

Publications Prof. Dr. Robert Schlögl 2018-1980

1. Zwiener, L., Schlögl, R., Frei, E., Investigations of Cu/Zn Oxalates from Aqueous Solution: Single Phase Precursors and Beyond, *Chem. Eur. J.* accepted, **2018**.
2. Velasco-Velez, J.-J., Skorupska, K., Frei, E., Huang, Y.-C., Dong, C.-L., Su, B.-J., Hsu, C.-J., Chou, H.-Y., Chen, J.-M., Strasser, P., Schlögl, R., Knop-Gericke, A., Chuang, C. H., The Electro-Deposition/Dissolution of CuSO₄ Aqueous Electrolyte Investigated by In Situ Soft X-ray Absorption Spectroscopy, *J. Phys. Chem. B* 122, (2) **2018**, 780-787.
3. Straten, J. W., Schleker, P., Krasowska, M., Veroutis, E., Granwehr, J., Auer, A. A., Hetaba, W., Becker, S., Schlögl, R., Heumann, S., Nitrogen-Functionalized Hydrothermal Carbon Materials by Using Urotropine as the Nitrogen Precursor, *Chem. Eur. J.* Early View, **2018**.
4. Spanos, I., Neugebauer, S., Gutermann, R., Yuan, J., Schlögl, R., Antonietti, M., Poly(ionic liquid) binders as ionic conductors and polymer electrolyte interfaces for enhanced electrochemical performance of water splitting electrodes, *Sustainable Energy Fuels* 2, (7) **2018**, 1446-1451.
5. Schlögl, R., Pack die Sonne in den Tank: Zur Weiterentwicklung nachhaltiger Energiesysteme, *Angew. Chem. / Angew. Chem. Int. Ed.* accepted, **2018**.
6. Saveleva, V. A., Wang, L., Teschner, D., Jones, T., Gago, A. S., Friedrich, K. A., Zafeirotos, S., Schlögl, R., Savinova, E. R., Operando Evidence for a Universal Oxygen Evolution Mechanism on Thermal and Electrochemical Iridium Oxides, *J. Phys. Chem. Lett.* 9, (11) **2018**, 3154-3160.
7. Löschel, A., Grosskurth, P., Colombier, M., Criqui, P., Du, X., Frei, C., Gethmann, K. F., Gummer, J., King, J., Lecocq, F., Parikh, J., Sauer, D. U., Schlögl, R., Schmidt, C. M., Staiss, F., Stephanos, C., Tanaka, K., Tian, Z., Umbach, E., Wenham, M., Yamada, K., Cong, Y., Establishing an expert advisory commission to assist the G20's energy transformation processes, *Economics-the Open Access Open-Assessment E-Journal* 12, **2018**.
8. Klyushin, A. Y., Jones, T. E., Lunkenbein, T., Kube, P., Li, X., Hävecker, M., Knop-Gericke, A., Schlögl, R., Strong Metal Support Interaction as a Key Factor of Au Activation in CO Oxidation, *ChemCatChem* Early View, **2018**.

9. Jones, T. E., Wyrwich, R., Böcklein, S., Carbonio, E. A., Greiner, M. T., Klyushin, A. Y., Moritz, W., Locatelli, A., Menten, T. O., Niño, M. A., Knop-Gericke, A., Schlögl, R., Günther, S., Wintterlin, J., Piccinin, S., The Selective Species in Ethylene Epoxidation on Silver, *ACS Catal.* **8**, (5) **2018**, 3844-3852.
10. Huang, X., Liu, Z., Millet, M.-M., Dong, J., Plodine, M., Ding, F., Schlögl, R., Willinger, M.-G., In Situ Atomic-Scale Observation of Surface-Tension-Induced Structural Transformation of Ag-NiP_x Core-Shell Nanocrystals, *ACS Nano* **12**, (7) **2018**, 7197-7205.
11. Heenemann, M., Heine, C., Hävecker, M., Trunschke, A., Schlögl, R., Influence of Steam on a Vanadyl Pyrophosphate Catalyst During Propane Oxidation, *J. Phys. Chem. B* **122**, (2) **2018**, 695-704.
12. Gu, Q., Ding, Y., Liu, Z., Lin, Y., Schlögl, R., Heumann, S., Su, D., Probing the intrinsic catalytic activity of carbon nanotubes for the metal-free oxidation of aromatic thiophene compounds in ionic liquids, *J. Energ. Chem.* in press, **2018**.
13. Greiner, M. T., Cao, J., Jones, T. E., Beeg, S., Skorupska, K., Carbonio, E. A., Sezen, H., Amati, M., Gregoratti, L., Willinger, M.-G., Knop-Gericke, A., Schlögl, R., Phase Coexistence of Multiple Copper Oxides on AgCu Catalysts during Ethylene Epoxidation, *8* **3**, (2286-2295) **2018**.
14. Dungen, P., Schlögl, R., Heumann, S., Non-linear thermogravimetric mass spectrometry of carbon materials providing direct speciation separation of oxygen functional groups, *Carbon* **130**, **2018**, 614-622.
15. Dungen, P., Greiner, M., Böhm, K.-H., Spanos, I., Huang, X., Auer, A. A., Schlögl, R., Heumann, S., Atomically dispersed vanadium oxides on multiwalled carbon nanotubes via atomic layer deposition: A multiparameter optimization, *Journal of Vacuum Science & Technology A* **36**, (1) **2018**.
16. Ding, Y., Klyushin, A., Huang, X., Jones, T., Teschner, D., Girgsdies, F., Rodenas, T., Schlögl, R., Heumann, S., Ein aktiver und stabiler Cobaltkatalysator für die Sauerstoffentwicklungsreaktion: Polymerisation einer ionischen Flüssigkeit, *Angew. Chem.* **130**, (13) **2018**, 3573-3577.
17. Ding, Y., Klyushin, A., Huang, X., Jones, T., Teschner, D., Girgsdies, F., Rodenas, T., Schlögl, R., Heumann, S., Cobalt-Bridged Ionic Liquid Polymer on a Carbon Nanotube

for Enhanced Oxygen Evolution Reaction Activity, *Angew. Chem. Int. Ed.* 57, (13) **2018**, 3514-1518.

18. Deerberg, G., Oles, M., Schlögl, R., The Project Carbon2Chem®, *Chem. Ing. Tech.* Early View, **2018**.
19. Chakrapani, K., Bendt, G., Hajiyani, H., Lunkenbein, T., Greiner, M. T., Masliuk, L., Salamon, S., Landers, J., Schlögl, R., Wende, H., Pentcheva, R., Schulz, S., Behrens, M., The Role of Composition of Uniform and Highly Dispersed Cobalt Vanadium Iron Spinel Nanocrystals for Oxygen Electrocatalysis, *ACS Catal.* 8, (2) **2018**, 1259-1267.
20. Carbonio, E. A., Rocha, T. C. R., Klyushin, A. Y., Pis, I., Magnano, E., Nappini, S., Piccinin, S., Knop-Gericke, A., Schlögl, R., Jones, T. E., Are multiple oxygen species selective in ethylene epoxidation on silver?, *Chem. Sci.* 9, (4) **2018**, 990-998.

2017

21. Yin, Z., Zheng, Y., Wang, H., Li, J., Zhu, Q., Wang, Y., Ma, N., Hu, G., He, B., Knop-Gericke, A., Schlögl, R., Ma, D., Engineering Interface with One-Dimensional Co₃O₄ Nanostructure in Catalytic Membrane Electrode: Toward an Advanced Electrocatalyst for Alcohol Oxidation, *ACS Nano* 11, (12) **2017**, 12365-12377.
22. Yi, Y., Weinberg, G., Prenzel, M., Greiner, M., Heumann, S., Becker, S., Schlögl, R., Electrochemical corrosion of a glassy carbon electrode, *Catal. Today* in press, **2017**.
23. Xiong, H., Lester, K., Ressler, T., Schlögl, R., Allard, L. F., Datye, A. K., Metastable Pd ↔ PdO Structures During High Temperature Methane Oxidation, *Catal. Lett.* 147, (5) **2017**, 1095-1103.
24. Willinger, E., Tarasov, A., Blume, R., Rinaldi, A., Timpe, O., Massué, C., Scherzer, M., Noack, J., Schlögl, R., Willinger, M. G., Characterization of the Platinum–Carbon Interface for Electrochemical Applications, *ACS Catal.* 7, (7) **2017**, 4395-4407.
25. Willinger, E., Massué, C., Schlögl, R., Willinger, M. G., Identifying Key Structural Features of IrO_x Water Splitting Catalysts, *J. Am. Chem. Soc.* 139, (34) **2017**, 12093-12101.

26. Wen, G., Wang, B., Wang, C., Wang, J., Tian, Z., Schlögl, R., Su, D. S., Hydrothermal Carbon Enriched with Oxygenated Groups from Biomass Glucose as an Efficient Carbocatalyst, *Angew. Chem. Int. Ed.* **56**, (2) **2017**, 600-604.
27. Wang, Y., Widmann, D., Heenemann, M., Diemant, T., Biskupek, J., Schlögl, R., Behm, R. J., The role of electronic metal-support interactions and its temperature dependence: CO adsorption and CO oxidation on Au/TiO₂ catalysts in the presence of TiO₂ bulk defects, *J. Catal.* **354**, **2017**, 46-60.
28. Wang, J., Teschner, D., Huang, X., Yao, Y., Willinger, M., Shao, L., Schlögl, R., Nanosized palladium on holey graphene sheets incorporating P_xO_y for effective formic acid oxidation, *Electrochem. Commun.* **74**, **2017**, 24-27.
29. Völter, J., Schlögl, R., 50 Years of German Catalysis Meetings: From Twin Roots to a Joint Success Story, *ChemCatChem* **9**, (4) **2017**, 527-532.
30. Villaseca, S. A., Ormeci, S., Levchenko, S. V., Schlögl, R., Grin, Y., Armbrüster, M., CO Adsorption on GaPd—Unravelling the Chemical Bonding in Real Space, *ChemPhysChem* **18**, (4) **2017**, 334-337.
31. Velasco-Vélez, J. J., Jones, T. E., Pfeifer, V., Dong, C.-L., Chen, Y.-X., Chen, C.-M., Chen, H.-Y., Lu, Y.-R., Chen, Y.-R., Chen, J.-M., Schlögl, R., Trends in reactivity of electrodeposited 3d transition metals on gold revealed by operando soft x-ray absorption spectroscopy during water splitting, *J. Appl. Phys. D* **50**, (2) **2017**, 024002 (024010pp).
32. Trunschke, A., Noack, J., Trojanov, S., Girgsdies, F., Lunkenbein, T., Pfeifer, V., Hävecker, M., Kube, P., Sprung, C., Rosowski, F., Schlögl, R., The Impact of the Bulk Structure on Surface Dynamics of Complex Mo–V-based Oxide Catalysts, *ACS Catal.* **7**, (4) **2017**, 3061-3071.
33. Su, D. S., Wen, G., Wu, S., Peng, F., Schlögl, R., Carbocatalysis in Liquid-Phase Reactions, *Angew. Chem. Int. Ed.* **56**, (4) **2017**, 936-964.
34. Su, D. S., Wen, G., Wu, S., Peng, F., Schlögl, R., Carbokatalyse in Flüssigphasenreaktionen, *Angew. Chem.* **129**, (4) **2017**, 956-985.
35. Spanos, I., Auer, A. A., Neugebauer, S., Deng, X., Tüysüz, H., Schlögl, R., Standardized Benchmarking of Water Splitting Catalysts in a Combined Electrochemical Flow Cell/Inductively Coupled Plasma–Optical Emission Spectrometry (ICP-OES) Setup, *ACS Catal.* **7**, **2017**, 3768-3778.

36. Schumann, J., Kröhnert, J., Frei, E., Schlögl, R., Trunschke, A., IR-Spectroscopic Study on the Interface of Cu-Based Methanol Synthesis Catalysts: Evidence for the Formation of a ZnO Overlayer, *Top. Catal.* **60**, (19-20) **2017**, 1735-1743.
37. Schlögl, R., Die mobilisierte Energiewende, *Angew. Chem.* **129**, (37) **2017**, 11164-11167.
38. Schlögl, R., E-Mobility and the Energy Transition, *Angew. Chem. Int. Ed.* **56**, (37) **2017**, 11019-11022
39. Schlögl, R., Catalysis 4.0, *ChemCatChem* **9**, (4) **2017**, 533-541.
40. Schlögl, R., Inside Back Cover: Catalysis 4.0 (ChemCatChem 4/2017), *ChemCatChem* **9**, (4) **2017**, 713.
41. Rupflin, L. A., Mormul, J., Lejkowski, M., Titlbach, S., Papp, R., Gläser, R., Dimitrakopoulou, M., Huang, X., Trunschke, A., Willinger, M. G., Schlögl, R., Rosowski, F., Schunk, S. A., Platinum Group Metal Phosphides as Heterogeneous Catalysts for the Gas-Phase Hydroformylation of Small Olefins, *ACS Catal.* **7**, (5) **2017**, 3584-3590.
42. Rudi, S., Teschner, D., Beermann, V., Hetabe, W., Gan, L., Ciui, C., Gliech, M., Schlögl, R., Strasser, P., pH-Induced versus Oxygen-Induced Surface Enrichment and Segregation Effects in Pt-Ni Alloy Nanoparticle Fuel Cell Catalysts, *ACS Catal.* **7**, (9) **2017**, 6376-6384.
43. Reier, T., Nong, H. N., Teschner, D., Schlögl, R., Strasser, P., Electrocatalytic Oxygen Evolution Reaction in Acidic Environments – Reaction Mechanisms and Catalysts, *Adv. Energy Mater.* **7**, (1) **2017**, 1601275.
44. Rao, R. G., Blume, R., Hansen, T. W., Fuentes, E., Dreyer, K., Moldovan, S., Ersen, O., Hibbitts, D. D., Chabal, Y. J., Schlögl, R., Tessonier, J.-P., Interfacial charge distributions in carbon-supported palladium catalysts, *Nature Commun.* **8**, **2017**, 340.
45. Pfeifer, V., Jones, T. E., Velasco Veléz, J. J., Arrigo, R., Piccinin, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., In situ observation of reactive oxygen species forming on oxygen-evolving iridium surfaces, *Chem. Sci.* **8**, **2017**, 2143-2149.
46. Pavlovic, Z., Ranjan, C., van Gastel, M., Schlögl, R., The active site for the water oxidising anodic iridium oxide probed through in situ Raman spectroscopy, *Chem. Commun.* **53**, (92) **2017**, 12414-12417.
47. Ortega, K. F., Rein, D., Lüttmann, C., Heese, J., Özcan, F., Heidelmann, M., Folke, J.,

- Kähler, K., Schlögl, R., Behrens, M., Ammonia Decomposition and Synthesis over Multinary Magnesioferrites: Promotional Effect of Ga on Fe Catalysts for the Decomposition Reaction, *ChemCatChem* **9**, (4) **2017**, 659-671.
48. Massué, C., Pfeifer, V., van Gastel, M., Noack, J., Algara-Siller, G., Cap, S., Schlögl, R., Reactive Electrophilic O¹⁻ Species Evidenced in High-Performance Iridium Oxohydroxide Water Oxidation Electrocatalysts, *ChemSusChem* **10**, (23) **2017**, 4786-4798.
49. Massué, C., Pfeifer, V., Huang, X., Noack, J., Tarasov, A., Cap, S., Schlögl, R., High-Performance Supported Iridium Oxohydroxide Water Oxidation Electrocatalysts, *ChemSusChem* **10**, (9) **2017**, 1943-1957.
50. Massué, C., Huang, X., Tarasov, A., Ranjan, C., Cap, S., Schlögl, R., Microwave-Assisted Synthesis of Stable and Highly Active Ir Oxohydroxides for Electrochemical Oxidation of Water, *ChemSusChem* **10**, (9) **2017**, 1958-1968.
51. Masliuk, L., Heggen, M., Noack, J., Girgsdies, F., Trunschke, A., Hermann, K. E., Willinger, M. G., Schlögl, R., Lunkenbein, T., Structural Complexity in Heterogeneous Catalysis: Cataloging Local Nanostructures, *J. Phys. Chem. C* **121**, (43) **2017**, 24093-24103.
52. Leitner, W., Quadrelli, E. A., Schlögl, R., Harvesting renewable energy with chemistry, *Green Chem.* **19**, **2017**, 2307-2308.
53. Kube, P., Frank, B., Wrabetz, S., Kröhnert, J., Hävecker, M., Velasco-Vélez, J. J., Noack, J., Schlögl, R., Trunschke, A., Functional Analysis of Catalysts for Lower Alkane Oxidation, *ChemCatChem* **9**, (4) **2017**, 573-585.
54. Kube, P., Frank, B., Schlögl, R., Trunschke, A., Front Cover: Isotope Studies in Oxidation of Propane over Vanadium Oxide (ChemCatChem 18/2017), *ChemCatChem* **9**, (18) **2017**, 3429-3429.
55. Kube, P., Frank, B., Schlögl, R., Trunschke, A., Isotope Studies in Oxidation of Propane over Vanadium Oxide, *ChemCatChem* **9**, **2017**, 3446-3455.
56. Kubas, A., Noak, J., Trunschke, A., Schlögl, R., Neese, F., Manganas, D., A combined experimental and theoretical spectroscopic protocol for determination of the structure of heterogeneous catalysts: developing the information content of the resonance Raman spectra of M1 MoVO_x, *Chem. Sci.* **8**, (9) **2017**, 6338-6353.

57. Knop-Gericke, A., Pfeifer, V., Velasco-Veléz, J.-J., Jones, T., Arrigo, R., Hävecker, M., Schlögl, R., In situ X-ray photoelectron spectroscopy of electrochemically active solid-gas and solid-liquid interfaces, *J. Electron Spectrosc. Relat. Phenom.* **221**, **2017**, 10-17.
58. Klokisher, S., Reu, O., Noack, J., Schlögl, R., Trunschke, A., Experimental Study and Modeling of the UV-Vis and Infrared Spectra of the [VO(O-2)Hheida](-) Complex Dissolved in Water, *J. Phys. Chem. A* **121**, (38) **2017**, 7157-7164.
59. Kaichev, V. V., Saraev, A. A., Gladky, A. Y., Prosvirin, I. P., Blume, R., Teschner, D., Hävecker, M., Knop-Gericke, A., Schlögl, R., Bukhtiyarov, V. I., Reversible Bulk Oxidation of Ni Foil During Oscillatory Catalytic Oxidation of Propane: A Novel Type of Spatiotemporal Self-Organization, *Phys. Rev. Lett.* **119**, **2017**, 026001.
60. Huang, R., Zhang, B., Wang, J., Wu, K.-H., Zhang, Y., Liu, Y., Zheng, A., Schlögl, R., Su, D., Direct Insight into Ethane Oxidative Dehydrogenation over Boron Nitrides, *ChemCatChem* **9**, **2017**, 3293-3297.
61. Greiner, M. T., Jones, T. E., Klyushin, A., Knop-Gericke, A., Schlögl, R., Ethylene Epoxidation at the Phase Transition of Copper Oxides, *J. Am. Chem. Soc.* **139**, (34) **2017**, 11825-11832.
62. Fan, H., Huang, X., Kähler, K., Folke, J., Girgsdies, F., Teschner, D., Ding, Y., Hermann, K., Schlögl, R., Frei, E., In-Situ Formation of Fe Nanoparticles from FeOOH Nanosheets on gamma-Al₂O₃ as Efficient Catalysts for Ammonia Synthesis, *ACS Sustainable Chem. Eng.* **5**, (11) **2017**, 10900-10909.
63. Dilla, M., Schlögl, R., Strunk, J., Photocatalytic CO₂ Reduction Under Continuous Flow High-Purity Conditions: Quantitative Evaluation of CH₄ Formation in the Steady-State, *ChemCatChem* **9**, (4) **2017**, 696-704.
64. Chakrapani, K., Bendt, G., Hajiyani, H., Schwarzrock, I., Lunkenbein, T., Salamon, S., Landers, J., Wende, H., Schlögl, R., Behrens, M., Schulz, S., Role of Composition and Size of Cobalt Ferrite Nanocrystals in the Oxygen Evolution Reaction, *ChemCatChem* **9**, (15) **2017**, 2988-2995.
65. Bukhtiyarova, M., Lunkenbein, T., Kähler, K., Schlögl, R., Methanol Synthesis from Industrial CO₂ Sources: A Contribution to Chemical Energy Conversion, *Catal. Lett.* **147**, (2) **2017**, 416-427.
66. Bernhard, J., Köck, E.-M., Huber, R. G., Liedl, K. R., Call, L., Schlögl, R., Grothe, H.,

Loerting, T., Carbonic acid monoethyl ester as a pure solid and its conformational isomerism in the gas-phase, *RSC Adv.* 7, **2017**, 22222-22233.

2016

67. Zhu, M., Rocha, T. C. R., Lunkenbein, T., Knop-Gericke, A., Schlögl, R., Wachs, I. E., Promotion Mechanisms of Iron Oxide-Based High Temperature Water–Gas Shift Catalysts by Chromium and Copper, *ACS Catal.* 6, (7) **2016**, 4455-4464.
68. Zhang, B., Niu, Y., Xu, J., Pan, X., Chen, C.-M., Shi, W., Willinger, M.-G., Schlögl, R., Su, D. S., Tuning the surface structure of supported PtNi_x bimetallic electrocatalysts for the methanol electro-oxidation reaction, *Chem. Commun.* 52, **2016**, 3927-3930.
69. Xie, Z., Frank, B., Huang, X., Schlögl, R., Trunschke, A., Higher Alcohol Synthesis Over Rh Catalysts: Conditioning of Rh/N-CNTs by Co and Mn Entrapped in the Support, *Catal. Lett.* open access, **2016**, 1-9.
70. Willinger, E., Yi, Y., Tarasov, A., Blume, R., Massué, C., Girgsdies, F., Querner, C., Schwab, E., Schlögl, R., Willinger, M.-G., Atomic-Scale Insight on the Increased Stability of Tungsten-Modified Platinum/Carbon Fuel Cell Catalysts, *ChemCatChem* 8, (8) **2016**, 1575-1582.
71. Wehinger, G. D., Kraume, M., Berg, V., Korup, O., Mette, K., Schlögl, R., Behrens, M., Horn, R., Investigating dry reforming of methane with spatial reactor profiles and particle-resolved CFD simulations, *AIChE Journal* 62, (12) **2016**, 4436-4452.
72. Weatherup, R. S., Shahani, A. J., Wang, Z.-J., Mingard, K., Pollard, A. J., Willinger, M.-G., Voorhees, P. W., Hofmann, S., In Situ Graphene Growth Dynamics on Polycrystalline Catalyst Foils, *Nano Lett.* 16, (10) **2016**, 6196-6206.
73. Wang, Z.-J., Dong, J., Cui, Y., Eres, G., Timpe, O., Fu, Q., Ding, F., Schlögl, R., Willinger, M.-G., Stacking sequence and interlayer coupling in few-layer graphene revealed by in situ imaging, *Nature Commun.* 7, **2016**, 12256.
74. Velasco-Vélez, J. J., Pfeifer, V., Hävecker, M., Wang, R., Centeno, A., Zurutuza, A., Algara-Stiller, G., Stotz, E., Skorupska, E., Teschner, D., Kube, P., Braeuninger-Weimer,

- P., Hofmann, S., Schlögl, R., Knop-Gericke, A., Atmospheric pressure X-ray photoelectron spectroscopy apparatus: Bridging the pressure gap, *Rev. Sci. Instrum.* 87, (053121) **2016**.
75. Velasco-Vélez, J. J., Davaasuren, B., Scherzer, M., Cap, S., Willinger, M., Guo, J.-H., Schlögl, R., Knop-Gericke, A., Exploring the incorporation of nitrogen in titanium and its influence on the electrochemical corrosion resistance in acidic media, *Surf. Sci.* 650, **2016**, 272-278.
76. Su, D. S., Wen, G., Wu, S., Peng, F., Schlögl, R., Carbocatalysis in Liquid-Phase Reactions, *Angew. Chem. Int. Ed.* 56, (4) **2016**, 936-964.
77. Su, D. S., Wen, G., Wu, S., Peng, F., Schlögl, R., Carbokatalyse in Flüssigphasenreaktionen, *Angew. Chem.* 129, (4) **2016**, 956-985.
78. Schwach, P., Eichelbaum, M., Schlögl, R., Evidence for Exchange Coupled Electrons and Holes in MgO after Oxidative Activation of CH₄: A Multifrequency Transient Nutation EPR Study, *J. Phys. Chem. C* 120, (7) **2016**, 3781-3790.
79. Schumann, J., Tarasov, A., Thomas, N., Schlögl, R., Behrens, M., Cu,Zn-based catalysts for methanol synthesis: On the effect of calcination conditions and the part of residual carbonates, *Appl. Catal. A* 516, **2016**, 117-126.
80. Schlögl, R., Selective Oxidation: From a Still Immature Technology to the Roots of Catalysis Science, *Top. Catal.* 59, (17) **2016**, 1461-1476.
81. Schlögl, R., Sustainable Energy Systems: The Strategic Role of Chemical Energy Conversion, *Top. Catal.* 59, **2016**.
82. Roiaz, M., Monachino, E., Dri, C., Greiner, M., Knop-Gericke, A., Schlögl, R., Comelli, G., Vesselli, E., Reverse Water-Gas Shift or Sabatier Methanation on Ni(110)? Stable Surface Species at Near-Ambient Pressure, *J. Am. Chem. Soc.* 138, (12) **2016**, 4146-4154.
83. Pfeifer, V., Jones, T. E., Wrabetz, S., Massué, C., Velasco Vélez, J. J., Arrigo, R., Scherzer, M., Piccinin, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., Reactive oxygen species in iridium-based OER catalysts, *Chem. Sci.* 7, **2016**, 6791.
84. Pfeifer, V., Jones, T. E., Velasco Vélez, J. J., Massué, C., Greiner, M. T., Arrigo, R., Teschner, D., Girgsdies, F., Scherzer, M., Allan, J., Hashagen, M., Weinberg, G., Piccinin, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., The electronic structure of

- iridium oxide electrodes active in water splitting, *Phys. Chem. Chem. Phys.* **18**, **2016**, 2292-2296.
85. Pavlovic, Z., Ranjan, C., Gao, Q., Van Gastel, M., Schlögl, R., Probing the Structure of a Water-Oxidizing Anodic Iridium Oxide Catalyst using Raman Spectroscopy, *ACS Catal.* **6**, (12) **2016**, 8098-8105.
86. Oh, H.-S., Nong, H. N., Reier, T., Bergmann, A., Gilech, M., Ferreira de Araújo, J., Willinger, E., Schlögl, R., Teschner, D., Strasser, P., Electrochemical Catalyst–Support Effects and Their Stabilizing Role for IrO_x Nanoparticle Catalysts during the Oxygen Evolution Reaction, *J. Am. Chem. Soc.* **138**, (38) **2016**, 12552-12563.
87. Mette, K., Kühl, S., Tarasov, A., Willinger, M. G., Kröhnert, J., Wrabetz, S., Trunschke, A., Scherzer, M., Girgsdies, F., Düdder, H., Kähler, K., Friedel Ortega, K., Muhler, M., Schlögl, R., Behrens, M., Lunkenbein, T., High-Temperature Stable Ni Nanoparticles for the Dry Reforming of Methane, *ACS Catal.* **6**, (10) **2016**, 7238-7248.
88. Manganas, D., Trunschke, A., Schlögl, R., Neese, F., A unified view on heterogeneous and homogeneous catalysts through a combination of spectroscopy and quantum chemistry, *Faraday Discuss.* **188**, **2016**, 181-197.
89. Lunkenbein, T., Girgsdies, F., Kandemir, T., Thomas, N., Behrens, M., Schlögl, R., Frei, E., Bridging the Time Gap: A Copper/Zinc Oxide/Aluminum Oxide Catalyst for Methanol Synthesis Studied under Industrially Relevant Conditions and Time Scales, *Angew. Chem.* **128**, (41) **2016**, 12900–12904.
90. Lunkenbein, T., Girgsdies, F., Kandemir, T., Thomas, N., Behrens, M., Schlögl, R., Frei, E., Bridging the Time Gap: A Copper/Zinc Oxide/Aluminum Oxide Catalyst for Methanol Synthesis Studied under Industrially Relevant Conditions and Time Scales, *Angew. Chem. Int. Ed.* **55**, (41) **2016**, 12708-12712.
91. Liu, X., Fechler, N., Antonietti, M., Willinger, M. G., Schlögl, R., Synthesis of novel 2-d carbon materials: sp² carbon nanoribbon packing to form well-defined nanosheets, *Mater. Horiz.* **3**, **2016**, 214-219.
92. Li, X., Lunkenbein, T., Pfeifer, V., Jastak, M., Kjaer Nielsen, P., Girgsdies, F., Knop-Gericke, A., Abate, S., Schlögl, R., Trunschke, A., Selective Alkane Oxidation by Manganese Oxide: Site Isolation of MnO_x Chains at the Surface of MnWO₄ Nanorods, *Angew. Chem. Int. Ed.* **55**, (12) **2016**, 4092-4096.

