

Publications - Steinrück Group - Chair of Physical Chemistry 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 CO₂ with Cs-promoted Fe(110) as compared to Fe(110)/K+CO₂

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

D. Borgmann, K. Rührnschopf, G. Wedler

Surface reactivity of iron silicide

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

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

CO as adsorbate and reaction product in the systems Fe(110)/Cs+CO and Fe(110)/Cs+CO₂

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 MoO₃ 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 α -Fe₂O₃(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 MoO₃ 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 MoO₃ 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. Domnick, 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. Bubert 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 D₂O 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, Chapter 3.8.7. (2005) pp. 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, Chapter 3.8.7. (2005) pp. 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: $p(2\times 2)$ -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
Chapter in: "Surface Science: New Research", ISBN 1-59454-404-2, Editor: Charles P. Norris, pp. 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 Tetraphenylporphyrin 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_x 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 Au₂O₃ 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][Tf₂N]: 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 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. Ikonov, 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. Wölflé, 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 [Tf₂N]⁻ Anion in [BMIM][Tf₂N] 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
CO₂ 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_x
Angew. Chem. Int. Ed. 49 (2010) 4669-4673 (VIP article - COVER).

Elektronen als "unsichtbare Tinte": Herstellung von Nanostrukturen durch lokale elektronenstrahlinduzierte Aktivierung von SiO_x

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
SO₂ 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][Tf₂N] 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)₂W(CO)₂] 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. Fadley
Band Gap and Electronic Structure of an Epitaxial, Semiconducting Cr_{0.80}Al_{0.20} 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_{0.7}Sr_{0.3}MnO₃/SrTiO₃ 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 SO₂ 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: $[C_1C_1Im][Tf_2N]$ and $[C_8C_1Im][Tf_2N]$ on Au(111)

Langmuir 27 (2011) 3662-3671.

I. Jipa, M. A. Siddiqi, R. A. Siddiqui, 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)Ru⁰] 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 SO₂ 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_x 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. Görling, J. Libuda
Dehydrogenation of Dodecahydro-N-ethylcarbazole on Pd/Al₂O₃ 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. Porraiti, 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 TiO₂-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/TiO₂ 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 [C₁C₁m][Tf₂N] 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. Erdőhelyi, C. Papp, J. Kiss, H.-P. Steinrück
Near ambient pressure XPS investigation of the interaction of ethanol with Co/CeO₂(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: $[C_8C_1Im]Cl$ and $[C_8C_1Im][Tf_2N]$ 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 and 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

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 Mechanistics: 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. Göring, C. Papp
Reversible Hydrogenation of Graphene on Ni(111) – Synthesis of "Graphone"
Chem. Eur. J. 21 (2015) 3347-3358.

H.-P. Steinrück and 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 CeO₂(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 SO₂ 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 Ni₅P₄ 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 CeO₂ 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 [C₁C₁Im][Tf₂N] 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 and H.-P. Steinrück

Adsorption of (Small) Molecules on Metals

Chapter 38 in: "Surface and Interface Science", Vol. 5, Editor: K. Wandelt, pp. 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. Döpper, 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 Mn²⁺ doped Zn_xCd_{1-x}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 Ga₂O₃ films grown on liquid Pt/Ga alloys
Surf. Sci. 651 (2016) 16-21.

O. Brummel, D. Besold, T. Döpper, 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 [C₂C₁Im][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 Calderón, 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 TiO₂(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 TiO₂ 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. Döpper, 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. Szenti, 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. Döpper, 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 TiO₂(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 C₂H₄ on bimetallic Pt_xAg_{1-x}/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 Co₃O₄(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 Co₃O₄(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. Bhuin, 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/quadricyclane 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. Bhuin, 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 TiO₂ (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 TiO₂ (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-methyloctahydroindole 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. Kunnas, 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 TiO₂ (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. Bhuin, 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][PF₆] and [C₄C₁Im][PF₆] 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. Bhuin, 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 1nm 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. Szafraneck, 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 CO₂ 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 TiO₂(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 TiO₂ (110)

Molecules 26 (2021) 2871 1-13.

C. Preischl, L. H. Le, E. Bilgilişoy, A. Gözlhäuser, 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. Gezmis, 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)₅ 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 VO₂(110)_T 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. Pronato, N. Jux, O. Lytken, F. J. Williams, H.-P. Steinrück
Benzohydroxamic Acid on Rutile TiO₂(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 TiO₂(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)₄I₂ 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 TiO₂ (110) 1×1

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 (CH₃)AuP(CH₃)₃: 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. Kremitz, 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 24 (2023) e202200391 1-11.
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. Freiburger, 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/Quadri-cyclane (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 [C₁C₁Im][Tf₂N] 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. Freiburger, 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. Freiburger, 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 $[C_1C_1Im][Tf_2N]$ 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. Freiburger, 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 $[Au(CH_3)_2Cl]_2$
 Beilstein J. Nanotechnol. 14 (2023) 1178–1199.

D. Hemmeter, U. Paap, N. Wellnhofer, A. Gezmis, D. Kremitztl, 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. Freiburger, 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. Freiburger, 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. Kremitz, 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. Sanchez 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 [C₂C₁Im][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. Kremitz, 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 TiO₂(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 TiO₂(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 [C₃CNC₁Im][Tf₂N] 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. Freiburger, 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 (13+5)

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 TiO₂(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 [C₁C₁Im][Tf₂N] Layers Supported on Mn₃O₄(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. Freiburger, 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. Hemaier, 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 $[C_1C_1Im][Tf_2N]$ 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.

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 (accepted).

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 (accepted).

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 (accepted).

T. Talwar, H.-P. Steinrück, F. Maier

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

Chemistry Open (accepted).

M. Moritz, C. Wichmann, M. Steinmetz, H.-P. Steinrück, C. Papp

Operando Study of the Active Phase in Liquid GaPt Alloy Catalysts

Small Science (accepted).