

## Publikationen - AK Steinrück - Lehrstuhl für Physikalische Chemie II

**1998** (14)

G. Held, J. Schuler, W. Sklarek, H.-P. Steinrück

*Determination of adsorption sites of pure and coadsorbed CO on Ni(111) by high resolution X-ray photoelectron spectroscopy*

Surf. Sci. 398 (1998) 154-171.

P. Zebisch, M. Stichler, P. Trischberger, M. Weinelt, H.-P. Steinrück

*Tilted adsorption of benzene on Pt(110)1x2*

Surf. Sci. 396 (1998) 61-77.

M. Th. Litz, F. Fischer, H.-J. Lugauer, M. Keim, U. Zehnder, W. Ossau, Th. Gerhard, R. Gall, A. Waag, G. Landwehr, M. Nagelstraßer, H.-P. Steinrück, Th. Walter, D. Gerthsen

*Be-chalcogenides - heteroepitaxy and interface properties*

Appl. Surf. Sci. 123-124 (1998) 429-434.

M. Nagelstraßer, H. Dröge, F. Fischer, T. Litz, A. Waag, G. Landwehr, H.-P. Steinrück

*Photoelectron spectroscopy of molecular-beam epitaxially grown BeTe/ZnSe and BeTe/GaAs*

J. Cryst. Growth 184-185 (1998) 173-177.

H. Dröge, A. Fleszar, H.-P. Steinrück

*REELS measurements on a CdTe(100) surface*

J. Cryst. Growth 184-185 (1998) 208-212.

G. Held, W. Sklarek, M. Mayan, H.-P. Steinrück

*Characterization of thin copper films on Ni(111) by CO titration*

Surf. Sci. 402-404 (1998) 322-326.

M. Nagelstraßer, H. Dröge, F. Fischer, T. Litz, A. Waag, G. Landwehr, H.-P. Steinrück

*Band discontinuities and local interface composition in BeTe/ZnSe heterostructures*

J. Appl. Phys. 83 (1998) 4253-4257.

S. Gokhale, P. Trischberger, D. Menzel, W. Widdra, H. Dröge, H.-P. Steinrück, U. Birkenheuer, U. Gutdeutsch, N. Rösch

*Electronic structure of benzene adsorbed on single domain Si(001)-(2x1): A combined experimental and theoretical study.*

J. Chem. Phys. 108 (1998) 5554-5564.

M. Nagelstraßer, H. Dröge, H.-P. Steinrück, F. Fischer, T. Litz, A. Waag, G. Landwehr, A. Fleszar, W. Hanke

*Band structure of BeTe: A combined experimental and theoretical study*

Phys. Rev. B 58 (1998) 10394-10400.

Th. Seyller, D. Borgmann, G. Wedler

*Interaction of CO<sub>2</sub> with Cs-promoted Fe(110) as compared to Fe(110)/K+CO<sub>2</sub>*

Surf. Sci. 400 (1998) 63-79.

D. Borgmann, K. Rührschopf, G. Wedler

*Surface reactivity of iron silicide*

Surf. Rev. Lett. 5 (1998) 261-264.

Th. Seyller, K. Rührschopf, D. Borgmann, G. Wedler

*CO as adsorbate and reaction product in the systems Fe(110)/Cs+CO and Fe(110)/Cs+CO<sub>2</sub>*

Surf. Rev. Lett. 5 (1998) 569-579.

R. Kleyna, D. Borgmann, G. Wedler  
*Adsorption and reaction of propene on Ni(100)*  
Surf. Sci. 402-404 (1998) 131-134.

R. Kleyna, S. Fickert, D. Borgmann, G. Wedler  
*Interaction of propene with pure and hydrogen-precovered nickel films. Studied by means of isothermal reaction mass spectrometry and thermal desorption spectroscopy*  
Langmuir 14 (1998) 5464-5468.

### **1999** (21)

H. Koschel, G. Held, P. Trischberger, W. Widdra, U. Birkenheuer, H.-P. Steinrück  
*Electronic Properties of a Pseudomorphic Cu-Layer on Ni(111)*  
Appl. Surf. Sci. 142 (1999) 18-22.

W. Sklarek, G. Held, C. Ammon, H.-P. Steinrück  
*The growth of ultrathin Cr films on benzene-covered Ni(111)*  
Appl. Surf. Sci. 142 (1999) 327-331.

S. Kneitz, J. Gemeinhardt, H. Koschel, G. Held, H.-P. Steinrück  
*Energy and temperature dependent sticking coefficients of CO on ultrathin copper layers on Ru(001)*  
Surf. Sci. 433-435 (1999) 27-31.

H. Dröge, A. Fleszar, W. Hanke, M. Sing, M. Knupfer, J. Fink, F. Goschenhofer, C. R. Becker, R. Kargerbauer, H.-P. Steinrück  
*Complex loss function of CdTe*  
Phys. Rev. B 59 (1999) 5544-5550.

H. Koschel, G. Held, P. Trischberger, W. Widdra, H.-P. Steinrück  
*Benzene adsorption on a pseudomorphic Cu monolayer on Ni(111) - a combined TPD and ARUPS study*  
Surf. Sci. 437 (1999) 125-136.

R. Girwidz, J. Schmidt, H.-P. Steinrück  
*Geometrische Optik am Computer*  
Phys. Unserer Zeit 30 (1999) 216-218.

S. Kneitz, J. Gemeinhardt, H.-P. Steinrück  
*A molecular beam study of the adsorption dynamics of CO on Ru(0001), Cu(111) and a pseudomorphic Cu monolayer on Ru(0001)*  
Surf. Sci. 440 (1999) 307-320.

H. Koschel, G. Held, H.-P. Steinrück  
*The orientation of benzene on bimetallic surfaces*  
Surf. Rev. Lett. 6 (1999) 893-901.

Th. Seyller, R. Haseneder, E. Reinhart, D. Borgmann, G. Wedler  
*Characterization of K and Cs adsorption on Fe(110)*  
Surf. Sci. 424 (1999) 278-289.

R. Kleyna, H. Mex, M. Voß, D. Borgmann, L. Viscido, J. M. Heras  
*Modification of MoO<sub>3</sub> surfaces by vapour-deposited cobalt atoms*  
Surf. Sci. 433-435 (1999) 723-727.

R. Kleyna, D. Borgmann, G. Wedler  
*Temperature dependent reaction of propene on Ni(100) single crystal surfaces*  
Surf. Sci. 433-435 (1999) 205-209.

M. Voß, D. Borgmann, G. Wedler

*Growth and oxidation of Fe films on polycrystalline Ag catalysts*

Surf. Sci. 433-435 (1999) 559-562.

M. Voß, G. Fröhlich, D. Borgmann, G. Wedler

*Catalytic reactions of mixtures of carbon dioxide, ethene and hydrogen on cobalt surfaces*

J. Catal. 187 (1999) 348-357.

S. Sundin, M. Bäessler, R. Denecke, M. Weiss, P. Väterlein, A. Nilsson, S. Svensson

*Imaging properties of beam line optics for undulator based third generation synchrotron facilities*

Rev. Sci. Instrum. 70 (1999) 14-17.

R. Denecke, P. Väterlein, M. Bäessler, N. Wassdahl, S. Butorin, A. Nilsson, J.-E. Rubensson, J. Nordgren, N. Mårtensson, R. Nyholm

*Beamline I511 at MAX II, capabilities and performance*

J. Electron Spectrosc. Relat. Phenom. 101-103 (1999) 971-977.

R. Denecke, J. Morais, R. X. Ynzunza, J. G. Menchero, J. Liesegang, C. S. Fadley

*Magnetic circular dichroism in photoelectron angular distributions from Gd(0001)*

J. Electron Spectrosc. Relat. Phenom. 101-103 (1999) 263-269.

A. W. Kay, E. Arenholz, B. S. Mun, J. Garcia de Abajo, C. S. Fadley, R. Denecke, Z. Hussain, M. A. Van Hove  
*Multiple atom resonant photoemission: a new technique for studying near-neighbor atomic identities and bonding*

J. Electron Spectrosc. Relat. Phenom. 101-103 (1999) 647-652.

S. Thevuthasan, Y. J. Kim, S. I. Yi, S. A. Chambers, J. Morais, R. Denecke, C. S. Fadley, P. Liu, T. Kendelewicz, G. E. Brown Jr.

*Surface structure of MBE-grown  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>(0001) by intermediate-energy X-ray photoelectron diffraction*

Surf. Sci. 425 (1999) 276-286.

R. X. Ynzunza, F. J. Palomares, E. D. Tober, Z. Wang, J. Morais, R. Denecke, H. Daimon, Y. Chen, Z. Hussain, M. A. Van Hove, C. S. Fadley

*Structure determination for saturated (1x1) oxygen on W(110) from full solid angle photoelectron diffraction with chemical-state resolution*

Surf. Sci. 442 (1999) 27-35.

J. Landskron, W. Moritz, B. Narloch, G. Held, D. Menzel

*Analysis of thermal vibrations by temperature-dependent low energy electron diffraction: comparison of soft modes of pure and O-coadsorbed CO on Ru(0001)*

Surf. Sci. 441 (1999) 91-106.

S. Schinzer, M. Kinne, M. Biehl, W. Kinzel

*The role of step edge diffusion in epitaxial crystal growth*

Surf. Sci. 439 (1999) 191-198.

## **2000** (11)

H. Koschel, G. Held, H.-P. Steinrück

*Electronic structure and orientation of benzene adsorbed on a pseudomorphic Cu monolayer on Ru(0001)*

Surf. Sci. 454-456 (2000) 83-87

H. Dröge, M. Nagelstraßer, J. Nürnberger, W. Faschinger, A. Fleszar, H.-P. Steinrück

*The electronic band structure of ZnSe(100)*

Surf. Sci. 454-456 (2000) 477-482.

R. Girwidz, O. Gößwein, H.-P. Steinrück  
*Atomphysik am Computer*  
Phys. Unserer Zeit 31 (2000) 165-167.

H. Koschel, G. Held, H.-P. Steinrück  
*The growth of thin Cu layers on Ni(111) studied by CO titration and photoelectron spectroscopy*  
Surf. Sci. 453 (2000) 201-213.

R. X. Ynzunza, H. Daimon, F. J. Palomares, E. D. Tober, Z. Wang, F. J. García de Abajo, J. Morais, R. Denecke, J. B. Kortright, Z. Hussain, M. A. Van Hove, C. S. Fadley  
*Circular Dichroism in Core Photoelectron Emission from (1x1) Oxygen on W(110): Experiment and Multiple-scattering Theory*  
J. Electron Spectrosc. Relat. Phenom. 106 (2000) 7-28.

R. X. Ynzunza, R. Denecke, F. J. Palomares, J. Morais, E. D. Tober, Z. Wang, F. J. Garcia de Abajo, J. Liesegang, Z. Hussain, M. A. Van Hove, C. S. Fadley  
*Kinetics and atomic structure of O adsorption on W(110) from time- and state-resolved photoelectron spectroscopy and full-solid-angle photoelectron diffraction*  
Surf. Sci. 459 (2000) 69-92.

J. Morais, G. H. Fecher, R. Denecke, Z. Hussain, C. S. Fadley  
*Magnetic dichroism in core-level photoemission from Gd(0001)*  
J. Appl. Phys. 87 (2000) 4900-4902.

J. Hasselström, A. Föhlisch, R. Denecke, A. Nilsson, F. M. F. de Groot  
*Crystal-field splitting in coadsorbate systems: c(2x2) CO/K/Ni(100)*  
Phys. Rev. B 62 (2000) 11192-11196.

M. Voß, D. Borgmann, G. Wedler  
*Electron spectroscopic studies of the methanol adsorption on polycrystalline Ag catalysts*  
Surf. Sci. 465 (2000) 211-218.

M. Ahr, M. Biehl, M. Kinne, W. Kinzel  
*The influence of the crystal lattice on coarsening in unstable epitaxial growth*  
Surf. Sci. 465 (2000) 339-346.

A. Neubrand, R. Lindner, P. Hoffmann  
*Room-temperature solubility behavior of barium titanate in aqueous media*  
J. Am. Ceram. Soc. 83 (2000) 860-864.

## **2001** (17)

W. Braun, G. Held, H.-P. Steinrück, Ch. Stellwag, D. Menzel  
*Coverage-dependent changes in the adsorption geometries of ordered benzene layers on Ru(0001)*  
Surf. Sci. 475 (2001) 18-36.

Th. Gleim, C. Heske, E. Umbach, C. Schumacher, W. Faschinger, Ch. Ammon, M. Probst, H.-P. Steinrück  
*Reduction of the ZnSe/GaAs(100) Valence Band Offset by a Te Interlayer*  
Appl. Phys. Lett. 78 (2001) 1867-1869.

H. Koschel, U. Birkenheuer, G. Held, H.-P. Steinrück  
*Correlation between chemical properties and electronic structure of pseudomorphic Cu monolayers on Ni(111) and Ru(0001)*  
Surf. Sci. 477 (2001) 113-125.

M. Probst, M. Voß, R. Denecke, L. Viscido, J. M. Heras, D. Borgmann, H.-P. Steinrück

*Electron spectroscopic studies of vapor-deposited Co layers on MoO<sub>3</sub> surfaces*

J. Electron Spectrosc. Relat. Phenom. 114-116 (2001) 539-544.

J. Pantförder, R. Domnick, Ch. Ammon, G. Held, H.-P. Steinrück

*Formation of a new type of chromium oxide by deposition of chromium onto water precovered Cu(111)*

Surf. Sci. 480 (2001) 73-83.

R. Domnick, G. Held, H. Koschel, Ch. Ammon, H.-P. Steinrück

*Segregation effects and chemical properties of nickel monolayers on Cu(111)*

Surf. Sci. 482-485 (2001) 1292-1297.

Ch. Ammon, G. Held, J. Pantförder, H.-P. Steinrück

*Growth and electronic properties of thin Zn layers on Cu(111)*

Surf. Sci. 482-485 (2001) 886-890.

R. Domnick, G. Held, P. Witte, H.-P. Steinrück

*The transition from oxygen chemisorption to oxidation of ultra-thin Ni layers on Cu(111)*

J. Chem. Phys. 115 (2001) 1902-1908.

G. Held, H.-P. Steinrück

*Surface structure analysis based on the exclusive use of the specular LEED spot - a theoretical study*

Surf. Sci. 490 (2001) 274-284.

C. M. Whelan, R. Neubauer, D. Borgmann, R. Denecke, H.-P. Steinrück

*A fast X-ray photoelectron spectroscopy study of the adsorption and temperature-dependent decomposition of propene on Ni(100)*

J. Chem. Phys. 115 (2001) 8133-8140.

M. Zharnikov, H.-P. Steinrück

*Holography with photoelectrons: a direct approach*

J. Phys. Condens. Matter 13 (2001) 10533-10560 (Invited Article).

G. Held, W. Braun, H.-P. Steinrück, S. Yamagishi, S. J. Jenkins, D. A. King

*Light-atom location in adsorbed benzene by experiment and theory*

Phys. Rev. Lett. 87 (2001) 216102 1-4.

L. Viscido, M. Voß, D. Borgmann, J. M. Heras

*The behavior of vapor deposited Co layers on MoO<sub>3</sub> surfaces at 90 and 300 K*

J. Mol. Catal. A: Chem. 167 (2001) 199-206.

M. Biehl, M. Ahr, M. Kinne, W. Kinzel, S. Schinzer

*Particle currents and the distribution of terrace sizes in unstable epitaxial growth*

Phys. Rev. B 64 (2001) 113405 1-4.

D. Nordlund, M. G. Garnier, N. Witkowski, R. Denecke, A. Nilsson, M. Nagasono, N. Mårtensson, A. Föhlisch

*Limits to the quantitative analysis of multiatom resonant photoemission: the case of c(2x2)O/Ni(100)*

Phys. Rev. B 63 (2001) 121402 1-4.

J. Morais, G. H. Fecher, R. Denecke, J. Liesegang, C. S. Fadley

*Dichroism in angular resolved XPS from gadolinium core-levels*

J. Electron Spectrosc. Relat. Phenom. 114-116 (2001) 783-788.

B. Sauerhammer, K. Johnson, C. Greenwood, W. Braun, G. Held, D. A. King

*Ir(110)-(1x3)-H, an intermediate phase between the (1x1) and the (1x5) phases of Ir(100)*

Surf. Sci. 488 (2001) 154-163.

**2002** (15)

C. M. Whelan, R. Neubauer, R. Denecke, H.-P. Steinrück

*A temperature programmed x-ray photoelectron spectroscopy study of the decomposition reactions of unsaturated hydrocarbons on Ni(100)*

Surf. Rev. Lett. 9 (2002) 789-795.

R. Denecke, M. Kinne, C. M. Whelan, H.-P. Steinrück

*In-situ core-level photoelectron spectroscopy of adsorbates on surfaces involving a molecular beam - general setup and first experiments*

Surf. Rev. Lett. 9 (2002) 797-801.

M. Probst, R. Denecke, C. Whelan, M. Kinne, D. Borgmann, H.-P. Steinrück

*Electron spectroscopic studies of iron and iridium silicides*

Surf. Interface Anal. 34 (2002) 744-748.

R. Neubauer, C. M. Whelan, R. Denecke, H.-P. Steinrück

*An in situ photoemission study of the dehydrogenation reaction of methanol on Ni(100)*

Surf. Sci. 507-510 (2002) 832-837.

Ch. Ammon, A. Bayer, G. Held, B. Richter, Th. Schmidt, H.-P. Steinrück

*Dissociation and oxidation of methanol on Cu(110)*

Surf. Sci. 507-510 (2002) 845-850.

M. P. Engelhardt, T. Fuhrmann, G. Held, R. Denecke, H.-P. Steinrück

*Adsorption of CO on ultrathin Cr layers on Ru(0001)*

Surf. Sci. 512 (2002) 107-116.

S. H. Payne, J. Kreuzer, M. Kinne, R. Denecke, H.-P. Steinrück

*Strong repulsion and site exclusion in a system with ontop and bridge sites on a one-dimensional lattice: equilibrium and kinetics*

Surf. Sci. 513 (2002) 174-202.

R. Dornick, G. Held, H.-P. Steinrück

*Temperature dependent oxidation of thin Ni layers on Cu(111)*

Surf. Sci. 516 (2002) 95-102.

Th. Gleim, L. Weinhardt, Th. Schmidt, R. Fink, C. Heske, E. Umbach, P. Grabs, G. Schmidt, L. Molenkamp, B. Richter, A. Fleszar, H.-P. Steinrück

*Energy level alignment at zinc blende Cd(Mn)Se/ZnTe/InAs(100) interfaces*

Appl. Phys. Lett. 81 (2002) 3813-3815.

M. Kinne, T. Fuhrmann, C. M. Whelan, J. Zhu, J. Pantförder, M. Probst, G. Held, R. Denecke, H.-P. Steinrück  
*Kinetic parameters of CO adsorbed on Pt(111) studied by in situ high resolution x-ray photoelectron spectroscopy*

J. Chem. Phys. 117 (2002) 10852-10859.

S. Walter, J. Bernhardt, U. Starke, K. Heinz, F. Maier, J. Ristein, L. Ley

*Geometry of the (2x1) reconstruction of diamond(111)*

J. Phys. Condens. Matter 14 (2002) 3085-3092.

G. Held

*Low-Energy Electron Diffraction*

in "Surface and Thin Film Analysis - A Compendium of Principles, Instrumentation, and Applications",  
Ed. H. Bubern and H. Jenett, Wiley-VCH, Weinheim, 2002.

R. Denecke, J. Morais, R. X. Ynzunza, G. H. Fecher, J. G. Menchero, J. Liesegang, J. Kortright, Z. Hussain, C. S. Fadley  
*Angular and temperature dependence of the magnetic circular dichroism in 4d core-level photoemission from Gd(0001)*  
Phys. Rev. B 65 (2002) 245421 1-18.

G. Seewald, E. Zech, H. J. Körner, D. Borgmann, M. Dietrich, ISOLDE Collaboration  
*Electric Quadrupolar Contribution to the Nuclear Spin-Lattice Relaxation of Ir in Fe*  
Phys. Rev. Lett. 88 (2002) 057601 1-4.

M. Voß, D. Borgmann, G. Wedler  
*Characterization of alumina, silica, and titania supported cobalt catalysts*  
J. Catal. 212 (2002) 10-21.

### **2003** (8)

J. F. Zhu, M. Kinne, T. Fuhrmann, R. Denecke, H.-P. Steinrück  
*In situ high-resolution XPS studies on adsorption of NO on Pt(111)*  
Surf. Sci. 529 (2003) 384-396.

Th. Gleim, C. Heske, E. Umbach, C. Schumacher, S. Gundel, W. Faschinger, A. Fleszar, Ch. Ammon, M. Probst, H.-P. Steinrück  
*Formation of the ZnSe/(Te)/GaAs(100) Heterojunction*  
Surf. Sci. 531 (2003) 77-85.

R. Denecke, B. Tränkenschuh, M. P. Engelhardt, H.-P. Steinrück  
*Adsorption kinetics of CO on Cr/Ru surfaces*  
Surf. Sci. 532-535 (2003) 173-178.

Th. Gleim, L. Weinhardt, Th. Schmidt, R. Fink, C. Heske, E. Umbach, L. Hansen, G. Landwehr, A. Waag, A. Fleszar, B. Richter, Ch. Ammon, M. Probst, H.-P. Steinrück  
*Influence of As passivation on the electronic level alignment at BeTe/Si(111) interfaces*  
Phys. Rev. B 67 (2003) 205315 1-6.