93. Li, X., Lunkenbein, T., Pfeifer, V., Jastak, M., Kjaer Nielsen, P., Girgsdies, F., Knop-Gericke, A., Abate, S., Schlögl, R., Trunschke, A., Selektive Alkanoxidation an Manganoxid: isolierte, kettenförmige MnO_x -Zentren an der Oberfläche von MnWO_4 -Nanostäbchen, *Angew. Chem.* **128**, (12) **2016**, 4161-4165.
94. Li, X., Lunkenbein, T., Kröhnert, J., Pfeifer, V., Girgsdies, F., Rosowski, F., Schlögl, R., Trunschke, A., Hydrothermal synthesis of bi-functional nanostructured manganese tungstate catalysts for selective oxidation, *Faraday Discuss.* **188**, **2016**, 99-113.
95. Lee, J., Eiswirth, M., Schlögl, R., Surface analysis and dynamics, *Catal. Today* **260**, **2016**, 1-2.
96. Klyushin, A. Y., Greiner, M. T., Huang, X., Lunkenbein, T., Li, X., Timpe, O., Friedrich, M., Hävecker, M., Knop-Gericke, A., Schlögl, R., Is Nanostructuring Sufficient To Get Catalytically Active Au? *ACS Catal.* **6**, (5) **2016**, 3372-3380.
97. Klyushin, A. Y., Arrigo, R., Yi, Y., Xie, Z., Hävecker, M., Bukhtiyarov, A. V., Prosvirin, I. P., Bukhtiyarov, V. I., Knop-Gericke, A., Schlögl, R., Are Au Nanoparticles on Oxygen-Free Supports Catalytically Active? *Top. Catal.* **59**, (5) **2016**, 469-477.
98. Kast, P., Friedrich, M., Girgsdies, F., Kröhnert, J., Teschner, D., Lunkenbein, T., Behrens, M., Schlögl, R., Strong metal-support interaction and alloying in Pd/ZnO catalysts for CO oxidation, *Catal. Today* **260**, **2016**, 21-31.
99. Kandemir, T., Friedrich, M., Parker, S. F., Studt, F., Lennon, D., Schlögl, R., Behrens, M., Different routes to methanol: inelastic neutron scattering spectroscopy of adsorbates on supported copper catalysts, *Phys. Chem. Chem. Phys.* **18**, **2016**, 17253-17258.
100. Kaichev, V. V., Teschner, D., Saraev, A. A., Kosolobov, S. S., Gladky, A. Y., Prosvirin, I. P., Rudina, N. A., Ayupov, A. B., Blume, R., Hävecker, M., Knop-Gericke, A., Latyshev, A. V., Schlögl, R., Evolution of self-sustained kinetic oscillations in the catalytic oxidation of propane over a nickel foil, *J. Catal.* **334**, **2016**, 23-33.
101. Jones, T. E., Wyrwich, R., Böcklein, S., Rocha, T. C. R., Carbonio, E. A., Knop-Gericke, A., Schlögl, R., Günther, S., Wintterlin, J., Piccinin, S., Oxidation of Ethylene on Oxygen Reconstructed Silver Surfaces, *J. Phys. Chem. C* **120**, (50) **2016**, 28630-28638.
102. Johnson, B., Ranjan, C., Greiner, M., Arrigo, R., Schuster, M. E., Höpfner, B., Gorgoi, M., Lauermann, I., Willinger, M., Knop-Gericke, A., Schlögl, R., Characterization of Platinum and Iridium Oxyhydrate Surface Layers from Platinum and Iridium Foils,

- ChemSusChem* **9**, (13) **2016**, 1634-1646.
103. Friedel Ortega, K., Arrigo, R., Frank, B., Schlögl, R., Trunschke, A., Acid–Base Properties of N-Doped Carbon Nanotubes: A Combined Temperature-Programmed Desorption, X-ray Photoelectron Spectroscopy, and 2-Propanol Reaction Investigation, *Chem. Mater.* **28**, (19) **2016**, 6826-6839.
 104. Frank, B., Xie, Z.-L., Friedel Ortega, K., Scherzer, M., Schlögl, R., Trunschke, A., Modification of the carbide microstructure by N- and S-functionalization of the support in Mo_xC/CNT catalysts, *Catal. Sci. Technol.* **6**, **2016**, 3468-3475.
 105. Fechler, N., Zussblatt, N. P., Rothe, R., Schlögl, R., Willinger, M.-G., Chmelka, B. F., Antonietti, M., Eutectic Syntheses of Graphitic Carbon with High Pyrazinic Nitrogen Content, *Adv. Mater.* **28**, (6) **2016**, 1287-1294.
 106. Delmonde, M. V. F., Sallum, L. F., Perini, N., Gonzalez, E. R., Schlögl, R., Varela, H., Electrocatalytic Efficiency of the Oxidation of Small Organic Molecules under Oscillatory Regime, *J. Phys. Chem. C* **120**, (39) **2016**, 22365-22374.
 107. Caneva, S., Weatherup, R. S., Bayer, B. C., Blume, R., Cabrero-Vilatela, A., Bräuninger-Weimer, P., Martin, M.-B., Wang, R., Bähz, C., Schlögl, R., Meyer, J. C., Hofmann, S., Controlling Catalyst Bulk Reservoir Effects for Monolayer Hexagonal Boron Nitride CVD, *Nano Lett.* **16**, (2) **2016**, 1250-1261.
 108. Buller, S., Heise-Podleska, M., Pfänder, N., Willinger, M., Schlögl, R., Carbon nanotubes as conducting support for potential Mn-oxide electrocatalysts: Influences of pre-treatment procedures, *J. Energ. Chem.* **25**, (2) **2016**, 265-271.
 109. Büchner, C., Wang, Z.-J., Burson, K. M., Willinger, M.-G., Heyde, M., Schlögl, R., Freund, H.-J., A Large-Area Transferable Wide Band Gap 2D Silicon Dioxide Layer, *ACS Nano* **10**, (8) **2016**, 7982-7989.
 110. Bayer, B. C., Bosworth, D. A., Michaelis, F. B., Blume, R., Habler, G., Weatherup, R. S., Kidambi, P. R., Baumberg, J., J., Knop-Gericke, A., In Situ Observations of Phase Transitions in Metastable Nickel (Carbide)/Carbon Nanocomposites, *J. Phys. Chem. C* **120**, (39) **2016**, 22571-22584.
 111. Bare, S. R., Knop-Gericke, A., Teschner, D., Blume, R., Rocha, T., Schlögl, R., Chan, A. S. Y., Blackwell, N., Charochak, M. E., ter Veen, R., Brongersma, H. H., Surface analysis of zeolites: An XPS, variable kinetic energy XPS, and low energy ion scattering

- study, *Surf. Sci.* **648**, **2016**, 376-382.
112. Arrigo, R., Schuster, M. E., Abate, S., Giorgianni, G., Centi, G., Perathoner, S., Wrabetz, S., Pfeifer, V., Antonietti, M., Schlögl, R., Pd Supported on Carbon Nitride Boosts the Direct Hydrogen Peroxide Synthesis, *ACS Catal.* **6**, (10) **2016**, 6959-6966.
113. Álvarez Galván, C., Schumann, J., Behrens, M., Fierro, J. L. G., Schlögl, R., Frei, E., Reverse water-gas shift reaction at the Cu/ZnO interface: Influence of the Cu/Zn ratio on structure-activity correlations, *Appl. Catal. B: Environmental* **195**, **2016**, 104-111.

2015

114. Zhang, L., Liu, H., Huang, X., Sun, X., Jiang, Z., Schlögl, R., Su, D., Stabilization of Palladium Nanoparticles on Nanodiamond–Graphene Core–Shell Supports for CO Oxidation, *Angew. Chem. Int. Ed.* **54**, **2015**, 13682-13685.
115. Yi, Y., Tornow, J., Willinger, E., Willinger, M. G., Ranjan, C., Schlögl, R., Inside Back Cover: Electrochemical Degradation of Multiwall Carbon Nanotubes at High Anodic Potential for Oxygen Evolution in Acidic Media (ChemElectroChem 12/2015), *ChemElectroChem* **2**, (12) **2015**, 2104.
116. Yi, Y., Tornow, J., Willinger, E., Willinger, M. G., Ranjan, C., Schlögl, R., Electrochemical Degradation of Multiwall Carbon Nanotubes at High Anodic Potential for Oxygen Evolution in Acidic Media, *ChemElectroChem* **2**, (12) **2015**, 1929-1937.
117. Wu, S., Wen, G., Schlögl, R., Su, D. S., Carbon nanotubes oxidized by a green method as efficient metal-free catalysts for nitroarene reduction, *Phys. Chem. Chem. Phys.* **17**, **2015**, 1567-1571.
118. Wen, G., Diao, J., Wu, S., Yang, W., Schlögl, R., Su, D. S., Acid Properties of Nanocarbons and Their Application in Oxidative Dehydrogenation, *ACS Catal.* **5**, (6) **2015**, 3600-3608.
119. Wang, Z.-J., Weinberg, G., Zhang, Q., Lunkenbein, T., Klein-Hoffmann, A., kurnatowska, M., Plodinec, M., Li, Q., Chi, L., Schlögl, R., Willinger, M.-G., Direct

- Observation of Graphene Growth and Associated Copper Substrate Dynamics by in Situ Scanning Electron Microscopy, *ACS Nano* **9**, (2) **2015**, 1506-1519.
120. Velasco Velés, J., Pfeifer, V., Hävecker, M., Weatherup, R. S., Arrigo, R., Chuang, C.-H., Stotz, E., Weinberg, G., Salmeron, M., Schlögl, R., Knop-Gericke, A., Photoelectron spectroscopy at the graphene-liquid interface reveals the electronic structure of an electrodeposited cobalt/graphene electrocatalyst, *Angew. Chem. Int. Ed.* **54**, (48) **2015**, 14554-14558.
 121. Velasco Velés, J., Pfeifer, V., Hävecker, M., Weatherup, R. S., Arrigo, R., Chuang, C.-H., Stotz, E., Weinberg, G., Salmeron, M., Schlögl, R., Knop-Gericke, A., Photoelectron spectroscopy at the graphene-liquid interface reveals the electronic structure of an electrodeposited cobalt/graphene electrocatalyst, *Angew. Chem.* **127**, (48) **2015**, 14762-14766.
 122. Su, D. S., Zhang, B., Schlögl, R., Electron Microscopy of Solid Catalysts—Transforming from a Challenge to a Toolbox, *Chem. Rev.* **115**, (8) **2015**, 2818-2882.
 123. Studt, F., Behrens, M., Kunkes, E. L., Thomas, N., Zander, S., Tarasov, A., Schumann, J., Frei, E., Varley, J. B., Abild-Pedersen, F., Nørskov, J. K., Schlögl, R., The Mechanism of CO and CO₂ Hydrogenation to Methanol over Cu-Based Catalysts, *ChemCatChem* **7**, (7) **2015**, 1105-1111.
 124. Studt, F., Behrens, M., Kunkes, E. L., Thomas, N., Zander, S., Tarasov, A., Schumann, J., Frei, E., Varley, J. B., Abild-Pedersen, F., Nørskov, J. K., Schlögl, R., Back Cover: The Mechanism of CO and CO₂ Hydrogenation to Methanol over Cu-Based Catalysts (ChemCatChem 7/2015), *ChemCatChem* **7**, (7) **2015**, 1232.
 125. Spiel, C., Vogel, D., Schlögl, R., Rupprechter, G., Suchorski, Y., Spatially coupled catalytic ignition of CO oxidation on Pt: mesoscopic versus nano-scale, *Ultramicroscopy* **159**, (2) **2015**, 178-183.
 126. Schwach, P., Hamilton, N., Eichelbaum, M., Thum, L., Lunkenbein, T., Schlögl, R., Trunschke, A., Structure sensitivity of the oxidative activation of methane over MgO model catalysts: II. Nature of active sites and reaction mechanism, *J. Catal.* **329**, **2015**, 574-587.
 127. Schwach, P., Frandsen, W., Willinger, M.-G., Schlögl, R., Trunschke, A., Structure

- sensitivity of the oxidative activation of methane over MgO model catalysts: I. Kinetic study, *J. Catal.* 329, **2015**, 560-573.
128. Schumann, J., Eichelbaum, M., Lunkenbein, T., Thomas, N., Alvarez-Galvan, M. C., Schlögl, R., Behrens, M., Promoting Strong Metal Support Interaction: Doping ZnO for Enhanced Activity of Cu/ZnO:M (M = Al, Ga, Mg) Catalysts, *ACS Catal.* 5, **2015**, 3260-3270.
 129. Schlögl, R. Von der Natur lernen: Chemische CO₂-Reduktion, Vol. Eds.: Marotzke, J. and Stratmann, M.), Beck, München, **2015**, pp. 167-181.
 130. Schlögl, R., Systemic aspects of the transition to sustainable energy, *EPJ Web of Conferences* 98, **2015**.
 131. Schlögl, R., The Revolution Continues: Energiewende 2.0, *Angew. Chem. Int. Ed.* 54, **2015**, 4436-4439.
 132. Schlögl, R., Energiewende 2.0, *Angew. Chem.* 127, (15) **2015**, 4512-4516.
 133. Schlögl, R., Heterogeneous Catalysis, *Angew. Chem. Int. Ed.* 54, (11) **2015**, 3465-3520.
 134. Schlögl, R., Heterogene Katalysatoren – fundamental betrachtet, *Angew. Chem.* 127, (11) **2015**, 3531-3589.
 135. Reier, T., Pawolek, Z., Cherevko, S., Bruns, M., Jones, T., Teschner, D., Selve, S., Bergmann, A., Nong, H. N., Schlögl, R., Mayrhofer, K. J. J., Strasser, P., Molecular Insight in Structure and Activity of Highly Efficient, Low-Ir Ir–Ni Oxide Catalysts for Electrochemical Water Splitting (OER), *J. Am. Chem. Soc.* 137, (40) **2015**, 13931-14040.
 136. Reiche, S., Kowalew, N., Schlögl, R., Influence of Synthesis pH and Oxidative Strength of the Catalyzing Acid on the Morphology and Chemical Structure of Hydrothermal Carbon, *ChemPhysChem* 16, (3) **2015**, 579-587.
 137. Rameshan, R., Mayr, L., Klötzer, B., Eder, D., Knop-Gericke, A., Hävecker, M., Blume, R., Schlögl, R., Zemlyanov, D. Y., Penner, S., Near-Ambient-Pressure X-ray Photoelectron Spectroscopy Study of Methane-Induced Carbon Deposition on Clean and Copper-Modified Polycrystalline Nickel Materials, *J. Phys. Chem. C* 119, (48) **2015**, 26948-26958.
 138. Qi, W., Liu, W., Schlögl, R., Su, D., Oxidative Dehydrogenation on Nanocarbon: Intrinsic Catalytic Activity and Structure–Function Relationships, *Angew. Chem. Int. Ed.* 54, (46) **2015**, 13682-13685.

139. Pfeifer, V., Jones, T. E., Velasco Vélez, J. J., Massué, C., Greiner, M. T., Arrigo, R., Teschner, D., Girgsdies, F., Scherzer, M., Allan, J., Hashagen, M., Weinberg, G., Piccinin, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., The electronic structure of iridium and its oxides, *Surf. Interface Anal.* **48**, (5) **2015**, 261-273.
140. Mette, K., Kühn, S., Trasov, A., Düdder, H., Kähler, K., Muhler, M., Schlögl, R., Behrens, M., Redox dynamics of Ni catalysts in CO₂ reforming of methane, *Catal. Today* **242** (Part A) **2015**, 1010-1110.
141. Martin, M.-B., Dlubak, B., Weatherup, R. S., Piquemal-Banci, M., Yang, H., Blume, R., Schlögl, R., Collin, S., Petroff, F., Hofmann, S., Robertson, J., Anane, A., Fert, A., Seneor, P., Protecting nickel with graphene spin-filtering membranes: A single layer is enough, *Appl. Phys. Lett.* **107**, **2015**, 4.
142. Lunkenbein, T., Schumann, J., Behrens, M., Schlögl, R., Willinger, M. G., Formation of a ZnO Overlayer in Industrial Cu/ZnO/Al₂O₃ Catalysts Induced by Strong Metal–Support Interaction, *Angew. Chem. Int. Ed.* **54**, **2015**, 4544-4548.
143. Lunkenbein, T., Girgsdies, F., Wernbacher, A., Noack, J., Auffermann, G., Yasuhara, A., Klein-Hoffmann, A., Ueda, W., Eichelbaum, M., Trunschke, A., Schlögl, R., Willinger, M. G., Direct Imaging of Octahedral Distortion in a Complex Molybdenum Vanadium Mixed Oxide, *Angew. Chem. Int. Ed.* **54**, (23) **2015**, 6828-6831.
144. Law, Y. T., Zafeiratos, S., Neophytides, S. G., Orfanidi, A., Costa, D., Dintzer, T., Arrigo, R., Knop-Gericke, A., Schlögl, R., Savinova, E. R., *In situ* investigation of dissociation and migration phenomena at the Pt/electrolyte interface of an electrochemical cell, *Chem. Sci.* **6**, **2015**, 5635-5642.
145. Kunkes, E. L., Studt, F., Abild-Pedersen, F., Schlögl, R., Behrens, M., Hydrogenation of CO₂ to methanol and CO on Cu/ZnO/Al₂O₃: Is there a common intermediate or not?, *J. Catal.* **328**, **2015**, 43-48.
146. Kühn, S., Schumann, J., Kasatkin, I., Hävecker, M., Schlögl, R., Behrens, M., Ternary and quaternary Cr or Ga-containing ex-LDH catalysts—Influence of the additional oxides onto the microstructure and activity of Cu/ZnAl₂O₄ catalysts, *Catal. Today* **246**, **2015**, 92-100.
147. Kast, P., Friedrich, M., Teschner, D., Girgsdies, F., Lunkenbein, T., Naumann d'Alnoncourt, R., Behrens, M., Schlögl, R., CO oxidation as a test reaction for strong

- metal–support interaction in nanostructured Pd/FeOx powder catalysts, *Appl. Catal. A* **502**, **2015**, 8-17.
148. Jones, T., Rocha, T. C. R., Knop-Gericke, A., Stampfl, C., Schlögl, R., Piccinin, S., Thermodynamic and spectroscopic properties of oxygen on silver under an oxygen atmosphere, *Phys. Chem. Chem. Phys.* **17**, **2015**, 9288-9312.
 149. Horn, R., Schlögl, R., Methane Activation by Heterogeneous Catalysis, *Catal. Lett.* **145**, (1) **2015**, 23-39.
 150. Heine, C., Hävecker, M., Trunschke, A., Schlögl, R., Eichelbaum, M., The impact of steam on the electronic structure of the selective propane oxidation catalyst MoVTaNb oxide (orthorhombic M1 phase), *Phys. Chem. Chem. Phys.* **17**, **2015**, 8983-8993.
 151. Greiner, M., Jones, T., Johnson, B., Rocha, T., Wang, Z.-J., Armbrüster, M., Willinger, M., Knop-Gericke, A., Schlögl, R., The oxidation of copper catalysts during ethylene epoxidation, *Phys. Chem. Chem. Phys.* **17**, **2015**, 25073-25089.
 152. Gao, Q., Ranjan, C., Pavlovic, Z., Blume, R., Schlögl, R., Enhancement of Stability and Activity of MnOx/Au Electrocatalysts for Oxygen Evolution through Adequate Electrolyte Composition, *ACS Catalysis* **5**, (12) **2015**, 7265-7275.
 153. Fichtl, M. B., Schlereth, D., Jacobsen, N., Kasatkin, I., Schumann, J., Schlögl, R., Hinrichsen, O., Kinetics of deactivation on Cu/ZnO/Al₂O₃ methanol synthesis catalysts, *Appl. Catal. A: General* **502**, **2015**, 262-270.
 154. Falcone, D. D., Hack, J. H., Klyushin, A. Y., Knop-Gericke, A., Schlögl, R., Davis, R. J., Evidence for the Bifunctional Nature of Pt–Re Catalysts for Selective Glycerol Hydrogenolysis, *ACS Catal.* **5**, **2015**, 5679-5695.
 155. Eichelbaum, M., Hävecker, M., Heine, C., Wernbacher, A. M., Rosowski, F., Trunschke, A., Schlögl, R., Der elektronische Faktor in der Alkanoxidationskatalyse, *Angew. Chem.* **127**, (10) **2015**, 2965-2969.
 156. Eichelbaum, M., Hävecker, M., Heine, C., Rosowski, F., Trunschke, A., Schlögl, R., The Electronic Factor in Alkane Oxidation Catalysis, *Angew. Chem. Int. Ed.* **54**, (10) **2015**, 2922-2926.
 157. Busser, W. G., Mei, B., Weide, P., Vesborg, P. C. K., Stührenberg, K., Bauer, M., Huang, X., Willinger, M.-G., Chorkendorff, I., Schlögl, R., Muhler, M., Cocatalyst Designing: A Regenerable Molybdenum-Containing Ternary Cocatalyst System for Efficient

- Photocatalytic Water Splitting, *ACS Catal.* 5, (9) **2015**, 5530-5539.
158. Blume, R., Rosenthal, D., Tessonier, J.-P., Li, H., Knop-Gericke, A., Schlögl, R., Characterizing Graphitic Carbon with X-ray Photoelectron Spectroscopy: A Step-by-Step Approach, *ChemCatChem* 7, (18) **2015**, 2871-2881.
159. Arrigo, R., Schuster, M. E., Xie, Z., Yi, Y., Wowsnick, G., Sun, L. L., Hermann, K. E., Friedrich, M., Kast, P., Hävecker, M., Knop-Gericke, A., Schlögl, R., Nature of the N–Pd Interaction in Nitrogen-Doped Carbon Nanotube Catalysts, *ACS Catal.* 5, (5) **2015**, 2740-2753.
160. Amakawa, K., Kröhnert, J., Wrabetz, S., Frank, B., Hemmann, F., Jäger, C., Schlögl, R., Trunschke, A., Active Sites in Olefin Metathesis over Supported Molybdena Catalysts, *ChemCatChem* 7, **2015**, 4059-4065.
161. Abd Hamid, S. B., Schlögl, R. The impact of Nanoscience in Heterogeneous Catalysis, Vol. Eds.: Van de Voorde, M., Werner, M. and Fecht, H.-J.), Wiley-VCH Verlag, **2015**, pp. 405-430.

