23] O. M. Magnussen. *In-situ Rastertunnelmikroskop-Untersuchungen zu Rekonstruktion, Anionenadsorption und Unterpotentialabscheidung auf Goldelektroden*. PhD thesis, Universität Ulm, (1993).

- [24] A. Hickling. The anodic behavior of metals. Part II- Gold. *Trans. Faraday Soc.* **42**, 518–523 (1946).
- [25] F. G. Will, C. A. Knorr. Untersuchnug von Adsorptionserscheinungen an Rhodium, Iridium, Palladium und Gold mit der potentiostatischen Dreieckmethode. *Z. Elektrochemie* **64**, 378–397 (1960).
- [26] J. W. Schultze, K. J. Vetter. Kinetik der elektrochemischen Bildung und Reduktion von monomolekularen Oxidschichten auf Gold. *Ber. Bunsenges. Phys. Chem.* **75**, 470–478 (1971).
- [27] H. Angerstein-Kozlowska, B. E. Conway, A. Hamelin, L. Stoicoviciu. Elementary steps of electrochemical oxidation of single-crystal planes of Au -I. Chemical basis of processes involving geometry of anions and the electrode surfaces. *J. El. Anal. Chem.* **31**, 1051–1058 (1986).
- [28] B. E. Conway. Electrochemical oxide film formation at noble metals as a surface chemical process. *Prog. Surf. Sci.* **49**, 331–339 (1995).
- [29] O. K. Valet. *Einfluß von Adsorbaten auf die Unterpotentialabscheidung von Kupfer auf Gold(111)*. Master's thesis, Freie Universität Berlin, (1996).
- [30] G. Binning. *Aus dem Nichts*. Piper, Braunschweig, (1992).
- [31] T. R. I. Cataldi, I. G. Blackham, G. A. D. Briggs, J. B. Pehtica, H. A. O. Hill. In situ scanning tunneling microscopy. *J. El. Anal. Chem.* **290**, 1–21 (1990).
- [32] L. A. Bottomley. Scanning Probe Microscopy. *Anal. Chem.* **70**, 425–475 (1998).

- [33] A. A. Gewirth, B. K. Niece. Electrochemical Applications of in Situ Scanning Probe Microscopy. *Chem. Rev.* **97**, 1129–1162 (1997).
- [34] J. G. Simmons. Generalized formula for the electric tunnel effect between similar electrodes separated by a thin insulated film. *J. Appl. Physics* **34**, 1793 (1963).
- [35] J. Bardeen. Tunneling from a many-particle point of view. *Phys. Rev. Lett.* **6**, 57–63 (1961).
- [36] J. Tersoff, D. R. Hamann. Theory of the scanning tunneling microscope. *Phys. Rev. B* **31**, 805–817 (1985).
- [37] W. Steele. Monolayers of Linear Molecules Adsorbed on the Graphite Basal Plane: Structures and Intermolecular Interactions. *Langmuir* **12**, 145–153 (1996).
- [38] K. H. Lee, M. Causa, , S. S. Park. Ab Initio Periodic Hartree-Fock Calculations for Interpretation of the Scanning Tunneling Microscope (STM) Images of Graphite. *J. Phys. Chem.* **102**, 6020–6024 (1998).
- [39] J. L. Vincente, E. E. Mola, G. Appignanessi, J. L. Zubimendi, L. Vazquez, R. C. Salvarezza, , A. J. Arvia. A Quantum Chemistry Approach to Possible Sulfur Adsorbate Structures on the Basal Plane of Graphite Clusters. *Langmuir* **12**, 19–22 (1996).
- [40] R. Garcia, N. Garcia. Electron conductance in organic chains: why are STM experiments possible on bare biological samples ? *Chem. Phys. Lett.* **173**, 44–56 (1990).