R. Neubauer, C. M. Whelan, R. Denecke, H.-P. Steinrück  
*The thermal chemistry of saturated layers of acetylene and ethylene on Ni(100) studied by in situ synchrotron x-ray photoelectron spectroscopy*  
J. Chem. Phys. 119 (2003) 1710-1718.

Ch. Ammon, A. Bayer, H.-P. Steinrück, G. Held  
*Low temperature partial dissociation of water on Cu(110)*  
Chem. Phys. Lett. 377 (2003) 163-169.

J.-S. McEwen, S. H. Payne, H. J. Kreuzer, M. Kinne, R. Denecke, H.-P. Steinrück  
*Adsorption and desorption of CO on Pt(111): a comprehensive analysis*  
Surf. Sci. 545 (2003) 47-69.

J. F. Zhu, M. Kinne, T. Fuhrmann, B. Tränkenschuh, R. Denecke, H.-P. Steinrück  
*The adsorption of NO on an oxygen pre-covered Pt(111) surface: in situ high-resolution XPS combined with molecular beam studies*  
Surf. Sci. 547 (2003) 410-420.

**2004** (6)

- M. Kinne, T. Fuhrmann, J. F. Zhu, C. M. Whelan, R. Denecke, H.-P. Steinrück  
*Kinetics of the CO oxidation reaction on Pt(111) studied by in situ high resolution x-ray photoelectron spectroscopy*  
J. Chem. Phys. 120 (2004) 7113-7122.
- M. Kinne, T. Fuhrmann, J. F. Zhu, B. Tränkenschuh, R. Denecke, H.-P. Steinrück  
*Coadsorption of D<sub>2</sub>O and CO on Pt(111) studied by in situ high-resolution x-ray photoelectron spectroscopy*  
Langmuir 20 (2004) 1819-1826.
- T. Fuhrmann, M. Kinne, C. M. Whelan, J. F. Zhu, R. Denecke, H.-P. Steinrück  
*Vibrationally resolved in situ XPS study of activated adsorption of methane on Pt(111)*  
Chem. Phys. Lett. 390 (2004) 208-213.
- W. Braun, H.-P. Steinrück, G. Held  
*The surface geometry of carbon monoxide and oxygen co-adsorbed on Ni(111)*  
Z. Phys. Chem. 218 (2004) 915-927.
- S. Pöllmann, A. Bayer, Ch. Ammon, H.-P. Steinrück  
*Adsorption and reaction of methanol on clean and oxygen precovered Cu(111)*  
Z. Phys. Chem. 218 (2004) 957-971.
- H. Marbach, S. Günther, T. Neubrand, R. Imbihl  
*Mass transport of alkali metal with pulses: catalytic NO reduction with hydrogen on Rh(110)/K*  
Chem. Phys. Lett. 395 (2004) 64-69.

**2005** (12)

- W. Braun, H.-P. Steinrück, G. Held  
*The surface geometry of carbon monoxide and hydrogen co-adsorbed on Ni(111)*  
Surf. Sci. 574 (2005) 193-204.
- J. Pantförder, S. Pöllmann, J. F. Zhu, D. Borgmann, R. Denecke, H.-P. Steinrück  
*New set-up for in situ x-ray photoelectron spectroscopy from ultrahigh vacuum to 1 mbar*  
Rev. Sci. Instrum. 76 (2005) 014102 1-9.
- W. Braun, H.-P. Steinrück, G. Held  
*The surface geometries of the medium and high coverage carbon monoxide structures c(2x4)-(2CO) and p( $\sqrt{7}\times\sqrt{7}$ )R19°-(4CO) on Ni(111)*  
Surf. Sci. 575 (2005) 343-357.
- G. Held, H.-P. Steinrück  
*Cyclic hydrocarbons*  
Landolt-Börnstein "Physics of Covered Solid Surfaces - Adsorbed Layers on Surfaces", Editor: H. P. Bonzel, Vol. III/42, Subvolume A4, Kapitel 3.8.7. (2005) S. 300-369 (Invited Contribution).
- R. Denecke, N. Mårtensson  
*Adsorbate induced surface core level shifts of metals*  
Landolt-Börnstein "Physics of Covered Solid Surfaces - Adsorbed Layers on Surfaces", Editor: H. P. Bonzel, Vol. III/42, Subvolume A4, Kapitel 3.8.7. (2005) S. 388-421 (Invited Contribution).
- R. Denecke  
*Surface chemistry studied by in situ X-ray photoelectron spectroscopy*  
Appl. Phys. A 80 (2005) 977-986 (Invited Contribution).

M. P. Engelhardt, M. Schmid, A. Biedermann, R. Denecke, H.-P. Steinrück, P. Varga  
*An STM study of growth and alloying of Cr on Ru(0001) and CO adsorption on the alloy*  
Surf. Sci. 578 (2005) 124-135.

W. Braun, G. Held

*The exclusive use of integer-order spots for LEED-IV structure analysis of adsorption systems: p(2x2)-O on Ni(111)*  
Surf. Sci. 594 (2005) 203-211.

T. Fuhrmann, M. Kinne, B. Tränkenschuh, C. Papp, J. F. Zhu, R. Denecke, H.-P. Steinrück  
*Activated adsorption of methane on Pt(111) - an in situ XPS study*  
New J. Phys. 7 (2005) 107 1-19 (Invited Contribution).

A. Nikitin, H. Ogasawara, D. Mann, R. Denecke, Z. Zhang, H. Dai, K. Cho, A. Nilsson  
*Hydrogenation of Single-Walled Carbon Nanotubes*  
Phys. Rev. Lett. 95 (2005) 225507 1-4.

J. F. Zhu, M. Kinne, T. Fuhrmann, B. Tränkenschuh, R. Denecke, H.-P. Steinrück  
*Coadsorption of NO and CO on a Pt(111) surface studied by high-resolution synchrotron radiation photoemission*  
Kapitel in: "Surface Science: New Research", ISBN 1-59454-404-2, Editor: Charles P. Norris, S. 217-235, 2005 Nova Science Publishers, Inc.

O. Guise, H. Marbach, J. T. Yates, M. C. Jung, J. Levy, J. Ahner  
*Development and performance of the nanoworkbench: A four tip STM for conductivity measurements down to submicrometer scales*  
Rev. Sci. Instrum. 76 (2005) 045107 1-8.

## **2006** (9)

A. Bayer, K. Flechtner, R. Denecke, H.-P. Steinrück, K. M. Neyman, N. Rösch  
*Electronic Properties of Thin Zn Layers on Pd(111) During Growth and Alloying*  
Surf. Sci. 600 (2006) 78-94.

B. Tränkenschuh, N. Fritsche, T. Fuhrmann, C. Papp, J. F. Zhu, R. Denecke, H.-P. Steinrück  
*A site-selective in situ study of CO adsorption and desorption on Pt(355)*  
J. Chem. Phys. 124 (2006) 074712 1-9.

J. M. Gottfried, K. Flechtner, A. Kretschmann, T. Lukasczyk, H.-P. Steinrück  
*Direct synthesis of a metalloporphyrin complex on a surface*  
J. Am. Chem. Soc. 128 (2006) 5644-5645.

C. Papp, T. Fuhrmann, B. Tränkenschuh, R. Denecke, H.-P. Steinrück  
*Site selectivity of benzene adsorption on Ni(111) studied by high resolution x-ray photoelectron spectroscopy*  
Phys. Rev. B 73 (2006) 235426 1-9.

J. M. Gottfried, E. K. Vestergaard, P. Bera, C. T. Campbell  
*Heat of Adsorption of Naphthalene on Pt(111) Measured by Adsorption Calorimetry*  
J. Phys. Chem. B 110 (2006) 17539-17545.

S. Günther, R. Hoyer, H. Marbach, R. Imbihl, F. Esch, C. Africh, G. Comelli, M. Kiskinova  
*K and mixed K + O adlayers on Rh(110)*  
J. Chem. Phys. 124 (2006) 014706 1-7.

F. Maier, J. M. Gottfried, J. Rossa, D. Gerhard, P. S. Schulz, W. Schwieger, P. Wasserscheid, H.-P. Steinrück  
*Surface enrichment and depletion effects of ions dissolved in an ionic liquid: An X-ray photoelectron spectroscopy study*

Angew. Chem. Int. Ed. 45 (2006) 7778-7780.

Angew. Chem. 118 (2006) 7942-7944.

J. M. Gottfried, F. Maier, J. Rossa, D. Gerhard, P. S. Schulz, P. Wasserscheid, H.-P. Steinrück  
*Surface studies on the Ionic Liquid 1-Ethyl-3-Methylimidazolium Ethylsulfate Using X-ray Photoelectron Spectroscopy (XPS)*

Z. Phys. Chem. 220 (2006) 1439-1453.

H.-P. Steinrück, T. Fuhrmann, C. Papp, B. Tränkenschuh, R. Denecke

*A detailed analysis of vibrational excitations in x-ray photoelectron spectra of adsorbed small hydrocarbons*

J. Chem. Phys. 125 (2006) 204706 1-8.

## **2007** (15)

A. Kretschmann, M.-M. Walz, K. Flechtner, H.-P. Steinrück, J. M. Gottfried

*Tetraphenylporphyrin picks up zinc atoms from a silver surface*

Chem. Comm. (2007) 568-570.

B. Tränkenschuh, C. Papp, T. Fuhrmann, R. Denecke, H.-P. Steinrück

*The dissimilar twins - a comparative, site-selective in situ study of CO adsorption and desorption on Pt(322) and Pt(355)*

Surf. Sci. 601 (2007) 1108-1117.

C. Papp, B. Tränkenschuh, R. Streber, T. Fuhrmann, R. Denecke, H.-P. Steinrück

*Influence of steps on the adsorption of methane on platinum surfaces*

J. Phys. Chem. C 111 (2007) 2177-2184.

F. Buchner, V. Schwald, K. Comanici, H.-P. Steinrück, Hubertus Marbach

*Microscopic Evidence of the Metalation of a Free-base Porphyrin Monolayer with Iron*

ChemPhysChem 8 (2007) 241-243.

T. Lukasczyk, K. Flechtner, L. R. Merte, N. Jux, F. Maier, J. M. Gottfried, H.-P. Steinrück

*Interaction of Co(II) tetraarylporphyrins with a Ag(111) surface studied with photoelectron spectroscopy*

J. Phys. Chem. C 111 (2007) 3090-3098.

C. Papp, R. Denecke, H.-P. Steinrück

*Adsorption and reaction of cyclohexene on a Ni(111) surface*

Langmuir 23 (2007) 5541-5547.

K. Flechtner, A. Kretschmann, L. R. Bradshaw, M.-M. Walz, F. Maier, H.-P. Steinrück, J. M. Gottfried

*Surface-Confined Two-Step Synthesis of the Complex (Ammine)(meso-tetraphenylporphyrinato)-zinc(II) on Ag(111)*

J. Phys. Chem. C 111 (2007) 5821-5824.

Y. Xu, H. Marbach, R. Imbihl, I. G. Kevrekidis, M. Mavrikakis

*The Effect of Coadsorbed Oxygen on the Adsorption and Diffusion of Potassium on Rh(110): A First-Principles Study*

J. Phys. Chem. C 111 (2007) 7446-7455.

K. M. Neyman, K. H. Lim, Z.-X. Chen, L. V. Moskaleva, A. Bayer, A. Reindl, D. Borgmann, R. Denecke, H.-P. Steinrück, N. Rösch

*Microscopic Models of PdZn Alloy Catalysts: Structure and Reactivity in Methanol Decomposition*

Phys. Chem. Chem. Phys. 9 (2007) 3470-3482.

C. Papp, T. Fuhrmann, B. Tränkenschuh, R. Denecke, H.-P. Steinrück  
*Kinetic isotope effects and reaction intermediates in the decomposition of methyl on flat and stepped platinum (111) surfaces*  
Chem. Phys. Lett. 442 (2007) 176-181 (Editors Choice).

J. Schöck, R. J. Davies, A. Martel, C. Riegel  
*Na-Cellulose Formation in a Single Cotton Fiber Studied by Synchrotron Radiation Microdiffraction*  
Biomacromolecules 8 (2007) 602-610.

T. E. Shubina, H. Marbach, K. Flechtner, A. Kretschmann, N. Jux, F. Buchner, H.-P. Steinrück, T. Clark, J. M. Gottfried  
*Principle and Mechanism of Direct Porphyrin Metalation: Joint Experimental and Theoretical Investigation*  
J. Am. Chem. Soc. 129 (2007) 9476-9783.

F. Buchner, K. Comanici, N. Jux, H.-P. Steinrück, H. Marbach  
*Polymorphism of Porphyrin Molecules on Ag(111) and How to Weave a Rigid Monolayer*  
J. Phys. Chem. C 111 (2007) 13531-13538.

K. Flechtner, A. Kretschmann, H.-P. Steinrück, J. M. Gottfried  
*NO-induced reversible switching of the electronic interaction between a porphyrin-coordinated cobalt ion and a silver surface*  
J. Am. Chem. Soc. 129 (2007) 12110-12111.

F. Bebensee, L. Klarhöfer, W. Maus-Friedrichs, F. Endres  
*Interaction of electrochemically deposited aluminium nanoparticles with reactive gases*  
Surf. Sci. 601 (2007) 3769-3773.

## **2008** (17)

K. Comanici, F. Buchner, K. Flechtner, T. Lukasczyk, J. M. Gottfried, H.-P. Steinrück, H. Marbach  
*Understanding the Contrast Mechanism in Scanning Tunneling Microscopy (STM) Images of an Intermixed Tetrphenylporphyrin Layer on Ag(111)*  
Langmuir 24 (2008) 1897-1901.

R. Streber, C. Papp, M. P. A. Lorenz, A. Bayer, R. Denecke, H.-P. Steinrück  
*Kinetic passivation of steps with sulfur and CO/S site exchange processes on stepped Pt surfaces*  
Chem. Phys. Lett. 452 (2008) 94-98.

A. Desikusumastuti, M. Happel, K. Dumbuya, T. Staudt, M. Laurin, J. M. Gottfried, H.-P. Steinrück, J. Libuda  
*Modeling NO<sub>x</sub> Storage Materials: On the Formation of Surface Nitrites and Nitrates and Their Identification by Vibrational Spectroscopy*  
J. Phys. Chem. C 112 (2008) 6477-6486.

Y. Bai, F. Buchner, M. T. Wendahl, I. Keller, A. Bayer, H.-P. Steinrück, H. Marbach, J. M. Gottfried  
*Direct metalation of a phthalocyanine monolayer on Ag(111) with co-adsorbed iron atoms*  
J. Phys. Chem. C 112 (2008) 6087-6092.

T. Lukasczyk, M. Schirmer, H.-P. Steinrück, H. Marbach  
*Electron-beam induced deposition in ultrahigh vacuum: lithographic fabrication of clean iron nanostructures*  
Small 4 (2008) 841-846.

N. Paape, W. Wei, A. Bösmann, C. Kolbeck, F. Maier, H.-P. Steinrück, P. Wasserscheid, P. S. Schulz  
*Chloroalkylsulfonate ionic liquids by ring opening of sultones with organic chloride salts*  
Chem. Comm. (2008) 3867-3869.

G. Seewald, E. Zech, H.-J. Körner, D. Borgmann, M. Dietrich, ISOLDE Collaboration  
*Origin of the magnetic-field dependence of the nuclear spin-lattice relaxation in iron*  
Phys. Rev. B 77 (2008) 104433 1-20.

C. Kolbeck, M. Killian, F. Maier, N. Paape, P. Wasserscheid, H.-P. Steinrück  
*Surface characterization of functionalized imidazolium-based ionic liquids*  
Langmuir 24 (2008) 9500-9507.

K. Dumbuya, R. Denecke, H.-P. Steinrück  
*Surface analysis of Pd/ZnO catalysts dispersed on micro-channeled Al-foils by XPS*  
Appl. Catal. A 348 (2008) 209-213.

O. Lytken, W. Lew, J. J. W. Harris, E. K. Vestergaard, J. M. Gottfried, C. T. Campbell  
*Energetics of Cyclohexene Adsorption and Reaction on Pt(111) by Low-Temperature Microcalorimetry*  
J. Am. Chem. Soc. 130 (2008) 10247-10257.

F. Buchner, K. Flechtner, Y. Bai, E. Zillner, I. Kellner, H.-P. Steinrück, H. Marbach, J. M. Gottfried  
*Coordination of Iron Atoms by Tetraphenylporphyrin Monolayers and Multilayers on Ag(111) and Formation of Iron-Tetraphenylporphyrin*  
J. Phys. Chem. C 112 (2008) 15458-15465.

H.-P. Steinrück, J. Libuda, D. A. King  
*Chemistry at surfaces*  
Chem. Soc. Rev. 37 (2008) 2153-2154.

F. Neatu, Z. Li, R. Richards, P. Y. Toullec, J.-P. Genet, K. Dumbuya, J. M. Gottfried, H.-P. Steinrück, V. I. Parvulescu, V. Michelet  
*Heterogeneous Gold Catalysts for Efficient Access to Functionalized Lactones*  
Chem. Eur. J. 14 (2008) 9412-9418.

J. M. Gottfried  
*Comment on: "Formation and Thermal Stability of Au<sub>2</sub>O<sub>3</sub> on Gold Nanoparticles: Size and Support Effects" by Luis K. Ono and Beatriz Roldan Cuenya, J. Phys. Chem. C 2008, 112, 4676-4686.*  
J. Phys. Chem. C 112 (2008) 16721-16722.

T. Cremer, M. Killian, J. M. Gottfried, N. Paape, P. Wasserscheid, F. Maier, H.-P. Steinrück  
*Physical Vapor Deposition of [EMIM][Tf<sub>2</sub>N]: A New Approach to the Modification of Surface Properties with Ultrathin Ionic Liquid Films*  
ChemPhysChem 9 (2008) 2185-2190.

F. Bebensee, N. Borissenko, M. Frerichs, O. Höfft, W. Maus-Friedrichs, S. Z. El Abedin, F. Endres  
*Surface analysis of nanoscale aluminium and silicon films made by electrodeposition in ionic liquids*  
Z. Phys. Chem. 222 (2008) 671-686.

F. Bebensee, F. Voigts, W. Maus-Friedrichs  
*The adsorption of oxygen and water on Ca and CaO films studied with MIES, UPS and XPS*  
Surf. Sci. 602 (2008) 1622-1630.

## **2009** (17)

F. Buchner, I. Kellner, H.-P. Steinrück, H. Marbach  
*Modification of the Growth of Iron on Ag(111) by Predeposited Organic Monolayers*  
Z. Phys. Chem. 223 (2009) 131-144.

J. M. Gottfried, H. Marbach

*Surface-confined coordination chemistry with porphyrins and phthalocyanines: Aspects of formation, electronic structure, and reactivity*

Z. Phys. Chem. 223 (2009) 53-74.

Y. Bai, C. Knittlmayer, S. Gledhill, I. Lauermann, Ch.-H. Fischer, W. Weppner

*Preparation and characterization of  $\text{Li}_2\text{CoMn}_3\text{O}_8$  thin film cathodes for high energy lithium batteries*

Ionics 15 (2009) 11-17.

R. Streber, C. Papp, M. P. A. Lorenz, A. Bayer, S. Wickert, M. Schöppke, R. Denecke, H.-P. Steinrück

*Site blocking and CO/sulfur site exchange processes on stepped Pt surfaces*

J. Phys. Condens. Matter 21 (2009) 134018 1-13.

F. Voigts, F. Bebensee, S. Dahle, K. Volgmann, W. Maus-Friedrichs

*The adsorption of  $\text{CO}_2$  and CO on Ca and CaO films studied with MIES, UPS and XPS*

Surf. Sci. 603 (2009) 40-49.

K. R. J. Lovelock, C. Kolbeck, T. Cremer, N. Paape, P. S. Schulz, P. Wasserscheid, F. Maier, H.-P. Steinrück

*Influence of Different Substituents on the Surface Composition of Ionic Liquids Studied Using ARXPS*

J. Phys. Chem. B 113 (2009) 2854-2864.

A. Wittstock, B. Neumann, A. Schaefer, K. Dumbuya, C. Kübel, M. M. Biener, V. Zielasek, H.-P. Steinrück, J. M. Gottfried, J. Biener, A. Hamza, M. Bäumer

*Nanoporous Au: an unsupported pure gold catalyst?*

J. Phys. Chem. C 113 (2009) 5593-5600.

C. H. Schmitz, C. Rang, Y. Bai, I. Kossev, J. Ikononov, Y. Su, K. Kotsis, S. Soubatch, O. Neucheva, F. S. Tautz, F. Neese, H.-P. Steinrück, J. M. Gottfried, K. H. Dötz, M. Sokolowski

*A comparative study of a triphenylene tricarbonyl chromium complex and its uncoordinated arene ligand on the Ag(111) surface: Influence of the complexation on the adsorption*

J. Phys. Chem. C 113 (2009) 6014-6021.

B. Cojocaru, S. Neatu, V. I. Pârvulescu, K. Dumbuya, H.-P. Steinrück, J. M. Gottfried, C. Aprile, H. Garcia, J. C. Scaiano

*Band gap effect on the photocatalytic activity of supramolecular structures obtained by entrapping photosensitizers in different inorganic supports*

Phys. Chem. Chem. Phys. 11 (2009) 5569-5577.

C. Kolbeck, T. Cremer, K. R. J. Lovelock, N. Paape, P. S. Schulz, P. Wasserscheid, F. Maier, H.-P. Steinrück

*Influence of Different Anions on the Surface Composition of Ionic Liquids Studied Using ARXPS*

J. Phys. Chem. B 113 (2009) 8682-8688.

F. Buchner, K. Seufert, W. Auwärter, D. Heim, J. V. Barth, K. Flechtner, J. M. Gottfried, H.-P. Steinrück, H. Marbach

*NO-induced reorganization of porphyrin arrays*

ACS Nano 3 (2009) 1789-1794.