2014

162. Zhao, A., Masa, J., Xia, W., Maljusch, A., Willinger, M.-G., Clavel, G., Xie, K., Schlögl, R., Schuhmann, W., Muhler, M., Spinel Mn–Co Oxide in N-Doped Carbon Nanotubes as a Bifunctional Electrocatalyst Synthesized by Oxidative Cutting, *J. Am. Chem. Soc.* 136, (21) **2014**, 7551-7554.
163. Wu, S., Wen, G., Wang, J., Rong, J., Zong, B., Schlögl, R., Su, D. S., Nitrobenzene reduction catalyzed by carbon: does the reaction really belong to carbocatalysis?, *Catal. Sci. Technol.* 4, **2014**, 4183-4187.
164. Wowsnick, G., Teschner, D., Kasatkin, I., Girgsdies, F., Armbrüster, M., Zhang, A., Grin, Y., Schlögl, R., Behrens, M., Surface dynamics of the intermetallic catalyst Pd₂Ga, Part I – Structural stability in UHV and different gas atmospheres, *J. Catal.* 309, **2014**, 209-220.
165. Wowsnick, G., Teschner, D., Armbrüster, M., Kasatkin, I., Girgsdies, F., Grin, Y.,

- Schlögl, R., Behrens, M., Surface dynamics of the intermetallic catalyst Pd₂Ga, Part II – Reactivity and stability in liquid-phase hydrogenation of phenylacetylene, *J. Catal.* **309**, **2014**, 221-230.
166. Willinger, M. G., Zhang, W., Bondarchuk, O., Shaikhutdinov, S., Freund, H.-J., Schlögl, R., Metall-Substrat-Wechselwirkung: Kombination von hochauflösender Mikroskopie und Modellsystemen, um die atomare Struktur von Grenzflächen aufzuklären, *Angew. Chem.* **126**, (23) **2014**, 6108-6112.
167. Willinger, M. G., Zhang, W., Bondarchuk, O., Shaikhutdinov, S., Freund, H.-J., Schlögl, R., A Case of Strong Metal–Support Interactions: Combining Advanced Microscopy and Model Systems to Elucidate the Atomic Structure of Interfaces, *Angew. Chem. Int. Ed.* **53**, (23) **2014**, 5998-6001.
168. Tarasov, A., Düdder, H., Mette, K., Köhl, S., Köhler, K., Schlögl, R., Muhler, M., Behrens, M., Investigation of Coking During Dry Reforming of Methane by Means of Thermogravimetry, *Chem. Ing. Tech.* **86**, (11) **2014**, 1916-1924.
169. Schwarz, H., Geske, M., Goldsmith, C. F., Schlögl, R., Horn, R., Fuel-rich methane oxidation in a high-pressure flow reactor studied by optical-fiber laser-induced fluorescence, multi-species sampling profile measurements and detailed kinetic simulations, *Combustion and Flame* **161**, (7) **2014**, 1688-1700.
170. Schuster, M. E., Teschner, D., Popovic, J., Ohmer, N., Girgsdies, F., Tornow, J., Willinger, M. G., Samuelis, D., Titirici, M.-M., Maier, J., Schlögl, R., Charging and Discharging Behavior of Solvothermal LiFePO₄ Cathode Material Investigated by Combined EELS/NEXAFS Study, *Chem. Mater.* **26**, (2) **2014**, 1040-1047.
171. Schumann, J., Lunkenbein, T., Tarasov, A., Thomas, N., Schlögl, R., Behrens, M., Synthesis and Characterisation of a Highly Active Cu/ZnO:Al Catalyst, *ChemCatChem* **6**, (10) **2014**, 2889-2897.
172. Schlögl, R., Systemverständnis für die erfolgreiche Umsetzung der Energiewende, *Bunsen-Magazin* **16**, (6) **2014**, 257-258.
173. Rocha, T. C. R., Hävecker, M., Knop-Gericke, A., Schlögl, R., Promoters in heterogeneous catalysis: The role of Cl on ethylene epoxidation over Ag, *J. Catal.* **312**, **2014**, 12-16.
174. Reier, T., Teschner, D., Lunkenbein, T., Bergmann, A., Selve, S., Kraehnert, R., Schlögl,

- R., Strasser, P., Electrocatalytic Oxygen Evolution on Iridium Oxide: Uncovering Catalyst-Substrate Interactions and Active Iridium Oxide Species, *J. Electrochem. Soc.* **161**, (9) **2014**, F876-F882.
175. Reiche, S., Blume, R., Zhao, X.-C., Su, D. S., Kunkes, E., Behrens, M., Schlögl, R., Reactivity of mesoporous carbon against water – An in-situ XPS study, *Carbon* **77**, **2014**, 175-183.
176. Ota, A., Kröhnert, J., Weinberg, G., Kasatkin, I., Kunkes, E. L., Ferri, D., Girgsdies, F., Hamilton, N., Armbrüster, M., Schlögl, R., Behrens, M., Dynamic Surface Processes of Nanostructured Pd₂Ga Catalysts Derived from Hydrotalcite-Like Precursors, *ACS Catal.* **4**, (6) **2014**, 2048-2059.
177. Noack, J., Rosowski, F., Schlögl, R., Trunschke, A., Speciation of Molybdates under Hydrothermal Conditions, *Z. Allg. Anorg. Chem.* **640**, (14) **2014**, 2730-2736.
178. Naumann d'Alnoncourt, R., Friedrich, M., Kunkes, E., Rosenthal, D., Girgsdies, F., Zhang, B., Shao, L., Schuster, M., Behrens, M., Schlögl, R., Strong metal–support interactions between palladium and iron oxide and their effect on CO oxidation, *J. Catal.* **317**, **2014**, 220-228.
179. Naumann d'Alnoncourt, R., Csepei, L.-I., Hävecker, M., Girgsdies, F., Schuster, M. E., Schlögl, R., Trunschke, A., The reaction network in propane oxidation over phase-pure MoVTaNb M1 oxide catalysts, *J. Catal.* **311**, **2014**, 369-385.
180. Monachino, E., Greiner, M., Knop-Gericke, A., Schlögl, R., Dri, C., Vesselli, E., Comelli, G., Reactivity of Carbon Dioxide on Nickel: Role of CO in the Competing Interplay between Oxygen and Graphene, *J. Phys. Chem. Lett.* **5**, (11) **2014**, 1929-1934.
181. Manganas, D., Roemelt, M., Weyhermüller, T., Blume, R., Hävecker, M., Knop-Gericke, A., DeBeer, S., Schlögl, R., Neese, F., L-edge X-ray absorption study of mononuclear vanadium complexes and spectral predictions using a restricted open shell configuration interaction ansatz, *Phys. Chem. Chem. Phys.* **16**, **2014**, 264-276.
182. Manganas, D., Kristiansen, P., Duda, L.-C., Knop-Gericke, A., DeBeer, S., Schlögl, R., Neese, F., Combined Experimental and Ab Initio Multireference Configuration Interaction Study of the Resonant Inelastic X-ray Scattering Spectrum of CO₂, *J. Phys. Chem. C* **118**, (35) **2014**, 20163-20175.
183. Kwapien, K., Paier, J., Sauer, J., Geske, M., Zavyalova, U., Horn, R., Schwach, P.,

- Trunschke, A., Schlögl, R., Zentren der Methanaktivierung auf Oberflächen von Lithium-dotiertem MgO, *Angew. Chem.* 126, (33) **2014**, 8919-8923.
184. Kwapien, K., Paier, J., Sauer, J., Geske, M., Zavyalova, U., Horn, R., Schwach, P., Trunschke, A., Schlögl, R., Zentren der Methanaktivierung auf Oberflächen von Lithium-dotiertem MgO, *Angew. Chem. Int. Ed.* 53, (33) **2014**, 8774-8778.
185. Klyushin, A. Y., Rocha, T. C. R., Hävecker, M., Knop-Gericke, A., Schlögl, R., A near ambient pressure XPS study of Au oxidation, *Phys. Chem. Chem. Phys.* 16, **2014**, 7881-7886.
186. Kidambi, P. R., Blume, R., Kling, J., Wagner, J. B., Bähz, C., Weatherup, R. S., Schlögl, R., Bayer, B. C., Hofmann, S., In Situ Observations during Chemical Vapor Deposition of Hexagonal Boron Nitride on Polycrystalline Copper, *Chem. Mater.* 26, (22) **2014**, 6380-6392.
187. Kandemir, T., Kasatkin, I., Girgsdies, F., Zander, S., Kühl, S., Tovar, M., Schlögl, R., Behrens, M., Microstructural and Defect Analysis of Metal Nanoparticles in Functional Catalysts by Diffraction and Electron Microscopy: The Cu/ZnO Catalyst for Methanol Synthesis, *Top. Catal.* 57, (1-4) **2014**, 188-206.
188. Jones, T. E., Rocha, T. C. R., Knop-Gericke, A., Stampfl, C., Schlögl, R., Piccinin, S., Adsorbate induced vacancy formation on silver surfaces, *Phys. Chem. Chem. Phys.* 16, **2014**, 9002-9014.
189. Indra, A., Greiner, M., Knop-Gericke, A., Schlögl, R., Avnir, D., Driess, M., High Catalytic Synergism between the Components of the Rhenium Complex@Silver Hybrid Material in Alkene Epoxidations, *ChemCatChem* 6, (7) **2014**, 1935-1939.
190. Hetaba, W., Löffler, S., Willinger, M.-G., Schuster, M. E., Schlögl, R., Schattschneider, P., Site-specific ionisation edge fine-structure of Rutile in the electron microscope, *Micron* 63, **2014**, 15-19.
191. Heine, C., Hävecker, M., Stotz, E., Rosowski, F., Knop-Gericke, A., Trunschke, A., Eichelbaum, M., Schlögl, R., Ambient-Pressure Soft X-ray Absorption Spectroscopy of a Catalyst Surface in Action: Closing the Pressure Gap in the Selective n-Butane Oxidation over Vanadyl Pyrophosphate, *J. Phys. Chem. C* 118, (35) **2014**, 20405-20412.
192. Fichtl, M. B., Schumann, J., Kasatkin, I., Jacobsen, N., Behrens, M., Schlögl, R., Muhler, M., Hinrichsen, O., Counting of Oxygen Defects versus Metal Surface Sites in Methanol

- Synthesis Catalysts by Different Probe Molecules, *Angew. Chem. Int. Ed.* **53**, (27) **2014**, 7043-7047.
193. Cheng, L., Yin, C., Mehmood, F., Liu, B., Greeley, J., Lee, S., Lee, B., Seifert, S., Winans, R. E., Teschner, D., Schlögl, R., Vajda, S., Curtiss, L. A., Reaction Mechanism for Direct Propylene Epoxidation by Alumina-Supported Silver Aggregates: The Role of the Particle/Support Interface, *ACS Catal.* **4**, **2014**, 32-39.
194. Carrero, C., Kauer, M., Dinse, A., Wolfram, T., Hamilton, N., Trunschke, A., Schlögl, R., Schomäcker, R., High performance $(\text{VO}_x)_n\text{-(TiO}_x)_m\text{/SBA-15}$ catalysts for the oxidative dehydrogenation of propane, *Catal. Sci. Technol.* **4**, **2014**, 786-794.
195. Busser, W., Mei, B., Pougin, A., Strunk, J., Gutkowski, R., Schuhmann, W., Willinger, M.-G., Schlögl, R., Muhler, M., Photodeposition of Copper and Chromia on Gallium Oxide: The Role of Co-Catalysts in Photocatalytic Water Splitting, *ChemSusChem* **7**, (4) **2014**, 1030-1034.
196. Blume, R., Kidambi, P. R., Bayer, B. C., Weatherup, R. S., Wang, Z.-J., Weinberg, G., Willinger, M.-G., Greiner, M., Hofmann, S., Knop-Gericke, A., Schlögl, R., The influence of intercalated oxygen on the properties of graphene on polycrystalline Cu under various environmental conditions, *Phys. Chem. Chem. Phys.* **16**, **2014**, 25989-26003.
197. Arrigo, R., Schuster, M. E., Abate, S., Wrabetz, S., Amakawa, K., Teschner, D., Freni, M., Centi, G., Perathoner, S., Hävecker, M., Schlögl, R., Dynamics of Palladium on Nanocarbon in the Direct Synthesis of H_2O_2 , *ChemSusChem* **7**, **2014**, 1.
198. Amakawa, K., Kolen'ko, Y. V., Schlögl, R., Trunschke, A., The M1 Phase of MoVTaNbO as a Catalyst for Olefin Metathesis and Isomerization, *ChemCatChem* **6**, **2014**, 3338-3341.

2013

199. Zheng, W., Cotter, T. P., Kaghazchi, P., Jacob, T., Frank, B., Schlichte, K., Zhang, W.,

- Su, D. S., Schüth, F., Schlögl, R., Experimental and Theoretical Investigation of Molybdenum Carbide and Nitride as Catalysts for Ammonia Decomposition, *J. Am. Chem. Soc.* 135, (9) **2013**, 3458-3464.
200. Zemlyanov, D., Klötzer, B., Gabasch, H., Smeltz, A., Ribeiro, F. H., Zafeiratos, S., Teschner, D., Schnörch, P., Vass, E., Hävecker, M., Knop-Gericke, A., Schlögl, R., Kinetics of Palladium Oxidation in the mbar Pressure Range: Ambient Pressure XPS Study, *Top. Catal.* 56, (11) **2013**, 885-895.
201. Zander, S., Kunkes, E. L., Schuster, M. E., Schumann, J., Weinberg, G., Teschner, D., Jacobsen, N., Schlögl, R., Behrens, M., The Role of the Oxide Component in the Development of Copper Composite Catalysts for Methanol Synthesis, *Angew. Chem. Int. Ed.* 52, (25) **2013**, 6536-6540.
202. Wang, D., Villa, A., Su, D. S., Schlögl, R., Carbon-Supported Gold Nanocatalysts: Shape Effect in the Selective Glycerol Oxidation, *ChemCatChem* 5, (9) **2013**, 2717-2723.
203. Vogel, D., Spiel, C., Schmid, M., Stöger-Pollach, M., Schlögl, R., Suchorski, Y., Rupprechter, G., The Role of Defects in the Local Reaction Kinetics of CO Oxidation on Low-Index Pd Surfaces, *J. Phys. Chem. C* 117, (23) **2013**, 12054-12060.
204. Vogel, D., Budinska, Z., Spiel, C., Schlögl, R., Suchorski, Y., Rupprechter, G., Silicon Oxide Surface Segregation in CO Oxidation on Pd: An in situ PEEM, MS and XPS Study, *Catal. Lett.* 143, **2013**, 235-240.
205. Shao, L., Zhang, B., Zhang, W., Hong, S. Y., Schlögl, R., Su, D. S., The Role of Palladium Dynamics in the Surface Catalysis of Coupling Reactions, *Angew. Chem. Int. Ed.* 52, (7) **2013**, 2114-2117.
206. Schlögl, R., Niemantsverdriet, J. W., Surface Inorganic Chemistry and Metal-Based Catalysis in: Comprehensive Inorganic Chemistry II - from elements to applications (Eds.: Reedijk, J. and Poeppelmeier, K.), Elsevier Ltd., **2013**.
207. Schlögl, R., Niemantsverdriet, J. W. Volume Editors' Introduction, (Eds.: Schlögl, R. and Niemantsverdriet, J. W.), Elsevier Inc., **2013**, pp. 37-38.
208. Schlögl, R. Chapter Two - Carbon in Catalysis, Vol. 56 Eds.: Gates, B. C. and Jentoft, F. C.), Elsevier Inc., **2013**, pp. 103-185.
209. Schwach, P., Willinger, M. G., Trunschke, A., Schlögl, R., Methane Coupling over Magnesium Oxide: How Doping Can Work, *Angew. Chem. Int. Ed.* 52, (43) **2013**,

11381-11384.

210. Papaefthimiou, V., Shishkin, M., Niakolas, D. K., Athanasiou, M., Law, Y. T., Arrigo, R., Teschner, D., Hävecker, M., Knop-Gericke, A., Schlögl, R., Ziegler, T., Neophytides, S. G., Zafeiratos, S., Solid Oxide Fuel Cells: On the Active Surface State of Nickel-Ceria Solid Oxide Fuel Cell Anodes During Methane Electrooxidation (*Adv. Energy Mater.* 6(2013), *Adv. Energy Mater.* 3, (6) **2013**, 690.
211. Papaefthimiou, V., Shishkin, M., Niakolas, D. K., Athanasiou, M., Law, Y. T., Arrigo, R., Teschner, D., Hävecker, M., Knop-Gericke, A., Schlögl, R., Ziegler, T., Neophytides, S. G., Zafeiratos, S., On the Active Surface State of Nickel-Ceria Solid Oxide Fuel Cell Anodes During Methane Electrooxidation, *Adv. Energy Mater.* 3, (6) **2013**, 762-769.
212. Manganas, D., Roemelt, M., Hävecker, M., Trunschke, A., Knop-Gericke, A., Schlögl, R., Neese, F., First principles calculations of the structure and V L-edge X-ray absorption spectra of V₂O₅ using local pair natural orbital coupled cluster theory and spin-orbit coupled configuration interaction approaches, *Phys. Chem. Chem. Phys.* 15, **2013**, 7260-7276.
213. Kreikemeyer-Lorenzo, D., Unterberger, W., Blume, R., Hävecker, M., Rocha, T. C. R., Knop-Gericke, A., Schlögl, R., Lerotholi, T. J., Duncan, D. A., Woodruff, D. P., Quantitative adsorbate structure determination under catalytic reaction conditions, *Phys. Rev. B* 87, **2013**, 125420.
214. Kozłowski, J. T., Behrens, M., Schlögl, R., Davis, R. J., Influence of the Precipitation Method on Acid-Base-Catalyzed Reactions over Mg-Zr Mixed Oxides, *ChemCatChem* 5, (7) **2013**, 1989-1997.
215. Korup, O., Goldsmith, C. F., Weinberg, G., Geske, M., Kandemir, T., Schlögl, R., Horn, R., Catalytic partial oxidation of methane on platinum investigated by spatial reactor profiles, spatially resolved spectroscopy, and microkinetic modeling, *J. Catal.* 297, **2013**, 1-16.
216. Khavryuchenko, O., Frank, B., Trunschke, A., Hermann, K., Schlögl, R., Quantum-Chemical Investigation of Hydrocarbon Oxidative Dehydrogenation over Spin-Active Carbon Catalyst Clusters, *J. Phys. Chem. C* 117, (12) **2013**, 6225-6234.
217. Kandemir, T., Schuster, M. E., Senyshyn, A., Behrens, M., Schlögl, R., The Haber-Bosch Process Revisited: On the Real Structure and Stability of “Ammonia Iron” under

- Working Conditions, *Angew. Chem. Int. Ed.* **52**, (48) **2013**, 12723-12726.
218. Kandemir, T., Schuster, M. E., Senyshyn, A., Behrens, M., Schlögl, R., _Über die Realstruktur von „Ammoniak Eisen“ und ihre Stabilität während des Haber-Bosch-Verfahrens, *Angew. Chem.* **125**, (48) **2013**, 12955-12959.
219. Kandemir, T., Girgsdies, F., Hansen, T. C., Liss, K.-D., Kasatkin, I., Kunkes, E. L., Wowsnick, G., Jacobsen, N., Schlögl, R., Behrens, M., In Situ Study of Catalytic Processes: Neutron Diffraction of a Methanol Synthesis Catalyst at Industrially Relevant Pressure, *Angew. Chem. Int. Ed.* **52**, (19) **2013**, 5166-5170.
220. Kaichev, V. V., Gladky, A. Y., Prosvirin, I. P., Saraev, A. A., Hävecker, M., Knop-Gericke, A., Schlögl, R., Bukhtiyarov, V. I., In situ XPS study of self-sustained oscillations in catalytic oxidation of propane over nickel, *Surf. Sci.* **609**, **2013**, 113-118.
221. Heine, C., Hävecker, M., Sanchez-Sanchez, M., Trunschke, A., Schlögl, R., Eichelbaum, M., Work Function, Band Bending and Microwave Conductivity Studies on the Selective Alkane Oxidation Catalyst MoVTaNb Oxide (Orthorhombic M1 Phase) Under Operation Conditions, *J. Phys. Chem. C* **117**, (51) **2013**, 26988-26997.
222. Heine, C., Girgsdies, F., Trunschke, A., Schlögl, R., Eichelbaum, M., The model oxidation catalyst α -V₂O₅: insights from contactless in situ microwave permittivity and conductivity measurements, *Appl. Phys. A* **112**, (2) **2013**, 289-296
223. Frank, B., Schuster, M. E., Schlögl, R., Su, D. S., Emission of Highly Activated Soot Particulate—The Other Side of the Coin with Modern Diesel Engines, *Angew. Chem. Int. Ed.* **52**, (10) **2013**, 2673-2677
224. Frank, B., Schlögl, R., Su, D. S., Diesel Soot Toxication, *Energy Environ. Sci.* **47**, (7) **2013**, 3026-3027.
225. Frank, B., Friedel, K., Girgsdies, F., Huang, X., Schlögl, R., Trunschke, A., CNT-Supported MoxC Catalysts: Effect of Loading and Carburization Parameters, *ChemCatChem* **5**, (8) **2013**, 2296-2305.
226. Farra, R., Girgsdies, F., Frandsen, W., Hshagen, M., Schlögl, R., Teschner, D., Synthesis and Catalytic Performance of CeOCl in Deacon Reaction, *Catal. Lett.* **143**, (10) **2013**, 1012-1017.
227. Farra, R., Eichelbaum, M., Schlögl, R., Szentmiklósi, L., Schmidt, T., Amrute, A. P., Mondelli, C., Pérez-Ramírez, J., Teschner, D., Do observations on surface coverage-

- reactivity correlations always describe the true catalytic process? A case study on ceria, *J. Catal.* **297**, **2013**, 119-127.
228. Eichelbaum, M., Glaum, R., Hävecker, M., Wittich, K., Heine, C., Schwarz, H., Dobner, C.-K., Welker-Niewoudt, C., Trunschke, A., Schlögl, R., Towards Physical Descriptors of Active and Selective Catalysts for the Oxidation of n-Butane to Maleic Anhydride, *ChemCatChem* **5**, (8) **2013**, 2318-2329.
229. Dinse, A., Wolfram, T., Carrero, C., Schlögl, R., Schomäcker, R., Dinse, K.-P., Exploring the Structure of Paramagnetic Centers in SBA-15 Supported Vanadia Catalysts with Pulsed One- and Two-Dimensional Electron Paramagnetic Resonance (EPR) and Electron Nuclear Double Resonance (ENDOR), *J. Phys. Chem. C* **117**, (33) **2013**, 16921-16932.
230. Cotter, T., Frank, B., Zhang, W., Schlögl, R., Trunschke, A., The Impact of V Doping on the Carbothermal Synthesis of Mesoporous Mo Carbides, *Chem. Mater.* **25**, (15) **2013**, 3124-3136.
231. Behrens, M., Zander, S., Kurr, P., Jacobsen, N., Senker, J., Koch, G., Ressler, T., Fischer, R. W., Schlögl, R., Performance Improvement of Nanocatalysts by Promoter-Induced Defects in the Support Material: Methanol Synthesis over Cu/ZnO:Al, *J. Am. Chem. Soc.* **135**, (16) **2013**, 6061-6068.
232. Behrens, M., Lolli, G., Muratova, N., Kasatkin, I., Hävecker, M., Naumann d'Alnoncourt, R., Storcheva, O., Köhler, K., Muhler, M., Schlögl, R., The effect of Al-doping on ZnO nanoparticles applied as catalyst support, *Phys. Chem. Chem. Phys.* **15**, **2013**, 1374-1381.
233. Bayer, B., Castellarin-Cudia, C., Blume, R., Steiner III, S. A., Ducati, C., Chu, D., Goldoni, A., Knop-Gericke, A., Schlögl, R., Cepek, C., Robertson, J., Hofmann, S., Tantalum-oxide catalysed chemical vapour deposition of single- and multi-walled carbon nanotubes., *RSC Adv.* **3**, (12) **2013**, 4086-4092.
234. Barbosa, R. L., Papaefthimiou, V., Law, Y. T., Teschner, D., Hävecker, M., Knop-Gericke, A., Zapf, R., Kolb, G., Schlögl, R., Zafeiratos, S., Methanol Steam Reforming over Indium-Promoted Pt/Al₂O₃ Catalyst: Nature of the Active Surface, *J. Phys. Chem. C* **117**, (12) **2013**, 6143-6150.
235. Artyushkova, K., Kiefer, B., Halevi, B., Knop-Gericke, A., Schlögl, R., Atanassov, P., Density functional theory calculations of XPS binding energy shift for nitrogen-

- containing graphene-like structures, *Chem. Commun.* **49**, **2013**, 2539-2641.
236. Arrigo, R., Hävecker, M., Schuster, M. E., Ranjan, C., Stotz, E., Knop-Gericke, A., Schlögl, R., In Situ Study of the Gas-Phase Electrolysis of Water on Platinum by NAP-XPS, *Angew. Chem. Int. Ed.* **52**, (44) **2013**, 11660-11664.
237. Arrigo, R., Hävecker, M., Schuster, M. E., Ranjan, C., Stotz, E., Knop-Gericke, A., Schlögl, R., In-situ-Studie der Gasphasen-Wasserelektrolyse auf Platin mittels NAP-XPS, *Angew. Chem.* **125**, (44) **2013**, 11874-11879.
238. Amakawa, K., Sun, L., Guo, C., Hävecker, M., Kube, P., Wachs, I. E., Lwin, S., Frenkel, A. I., Patlolla, A., Hermann, K., Schlögl, R., Trunschke, A., How Strain Affects the Reactivity of Surface Metal Oxide Catalysts, *Angew. Chem. Int. Ed.* **52**, (51) **2013**, 13553-13557.
239. Amakawa, K., Sun, L., Guo, C., Hävecker, M., Kube, P., Wachs, I. E., Lwin, S., Frenkel, A. I., Patlolla, A., Hermann, K., Schlögl, R., Trunschke, A., Der Einfluss von strukturellen Spannungen auf die Reaktivität von getragenen Metalloxidkatalysatoren, *Angew. Chem.* **125**, (51) **2013**, 13796-13800.
240. Amakawa, K., Kolen'ko, Y. V., Villa, A., Schuster, M. E., Csepei, L.-I., Weinberg, G., Wrabetz, S., Naumann d'Alnoncourt, R., Girgsdies, F., Prati, L., Schlögl, R., Trunschke, A., Multifunctionality of Crystalline MoV(TeNb) M1 Oxide Catalysts in Selective Oxidation of Propane and Benzyl Alcohol, *ACS Catal.* **3**, **2013**, 1103-1113.