- [41] F. Faglioni, C. L. Claypool, N. S. Lewis, , W. A. G. III. Theoretical Description of the STM Images of Alkanes and Substituted Alkanes Adsorbed on Graphite. *J. Phys. Chem.* **101**, 59996–6020 (1997).
- [42] J. K. Spong, H. A. Mizes, L. J. L. Jr., M. M. Dovek, J. E. Frommer, J. S. Foster. **338**, 137 (1989).
- [43] P. Sautet. Images of Adsorbates with the Scanning Tunneling Microscope: Theoretical Approaches to the Contrast Mechanism. *Chem. Rev.* **97**, 1097–1116 (1997).
- [44] D. M. Cyr, B. Venkataraman, G. W. Flynn, A. Black, G. M. Whitesides. Functional Group Identification in Scanning Tunneling Microscopy of Molecular Adsorbates. *J. Phys. Chem.* **100**, 13747–13759 (1996).
- [45] S. J. Sowerby, M. Edelwirth, M. Reiter, W. M. Heckl. Scanning Tunneling Microscopy Image Contrast as a Function of Scan Angle in Hydrogen Bonded Self-Assembled Monolayers. *Langmuir* **14**, 5195–5202 (1998).
- [46] R. A. Marcus. Symmetry of asymmetry of k_{ET} and i_{STM} vs. potential curves. *J. Chem. Soc. Faraday Trans.* **92**, 3905–3908 (1996).
- [47] W. Schmickler, N. Tao. Measuring the inverted region of an electron transfer reaction with a scanning tunneling microscope. **42**, 2809–2815 (1997).
- [48] R. G. Nuzzo, B. R. Zegarski, L. H. Dubois. Fundamental Studies of the Chemisorption of Organosulfur Compounds on Au(111). Implications for Molecular Self-Assembly on Gold Surfaces. *J. Am. Chem. Soc.* **109**, 733–740 (1987).

- [49] R. Bhatia, B. J. Garrison. Phase Transitions in a Methyl-Terminated Monolayer Self-Assembled on Au(111). *Langmuir* **13**, 765–769 (1997).
- [50] M. A. Bryant, J. E. Pemberton. Surface Raman scattering of self-assembled monolayers formed from 1-alkanethiols: Behavior of films at Au and comparison to Ag. *J. Am. Chem. Soc.* **113**, 8284 (1991).
- [51] H. Sellers, A. Ulman, Y. Shnidman, J. E. Eilers. Structure and Binding of Alkanethiolates on Gold and Silver Surfaces: Implications for Self-Assembled Monolayers. *J. Am. Chem. Soc.* **115**, 9389–9401 (1993).
- [52] D. J. Lavrich, S. M. Wetterer, S. L. Bernasek, G. Scoles. Physisorption and Chemisorption of Alkanethiols and Alkyl Sulfides on Au(111). *J. Phys. Chem. B* **102**, 3456–3465 (1998).
- [53] D. S. Karpovich, G. J. Blanchard. Direct Measurement of the Adsorption Kinetics of Alkanethiolate Self-Assembled Monolayers on a Microcrystalline Gold Surface. *Langmuir* **10**, 3315–3322 (1994).
- [54] F. Bensebaa, R. Voicu, L. Huron, T. H. Ellis, E. Kruus. Kinetics of Formation of Long-Chain n-Alkanethiolate Monolayers on Polycrystalline Gold. *Langmuir* **13**, 5335–5340 (1997).
- [55] M. D. Porter, T. B. Bright, D. L. Allara, , C. E. D. Chidsey. Spontaneously Organized Molecular Assemblies. 4. Structural Characterization of n-Alkyl Thiol Monolayers on Gold by Optical Ellipsometry, Infrared Spectroscopy, and Electrochemistry. *J. Am. Chem. Soc.* **109**, 3559–3568 (1987).
- [56] K. M. Richard, A. A. Gewirth. Effects of Ring Substitution on the Binding of Cyanophenols on Au(111) Electrodes. *J. Phys. Chem.* **100**, 7204–7211 (1996).