R. Streber, B. Tränkenschuh, J. Schöck, C. Papp, H.-P. Steinrück, J.-S. McEwen, P. Gaspard, R. Denecke

*Interaction between silver nanowires and CO on a stepped platinum surface*

J. Chem. Phys. 131 (2009) 064702 1-9.

ERRATUM: J. Chem. Phys. 131 (2009) 179901 1.

T. Lukasczyk, M. Schirmer, H.-P. Steinrück, H. Marbach

*Generation of Clean Iron Structures by Electron-Beam-Induced Deposition and Selective Catalytic Decomposition of Iron Pentacarbonyl on Rh(110)*

Langmuir 25 (2009) 11930-11939.

F. Buchner, K.-G. Warnick, T. Wölfle, A. Görling, H.-P. Steinrück, W. Hieringer, H. Marbach  
*Chemical fingerprints of large organic molecules in scanning tunneling microscopy: imaging adsorbate - substrate coupling of metalloporphyrins*  
J. Phys. Chem. C 113 (2009) 16450-16457.

J. Zhu, F. Bebensee, W. Hieringer, W. Zhao, J. H. Baricuatro, J. A. Farmer, Y. Bai, H.-P. Steinrück, J. M. Gottfried, C. T. Campbell  
*Formation of the Calcium / Poly(3-Hexylthiophene) Interface: Structure and Energetics*  
J. Am. Chem. Soc. 131 (2009) 13498-13507.

Y. Bai, F. Buchner, I. Kellner, M. Schmid, F. Vollnhals, H.-P. Steinrück, H. Marbach, J. M. Gottfried  
*Adsorption of Cobalt(II) Octaethylporphyrin and 2H-Octaethylporphyrin on Ag(111): New Insight into the Surface Coordinative Bond*  
New J. Phys. 11 (2009) 125004 1-15.

R. Streber, C. Papp, M. P. A. Lorenz, A. Bayer, R. Denecke, H.-P. Steinrück  
*Sulfur Oxidation on Pt(355): It is the Steps!*  
Angew. Chem. Int. Ed. 48 (2009) 9743-9746.  
*Schwefeloxidation auf Pt(355) - Es sind die Stufen!*  
Angew. Chem. 121 (2009) 9925-9929.

## **2010** (25)

F. Maier, T. Cremer, C. Kolbeck, K. R. J. Lovelock, N. Paape, P. S. Schulz, P. Wasserscheid, H.-P. Steinrück  
*Insights into the surface composition and enrichment effects of ionic liquids and ionic liquid mixtures*  
Phys. Chem. Chem. Phys. 12 (2010) 1905-1915 (Invited Contribution).

H.-P. Steinrück  
*Surface Science goes liquid !*  
Surf. Sci. 604 (2010) 481-484 (Invited Prospective Article).

Y. Bai, M. Sekita, M. Schmid, T. Bischof, H.-P. Steinrück, J. M. Gottfried  
*Interfacial Coordination Interactions Studied on Cobalt Octaethylporphyrin and Cobalt Tetraphenylporphyrin Monolayers on Au(111)*  
Phys. Chem. Chem. Phys. 12 (2010) 4336-4344.

Y. Lykhach, T. Staudt, M. P. A. Lorenz, R. Streber, A. Bayer, H.-P. Steinrück, J. Libuda  
*Microscopic insights into methane activation and related processes on Pt/ceria model catalysts*  
ChemPhysChem 11 (2010) 1496-1504.

M. Sobota, I. Nikiforidis, W. Hieringer, N. Paape, M. Happel, H.-P. Steinrück, A. Görling, P. Wasserscheid, M. Laurin, J. Libuda  
*Toward Ionic-Liquid-Based Model Catalysis: Growth, Orientation, Conformation, and Interaction Mechanism of the [Tf<sub>2</sub>N]<sup>-</sup> Anion in [BMIM][Tf<sub>2</sub>N] Thin Films on a Well-Ordered Alumina Surface*  
Langmuir 26 (2010) 7199-7207.

Y. Lykhach, T. Staudt, R. Streber, M. P. A. Lorenz, A. Bayer, H.-P. Steinrück, J. Libuda  
*CO<sub>2</sub> activation on single crystal based ceria and magnesia/ceria model catalysts*  
Eur. Phys. J. B 75 (2010) 89-100 (Special Issue dedicated to Prof. Andrea Levi).

F. Bebensee, J. Zhu, J. H. Baricuatro, J. A. Farmer, Y. Bai, H.-P. Steinrück, C.T. Campbell, J. M. Gottfried  
*Interface Formation between Calcium and Electron-Irradiated Poly(3-hexylthiophene)*  
Langmuir 26 (2010) 9632-9639.

F. Viñes, Y. Lykhach, T. Staudt, M. P. A. Lorenz, C. Papp, H.-P. Steinrück, J. Libuda, K. M. Neyman, A. Görling  
*Methane Activation by Platinum: Critical Role of Edge and Corner Sites of Metal Nanoparticles*  
Chem. Eur. J. 16 (2010) 6530-6539.

M.-M. Walz, M. Schirmer, F. Vollnhals, T. Lukasczyk, H.-P. Steinrück, H. Marbach  
*Electrons as "Invisible Ink": Fabrication of Nanostructures by Local Electron Beam Induced Activation of SiO<sub>x</sub>*  
Angew. Chem. Int. Ed. 49 (2010) 4669-4673 (VIP article - COVER).  
*Elektronen als "unsichtbare Tinte": Herstellung von Nanostrukturen durch lokale elektronenstrahlinduzierte Aktivierung von SiO<sub>x</sub>*  
Angew. Chem. 122 (2010) 4774-4778 (COVER).

M. Chen, X. Feng, L. Zhang, H. Ju, Q. Xu, J. Zhu, J. M. Gottfried, K. Ibrahim, H. Qian, J. Wang  
*Direct Synthesis of Nickel(II) Tetraphenylporphyrin and Its Interaction with a Au(111) Surface: A Comprehensive Study*  
J. Phys. Chem. C 114 (2010) 9908-9916.

R. Streber, C. Papp, M. P. A. Lorenz, O. Höfert, E. Darlatt, A. Bayer, R. Denecke, H.-P. Steinrück  
*SO<sub>2</sub> adsorption and thermal evolution on clean and oxygen precovered Pt(111)*  
Chem. Phys. Lett. 494 (2010) 188-192.

M. P. A. Lorenz, T. Fuhrmann, R. Streber, A. Bayer, F. Bebensee, K. Gotterbarm, M. Kinne, B. Tränkenschuh, J. F. Zhu, C. Papp, R. Denecke, H.-P. Steinrück  
*Ethene adsorption and dehydrogenation on clean and oxygen precovered Ni(111) studied by high resolution x-ray photoelectron spectroscopy*  
J. Chem. Phys. 133 (2010) 014706 1-6.

M. Sobota, M. Schmid, M. Happel, M. Amende, F. Maier, H.-P. Steinrück, N. Paape, P. Wasserscheid, M. Laurin, J. M. Gottfried, J. Libuda  
*Ionic Liquid Based Model Catalysis: Interaction of [BMIM][Tf<sub>2</sub>N] with Pd Nanoparticles Supported on an Ordered Alumina Film*  
Phys. Chem. Chem. Phys. 12 (2010) 10610-10621.

T. Cremer, C. Kolbeck, K. R. J. Lovelock, N. Paape, R. Wölfel, P. S. Schulz, P. Wasserscheid, H. Weber, J. Thar, B. Kirchner, F. Maier, H.-P. Steinrück  
*Towards a Molecular Understanding of Cation-Anion Interactions - Probing the Electronic Structure of Imidazolium Ionic Liquids by NMR Spectroscopy, X-ray Photoelectron Spectroscopy and Theoretical Calculations*  
Chem. Eur. J. 16 (2010) 9018-9033 (COVER).

F. Bebensee, M. Schmid, H.-P. Steinrück, C. T. Campbell, J. M. Gottfried  
*Toward Well-Defined Metal-Polymer Interfaces: Temperature-Controlled Suppression of Subsurface Diffusion and Reaction at the Calcium/Poly(3-Hexylthiophene) Interface*  
J. Am. Chem. Soc. 132 (2010) 12163-12165.

K. R. J. Lovelock, I. J. Villar-Garcia, F. Maier, H.-P. Steinrück, P. Licence  
*Photoelectron Spectroscopy of Ionic Liquid-Based Interfaces*  
Chem. Rev. 110 (2010) 5158-5190.

A. X. Gray, F. Kronast, C. Papp, S.-H. Yang, S. Cramm, I. P. Krug, F. Salmassi, E. M. Gullikson, D. L. Hilken, E. H. Anderson, P. Fischer, H. A. Dürr, C. M. Schneider, C. S. Fadley  
*Standing-wave excited soft x-ray photoemission microscopy: Application to Co microdot magnetic arrays*  
Appl. Phys. Lett. 97 (2010) 062503 1-3.

C. Kolbeck, N. Paape, T. Cremer, P. S. Schulz, F. Maier, H.-P. Steinrück, P. Wasserscheid  
*Ligand Effects on the Surface Composition of Rh-Containing Ionic Liquid Solutions Used in Hydroformylation Catalysis*  
Chem. Eur. J. 16 (2010) 12083-12087.

I. Jipa, F. W. Heinemann, A. Schneider, N. Popovska, M. A. Siddiqi, R. A. Siddiqui, B. Atakan, H. Marbach, C. Papp, H.-P. Steinrück, U. Zenneck

*[cis-(1,3-Diene)<sub>2</sub>W(CO)<sub>2</sub>] Complexes as MOCVD Precursors for the Deposition of Thin Tungsten - Tungsten Carbide Films*

Chem. Vap. Deposition 16 (2010) 239-247.

F. Buchner, I. Kellner, W. Hieringer, A. Görling, H.-P. Steinrück, H. Marbach

*Ordering aspects and intramolecular conformation of tetraphenylporphyrins on Ag(111)*

Phys. Chem. Chem. Phys. 12 (2010) 13082-13090.

Z. Boekelheide, A. X. Gray, C. Papp, B. Balke, D. A. Stewart, S. Ueda, K. Kobayashi, F. Hellman, C. S. *Band Gap and Electronic Structure of an Epitaxial, Semiconducting Cr<sub>0.80</sub>Al<sub>0.20</sub> Thin Film*

Phys. Rev. Lett. 105 (2010) 236404 1-4.

A. X. Gray, C. Papp, B. Balke, S.-H. Yang, M. Huijben, E. Rotenberg, A. Bostwick, S. Ueda, Y. Yamashita, K. Kobayashi, E. M. Gullikson, J. B. Kortright, F. M. F. de Groot, G. Rijnders, D. H. A. Blank, R. Ramesh, C. S. Fadley

*Interface properties of magnetic tunnel junction La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub>/SrTiO<sub>3</sub> superlattices studied by standing-wave excited photoemission spectroscopy*

Phys. Rev. B 82 (2010) 205116 1-9.

R. Streber, C. Papp, M. P. A. Lorenz, O. Höfert, W. Zhao, S. Wickert, E. Darlatt, A. Bayer, R. Denecke, H.-P. Steinrück

*Influence of Steps on the Adsorption and Thermal Evolution of SO<sub>2</sub> on Clean and Oxygen Precovered Pt Surfaces*

J. Phys. Chem. C 114 (2010) 19734-19743.

C. Kolbeck, J. Lehmann, K. R. J. Lovelock, T. Cremer, N. Paape, P. Wasserscheid, A. P. Fröba, F. Maier, H.-P. Steinrück

*Density and Surface Tension of Ionic Liquids*

J. Phys. Chem. B 114 (2010) 17025-17036.

## **2011** (26)

A. Ramakrishnan, K. Dumbuya, J. Ofili, H.-P. Steinrück, J. M. Gottfried, W. Schwieger

*Highly dispersed Pd nanoparticles within silica: Synthesis and characterization*

Appl. Clay Sci. 51 (2011) 8-14.

I. Jipa, K. Danova, N. Popovska, M. A. Siddiqi, R. A. Siddiqui, B. Atakan, T. Cremer, F. Maier, H. Marbach, H.-P. Steinrück, F. W. Heinemann, U. Zenneck

*Methylated [(arene)(1,3-cyclohexadiene)Ru(0)] complexes as low-melting MOCVD precursor complexes with a controlled follow-up chemistry of the ligands*

J. Mater. Chem. 21 (2011) 3014-3024.

M. Schirmer, M.-M. Walz, F. Vollnhals, T. Lukasczyk, A. Sandmann, C. Chen, H.-P. Steinrück, H. Marbach *Electron-beam-induced deposition and post-treatment processes to locally generate clean titanium oxide nanostructures on Si(100)*

Nanotechnology 22 (2011) 085301 1-10.

J. M. Englert, C. Dotzer, G. Yang, M. Schmid, C. Papp, J. M. Gottfried, H.-P. Steinrück, E. Spiecker, F. Hauke, A. Hirsch

*Covalent Bulk Functionalization of Graphene*

Nat. Chem. 3 (2011) 279-286 (Cover).

- T. Cremer, M. Stark, A. Deyko, H.-P. Steinrück, F. Maier  
*Liquid / solid interface of ultrathin ionic liquid films: [C<sub>1</sub>C<sub>1</sub>Im][Tf<sub>2</sub>N] and [C<sub>8</sub>C<sub>1</sub>Im][Tf<sub>2</sub>N] on Au(111)*  
Langmuir 27 (2011) 3662-3671.
- I. Jipa, M. A. Siddiqi, R. A. Siddiqi, B. Atakan, H. Marbach, T. Cremer, F. Maier, H.-P. Steinrück, K. Danova, N. Popovska, F. W. Heinemann, U. Zenneck  
*Methylated [(benzene)(1,3-butadiene)Ru<sup>0</sup>] Derivatives as Novel MOCVD Precursors with Favorable Properties*  
Chem. Vap. Deposition 17 (2011) 15-21.
- W. Zhao, S. M. Kozlov, O. Höfert, K. Gotterbarm, M. P. A. Lorenz, F. Viñes, C. Papp, A. Görling, H.-P. Steinrück  
*Graphene on Ni(111): Coexistence of Different Surface Structures*  
J. Phys. Chem. Lett. 2 (2011) 759-764.
- S. Döring, F. Schönbohm, U. Berges, R. Schreiber, D. E. Bürgler, C. M. Schneider, M. Gorgoi, F. Schäfers, C. Papp, B. Balke, C. S. Fadley, C. Westphal  
*Hard x-ray photoemission using standing-wave excitation applied to the MgO/Fe interface*  
Phys. Rev. B 83 (2011) 165444 1-9.
- W. Hieringer, K. Flechtner, A. Kretschmann, K. Seufert, W. Auwärter, J. V. Barth, A. Görling, H.-P. Steinrück, J. M. Gottfried  
*The Surface Trans Effect: Influence of Axial Ligands on the Surface Chemical Bonds of Adsorbed Metalloporphyrins*  
J. Am. Chem. Soc. 133 (2011) 6206-6222.
- J. Bandlow, P. Kaghazchi, T. Jacob, C. Papp, B. Tränkenschuh, R. Streber, M. P. A. Lorenz, T. Fuhrmann, R. Denecke, H.-P. Steinrück  
*Oxidation of stepped Pt(111) studied by x-ray photoelectron spectroscopy and density functional theory*  
Phys. Rev. B 83 (2011) 174107 1-5.
- H.-P. Steinrück, J. Libuda, P. Wasserscheid, T. Cremer, C. Kolbeck, M. Laurin, F. Maier, M. Sobota, P. S. Schulz, M. Stark  
*Surface Science and Model Catalysis with Ionic Liquid-Modified Materials*  
Adv. Mater. 23 (2011) 2571-2587.
- C. Papp, L. Plucinski, J. Minar, J. Braun, H. Ebert, C. M. Schneider, C. S. Fadley  
*Band mapping in x-ray photoelectron spectroscopy: An experimental and theoretical study of W(110) with 1.25 keV excitation*  
Phys. Rev. B 84 (2011) 045433 1-6.
- M. Schmid, W. Hieringer, C. H. Schmitz, H.-P. Steinrück, M. Sokolowski, J. M. Gottfried  
*Adsorption and Reaction of Terephthaloyl Chloride on Ag(111): X-ray Photoelectron Spectroscopy and Density Functional Theory Investigations*  
J. Phys. Chem. C 115 (2011) 14869-14875.
- F. Buchner, E. Zillner, M. Röckert, S. Gläsel, H.-P. Steinrück, H. Marbach  
*Substrate-Mediated Phase Separation of Two Porphyrin Derivatives on Cu(111)*  
Chem. Eur. J. 17 (2011) 10226-10229.
- M. Schmid, J. Zirzmeier, H.-P. Steinrück, J. M. Gottfried  
*Interfacial Interactions of Iron(II) Tetrapyrrole Complexes on Au(111)*  
J. Phys. Chem. C 115 (2011) 17028-17035.
- N. Luckas, K. Gotterbarm, R. Streber, M. P. A. Lorenz, O. Höfert, F. Viñes, C. Papp, A. Görling, H.-P. Steinrück  
*Adsorption and reaction of SO<sub>2</sub> on clean and oxygen precovered Pd(100) - a combined HR-XPS and DF study*  
Phys. Chem. Chem. Phys. 13 (2011) 16227-16235.

- M.-M. Walz, F. Vollnhals, M. Schirmer, H.-P. Steinrück, H. Marbach  
*Generation of clean iron nanocrystals on an ultra-thin SiO<sub>x</sub> film on Si(001)*  
Phys. Chem. Chem. Phys. 13 (2011) 17333-17338.
- M. Sobota, I. Nikiforidis, M. Amende, B. Sanmartín Zanón, T. Staudt, O. Höfert, Y. Lykhach, C. Papp, W. HIERINGER, M. Laurin, D. Assenbaum, P. Wasserscheid, H.-P. Steinrück, A. Göring, J. Libuda  
*Dehydrogenation of Dodecahydro-N-ethylcarbazole on Pd/Al<sub>2</sub>O<sub>3</sub> Model Catalysts*  
Chem. Eur. J. 17 (2011) 11542-11552.
- A. X. Gray, C. Papp, S. Ueda, B. Balke, Y. Yamashita, L. Plucinski, J. Minár, J. Braun, E. R. Ylvisaker, C. M. Schneider, W. E. Pickett, H. Ebert, K. Kobayashi, C. S. Fadley  
*Probing bulk electronic structure with hard X-ray angle-resolved photoemission*  
Nat. Mater. 10 (2011) 759-764.
- F. PorraTI, R. Sachser, M.-M. Walz, F. Vollnhals, H.-P. Steinrück, H. Marbach, M. Huth  
*Magnetotransport properties of iron microwires fabricated by focused electron beam induced autocatalytic growth*  
J. Phys. D Appl. Phys. 44 (2011) 425001 1-6.
- C. H. Schmitz, M. Schmid, S. Gärtner, H.-P. Steinrück, J. M. Gottfried, M. Sokolowski  
*Surface Polymerization of Poly(p-phenylene-terephthalamide) on Ag(111) Investigated by X-ray Photoelectron Spectroscopy and Scanning Tunneling Microscopy*  
J. Phys. Chem. C 115 (2011) 18186-18194.
- F. Maier  
*Capture of Carbon Dioxide at the Gas-Liquid Interface Elucidated by Surface Science Approaches*  
Angew. Chem. Int. Ed. 50 (2011) 10133-10134.  
*Der Kohlendioxid-Abscheidung an der Gas-flüssig-Grenzfläche auf der Spur*  
Angew. Chem. 123 (2011) 10315-10316.
- S.-H. Yang, B. Balke, C. Papp, S. Döring, U. Berges, L. Plucinski, C. Westphal, C. M. Schneider, S. S. P. Parkin, C. S. Fadley  
*Determination of layer-resolved composition, magnetization, and electronic structure of an Fe/MgO tunnel junction by standing-wave core and valence photoemission*  
Phys. Rev. B 84 (2011) 184410 1-9.
- M. Schirmer, M.-M. Walz, C. Papp, F. Kronast, A. X. Gray, B. Balke, S. Cramm, C. S. Fadley, H.-P. Steinrück, H. Marbach  
*Fabrication of layered nanostructures by successive electron beam induced deposition with two precursors: protective capping of metallic iron structures*  
Nanotechnology 22 (2011) 457304 1-7.
- F. Buchner, J. Xiao, E. Zillner, M. Chen, M. Röckert, S. Ditze, M. Stark, H.-P. Steinrück, J. M. Gottfried, H. Marbach  
*Diffusion, Rotation, and Surface Chemical Bond of Individual 2H-Tetraphenylporphyrin Molecules on Cu(111)*  
J. Phys. Chem. C 115 (2011) 24172-24177 (COVER).
- M. Bledowski, L. Wang, A. Ramakrishnan, O. V. Khavryuchenko, V. D. Khavryuchenko, P. C. Ricci, J. Strunk, T. Cremer, C. Kolbeck, R. Beranek  
*Visible-light photocurrent response of TiO<sub>2</sub>-polyheptazine hybrids: evidence for interfacial charge-transfer absorption*  
Phys. Chem. Chem. Phys. 13 (2011) 21511-21519.