2012

241. *Chemical Energy Storage*. edited by Robert Schlögl: DeGruyter, **2012**
242. Zhao, X.-C., Zhang, Q., Chen, C.-M., Zhang, B., Reiche, S., Wang, A., Zhang, T., Schlögl, R., Su, D. S., Aromatic sulfide, sulfoxide, and sulfone mediated mesoporous carbon monolith for use in supercapacitor, *Nano Energy* **1**, (4) **2012**, 624-630.
243. Zhang, C., Yan, F., Bayer, B. C., Blume, R., van der Veen, M. H., Xie, R., Zhong, G., Chen, B., Knop-Gericke, A., Schlögl, R., Capraro, B. D., Hofmann, S., Robertson, J., Complementary metal-oxide-semiconductor-compatible and self-aligned catalyst

- formation for carbon nanotube synthesis and interconnect fabrication, *J. Appl. Phys.* **111**, (6) **2012**, 6.
244. Weatherup, R., Bayer, B. C., Blume, R., Baecht, C., Kidambi, P. R., Fouquet, M., Wirth, C. T., Schlögl, R., Hofmann, S., On the Mechanisms of Ni-Catalysed Graphene Chemical Vapour Deposition, *ChemPhysChem* **13**, (10) **2012**, 2544-2549.
245. Wang, D., Villa, A., Su, D. S., Schlögl, R., Carbon-Supported Gold Nanocatalysts: Shape Effect in the Selective Glycerol Oxidation, *ChemCatChem* online, **2012**.
246. Vogel, D., Spiel, C., Suchorski, Y., Trincherro, A., Schlögl, R., Grönbeck, H., Rupprechter, G., Local Catalytic Ignition during CO Oxidation on Low-Index Pt and Pd Surfaces: A Combined PEEM, MS, and DFT Study, *Angew. Chem. Int. Ed.* **51**, (40) **2012**, 10041-10044.
247. Teschner, D., Novell-Leruth, G., Farra, R., Knop-Gericke, A., Schlögl, R., Szentmiklósi, L., Hevia, M. G., Soerijanto, H., Schomäcker, R., Pérez-Ramírez, J., López, N., In situ surface coverage analysis of RuO₂-catalysed HCl oxidation reveals the entropic origin of compensation in heterogeneous catalysis, *Nature Chemistry* **4**, **2012**, 739-745.
248. Teschner, D., Farra, R., Yao, L., Schlögl, R., Soerijanto, H., Schomaeker, R., Schmidt, T., Szentmiklósi, L., Amrute, A., Mondelli, C., Pérez-Ramírez, J., Novell-Leruth, G., López, N., An integrated approach to Deacon chemistry on RuO₂-based catalysts, *J. Catal.* **285**, (1) **2012**, 273-284.
249. Shao, L., Zhang, B. S., Zhang, W., Teschner, D., Girgsdies, F., Schlögl, R., Su, D. S., Improved Selectivity by Stabilizing and Exposing Active Phases on Supported Pd Nanoparticles in Acetylene-Selective Hydrogenation, *Chem. Eur. J.* **18**, (47) **2012**, 14962-14966.
250. Schwarz, H., Schlögl, R., Horn, R., Radical Detection in Harsh Environments by Means of Laser-Induced Fluorescence using a Single Bidirectional Optical Fiber, *Appl. Phys. B* **109**, (1) **2012**, 19-26.
251. Schüth, F., Palkovits, R., Schlögl, R., Su, D. S., Ammonia as a possible element in an energy infrastructure: catalysts for ammonia decomposition, *Energy Environ. Sci.* **5**, **2012**, 6278-6289.
252. Schlögl, R. The Solar Refinery, Vol. (Ed. Schlögl, R.), DeGruyter, **2012**.
253. Schlögl, R., Die Energiewende: eine Herausforderung für die Chemie, *Nachrichten aus*

der Chemie 60, (Juni) **2012**, 621.

254. Sanchez Sanchez, M., Girgsdies, F., Jastak, M., Kube, P., Schlögl, R., Trunschke, A., Aiding the Self-Assembly of Supramolecular Polyoxometalates under Hydrothermal Conditions To Give Precursors of Complex Functional Oxides, *Angew. Chem. Int. Ed.* 51, (29) **2012**, 7194-7197.
255. Rosenthal, D., Widmer, R., Wagner, R., Gille, P., Armbrüster, M., Grin, Y., Schlögl, R., Gröning, O., Surface Investigation of Intermetallic PdGa(Γ Γ $\bar{\Gamma}$), *Langmuir* 28, **2012**, 6848-6856.
256. Rocha, T. C. R., Oesterreich, A., Demidov, D. V., Hävecker, M., Zafeirotos, S., Weinberg, G., Bukhtiyarov, V. I., Knop-Gericke, A., Schlögl, R., The silver–oxygen system in catalysis: new insights by near ambient pressure X-ray photoelectron spectroscopy, *Phys. Chem. Chem. Phys.* 14, (13) **2012**, 4554-4564.
257. Rocha, T. C. R., Knop-Gericke, A., Schlögl, R., Comment on “Strongly-Bound Oxygen Species on Silver Surfaces: A Molybdenum Oxide Contamination?”, *J. Phys. Chem. C* 116, (20) **2012**, 11408-11409.
258. Rameshan, C., Stadlmayr, W., Penner, S., Lorenz, H., Mayr, L., Hävecker, M., Blume, R., Rocha, T., Teschner, D., Knop-Gericke, A., Schlögl, R., Zemlyanov, D., Memmel, N., Klötzer, B., In situ XPS study of methanol reforming on PdGa near-surface intermetallic phases, *J. Catal.* 290, **2012**, 126-137.
259. Rameshan, C., Stadlmayr, S., Penner, S., Lorenz, H., Memmel, N., Hävecker, M., Blume, R., Teschner, D., Rocha, T., Zemlyanov, D., Knop-Gericke, A., Schlögl, R., Klötzer, B., Steigerung der Wasserstoffproduktion in der Methanol-Dampfreformierung auf Kupfer durch Zink-unterstützte Wasseraktivierung, *Angew. Chem.* 124, (12) **2012**, 3057-3061.
260. Rameshan, C., Stadlmayr, S., Penner, S., Lorenz, H., Memmel, N., Hävecker, M., Blume, R., Teschner, D., Rocha, T., Zemlyanov, D., Knop-Gericke, A., Schlögl, R., Klötzer, B., Hydrogen Production by Methanol Steam Reforming on Copper Boosted by Zinc-Assisted Water Activation, *Angew. Chem. Int. Ed.* 51, (12) **2012**, 3002-3006.
261. Rameshan, C., Lorenz, H., Mayr, L., Penner, S., Zemlyanov, D., Arrigo, R., Hävecker, M., Knop-Gericke, A., Schlögl, R., Klötzer, B., CO₂-selective methanol steam reforming on In-doped Pd studied by in situ X-ray photoelectron spectroscopy, *J. Catal.* 295, **2012**, 186-194.

262. Papaefthimiou, V., Dintzer, T., Lebedeva, M., Teschner, D., Hävecker, M., Knop-Gericke, A., Schlögl, R., Pierron-Bohnes, V., Savinova, E., Zafeiratos, S., Probing Metal-Support Interaction in Reactive Environments: An in Situ Study of PtCo Bimetallic Nanoparticles Supported on TiO₂, *J. Phys. Chem. C* **116**, (27) **2012**, 14342-14349.
263. Naumann d'Alnoncourt, R., Kolen'ko, Y. V., Schlögl, R., Trunschke, A., A new way of probing reaction networks: analyzing multidimensional parameter space, *Combinatorial Chemistry & High Throughput Screening* **15**, (2) **2012**, 161-169.
264. Müller, J.-O., Frank, B., Jentoft, R. E., Schlögl, R., Su, D. S., The oxidation of soot particulate in the presence of NO₂, *Catal. Today* **191**, (1) **2012**, 106-111.
265. Mota, A., Alvarez-Galván, M. C., Navarro, R. M., Al-Zahrani, S. M., Goguet, A., Daly, H., Zhang, W., Trunschke, A., Schlögl, R., Fierro, J. L. G., Insights on the role of Ru substitution in the properties of LaCoO₃-based oxides as catalysts precursors for the oxidative reforming of diesel fuel, *Appl. Catal. B: Environmental* **113-114**, **2012**, 271-280.
266. Mette, K., Bergmann, A., Tessonier, J.-P., Hävecker, M., Yao, L., Ressler, T., Schlögl, R., Strasser, P., Behrens, M., Nanostructured Manganese Oxide Supported on Carbon Nanotubes for Electrocatalytic Water Splitting, *ChemCatChem* **4**, (6) **2012**, 851-862.
267. Marichy, C., Tessonier, J.-P., Ferro, M. C., Lee, K.-H., Schlögl, R., Pinna, N., Willinger, M.-G., Labeling and monitoring the distribution of anchoring sites on functionalized CNTs by atomic layer deposition, *J. Mater. Chem.* **22**, (15) **2012**, 7373-7330.
268. Li, X.-H., Chen, J.-S., Wang, X., Schuster, M. E., Schlögl, R., Antonietti, M., A Green Chemistry of Graphene: Photochemical Reduction towards Monolayer Graphene Sheets and the Role of Water Adlayers, *ChemSusChem* **4**, (5) **2012**, 642-646.
269. Li, L., Zhang, B. S., Kunkes, E. L., Föttinger, K., Armbrüster, M., Su, D. S., Wei, W., Schlögl, R., Behrens, M., Ga-Pd/Ga₂O₃ Catalysts: The Role of Gallia Polymorphs, Intermetallic Compounds, and Pretreatment Conditions on Selectivity and Stability in Different Reactions, *ChemCatChem* **4**, **2012**, 1764-1775.
270. Leary, R., Saghi, Z., Armbrüster, M., Wowsnick, G., Schlögl, R., Thomas, J., Midgley, P., Quantitative High-Angle Annular Dark-Field Scanning Transmission Electron Microscope (HAADF-STEM) Tomography and High Resolution Electron Microscopy of

- Unsupported Intermetallic GaPd₂ Catalysts, *J. Phys. Chem. C* **116**, (24) **2012**, 13343-13352.
271. Leary, R., Saghi, Z., Armbrüster, M., Schlögl, R., Thomas, J. M., Midgley, P., Quantitative HAADF-STEM tomography of unsupported intermetallic Ga-Pd catalysts, *J. Phys.: Conf. Ser.* **371**, (1) **2012**.
272. Korup, O., Schlögl, R., Horn, R., Carbon formation in catalytic partial oxidation of methane on platinum: Model studies on a polycrystalline Pt foil *Catal. Today* **181**, (1) **2012**, 177-183.
273. Kolen'ko, Y. V., Amakawa, K., Naumann d'Alnoncourt, R., Girgsdies, F., Weinberg, G., Schlögl, R., Trunschke, A., Unusual Phase Evolution in MoVTeNb Oxide Catalysts Prepared by a Novel Acrylamide-Gelation Route, *ChemCatChem* **4**, (4) **2012**, 495-503.
274. Kandemir, T., Wallacher, D., Hansen, T., Liss, K. D., Naumann d'Alnoncourt, R., Schlögl, R., Behrens, M., In situ neutron diffraction under high pressure—Providing an insight into working catalysts, *Nuclear Instruments and Methods in Physics Research A* **673**, **2012**, 51-55.
275. Hävecker, M., Wrabetz, S., Kröhnert, J., Naumann d'Alnoncourt, R., Kolen'ko, Y. V., Girgsdies, F., Schlögl, R., Trunschke, A., Surface chemistry of phase-pure M1 MoVTeNb oxide during operation in selective oxidation of propane to acrylic acid *J. Catal.* **285**, (1) **2012**, 48-60.
276. Hamilton, N., Wolfram, T., Tzolova-Müller, G., Hävecker, M., Kröhnert, J., Carrero, C., Schomäcker, R., Trunschke, A., Schlögl, R., Topology of silica supported vanadium–titanium oxide catalysts for oxidative dehydrogenation of propane, *Catal. Sci. Technol.* **2**, (7) **2012**, 1346-1359.
277. Halevi, B., Peterson, E. J., Roy, A., DeLariva, A., Jeroro, E., Gao, F., Wang, Y., Vohs, J. M., Kiefer, B., Kunkes, E., Hävecker, M., Behrens, M., Schlögl, R., Datye, A. K., Catalytic reactivity of face centered cubic PdZn_α for the steam reforming of methanol, *J. Catal.* **291**, **2012**, 44-54.
278. Haghöfer, A., Föttinger, K., Girgsdies, F., Teschner, D., Knop-Gericke, A., Schlögl, R., Rupprechter, G., In Situ Study of the Formation and Stability of Supported Pd₂Ga Methanol Steam Reforming Catalysts, *J. Catal.* **286**, **2012**, 13-21.
279. Guo, C., Hermann, K., Hävecker, M., Trunschke, A., Schlögl, R., Silica-Supported

- Titania Species: Structural Analysis from Quantum Theory and X-ray Spectroscopy, *J. Phys. Chem.* 116, (42) **2012**, 22449-22457.
280. Glaum, R., Welker-Niewoudt, C., Dobner, C.-K., Eichelbaum, M., Gruchow, F., Heine, C., Karpov, A., Kniep, R., Rosowski, F., Schlögl, R., Schunk, S. A., Titlbach, S., Trunschke, A., Resource-Efficient Alkane Selective Oxidation on New Crystalline Solids: Searching for Novel Catalyst Materials, *Chem. Ing. Tech.* 84, (10) **2012**.
281. Girgsdies, F., Schlögl, R., Trunschke, A., In-situ X-ray diffraction study of phase crystallization from an amorphous MoVTenb oxide catalyst precursor, *Catal. Commun.* 18, **2012**, 60-62.
282. Fouquet, M., Bayer, B. C., Esconjauregui, S., Blume, R., Warner, J. H., Hofmann, S., Schlögl, R., Thomsen, C., Robertson, J., Highly chiral-selective growth of single-walled carbon nanotubes with a simple monometallic Co catalyst, *Phys. Rev. B* 85, **2012**, 235411.
283. Fellingner, T.-P., Su, D. S., Engenhorst, M., Gautam, D., Schlögl, R., Antonietti, M., Thermolytic synthesis of graphitic boron carbon nitride from an ionic liquid precursor: mechanism, structure analysis and electronic properties, *J. Mater. Chem.* 22, **2012**, 23996-24005.
284. Eichelbaum, M., Stößer, R., Karpov, A., Dobner, C.-K., Trunschke, A., Schlögl, R., The microwave cavity perturbation technique for contact-free and in situ electrical conductivity measurements in catalysis and materials science, *Phys. Chem. Chem. Phys.* 14, (3) **2012**, 1402-1412.
285. Eichelbaum, M., Hävecker, M., Heine, C., Schwarz, H., Karpov, D., Dobner, C.-K., Rosowski, F., Trunschke, A., Schlögl, R., The importance of charge carrier dynamics in high performance oxidation catalysis: an in situ microwave cavity perturbation study of vanadyl pyrophosphate, *J. Am. Chem. Soc.* submitted, **2012**.
286. Eichelbaum, M., Hävecker, M., Heine, C., Karpov, A., Dobner, C.-K., Rosowski, F., Trunschke, A., Schlögl, R., The Intimate Relationship between Bulk Electronic Conductivity and Selectivity in the Catalytic Oxidation of n-Butane, *Angew. Chem. Int. Ed.* 51, (25) **2012**, 6246-6250.
287. Eichelbaum, M., Hävecker, M., Heine, C., Karpov, A., Dobner, C.-K., Rosowski, F., Trunschke, A., Schlögl, R., Über den Zusammenhang zwischen elektronischer

- Volumenleitfähigkeit und Selektivität in der katalytischen Oxidation von n-Butan, *Angew. Chem.* 124, (25) **2012**, 6350-6354.
288. Dlubak, B., Martin, M.-B., Weatherup, R. S., Yang, H., Deranlot, C., Blume, R., Schlögl, R., Fert, A., Anane, A., Hofmann, S., Seneor, P., Robertson, J., Graphene-Passivated Nickel as an Oxidation-Resistant Electrode for Spintronics, *ACS Nano* 6, (12) **2012**, 10930-10934.
289. Dinse, A., Carrero, C., Ozarowski, A., Schomäcker, R., Schlögl, R., Dinse, K.-P., Characterization and Quantification of Reduced Sites on Supported Vanadium Oxide Catalysts by Using High-Frequency Electron Paramagnetic Resonance, *ChemCatChem* 4, (5) **2012**, 641-652.
290. Delgado, J. J., Chen, X., Frank, B., Su, D. S., Schlögl, R., Activation Processes of Highly Ordered Carbon Nanofibers in the Oxidative Dehydrogenation of Ethylbenzene, *Catal. Today* 186, (1) **2012**, 93-98.
291. Chen, C.-M., Zhang, Q., Zhao, X.-C., Zhang, B., Kong, Q.-Q., Yang, M.-G., Yang, Q.-H., Wang, M.-Z., Yang, Y.-G., Schlögl, R., Su, D. S., Hierarchically aminated graphene honeycombs for electrochemical capacitive energy storage, *J. Mater. Chem.* 22, (28) **2012**, 14076-14084.
292. Behrens, M., Studt, F., Kasatkin, I., Kühl, S., Hävecker, M., Abild-Pedersen, F., Zander, S., Girgsdies, F., Kurr, P., Kniep, B.-L., Tovar, M., Fischer, R. W., Nørskov, J. K., Schlögl, R., The Active Site of Methanol Synthesis over Cu/ZnO/Al₂O₃ Industrial Catalysts, *Science* 336, **2012**, 893-897.
293. Behrens, M., Schlögl, R. X-Ray Diffraction and Small Angle X-Ray Scattering, Vol. 2 Eds.: Védrine, J. C. and Che, M.), Wiley-VCH Verlag GmbH & Co. KGaA, **2012**, pp. 611-654.
294. Beck, B., Harth, M., Hamilton, N. G., Carrero, C., Uhlrich, J. J., Trunschke, A., Shaikhutdinov, S., Schubert, H., Freund, H.-J., Schlögl, R., Sauer, J., Schomäcker, R., Partial oxidation of ethanol on vanadia catalysts on supporting oxides with different redox properties compared to propane, *J. Catal.* 296, **2012**, 120-131.
295. Bayer, B., Fourquet, M., Blume, R., Wirth, C. T., Weatherup, R., Ogata, K., Knop-Gericke, A., Schlögl, R., Hofmann, S., Robertson, J., Co-Catalytic Solid-State Reduction Applied to Carbon Nanotube Growth, *J. Phys. Chem. C* 116, (1) **2012**, 1107-1113.

296. Bauer, M., Schoch, R., Shao, L., Zhang, B., Knop-Gericke, A., Willinger, M., Schlögl, R., Teschner, D., Structure–Activity Studies on Highly Active Palladium Hydrogenation Catalysts by X-ray Absorption Spectroscopy, *J. Phys. Chem. C* **116**, (42) **2012**, 22375-22385.
297. Arrigo, R., Wrabetz, S., Schuster, M. E., Wang, D., Villa, A., Rosenthal, D., Schlögl, R., Su, D. S., Tailoring the morphology of Pd nanoparticles on CNTs by nitrogen and oxygen functionalization, *Phys. Chem. Chem. Phys.* **14**, **2012**, 10523-10532.
298. Arrigo, R., Schuster, M. E., Wrabetz, S., Girgsdies, F., Tessonnier, J.-P., Centi, G., Perathoner, S., Su, D. S., Schlögl, R., New Insights from Microcalorimetry on the FeO_x/CNT-Based Electrocatalysts Active in the Conversion of CO₂ to Fuels, *ChemSusChem* **5**, (3) **2012**, 577-586.
299. Armbrüster, M., Kovnir, K., Friedrich, M., Teschner, D., Wowsnick, G., Hahne, M., Gille, P., Szentmiklósi, L., Feuerbacher, M., Heggen, M., Girgsdies, F., Rosenthal, D., Schlögl, R., Grin, Y., Al₁₃Fe₄ as a low-cost alternative for palladium in heterogeneous hydrogenation, *Nature Materials* **11**, **2012**, 690-693.
300. Armbrüster, M., Behrens, M., Cinquini, F., Föttinger, K., Grin, Y., Haghofer, A., Klötzer, B., Knop-Gericke, A., Lorenz, H., Ota, A., Penner, S., Prinz, J., Rameshan, C., Révay, Z., Rosenthal, D., Rupprechter, G., Sautet, P., Schlögl, R., Shao, L., Szentmiklósi, L., Teschner, D., Torres, D., Wagner, R., Widmer, R., Wowsnick, G., How to Control the Selectivity of Palladium-based Catalysts in Hydrogenation Reactions: The Role of Subsurface Chemistry, *ChemCatChem* **4**, (8) **2012**, 1048-1063.
301. Amakawa, K., Wrabetz, S., Kröhnert, J., Tzolova-Müller, G., Schlögl, R., Trunschke, A., In Situ Generation of Active Sites in Olefin Metathesis, *J. Am. Chem. Soc.* **134**, (28) **2012**, 11462-11473.

2011

302. Zhang, W., Zhang, B., Wolfram, T., Shao, L., Schlögl, R., Su, D. S., Probing a Redox Behavior of TiO₂/SBA-15 Supported V_xO_y Catalyst Using an Electron Beam in a 200 kV Transmission Electron Microscope, *J. Phys. Chem. C* **115**, (42) **2011**, 20550-20554.

303. Zhang, B., Wang, D., Zhang, W., Su, D. S., Schlögl, R., Structural Dynamics of Low-Symmetry Au Nanoparticles Stimulated by Electron Irradiation, *Chemistry-A European Journal* 17, (46) **2011**, 12877-12881.
304. Zhang, B., Ni, X., Zhang, W., Shao, L., Zhang, Q., Girgsdies, F., Liang, C., Schlögl, R., Su, D. S., Structural rearrangements of Ru nanoparticles supported on carbon nanotubes under microwave irradiation, *Chem. Commun.* 47, **2011**, 10716-10718.
305. Zavyalova, U., Weinberg, G., Frandsen, W., Girgsdies, F., Risse, T., Dinse, K.-P., Schlögl, R., Horn, R., Lithium as Modifier for Morphology and Defect Structure of Porous Magnesium Oxide Materials Prepared by Gel Combustion Synthesis, *ChemCatChem* 3, (11) **2011**, 1779-1788.
306. Zavyalova, U., Holena, M., Schlögl, R., Baerns, M., Statistical Analysis of Past Catalytic Data on Oxidative Methane Coupling for New Insights into the Composition of High-Performance Catalysts, *ChemCatChem* 3, (12) **2011**, 1935-1947.
307. Zavyalova, U., Geske, M., Horn, R., Weinberg, G., Frandsen, W., Schuster, M., Schlögl, R., Morphology and microstructure of Li/MgO catalysts for the oxidative coupling of methane, *ChemCatChem* 3, (6) **2011**, 949-959.
308. Yoong Yow Loo, A., Pei Lay, Y., Kutty, M. G., Timpe, O., Behrens, M., Abd Hamid, S. B., Schlögl, R., Sorption profile of Hg(II) onto Mixed Phase of Copper Sulphide and Copper Sulphate, *Adv. Mater. Res.* 356-360, **2011**, 537-546.
309. Weatherup, R., Bayer, B. C., Blume, R., Ducati, C., Bähz, C., Schlögl, R., Hofmann, S., In-situ characterization of alloy catalysts for low temperature graphene growth, *Nano Letters* 11, (10) **2011**, 4154-4160.
310. Vogel, D., Spiel, C., Suchorski, Y., Urich, A., Schlögl, R., Rupprechter, G., Mapping the local reaction kinetics by PEEM: CO oxidation on individual (100)-type grains of Pt foil, *Surf. Sci.* 605, (23-24) **2011**, 1999-2005.
311. Spiel, C., Vogel, D., Suchorski, Y., Drachsel, W., Schlögl, R., Rupprechter, G., Catalytic CO Oxidation on Individual (110) Domains of a Polycrystalline Pt Foil: Local Reaction Kinetics by PEEM *Catal. Lett.* 141, (5) **2011**, 625-632.
312. Shao, L., Zhang, W., Armbrüster, M., Teschner, D., Girgsdies, F., Zhang, B., Timpe, O., Friedrich, M., Schlögl, R., Su, D. S., Nanopartikelartige intermetallische Verbindungen auf Kohlenstoffnanoröhren: aktive und selektive Hydrierungskatalysatoren, *Angew. Chem.*

- 123, (43) **2011**, 10414-10418.
313. Shao, L., Zhang, W., Armbrüster, M., Teschner, D., Girgsdies, F., Zhang, B., Timpe, O., Friedrich, M., Schlögl, R., Su, D. S., Nanosizing Intermetallic Compounds onto Carbon Nanotubes: Active and Selective Hydrogenation Catalysts, *Angew. Chem. Int. Ed.* 50, (43) **2011**, 10231-10235.
314. Schuster, M. E., Hävecker, M., Arrigo, R., Blume, R., Knauer, M., Ivleva, N. P., Su, D. S., Niessner, R., Schlögl, R., Surface Sensitive Study To Determine the Reactivity of Soot with the Focus on the European Emission Standards IV and VI, *J. Phys. Chem. A* 115, (12) **2011**, 2568-2580.
315. Schlögl, R., Die Rolle der Chemie bei der Energiewende, *Angew. Chem.* 123, (29) **2011**, 6550-6553.
316. Schlögl, R., Chemistry's Role in Regenerative Energy, *Angew. Chem. Int. Ed.* 50, (29) **2011**, 6424-6426.
317. Schlögl, R. Die Energiewende 2011 in Deutschland: Ein Vademecum für die Diskussion?, Vol. Eds.: Renn, J., Schlögl, R. and Schutz, B. F.), epubli Verlagsgruppe Holtbrinck Berlin, **2011**.
318. Schlögl, R., Active Sites for Propane Oxidation: Some Generic Considerations, *Top. Catal.* 54, (10-12) **2011**, 627-638.
319. Sahin, S., Mäki-Arvela, P., Tessonnier, J.-P., Villa, A., Reiche, S., Wrabetz, S., Schlögl, R., Salmi, T., Murzin, D. Y., Palladium Catalysts Supported on N-functionalized Hollow Vapour-Grown Carbon Nanofibers: The Effect of the Basic Support and Catalyst Reduction Temperature *Appl. Catal. A: General* 408, (1-2) **2011**, 137-147.
320. Rosenthal, D., Girgsdies, F., Timpe, O., Weinberg, G., Schlögl, R., Oscillatory behavior in the CO-oxidation over bulk ruthenium dioxide – the effect of the CO/O₂ ratio, *Z. Phys. Chem.* 225, (1) **2011**, 57-68.
321. Rinaldi, A., Tessonnier, J.-P., Schuster, M. E., Blume, R., Girgsdies, F., Zhang, Q., Jacob, T., Abd Hamid, S. B., Su, D. S., Schlögl, R., Gelöster Kohlenstoff kontrolliert die erste Phase des Nanokohlenstoffwachstums, *Angew. Chem.* 123, (14) **2011**, 3371-3375.
322. Rinaldi, A., Tessonnier, J.-P., Schuster, M. E., Blume, R., Girgsdies, F., Zhang, Q., Jacob, T., Abd Hamid, S. B., Su, D. S., Schlögl, R., Dissolved Carbon Controls the Initial Stages of Nanocarbon Growth, *Angew. Chem. Int. Ed.* 50, (14) **2011**, 3313-3317.