- [57] G. E. Poirier. Mechanism of Formation of Au Vacancy Islands in Alkanethiol Monolayers on Au(111). *Langmuir* **13**, 2019–2026 (1997).
- [58] M. H. Dishner, J. C. Hemminger, F. J. Feher. Direct Observation of Substrate Influence on Chemisorption of Methanethiol Adsorbed from the Gas Phase onto the Reconstructed Au(111) Surface. *Langmuir* **13**, 2318–2322 (1997).
- [59] R. Yamada, K. Uosaki. *In Situ*, Real Time Monitoring of the Self-Assembly Process of Decanethiol on Au(111) in Liquid Phase. A Scanning Tunneling Microscopy Investigation. *Langmuir* **13**, 5218–5221 (1997).
- [60] K. J. Stevenson, M. Mitchell, H. S. White. Oxidative Adsorption of n-Alkanethiolates at Mercury. Dependence of Adsorption Free Energy on Chain Length. *J. Phys. Chem. B* **102**, 1235–1240 (1998).
- [61] G. E. Poirier, M. J. Tarlov. The c(4x2) Superlattice of n-Alkanethiol Monolayers Self-Assembled on Au(111). *Langmuir* **10**, 2853–2856 (1994).
- [62] R. Bhatia, B. J. Garrison. Structure of c(4x2) Superlattice in Alkanethiolate Self-Assembled Monolayers. *Langmuir* **13**, 4038–4043 (1997).
- [63] G. Nelles, H. Schönherr, M. Jaschke, H. Wolf, M. Schaub, J. Küther, W. Tremel, Ernst. Two-Dimensional Structure of Disulfides and Thiols on Gold(111). *Langmuir* **14**, 808–815 (1998).
- [64] C. Schönenberger, J. Jorritsma, J. A. M. Sondag-Huethorst, , L. G. J. Fokkink. Domain Structure of Self-Assembled Alkanethiol Monolayers on Gold. *J. Phys. Chem.* **99**, 3259–3271 (1995).

- [65] R. Heinz, J. P. Rabe. Scanning Tunneling Microscopy Investigation of Sulfide and Alkanethiolate Adlayers on Ag(111). *J. Am. Chem. Soc.* **117**, 506–511 (1995).
- [66] H. Schönherr, G. J. Vancso. Lattice Imaging of Self-Assembled Monolayers of Partially Fluorinated Disulfides and Thiols on Sputtered Gold by Atomic Force Microscopy. *Langmuir* **13**, 3769–3774 (1997).
- [67] T. Nakamura, H. Kondoh, M. Matsumoto, , H. Nozoye. Scanning Tunneling Microscopy Observations of α,ω -Bis(mercaptomethylthienyl)alkane Derivatives Self-Assembled on Au(111). *Langmuir* **12**, 5977–5679 (1996).
- [68] D. A. Hutt, G. J. Leggett. Desorption of Butanethiol from Au(111) during Storage in Ultrahigh Vacuum: Effects on Surface Coverage and Stability toward Displacement by Solution-Phase Thiols. *Langmuir* **13**, 3055–3058 (1997).
- [69] J.-P. Bucher, L. Santesson, K. Kern. Thermal Healing of Self-Assembled Organic Monolayers: Hexane- and Octadecanethiol on Au(111) and Ag(111). *Langmuir* **10**, No. 4 (1994).
- [70] N. C. III, T. B. Leung, P. Schwartz, P. Eisenberger, G. Scoles. Chain Length Dependence of the Striped Phases of Alkanethiol Monolayers Self-Assembled on Au(111): An Atomic Beam Diffraction Study. *Langmuir* **12**, 2737–2746 (1996).
- [71] J. Kang, P. A. Rowntree. Molecularly Resolved Surface Superstructures of Self-Assembled Butanethiol Monolayers on Gold. *Langmuir* **12**, 2813–2819 (1996).