**2012** (18)

K. Dumbuya, G. Cabailh, R. Lazzari, J. Jupille, L. Ringel, M. Pistor, O. Lytken, H.-P. Steinrück, J. M. Gottfried  
*Evidence for an active oxygen species on Au/TiO<sub>2</sub> model catalysts during investigation with in situ X-ray photoelectron spectroscopy*

Catal. Today 181 (2012) 20-25.

Special Issue on the occasion of 80th birthday (March 31.2011) of Prof. Frigyes Solymosi

M.-M. Walz, F. Vollnhals, F. Rietzler, M. Schirmer, H.-P. Steinrück, H. Marbach

*Investigation of proximity effects in electron microscopy and lithography*

Appl. Phys. Lett. 100 (2012) 053118 1-4.

K. Gotterbarm, N. Luckas, O. Höfert, M. P. A. Lorenz, R. Streber, C. Papp, F. Viñes, H.-P. Steinrück, A. Görling

*Kinetics of the sulfur oxidation on palladium: A combined in situ x-ray photoelectron spectroscopy and density-functional study*

J. Chem. Phys. 136 (2012) 094702 1-7.

C. Kolbeck, I. Niedermaier, N. Taccardi, P. S. Schulz, F. Maier, P. Wasserscheid, H.-P. Steinrück

*Monitoring of Liquid-Phase Organic Reactions by Photoelectron Spectroscopy*

Angew. Chem. Int. Ed. 51 (2012) 2610-2613 (VIP article - Inside Back Cover).

Angew. Chem. 124 (2012) 2664-2667 (Inside Back Cover).

W. Zhao, O. Höfert, K. Gotterbarm, J. F. Zhu, C. Papp, H.-P. Steinrück

*Production of Nitrogen-Doped Graphene by Low Energy Nitrogen Implantation*

J. Phys. Chem. C 116 (2012) 5062-5066.

I. Niedermaier, C. Kolbeck, N. Taccardi, P. S. Schulz, J. Li, T. Drewello, P. Wasserscheid, H.-P. Steinrück, F. Maier

*Organic Reactions in Ionic Liquids Studied by in Situ XPS*

ChemPhysChem 13 (2012) 1725-1735 (Inside Cover).

M. Schmid, A. Kaftan, H.-P. Steinrück, J. M. Gottfried

*The electronic structure of cobalt(II) phthalocyanine adsorbed on Ag(111)*

Surf. Sci. 606 (2012) 945-949.

T. Cremer, L. Wibmer, S. Krick Calderón, A. Deyko, F. Maier, H.-P. Steinrück

*Interfaces of ionic liquids and transition metal surfaces - adsorption, growth, and thermal reactions of ultrathin [C<sub>1</sub>C<sub>1</sub>m][Tf<sub>2</sub>N] films on metallic and oxidised Ni(111) surfaces*

Phys. Chem. Chem. Phys. 14 (2012) 5153-5163.

H.-P. Steinrück

*Recent developments in the study of ionic liquid interfaces using X-ray photoelectron spectroscopy and potential future directions*

Phys. Chem. Chem. Phys. 14 (2012) 5010-5029 (Invited Perspective Article - COVER).

Y. Li, J. Xiao, T. E. Shubina, M. Chen, Z. Shi, M. Schmid, H.-P. Steinrück, J. M. Gottfried, N. Lin

*Coordination and Metalation Bifunctionality of Cu with 5,10,15,20-Tetra(4-pyridyl)porphyrin: Toward a Mixed-Valence Two-Dimensional Coordination Network*

J. Am. Chem. Soc. 134 (2012) 6401-6408.

A. Vittadini, M. Schirmer, M.-M. Walz, F. Vollnhals, T. Lukasczyk, H.-P. Steinrück, H. Marbach, A. Riss, M. J. Elser, B. Schürer, O. Diwald

*Defects in Oxygen-Depleted Titanate Nanostructures*

Langmuir 28 (2012) 7851-7858.

M.-M. Walz, F. Vollnhals, F. Rietzler, M. Schirmer, A. Kunzmann, H.-P. Steinrück, H. Marbach  
*Thin membranes versus bulk substrates: investigation of proximity effects in focused electron beam-induced processing*  
J. Phys. D Appl. Phys. 45 (2012) 225306 1-8.

J. Xiao, S. Ditze, M. Chen, F. Buchner, M. Stark, M. Drost, H.-P. Steinrück, J. M. Gottfried, H. Marbach  
*Temperature-Dependent Chemical and Structural Transformations from 2H-Tetraphenylporphyrin to Cu(II)-Tetraphenylporphyrin on Cu(111)*  
J. Phys. Chem. C 116 (2012) 12275-12282.

N. Taccardi, I. Niedermaier, F. Maier, H.-P. Steinrück, P. Wasserscheid  
*Cyclic Thiouronium Ionic Liquids: Physicochemical Properties and their Electronic Structure Probed by X-Ray Induced Photoelectron Spectroscopy*  
Chem. Eur. J. 18 (2012) 8288-8291.

R. J. Koch, M. Weser, W. Zhao, F. Viñes, K. Gotterbarm, S. M. Kozlov, O. Höfert, M. Ostler, C. Papp, J. Gebhardt, H.-P. Steinrück, A. Görling, Th. Seyller  
*Growth and electronic structure of nitrogen-doped graphene on Ni(111)*  
Phys. Rev. B 86 (2012) 075401 1-6.

S. Ditze, M. Stark, M. Drost, F. Buchner, H.-P. Steinrück, H. Marbach  
*Activation Energy for the Self-Metalation Reaction of 2H-tetraphenylporphyrin on Cu(111)*  
Angew. Chem. Int. Ed. 51 (2012) 10898-10901.  
*Bestimmung der Aktivierungsenergie für die Selbstmetallierungsreaktion von 2H-Tetraphenylporphyrin auf Cu(111)*  
Angew. Chem. 124 (2012) 11056-11059.

S. Bajus, A. Deyko, A. Bösmann, F. Maier, H.-P. Steinrück, P. Wasserscheid  
*Low melting Li/K/Cs acetate salt mixtures as new ionic media for catalytic applications – first physico-chemical characterization*  
Dalton Trans. 41 (2012) 14433-14438.

C. Papp, G. Conti, B. Balke, S. Ueda, Y. Yamashita, H. Yoshikawa, Y. S. Uritsky, K. Kobayashi, C. S. Fadley  
*Nondestructive characterization of a TiN metal gate: Chemical and structural properties by means of standing-wave hard x-ray photoemission spectroscopy*  
J. Appl. Phys. 112 (2012) 114501 1-8.

## **2013** (24)

S. Schernich, M. Laurin, Y. Lykhach, H.-P. Steinrück, N. Tsud, T. Skála, K. C. Prince, N. Taccardi, V. Matolín, P. Wasserscheid, J. Libuda  
*Functionalization of Oxide Surfaces through Reaction with 1,3-Dialkylimidazolium Ionic Liquids*  
J. Phys. Chem. Lett. 4 (2013) 30–35.

M. Schmidt, A. M. Cubillas, N. Taccardi, T. G. Euser, T. Cremer, F. Maier, H.-P. Steinrück, P. St. J. Russell, P. Wasserscheid, B. J. M. Etzold  
*Chemical and (Photo)-catalytical Transformations in Photonic Crystal Fibers*  
ChemCatChem 5 (2013) 641-650 (COVER).

A. Deyko, T. Cremer, F. Rietzler, S. Perkin, L. Crowhurst, T. Welton, H.-P. Steinrück, F. Maier  
*Interfacial Behavior of Thin Ionic Liquid Films on Mica*  
J. Phys. Chem. C 117 (2013) 5101-5111.

M. Stark, S. Ditze, M. Drost, F. Buchner, H.-P. Steinrück, H. Marbach  
*Coverage Dependent Disorder - Order Transition of 2H-Tetraphenylporphyrin on Cu(111)*  
Langmuir 29 (2013) 4104-4110.

- S. Ditze, M. Röckert, F. Buchner, E. Zillner, M. Stark, H.-P. Steinrück, H. Marbach  
*Towards the engineering of molecular nanostructures: local anchoring and functionalization of porphyrins on model-templates*  
Nanotechnology 24 (2013) 115305 1-11.
- J. Gebhardt, R. J. Koch, W. Zhao, O. Höfert, K. Gotterbarm, S. Mammadov, C. Papp, A. Görling, H.-P. Steinrück, Th. Seyller  
*Growth and Electronic Structure of Boron-Doped Graphene*  
Phys. Rev. B 87 (2013) 155437 1-9.
- C. Gleichweit, M. Amende, S. Schernich, W. Zhao, M. P. A. Lorenz, O. Höfert, N. Brückner, P. Wasserscheid, J. Libuda, H.-P. Steinrück, C. Papp  
*Dehydrogenation of Dodecahydro-N-ethylcarbazole on Pt(111)*  
ChemSusChem 6 (2013) 974-977.
- S. Eigler, M. Enzelberger-Heim, S. Grimm, P. Hofmann, W. Kroener, A. Geworski, C. Dotzer, M. Röckert, J. Xiao, C. Papp, O. Lytken, H.-P. Steinrück, P. Müller, A. Hirsch  
*Wet Chemical Synthesis of Graphene*  
Adv. Mater. 25 (2013) 3583–3587.
- M. Amende, S. Schernich, M. Sobota, I. Nikiforidis, W. Hieringer, D. Assenbaum, C. Gleichweit, H.-J. Drescher, C. Papp, H.-P. Steinrück, A. Görling, P. Wasserscheid, M. Laurin, J. Libuda  
*Dehydrogenation mechanism of liquid organic hydrogen carriers: dodecahydro-N-ethylcarbazole on Pd(111)*  
Chem. Eur. J. 19 (2013) 10854-10865.
- I. Niedermaier, N. Taccardi, P. Wasserscheid, F. Maier, H.-P. Steinrück  
*Probing a Gas/Liquid Acid-Base Reaction by X-ray Photoelectron Spectroscopy*  
Angew. Chem. Int. Ed. 52 (2013) 8904-8907.  
Angew. Chem. 125 (2013) 9072-9075.
- L. Óvári, S. Krick Calderón, Y. Lykhach, J. Libuda, A. Erdöhelyi, C. Papp, J. Kiss, H.-P. Steinrück  
*Near ambient pressure XPS investigation of the interaction of ethanol with Co/CeO<sub>2</sub>(111)*  
J. Catal. 307 (2013) 132-139.
- F. Vollnhals, T. Woolcot, M.-M. Walz, S. Seiler, H.-P. Steinrück, G. Thornton, H. Marbach  
*Electron Beam-Induced Writing of Nanoscale Iron Wires on a Functional Metal Oxide*  
J. Phys. Chem. C 117 (2013) 17674-17679.
- W. Zhao, J. Gebhardt, K. Gotterbarm, O. Höfert, C. Gleichweit, C. Papp, A. Görling, H.-P. Steinrück  
*Gold intercalation of boron-doped graphene on Ni(111): XPS and DFT Study*  
J. Phys. Condens. Matter 25 (2013) 44502 1-8.
- B. Uhl, T. Cremer, M. Roos, F. Maier, H.-P. Steinrück, R. J. Behm  
*At the ionic liquid | metal interface: Structure formation and temperature dependent behavior of an ionic liquid adlayer on Au(111)*  
Phys. Chem. Chem. Phys. 15 (2013) 17295-17302.
- O. Höfert, C. Gleichweit, H.-P. Steinrück, C. Papp  
*Ultrafast x-ray photoelectron spectroscopy in the microsecond time domain*  
Rev. Sci. Instrum. 84 (2013) 093103 1-7.
- F. Vollnhals, P. Wintrich, M.-M. Walz, H.-P. Steinrück, H. Marbach  
*Electron Beam Induced Surface Activation of Ultrathin Porphyrin Layers on Ag(111)*  
Langmuir 29 (2013) 12290-12297.

- O. Höfert, M. P. A. Lorenz, R. Streber, W. Zhao, A. Bayer, H.-P. Steinrück, C. Papp  
*Adsorption and reaction of acetylene on clean and oxygen-precovered Pd(100) studied with high-resolution X-ray photoelectron spectroscopy*  
J. Chem. Phys. 139 (2013) 164706 1-7.
- K. Gotterbarm, W. Zhao, O. Höfert, C. Gleichweit, C. Papp, H.-P. Steinrück  
*Growth and oxidation of graphene on Rh(111)*  
Phys. Chem. Chem. Phys. 15 (2013) 19625-19631.
- C. Kolbeck, A. Deyko, T. Matsuda, F. T. U. Kohler, P. Wasserscheid, F. Maier, H.-P. Steinrück  
*Temperature-dependent surface-enrichment effects of imidazolium-based ionic liquids*  
ChemPhysChem 14 (2013) 3726-3730.
- S. Schernich, M. Laurin, Y. Lykhach, N. Tsud, M. Sobota, T. Skála, K. C. Prince, N. Taccardi, V. Wagner, H.-P. Steinrück, V. Matolín, P. Wasserscheid, J. Libuda  
*Interactions of Imidazolium-Based Ionic Liquids with Oxide Surfaces Controlled by Alkyl Chain Functionalization*  
ChemPhysChem 14 (2013) 3673-3677.
- A. Deyko, S. Bajus, F. Rietzler, A. Bösmann, P. Wasserscheid, H.-P. Steinrück, F. Maier  
*Interface Properties and Physico-Chemical Characterization of the Low-Temperature Molten Salt Li/K/Cs Acetate*  
J. Phys. Chem. C 117 (2013) 22939-22946.
- R. Zhang, A. J. Hensley, J.-S. McEwen, S. Wickert, E. Darlatt, K. Fischer, M. Schöppke, R. Denecke, R. Streber, M. Lorenz, C. Papp, H.-P. Steinrück  
*Integrated X-ray photoelectron spectroscopy and DFT characterization of benzene adsorption on Pt(111), Pt(355) and Pt(322) surfaces*  
Phys. Chem. Chem. Phys. 15 (2013) 20662-20671.
- C. Papp and H.-P. Steinrück  
*In situ high-resolution X-ray photoelectron spectroscopy - Fundamental insights in surface reactions*  
Surf. Sci. Rep. 68 (2013) 446-487.
- J. C. Sharp, F. Bebensee, J. H. Baricuatro, H.-P. Steinrück, J. M. Gottfried, C. T. Campbell  
*Calcium Thin Film Growth on a Cyano-Substituted Poly(p-phenylene vinylene): Interface Structure and Energetics*  
J. Phys. Chem. C 117 (2013) 23781-23789.
- 2014 (26)**
- I. Niedermaier, M. Bahlmann, C. Papp, C. Kolbeck, W. Wei, S. Krick Calderón, M. Grabau, P. S. Schulz, P. Wasserscheid, H.-P. Steinrück, F. Maier  
*Carbon Dioxide Capture by an Amine Functionalized Ionic Liquid: Fundamental Differences of Surface and Bulk Behavior*  
J. Am. Chem. Soc. 136 (2014) 436-441.
- M. Röckert, S. Ditze, M. Stark, J. Xiao, H.-P. Steinrück, H. Marbach, O. Lytken  
*Abrupt Coverage-Induced Enhancement of the Self-Metalation of Tetraphenylporphyrin with Cu(111)*  
J. Phys. Chem. C 118 (2014) 1661-1667.
- C. Kolbeck, N. Taccardi, N. Paape, P. S. Schulz, P. Wasserscheid, H.-P. Steinrück, F. Maier  
*Redox chemistry, solubility, and surface distribution of Pt(II) and Pt(IV) complexes dissolved in ionic liquids*  
J. Mol. Liq. 192 (2014) 103-113.

- M. Amende, C. Gleichweit, K. Werner, S. Schernich, W. Zhao, M. P. A. Lorenz, O. Höfert, C. Papp, M. Koch, P. Wasserscheid, M. Laurin, H.-P. Steinrück, J. Libuda  
*Model Catalytic Studies of Liquid Organic Hydrogen Carriers: Dehydrogenation and Decomposition Mechanisms of Dodecahydro-N-ethylcarbazole on Pt(111)*  
ACS Catal. 4 (2014) 657-665.
- F. Rietzler, M. Piermaier, A. Deyko, H.-P. Steinrück, F. Maier  
*Electrospray Ionization Deposition of Ultrathin Ionic Liquid Films: [C<sub>8</sub>C<sub>1</sub>Im]Cl and [C<sub>8</sub>C<sub>1</sub>Im][Tf<sub>2</sub>N] on Au(111)*  
Langmuir 30 (2014) 1063-1071.
- S. Ditze, M. Stark, F. Buchner, A. Aichert, N. Jux, N. Luckas, A. Görling, W. Hieringer, J. Hornegger, H.-P. Steinrück, Hubertus Marbach  
*On the Energetics of Conformational Switching of Molecules at and Close to Room Temperature*  
J. Am. Chem. Soc. 136 (2014) 1609-1616.
- J. C. Sharp, X. Feng, J. A. Farmer, Y. Guo, F. Bebensee, J. H. Baricuatro, E. Zillner, J. Zhu, H.-P. Steinrück, J. M. Gottfried, C. T. Campbell  
*Calcium Thin Film Growth on Polyfluorenes: Interface Structure and Energetics*  
J. Phys. Chem. C 118 (2014) 2953-2962.
- C. Kolbeck, I. Niedermaier, A. Deyko, K. R. J. Lovelock, N. Taccardi, W. Wei, P. Wasserscheid, F. Maier, H.-P. Steinrück  
*Influence of substituents and functional groups on the surface composition of ionic liquids*  
Chem. Eur. J. 20 (2014) 3954-3965 (Back Cover).
- M. Chen, J. Xiao, H.-P. Steinrück, S. Wang, W. Wang, N. Lin, W. Hieringer, J. M. Gottfried  
*Combined Photoemission and Scanning Tunneling Microscopy Study of the Surface-Assisted Ullmann Coupling Reaction*  
Chem. Eur. J. 118 (2014) 6820-6830.
- Z. Ferencz, A. Erdőhelyi, K. Baán, A. Oszkó, L. Óvári, Z. Kónya, C. Papp, H.-P. Steinrück, J. Kiss  
*Effects of Support and Rh Additive on Co-Based Catalysts in the Ethanol Steam Reforming Reaction*  
ACS Catal. 4 (2014) 1205-1218.
- M. Amende, C. Gleichweit, S. Schernich, O. Höfert, M. P. A. Lorenz, W. Zhao, M. Koch, K. Obesser, C. Papp, P. Wasserscheid, H.-P. Steinrück, J. Libuda  
*Size and Structure Effects Controlling the Stability of the Liquid Organic Hydrogen Carrier Dodecahydro-N-ethylcarbazole during Dehydrogenation over Pt Model Catalysts*  
J. Phys. Chem. Lett. 5 (2014) 1498-1504.
- M. Chen, M. Röckert, J. Xiao, H.-J. Drescher, H.-P. Steinrück, O. Lytken, J. M. Gottfried  
*Coordination Reactions and Layer Exchange Processes at a Buried Metal–Organic Interface*  
J. Phys. Chem. C 118 (2014) 8501-8507.
- C. Gleichweit, M. Amende, U. Bauer, S. Schernich, O. Höfert, M. P. A. Lorenz, W. Zhao, M. Müller, M. Koch, P. Bachmann, P. Wasserscheid, J. Libuda, H.-P. Steinrück, C. Papp  
*Alkyl chain length-dependent surface reaction of dodecahydro-N-alkylcarbazoles on Pt model catalysts*  
J. Chem. Phys. 140 (2014) 204711 1-9.
- M. Röckert, M. Franke, Q. Tariq, S. Ditze, M. Stark, P. Uffinger, D. Wechsler, U. Singh, J. Xiao, H. Marbach, H.-P. Steinrück, O. Lytken  
*Coverage- and Temperature-Dependent Metalation and Dehydrogenation of Tetraphenylporphyrin on*  
Chem. Eur. J. 20 (2014) 8948-8953.

H. Marbach und H.-P. Steinrück

*Studying the dynamic behaviour of porphyrins as prototype functional molecules by scanning tunnelling microscopy close to room temperature*

Chem. Commun. 50 (2014) 9034-9048 (Feature Article on Invitation).

M. Schmid, H.-P. Steinrück, J. M. Gottfried

*A new asymmetric Pseudo-Voigt function for more efficient fitting of XPS lines*

Surf. Interface Anal. 46 (2014) 505-511.

ERRATUM: Surf. Interface Anal. 47 (2015) 1080.

F. Vollnhals, M. Drost, F. Tu, E. Carrasco, A. Späth, R. H. Fink, H.-P. Steinrück, H. Marbach

*Electron-beam induced deposition and autocatalytic decomposition of  $\text{Co}(\text{CO})_3\text{NO}$*

Beilstein J. Nanotechnol. 5 (2014) 1175–1185.

C. Papp, P. Wasserscheid, J. Libuda, H.-P. Steinrück

*Liquid Organic Hydrogen Carriers: Surface Science Studies of Carbazole Derivatives*

Chem. Rec. 14 (2014) 879-896 (Invited Contribution).

H. Marbach

*Electron beam induced surface activation: a method for the lithographic fabrication of nanostructures via catalytic processes*

Appl. Phys. A 117 (2014) 987–995 (Invited Paper).

M. Stark, S. Ditze, M. Lepper, L. Zhang, H. Schlott, F. Buchner, M. Röckert, M. Chen, O. Lytken, H.-P. Steinrück, H. Marbach

*Massive conformational changes during thermally induced self-metalation of 2H-tetrakis-(3,5-di-tert-butyl)-phenylporphyrin on Cu(111)*

Chem. Commun. 50 (2014) 10225-10228.