323. Rinaldi, A., Frank, B., Su, D. S., Abd Hamid, S. B., Schlögl, R., Facile Removal of Amorphous Carbon from Carbon Nanotubes by Sonication, *Chem. Mater.* **23**, (4) **2011**, 926-928.
324. Rhys, L. W., Hansen, T. W., Ranke, W., Jentoft, F. C., Schlögl, R., Adsorption-Desorption Equilibrium Investigations of n-Butane on Nanocrystalline Sulfated Zirconia Thin Films, *Appl. Catal. A: General* **391**, (1-2) **2011**, 215-224.
325. Popovic, J., Demir-Cakan, R., Tornow, J., Morcrette, M., Su, D. S., Schlögl, R., Antonietti, M., Titirici, M.-M., LiFePO₄ Mesocrystals for Lithium-Ion Batteries, *Small* **7**, (8) **2011**, 1127-1135.
326. Papaefthimiou, V., Dintzer, T., Dupuis, V., Tamion, A., Tournus, F., Hillion, A., Teschner, D., Hävecker, M., Knop-Gericke, A., Schlögl, R., Zafeiratos, S., Nontrivial Redox Behavior of Nanosized Cobalt: New Insights from Ambient Pressure X-ray Photoelectron and Absorption Spectroscopies, *ACS Nano* **5**, (3) **2011**, 2182 - 2190
327. Papaefthimiou, V., Dintzer, T., Dupuis, V., Tamion, A., Teschner, D., Hävecker, M., Knop-Gericke, A., Schlögl, R., Zafeiratos, S., When a Metastable Oxide Stabilizes at the Nanoscale: Wurtzite CoO Formation upon Dealloying of PtCo Nanoparticles, *J. Phys. Chem. Lett.* **2**, (8) **2011**, 900-904.
328. Paál, Z., Wootsch, A., Teschner, D., Lázár, K., Sajó, I. E., Györffy, N., Weinberg, G., Knop-Gericke, A., Schlögl, R., Structural properties of an unsupported model Pt-Sn catalyst and its catalytic properties in cyclohexene transformation, *Appl. Catal. A: General* **391**, (1-2) **2011**, 377-385.
329. Ota, A., Armbrüster, M., Behrens, M., Rosenthal, D., Friedrich, M., Kasatkin, I., Girgsdies, F., Zhang, W., Wagner, R., Schlögl, R., Intermetallic Compound Pd₂Ga as Selective Catalyst for the Semi-Hydrogenation of Acetylene: From Model to High Performance Systems, *J. Phys. Chem. C* **115**, **2011**, 1368-1374.
330. Liu, X., Frank, B., Zhang, W., Cotter, T. P., Schlögl, R., Su, D. S., Kohlenstoff-katalysierte oxidative Dehydrierung von n-Butan: Einfluss der sp³/sp²-Phasenumwandlung auf die Produktselektivität, *Angew. Chem.* **123**, (14) **2011**, 3371-3375.
331. Liu, X., Frank, B., Zhang, W., Cotter, T. P., Schlögl, R., Su, D. S., Carbon-Catalyzed Oxidative Dehydrogenation of n-Butane: Selective Site Formation during sp³-to-sp²

- Lattice Rearrangement *Angew. Chem. Int. Ed.* **50**, (14) **2011**, 3318-3322.
332. Kolen'ko, Y. V., Zhang, W., Naumann d'Alnoncourt, R., Girgsdies, F., Hansen, T. W., Wolfram, T., Schlögl, R., Trunschke, A., Synthesis of MoVTaNb oxide catalysts with tunable particle dimensions, *ChemCatChem* **3**, **2011**, 1597-15458.
333. Klokishner, S., Reu, O., Chan-Thaw, C., Jentoft, F., Schlögl, R., Redox Properties of Manganese-Containing Zirconia Solid Solution Catalysts Analyzed by In Situ UV-vis Spectroscopy and Crystal Field Theory, *J. Phys. Chem. A* **115**, (28) **2011**, 8100-8112.
334. Klokishner, S., Behrens, M., Reu, O., Tzolova-Müller, G., Girgsdies, F., Trunschke, A., Schlögl, R., Cation Ordering in Natural and Synthetic $(\text{Cu}_{1-x}\text{Zn}_x)_2\text{CO}_3(\text{OH})_2$ and $\text{Cu}_{1-x}\text{Zn}_x)_5(\text{CO}_3)_2(\text{CO}_3)_2(\text{OH})_6$, *J. Phys. Chem. A* **115**, (35) **2011**, 9954 - 9968
335. Kaluza, S., Behrens, M., Schiefenhövel, N., Kniep, B., Fischer, R., Schlögl, R., A Novel Synthesis Route for Cu/ZnO/Al₂O₃ Catalysts used in Methanol Synthesis: Combining Continuous Consecutive Precipitation with Continuous Aging of the Precipitate, *ChemCatChem* **3**, (1) **2011**, 189-199.
336. Hess, C., Schlögl, R., Nanostructured Catalysts: Selective Oxidation The Royal Chemical Society, Cambridge, UK, **2011**, p. 452.
337. Hess, C., Schlögl, R. Characteristics of Selective Oxidation Reactions, Vol. 19 Eds.: Hess, C. and Schlögl, R.), The Royal Society of Chemistry, Cambridge UK, **2011**, pp. 355-397.
338. Guo, C., Hermann, K., Hävecker, M., Thielemann, J., Kube, P., Gregoriades, L., Trunschke, A., Sauer, J., Schlögl, R., Structural Analysis of Silica-Supported Molybdena Based on X-Ray Spectroscopy: Quantum Theory and Experiment, *J. Phys. Chem. C* **115**, **2011**, 15449-15458.
339. Freund, H. J., Meijer, G., Scheffler, M., Schlögl, R., Wolf, M., Die CO-Oxidation als Modellreaktion für heterogene Prozesse, *Angew. Chem.* **123**, (43) **2011**, 10242-10275.
340. Freund, H.-J., Meijer, G., Scheffler, M., Schlögl, R., Wolf, M., CO Oxidation as a Prototypical Reaction for Heterogeneous Processes, *Angew. Chem. Int. Ed.* **50**, (43) **2011**, 10064-10094.
341. Frank, B., Wrabetz, S., Khavryuchenko, O. V., Blume, R., Trunschke, A., Schlögl, R., Calorimetric Study of Propane and Propylene Adsorption on the Active Surface of Multiwalled Carbon Nanotube Catalysts *ChemPhysChem* **12**, (15) **2011**, 2709-2713.

342. Frank, B., Blume, R., Rinaldi, A., Trunschke, A., Schlögl, R., Oxygen Insertion Catalysis by sp^2 Carbon, *Angew. Chem. Int. Ed.* **50**, (43) **2011**, 10226-10230.
343. Frank, B., Blume, A., Rinaldi, A., Trunschke, A., Schlögl, R., Katalyse der Sauerstoffinsertion mittels sp^2 Kohlenstoff, *Angew. Chem.* **123**, (43) **2011**, 10408-10413.
344. Chlosta, R., Tzolova-Müller, G., Schlögl, R., Hess, C., Nature of dispersed vanadium oxide: influence of the silica support structure and synthesis methods *Catal. Sci. Technol.* **1**, **2011**, 1175-1181.
345. Bridier, B., Pérez-Ramírez, J., Knop-Gericke, A., Schlögl, R., Teschner, D., Surface state during activation and reaction of high-performing multi-metallic alkyne hydrogenation catalysts, *Chem. Sci.* **2**, **2011**, 1379 - 1383.
346. Blume, R., Hävecker, M., Zafeirotos, S., Teschner, D., Knop-Gericke, A., Schlögl, R., Gregoratti, L., Barinov, A., Kiskinova, M. Ruthenium Active Catalytic States: Oxidation States and Methanol Oxidation Reactions Vol. 19 Eds.: Hess, C. and Schlögl, R.), The Royal Society of Chemistry, Cambridge UK, **2011**, pp. 248-265.
347. Behrens, M., Schlögl, R. Energie ist Chemie – Katalyse als Schlüsseltechnik. Energie von Morgen: Eine Momentaufnahme, Vol. Eds.: Renn, J., Schlögl, R. and Schutz, B. F.), epubli Verlagsgruppe Holtbrinck Berlin, **2011**.
348. Behrens, M., Kießner, S., Girgsdies, F., Kasatkin, I., Hermerschmidt, F., Mette, K., Ruland, H., Muhler, M., Schlögl, R., Knowledge-based development of a nitrate-free synthesis route for Cu/ZnO methanol synthesis catalysts via formate precursors *Chem. Commun.* **47**, (6) **2011**, 1701-1703.
349. Behrens, M., Brennecke, D., Girgsdies, F., Kießner, S., Trunschke, A., Nasrudin, N., Zakaria, S., Idris, N. F., Abd Hamid, S. B., Kniep, B., Fischer, R., Busser, W., Muhler, M., Schlögl, R., Understanding the complexity of a catalyst synthesis: Co-precipitation of mixed Cu,Zn,Al hydroxycarbonate precursors for Cu/ZnO/Al₂O₃ catalysts investigated by titration experiments, *Appl. Catal. A: General* **392**, (1-2) **2011**, 93-102.
350. Behrendt, F., Renn, O., Schlögl, R., Schüth, F., Umbach, E., Wagner, H.-J. Ad-hoc-Stellungnahme: Energiepolitische und forschungspolitische Empfehlungen nach den Ereignissen in Fukushima, Vol. Deutsche Akademie der Naturforscher Leopoldina– Nationale Akademie der Wissenschaften, Halle(Saale), **2011**, p. 32.
351. Becker, M., Xia, W., Tessonier, J.-P., Yao, L., Schlögl, R., Muhler, M., Optimizing the

- synthesis of cobalt-based catalysts for the selective growth of multiwalled carbon nanotubes under industrially relevant conditions, *Carbon* **49**, (15) **2011**, 5253-5264.
352. Bayer, B. C., Zhang, C., Blume, R., Yan, F., Wirth, C. T., Weatherup, R. S., Lin, L., Baetz, C., Oliver, R. A., Knop-Gericke, A., Schlögl, R., Hofmann, S., Robertson, J., In-situ study of growth of carbon nanotube forests on conductive CoSi₂ support, *J. Appl. Phys.* **109**, (11) **2011**, 114314.
353. Bayer, B. C., Hofmann, S., Castellarin-Cudia, C., Blume, R., Baetz, C., Esconjauregui, S., Wirth, C. T., Oliver, R. A., Ducati, C., Knop-Gericke, A., Schlögl, R., Goldoni, A., Cepek, C., Robertson, J., Support–Catalyst–Gas Interactions during Carbon Nanotube Growth on Metallic Ta Films, *J. Phys. Chem. C* **115**, (11) **2011**, 4359-4369.
354. Arndt, S., Laugel, G., Levchenko, S., Horn, R., Baerns, M., Scheffler, M., Schögl, R., Schomäcker, R., A Critical Assessment of Li/MgO-Based Catalysts for the Oxidative Coupling of Methane, *Catalysis Reviews: Science and Engineering* **53**, (4) **2011**, 424-514.

2010

355. Zheng, W., Zhang, J., Zhu, B., Blume, R., Zhang, Y., Schlichte, K., Schlögl, R., Schüth, F., Su, D. S., Structure-Function Correlations for Ru/CNT in the Catalytic Decomposition of Ammonia, *ChemSusChem* **3**, (2) **2010**, 226-230.
356. Zhang, W., Trunschke, A., Schlögl, R., Su, D. S., Real-Space Observation of Surface Termination of a Complex Metal Oxide Catalyst, *Angew. Chem.* **122**, (35) **2010**, 6220-6225.
357. Zhang, W., Trunschke, A., Schlögl, R., Su, D. S., Real-Space Observation of Surface Termination of a Complex Metal Oxide Catalyst, *Angew. Chem. Int. Ed.* **49**, (35) **2010**, 6084-6089.
358. Zhang, J., Su, D. S., Blume, R., Schlögl, R., Wang, R., Yang, X., Gajović, A., Surface Chemistry and Catalytic Reactivity of a Nanodiamond in the Steam-Free Dehydrogenation of Ethylbenzene, *Angew. Chem.* **122**, (46) **2010**, 8822–8826.
359. Zhang, J., Su, D. S., Blume, R., Schlögl, R., Wang, R., Yang, X., Gajović, A., Surface

- Chemistry and Catalytic Reactivity of a Nanodiamond in the Steam-Free Dehydrogenation of Ethylbenzene, *Angew. Chem. Int. Ed.* **49**, (46) **2010**, 8640-8644.
360. Zafeiratos, S., Paloukis, F., Papakonstantinou, G., Teschner, D., Hävecker, M., Vass, E., Schnörch, P., Knop-Gericke, A., Schlögl, R., Moreno, B., Chinarro, E., Jurado, J. R., Neophytides, S. D., A comparative in situ XPS study of PtRuCo catalyst in methanol steam reforming and water gas shift reactions, *Catal. Today* **157**, (1-4) **2010**, 250-256.
361. Zafeiratos, S., Dintzer, T., Teschner, D., Hävecker, M., Blume, R., Knop-Gericke, A., Schlögl, R., Methanol oxidation over model cobalt catalysts: Influence of the cobalt oxidation state on the reactivity *J. Catal.* **269**, (2) **2010**, 309-317.
362. Xu, Y.-J., Liu, X., Cui, G., Zhu, B., Weinberg, G., Schlögl, R., Maier, J., A Comparative Study on the Lithium-Ion Storage Performances of Carbon Nanotubes and Tube-in-Tube Carbon Nanotubes, *ChemSusChem* **3**, (3) **2010**, 343-349.
363. Wrabetz, S., Yang, X., Tzolova-Müller, G., Schlögl, R., Jentoft, F. C., Characterization of Catalysts in Their Active State by Adsorption Microcalorimetry: Experimental Design and Application to Sulfated Zirconia *J. Catal.* **269**, (2) **2010**, 351-358.
364. Widi, R. K., Abd Hamid, S. B., Schlögl, R., Kinetic investigation of propane oxidation on diluted $\text{Mo}_1\text{-V}_{0.3}\text{-Te}_{0.23}\text{-Nb}_{0.125}\text{-Ox}$ mixed-oxide catalysts *React. Kinet. Catal. Lett.* **98**, (2) **2010**, 273-286.
365. Villa, A., Wang, D., Spontoni, P., Arrigo, R., Su, D. S., Schlögl, R., Nitrogen functionalized CNTs supported Pd and Au-Pd NPs as catalyst for alcohols oxidation, *Catal. Today* **157**, (1-4) **2010**, 89-93.
366. Villa, A., Tessonier, J.-P., Majoulet, O., Su, D. S., Schlögl, R., Transesterification of Triglycerides Using Nitrogen-Functionalized Carbon Nanotubes, *ChemSusChem* **3**, (2) **2010**, 241-245.
367. Tessonier, J.-P., Becker, M., Xia, W., Girgsdies, F., Blume, R., Yao, L., Su, D. S., Muhler, M., Schlögl, R., Spinel-Type Cobalt-Manganese-Based Mixed Oxide as Sacrificial Catalyst for the High-Yield Production of Homogeneous Carbon Nanotubes, *ChemCatChem* **2**, (12) **2010**, 1559-1561.
368. Teschner, D., Borsodi, J., Kis, Z., Szentmiklósi, L., Révay, Z., Knop-Gericke, A., Schlögl, R., Scheffler, M., Torres, D., Sautet, P., Role of Hydrogen Species in Palladium-Catalyzed Alkyne Hydrogenation, *J. Phys. Chem. C* **114**, (5) **2010**, 2293-2299.

369. Suchorski, Y., Spiel, C., Vogel, D., Drachsel, W., Schlögl, R., Rupprechter, G., Local Reaction Kinetics by Imaging: CO Oxidation on Polycrystalline Platinum, *ChemPhysChem* 11, (15) **2010**, 3231-3235.
370. Su, D. S., Zhang, J., Thomas, A., Wang, X., Paraknowitsch, J., Schlögl, R., Metal-free Heterogeneous Catalysis for a Sustainable Chemistry, *ChemSusChem* 3, (2) **2010**, 169-180.
371. Su, D. S., Schlögl, R., Nanostructured Carbon Materials for Electrochemical Energy Storage Applications *ChemSusChem* 3, (2) **2010**, 136-168.
372. Stadlmayr, W., Rameshan, C., Weilach, C., Lorenz, H., Hävecker, M., Blume, R., Rocha, T., Teschner, D., Knop-Gericke, A., Zemlyanov, D., Penner, S., Schlögl, R., Rupprechter, G., Klötzer, B., Memmel, N., Temperature-induced modifications of PdZn layers on Pd(111), *J. Phys. Chem. C* 114, (24) **2010**, 10850-10856.
373. Schlögl, R., Ohne heterogene Katalyse keine Energiespeicherung: Voraussetzung sind nanoskalige Materialien, *Nano-Energie* 3, **2010**, 9.
374. Schlögl, R., The role of chemistry in the energy challenge, *ChemSusChem* 3, (2) **2010**, 209-222.
375. Sahin, S., Mäki-Arvela, P., Tessonnier, J.-P., Villa, A., Shao, L., Su, D. S., Schlögl, R., Salmi, T., Murzin, D. Y., Effect of the carbon nanotube basicity in Pd/N-CNT catalysts on the synthesis of R-1-phenyl ethyl acetate, *Stud. Surf. Sci. Catal.* 175, **2010**, 283-287.
376. Rosenthal, D., Ruta, M., Schlögl, R., Kiwi-Minsker, L., Combined XPS and TPD study of oxygen-functionalized carbon nanofibers grown on sintered metal fibers, *Carbon* 48, (6) **2010**, 1835-1843.
377. Rinaldi, A., Zhang, J., Frank, B., Su, D. S., Abd Hamid, S. B., Schlögl, R., Oxidative Purification of Carbon Nanotubes and Its Impact on Catalytic Performance in Oxidative Dehydrogenation Reactions, *ChemSusChem* 3, (2) **2010**, 254-260.
378. Rameshan, C., Weilach, C., Stadlmayr, W., Penner, S., Lorenz, H., Hävecker, M., Blume, R., Rocha, T., Teschner, D., Knop-Gericke, A., Schlögl, R., Zemlyanov, D., Memmel, N., Rupprechter, G., Klötzer, B., Steam reforming of methanol on PdZn near-surface alloys on Pd(1 1 1) and Pd foil studied by in-situ XPS, LEIS and PM-IRAS, *J. Catal.* 276, (1) **2010**, 101-113.
379. Rameshan, C., Stadlmayr, W., Weilach, C., Penner, S., Lorenz, H., Hävecker, M., Blume,

- R., Rocha, T., Teschner, D., Knop-Gericke, A., Schlögl, R., Memmel, N., Zemlyanov, D., Rupprechter, G., Klötzer, B., Subsurface-gesteuerte CO₂-Selektivität von PdZn-Oberflächenlegierungen in der H₂-Erzeugung durch Methanoldampfreformierung, *Angew. Chem.* 122, (18) **2010**, 3292-3296.
380. Rameshan, C., Stadlmayr, W., Weilach, C., Penner, S., Lorenz, H., Hävecker, M., Blume, R., Rocha, T., Teschner, D., Knop-Gericke, A., Schlögl, R., Memmel, N., Zemlyanov, D., Rupprechter, G., Klötzer, B., Subsurface-Controlled CO₂ Selectivity of PdZn Near-Surface Alloys in H₂ Generation by Methanol Steam Reforming, *Angew. Chem. Int. Ed./Angew. Chem.* 49, (18) **2010**, 3224-3227.
381. Piccinin, S., Zafeiratos, S., Stampfl, C., Hansen, T. W., Hävecker, M., Teschner, D., Bukhtiyarov, V. I., Girgsdies, F., Knop-Gericke, A., Schlögl, R., Scheffler, M., Alloy Catalyst in a Reactive Environment: The Example of Ag-Cu Particles for Ethylene Epoxidation, *Phys. Rev. Lett.* 104, (3) **2010**, 035503-035501-035503-035504.
382. Myrach, P., Nilus, N., Levchenko, S. V., Gonchar, A., Risse, T., Dinse, K.-P., Boatner, L. A., Frandsen, W., Horn, R., Freund, H.-J., Schlögl, R., Scheffler, M., Temperature-Dependent Morphology, Magnetic and Optical Properties of Li-Doped MgO, *ChemCatChem* 2, (7) **2010**, 854-862.
383. McGregor, J., Huang, Z., Parrott, E. P. J., Zeitler, J. A., Nguyen, K. L., Rawson, J. M., Carley, A., Hansen, T. W., Tessonier, J.-P., Su, D. S., Teschner, D., Vass, E. M., Knop-Gericke, A., Schlögl, R., Gladden, L. F., Active coke: Carbonaceous materials as catalysts for alkane dehydrogenation, *J. Catal.* 269, (2) **2010**.
384. Liu, X., Hu, Y.-S., Müller, J.-O., Maier, J., Schlögl, R., Su, D. S., Composites of Molecular-Anchored Graphene and Nanotubes with Multitubular Structure: A New Type of Carbon Electrode, *ChemSusChem* 3, (2) **2010**, 261-265.
385. Lei, Y., Mehmood, F., Lee, S., Greeley, J. P., Lee, B., Seifert, S., Winans, R. E., Elam, J. W., Meyer, R. J., Redfern, P. C., Teschner, D., Schlögl, R., Pellin, M. J., Curtiss, L. C., Vajda, S., Increased Silver Activity for Direct Propylene Epoxidation via Subnanometer Size Effects, *Science* 328, **2010**, 224-228.
386. Korup, O., Geske, M., Mavlyankariev, S., Schlögl, R., Horn, R., Catalytic Partial Oxidation of Methane on Autothermally Operated Pt Catalysts: Reaction Pathways, Zoning Effects and Impact of Mass and Heat Transport, *Prepr. Pap.-Am. Chem. Soc.*,

- Div. Fuel Chem.* 55, (2) **2010**, 149-150.
387. Horn, R., Korup, O., Geske, M., Zavyalova, U., Oprea, I., Schlögl, R., Reactor for In-Situ Measurements of Spatially Resolved Kinetic Data in Heterogeneous Catalysis, *Review of Scientific Instruments* 81, **2010**, 064102.
388. Hohmeyer, J., Kondratenko, E., Bron, M., Kröhnert, J., Jentoft, F. C., Schlögl, R., Claus, P., Activation of Dihydrogen on Supported and Unsupported Silver Catalysts, *J. Catal.* 269, (1) **2010**, 5-14.
389. Halevi, B., Peterson, E. J., DeLariva, A., Jeroro, E., Lebarbriere, V. M., Wang, Y., Vohs, J. M., Kiefer, B., Kunkes, E., Hävecker, M. B., M., Schlögl, R., Datye, A. K., Aerosol-Derived Bimetallic Alloy Powders: Bridging the Gap, *J. Phys. Chem. C* 114, (40) **2010**, 17181-17190.
390. Gruene, P., Wolfram, T., Pelzer, K., Schlögl, R., Trunschke, A., Role of dispersion of vanadia on SBA-15 in the oxidative dehydrogenation of propane, *Catal. Today* 157, (1-4) **2010**, 137-142.
391. Frank, B., Rinaldi, A., Blume, R., Schlögl, R., Su, D. S., Oxidation Stability of Multiwalled Carbon Nanotubes for Catalytic Applications, *Chem. Mater.* 22, (15) **2010**, 4462-4470.
392. Frank, B., Morassutto, M., Schomäcker, R., Schlögl, R., Su, D. S., Cover Picture: Oxidative Dehydrogenation of Ethane over Multiwalled Carbon Nanotubes (ChemCatChem 6/2010), *ChemCatChem* 6, (2) **2010**, 577.
393. Frank, B., Morassutto, M., Schomäcker, R., Schlögl, R., Su, D. S., Oxidative Dehydrogenation of Ethane over Multiwalled Carbon Nanotubes, *ChemCatChem* 2, (6) **2010**, 644-648.
394. Delgado, J. J., Chen, X., Tessonier, J.-P., Schuster, M. E., Del Rio, E., Schlögl, R., Su, D. S., Influence of the microstructure of carbon nanotubes on the oxidative dehydrogenation of ethylbenzene to styrene, *Catal. Today* 150, (1-2) **2010**, 49-54.
395. Celaya Sanfíz, A., Hansen, T. W., Teschner, D., Schnörch, P., Girgsdies, F., Trunschke, A., Schlögl, R., Looi, M. H., Abd Hamid, S. B., Dynamics of the MoVTaNb Oxide M1 Phase in Propane Oxidation, *J. Phys. Chem. C* 114, (4) **2010**, 1912-1921.
396. Behrens, M., Furche, A., Kasatkin, I., Trunschke, A., Busser, W., Muhler, M., Knief, B., Fischer, R., Schlögl, R., The Potential of Microstructural Optimization in Metal/Oxide

- Catalysts: Higher Intrinsic Activity of Copper by Partial Embedding of Copper Nanoparticles, *ChemCatChem* 2, (7) **2010**, 816-818.
397. Arrigo, R., Hävecker, M., Wrabetz, S., Blume, R., Lerch, M., Knop-Gericke, A., Schlögl, R., Su, D. S., Tuning the acid/base properties of nanocarbon by functionalization via amination, *Journal of the American Chemical Society* 132, (28) **2010**, 9616-9630.
398. Armbrüster, M., Kovnir, K., Grin, Y., Schlögl, R. Complex Metallic Phases in Catalysis, Vol. XXIV Eds.: Dubois, J.-M. and Belin-Ferré, E.), Wiley-VCH, Weinheim, **2010**, pp. 395 - 397
399. Armbrüster, M., Kovnir, K., Behrens, M., Teschner, D., Grin, Y., Schlögl, R., Pd–Ga Intermetallic Compounds as Highly Selective Semihydrogenation Catalysts, *J. Am. Chem. Soc.* 132, (42) **2010**, 14745–14747.
400. Abate, S., Arrigo, R., Schuster, M. E., Perathoner, S., Centi, G., Villa, A., Su, D. S., Schlögl, R., Pd nanoparticles supported on N-doped nanocarbon for the direct synthesis of H₂O₂ from H₂ and O₂, *Catal. Today* 157, (1-4) **2010**, 280-285.