- [72] I. Touzov, C. B. Gorman. Tip-Induced Structural Rearrangements of Alkanethiolate Self-Assembled Monolayers on Gold. *J. Phys. Chem. B* **101**, 5263–5276 (1997).
- [73] J. J. Gerdy, W. A. G. III. Atomistic Structure for Self-Assembled Monolayers of Alkanethiols on Au(111) Surfaces. *J. Am. Chem. Soc.* **118**, 3233–3236 (1996).
- [74] V. Chechik, H. Schönherr, G. J. Vancso, C. J. M. Stirling. Self-Assembled Monolayers of Branched Thiols and Disulfides on Gold: Surface-Coverage, Order and Chain Orientation. *Langmuir* **14**, 3003–3010 (1998).
- [75] H. Schönherr, H. Ringsdorf, M. Jaschke, H.-J. Butt, E. Bamberg, H. Allinson, S. D. Evans. Self-Assembled Monolayers of Symmetrical and Mixed Alkyl Fluoroalkyl Disulfides on Gold. 2. Investigation of Thermal Stability and Phase Separation. *Langmuir* **12**, 3898–3904 (1996).
- [76] C. A. Alves, E. L. Smith, M. D. Porter. Atomic scale imaging of alkanethiolate monolayers at gold surfaces with atomic force microscopy. *J. Am. Chem. Soc.* **114**, 1222 (1992).
- [77] J. A. M. Sondag-Huethorst, C. Schönenberger, L. G. J. Fokkink. Formation of Holes in Alkanethiol Monolayers on Gold. *J. Phys. Chem.* **98**, 6826–6834 (1994).
- [78] K. Edinger, M. Grunze, C. Wöll. Corrosion of Gold by Alkane Thiols. *Ber. Bunsenges. Phys. Chem.* **101**, 1181–1815 (1997).
- [79] P. G. V. Patten, J. D. Noll, M. L. Myrik. Comment on ‘Formation of Holes in Alkanethiol Monolayers on Gold’. *J. Phys. Chem. B* **101**, 7874–7875 (1997).

- [80] F. P. Zamborini, R. M. Crooks. Corrosion Passivation of Gold by n-Alkanethiol Self-Assembled Monolayers: Effect of Chain Length and End Group. *Langmuir* **14**, 3279–3286 (1998).
- [81] R. L. McCarley, D. J. Dunaway, R. J. Willicut. Mobility of the Alkanethiol-Gold(111) Interface Studied by Scanning Probe Microscopy. *Langmuir* **9**, 2775–2777 (1993).
- [82] C. Henke, C. Steinem, A. Janshoff, G. Steffan, H. Luftman, M. Sieber, H.-J. Galla. Self-Assembled Monolayers of Monofunctionalized Cyclodextrins onto Gold: A Mass Spectrometric Characterization and Impedance Analysis of Host-Guest Interaction. *Anal. Chem.* **68**, 3158–3165 (1996).
- [83] R. P. Janek, W. R. Fawcett, A. Ulman. Impedance Spectroscopy of Self-Assembled Monolayers on Au(111): Evidence for Complex Double-Layer Structure in Aqueous NaClO₄ at the Potential of Zero Charge. *J. Phys. Chem. B* **101**, 8550–8558 (1).
- [84] M. Jaschke, H.-J. Butt, H. E. Gaub, S. Manne. Surfactant Aggregates at a Metal Surface. *Langmuir* **13**, 1381–1384 (1997).
- [85] C. P. Smith, H. S. White. Voltammetry of Molecular Films Containing Acid/Base Groups. *Langmuir* **9**, 1–3 (1993).
- [86] K. Doblhofer, J. Figura, J.-H. Fuhrhop. Stability and Electrochemical Behavior of ‘Self-Assembled’ Adsorbates with Terminal Ionic Groups. *Langmuir* **8**, 1811–1816 (1992).
- [87] I. Turyan, D. Mandler. Characterization and Electroanalytical Application of ω -Mercaptoalkanesulfonic Acid Monolayers on Gold. *Israel J. Chem.* **37**, 225–233 (1997).