K. Gotterbarm, C. Steiner, C. Bronnbauer, U. Bauer, H.-P. Steinrück, S. Maier, C. Papp

*Graphene-Templated Growth of Pd Nanoclusters*

J. Phys. Chem. C 118 (2014) 15934-15939.

J. Kirschner, Z. Wang, S. Eigler, H.-P. Steinrück, C. M. Jäger, T. Clark, A. Hirsch, M. Halik

*Driving forces for the self-assembly of graphene oxide on organic monolayers*

Nanoscale 6 (2014) 11344-11350.

C. Papp, P. Wasserscheid, J. Libuda, H.-P. Steinrück

*Wasserstoff, chemisch gespeichert*

Nachr. Chem. 62 (2014) 963-969.

A. R. Gheisi, C. Neygandhi, A. K. Sternig, E. Carrasco, H. Marbach, D. Thomele, O. Diwald

*$\text{O}_2$  adsorption dependent photoluminescence emission from metal oxide nanoparticles*

Phys.Chem.Chem.Phys. 16 (2014) 23922-23929.

K. Gotterbarm, C. Bronnbauer, U. Bauer, C. Papp, H.-P. Steinrück

*Graphene-Supported Pd Nanoclusters Probed by Carbon Monoxide Adsorption*

J. Phys. Chem. C 118 (2014) 25097-25103.

M. Röckert, M. Franke, Q. Tariq, D. Lungerich, N. Jux, M. Stark, A. Kaftan, S. Ditze, H. Marbach, M. Laurin, J. Libuda, H.-P. Steinrück, O. Lytken

*Insights in Reaction Mechanisms: Isotopic Exchange during the Metalation of Deuterated Tetraphenyl-21,23D-porphyrin on Cu(111)*

J. Phys. Chem. C 118 (2014) 26729-26736.

**2015** (25)

W. Zhao, J. Gebhardt, F. Späth, K. Gotterbarm, C. Gleichweit, H.-P. Steinrück, A. Görling, C. Papp  
*Reversible Hydrogenation of Graphene on Ni(111) – Synthesis of "Graphone"*  
Chem. Eur. J. 21 (2015) 3347-3358.

H.-P. Steinrück und P. Wasserscheid  
*Ionic Liquids in Catalysis*  
Catal. Lett. 145 (2015) 380-397 (Invited Review).

F. Späth, W. Zhao, C. Gleichweit, K. Gotterbarm, U. Bauer, O. Höfert, H.-P. Steinrück, C. Papp  
*Hydrogenation and Dehydrogenation of Nitrogen-doped Graphene investigated by X-Ray Photoelectron Spectroscopy*  
Surf. Sci. 634 (2015) 89-94.

M. Stark, J. Träg, S. Ditze, W. Brenner, N. Jux, H.-P. Steinrück, H. Marbach  
*Supramolecular order and structural dynamics: A STM study of 2H-tetraphenylporphycene on Cu(111)*  
J. Chem. Phys. 142 (2015) 101925 1-6.

K. Gotterbarm, F. Späth, U. Bauer, C. Bronnbauer, H.-P. Steinrück, C. Papp  
*Reactivity of Graphene-Supported Pt Nanocluster Arrays*  
ACS Catal. 5 (2015) 2397-2403.

L. Zhang, M. Lepper, M. Stark, D. Lungerich, N. Jux, W. Hieringer, H.-P. Steinrück, H. Marbach  
*Self-assembly and coverage dependent thermally induced conformational changes of Ni(II)-mesotetrakis (4-tert-butylphenyl) benzoporphyrin on Cu(111)*  
Phys. Chem. Chem. Phys. 17 (2015) 13066-13073.

T. Matsuda, N. Taccardi, J. Schwegler, P. Wasserscheid, H.-P. Steinrück, F. Maier  
*Vacuum Surface Science Meets Heterogeneous Catalysis: Dehydrogenation of a Liquid Organic Hydrogen Carrier in the Liquid State*  
ChemPhysChem 16 (2015) 1873-1879.

G. Vári, L. Óvári, C. Papp, H.-P. Steinrück, J. Kiss, Z. Kónya  
*The Interaction of Cobalt with CeO<sub>2</sub> (111) Prepared on Cu(111)*  
J. Phys. Chem. C 119 (2015) 9324-9333.

K. Gotterbarm, F. Späth, U. Bauer, H.-P. Steinrück, C. Papp  
*Adsorption and Reaction of SO<sub>2</sub> on Graphene-Supported Pt Nanoclusters*  
Top. Catal. 58 (2015) 573-579.

E. C. H. Sykes and H.-P. Steinrück  
*Taking a Nanoscale "Look" at Chemical Reactions on Surfaces*  
Acc. Chem. Res. 48 (2015) 2661-2661.

M. Röckert, M. Franke, Q. Tariq, H.-P. Steinrück, O. Lytken  
*Evidence for a Precursor Adcomplex During the Metalation of 2HTPP with Iron on Ag(100)*  
Chem. Phys. Lett. 635 (2015) 60-62.

A. Dees, N. Jux, O. Tröppner, K. Dürr, R. Lippert, M. Schmid, B. Küstner, S. Schlücker, H.-P. Steinrück, J. M. Gottfried, I. Ivanović-Burmazović  
*Reactions of superoxide with iron porphyrins in the bulk and the near-surface region of ionic liquids*  
Inorg. Chem. 54 (2015) 6862-6872.

M. Ledendecker, S. Krick Calderón, C. Papp, H.-P. Steinrück, M. Antonietti, M. Shalom  
*The Synthesis of Nanostructured Ni<sub>5</sub>P<sub>4</sub> Films and their Use as a Non-noble Bifunctional Electrocatalyst for Full Water Splitting*  
Angew. Chem. Int. Ed. 54 (2015) 12361-12365.  
Angew. Chem. 127 (2015) 12538-12542.

M. Franke, F. Marchini, H.-P. Steinrück, O. Lytken, F. J. Williams

*Surface Porphyrins Metalate with Zn Ions from Solution*

J. Phys. Chem. Lett. 6 (2015) 4845-4849.

C. Gleichweit, C. Neiß, S. Maisel, U. Bauer, F. Späth, O. Höfert, F. Vollnhals, M. Drost, H. Marbach, A. Görling, H.-P. Steinrück, C. Papp

*Comparative study of the carbide-modified surfaces C/Mo(110) and C/Mo(100) using high-resolution x-ray photoelectron spectroscopy*

Phys. Rev. B 92 (2015) 014114 1-13.

Z. Wang, S. Eigler, Y. Ishii, Y. Hu, C. Papp, O. Lytken, H.-P. Steinrück, M. Halik

*A facile approach to synthesize an oxo-functionalized graphene/polymer composite for low-voltage operating memory devices*

J. Mater. Chem. C 3 (2015) 8595-8604.

H. Marbach

*Surface-Mediated in Situ Metalation of Porphyrins at the Solid-Vacuum Interface*

Acc. Chem. Res. 48 (2015) 2649-2658.

S. H. Etschel, L. Portilla, J. Kirschner, M. Drost, F. Tu, H. Marbach, R. R. Tykwinski, M. Halik

*Region-Selective Deposition of Core-Shell Nanoparticles for 3D Hierarchical Assemblies by the Huisgen 1,3-Dipolar Cycloaddition*

Angew. Chem. Int. Ed. 54 (2015) 9235-9238.

Angew.Chem. 127 (2015) 9367-9370.

C. Gleichweit, M. Amende, O. Höfert, T. Xu, F. Späth, N. Brückner, P. Wasserscheid, J. Libuda, H.-P. Steinrück, C. Papp

*Surface reactions of dicyclohexylmethane on Pt(111)*

J. Phys. Chem. C 119 (2015) 20299-20311.

M. Lepper, L. Zhang, M. Stark, S. Ditze, D. Lungerich, N. Jux, W. Hieringer, H.-P. Steinrück, H. Marbach

*Role of specific intermolecular interactions for the arrangement of Ni(II)-5, 10, 15, 20-tetraphenyltetra benzo-porphyrin on Cu(111)*

J. Phys. Chem. C 119 (2015) 19897-19905.

M. Franke, F. Marchini, L. Zhang, Q. Tariq, N. Tsud, M. Vorokhta, M. Vondráček, K. Prince, M. Röckert, F. J. Williams, H.-P. Steinrück, O. Lytken

*Temperature-Dependent Reactions of Phthalic Acid on Ag(100)*

J. Phys. Chem. C 119 (2015) 23580-23585.

E. Varga, P. Pusztai, L. Óvári, A. Oszkó, A. Erdőhelyi, C. Papp, H.-P. Steinrück, Z. Kónya, J. Kiss

*Probing the interaction of Rh, Co and bimetallic Rh-Co nanoparticles with the CeO<sub>2</sub> support: catalytic materials for alternative energy generation*

Phys. Chem. Chem. Phys. 17 (2015) 27154-27166.

G. M. McGuirk, J. Ledieu, É. Gaudry, M.-C. de Weerd, M. Hahne, P. Gille, D. C. A. Ivarsson, M. Armbrüster, J. Ardini, G. Held, F. Maccherozzi, A. Bayer, M. Lowe, K. Pussi, R. D. Diehl, V. Fournée

*The atomic structure of low-index surfaces of the intermetallic compound InPd*

J. Chem. Phys. 143 (2015) 074705 1-12.

F. Rietzler, J. Nagengast, H.-P. Steinrück, F. Maier

*Interface of Ionic Liquids and Carbon: Ultrathin [C<sub>1</sub>C<sub>1</sub>Im][Tf<sub>2</sub>N] Films on Graphite and Graphene*

J. Phys. Chem. C 119 (2015) 28068-28076.

W. Zhao, C. Papp, H.-P. Steinrück

*Heterographenes*

Encyclopedia of Polymeric Nanomaterials, Springer (2015) 924-936.

**2016** (22)

J. Schneider, M. Franke, M. Gurrath, M. Röckert, T. Berger, J. Bernardi, B. Meyer, H.-P. Steinrück, O. Lytken, O. Diwald

*Porphyrin Metalation at MgO Surfaces: A Spectroscopic and Quantum Mechanical Study on Complementary Model Systems*

Chem. Eur. J. 22 (2016) 1744-1749.

L. Zhang, M. Lepper, M. Stark, R. Schuster, D. Lungerich, N. Jux, H.-P. Steinrück, H. Marbach

*2H-Tetrakis(3,5-di-tert-butyl)phenylporphyrin on a Cu(110) Surface: Room-Temperature Self-Metalation and Surface-Reconstruction-Facilitated Self-Assembly*

Chem. Eur. J. 22 (2016) 3347-3354.

R. Denecke und H.-P. Steinrück

*Adsorption of (Small) Molecules on Metals*

Kapitel 38 in: "Surface and Interface Science", Vol. 5, Editor: K. Wandelt, S. 391-458, 2016 Wiley-VCH.

F. Späth, K. Gotterbarm, M. Amende, U. Bauer, C. Gleichweit, O. Höfert, H.-P. Steinrück, C. Papp

*Keeping argon under a graphene lid - Argon intercalation between graphene and nickel(111)*

Surf. Sci. 643 (2016) 223-226.

C. Wöckel, A. Eilert, M. Welke, M. Schöppke, H.-P. Steinrück, R. Denecke

*Pyridine on flat Pt(111) and stepped Pt(355) - An in situ HRXPS investigation of adsorption and thermal evolution*

J. Chem. Phys. 144 (2016) 014702 1-9.

S. Mohr, T. Döpfer, T. Xu, Q. Tariq, O. Lytken, M. Laurin, H.-P. Steinrück, A. Görling, J. Libuda

*Organic Linkers on Oxide Surfaces: Adsorption and Chemical Bonding of Phthalic Anhydride on MgO(100)*

Surf. Sci. 646 (2016) 90-100.

M. Stark, S. Ditze, M. Thomann, D. Lungerich, N. Jux, H.-P. Steinrück, H. Marbach

*Reversible thermally induced phase transition in ordered domains of Co(II)-5,10,15,20-tetrakis-(3,5-di-tert-butylphenyl)-porphyrin on Cu(111)*

Surf. Sci. 650 (2016) 255-262 - Madix Issue.

I. Levchuk, C. Würth, F. Krause, A. Osvet, M. Batentschuk, U. Resch-Genger, C. Kolbeck, P. Herre, H.-P. Steinrück, W. Peukert, C. J. Brabec

*Industrially scalable and cost-effective Mn<sup>2+</sup> doped Zn<sub>x</sub>Cd<sub>1-x</sub>S/ZnS nanocrystals with 70% photoluminescence quantum yield, as efficient down-shifting material in photovoltaics*

Energy Environ. Sci. 9 (2016) 1083-1094.

S. Krick Calderón, M. Grabau, L. Óvári, B. Kress, H.-P. Steinrück, C. Papp

*CO oxidation on Pt(111) at near ambient pressures*

J. Chem. Phys. 144 (2016) 044706 1-9.

I. Niedermaier, C. Kolbeck, H.-P. Steinrück, F. Maier

*Dual analyzer system for surface analysis dedicated for angle-resolved photoelectron spectroscopy at liquid surfaces and interfaces*

Rev. Sci. Instrum. 87 (2016) 045105 1-14.

ERRATUM: Rev. Sci. Instrum. 88 (2017) 059902 1.

M. Amende, C. Gleichweit, T. Xu, O. Höfert, M. Koch, P. Wasserscheid, H.-P. Steinrück, C. Papp, J. Libuda  
*Dicyclohexylmethane as a liquid organic hydrogen carrier: a model study on the dehydrogenation mechanism over Pd(111)*

Catal. Lett. 146 (2016) 851-860.

- A. Weiß, M. Munoz, A. Haas, F. Rietzler, H.-P. Steinrück, M. Haumann, P. Wasserscheid, B. J. M. Etzold  
*Boosting the Activity in Supported Ionic Liquid-Phase-Catalyzed Hydroformylation via Surface Functionalization of the Carbon Support*  
ACS Catal. 6 (2016) 2280-2286.
- M. Grabau, S. Krick Calderón, F. Rietzler, I. Niedermaier, N. Taccardi, P. Wasserscheid, F. Maier, H.-P. Steinrück, C. Papp  
*Surface enrichment of Pt in Ga<sub>2</sub>O<sub>3</sub> films grown on liquid Pt/Ga alloys*  
Surf. Sci. 651 (2016) 16-21.
- O. Brummel, D. Besold, T. Döpfer, Y. Wu, S. Bochmann, F. Lazzari, F. Waidhas, U. Bauer, P. Bachmann, C. Papp, H.-P. Steinrück, A. Görling, J. Libuda, J. Bachmann  
*Energy storage in strained organic molecules: (Spectro)Electrochemical characterization of norbornadiene and quadricyclane*  
ChemSusChem 9 (2016) 1424-1432.
- M. Franke, F. Marchini, N. Jux, H.-P. Steinrück, O. Lytken, F. J. Williams  
*Zinc Porphyrin Metal-Center Exchange at the Solid-Liquid Interface*  
Chem. Eur. J. 22 (2016) 8520-8524.
- M. Scheuermeyer, M. Kusche, F. Agel, P. Schreiber, F. Maier, H.-P. Steinrück, J. H. Davis, Jr., F. Heym, A. Jess, P. Wasserscheid  
*Thermally stable bis(trifluoromethylsulfonyl)imide salts and their mixtures*  
New J. Chem. 40 (2016) 7157-7161.
- G. Akhgar, O. Klochan, L. H. Willems van Beveren, M. T. Edmonds, F. Maier, B. J. Spencer, J. C. McCallum, L. Ley, A. R. Hamilton, C. I. Pakes  
*Strong and tunable spin-orbit coupling in a two-dimensional hole gas in ionic-liquid gated diamond devices*  
Nano Lett. 16 (2016) 3768-3773.
- F. Rietzler, B. May, H.-P. Steinrück, F. Maier  
*Switching adsorption and growth behavior of ultrathin [C<sub>2</sub>C<sub>1</sub>Im][OTf] films on Au(111) by Pd deposition*  
Phys. Chem. Chem. Phys. 18 (2016) 25143-25150.
- F. Tu, M. Drost, F. Vollnhals, A. Späth, E. Carrasco, R. H. Fink, H. Marbach  
*On the magnetic properties of iron nanostructures fabricated via focused electron beam induced deposition and autocatalytic growth processes*  
Nanotechnology 27 (2016) 355302 1-11.
- A. Späth, F. Tu, F. Vollnhals, M. Drost, S. Krick Calderon, B. Watts, R. H. Fink, H. Marbach  
*Additive fabrication of nanostructures with focused soft X-rays*  
RSC Adv. 6 (2016) 98344-98349.
- X. Tang, M. Brandl, B. May, I. Levchuk, Y. Hou, M. Richter, H. Chen, S. Chen, S. Kahmann, A. Osvet, F. Maier, H.-P. Steinrück, R. Hock, G. J. Matt, C. J. Brabec  
*Photoinduced degradation of methylammonium lead triiodide perovskite semiconductors*  
J. Mater. Chem. A 4 (2016) 15896-15903 (Hot Paper).
- J. Köbl, T. Wang, C. Wang, M. Drost, F. Tu, Q. Xu, H. Ju, D. Wechsler, M. Franke, H. Pan, H. Marbach, H.-P. Steinrück, J. Zhu, O. Lytken  
*Hungry Porphyrins: Protonation and Self-Metalation of Tetraphenylporphyrin on TiO<sub>2</sub>(110) - 1x1*  
ChemistrySelect 1 (2016) 6103-6105.

**2017** (28)

S. Krick Calderón, M. Grabau, J. E. Yoo, M. S. Killian, P. Schmuki, H.-P. Steinrück, C. Papp  
*Reactivity of TiO<sub>2</sub> Nanotube-Supported Platinum Particles in the CO Oxidation Reaction*  
ChemCatChem 9 (2017) 564-572.

X. Du, O. Lytken, M. S. Killian, J. Cao, T. Stubhan, M. Turbiez, P. Schmuki, H.-P. Steinrück, L. Ding, R. H. Fink, N. Li, C. J. Brabec  
*Overcoming Interfacial Losses in Solution-Processed Organic Multi-Junction Solar Cells*  
Adv. Energy Mater. 7 (2017) 1601959 1-10.

**C. Papp**

*From Flat Surfaces to Nanoparticles: In Situ Studies of the Reactivity of Model Catalysts*  
Catal. Lett. 147 (2017) 2-19.

**P. Preuster, C. Papp, P. Wasserscheid**

*Liquid Organic Hydrogen Carriers (LOHCs): Toward a Hydrogen-free Hydrogen Economy*  
Acc. Chem. Res. 50 (2017) 74-85.

U. Bauer, S. Mohr, T. Döpfer, P. Bachmann, F. Späth, F. Düll, M. Schwarz, O. Brummel, L. Fromm, U. Pinkert, A. Görling, A. Hirsch, J. Bachmann, H.-P. Steinrück, J. Libuda, C. Papp  
*Catalytically triggered energy release from strained organic molecules: The surface chemistry of quadricyclane and norbornadiene on Pt(111)*  
Chem. Eur. J. 23 (2017) 1613-1622.

S. Schindler, F. Vollnhals, C. E. Halbig, H. Marbach, H.-P. Steinrück, C. Papp, S. Eigler  
*Focused electron beam based direct-write fabrication of graphene and amorphous carbon from oxo-functionalized graphene on silicon dioxide*  
Phys. Chem. Chem. Phys. 19 (2017) 2683-2686.

F. Düll, F. Späth, P. Bachmann, U. Bauer, H.-P. Steinrück, C. Papp  
*Reactivity of CO on Sulfur-Passivated Graphene-Supported Palladium Nanocluster Arrays*  
J. Phys. Chem. C 121 (2017) 1734-1741.

D. Fantauzzi, S. Krick Calderón, J. E. Mueller, M. Grabau, C. Papp, H.-P. Steinrück, T. P. Senftle, A. C. T. van Duin, T. Jacob  
*Growth of Stable Surface Oxides on Pt(111) at Near-Ambient Pressures*  
Angew. Chem. Int. Ed. 56 (2017) 2594-2598.  
Angew. Chem. 129 (2017) 2638-2642.

C. Gleichweit, C. Neiss, S. Maisel, U. Bauer, F. Späth, O. Höfert, A. Görling, H.-P. Steinrück, C. Papp  
*Surface Reaction of CO on Carbide-Modified Mo(110)*  
J. Phys. Chem. C 121 (2017) 3133-3142.

**F. Tu, A. Späth, M. Drost, F. Vollnhals, S. Krick Calderón, R. H. Fink, H. Marbach**  
*Exploring the fabrication of Co and Mn nanostructures with focused soft x-ray beam induced deposition*  
J. Vac. Sci. Technol. B 35 (2017) 031601 1-7.

B. May, M. Hönle, B. Heller, F. Greco, R. Bhuin, H.-P. Steinrück, F. Maier  
*Surface-Induced Changes in the Thermochromic Transformation of an Ionic Liquid Cobalt Thiocyanate Complex*  
J. Phys. Chem. Lett. 8 (2017) 1137-1141.

**M. Drost, F. Tu, F. Vollnhals, I. Szent, J. Kiss, H. Marbach**  
*On the Principles of Tweaking Nanostructure Fabrication via Focused Electron Beam Induced Processing Combined with Catalytic Growth Processes*  
Small Methods 1 (2017) 1700095 1-10.

D. Wechsler, M. Franke, Q. Tariq, L. Zhang, T.-L. Lee, P. K. Thakur, N. Tsud, S. Bercha, K. C. Prince, H.-P. Steinrück, O. Lytken

*Adsorption Structure of Cobalt Tetraphenylporphyrin on Ag(100)*

J. Phys. Chem. C 121 (2017) 5667-5674.

M. Franke, D. Wechsler, Q. Tariq, M. Röckert, L. Zhang, P. K. Thakur, N. Tsud, S. Bercha, K. Prince, T.-L. Lee, H.-P. Steinrück, O. Lytken

*Interfacial interactions between CoTPP molecules and MgO(100) thin films*

Phys. Chem. Chem. Phys. 19 (2017) 11549-11553.