2009

401. Zhang, J., Wang, X., Su, Q., Zhi, L., Thomas, A., Feng, X., Su, D. S., Schlögl, R., Müllen, K., Metal-Free Phenanthrenequinone Cyclotrimer as an Effective Heterogeneous Catalyst, *J. Am. Chem. Soc.* 131, (32) **2009**, 11296-11297.
402. Zhang, J., Su, D. S., Schlögl, R., Commercial carbon nanotubes as heterogeneous catalysts in energy related applications, *Phys. Status Solidi B* 246, (11-12) **2009**, 2502-2506.
403. Zavyalova, U., Girgsdies, F., Korup, O., Horn, R., Schlögl, R., Microwave-Assisted Self-Propagating Combustion Synthesis for Uniform Deposition of Metal Nanoparticles on Ceramic Monoliths, *J. Phys. Chem. C* 113, (40) **2009**, 17492-17501.
404. Wang, D., Ammari, F., Touroude, R., Su, D. S., Schlögl, R., Promotion effect in Pt–ZnO catalysts for selective hydrogenation of crotonaldehyde to crotyl alcohol: A structural investigation *Catal. Today* 147, **2009**, 224-230.
405. Villa, A., Tessonier, J.-P., Majoulet, O., Su, D. S., Schlögl, R., Amino-functionalized

- carbon nanotubes as solid basic catalysts for the transesterification of triglycerides, *Chem. Commun.* **2009**, 4405-4407.
406. Tessonnier, J.-P., Villa, A., Majoulet, O., Su, D. S., Schlögl, R., Defect-Mediated Functionalization of Carbon Nanotubes as a Route to Design Single-Site Basic Heterogeneous Catalysts for Biomass Conversion, *Angew. Chem. Int. Ed.* **48**, **2009**, 6543-6546.
407. Tessonnier, J.-P., Rosenthal, D., Hansen, T. W., Hess, C., Schuster, M. E., Blume, R., Girgsdies, F., Pfänder, N., Timpe, O., Su, D. S., Schlögl, R., Analysis of the structure and chemical properties of some commercial carbon nanostructures, *Carbon* **47**, **2009**, 1779-1798.
408. Tessonnier, J.-P., Rosenthal, D., Girgsdies, F., Amadou, J., Bégin, D., Pham-Hou, C., Su, D. S., Schlögl, R., Influence of the graphitisation of hollow carbon nanofibers on their functionalisation and subsequent filling with metal nanoparticles, *Chem. Commun.* **2009**, 7158 - 7160.
409. Tessonnier, J.-P., Ersen, O., Weinberg, G., Pham-Huu, C., Su, D. S., Schlögl, R., Selective Deposition of Metal Nanoparticles Inside or Outside Multiwalled Carbon Nanotubes, *ACS Nano* **3**, (8) **2009**, 2081-2089.
410. Su, D. S., Delgado, J. J., Liu, X., Wang, D., Schlögl, R., Wang, L., Zhang, Z., Shan, Z., Xiao, F.-S., Highly Ordered Mesoporous Carbon as Catalyst for Oxidative Dehydrogenation of Ethylbenzene to Styrene, *Chem. Asian J.* **4**, **2009**, 1108-1113.
411. Steiner, S. A. I., F., B. T., Bayer, B. C., Blume, R., Worsley, M. A., MoberlyChan, W. A., Shaw, E. L., Schlögl, R., Hart, A. J., Hofmann, S., Wardle, B. L., Nanoscale Zirconia as a Nonmetallic Catalyst for Graphitization of Carbon and Growth of Single- and Multiwall Carbon Nanotubes, *J. Am. Chem. Soc.* **131**, **2009**, 12144-12154.
412. Schlögl, R., Chapter 5 X-ray Diffraction: A Basic Tool for Characterization of Solid Catalysts in the Working State, *Advances in Catalysis* **52**, **2009**, 273-338.
413. Rosenthal, D., Girgsdies, F., Timpe, O., Blume, R., Weinberg, G., Teschner, D., Schlögl, R., On the CO-Oxidation over Oxygenated Ruthenium, *Z. Phys. Chem.* **223**, (1-2) **2009**, 183-208.
414. Rinaldi, A., Abdullah, N., Ali, M., Furche, A., Abd Hamid, S. B., Su, D. S., Schlögl, R., Controlling the yield and structure of carbon nanofibers grown on a nickel/activated

- carbon catalyst, *Carbon* 47, (13) **2009**, 3023-3033.
415. Parrott, E. P. J., Zeitler, J. A., McGregor, J., Oei, S.-P., Tan, S.-C., Milne, W. I., Tessonnier, J.-P., Su, D. S., Schlögl, R., Gladden, L. F., Understanding the Dielectric Properties of Heat-Treated Carbon Nanofibers at Terahertz Frequencies: a New Perspective on the Catalytic Activity of Structured Carbonaceous Materials, *J. Phys. Chem. C* 113, **2009**, 10554-10559.
416. Parrott, E. P. J., Zeitler, J. A., McGregor, J., Oei, S.-P., Tan, S.-C., Milne, W. I., Tessonnier, J.-P., Su, D. S., Schlögl, R., Gladden, L. F., The use of terahertz spectroscopy as a sensitive probe in discriminating the electronic properties of structurally similar multi-walled carbon nanotubes, *Adv. Mater.* 21, **2009**, 3953-3957.
417. Paál, Z., Schlögl, R., Investigation of a traditional catalyst by contemporary methods: Parallel electron spectroscopic and catalytic studies on Pt black *Surf. Sci.* 603, (10-12) **2009**, 1793-1801.
418. Miao, S., Naumann d'Alnoncourt, R., Reinecke, T., Kasatkin, I., Behrens, M., Schlögl, R., Muhler, M., A Study of the Influence of Composition on the Microstructural Properties of ZnO/Al₂O₃ Mixed Oxides, *Eur. J. Inorg. Chem.* 2009, (7) **2009**, 910-921.
419. Kovnir, K., Osswald, J., Armbrüster, M., Teschner, D., Weinberg, G., Wild, U., Knop-Gericke, A., Ressler, T., Schlögl, R., Etching of the Intermetallic Compounds PdGa and Pd₃Ga₇: An Effective Way to Increase Catalytic Activity?, *J. Catal.* 264, (2) **2009**, 93-103.
420. Kovnir, K., M., A., Teschner, D., Venkov, T., Szentmiklósi, L., Jentoft, F. C., Knop-Gericke, A., Grin, Y., Schlögl, R., *In situ* Surface Characterization of the Intermetallic Compound PdGa – A Highly Selective Hydrogenation Catalyst *Surf. Sci.* 603, (10-12) **2009**, 1784-1792.
421. Knop-Gericke, A., Kleimenov, E., Hävecker, M., Blume, R., Teschner, D., Zafeiratos, S., Schlögl, R., Bukhtiyarov, V. I., Kaichev, V. V., Prosvirin, I. P., Nizovskii, A. I., Bluhm, H., Barinov, A., Dudin, P., Kiskinova, M., Chapter 4 X-Ray Photoelectron Spectroscopy for Investigation of Heterogeneous Catalytic Processes, *Advances in Catalysis* 52, **2009**, 213-272.
422. Knauer, M., Schuster, M. E., Su, D. S., Schlögl, R., Niessner, R., Ivleva, N. P., Soot Structure and Reactivity Analysis by Raman Microspectroscopy, Temperature

- Programmed Oxidation and High Resolution Transmission Electron Microscopy, *J. Phys. Chem. A* 113, (50) **2009**, 13871-13880.
423. Hu, Y.-S., Liu, X., Müller, J.-O., Schlögl, R., Maier, J., Su, D. S., Synthesis and Electrode Performance of Nanostructured V₂O₅ by Using a Carbon Tube-in-Tube as a Nanoreactor and an Efficient Mixed-Conducting Network, *Angew. Chem. Int. Ed.* 48, (1) **2009**, 210-214.
424. Hofmann, S., Blume, R., Wirth, C. T., Cantoro, M., Sharma, R., Ducati, C., Hävecker, M., Zafeirotos, S., Schnörch, P., Oestereich, A., Teschner, D., Albrecht, M., Knop-Gericke, A., Schlögl, R., Robertson, J., State of Transition Metal Catalysts During Carbon Nanotube Growth, *J. Phys. Chem. C* 113, (5) **2009**, 1648–1656.
425. Herbert, R., Wang, D., Schomäcker, R., Schlögl, R., Hess, C., Stabilization of Mesoporous Silica SBA-15 by Surface Functionalization, *ChemPhysChem* 10, (13) **2009**, 2230-2233.
426. Hävecker, M., Cavalleri, M., Herbert, R., Follath, R., Knop-Gericke, A., Hess, C., Hermann, K., Schlögl, R., Methodology for the structural characterisation of V_xO_y species supported on silica under reaction conditions by means of in situ O K-edge X-ray absorption spectroscopy, *Phys. Status Solidi B* 246, (7) **2009**, 1459-1469.
427. Györfy, N., Bakos, I., Szabó, S., Tóth, L., Wild, U., Schlögl, R., Paál, Z., Preparation, characterization and catalytic testing of GePt catalysts, *J. Catal.* 263, **2009**, 372-379.
428. Girgsdies, F., Schneider, M., Brückner, A., Ressler, T., Schlögl, R., The crystal structure of δ-VOPO₄ and its relationship to ω-VOPO₄, *Solid State Sci.* 11, (7) **2009**, 1258-1264.
429. Geske, M., Pelzer, K., Horn, R., Jentoft, F. C., Schlögl, R., In-situ investigation of gas phase radical chemistry in the catalytic partial oxidation of methane on Pt, *Catal. Today* 142, **2009**, 61-69.
430. Gangeri, M., Perathoner, S., Caudo, S., Centi, G., Amadou, J., Bégin, D., Pham-Huu, C., Ledoux, M. J., Tessonier, J.-P., Su, D. S., Schlögl, R., Fe and Pt carbon nanotubes for the electrocatalytic conversion of carbon dioxide to oxygenates *Catal. Today* 143, (1-2) **2009**, 57-63.
431. Frank, B., Zhang, J., Blume, R., Schlögl, R., Su, D. S., Heteroatome steigern die Selektivität der oxidativen Dehydrierung an Nanokohlenstoff, *Angew. Chem.* 121, (§/) **2009**, 7046-7051.

432. Frank, B., Zhang, J., Blume, R., Schlögl, R., Su, D. S., Heteroatoms Increase the Selectivity in Oxidative Dehydrogenation Reactions on Nanocarbons, *Angew. Chem. Int. Ed.* **48**, (37) **2009**, 6913 - 6917.
433. Frank, B., Fortrie, R., Hess, C., Schlögl, R., Schomäcker, R., Reoxidation dynamics of highly dispersed VO_x species supported on γ -alumina *Appl. Catal. A: General* **353**, (2) **2009**, 288-295.
434. Echegoyen, Y., Suelves, I., Lazáro, M. J., Moliner, R., Palacios, J. M., Müller, J. O., Su, D. S., Schlögl, R., Characterization of Carbon Nanofibers Grown Over Ni and Ni-Cu Catalysts, *Journal of Nanoscience and Nanotechnology* **9**, (7) **2009**, 4170-4179.
435. Dinse, A., Khennache, S., Frank, B., Hess, C., Herbert, R., Wrabetz, S., Schlögl, R., Schomäcker, R., Oxidative dehydrogenation of propane on silica (SBA-15) supported vanadia catalysts: A kinetic investigation, *J. Mol. Catal. A: Chemical* **307**, **2009**, 43-50.
436. Chen, X.-W., Timpe, O., Hamid, S. B. A., Schlögl, R., Su, D. S., Direct synthesis of carbon nanofibers on modified biomass-derived activated carbon *Carbon* **47**, (1) **2009**, 340-343.
437. Centi, G., Gangeri, M., Fiorello, M., Perathoner, S., Amadou, J., Bégin, D., Ledoux, M. J., Pham-Huu, C., Schuster, M. E., Su, D. S., Tessonnier, J.-P., Schlögl, R., The role of mechanically induced defects in carbon nanotubes to modify the properties of electrodes for PEM fuel cell, *Catal. Today* **147**, **2009**, 287-299.
438. Behrens, M., Girgsdies, F., Trunschke, A., Schlögl, R., Minerals as model compounds for Cu/ZnO catalyst precursors: Structural and thermal properties and IR spectra of mineral and synthetic (zincian) malachite, rosasite and aurichalcite and a catalyst precursor *Eur. J. Inorg. Chem.* **2009**, **2009**, 1347-1357.

2008

439. Zhang, J., Müller, J. O., Zheng, W., Wang, D., Su, D. S., Schlögl, R., Individual Fe-Co Alloy Nanoparticles on Carbon Nanotubes: Structural and Catalytic Properties., *Nano Letters* **8**, (9) **2008**, 2738-2743.
440. Zhang, J., Liu, X., Blume, A., Schlögl, R., Su, D. S., Surface-Modified Carbon

- Nanotubes Catalyze Oxidative Dehydrogenation of n-Butane., *Science* 322, **2008**, 73-77.
441. Zhang, J., Hu, Y., Tessonier, J.-P., Weinberg, G., Maier, J., Schlögl, R., Su, D. S., CNFs@CNTs: Superior Carbon for Electrochemical Energy Storage, *Adv. Mater.* 20, (8) **2008**, 1450-1455.
442. Xu, Y. J., Weinberg, G., Liu, X., Timpe, O., Schlögl, R., Su, D. S., Nanoarchitecturing of Activated Carbon: New Facile Strategy for Chemical Functionalization of the Surface of Activated Carbon., *Adv. Funct. Mater.* 18, (22) **2008**, 3613-3619.
443. Widi, R. K., Hamid, S. B. A., Schlögl, R., Effect of diluent and reaction parameter on selective oxidation of propane over MoVTenb catalyst using nanoflow catalytic reactor *Journal of Natural Gas Chemistry* 17, (2) **2008**.
444. Vass, E. M., Hävecker, M., Zafeiratos, S., Teschner, D., Knop-Gericke, A., Schlögl, R., The role of carbon species in heterogeneous catalytic processes: an in situ soft x-ray photoelectron spectroscopy study, *J. Phys.: Condens. Matter* 20, **2008**, 184016 184011-184013.
445. Thomas, A., Fischer, A., Goettmann, F., Antonietti, M., Müller, J.-O., Schlögl, R., Carlsson, J. M., Graphitic carbon nitride materials: variation of structure and morphology and their use as metal-free catalysts, *J. Mater. Chem.* 18, (41) **2008**, 4893-4908.
446. Teschner, D., Révay, Z., Borsodi, J., Hävecker, M., Knop-Gericke, A., Schlögl, R., Milroy, D., Jackson, S. D., Torres, D., Sautet, P., Understanding Pd Hydrogenation Catalysts: When Nature of the Reactive Molecule Controls the Nature of the Catalyst Active Phase, *Angew. Chem.* 120, (48) **2008**, 9414-9418.
447. Teschner, D., Borsodi, J., Wootsch, A., Révay, Z., Hävecker, M., Knop-Gericke, A., Jackson, S. D., Schlögl, R., The Roles of Subsurface Carbon and Hydrogen in Palladium-Catalyzed Alkyne Hydrogenation, *Science* 320, **2008**, 86-89.
448. Subbotina, I. R., Kazansky, V. B., Jentoft, F. C., Schlögl, R., IR extinction coefficients as a criterion for chemical activation upon adsorption: propene interaction with cationic forms of γ zeolite *Stud. Surf. Sci. Catal.* 174, (Part 2) **2008**, 849-852.
449. Su, D. S., Serafino, A., Müller, J. O., Jentoft, R. E., Schlögl, R., Fiorito, S., Cytotoxicity and Inflammatory Potential of Soot Particles of Low-Emission Diesel Engines, *Environmental Science and Technology* 42, (5) **2008**, 1761-1765.
450. Su, D. S., Jakob, T., Hansen, T. W., Wang, D., Schlögl, R., Freitag, B., Kujawa, S.,

- Surface Chemistry of Ag Particles: Identification of Oxide Species by Aberration-Corrected TEM and by DFT Calculations, *Angew. Chem. Int. Ed.* **47**, (27) **2008**, 5005-5008.
451. Su, D. S., Chen, X., Delgado, J. J., Schlögl, R., Gajovic, A., Mount-Etna-Lava-Supported Nanocarbons for Oxidative Dehydrogenation Reactions, *Adv. Mater.* **20**, (19) **2008**, 3597-3600.
452. Schlögl, R., Schüth, F. Transport- und Speicherformen für Energie, Vol. Eds.: Gruss, P. and Schüth, F.), C.H.Beck oHG, München, **2008**, pp. 246-281.
453. Schlögl, R., Wie man Moleküle auf Trab bringt. Das Fritz-Haber-Institut der MPG, *EUROPA Report* **118**, **2008**, 12.
454. Schlögl, R., X-ray diffraction: a basic tool for characterisation of heterogeneous catalysts, *Advances in Catalysis* **52**, **2008**, 273-338.
455. Schlögl, R. Ammonia Synthesis, Vol. Vol. 5 Eds.: Ertl, G., Knözinger, H., Schüth, F. and Weitkamp, J.), Wiley VCH Verlag, Weinheim, **2008**, pp. 2501-2575.
456. Schlögl, R. Carbons, Vol. Vol. 1 Eds.: Ertl, G., Knözinger, H., Schüth, F. and Weitkamp, J.), Wiley VCH Verlag, Weinheim, **2008**, pp. 357-427.
457. Schlögl, R. Fused Catalysts, Vol. Vol. 1 Eds.: Ertl, G., Knözinger, H., Schüth, F. and Weitkamp, J.), Wiley VCH Verlag, Weinheim, **2008**, pp. 81-92.
458. Salmeron, M., Schlögl, R., Ambient pressure photoelectron spectroscopy: A new tool for surface science and nanotechnology *Surface Science Reports* **63**, (4) **2008**, 169-199.
459. Rinaldi, A., Zhang, J., Mizera, J., Girgsdies, F., Wang, N., Abd Hamid, S. B., Schlögl, R., Su, D. S., Facile synthesis of carbon nanotube/natural bentonite composites as a stable catalyst for styrene synthesis, *Chem. Commun.* **48**, **2008**, 6528-6530.
460. Révay, Z., Belgya, T., Szentmiklósi, L., Kis, Z., Wootsch, A., Teschner, D., Swoboda, M., Schlögl, R., Borsodi, J., Zepernick, R., In situ determination of hydrogen inside a catalytic reactor using prompt gamma activation analysis, *Anal. Chem.* **80**, (15) **2008**, 6066-6071.
461. Osswald, J., Kovnir, K., Armbrüster, M., Giedigkeit, R., Jentoft, R. E., Wild, U., Grin, Y., Schlögl, R., Palladium Gallium Intermetallic Compounds for the Selective Hydrogenation of Acetylene. Part II: Surface Characterization and Catalytic Performance, *J. Catal.* **258**, (1) **2008**, 219-227.

462. Osswald, J., Giedigkeit, R., Jentoft, R. E., Armbrüster, M., Girgsdies, F., Kovnir, K., Ressler, T., Grin, Y., Schlögl, R., Palladium Gallium Intermetallic Compounds for the Selective Hydrogenation of Acetylene. Part I: Preparation and Structural Investigation under Reaction Conditions, *J. Catal.* **258**, (1) **2008**, 210-218.
463. Mattevi, C., Wirth, C. T., Hofmann, S., Blume, R., Cantoro, M., Ducati, C., Cepek, C., Knop-Gericke, A., Milne, S., Castellarin-Cudia, C., Dolafi, S., Goldoni, A., Schlögl, R., Robertson, J., In-situ X-ray Photoelectron Spectroscopy Study of Catalyst–Support Interactions and Growth of Carbon Nanotube Forests, *J. Phys. Chem. C* **112**, (32) **2008**, 12207-12213.
464. Liu, X., Su, D. S., Schlögl, R., Oxidative dehydrogenation of 1-butene to butadiene over carbon nanotubes catalysts, *Carbon* **46**, **2008**, 544-548.
465. Kurr, P., Kasatkin, I., Girgsdies, F., Trunschke, A., Schlögl, R., Ressler, T., Microstructural characterization of Cu/ZnO/Al₂O₃ catalysts for methanol steam reforming—A comparative study *Appl. Catal. A: General* **348**, (2) **2008**, 153-164.
466. Kubias, B., Fait, M. J. G., Schlögl, R. Mechanochemical Methods, Vol. Vol. 1 Eds.: Ertl, G., Knözinger, H., Schüth, F. and Weitkamp, J.), Wiley VCH Verlag, Weinheim, **2008**, pp. 571-583.
467. Kovnir, K., Teschner, D., Armbrüster, M., Schnörch, P., Hävecker, M., Knop-Gericke, A., Grin, Y., Schlögl, R., Pinning the Catalytic Centre: A New Concept for Catalysts Development, *BESSY Highlights 2007* **2008**, 22-23.
468. Hu, Y.-S., Demir-Cakan, R., Titirici, M.-M., Müller, J.-O., Schlögl, R., Antonietti, M., Maier, J., Superior Storage Performance of a Si@SiO_x/C Nanocomposite as Anode Material for Lithium-Ion Batteries, *Angew. Chem. Int. Ed.* **47**, **2008**, 1645-1649.
469. Föttinger, K., Schlögl, R., Rupprechter, G., The mechanism of carbonate formation on Pd–Al₂O₃ catalysts, *Chem. Commun.* **3**, **2008**, 320-322.
470. Contant, T., Karim, A. M., Lebarbier, V., Wang, Y., Girgsdies, F., Schlögl, R., A., D., Stability of bimetallic Pd-Zn catalysts for the steam reforming of methanol, *J. Catal.* **257**, (1) **2008**, 64-70.
471. Celaya Sanfiz, A., Hansen, T. W., Sakthivel, A., Schlögl, R., Knoester, A., Brongersma, H. H., Looi, M. H., Hamid, S. B. A., How important is the (001) plane of M1 for selective oxidation of propane to acrylic acid?, *J. Catal.* **258**, (1) **2008**, 35-43.

472. Celaya Sanfiz, A., Hansen, T. W., Girgsdies, F., Timpe, O., Rödel, E., Ressler, T., Trunschke, A., Schlögl, R., Preparation of Phase-Pure M1 MoVTaNb Oxide Catalysts by Hydrothermal Synthesis—Influence of Reaction Parameters on Structure and Morphology *Top. Catal.* 50, (1-4) **2008**, 19-32.
473. Bron, M., Teschner, D., Wild, U., Steinhauer, B., Knop-Gericke, A., Volckmar, C., Wootsch, A., Schlögl, R., Oxygen induced activation of silica supported silver in acrolein hydrogenation, *Appl. Catal. A: General* 341, (1-2) **2008**, 127-132.
474. Beato, P., Kraehnert, R., Engelschalt, S., Frank, T., Schlögl, R., A micro-structured quartz reactor for kinetic and in situ spectroscopic studies in heterogeneous catalysis, *Chem. Engineer. J.* 135, (Suppl. 1) **2008**, S247-S253.
475. Arrigo, R., Hävecker, M., Schlögl, R., Su, D. S., Dynamic surface rearrangement and thermal stability of nitrogen functional groups on carbon nanotubes, *Chem. Commun.* **2008**, 4891-4893.

2007

476. Zhang, J., Su, D. S., Zhang, A., Wang, D., Schlögl, R., Hébert, C., Nanocarbon as Robust Catalyst: Mechanistic Insight into Carbon-Mediated Catalysis, *Angew. Chem. Int. Ed.* 46, (38) **2007**, 7319-7323.
477. Zhang, J., Comotti, M., Schüth, F., Schlögl, R., Su, D. S., Commercial Fe- or Co-Containing Carbon Nanotubes as Catalysts for NH₃ Decomposition, *Angew. Chem. Int. Ed.* 46, **2007**.
478. Zenkovets, G. A., Kryukova, G. N., Gavrilov, V. Y., Tsybulya, S. V., Anufrienko, V. A., Larina, T. A., Khabibulin, D. F., Lapina, O. B., Rödel, E., Trunschke, A., Ressler, T., Schlögl, R., The structural genesis of a complex (MoVW)₅O₁₄ oxide during thermal treatments and its redox behavior at elevated temperatures, *Mater. Chem. Phys.* 103, **2007**, 295-304.
479. Zemlyanov, D., Gabasch, H., Klötzer, B., Knop-Gericke, A., Schlögl, R., Kinetics of palladium oxidation and methane oxidation on Pd(111) and (110), *BESSY Annual Reports 2006* **2007**, 121-123.