- [88] V. Molinero, E. J. Calvo. Electrostatic interaction at self assembled molecular films of charged thiols on gold. *J. El. Anal. Chem.* **445**, 17–25 (1998).
- [89] C. D. Hodneyl, M. Mrksich. Design of Self-Assembled Monolayers That Release Attached Groups Using Applied Electrical Potential. *Langmuir* **13**, 23 (1997).
- [90] M. Bruening, R. Cohen, J. F. Guillemoles, T. Moac, J. Libman, A. Shanzer, D. Cahen. Simultaneous Control of Surface Potential and Wetting of Solids with Chemisorbed Multifuncional Ligands. *J. Am. Chem. Soc.* **119**, 5720–5728 (1997).
- [91] K. V. Goby, T. Okajima, K. Tokuda, T. Ohsaka. Electrochemical Charakteristics of Self-Assembled Monolayers of a Novel Nickel(II)-Pentaazamacrocyclic Complex on a Gold Electrode. *Langmuir* **14**, 1108–1115 (1998).
- [92] V. Kane, P. Mulvaney. Double-Layer Interactions between Self-Assembled Monolayers of ω -Mercaptoundecanoic Acid on Gold Surfaces. *Langmuir* **14**, 3303–3311 (1998).
- [93] K. Slowinski, R. V. C. II, R. Bilewicz, M. Majda. Evidence for Inefficient Chain-to-Chain Coupling in Electron Tunneling through Liquid Alkanethiol Monolayer Films on Mercury. *J. Am. Chem. Soc.* **118**, 4709–4710 (1996).
- [94] M. French, S. E. Creager. Enhanced Barrier Properties of Alkanethiol-Coated Gold Electrodes by 1-Octanol in Solution. *Langmuir* **14**, 2129–2133 (1998).

- [95] J. S. Peanasky, R. L. McCarley. Surface-Confined Monomers on Electrode Surfaces. 4. Electrochemical and Spectroscopic Charakterisation of Undes-10-ene-1-thiol Self-Assembled Monolayers on Au. *Langmuir* **14**, 113–123 (1998).
- [96] G. K. Jennings, P. E. Laibinis. Self-Assembled n-Alkanethiolate Monolayers on Underpotentially Deposited Adlayers of Silver and Copper on Gold. *J. Am. Chem. Soc.* **119**, 5208–5214 (1997).
- [97] W. A. Hayes, C. Shannon. Nanometer-Scale Patterning of Surfaces Using Self-Assembled Chemistry. 3. Template-Directed Growth of Polymer Nanostructures on Organothiol Self-Assembled Mixed Monolayers. *Langmuir* **14**, 1099–1102 (1998).
- [98] J. M. Pope, N. Oyama. Organosulfur/Conducting Polymer Composite Cathodes. *J. El. Anal. Chem.* **145**, 1893–1901 (1998).
- [99] F. P. Zamborini, R. M. Crooks. In-Situ Electrochemical Scanning Tunneling Microscopy (ECSTM) Study of Cyanide-Induced Corrosion of Naked and Hexadecyl Mercaptan-Passivated Au(111). *Langmuir* **13**, 122–126 (1997).
- [100] C. Amatore, J. Savéant, D. Tessier. Charge Transfer at Partially Blocked Surfaces. *J. El. Anal. Chem.* **147**, 39–51 (1983).
- [101] Q. Cheng, A. Brajter-Toth. Permselectivity, Sensitivity and Amperometric pH Sensing at Thiotic Acid Monolayer Microelektrodes. *Anal. Chem.* **68**, 4180–4185 (1996).
- [102] C. A. Widrig, C. Chung, M. D. Porter. The electrochemical desorption of n-alkanethiol monolayers from polycrystalline Au and Ag electrodes. *J. El. Anal. Chem.* **310**, 335–359 (1991).

- [103] C. A. Szafranski, W. Tanner, P. E. Laibinis, R. L. Garrell. Surface-Enhanced Raman Spectroscopy of Aromatic Thiols and Disulfides on Gold Electrodes. *Langmuir* **14**, 3570–3579 (1998).
- [104] D. Hobara, K. Miyake, S. ichiro Imabayashi, K. Niki, T. Kakiuchi. In-Situ Scanning Tunneling Microscopy Imaging of the Reductive Desorption Process of Alkanethiols on Au(111). *Langmuir* **14**, 3590–3596 (1998).
- [105] L. Libioulle, Y. Houbion, J.-M. Gilles. Very Sharp Platinum Tips for Scanning Tunneling Microscopy. *Rev. Sci. Instrum.* **66**, 97–100 (1995).
- [106] A. P. Arnold, A. J. Canty, R. S. Reid, D. L. Rabenstein. Nuclear magnetic resonance and potentiometric studies of the complexation of methylmercury(II) by dithiols. *Can. J. Chem.* **63**, 2430–2436 (1985).
- [107] V. P. Vasilev, V. Y. Garavin, A. N. Nukhin, K. K. Ospanov. Thermodynamics of the Successive Ionisation of Unithiol in Aqueous Solution. *Russ. J. Phys. Chem.* **62**, 460–462 (1988).
- [108] A. H. V., M. M. M., B. F. B., H. C. A, H. B. E. Anti-lewisite activity and stability of mesodimercaptosuccinic acid and 2,3-dimercapto-1-propanesulfonic acid. *Life Sci.* **31**, 2149–21596 (1982).
- [109] V. A. Borodin, E. V. Kozlovskii, V. P. Vasilev. The Computer Processing of the Results of Potentiometric Studies of Complex Formation in Solution. *Russ. J. Ionorg. Chem.* **31**, 5–8 (1986).
- [110] K. B. Krauskopf. THE SOLUBILITY OF GOLD. *Econ. Geol.* **46**, 858–870 (1951).