F. Maier, I. Niedermaier, H.-P. Steinrück

*Perspective: Chemical reactions in ionic liquids monitored through the gas (vacuum)/liquid interface*

J. Chem. Phys. 146 (2017) 170901 1-15 (Invited Perspective Article - COVER).

O. Lytken, D. Wechsler, H.-P. Steinrück

*Removing photoemission features from Auger-yield NEXAFS spectra*

J. Electron Spectrosc. Relat. Phenom. 218 (2017) 35-38.

O. Brummel, F. Waidhas, U. Bauer, Y. Wu, S. Bochmann, H.-P. Steinrück, C. Papp, J. Bachmann, J. Libuda  
*Photochemical Energy Storage and Electrochemically Triggered Energy Release in the Norbornadiene-Quadracyclane System: UV Photochemistry and IR Spectroelectrochemistry in a Combined Experiment*

J. Phys. Chem. Lett. 8 (2017) 2819-2825.

[Y. Dedkov, W. Klesse, A. Becker, F. Späth, C. Papp, E. Voloshina](#)

[Decoupling of graphene from Ni\(111\) via formation of an interfacial NiO layer](#)

[Carbon 121 \(2017\) 10-16.](#)

N. Taccardi, M. Grabau, J. Debuschewitz, M. Distaso, M. Brandl, R. Hock, F. Maier, C. Papp, J. Erhard, C. Neiss, W. Peukert, A. Görling, H.-P. Steinrück, P. Wasserscheid

*Gallium-rich Pd-Ga phases as supported liquid metal catalysts*

Nat. Chem. 9 (2017) 862-867.

M. Lepper, J. Köbl, T. Schmitt, M. Gurrath, A. de Siervo, M. A. Schneider, H. Steinrück, B. Meyer, H. Marbach, W. Hieringer

*"Inverted" porphyrins: a distorted adsorption geometry of freebase porphyrins on Cu(111)*

Chem. Commun. 53 (2017) 8207-8210.

F. Späth, J. Gebhardt, F. Düll, U. Bauer, P. Bachmann, C. Gleichweit, A. Görling, H.-P. Steinrück, C. Papp  
*Hydrogenation and hydrogen intercalation of hexagonal-boron nitride on Ni(111): reactivity and electronic structure*

2D Mater. 4 (2017) 035026 1-13.

A. Farkas, D. Fantauzzi, J. E. Mueller, T. Zhu, C. Papp, H.-P. Steinrück, T. Jacob

*On the platinum-oxide formation under gas-phase and electrochemical conditions*

J. Electron Spectrosc. Relat. Phenom. 221 (2017) 44-57.

L. Zhang, M. Lepper, M. Stark, T. Menzel, D. Lungerich, N. Jux, W. Hieringer, H.-P. Steinrück, H. Marbach  
*On the critical role of the substrate: the adsorption behaviour of tetrabenzoporphyrins on different metal surfaces*

Phys. Chem. Chem. Phys. 19 (2017) 20281-20289.

M. Schwarz, P. Bachmann, T. Nascimento Silva, S. Mohr, M. Scheuermeyer, F. Späth, U. Bauer, F. Düll, J. Steinhauer, C. Hohner, T. Döpfer, H. Noei, A. Stierle, C. Papp, H.-P. Steinrück, P. Wasserscheid, A. Görling, J. Libuda

*Model Catalytic Studies of Novel Liquid Organic Hydrogen Carriers: Indole, Indoline and Octahydroindole on Pt(111)*

Chem. Eur. J. 23 (2017) 14806-14818.

M. Grabau, J. Erhard, N. Taccardi, S. Krick Calderón, P. Wasserscheid, A. Görling, H.-P. Steinrück, C. Papp  
*Spectroscopic Observation and Molecular Dynamics Simulation of Ga Surface Segregation in Liquid Pd-Ga Alloys*

Chem. Eur. J. 23 (2017) 17701-17706.

M. Lepper, T. Schmitt, M. Gurrath, M. Raschmann, L. Zhang, M. Stark, H. Hölzel, N. Jux, B. Meyer, M. A. Schneider, H.-P. Steinrück, H. Marbach

*Adsorption Behavior of a Cyano-Functionalized Porphyrin on Cu(111) and Ag(111): From Molecular Wires to Ordered Supramolecular Two-Dimensional Aggregates*

J. Phys. Chem. C 121 (2017) 26361-26371.

Y. Hou, X. Du, S. Scheiner, D. P. McMeekin, Z. Wang, N. Li, M. S. Killian, H. Chen, M. Richter, I. Levchuk, N. Schrenker, E. Spiecker, T. Stubhan, N. A. Luechinger, A. Hirsch, P. Schmuki, H.-P. Steinrück, R. H. Fink, M. Halik, H. J. Snaith, C. J. Brabec

*A generic interface to reduce the efficiency-stability-cost gap of perovskite solar cells*

Science 358 (2017) 1192-1197.

F. Tu, M. Drost, I. Szenti, J. Kiss, Z. Kónya, H. Marbach

*Localized growth of carbon nanotubes via lithographic fabrication of metallic deposits*

Beilstein J. Nanotechnol. 8 (2017) 2592-2605.

## **2018** (24)

A. Hensley, C. Wöckel, C. Gleichweit, K. Gotterbarm, C. Papp, H.-P. Steinrück, Y. Wang, R. Denecke, J.-S. McEwen

*Identifying the Thermal Decomposition Mechanism of Guaiacol on Pt(111): An Integrated X-ray Photoelectron Spectroscopy and Density Functional Theory Study*

J. Phys. Chem. C 122 (2018) 4261-4273.

U. Bauer, C. Gleichweit, O. Höfert, F. Späth, K. Gotterbarm, H.-P. Steinrück, C. Papp

*Reactivity studies of ethylene, benzene and cyclohexane on carbide-modified Mo(110) using high resolution X-ray photoelectron spectroscopy*

Surf. Sci. 678 (2018) 11-19.

P. Bachmann, M. Schwarz, J. Steinhauer, F. Späth, F. Düll, U. Bauer, T. Nascimento Silva, S. Mohr, C. Hohner, M. Scheuermeyer, P. Wasserscheid, J. Libuda, H.-P. Steinrück, C. Papp

*Dehydrogenation of the Liquid Organic Hydrogen Carrier System Indole/Indoline/Octahydroindole on Pt(111)*

J. Phys. Chem. C 122 (2018) 4470-4479.

D. Wechsler, C. C. Fernández, H.-P. Steinrück, O. Lytken, F. J. Williams

*Covalent Anchoring and Interfacial Reactions of Adsorbed Porphyrins on Rutile TiO<sub>2</sub> (110)*

J. Phys. Chem. C 122 (2018) 4261-4273.

K. Shimizu, B. S. J. Heller, F. Maier, H.-P. Steinrück, J. N. Canongia Lopes

*Probing the surface tension of ionic liquids using the Langmuir Principle*

Langmuir 34 (2018) 4408-4416.

U. Bauer, F. Späth, F. Düll, P. Bachmann, J. Steinhauer, H.-P. Steinrück, C. Papp

*Reactivity of CO and C<sub>2</sub>H<sub>4</sub> on bimetallic Pt<sub>x</sub>Ag<sub>1-x</sub>/Pt(111) surface alloys investigated by high-resolution X-ray photoelectron spectroscopy*

ChemPhysChem 19 (2018) 1432-1440.

B. S. J. Heller, C. Kolbeck, I. Niedermaier, S. Dommer, J. Schatz, P. Hunt, F. Maier, H.-P. Steinrück

*Surface enrichment in equimolar mixtures of non-functionalized and functionalized imidazolium-based ionic liquids*

ChemPhysChem 19 (2018) 1733-1745.

- M. Lexow, T. Talwar, B. S. J. Heller, B. May, R. G. Bhui, F. Maier, H.-P. Steinrück  
*Time-dependent changes in the growth of ultrathin ionic liquid films on Ag(111)*  
Phys. Chem. Chem. Phys. 20 (2018) 12929-12938.
- M. Lepper, J. Köbl, L. Zhang, M. Meusel, H. Hölzel, D. Lungerich, N. Jux, A. de Siervo, B. Meyer, H.-P. Steinrück, H. Marbach  
*Controlling the Self-Metalation Rate of Tetraphenylporphyrins on Cu(111) via Cyano Functionalization*  
Angew. Chem. Int. Ed. 57 (2018) 10074-10079.  
*Kontrolle der Selbstmetallierungsrate von Tetraphenylporphyrinen auf Cu(111) durch Funktionalisierung mit Cyangruppen*  
Angew. Chem. 130 (2018) 10230-10236.
- M. Drost, F. Tu, L. Berger, C. Preischl, W. Zhou, H. Gliemann, C. Wöll, H. Marbach  
*Surface-Anchored Metal-Organic Frameworks as Versatile Resists for Gas-Assisted E-Beam Lithography: Fabrication of Sub-10 Nanometer Structures*  
ACS Nano 12 (2018) 3828-3835.
- F. Faisal, M. Bertram, C. Stumm, S. Cherevko, S. Geiger, O. Kasian, Y. Lykhach, O. Lytken, K. J. J. Mayrhofer, O. Brummel, J. Libuda  
*Atomically-Defined Co<sub>3</sub>O<sub>4</sub>(111) Thin Films Prepared in Ultrahigh Vacuum: Stability under Electrochemical Conditions*  
J. Phys. Chem. C 122 (2018) 7236-7248.
- A. Späth, F. Vollnhals, F. Tu, K. C. Prince, R. Richter, J. Raabe, H. Marbach, R. H. Fink  
*Focused Soft X-Ray Beam Induced Deposition: Recent Advances to a Novel Approach for Fabrication of Metallic Nanostructures*  
Microsc. Microanal. 24 S2 (2018) 114-115.
- P. Swiderek, H. Marbach, C. W. Hagen  
*Chemistry for electron-induced nanofabrication*  
Beilstein J. Nanotechnol. 9 (2018) 1317-1320.
- F. Düll, F. Späth, U. Bauer, P. Bachmann, J. Steinhauer, H.-P. Steinrück, C. Papp  
*Reactivity of CO on Sulfur-Passivated Graphene-Supported Platinum Nanocluster Arrays*  
J. Phys. Chem. C 122 (2018) 16008-16015.
- P. Bachmann, F. Düll, F. Späth, U. Bauer, H.-P. Steinrück, C. Papp  
*A HR-XPS study of the formation of h-BN on Ni(111) from the two precursors, ammonia borane and borazine*  
J. Chem. Phys. 149 (2018) 164709 1-7.
- M. Grabau, H.-P. Steinrück, C. Papp  
*Physical vapor deposition of Ga on polycrystalline Au surfaces studied using X-ray photoelectron spectroscopy*  
Surf. Sci. 677 (2018) 254-257.
- F. Düll, U. Bauer, F. Späth, P. Bachmann, J. Steinhauer, H.-P. Steinrück, C. Papp  
*Bimetallic Pd–Pt alloy nanocluster arrays on graphene/Rh(111): formation, stability, and dynamics*  
Phys. Chem. Chem. Phys. 20 (2018) 21294-21301.
- F. Düll, V. Schwaab, F. Späth, U. Bauer, P. Bachmann, J. Steinhauer, H.-P. Steinrück, C. Papp  
*Sulfur oxidation on graphene-supported platinum nanocluster arrays*  
Chem. Phys. Lett. 708 (2018) 165-169.
- F. Faisal, C. Stumm, M. Bertram, T. Wähler, R. Schuster, F. Xiang, O. Lytken, I. Katsounaros, K. J. J. Mayrhofer, M. A. Schneider, O. Brummel, J. Libuda  
*Atomically-Defined Model Catalysts in Ultrahigh Vacuum and in Liquid Electrolytes: Particle Size-Dependent CO Adsorption on Pt Nanoparticles on Ordered Co<sub>3</sub>O<sub>4</sub>(111) Films*  
Phys. Chem. Chem. Phys. 20 (2018) 23702-23716.

J. Kuliga, L. Zhang, M. Lepper, D. Lungerich, H. Hölzel, N. Jux, H.-P. Steinrück, H. Marbach  
*Metalation and coordination reactions of 2H-meso-trans-di(p-cyanophenyl)porphyrin on Ag(111) with coadsorbed cobalt atoms*  
Phys. Chem. Chem. Phys. 20 (2018) 25062-25068.

M. Lexow, B. S. J. Heller, F. Maier, H.-P. Steinrück  
*Anion Exchange at the Liquid/Solid Interface of Ultrathin Ionic Liquid Films on Ag(111)*  
ChemPhysChem 19 (2018) 2978-2984.

C. Papp  
*Catalysis at the limit*  
Nat. Chem. 10 (2018) 995-996.

K. Ahlenhoff, C. Preischl, P. Swiderek, H. Marbach  
*Electron Beam Induced Surface Activation of the Metal-Organic Framework HKUST-1: Unravelling the Underlying Chemistry*  
J. Phys. Chem. C 122 (2018) 26658-26670.

S. Matysik, C. Papp, A. Görling  
*Solving the Puzzle of the Coexistence of Different Adsorption Geometries of Graphene on Ni(111)*  
J. Phys. Chem C 122 (2018) 26105-26110.

## **2019** (21)

R. G. Bhui, P. Schreiber, B. S. J. Heller, M. Scheuermeyer, P. Wasserscheid, H.-P. Steinrück, F. Maier  
*Surface behavior of low-temperature molten salt mixtures during the transition from liquid to solid*  
J. Mol. Liq. 275 (2019) 290-296.

B. May, M. Lexow, N. Taccardi, H.-P. Steinrück, F. Maier  
*Reactions of a Polyhalide Ionic Liquid with Copper, Silver, and Gold*  
ChemistryOpen 8 (2019) 15-22.

U. Bauer, L. Fromm, C. Weiß, P. Bachmann, F. Späth, F. Düll, J. Steinhauer, W. Hieringer, A. Görling, A. Hirsch, H.-P. Steinrück, C. Papp  
*Controlled catalytic energy release of the norbornadiene/quadracyclane molecular solar thermal energy storage system on Ni(111) – a photoemission and DFT study*  
J. Phys. Chem. C 123 (2019) 7654-7664.

M. Lexow, B. S. J. Heller, G. Partl, R. G. Bhui, F. Maier, H.-P. Steinrück  
*Cation Exchange at the Interfaces of Ultrathin Films of Fluorous Ionic Liquids on Ag(111)*  
Langmuir 35 (2019) 398-405 (COVER).

V. Lloret, M. Á. Rivero-Crespo, J. A. Vidal-Moya, S. Wild, A. Doménech-Carbó, B. S. J. Heller, S. Shin, H.-P. Steinrück, F. Maier, F. Hauke, M. Varela, A. Hirsch, A. Leyva-Pérez, G. Abellán  
*Few layer 2D pnictogens catalyze the alkylation of soft nucleophiles with esters*  
Nat. Commun. 10 (2019) 509 1-11.

S. Wild, M. Fickert, A. Mitrovic, V. Lloret, C. Neiss, J. A. Vidal-Moya, M. Á. Rivero-Crespo, A. Leyva-Pérez, K. Werbach, H. Peterlik, M. Grabau, H. Wittkämper, C. Papp, H.-P. Steinrück, T. Pichler, A. Görling, F. Hauke, G. Abellán, A. Hirsch  
*Lattice Opening upon Bulk Reductive Covalent Functionalization of Black Phosphorus*  
Angew. Chem. Int. Ed. 58 (2019) 5763-5768.  
*Gitteröffnung durch reduktive kovalente Volumen-Funktionalisierung von schwarzem Phosphor*  
Angew. Chem. 131 (2019) 5820-5826.

C. C. Fernández, D. Wechsler, T. C. R. Rocha, H.-P. Steinrück, O. Lytken, F. J. Williams  
*Adsorption of Phosphonic-Acid-Functionalized Porphyrin Molecules on TiO<sub>2</sub> (110)*  
J. Phys. Chem. C 123 (2019) 10974-10980.

D. Papineau, B. T. De Gegerio, J. Sagar, R. Thorogate, J. Wang, L. Nittler, D. A. Kilcoyne, H. Marbach, M. Drost, G. Thornton  
*Fossil biomass preserved as graphitic carbon in a late Paleoproterozoic banded iron formation metamorphosed at more than 550°C*  
J. Geol. Soc. 176 (2019) 651-668.

F. Späth, H. R. Soni, J. Steinhauer, F. Düll, U. Bauer, P. Bachmann, W. Hieringer, A. Görling, H.-P. Steinrück, C. Papp  
*Oxygen Functionalization of Hexagonal Boron Nitride on Ni(111)*  
Chem. Eur. J. 25 (2019) 8884-8893.

U. Bauer, L. Fromm, C. Weiß, F. Späth, P. Bachmann, F. Düll, J. Steinhauer, S. Matysik, A. Pominov, A. Görling, A. Hirsch, H.-P. Steinrück, C. Papp  
*Surface chemistry of 2,3-dibromosubstituted norbornadiene/quadricyclane as molecular solar thermal energy storage system on Ni(111)*  
J. Chem. Phys. 150 (2019) 184706 1-13.

C. C. Fernández, D. Wechsler, T. C. R. Rocha, H.-P. Steinrück, O. Lytken, F. J. Williams  
*Adsorption geometry of carboxylic acid functionalized porphyrin molecules on TiO<sub>2</sub> (110)*  
Surf. Sci. 689 (2019) 121462 1-7.

F. Greco, S. Shin, F. J. Williams, B. S. J. Heller, F. Maier, H.-P. Steinrück  
*Potential Screening at Electrode/Ionic Liquid Interfaces from In Situ X-ray Photoelectron Spectroscopy*  
ChemistryOpen 8 (2019) 1365-1368.

D. Wechsler, C. C. Fernández, Q. Tariq, N. Tsud, K. Prince, F. J. Williams, H.-P. Steinrück, O. Lytken  
*Interfacial Reactions of Tetraphenylporphyrin with Cobalt-Oxide Thin Films*  
Chem. Eur. J. 25 (2019) 13197-13201.

N. Raman, S. Maisel, M. Grabau, N. Taccardi, J. Debuschewitz, M. Wolf, H. Wittkämper, T. Bauer, M. Wu, M. Haumann, C. Papp, A. Görling, E. Spiecker, J. Libuda, H.-P. Steinrück, P. Wasserscheid  
*Highly Effective Propane Dehydrogenation Using Ga-Rh Supported Catalytically Active Liquid Metal Solutions*  
ACS Catal. 9 (2019) 9499-9507.

P. Bachmann, J. Steinhauer, F. Späth, F. Düll, U. Bauer, R. Eschenbacher, F. Hemauer, M. Scheuermeyer, A. Bösmann, M. Büttner, C. Neiß, A. Görling, P. Wasserscheid, H.-P. Steinrück, C. Papp  
*Dehydrogenation of the Liquid Organic Hydrogen Carrier System 2-methylindole/2-methylindoline/2-methyl-octahydroindole on Pt(111)*  
J. Chem. Phys. 151 (2019) 144711 1-15.

F. Düll, M. Meusel, F. Späth, S. Schötz, U. Bauer, P. Bachmann, J. Steinhauer, H.-P. Steinrück, A. Bayer, C. Papp  
*Growth and stability of Pt nanoclusters from 1 to 50 atoms on h-BN/Rh(111)*  
Phys. Chem. Chem. Phys. 21 (2019) 21287-21295.

P. S. Bagus, C. J. Nelin, X. Zhao, S. V. Levchenko, E. Davis, X. Weng, F. Späth, C. Papp, H. Kuhlenbeck, H.-J. Freund  
*Revisiting Surface Core Level Shifts for Ionic Compounds*  
Phys. Rev. B. 100 (2019) 115419 1-5.

T. Schwob, P. Kunas, N. de Jonge, C. Papp, H.-P. Steinrück, R. Kempe  
*General and selective deoxygenation by hydrogen using a reusable earth-abundant metal catalyst*  
Sci. Adv. 5 (2019) eaav3680 1-8.

F. Düll, E. M. Freiburger, P. Bachmann, J. Steinhauer, C. Papp  
*Pt Nanoclusters Sandwiched between Hexagonal Boron Nitride and Nanographene as van der Waals Heterostructures for Optoelectronics*  
ACS Appl. Nano Mater. 2 (2019) 7019-7024.

M. Lexow, S. Massicot, F. Maier, H.-P. Steinrück  
*Stability and Exchange Processes in Ionic Liquid/Porphyrin Composite Films on Metal Surfaces*  
J. Phys. Chem. C 123 (2019) 29708-29721.

M. V. Avdeev, A. A. Rulev, E. E. Ushakova, Y. N. Kosiachkin, V. I. Petrenko, I. V. Gapon, E. Y. Kataev, V. A. Matveev, L. V. Yashina, D. M. Itkis  
*On nanoscale structure of planar electrochemical interfaces metal/liquid lithium ion electrolyte by neutron reflectometry*  
Appl. Surf. Sci. 486 (2019) 287-291.

## **2020** (26)

B. S. J. Heller, M. Lexow, F. Greco, S. Shin, G. Partl, F. Maier, H.-P. Steinrück  
*Temperature-Dependent Surface Enrichment Effects in Binary Mixtures of Fluorinated and Non-Fluorinated Ionic Liquids*  
Chem. Eur. J. 26 (2020) 1117-1126.