480. Zafeiratos, S., Bukhtiyarov, V. I., Hävecker, M., Teschner, D., Vass, E., Schnörch, P., Weinberg, G., Knop-Gericke, A., Schlögl, R., Ethylene epoxidation over copper silver bimetallic catalyst: Surface characterisation under reaction conditions, *BESSY Annual Reports 2006* **2007**, 71-73.
481. Virnovskaia, A., Jørgensen, S., Hafizovic, J., Prytz, Ø., Kleimenov, E., Hävecker, M., Bluhm, H., Knop-Gericke, A., Schlögl, R., Olsbye, U., *In situ* XPS investigation of Pt(Sn)/Mg(Al)O catalyst during ethane dehydrogenation experiments, *Surf. Sci.* **601**(1) **2007**, 30-43.
482. Vass, E. M., Teschner, D., Hävecker, M., Zafeiratos, S., Schnörch, P., Knop-Gericke, A., Schlögl, R., Dehydrogenation and oxidative dehydrogenation of n-butane using vanadium based catalysts: an in-situ XPS study, *BESSY Annual Report 2006* **2007**, 94-96.
483. Teschner, D., Wootsch, A., Pozdnyakova-Tellingner, O., Kröhnert, J., Vass, E. M., Hävecker, M., Zafeiratos, S., Schnörch, P., Jentoft, F. C., Knop-Gericke, A., Schlögl, R., Partial pressure dependent in situ spectroscopic study on the preferential CO oxidation in hydrogen (PROX) over Pt/ceria catalysts, *J. Catal.* **249**, (2) **2007**, 318-327.
484. Teschner, D., Vass, E., Zafeiratos, S., Schnörch, P., Hävecker, M., Knop-Gericke, A., Sauer, H., Kröhnert, J., Jentoft, F. C., Schlögl, R., Hutchings, G., Pozdnyakova-Tellingner, O., Lazar, K., Wootsch, A., Preferential oxidation of CO over supported and alloy catalysts in H₂ rich gas for fuel cell application, *BESSY Annual Report 2006* **2007**, 89-91.
485. Tesche, B., Jentoft, F. C., Schlögl, R., Bare, S. R., Nemeth, L. T., Valencia, S., Corma, A., Novel Preparation Steps and Imaging Procedures Suitable for Electronmicroscopical Characterization of Zeolite Structures, *Microsc. Microanal.* **13**, (S02) **2007**, 560-561.
486. Su, D. S., Maksimova, N. I., Mestl, G., Kuznetsov, V. L., Keller, V., Schlögl, R., Keller, N., Oxidative dehydrogenation of ethylbenzene to styrene over ultra dispersed diamond and onion like carbon, *Carbon* **45**, (11) **2007**, 2145-2151.
487. Soerijanto, H., Rödel, C., Wild, U., Lerch, M., Schomäcker, R., Schlögl, R., Ressler, T., The impact of nitrogen mobility on the activity of zirconium oxynitride catalysts for ammonia decomposition, *J. Catal.* **250**, (1) **2007**, 19-24.
488. Selvam, T., Köstner, M., Mabande, G. T. P., Schwieger, W., Pfänder, N., Schlögl, R., Synthesis, characterization and catalytic properties of mesoporous Al-FSM-16 materials, *J. Porous Mater.* **14**, (3) **2007**, 263-272.

489. Schüle, A., Nieken, U., Shekhah, O., Ranke, W., Schlögl, R., Kolios, G., Styrene synthesis over iron oxide catalysts: from single crystal model system to real catalysts, *Phys. Chem. Chem. Phys.* **9**, (27) **2007**, 3619-3634.
490. Schnörch, P., Vass, E., Zafeiratos, S., Teschner, D., Hävecker, M., Knop-Gericke, A., Schlögl, R., In situ XPS study on (MoV)₅O₁₄ selective oxidation catalysts, *BESSY Annual Report 2006* **2007**, 83-85.
491. Schlögl, R., Wrabetz, S., Department of Inorganic Chemistry - Fritz-Haber-Institut der Max-Planck-Gesellschaft., Berlin, **2007**, p. Total Numbers of Pages 48.
492. Rödel, E., Timpe, O., Trunschke, A., Zenkovets, G. A., Kryukova, G. N., Schlögl, R., Ressler, T., Structure stabilizing effect of tungsten in mixed molybdenum oxides with Mo₅O₁₄ type structure, *Catal. Today* **126**, **2007**, 318-327.
493. Reichelt, R., Günther, S., Rößler, M., Wintterlin, J., Kubias, B., Jakobi, B., Schlögl, R., High-pressure STM of the interaction of oxygen with Ag(111), *Phys. Chem. Chem. Phys.* **9**, (27) **2007**, 3590-3599.
494. Pozdnyakova-Tellinger, O., Teschner, D., Kröhnert, J., Jentoft, F. C., Knop-Gericke, A., Schlögl, R., Wootsch, A., Surface Water-Assisted Preferential CO Oxidation on Pt/CeO₂ Catalyst, *J. Phys. Chem. C* **111**, (14) **2007**, 5426-5431.
495. Perathoner, S., Lanzafame, P., Centi, G., Jentoft, F. C., Venkov, T. V., Schlögl, R., Nature of corona in TiO₂BA15-like mesoporous nanocomposite *Stud. Surf. Sci. Catal.* **170**, (Part 2) **2007**, 1788-1795.
496. Paál, Z., Györffy, N., Wootsch, A., Toth, L., Bakos, I., Szabó, S., Wild, U., Schlögl, R., Preparation, physical characterization and catalytic properties of unsupported Pt-Rh catalyst, *J. Catal.* **250**, (2) **2007**, 254-263.
497. Müller, J. O., Su, D. S., Wild, U., Schlögl, R., Bulk and surface structural investigations of diesel engine soot and carbon black, *Phys. Chem. Chem. Phys.* **9**, (30) **2007**, 4018-4025.
498. Mastalir, Á., Patzkó, A., Frank, B., Schomäcker, R., Ressler, T., Schlögl, R., Steam reforming of methanol over Cu/ZnO/Al₂O₃ modified with hydrotalcites, *Catalysis Commun.* **8**, (11) **2007**, 1684-1690.
499. Kovnir, K., Armbruster, E., Teschner, D., Venkov, T., Jentoft, F. C., Knop-Gericke, A., Grin, Y., Schlögl, R., A New Approach to Well-Defined, Stable and Isolated Catalysts,

- Sci. Technol. Adv. Mater.* **8**, **2007**, 420-427.
500. Kasatkin, I., Kurr, P., Kniep, B., Trunschke, A., Schlögl, R., Role of Lattice Strain and Defects in Copper Particles on the Activity of Cu/ZnO/Al₂O₃ Catalysts for Methanol Synthesis., *Angew. Chem.* **119**, (38) **2007**, 7465-7468.
501. Huang, W., Ranke, W., Schlögl, R., Reduction of an α-Fe₂O₃ (0001) Film Using Atomic Hydrogen, *J. Phys. Chem. B* **111**, (5) **2007**, 2198-2204.
502. Gabasch, H., Knop-Gericke, A., Schlögl, R., Borasio, M., Weilach, C., Rupprechter, G., Penner, S., Jenewein, B., Hayek, K., Klötzer, B., Comparison of the reactivity of different Pd-O species in CO oxidation., *Phys. Chem. Chem. Phys.* **9**, (4) **2007**, 533-540.
503. Gabasch, H., Hayek, K., Klötzer, B., Unterberger, W., Kleimenov, E., Teschner, D., Zafeiratos, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., Aszalos-Kiss, B., Zemlyanov, D., Methane Oxidation on Pd(111): In Situ XPS Identification of Active Phase, *J. Phys. Chem. C* **111**, **2007**, 7957-7962.
504. Frank, B., Jentoft, F. C., Soerijanto, H., Kröhnert, J., Schlögl, R., Schomäcker, R., Steam reforming of methanol over copper-containing catalysts: Influence of support material on microkinetics, *J. Catal.* **246**, **2007**, 177-192.
505. Dennstedt, A., Frenzel, N., Behrens, M., Trunschke, A., Schlögl, R., Lerch, M., Ressler, T., Cu on Zirconia and Zirconium Oxynitride as Catalyst for Methanol Steam Reforming., *Hasylab Jahresbericht 2007* (Annual Report 1) **2007**, 513-514.
506. Denkwitz, Y., Kielbassa, S., Schumacher, B., Bansmann, J., Schnörch, P., Vass, E. M., Hävecker, M., Knop-Gericke, A., Schlögl, R., Behm, R. J., In situ X-ray photoelectron spectroscopy on supported powder and model Au/TiO₂ catalysts - influence of the material gap, *BESSY Annual Report 2006* **2007**, 110-112.
507. Delgado, J. J., Chen, X., Su, D. S., Schlögl, R., A Novel Catalyst for Synthesis of Styrene: Carbon Nanofibers Immobilized on Activated Carbon, *Journal of Nanoscience and Nanotechnology* **7**, **2007**, 3495-3501.
508. Chen, X., Zhu, Z. P., Hävecker, M., Su, D. S., Schlögl, R., Carbon nanotube-induced preparation of vanadium oxide nanorods: application as a catalyst for the partial oxidation of n-butane, *Mater. Res. Bull.* **42**, **2007**, 354-361.
509. Chen, X., Su, D. S., Abd Hamid, S. B., Schlögl, R., The morphology, porosity and productivity control of carbon nanofibers or nanotubes on modified activated carbon,

Carbon 45, (4) **2007**, 895-898.

510. Centi, G., Passalacqua, R., Perathoner, S., Su, D. S., Weinberg, G., Schlögl, R., Oxide thin films based on ordered arrays of 1D nanostructure. A possible approach toward bridging material gap in catalysis. , *Phys. Chem. Chem. Phys.* 9, (35) **2007**, 4930-4938.
511. Bron, M., Teschner, D., Knop-Gericke, A., Jentoft, F. C., Kröhnert, J., Hohmeyer, J., Volckmar, C., Steinhauer, B., Schlögl, R., Claus, P., Silver as acrolein hydrogenation catalyst: intricate effects of catalyst nature and reactant partial pressures, *Phys. Chem. Chem. Phys.* 9 (27) **2007**, 3559-3569.
512. Blume, R., Hävecker, M., Zafeiratos, S., Teschner, D., Vass, E., Schnörch, P., Knop-Gericke, A., Schlögl, R., Lizzit, S., Dudin, P., Barinov, A., Kiskinova, M., Monitoring *in situ* catalytically active states of Ru catalysts for different methanol oxidation pathways, *Phys. Chem. Chem. Phys.* 9, (27) **2007**, 3648-3657.
513. Blume, R., Hävecker, M., Zafeiratos, S., Teschner, D., Knop-Gericke, A., Schlögl, R., Dudin, P., Barinov, A., Kiskinova, M., Oxidation of methanol on Ru catalyst: Effect of the reagents partial pressures on the catalyst oxidation state and selectivity., *Catal. Today* 124, (1-2) **2007**, 71-79.
514. Bluhm, H., Hävecker, M., Knop-Gericke, A., Kiskinova, M., Schlögl, R., Salmeron, M., In Situ X-Ray Photoelectron Spectroscopy Studies of Gas-Solid Interfaces at Near-Ambient Conditions, *MRS Bulletin* 32, **2007**, 1022-1030.

2006

515. Zemlyanov, D., Aszalos-Kiss, B., Kleimenov, E., Teschner, D., Zafeiratos, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., Gabasch, H., Unterberger, W., Hayek, K., Klötzer, B., In situ XPS study of Pd(111) oxidation. Part 1: 2D oxide formation in 10^{-3} mbar O₂, *Surf. Sci.* 600, (5) **2006**, 983-994.
516. Xiao, F. S., Wang, L., Yin, C., Lin, K., Li, J., Xu, R., Su, D. S., Schlögl, R., Yokoi, T., Tatsumi, T., Catalytic properties of hierarchical mesoporous zeolites templated from a mixture of small organic ammonium and mesoscale cationic polymer, *Angew. Chem. Int. Ed.* 45, (19) **2006**, 3090-3093.

517. Willneff, E. A., Braun, S., Rosenthal, D., Bluhm, H., Hävecker, M., Kleimenov, E., Knop-Gericke, A., Schlögl, R., Schroeder, S. L. M., Dynamic Electronic Structure of Au/TiO₂ Catalyst under Reaction Conditions, *J. Am. Chem. Soc.* **128**, (27) **2006**, 12052-12053.
518. Wagner, J. B., Willinger, M. G., Müller, J. O., Su, D. S., Schlögl, R., Surface Charge Induced Reversible Phase Transitions of Bi Nanoparticles, *small* **2**, (2) **2006**, 230-234.
519. Wagner, J. B., Timpe, O., Hamid, F. A., Trunschke, A., Su, D. S., Widi, R. K., Abd Hamid, S. B., Schlögl, R., Surface Texturing of MoVTaNbO Selective Oxidation Catalysts, *Top. Catal.* **38**, (1-3) **2006**, 51-58.
520. Wagner, J. B., Othman, N. D., Su, D. S., Abd Hamid, S. B., Schlögl, R., Characterization of Nanostructured Binary Molybdenum Oxide Catalyst Precursors for Propene Oxidation, *J. Microscopy* **223**, (3) **2006**, 216-219.
521. Vass, E., Teschner, D., Knop-Gericke, A., Hävecker, M., Zafeiratos, S., Schnörch, P., Kleimenov, E., Schlögl, R., Dehydrogenation of C₄ hydrocarbons using vanadium based catalysts, *BESSY Annual Report 2005* **2006**, 267-269.
522. Unterberger, W., Jenewein, B., Klötzer, B., Penner, S., Reichl, W., Rupprechter, G., Wang, D., Schlögl, R., Hayek, K., Hydrogen-induced metal-oxide interaction studies on noble metal model catalysis, *React. Kinet. Catal. Lett.* **87**, (2) **2006**, 215-234.
523. Tomasic, N., Gajovic, A., Bermanec, V., Su, D. S., Rajic-Linarcic, M., Ntaflos, T., Schlögl, R., Recrystallization mechanism of fergusonite from metamict mineral precursors, *Phys. Chem. Minerals* **33**, (2) **2006**, 145-159.
524. Teschner, D., Wootsch, A., Pozdnyakova, O., Sauer, J. H., Knop-Gericke, A., Schlögl, R., Surface and structural properties of Pt/CeO₂ catalyst und preferential CO oxidation in hydrogen (PROX), *React. Kinet. Catal. Lett.* **87**, (2) **2006**, 235-247.
525. Teschner, D., Vass, E., Zafeiratos, S., Schnörch, P., Kleimenov, E., Hävecker, M., Knop-Gericke, A., Schlögl, R., Selective gas-phase hydrogenation of aliphatic triple and double bond using palladium based catalysts, *BESSY Annual Report 2005* **273**, **2006**, 257-259.
526. Teschner, D., Vass, E., Zafeiratos, S., Schnörch, P., Hävecker, M., Knop-Gericke, A., Sauer, H., Kröhnert, J., Jentoft, F. C., Schlögl, R., Pozdnyakova, O., Wootsch, A., Preferential CO oxidation in H₂ (PROX) on Pt/CeO₂ catalyst, high-pressure XPS and in-situ DRIFTS study, *BESSY Annual Report 2005* **2006**, 254-256.

527. Teschner, D., Vass, E., Hävecker, M., Zafeiratos, S., Schnörch, P., Sauer, H., Knop-Gericke, A., Schlögl, R., Chamam, M., Wootsch, A., Canning, A. S., Gamman, J. J., Jackson, S. D., McGregor, J., Gladden, L. F., Alkyne hydrogenation over Pd catalysts: A new paradigm, *J. Catal.* 242, **2006**, 26-37.
528. Soerijanto, H., Rödel, C., Wild, U., Lerch, M., Schomäcker, R., Schlögl, R., Ressler, T., Zirconium oxynitride catalysts for ammonia decomposition, *Z. Allg. Anorg. Chem.* 632, **2006**, 2157.
529. Schlögl, R., High-Resolution Aberration-Corrected TEM of Oxidation Catalysis, *Microscopy and Analysis* 20, **2006**, 7-7.
530. Ranke, W., Schüle, A., Shekhah, O., Kolios, G., Nieken, U., Schlögl, R., Deactivation of styrene catalysts: A microkinetic modelling approach to technical catalysts, *Book of Extended Abstracts der DECHEMA e.V.* **2006**, 234-238.
531. Pozdnyakova, O., Teschner, D., Wootsch, A., Kröhnert, J., Steinhauer, B., Sauer, H., Toth, L., Jentoft, F. C., Knop-Gericke, A., Paál, Z., Schlögl, R., Preferential CO oxidation in hydrogen (PROX) on ceria-supported catalysts, part I: Oxidation state and surface species on Pt/CeO₂ under reaction conditions, *J. Catal.* 237, **2006**, 1-16.
532. Pozdnyakova, O., Teschner, D., Wootsch, A., Kröhnert, J., Steinhauer, B., Sauer, H., Toth, L., Jentoft, F. C., Knop-Gericke, A., Paál, Z., Schlögl, R., Preferential CO oxidation in hydrogen (PROX) on ceria-supported catalysts, part II: Oxidation states and surface species on Pd/CeO₂ under reaction conditions, suggested reaction mechanism, *J. Catal.* 237, **2006**, 17-28.
533. Perathoner, S., Lanzafame, P., Passalacqua, R., Centi, G., Schlögl, R., Su, D. S., Use of mesoporous SBA-15 for nanostructuring titania for photocatalytic applications, *Microporous Mesoporous Mater.* 90, **2006**, 347-361.
534. Penner, S., Wang, D., Jenewein, B., Gabasch, H., Klötzer, B., Knop-Gericke, A., Schlögl, R., Hayek, K., Growth and decomposition of aligned and ordered PdO nanoparticles, *J. Chem. Phys.* 125, (9) **2006**, 94703-94701-94703-94708.
535. Penner, S., Jenewein, B., Wang, D., Schlögl, R., Hayek, K., Rh-V alloy formation in Rh-VO_x thin films after high-temperature reduction studied by electron microscopy, *Phys. Chem. Chem. Phys.* 8, (10) **2006**, 1223-1229.
536. Penner, S., Jenewein, B., Wang, D., Schlögl, R., Hayek, K., Structure-activity

- correlations in thin film model catalysts: CO hydrogenation on Rh/VO_x Part I. The morphology, composition and structure of vanadia-supported and -promoted Rh particles upon oxidation and reduction, *Appl. Catal. A: General* **308**, **2006**, 31-42.
537. Penner, S., Jenewein, B., Gabasch, H., Klötzer, B., Wang, D., Knop-Gericke, A., Schlögl, R., Hayek, K., Growth and structural stability of well-ordered PdZn alloy nanoparticles, *J. Catal.* **241**, (1) **2006**, 14-19.
538. Paál, Z., Wootsch, A., Bakos, I., Szabó, S., Sauer, H., Wild, U., Schlögl, R., Effect of hydrogen pressure on intentional deactivation of unsupported Pt catalyst: Catalytic properties and physical characterization, *Appl. Catal. A: General* **309**, **2006**, 1-9.
539. Müller, J. O., Su, D. S., Jentoft, R. E., Wild, U., Schlögl, R., Diesel Engine Exhaust Emission: Oxidative Behavior and Microstructure of Black Smoke Soot Particulate, *Environ. Sci. Technol.* **40**, (4) **2006**, 1231-1236.
540. Kovnir, K., Osswald, J., Armbrüster, M., Giedigkeit, R., Ressler, T., Grin, Y., Schlögl, R., (Amsterdam) 2006, pp. 481-488.
541. Klose, B. S., Jentoft, F. C., Schlögl, R., Subbotina, I. R., Kazansky, V. B., Effect of Mn and Fe on the reactivity of sulfated zirconia towards H₂ and *n*-butane: A diffuse reflectance IR spectroscopic investigation, *Langmuir* **21**, **2006**, 10564-10572.
542. Klose, B. S., Jentoft, F. C., Joshi, P., Trunschke, A., Schlögl, R., Subbotina, I. R., Kazansky, V. B., In situ spectroscopic investigation of activation, start-up and deactivation of promoted sulfated zirconia catalysts, *Catal. Today* **116**, **2006**, 121-131.
543. Kazansky, V. B., Subbotina, I. R., Pronin, A. A., Schlögl, R., Jentoft, F. C., Unusual Infrared Spectrum of Ethane Adsorbed by Gallium Oxide, *J. Phys. Chem. B* **110**, **2006**, 7975-7978.
544. Kazansky, V. B., Subbotina, I. R., Jentoft, F. C., Schlögl, R., Intensities of C-H IR stretching bands of ethane and propane adsorbed by zeolites as a new spectral criterion of their chemical activation via polarization resulting from stretching of chemical bonds, *J. Phys. Chem. B* **110**, **2006**, 17468-17477.
545. Kaichev, V. V., Bukhtiyarov, V. I., Zemlyanov, D. Y., Belochapkine, S., Hodnett, B. K., Kleimenov, E., Teschner, D., Zafeiratos, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., Combined application of XPS, XANES and mass spectrometry to in situ study of methanol oxidation over vanadium based catalysts, *BESSY Annual Report 2005* **2006**,

277-279.

546. Jenewein, B., Penner, S., Gabasch, H., Klötzer, B., Wang, D., Knop-Gericke, A., Schlögl, R., Hayek, K., Hydride formation and stability on a Pd-SiO₂ thin-film model catalyst studied by TEM and SAED *J. Catal.* 241, (1) **2006**, 155-161.
547. Horn, R., Ihmann, K., Ihmann, J., Jentoft, F. C., Geske, M., Taha, A., Pelzer, K., Schlögl, R., Molecular beam mass spectrometer equipped with a catalytic wall reactor for in situ studies in high temperature catalysis research, *Rev. Sci. Instrum.* 77, **2006**, 054102-054101-054102-054109.
548. Hess, C., Wild, U., Schlögl, R., The mechanism for the controlled synthesis of highly dispersed vanadia supported on silica SBA-15, *Microporous Mesoporous Mater.* 95, **2006**, 339-349.
549. Hess, C., Schlögl, R., The influence of water on the dispersion of vanadia supported on silica SBA-15, *Chem. Phys. Lett.* 432, **2006**, 139-145.
550. Hess, C., Looi, M. H., Abd Hamid, S. B., Schlögl, R., Importance of nanostructured vanadia for selective oxidation of propane to acrylic acid, *Chem. Commun.* 4, **2006**, 451-453.
551. Herbert, R., Wild, U., Hess, C., Schlögl, R., Nanostrukturierte Vanadiumoxid-Modell-Katalysatoren auf Basis von mesoporösem SBA-15, *Chemie Ingenieur Technik* 78, (9) **2006**, 1263.
552. Girgsdies, F., Dong, W. S., Bartley, J. K., Hutchings, G. J., Schlögl, R., Ressler, T., The crystal structure of e-VOPO₄ *Solid State Sci.* 8, **2006**, 807-812.
553. Gassenbauer, Y., Schafranek, R., Klein, A., Zafeiratos, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., Surface states, surface potentials, and segregation at surfaces of tin-doped In₂O₃, *Phys. Rev. B* 73, **2006**, 245312-245311-245312-245311.
554. Gassenbauer, Y., Schafranek, R., Klein, A., Zafeiratos, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., Surface potential changes of semiconducting oxides monitored by high-pressure photoelectron spectroscopy: Importance of electron concentration at the surface, *Solid State Ionics* 177, **2006**, 3123-3127.
555. Gassenbauer, Y., Schafranek, R., Klein, A., Zafeiratos, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., High-Pressure XPS of transparent conducting oxides: Fermi level position and composition at ITO surface, *BESSY Annual Report 2005* **2006**, 386-387.

556. Gajovic, A., Djerdj, I., Furic, K., Su, D. S., Tonejc, A., Tonejc, A. M., Music, S., Schlögl, R., Mechanism of ZrTiO₄ synthesis by mechanochemical processing of TiO₂ and ZrO₂ *J. Am. Ceram. Soc.* **89**, **2006**, 2186.
557. Gajovic, A., Djerdj, I., Furic, K., Schlögl, R., Su, D. S., Preparation of nanostructured ZrTiO₄ by solid state reaction in equimolar mixture of TiO₂ and ZrO₂, *Crystal Research and Technology* **41**, (11) **2006**, 1076-1081.
558. Gabasch, H., Unterberger, W., Hayek, K., Klötzer, B., Kleimenov, E., Teschner, D., Zafeiratos, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., Han, J. Y., Ribeiro, F. H., Aszalos-Kiss, B., Curtin, T., Zemlyanov, D., In situ XPS study of Pd(111) oxidation at elevated pressure, Part 2: Palladium oxidation in the 10⁻¹ mbar range, *Surf. Sci.* **600**, (15) **2006**, 2980-2989.
559. Gabasch, H., Knop-Gericke, A., Schlögl, R., Penner, S., Jenewein, B., Hayek, K., Klötzer, B., Zn Adsorption on Pd(111): ZnO and PdZn Alloy Formation, *J. Phys. Chem. B* **110**, (23) **2006**, 11391-11398.
560. Gabasch, H., Kleimenov, E., Teschner, D., Zafeiratos, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., Zemlyanov, D., Aszalos-Kiss, B., Hayek, K., Klötzer, B., Carbon incorporating during ethene oxidation on Pd(111) studied by in situ X-ray photoelectron spectroscopy at 2 x 10⁻³ mbar, *J. Catal.* **242**, (2) **2006**, 340-348.
561. Gabasch, H., Hayek, K., Klötzer, B., Knop-Gericke, A., Schlögl, R., Carbon incorporation in Pd(111) by adsorption and dehydrogenation of ethene, *J. Phys. Chem. B* **110**, (10) **2006**, 4947-4952.
562. Dennstedt, A., Frenzel, N., Trunschke, A., Schlögl, R., Lerch, M., Ressler, T., Zirconium oxynitride as new support for Cu in methanol steam oxidation, *HASYLAB Jahresbericht 2006* **2006**, 817-818.
563. Delgado, J. J., Vieira, R., Rebmann, G., Su, D. S., Keller, N., Ledoux, M. J., Schlögl, R., Supported Carbon Nanofibers for the Fixed-Bed Synthesis of Styrene, *Carbon* **44**, (4) **2006**, 809-812.
564. Delgado, J. J., Su, D. S., Rebmann, G., Keller, N., Gajovic, A., Schlögl, R., Immobilized carbon nanofibers as industrial catalyst for ODH reactions *J. Catal.* **244**, (1) **2006**, 126-129.
565. Dahl, C. C. v., Hävecker, M., Schlögl, R., Baldwin, I. T., Caterpillar-elicited methanol

- emissions: a new signal in plant-herbivore interactions?, *The Plant Journal* **46**, (6) **2006**, 1093-1098.
566. Conte, M., Budroni, G., Bartley, J. K., Taylor, S. H., Carley, A. F., Schmidt, A., Murphy, D. M., Girgsdies, F., Ressler, T., Schlögl, R., Hutchings, G. J., Chemically induced fast solid state transitions of α -VOPO₄ in vanadium phosphate catalysts, *Science* **313**, (5791) **2006**, 1270-1273.
567. Chen, X., Zhu, Z. P., Hävecker, M., Su, D. S., Schlögl, R., Carbon Nanotube-Induced Preparation of Vanadium Oxide Nanorods: Application as a Catalyst for the Partial Oxidation of n-Butane, *Mater. Res. Bull.* **42**, **2006**, 354-361.
568. Chen, X., Su, D. S., Schlögl, R., Immobilization of CNFs on the surface and inside of the modified activated carbon, *phys. stat. sol. (b)* **243**, (13) **2006**, 3533-3536.
569. Bukhtiyarov, V. I., Nizovskii, A. I., Bluhm, H., Hävecker, M., Kleimenov, E., Knop-Gericke, A., Schlögl, R., Combined in situ XPS and PTRMS study of ethylene epoxidation over silver, *J. Catal.* **238**, (2) **2006**, 260-269.
570. Blume, R., Hävecker, M., Zafeiratos, S., Teschner, D., Kleimenov, E., Knop-Gericke, A., Schlögl, R., Barinov, A., Dudin, P., Kiskinova, M., Catalytically active states of Ru(0001) catalyst in CO oxidation reaction, *J. Catal.* **239**, (2) **2006**, 354-361.
571. Blume, R., Hävecker, M., Zafeiratos, S., Teschner, D., Kleimenov, E., Knop-Gericke, A., Schlögl, R., Barinov, A., Dudin, P., Kiskinova, M., Catalytically active states of Ru(0001) catalysts in CO oxidation reaction, *BESSY Annual Report 2005* **2006**, 270-272.
572. Beato, P., Blume, A., Girgsdies, F., Jentoft, R. E., Schlögl, R., Timpe, O., Trunschke, A., Weinberg, G., Basher, Q., Hamid, F. A., Hamid, S. B. A., Omar, E., Mohd Salim, L., Analysis of structural transformations during the synthesis of a MoVTenb mixed oxide catalyst *Appl. Catal. A: General* **307**, (1) **2006**, 137-147.
573. Armbrüster, M., Kovnir, K., Osswald, J., Giedigkeit, R., Ressler, T., Grin, Y., Schlögl, R., PdGa - ein selektiver Katalysator für die Semihydrierung von Acetylen, *Z. Allg. Anorg. Chem.* **632**, **2006**, 2083.