- [111] A. R. Davis, F. W. B. Einstein, N. F. Curtis, J. W. L. Martin. Metal-Ammonia Solutions. 11. Au^- , a Solvated Transition Metal Anion. *J. Am. Chem. Soc.* **100**, 6260–6261 (1978).
- [112] B. B. und Konrad G. Weil. Existenz und Bindungsenergie des Cäsiu-maurid Moleküls. *Angew. Chem.* **91**, 668–669 (1979).
- [113] J. Knecht, R. Fischer, H. Overhof, F. Hensel. ESCA Study of Com-pounds of Gold in the Oxidation State -1. *J. Am. Chem. Soc.* **21**, 905–906 (1978).
- [114] E. Bunge, S. N. Port, B. Roelfs, H. Meyer, H. Baumgärtel, D. J. Schif-frin, R. J. Nichols. Adsorbate induced etching of Au(111)-surfaces stu-died by in-situ STM and infrared spectroscopy. *Langmuir* **14**, 114–125 (1997).
- [115] R. J. Nichols, O. M. Magnussen, J. Hotlos, T. Twomey, R. J. Behm, D. M. Kolb. in situ STM-Studie of the potential induced reconstruction phenomena on Au(111) and Au(100). *J. El. Anal. Chem.* **290**, 21 (1990).
- [116] D. J. Trevor, C. E. D. Chidsey. The influence of specific adsorption on the surfacemobility. *J. Phys. Chem. B*, 964 (1991).
- [117] W. Li, G. S. Hsiao, D. Harris, R. M. Nyffenegger, J. A. Virtanen, R. M. Penner. Mechanistic Study of Silver Nanoparticle Deposition Directed with the Tip of a Scanning Tunneling Microscope in an Electrolytic Environment. *J. Phys. Chem.* **100**, 20103–20113 (1996).
- [118] X. Gao, A. Hamelin, M. Weaver. Atomic relaxation at ordered electrode surfaces probed by scanning tunneling microscopy: Au(111) in aqueous solution compared with ultrahigh-vacuum environments. *J. Chem. Phys.* **95**, 6993–69996 (1991).

- [119] H. Angerstein-Kozlowska, B. E. Conway, A. Hamelin, L. Stoicoviciu. Elementary steps of electrochemical oxidation of single-crystal planes of Au. *J. El. Anal. Chem.* **228**, 429–453 (1987).
- [120] S. Šrbac, A. Hamelin, R. R. Adžč. Electrochemical indication of surface reconstruction of (100), (311) and (111) gold faces in alkaline solutions. *J. El. Anal. Chem.* **362**, 47–53 (1993).
- [121] D. F. Yang, C. Wilde, M. Morin. Studies of the Electrochemical Removal and Efficient Re-formation of a Monolayer of Hexadecanethiol Self-Assembled at an Au(111) Single Crystal in Aqueous Solutions. *Langmuir* **13**, 243–249 (1997).
- [122] J. R. Scott, L. S. Baker, W. R. Everett, C. L. Wilkins, I. Fritsch. Laser Desorption Fourier Transform Mass Spectrometry Exchange Studies of Air-Oxidized Alkanethiol Self-Assembled Monolayers on Gold. *Anal. Chem.* **69**, 2636–2639 (1997).
- [123] Y. Li, J. Huang, R. T. McIver, Jr., J. C. Hemminger. Characterization of Thiol Self-Assembled Films by Laser Desorption Fourier Transform Mass Spectrometry. *J. Am. Chem. Soc.* **114**, 2428–2432 (1992).
- [124] M. J. Tarlov, J. Donald R. F. Burgess, G. Gillen. UV Photopatterning of Alkanethiolate Monolayers Self-Assembled on Gold and Silver. *J. Am. Chem. Soc.* **115**, 5305–5306 (1993).
- [125] H. Rieley, N. J. Price, T. L. Smith, S. Yang. Photo-oxidation and photo-reduction in alkylthiol monolayers self-assembled on gold. *J. Chem. Soc., Faraday Trans.* **92**, 3629–3634 (1996).
- [126] E. Cooper, G. J. Leggett. Static Secondary Ion Mass Spectrometry Studies of Self-Assembled Monolayers: Influence of Adsorbate Chain