J. Kuliga, S. Massicot, R. Adhikari, M. Ruppel, N. Jux, H.-P. Steinrück, H. Marbach  
*Conformation controls mobility: 2H-Tetranaphthylporphyrins on Cu(111)*  
ChemPhysChem 21 (2020) 423-427.

C. Hohner, M. Kettner, C. Stumm, D. Blaumeiser, H. Wittkämper, M. Grabau, M. Schwarz, C. Schuschke, Y. Lykhach, C. Papp, H.-P. Steinrück, J. Libuda  
*Pt-Ga Model SCALMS on Modified HOPG: Thermal Behavior and Stability in UHV and Under Near-Ambient Conditions*  
J. Phys. Chem. C 124 (2020) 2562-2573.

A. Ceccatto dos Santos, R. C. de Campos Ferreira, J. C. Moreno-López, L. Barreto, M. Lepper, R. Landers, H.-P. Steinrück, H. Marbach, A. de Siervo  
*Cyano-Functionalized Porphyrins on Cu(111) from One-Dimensional Wires to Two-Dimensional Molecular Frameworks: On the Role of Co-Deposited Metal Atoms*  
Chem. Mater. 32 (2020) 2114-2122.

B. S. J. Heller, U. Paap, F. Maier, H.-P. Steinrück  
*Pronounced surface enrichment of fluorinated ionic liquids in binary mixtures with methoxy-functionalized ionic liquids*  
J. Mol. Liq. 305 (2020) 112783 1-9.

M. Lexow, F. Maier, H.-P. Steinrück  
*Ultrathin ionic liquid films on metal surfaces: adsorption, growth, stability and exchange phenomena*  
Adv. Phys.: X 5 (2020) 1761266 1-47.

J. Köbl, D. Wechsler, E. Y. Kataev, F. J. Williams, N. Tsud, S. Franchi, H.-P. Steinrück, O. Lytken  
*Adsorption of Phenylphosphonic Acid on rutile TiO<sub>2</sub> (110)*  
Surf. Sci. 698 (2020) 121612 1-6.  
CORRIGENDUM: Surf. Sci. 717 (2022) 122004 1.

F. Düll, J. Steinhauer, F. Späth, U. Bauer, P. Bachmann, H.-P. Steinrück, S. Wickert, R. Denecke, C. Papp  
*Ethylene: Its adsorption, reaction, and coking on Pt/h-BN/Rh(111) nanocluster arrays*  
J. Chem. Phys. 152 (2020) 224710 1-8.

R. Adhikari, G. Siglreithmaier, M. Gurrath, M. Meusel, J. Kuliga, M. Lepper, H. Hölzel, N. Jux, B. Meyer, H.-P. Steinrück, H. Marbach

*Formation of highly ordered molecular porous 2D networks from cyano-functionalized porphyrins on Cu(111)*  
Chem. Eur. J. 26 (2020) 13408-13418.

M. Meusel, M. Lexow, A. Gezmis, S. Schötz, M. Wagner, A. Bayer, F. Maier, H.-P. Steinrück  
*Atomic Force and Scanning Tunneling Microscopy of Ordered Ionic Liquid Wetting Layers from 110 K up to Room Temperature*  
ACS Nano 14 (2020) 9000-9010.

R. G. Bhui, L. Winter, M. Lexow, F. Maier, H.-P. Steinrück  
*On the Dynamic Interaction of n-Butane with Imidazolium-Based Ionic Liquids*  
Angew. Chem. Int. Ed. 59 (2020) 14429-14433.  
*Die dynamische Wechselwirkung von n-Butan mit Imidazolium-basierten ionischen Flüssigkeiten*  
Angew. Chem. 132 (2020) 14536-14541.

T. M. Koller, F. D. Lenahan, P. S. Schmidt, T. Klein, J. Mehler, F. Maier, M. H. Rausch, P. Wasserscheid, H.-P. Steinrück, A. P. Fröba  
*Surface Tension and Viscosity of Binary Mixtures of the Fluorinated and Non-fluorinated Ionic Liquids [PFBMIm][PF<sub>6</sub>] and [C<sub>4</sub>C<sub>1</sub>Im][PF<sub>6</sub>] by the Pendant Drop Method and Surface Light Scattering*  
Int. J. Thermophys. 41 (2020) 144 1-24.

F. Späth, J. Steinhauer, F. Düll, U. Bauer, P. Bachmann, H.-P. Steinrück and C. Papp  
*Reaction of Hydrogen and Oxygen on h-BN*  
J. Phys. Chem. C 124 (2020) 18141-18146.

E. Kataev, D. Wechsler, F. J. Williams, J. Köbl, N. Tsud, S. Franchi, H.-P. Steinrück, O. Lytken  
*Probing the roughness of porphyrin thin films with X-ray photoelectron spectroscopy*  
ChemPhysChem 21 (2020) 2293-2300.

H. Wittkämper, S. Maisel, M. Wu, J. Frisch, R. G. Wilks, M. Grabau, E. Spiecker, M. Bär, A. Görling, H.-P. Steinrück, C. Papp  
*Oxidation induced restructuring of Rh-Ga SCALMS model catalyst systems*  
J. Chem. Phys. 153 (2020) 104702 1-13.

J. Steinhauer, P. Bachmann, M. Freiburger, U. Bauer, H.-P. Steinrück, C. Papp  
*Model Catalytic Studies of Liquid Organic Hydrogen Carriers: Indole/Indoline/Octahydroindole on Ni(111)*  
J. Phys. Chem. C 124 (2020) 22559-22567.

M. Meusel, M. Lexow, A. Gezmis, A. Bayer, F. Maier, H.-P. Steinrück  
*Growth of Multilayers of Ionic Liquids on Au(111) Investigated by Atomic Force Microscopy in Ultrahigh Vacuum*  
Langmuir 36 (2020) 13670-13681.

L. Winter, R. Bhui, M. Lexow, F. Maier, H.-P. Steinrück  
*On the adsorption of n-butane on alkyl imidazolium ionic liquids with different anions using a new molecular beam setup*  
J. Chem. Phys. 153 (2020) 214706 1-10.

M. Sytnyk, A.-A. Yousefi-Amin, T. Freund, A. Prihoda, K. Götz, T. Unruh, C. Harreiss, J. Will, E. Spiecker, J. Levchuk, A. Osvet, C. J. Brabec, U. Künecke, P. Wellmann, V. V. Volobuev, J. Korczak, A. Szczerbakow, T. Story, C. Simbrunner, G. Springholz, D. Wechsler, O. Lytken, S. Lotter, F. Kampmann, J. Maultzsch, K. Singh, O. Voznyy, W. Heiss  
*Epitaxial Metal Halide Perovskites by Inkjet-Printing on Various Substrates*  
Adv. Funct. Mater. 30 (2020) 2004612 1-10.

- C. Preischl, H. L. Le, E. Bilgilişoy, F. Vollnhals, A. Götzhäuser, H. Marbach  
*Controlled electron-induced fabrication of metallic nanostructures on 1 nm thick membranes*  
Small 16 (2020) 2003947 1-7.
- E. Bilgilişoy, R. M. Thorman, J.-C. Yu, T. B. Dunn, H. Marbach, L. McElwee-White, D. H. Fairbrother  
*Surface Reactions of Low Energy Argon Ions with Organometallic Precursors*  
J. Phys. Chem. C 124 (2020) 24795-24808
- C. Preischl, M. Rohdenburg, E. Bilgilişoy, R. Cartaya, P. Swiderek, H. Marbach  
*Ultrathin carbon nanomembranes from 5,10,15,20-Tetraphenylporphyrin: Electron beam induced fabrication and functionalization via focused electron beam induced processing*  
J. Phys. Chem. C 124 (2020) 28335-28344.
- H. Schneider, F. Tu, L. Ahmels, B. Szafranek, K. Gries, D. Rhinow, S. Vollmar, A. Krugmann, R. Schönberger, W. Pauls, A. Verch, R. Capelli, A. Di Vincenzo, G. Kersteen, H. Marbach, M. Waldow  
*High-end EUV photomask repairs for 5 nm technology and beyond*  
Proc. SPIE 11518, Photomask Technology 2020, 1151808 1-6.
- F. G. Davia, N. P. Johnner, E. J. Calvo, F. J. Williams  
*Growth and electrochemical stability of a layer-by-layer thin film containing tetrasulfonated Fe phthalocyanine*  
J. Electroanal. Chem. 877 (2020) 114485 1-8.
- E. A. Kolesov, M. S. Tivanov, O. V. Korolik, E. Y. Kataev, F. Xiao, O. O. Kapitanova, H. D. Cho, T. W. Kang, G. N. Panin  
*Atmospheric adsorption on pristine and nitrogen-doped graphene: doping-dependent, spatially selective*  
J. Phys. D Appl. Phys. 53 (2020) 045302 1-8.
- R. R. J. Methikkalam, J. Ghosh, R. G. Bhui, S. Bag, G. Ragupathy, T. Pradeep  
*Iron assisted formation of CO<sub>2</sub> over condensed CO and its relevance to interstellar chemistry*  
Phys. Chem. Chem. Phys. 22 (2020) 8491-8498.
- 2021** (20)
- J. Kuliga, R. C. de Campos Ferreira, R. Adhikari, S. Massicot, M. Lepper, H. Hölzel, N. Jux, H. Marbach, A. de Siervo, H.-P. Steinrück  
*Metalation of 2HTCNPP on Ag(111) with Zn: Evidence for the Sitting atop Complex at Room Temperature*  
ChemPhysChem 22 (2021) 396-403.  
Special Issue on Interface Science, honoring the 70th birthday of Prof. Jürgen Behm
- C. C. Fernández, M. Franke, H.-P. Steinrück, O. Lytken, F. J. Williams  
*Demetalation of Surface Porphyrins at the Solid-Liquid Interface*  
Langmuir 37 (2021) 852-857.
- S. Ninova, O. B. Malcıoğlu, P. Auburger, M. Franke, O. Lytken, H.-P. Steinrück, M. Bockstedte  
*Morphology dependent interaction between Co(II)-tetraphenylporphyrin and the MgO(100) surface*  
Phys. Chem. Chem. Phys. 23 (2021) 2105-2116.
- D. Wechsler, P. Vensaus, N. Tsud, H.-P. Steinrück, O. Lytken, F. J. Williams  
*Surface Reactions and Electronic Structure of Carboxylic Acid Porphyrins Adsorbed on TiO<sub>2</sub>(110)*  
J. Phys. Chem. C 125 (2021) 6708-15.
- J. Steinhauer, P. Bachmann, U. Bauer, F. Düll, H.-P. Steinrück, C. Papp  
*Model Catalytic Studies of the LOHC System 2,2'-Bipiperidine/2,2'-Bipyridine on Ni(111)*  
J. Phys. Chem. C 125 (2021) 8216-8223.

S. Shin, F. Greco, F. Maier, H.-P. Steinrück

*Enrichment effects of ionic liquid mixtures at polarized electrode interfaces monitored by potential screening*  
Phys. Chem. Chem. Phys. 23 (2021) 10756-10762.

R. Adhikari, J. Kuliga, M. Ruppel, N. Jux, H. Marbach, H.-P. Steinrück

*Self-Assembled 2D-Coordination Kagome, Quadratic, and Close-Packed Hexagonal Lattices Formed from a Cyano-Functionalized Benzoporphyrin on Cu(111)*

J. Phys. Chem. C 125 (2021) 7204-7212.

D. Wechsler, C. C. Fernández, J. Köbl, L.-M. Augustin, C. Stumm, N. Jux, H.-P. Steinrück, F. J. Williams, O. Lytken

*Wet-Chemically Prepared Porphyrin Layers on Rutile TiO<sub>2</sub> (110)*

Molecules 26 (2021) 2871 1-13.

C. Preischl, L. H. Le, E. Bilgilişoy, A. Gölzhäuser, H. Marbach

*Exploring the fabrication and transfer mechanism of metallic nanostructures on carbon nanomembranes via focused electron beam induced processing*

Beilstein J. Nanotechnol. 12 (2021) 319-329.

H. Wittkämper, S. Maisel, M. Moritz, M. Grabau, A. Görling, H.-P. Steinrück, C. Papp

*Surface oxidation-induced restructuring of liquid Pd-Ga SCALMS model catalysts*

Phys. Chem. Chem. Phys. 23 (2021) 16324-16333.

E. M. Freiburger, F. Späth, U. Bauer, F. Düll, P. Bachmann, J. Steinhauer, F. Hemauer, N. J. Waleska, V. Schwaab, H.-P. Steinrück, C. Papp

*Selective Oxygen and Hydrogen Functionalization of the h-BN/Rh(111) Nanomesh*

Chem. Eur. J. 27 (2021) 13172-13180.

J. Mehler, M. Ermer, U. Paap, B. S. J. Heller, F. Maier, H.-P. Steinrück, M. Hartmann, C. Korted, P. S. Schulz, P. Wasserscheid

*B/N-doped carbon sheets from a new ionic liquid with excellent sorption properties for methylene blue*

J. Ionic Liquids 1 (2021) 100004 1-9.

A. I. Inozemtseva, E. Y. Kataev, A. S. Frolov, M. Amati, L. Gregoratti, K. Beranová, V. Pérez Dieste, C.

Escudero, A. Fedorov, A. V. Tarasov, D. Y. Usachov, D. V. Vyalikh, Y. Shao-Horn, D. M. Itkis, L. V. Yashina

*On the catalytic and degradative role of oxygen-containing groups on carbon electrode in non-aqueous ORR*  
Carbon 176 (2021) 632-641.

M. Meusel, A. Gezmiş, S. Jaekel, M. Lexow, A. Bayer, F. Maier, H.-P. Steinrück

*Time- and Temperature-Dependent Growth Behavior of Ionic Liquids on Au(111) Studied by Atomic Force Microscopy in Ultrahigh Vacuum*

J. Phys. Chem. C 125 (2021) 20439-20449.

M. Klarner, P. Blach, H. Wittkämper, N. de Jonge, C. Papp, R. Kempe

*Key Parameters for the Synthesis of Active and Selective Nanostructured 3d Metal Catalysts Starting from Coordination Compounds – Case Study: Nickel Mediated Reductive Amination*

ChemCatChem 13 (2021) 3257-3261.

N. J. Waleska, F. Düll, P. Bachmann, F. Hemauer, J. Steinhauer, C. Papp

*Reactivity and Passivation of Fe Nanoclusters on h-BN/Rh(111)*

Chem. Eur. J. 27 (2021) 17087-17093.

E. Bilgilişoy, R. M. Thorman, M. S. Barclay, H. Marbach, D. H. Fairbrother

*Low Energy Electron- and Ion-Induced Surface Reactions of Fe(CO)<sub>5</sub> Thin Films*

J. Phys. Chem. C 2021, 125, 17749-17760.

- S. Massicot, T. Sasaki, M. Lexow, S. Shin, F. Maier, S. Kuwabata, H.-P. Steinrück  
*Adsorption, Wetting, Growth, and Thermal Stability of the Protic Ionic Liquid Diethylmethylammonium Trifluoromethanesulfonate on Ag(111) and Au(111)*  
Langmuir 37 (2021) 11552-11560.
- M. Wagner, J. Planer, B. S. J. Heller, J. Langer, A. Limbeck, L. A. Boatner, H.-P. Steinrück, J. Redinger, F. Maier, F. Mittendorfer, M. Schmid, U. Diebold  
*Oxygen-rich, tetrahedral surface phase on high-temperature rutile VO<sub>2</sub> (110)<sub>T</sub> single crystals*  
Phys. Rev. Mater. 5 (2021) 125001 1-5.
- L. Winter, R. G. Bhui, F. Maier, H.-P. Steinrück  
*n-Butane, iso-Butane and 1-Butene Adsorption on Imidazolium-Based Ionic Liquids Studied with Molecular Beam Techniques*  
Chem. Eur. J. 27 (2021) 17059-17065.
- 2022** (18)
- J. Köbl, C. C. Fernández, L.-M. Augustin, E. Y. Kataev, S. Franchi, N. Tsud, C. Pistonesi, M. E. Pronsato, N. Jux, O. Lytken, F. J. Williams, H.-P. Steinrück  
*Benzohydroxamic Acid on Rutile TiO<sub>2</sub> (110)-(1×1) – A Comparison of Ultrahigh-Vacuum Evaporation with Deposition from Solution*  
Surf. Sci. 716 (2022) 121955 1-10.
- A. Wolfram, Q. Tariq, C. C. Fernández, M. Muth, M. Gurrath, D. Wechsler, M. Franke, F. J. Williams, H.-P. Steinrück, B. Meyer, O. Lytken  
*Adsorption energies of porphyrins on MgO(100): An experimental benchmark for dispersion-corrected density-functional theory*  
Surf. Sci. 717 (2022) 121979 1-8.
- C. C. Fernández, D. Wechsler, O. Lytken, H.-P. Steinrück, F. J. Williams  
*Self-metalation of monophosphonic acid tetraphenylporphyrin on TiO<sub>2</sub> (110)-(1×1)*  
Surf. Sci. 717 (2022) 122005 1-6.
- H. Wittkämper, S. Maisel, M. Moritz, M. Grabau, A. Görling, H.-P. Steinrück, C. Papp  
*Temperature-dependent XPS studies on Ga-In alloys through the melting-point*  
Surf. Sci. 717 (2022) 122008 1-8.
- F. Greco, D. Hemmeter, S. Shin, H.-P. Steinrück, F. Maier  
*The Effect of Ambient Conditions on the Potential Screening at Ionic Liquid - Electrode Interfaces*  
J. Ionic Liquids 2 (2022) 100019 1-7.
- E. Y. Kataev, L. Fromm, Q. Tariq, D. Wechsler, F. J. Williams, N. Tsud, S. Franchi, H.-P. Steinrück, A. Görling, O. Lytken  
*Anchoring of phthalic acid on MgO(100)*  
Surf. Sci. 720 (2022) 122007 1-12.
- J. Brox, R. Adhikari, M. Shaker, M. Ruppel, N. Jux, H. Marbach, S. Jaekel, H.-P. Steinrück  
*On the adsorption of different tetranaphthylporphyrins on Cu(111) and Ag(111)*  
Surf. Sci. 720 (2022) 122047 1-6.
- E. Bilgilişoy, J.-C. Yu, C. Preischl, L. McElwee-White, H.-P. Steinrück, H. Marbach  
*Nanoscale Ruthenium-Containing Deposits from Ru(CO)<sub>4</sub>I<sub>2</sub> via Simultaneous Focused Electron Beam-Induced Deposition and Etching in Ultrahigh Vacuum: Mask Repair in Extreme Ultraviolet Lithography and Beyond*  
ACS Appl. Nano Mater. 5 (2022) 3855-3865.

- E. M. Freiburger, F. Düll, C. Wichmann, U. Bauer, H.-P. Steinrück, C. Papp  
*A High-Resolution X-Ray Photoelectron Spectroscopy Study on the Adsorption and Reaction of Ethylene on Rh(111)*  
Chem. Phys. Lett. 797 (2022) 139595 1-6.
- S. Massicot, T. Sasaki, M. Lexow, F. Maier, S. Kuwabata, H.-P. Steinrück  
*On-surface metathesis of an ionic liquid on Ag(111)*  
Chem. Eur. J. 28 (2022) e202200167 1-10.
- M. Muth, A. Wolfram, E. Kataev, J. Köbl, H.-P. Steinrück, O. Lytken  
*Accurate Determination of Adsorption-Energy Differences of Metalloporphyrins on Rutile TiO<sub>2</sub> (110) 1x1*  
Langmuir 38 (2022) 8643-8650.
- T. Wei, X. Liu, M. Kohring, S. Al-Fogra, M. Moritz, D. Hemmeter, U. Paap, C. Papp, H.-P. Steinrück, J. Bachmann, H. B. Weber, F. Hauke, A. Hirsch  
*Molecular Stacking on Graphene*  
Angew. Chem. Int. Ed. 61 (2022) e202201169 1-7.  
Angew. Chem. 134 (2022) e202201169 1-7.
- [A. Kamali, E. Bilgilişoy, A. Wolfram, T. X. Gentner, G. Ballmann, S. Harder, H. Marbach, O. Ingólfsson  
\*On the Electron-Induced Reactions of \(CH<sub>3</sub>\)AuP\(CH<sub>3</sub>\)<sub>3</sub>: A Combined UHV Surface Science and Gas-Phase Study\*  
Nanomaterials 12 \(2022\) 2727 1-20.](#)
- F. Hemauer, U. Bauer, L. Fromm, C. Weiß, A. Leng, P. Bachmann, F. Düll, J. Steinhauer, V. Schwaab, R. Grzonka, A. Hirsch, A. Görling, H.-P. Steinrück, C. Papp  
*Surface Chemistry of the Molecular Solar Thermal Energy Storage System 2,3-Dicyano-Norbornadiene/Quadricyclane on Ni(111)*  
ChemPhysChem 23 (2022) e202200199 1-11.  
ChemPhysChem 23 (2022) e202200552 1-2 (FRONT COVER)
- V. Seidl, M. Bosch, U. Paap, M. Livraghi, Z. Zhai, C. R. Wick, T. M. Koller, P. Wasserscheid, F. Maier, A.-S. Smith, J. Bachmann, H.-P. Steinrück, K. Meyer  
*Bis-polyethylene glycol-functionalized imidazolium ionic liquids: A multi-method approach towards bulk and surface properties*  
J. Ionic Liquids 2 (2022) 100041 1-13.
- U. Paap, B. Kreß, H.-P. Steinrück, F. Maier  
*Probing Surface and Interfacial Tension of Ionic Liquids in Vacuum with the Pendant Drop and Sessile Drop Method*  
Int. J. Mol. Sci. 23 (2022) 13158 1-16.
- [U. Eckstein, J. Exner, A. Bencan Golob, K. Ziberna, G. Drazic, H. Ursic, H. Wittkämper, C. Papp, J. Kita, R. Moos, K. G. Webber, N. H. Khansur  
\*Temperature-dependent dielectric anomalies in powder aerosol deposited ferroelectric ceramic films\*  
J. Materiomics 8 \(2022\) 1239-1250.](#)
- U. Paap, V. Seidl, K. Meyer, F. Maier, H.-P. Steinrück  
*Direct correlation of surface tension and surface composition of ionic liquid mixtures – A combined vacuum pendant drop and angle-resolved X-ray photoelectron spectroscopy study*  
Molecules 27 (2022) 8561 1-16.

**2023** (17)

- D. Hemmeter, D. Kremitzl, P. Schulz, P. Wasserscheid, F. Maier, H.-P. Steinrück  
*The Buoy Effect: Surface Enrichment of a Pt Complex in IL Solution by Ligand Design*  
Chem. Eur. J. 29 (2023) e202203325 1-7.  
Chem. Eur. J. 29 (2023) e202204022 1 (FRONT COVER).
- D. Hemmeter, U. Paap, N. Taccardi, J. Mehler, P. Schulz, P. Wasserscheid, F. Maier, H.-P. Steinrück  
*Formation and Surface Behavior of Pt and Pd Complexes with Ligand Systems Derived from Nitrile-functionalized Ionic Liquids Studied by XPS*  
ChemPhysChem (2022) e202200391 1-11, accepted.  
ChemPhysChem 24 (2023) e202200915 1 (FRONT COVER)
- H. Wittkämper, R. Hock, M. Weißer, J. Dallmann, C. Vogel, N. Raman, N. Taccardi, M. Haumann, P. Wasserscheid, T.-E. Hsieh, S. Maisel, M. Moritz, C. Wichmann, J. Frisch, M. Gorgoi, R. G. Wilks, M. Bär, M. Wu, E. Spiecker, A. Görling, T. Unruh, H.-P. Steinrück, C. Papp  
*Isolated Rh atoms in dehydrogenation catalysis*  
Sci. Rep. 13 (2023) 4458 1-8.
- F. Hemauer, V. Schwaab, E. M. Freiberger, N. J. Waleska, A. Leng, C. Weiß, J. Steinhauer, F. Düll, P. Bachmann, A. Hirsch, H.-P. Steinrück, C. Papp  
*Surface Studies on the Energy Release of the MOST System 2-Carboxy-3-Phenyl-Norbornadiene/Quadricyclane (PENBD/PEQC) on Pt(111) and Ni(111)*  
Chem. Eur. J. 29 (2023) e202203759 1-10.
- R. Adhikari, S. Massicot, L. Fromm, T. Talwar, A. Gezmis, M. Meusel, A. Bayer, S. Jaekel, F. Maier, A. Görling, H.-P. Steinrück  
*Structure and Reactivity of the Ionic Liquid [C<sub>1</sub>C<sub>1</sub>Im][Tf<sub>2</sub>N] on Cu(111)*  
Top. Catal. 66 (2023) 1178-1195.
- M. Wang, S. Fu, P. Petkov, Y. Fu, Z. Zhang, Y. Liu, J. Ma, G. Chen, S. M. Gali, L. Gao, Y. Lu, S. Paasch, H. Zhong, H.-P. Steinrück, E. Cánovas, E. Brunner, D. Beljonne, M. Bonn, H. I. Wang, R. Dong, X. Feng  
*Exceptionally high charge mobility in phthalocyanine-based poly(benzimidazobenzophenanthroline)-ladder-type two-dimensional conjugated polymers*  
Nat. Mater. 22 (2023) 880-887.
- D. Hemmeter, U. Paap, F. Maier, H.-P. Steinrück  
*Structure and Surface Behavior of Rh Complexes in Ionic Liquids Studied Using Angle-Resolved X-ray Photoelectron Spectroscopy*  
Catalysts 13 (2023) 871 1-18.
- V. Schwaab, F. Hemauer, E. M. Freiberger, N. J. Waleska-Wellenhofer, H.-P. Steinrück, C. Papp  
*Liquid Organic Hydrogen Carriers: Model Catalytic Studies on the Thermal Dehydrogenation of 1-Cyclohexylethanol on Pt(111)*  
J. Phys. Chem. C 127 (2023) 11058-11066.
- Z. Zhai, U. Paap, A. Gezmis, F. Maier, H.-P. Steinrück, T. M. Koller  
*Surface tension and viscosity of binary ionic liquid mixtures from high vacuum up to pressures of 10 MPa*  
J. Mol. Liq. 386 (2023) 122388 1-9.
- R. Adhikari, J. Brox, S. Massicot, M. Ruppel, N. Jux, H. Marbach, H.-P. Steinrück  
*Structure and Conformation of Individual Molecules upon Adsorption of a Mixture of Benzoporphyrins on Ag(111), Cu(111), and Cu(110) Surfaces*  
ChemPhysChem 24 (2023) e202300355 1-14.  
ChemPhysChem 24 (2023) e202300540 1 (FRONT COVER).

L. Winter, S. Trzeciak, C. C. Fernández, S. Massicot, T. Talwar, F. Maier, D. Zahn, H.-P. Steinrück  
*Tailoring the Selectivity of 1,3-Butadiene versus 1-Butene Adsorption on Pt(111) by Ultrathin Ionic Liquid Films*  
ACS Catal. 13 (2023) 10866-10877.

F. Hemauer, D. Krappmann, V. Schwaab, Z. Hussain, E. M. Freiberger, N. J. Waleska-Wellnhofer, E. Franz, F. Hampel, O. Brummel, J. Libuda, A. Hirsch, H.-P. Steinrück, C. Papp  
*Surface science and liquid phase investigations of oxanorbornadiene/oxaquadricyclane ester derivatives as molecular solar thermal energy storage systems on Pt(111)*  
J. Chem. Phys. 159 (2023) 074703 1-15.

S. Massicot, A. Gezmis, T. Talwar, M. Meusel, S. Jaekel, R. Adhikari, L. Winter, C. C. Fernández, A. Bayer, F. Maier, H.-P. Steinrück  
*Adsorption and Thermal Evolution of [C<sub>1</sub>C<sub>1</sub>Im][Tf<sub>2</sub>N] on Pt(111)*  
Phys. Chem. Chem. Phys. 25 (2023) 27953-27966.

M. Wang, G. Wang, C. Naisa, Y. Fu, S. M. Gali, S. Paasch, M. Wang, H. Wittkämper, C. Papp, E. Brunner, S. Zhou, D. Beljonne, H.-P. Steinrück, R. Dong, X. Fen  
*Poly(benzimidazobenzophenanthroline)-Ladder-Type Two-Dimensional Conjugated Covalent Organic Framework for Fast Proton Storage*  
Angew. Chem. Int. Ed. 62 (2023) e202310937 1-7.  
*Ein Zweidimensionales Konjugiertes Poly(benzimidazobenzophenanthrolin) Leiter-Covalent Organic Framework für schnelle Protonenspeicherung*  
Angew. Chem. 135 (2023) e202310937 1-7.

E. M. Freiberger, J. Steffen, N. J. Waleska-Wellnhofer, A. Harrer, F. Hemauer, V. Schwaab, A. Görling, H.-P. Steinrück, C. Papp  
*Bromine adsorption and thermal stability on Rh(111): A combined XPS, LEED and DFT study*  
ChemPhysChem 24 (2023) e202300510 1-8.  
ChemPhysChem 24 (2023) e202300745 (COVER).

E. Bilgilişoy, A. Kamali, T. X. Gentner, G. Ballmann, S. Harder, H.-P. Steinrück, H. Marbach, O. Ingólfsson  
*A combined gas-phase dissociative ionization, dissociative electron attachment and deposition study on the potential FEBID precursor [Au(CH<sub>3</sub>)<sub>2</sub>Cl]<sub>2</sub>*  
Beilstein J. Nanotechnol. 14 (2023) 1178–1199.

D. Hemmeter, U. Paap, N. Wellnhofer, A. Gezmis, D. Kremitzl, P. Wasserscheid, H.-P. Steinrück, F. Maier  
*Understanding the Buoy Effect of Surface-Enriched Pt Complexes in Ionic Liquids: A Combined ARXPS and Pendant Drop Study*  
ChemPhysChem 24 (2023) e202300612 1-11.

## **2024** (17)

R. Eschenbacher, F. Hemauer, E. Franz, A. Leng, V. Schwaab, N. J. Waleska-Wellnhofer, E. M. Freiberger, L. Fromm, T. Xu, A. Görling, A. Hirsch, H.-P. Steinrück, C. Papp, O. Brummel, J. Libuda  
*Au-Catalyzed Energy Release in a Molecular Solar Thermal (MOST) System: A Combined Liquid-Phase and Surface Science Study*  
ChemPhotoChem 8 (2024) e202300155 1-14.

E. M. Freiberger, J. Steffen, N. J. Waleska-Wellnhofer, F. Hemauer, V. Schwaab, A. Görling, H.-P. Steinrück, C. Papp  
*Bromination of 2D Materials*  
Nanotechnology 35 (2024) 145703 1-16.

- A. Ceccatto, E. M. Freiburger, N. J. Waleska-Wellenhofer, S. Jaekel, D. J. Mowbray, C. Papp, H.-P. Steinrück, A. de Siervo  
*Engineering large nanoporous networks with size and shape selected by appropriate precursors*  
Carbon 221 (2024) 118945 1-10.
- D. Hemmeter, L. Sanchez Merlinsky, L. M. Baraldo, F. Maier, F. J. Williams, H.-P. Steinrück  
*Exploring the interfacial behavior of ruthenium complexes in ionic liquids: implications for supported ionic liquid phase catalysts*  
Phys. Chem. Chem. Phys 26 (2024) 7602-7610.
- F. Hemauer, H.-P. Steinrück, C. Papp  
*The Norbornadiene/Quadricyclane Pair as Molecular Solar Thermal Energy Storage System: Surface Science Investigations*  
ChemPhysChem 25 (2024) e202300806 1-22 (Invited Review).
- M. Moritz, S. Maisel, N. Raman, H. Wittkämper, C. Wichmann, M. Grabau, D. Kahraman, J. Steffen, N. Taccardi, A. Görling, M. Haumann, P. Wasserscheid, H.-P. Steinrück, C. Papp  
*Supported Catalytically Active Liquid Metal Solutions: Liquid Metal Catalysis with Ternary Alloys, Enhancing Activity in Propane Dehydrogenation*  
ACS Catal. 14 (2024) 6440-6450.
- D. Hemmeter, A. Gezmis, D. Kremitzl, P. Wasserscheid, F. Maier, H.-P. Steinrück  
*Tailoring the Surface Enrichment of a Pt Catalyst in Ionic Liquid Solutions by Choice of the Solvent*  
Adv. Mater. Interfaces 11 (2024) 2301085 1-13.
- L. S. Merlinsky, D. Hemmeter, L. M. Baraldo, F. Maier, H.-P. Steinrück, F. J. Williams  
*Unlocking the Fluorine-Free Buoy Effect: Surface-Enriched Ruthenium Polypyridine Complexes in Ionic Liquids*  
ChemistryOpen 13 (2024) e202400092 1-6.  
ChemistryOpen 13 (2024) e202480702 1 (COVER FEATURE).
- E. M. Freiburger, F. Düll, P. Bachmann, J. Steinhauer, F. Williams, H.-P. Steinrück, C. Papp  
*h-BN in the making: The surface chemistry of borazine on Rh(111)*  
J. Chem. Phys. 160 (2024) 154706 1-9.
- H. Bühlmeyer, T. Talwar, R. Eschenbacher, J. Baretto, J. Hauner, L. Knörr, H.-P. Steinrück, F. Maier, J. Libuda  
*Surface Chemistry of a  $[C_2C_1Im][OTf]$  (Sub)Wetting Layer on Pt(111): A Combined XPS, IRAS and STM study*  
ACS Appl. Mater. Interfaces 16 (2024) 24063-24074.
- C. Wichmann, M. Moritz, H. Wittkämper, T.-E. Hsieh, J. Frisch, M. Bär, H.-P. Steinrück, C. Papp  
*Poisoning Resistance of Liquid GaPt Supported Catalytically Active Liquid Metal Solutions Model Systems*  
J. Phys. Chem. C 128 (2024) 9024-9033.
- S. K. Antara, D. Hemmeter, Z. Zhai, D. Kremitzl, F. Maier, T. M. Koller, H.-P. Steinrück, M. Haumann  
*Hydrogenation with dissolved Pt-complexes homogeneously distributed in the ionic liquid or enriched at the gas/ionic liquid interface*  
ChemCatChem 16 (2024) e202400574 1-11.
- A. Wolfram, M. Muth, J. Köbl, A. Mölkner, S. Mehl, N. Tsud, H.-P. Steinrück, B. Meyer, O. Lytken  
*Phenylphosphonic Acid on Rutile  $TiO_2(110)$ : Using Theoretically Predicted O 1s Spectra to Identify the Adsorption Binding Modes*  
J. Phys. Chem. C 128 (2024) 12735-12753.
- A. Wolfram, M. Muth, F. J. Williams, S. Mehl, N. Tsud, H.-P. Steinrück, O. Lytken  
*Adsorption of Phenylboronic Acid Derivatives on Rutile  $TiO_2(110)$*   
J. Phys. Chem. C 128 (2024) 12450-12470.

M. Lowe, A. Al-Mahboob, D. Ivarsson, M. Armbrüster, J. Ardini, G. Held, F. Maccherozzi, A. Bayer, V. Fournée, J. Ledieu, J. T. Sadowski, R. McGrath, H. R. Sharma  
*Atomic structure of different surface terminations of polycrystalline ZnPd*  
Phys. Rev. Mat. 8 (2024) 105801 1-9.

T. Talwar, J. Barreto, C. C. Fernández, H.-P. Steinrück, F. Maier  
*Ultrathin Films of a Nitrile-Functionalized Ionic Liquid [C<sub>3</sub>CNC<sub>1</sub>Im][Tf<sub>2</sub>N] on Au(111) and Pt(111): Adsorption, Growth, and Thermal Behavior*  
Langmuir 40 (2024) 27565-27578.

V. Schwaab, F. Hemauer, J. Steffen, N. J. Waleska-Wellnhofer, E. M. Freiberger, M. Steinmetz, A. Görling, P. Wasserscheid, H.-P. Steinrück, C. Papp  
*Model Catalytic Studies on the Thermal Dehydrogenation of the Benzaldehyde/Cyclohexylmethanol LOHC System on Pt(111)*  
Chem. Eur. J. 30 (2024) e202402793 1-10.

## **2025** (16)

M. Shaker, M. Muth, J. Steffen, A. Ceccatto dos Santos, S. Jaekel, R. Adhikari, P. Gazetas, C. Oleszak, A. de Siervo, N. Jux, A. Görling, O. Lytken, H.-P. Steinrück  
*Coverage- and temperature-induced self-metalation of tetraphenyltransdibenzoporphyrin on Cu(111)*  
J. Phys. Condens. Matter 37 (2025) 085001 1-20.

M. Muth, A. Wolfram, H.-P. Steinrück, O. Lytken  
*Coadsorption of ZnTPP and 2HMCTPP on Rutile TiO<sub>2</sub> (110)*  
ChemPhysChem 26 (2025) e202400795 1-7.

A. Bergen, D. Hemmeter, J. Barreto, F. Maier, A. Scheurer, F. W. Heinemann, H.-P. Steinrück, K. Meyer  
*A Surface-Active Pt(II) Bis-N-Heterocyclic Carbene (NHC) Complex for Interface-Enhanced Supported Ionic Liquid Phase (SILP) Catalysis*  
Chem. Eur. J. 31 (2025) e202402827 1-7.

J. Barreto, T. Talwar, H.-P. Steinrück, F. Maier  
*Ultrathin [C<sub>1</sub>C<sub>1</sub>Im][Tf<sub>2</sub>N] Layers Supported on Mn<sub>3</sub>O<sub>4</sub> (001) Films*  
Top. Catal. 68 (2025) 2016-2026.

D. Hemmeter, M. Haumann, F. J. Williams, T. M. Koller, P. Wasserscheid, K. Meyer, F. Maier, H.-P. Steinrück  
*Towards Surface-Enhanced Homogeneous Catalysis: Tailoring the Enrichment of Metal Complexes at Ionic Liquid Surfaces*  
Angew. Chem. Int. Ed. 64 (2025) e202422693 1-26.  
*Auf dem Weg zur oberflächenverstärkten homogenen Katalyse: Maßgeschneiderte Anreicherung von Metallkomplexen an der Oberfläche von ionischen Flüssigkeiten*  
Angew. Chem. 137 (2025) e202422693 1-28.

A. Ceccatto, G. R. Campi, V. Carreño Diaz, E. B. da Costa Ferreira, N. J. Waleska-Wellnhofer, E. M. Freiberger, S. Jaekel, C. Papp, H.-P. Steinrück, D. J. Mowbray, A. de Siervo  
*Engineering two-dimensional supramolecular self-assembly: The role of Cl atoms*  
FlatChem 50 (2025) 1-7.

Z. Zhai, J. Barreto, D. Hemmeter, F. Maier, H.-P. Steinrück, T. M. Koller  
*Correlation of Macroscopic Surface Tension and Microscopic Surface Composition of Binary Ionic Liquid Mixtures with Common Cations and Anions of Different Size*  
J. Phys. Chem. B 129 (2025) 2789-2800.

- L. Ulm, C. C. Fernández, L. Winter, F. Maier, H.-P. Steinrück  
*A molecular beam study of olefin adsorption on ultrathin ionic liquid films on Pt(111)*  
J. Chem. Phys. 162 (2025) 124705 1-9.
- V. Schwaab, F. Düll, P. Bachmann, F. Hemauer, H.-P. Steinrück, C. Papp  
*Effect of the Ru concentration on the CO tolerance and the oxidizability of a composition spread PtRu/Pt(111) near-surface alloy*  
Phys. Chem. Chem. Phys. 27 (2025) 10670-10678.
- A. Gezmis, T. Talwar, M. Meusel, A. Bayer, F. Maier, H.-P. Steinrück  
*Flexible 2D structure formation of [C<sub>1</sub>C<sub>1</sub>Im][Tf<sub>2</sub>N] on Ag(111)*  
ChemPhysChem 26 (2025) e202500163 1-10.
- M. Muth, M. Shaker, J. Steffen, A. Wolfram, S. Steinbach, L.-P. Gazetas, N. Jux, A. Görling, H.-P. Steinrück, O. Lytken  
*Coverage- and Temperature-Dependent Rates of Metalation, Ring Fusion, and Polymerization of Benzoporphyrins on Cu(111)*  
Chem. Eur. J. 31 (2025) e202500998 1-13.
- J. Steffen, M. Shaker, M. Muth, S. Steinbach, P. Gazetas, C. Oleszak, N. Jux, A. Görling, H.-P. Steinrück, O. Lytken  
*Using Steric Repulsion to Reduce the Coordination of Metal Centers in Adsorbed Transdibenzoporphyrins*  
J. Phys. Chem. C 129 (2025) 12391-12404.
- H.-P. Steinrück  
*60 years of surface science: Achievements and perspectives*  
Surf. Sci. 761 (2025) 122791 1-4.  
Editorial, Special Issue in Surface Science
- A. Ceccatto, L. Sanchez Merlinsky, L. M. Baraldo, F. J. Williams, F. Maier, H.-P. Steinrück  
*Influence of ionic liquid composition on surface enrichment of fluorine-free Ru complexes*  
RSC Adv. 15 (2025) 36137–36144.
- M. Shaker, M. Muth, J. Steffen, A. Ceccatto, P. Gazetas, C. Oleszak, A. de Siervo, N. Jux, A. Görling, H.-P. Steinrück, O. Lytken  
*Site Preferences of Copper and Cobalt Monobenzo Porphyrins in a Trans-Dibenzo Adsorption Structure on Cu(111)*  
ChemPhysChem 26 (2025) e202500524 1-6.
- L. Ulm, C. C. Fernández, H.-P. Steinrück, F. Maier  
*Interfacial Processes in Ionic Liquid-Modified Catalysts: Olefin Replacement and Desorption on Pt(111)*  
ChemCatChem 17 (2025) e01157 1-9.
- 2026 (2+2)**
- M. Moritz, C. Wichmann, M. Steinmetz, H.-P. Steinrück, C. Papp  
*Operando Study of the Active Phase in Liquid GaPt Alloy Catalysts*  
Small Science 6 (2026) 1-8.
- V. Carreño-Díaz, A. Ceccatto, E. Brenda da Costa Ferreira, M. Shaker, H.-P. Steinrück, A. de Siervo  
*Tailoring Pt-Based Organometallic Porous Network on Ag(111): A Model System for "Host-Guest" Chemistry*  
ACS Nanosci. Au 6 (2026) 139-147.

T. Talwar, H.-P. Steinrück, F. Maier

*Water co-adsorption in ultrathin films of ionic liquids on Pt(111)*

Chemistry Open (2026) accepted.

T.-E. Hsieh, M. S. Moritz, A. Mölkner, C. Wichmann, J. Frisch, J. Steffen, C. J. Parker, V. Krishnamurthi, T. Daeneke, H.-P. Steinrück, A. Görling, C. Papp, M. Bär

*Surface properties of Ga–Cu based liquid-metal alloys: impact of Cu dilution, topography, and alloy liquefaction*

RSC Appl. Interfaces (2026) accepted.