- Length and Terminal Functional Group on Rates of Photooxidation of Alkanethiols on Gold. *Langmuir* **14**, 4795–4801 (1998).
- [127] A. Briceno, S. Chander. Oxidation of hydrosulphide ions on gold Part I: A cyclic voltammetry study. *Journal of Applied Electrochemistry* **20**, 506–511 (1990).
- [128] C. Donner, , S. Kirste, L. Pohlmann, H. Baumgärtel. Inverted current-time transients - a new method for the determination of the potential of maximum adsorption in condensed layers. *Langmuir* **14**, 6999–7007 (1998).
- [129] C. Donner, L. Pohlmann. On the Interference of Adsorption, Condensation and Double Layer charging in Kinetic Studies of Film Formation. Part II: Nonconstant Double Layer Potential. *Langmuir* **15**, 4907–4915 (1999).
- [130] C. Donner, L. Pohlmann. Part I: Constant Double Layer Potential. *Langmuir* **15**, 4898–4806 (1999).
- [131] M. T. R. und Stefan A. Quaiser. Eine neue Methode zur Herstellung nanostrukturierter Metallcluster. *Angew. Chem.* **107**, 2461–2463 (1995).
- [132] K. Seshadri, S. V. Atre, Y.-T. Tao, M.-T. Lee, D. L. Allara. Synthesis of Crystalline, Nanometer-scale, -(CH₂)_x- Clusters and Films on Gold Surfaces. *J. Am. Chem. Soc.* **119**, 4698–4711 (1997).
- [133] C. Fan, L. Jiang. Preparation of Hydrophobic Nanometer Gold Particles and Their Optical Absorption in Chloroform. *Langmuir* **13**, 3059–3062 (1997).

- [134] H. Fan, G. P. Lòpez. Adsorption of Surface-Modified Colloidal Gold Particles onto Self-Assembled Monolayers: A Model System for the Study of Interactions of Colloidal Particles and Organic Surfaces. *Langmuir* **13**, 119–121 (1997).
- [135] S. R. Emory, S. Nie. Near-Filed Surface-Enhanced Raman Spectroscopy on Single Silver Nanoparticles. *Anal. Chem.* **69**, 2631–2635 (1997).
- [136] T. Schaaff, M. N. Shafiqullin., J. T. Khoury, I. Vezmar, R. L. Whetten, W. G. Cullen, P. N. First. Isolation of Smaller Nanocrystal Au Molecules: Robust Quantum Effects in Optical Spectra. *J. Phys. Chem.* **101**, 7885–7891 (1997).
- [137] K. V. Sarathy, G. Raina, R. T. Yadav, G. U. Kulkarni, C. N. R. Rao. Thiol-Derivatized Nanocrystalline Arrays of Gold, Silver and Platinum. *J. Phys. Chem. B* **101**, 9876–9880 (1997).
- [138] T. Schaaff, M. N. Shafiqullin, J. T. Khoury, I. Vezmar, R. L. Whetten, W. G. Cullen, P. N. First, C. Guttièrez-Wing, J. Isolation of Smaller Nanocrystal Au Molecules: Robust Quantum Effects in Optical Spectra. *J. Phys. Chem. B* **101**, 7885–7891 (1997).