574. . Zhu, Z. P., Su, D. S., Weinberg, G., Jentoft, R. E., Schlögl, R., Wet chemical assembly of carbon tube-in-tube nanostructures, *small* 1, (1) **2005**, 107-110.
575. Zafeiratos, S., Papakonstaninou, G., Paloukis, F., Knop-Gericke, A., Neophytides, S. G., Schlögl, R., A comparative in situ XPS study of PtRuCo catalyst for CH₃OH and CO oxidation using water, *BESSY Annual Report 2004* **2005**, 283-285.
576. Xia, W., Su, D. S., Schlögl, R., Birkner, A., Ruppel, L., Wöll, C., Qian, J., Liang, C., Marginean, G., Brandl, W., Muhler, M., Chemical vapour deposition and synthesis on carbon nanofibers: sintering of ferrocene-derived supported iron nanoparticles and the catalytic growth of secondary carbon nanofibers, *Chem. Mater.* 17, (23) **2005**, 5737-5742.
577. Xia, W., Su, D. S., Schlögl, R., Birkner, A., Muhler, M., Conical Carbon Filaments with Axial Cylindrical Channels and Open Tips, *Adv. Mater.* 17, (13) **2005**, 1677-1679.
578. Würz, R., Rusu, M., Schedel-Niedrig, T., Lux-Steiner, M. C., Bluhm, H., Hävecker, M., Kleimenov, E., Knop-Gericke, A., Schlögl, R., In situ X-ray photoelectron spectroscopy study of the oxidation of CuGaSe₂, *Surf. Sci.* 580, (1-3) **2005**, 80-94.
579. Willinger, M. G., Su, D. S., Schlögl, R., Electronic structure of b-VPO₄, *Phys. Rev. B* 71, **2005**, 155118-155118-155118-155118.
580. Veisz, B., Tóth, L., Teschner, D., Paál, Z., Györffy, N., Wild, U., Schlögl, R., Palladium-platinum powder catalysts manufactured by colloid synthesis: I. Preparation and characterization, *J. Mol. Catal. A: Chemical* 238, **2005**, 56-62.
581. Tham, A. T., Rödel, C., Lerch, M., Wang, D., Su, D. S., Klein-Hoffmann, A., Schlögl, R., A TEM study on ZrO₂-rich phases in the quasibinary system ZrO₂-Zr₂N₄: Comparison between fast and slowly cooled samples, *Crystal Research and Technology* 40, (3) **2005**, 193-198.
582. Teschner, D., Wild, U., Schlögl, R., Paál, Z., Surface State and Composition of a Disperse Pd Catalyst after its Exposure to Ethylene, *J. Phys. Chem. B* 109, (43) **2005**, 20516-20521.
583. Teschner, D., Pestryakov, A., Kleimenov, E., Hävecker, M., Bluhm, H., Sauer, H., Knop-Gericke, A., Schlögl, R., High-pressure X-ray photoelectron spectroscopy of palladium model hydrogenation catalysts. Part 1: Effect of gas ambient and temperature, *J. Catal.* 230, (1) **2005**, 186-194.

584. Teschner, D., Pestryakov, A., Kleimenov, E., Hävecker, M., Bluhm, H., Sauer, H., Knop-Gericke, A., Schlögl, R., High-pressure X-ray photoelectron spectroscopy of palladium model hydrogenation catalysts. Part 2: Hydrogenation of trans-2-pentene on palladium, *J. Catal.* 230, (1) **2005**, 195-203.
585. Su, D. S., Maksimova, N. I., Delgado, J. J., Keller, N., Mestl, G., Ledoux, M. J., Schlögl, R., Nanocarbons in Selective Oxidative Dehydrogenation Reaction, *Catal. Today* 102-103, **2005**, 110-114.
586. Su, D. S., Liu, X., Weinberg, G., Wang, N., Schlögl, R., (Secaucus, NJ) **2005**, p. 300.
587. Su, D. S., Chen, X. W., Weinberg, G., Klein-Hoffmann, A., Timpe, O., Abd Hamid, S. B., Schlögl, R., Hierarchically Structured Carbon: Synthesis of Carbon Nanofibers Nested inside or Immobilized onto Modified Activated Carbon, *Angew. Chem. Int. Ed.* 44, **2005**, 2-6.
588. Su, D. S., Chen, X. W., Weinberg, G., Klein-Hoffmann, A., Timpe, O., Abd Hamid, S. B., Schlögl, R., Hierarchisch strukturierter Kohlenstoff: Synthese von Kohlenstoffnanofasern eingebettet in oder immobilisiert auf modifizierter Aktivkohle, *Angew. Chem.* 117, (34) **2005**, 5624-5628.
589. Selvam, T., Marthala, V. R. R., Herrmann, R., Schwieger, W., Pfänder, N., Schlögl, R., Ernst, H., Freude, D., Al-rich mesoporous FSM-16 materials: Synthesis, characterization and catalytic properties, *Stud. Surf. Sci. Catal.* 158, (Part 1) **2005**, 501-508.
590. Schüle, A., Shekhah, O., Ranke, W., Schlögl, R., Kolios, G., Microkinetic modelling of the dehydrogenation of ethylbenzene to styrene over unpromoted iron oxides, *J. Catal.* 231, (1) **2005**, 173-180.
591. Schlögl, R., Dyker, G. Heterogeneous Catalysts for the C-H Transformation of Unfunctionalized Alkanes, Vol. 2 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, **2005**, pp. 589-598.
592. Rödel, E., Schlögl, R., Ressler, T., In situ XAS investigation of tungsten as structure directing agent during formation of Mo₅O₁₄ type partial oxidation catalysts, *Hasylab Jahresbericht 2005* **2005**, 1105-1106.
593. Ressler, T., Kniep, B. L., Kassatkine, I., Schlögl, R., Mikrostruktur von Kupfer-Zinkoxid-Katalysatoren - Überbrückung der "Materiallücke" in der heterogenen Katalyse, *Angew. Chem.* 117, **2005**, 4782-4785.

594. Ressler, T., Kniep, B. L., Kassatkine, I., Schlögl, R., The Microstructure of Copper Zinc Oxide Catalysts - Bridging the Materials Gap, *Angew. Chem. Int. Ed.* **44**, **2005**, 4704-4707.
595. Radnik, J., Wahab, A., Schneider, M., Pohl, M. M., Schlögl, R., Kubias, B., The influence of chemical transport via vapour phase on the properties of chloride and caesium doped V-Fe mixed oxide catalysts in the oxidation of butadiene to furan, *Appl. Catal. A: General* **285**, (1-2) **2005**, 139-150.
596. Polleux, J., Pinna, N., Antonietti, M., Hess, C., Wild, U., Schlögl, R., Niederberger, M., Ligand functionality as a versatile tool to control the assembly behavior of preformed titania nanocrystals, *Chem. Eur. J.* **11**, (12) **2005**, 3541-3551.
597. Penner, S., Wang, D., Schlögl, R., Hayek, K., Rhodium particles supported by thin vanadia films as model systems for catalysis: An electron microscopy study, *Thin Solid Films* **484**, **2005**, 10-17.
598. Paál, Z., Wootsch, A., Schlögl, R., Wild, U., Carbon accumulation, deactivation and reactivation of Pt catalysts upon exposure to hydrocarbons, *Appl. Catal. A: General* **282**, (1-2) **2005**, 135-145.
599. Paál, Z., Teschner, D., Rodriguez, N. M., Baker, R. T. K., Toth, L., Wild, U., Schlögl, R., Rh/GNF catalysts: Characterization and catalytic performance in methylcyclopentane reactions, *Catal. Today* **102-103**, **2005**, 254-258.
600. Müller, J. O., Su, D. S., Jentoft, R. E., Kröhnert, J., Jentoft, F. C., Schlögl, R., Morphology Controlled Reactivity of Carbonaceous Materials Towards Oxidation, *Catal. Today* **102-103**, **2005**, 259-265.
601. Mastalir, Á., Frank, B., Szizybalski, A., Soerijanto, H., Deshpande, A., Niederberger, M., Schomäcker, R., Schlögl, R., Ressler, T., Steam reforming of methanol over Cu/ZrO₂/CeO₂ catalyst: a kinetic study, *J. Catal.* **230**, **2005**, 464-475.
602. Macia-Agullo, J. A., Cazorla-Amoros, D., Lineares-Solano, A., Wild, U., Su, D. S., Schlögl, R., Oxygen functional groups involved in the styrene production reaction detected by quasi in-situ XPS, *Catal. Today* **102-103**, **2005**, 248-253.
603. Macia-Agullo, J. A., Cazorla-Amoros, D., Linares-Solano, A., Hävecker, M., Teschner, D., Kleimenov, E., Knop-Gericke, A., Schlögl, R., Investigation of styrene production over carbon catalysts using high pressure XPS, *BESSY Annual Report 2004* **2005**, 278-

280.

604. Kondratenko, E. V., Cherian, M., Baerns, M., Su, D. S., Schlögl, R., Wang, X., Wachs, I. E., Oxidative dehydrogenation of propane over V/MCM-41 catalysts: Comparison of O₂ and N₂O as oxidant, *J. Catal.* 234, (1) **2005**, 131-142.
605. Klose, B. S., Jentoft, R. E., Ressler, T., Joshi, P., Trunschke, A., Schlögl, R., Jentoft, F. C., Deactivation and Regeneration of Mn-Promoted Sulfated Zirconia Alkane Isomerization Catalysts: An In-Situ Spectroscopic Study, *Proc. DGMK Int. Conf.* 3, **2005**, 23-30.
606. Klose, B. S., Jentoft, F. C., Schlögl, R., In Situ Diffuse Reflectance IR Spectroscopic Investigation of Promoted Sulfated Zirconia Catalysts during n -Butane Isomerization, *J. Catal.* 233, **2005**, 68-80.
607. Kleimenov, E., Bluhm, H., Hävecker, M., Knop-Gericke, A., Pestryakov, A., Teschner, D., Lopez-Sanches, J. A., Bartley, J. K., Hutchings, G., Schlögl, R., XPS investigations of VPO catalysts under reaction conditions, *Surf. Sci.* 575, (1-2) **2005**, 181-188.
608. Jentoft, F. C., Kröhnert, J., Schlögl, R., IR Spectroscopic Investigation of Heteromolybdate Catalysts: Acidic Properties and Reactivity towards Propene, *Z. Phys. Chem.* 219, (7) **2005**, 1019-1045.
609. Huang, W., Ranke, W., Schlögl, R., Molecular Level Understanding the Catalytic Cycle of Dehydrogenation of Ethylbenzene to Styrene over Iron Oxide-based Catalyst, *J. Phys. Chem. B* 109, (19) **2005**, 9202-9204.
610. Hävecker, M., Pinna, N., Weiß, K., Sack-Kongehl, H., Jentoft, R. E., Wang, D., Swoboda, M., Wild, U., Niederberger, M., Urban, J., Su, D. S., Schlögl, R., Synthesis and functional verification of the unsupported active phase of V_xO_y catalysts for partial oxidation of n-butane, *J. Catal.* 236, **2005**, 221-232.
611. Hävecker, M., Knop-Gericke, A., Schlögl, R., X-ray sight active sites: Dynamics of catalytic surfaces under reaction conditions, *BESSY Highlights 2004* **2005**, 10-11.
612. Hävecker, M., Kniep, B., Kleimenov, E., Schnörch, P., Teschner, D., Zafeiratos, S., Bluhm, H., Knop-Gericke, A., Ressler, T., Schlögl, R., Combined in situ XPS and in situ soft XAS study of Cu/ZnO catalysts for methanol steam reforming, *BESSY Annual Report 2005* **2005**, 281-283.
613. Hahn, A. H. P., Jentoft, R. E., Ressler, T., Weinberg, G., Schlögl, R., Jentoft, F. C., Rapid

- Genesis of Active Phase during Calcination of Promoted Sulfated Zirconia Catalysts, *J. Catal.* **236**, **2005**, 324-334.
614. Györffy, N., Tóth, L., Bartók, M., Ocskó, J., Wild, U., Schlögl, R., Teschner, D., Paál, Z., Palladium-platinum powder catalysts manufactured by colloid synthesis: II. Characterization and catalytic tests after oxidizing and reducing treatment, *J. Mol. Catal. A: Chemical* **238**, **2005**, 102-110.
615. Günther, S., Zhou, L., Imbihl, R., Hävecker, M., Knop-Gericke, A., Kleimenov, E., Schlögl, R., In situ X-ray photoelectron spectroscopy of the methanol oxidation over Cu(110), *BESSY Annual Report 2004* **2005**, 299-301.
616. Girgsdies, F., Ressler, T., Wild, U., Wübber, T., Balk, T. J., Dehm, G., Zhou, L., Günther, S., Arzt, E., Imbihl, R., Schlögl, R., Strained thin copper films as model catalysts in the materials gap, *Catal. Lett.* **102**, **2005**, 91-97.
617. Fuchs, M., Jenewein, B., Penner, S., Hayek, K., Rupprechter, G., Wang, D., Schlögl, R., Calvino, J. J., Bernal, S., Interaction of Pt and Rh nanoparticles with ceria supports: Ring opening of methylcyclobutane and CO hydrogenation after reduction at 373-723 K, *Appl. Catal. A: General* **294**, **2005**, 279-289.
618. Dong, W. S., Bartley, J. K., Girgsdies, F., Schlögl, R., Hutchings, G. J., The hydration and transformation of vanadyl pyrophosphate, *J. Mater. Chem.* **15**, (38) **2005**, 4147-4153.
619. Dong, W. S., Bartley, J. K., Dummer, N. F., Girgsdies, F., Su, D. S., Schlögl, R., Volta, J. C., Hutchings, G. J., Reaction of vanadium phosphates with alcohols at elevated temperature and pressure, *J. Mater. Chem.* **15**, **2005**, 3214-3220.
620. Dennstedt, A., Deshpande, A., Niederberger, M., Schlögl, R., Ressler, T., Ternary Cu/ZrO₂/CeO catalysts for methanol steam reforming, *Hasylab Jahresbericht 2005* **2005**, 1115-1116.
621. Centi, G., Perathoner, S., Lanzafame, P., Gangeri, M., Su, D. S., Schlögl, R., (Università della Calabria) 2005, pp. 159-160.
622. Bukhtiyarov, V. I., Nizovskii, A. I., Bluhm, H., Hävecker, M., Kleimenov, E., Knop-Gericke, A., Schlögl, R., Combined high pressure XPS and PRTMS study of ethylene epoxidation over silver, *BESSY Annual Report 2004* **2005**, 290-292.
623. Bron, M., Teschner, D., Knop-Gericke, A., Steinhauer, B., Scheybal, A., Hävecker, M., Wang, D., Födisch, R., Hönicke, D., Wootsch, A., Schlögl, R., Claus, P., Bridging the

pressure and materials gap: In-depth characterization and reaction studies of silver characterization and reaction studies of silver catalysed acrolein hydrogenation, *J. Catal.* **234**, **2005**, 34-37.

624. Bron, M., Teschner, D., Knop-Gericke, A., Scheybal, A., Steinhauer, B., Hävecker, M., Födisch, R., Hönicke, D., Schlögl, R., Claus, P., In situ-XAS and catalytic study of acrolein hydrogenation over silver catalyst: Control of intramolecular selectivity by the pressure, *Catal. Commun.* **6**, (5) **2005**, 371-374.
625. Blume, A., Niehus, H., Bluhm, H., Hävecker, M., Knop-Gericke, A., Schlögl, R., Conrad, H., High pressure oxidation of the Ru(0001) surface at elevated temperatures investigated by in situ X-ray photoelectron spectroscopy, *BESSY Annual Report 2004* **2005**, 284-286.
626. Aszalos-Kiss, B., Zemlyanov, D., Gabasch, H., Unterberger, W., Klötzer, B., Teschner, D., Zafeiratos, S., Hävecker, M., Knop-Gericke, A., Schlögl, R., Oxygen dissolution: In situ XPS investigation of Pd(111) oxidation, *BESSY Annual Report 2004* **2005**, 287-289.

2004

627. Zhu, Z. P., Su, D. S., Weinberg, G., Schlögl, R., Supramolecular self-assembly of graphene sheets: formation of tube-in-tube nanostructures, *Nanoletters* **4**, (11) **2004**, 2255-2259.
628. Zhu, Z. P., Su, D. S., Schlögl, R., Weinberg, G., Liu, Z. Y., Molecular "Glass" Blowing: From Carbon Nanotubes to Carbon Nanobulbs, *Adv. Mater.* **16**, (5) **2004**, 443-447.
629. Zhang, H., Sun, J., Ma, D., Bao, X., Klein-Hoffmann, A., Weinberg, G., Su, D. S., Schlögl, R., Unusual Mesoporous SBA-15 with Parallel Channels Running along the Short Axis, *J. Am. Chem. Soc.* **126**, **2004**, 7440-7441.
630. Wootsch, A., Wild, U., Schlögl, R., Paál, Z., Effect of K on the deactivation of model Pt black catalysts: electron spectroscopy and hexane test reaction, *Catal. Commun.* **5**, (8) **2004**, 419-423.
631. Willinger, M., Pinna, N., Su, D. S., Schlögl, R., Geometric and electronic structure of α -V₂O₅: A Comparison Between α -V₂O₅ and γ -V₂O₅. *Phys. Rev. B* **69**, **2004**, 155114-155111-155114-155117.

632. Wagner, J. B., Su, D. S., Schunk, S. A., Hibst, H., Petzoldt, J., Schlögl, R., Structural characterization of high-performance catalysts for partial oxidation-the high-resolution and analytical electron microscopy approach, *J. Catal.* 224, (1) **2004**, 28-35.
633. Wagner, J. B., Abd Hamid, S. B., Othman, D., Timpe, O., Knop-Gericke, A., Niemeyer, D., Su, D. S., Schlögl, R., Nanostructuring of binary molybdenum oxide catalysts for propene oxidation, *J. Catal.* 225, **2004**, 78-85.
634. Su, D. S., Müller, J. O., Jentoft, R. E., Rothe, D., Jacob, E., Schlögl, R., Fullerene-like soot from EuroIV diesel engine: consequences for catalytic automotive pollution control, *Top. Catal.* 30/31, **2004**, 241-245.
635. Su, D. S., Jentoft, R. E., Müller, J. O., Rothe, D., Jacob, E., Simpson, C. D., Tomovic, Z., Müllen, K., Messerer, A., Pöschl, U., Niessner, R., Schlögl, R., Microstructure and oxidation behaviour of Euro IV diesel soot: a comparative study with synthetic model soot substances, *Catal. Today* 90, (1-2) **2004**, 127-132.
636. Shekhah, O., Ranke, W., Schlögl, R., Styrene synthesis: in situ characterization and reactivity studies of unpromoted and potassium-promoted iron oxide model catalysts, *J. Catal.* 225, **2004**, 56-68.
637. Schwieger, W., Selvam, T., Gravenhorst, O., Pfänder, N., Schlögl, R., Mabande, G. T. P., Intercalation of $[\text{Pt}(\text{NH}_3)_4]^{2+}$ ions into layered sodium silicate magadiite: a useful method to enhance their stabilisation in a highly dispersed state, *J. Phys. Chem. Solids* 65, (2-3) **2004**, 413-420.
638. Schwieger, W., Gravenhorst, O., Selvam, T., Roessner, F., Schlögl, R., Su, D. S., Mabande, G. T. P., Intercalation of $[\text{Pt}(\text{NH}_3)_4]^{2+}$ ions into the layered sodium silicate, Na-magadiite *Stud. Surf. Sci. Catal.* 154, (Part 1) **2004**, 900-901.
639. Schlögl, R., Abd Hamid, S. B., Nanocatalyse: Alter Wein aus neuen Schläuchen oder etwas wirklich Neues?, *Angew. Chem.* 116, (13) **2004**, 1656-1667.
640. Schlögl, R., Abd Hamid, S. B., Nanocatalysis: The recap of mature science or something really new?, *Angew. Chem. Int. Ed.* 43, (13) **2004**, 1628-1637.
641. Schlögl, R., Trendberichte 2003 Heterogene Katalyse, *Nachrichten aus der Chemie* 52, **2004**, 321-323.
642. Schlögl, R. In situ Characterisation of Practical Heterogeneous Catalysis, (Ed. Baerns, M.), Springer Verlag, Berlin Heidelberg New York, **2004**, pp. 321-360.

643. Purnama, H., Ressler, T., Jentoft, R. E., Soerijanto, H., Schlögl, R., Schomäcker, R., CO formation/selectivity for steam reforming of methanol with a commercial CuO/ZnO/Al₂O₃ catalyst, *Appl. Catal. A: General* **259**, (1) **2004**, 83-94.
644. Purnama, A., Girgsdies, F., Ressler, T., Schattka, J. H., Caruso, R. A., Schomäcker, R., Schlögl, R., Activity and selectivity of a nanostructured CuO/ZrO₂ catalyst in the steam reforming of methanol *Catal. Lett.* **94**, (1-2) **2004**, 61-68.
645. Penner, S., Wang, D., Podlucky, R., Schlögl, R., Hayek, K., Rh and Pt nanoparticles supported by CeO₂: metal-support interaction upon high-temperature reduction observed by electron microscopy, *Phys. Chem. Chem. Phys.* **6**, **2004**, 5244-5249.
646. Lu, Y., Zhu, Z., Su, D. S., Wang, D., Liu, Z., Schlögl, R., Formation of bamboo-shape carbon nanotubes by controlled rapid decomposition of picric acid, *Carbon* **42**, (15) **2004**, 3199-3207.
647. Kniep, B. L., Ressler, T., Rabis, A., Girgsdies, F., Baenitz, M., Steglich, F., Schlögl, R., Rationales Design von nanostrukturierten Kupfer-Zinkoxid-Katalysatoren für die Dampfreformierung von Methanol, *Angew. Chem.* **116**, **2004**, 114-117.
648. Kniep, B. L., Ressler, T., Rabis, A., Girgsdies, F., Baenitz, M., Steglich, F., Schlögl, R., Rational design of nanostructured Copper-Zinc Oxide Catalysts for the Steam Reforming of Methanol, *Angew. Chem. Int. Ed.* **43**, (1) **2004**, 112-115.
649. Klokishner, S., Melsheimer, J., Jentoft, F. S., Schlögl, R., Optical bands of dodecanuclear compounds H₄PVMO₁₁O₄₀ x yH₂O with Keggin structure. Semiclassical vibronic model, *Phys. Chem. Chem. Phys.* **6**, **2004**, 2066-2082.
650. Ketteler, G., Ranke, W., Schlögl, R., An Interfactant for Metal Oxide Heteroepitaxy: Growth of dispersed ZrO₂(111) Films on FeO(111) precovered Ru(0111), *Phys. Chem. Chem. Phys.* **6**, **2004**, 205-208.
651. Joseph, Y., Krasteva, N., Besnard, I., Guse, B., Rosenberger, M., Wild, U., Knop-Gericke, A., Schlögl, R., Krustev, R., Yasuda, A., Vossmeier, Gold-nanoparticle/organic linker films: self-assembly, electronic and structural characterisation, composition and vapour, *Faraday Discuss.* **125**, **2004**, 77-97.
652. Jentoft, F. C., Hahn, A., Kröhnert, J., Lorenz, G., Jentoft, R. E., Ressler, T., Wild, U., Schlögl, R., Häßner, C., Köhler, K., Incorporation of manganese and iron into the zirconia lattice in promoted sulfated zirconia catalysts. *J. Catal.* **224**, (1) **2004**, 124-137.

653. Horn, R., Mestl, G., Thiede, M., Jentoft, F. C., Schmidt, P. M., Bewersdorf, M., Weber, R., Schlögl, R., Gas phase contributions to the catalytic formation of HCN from CH₄ and NH₃ over Pt: An in situ study by molecular beam mass spectrometry with threshold ionization *Phys. Chem. Chem. Phys.* **6**, (18) **2004**, 4514-4521.
654. Heijboer, W. M., de Groot, F. M. F., Battison, A. A., Knop-Gericke, A., Hävecker, M., Mayer, R. W., Bluhm, H., Schlögl, R., Koningsberger, D. C., In-situ soft X-ray absorption of overexchanged Fe/ZSM5. *J. Phys. Chem. B* **107**, **2004**, 13069-13075.
655. Hävecker, M., Knop-Gericke, A., Bluhm, H., Kleimenov, E., Mayer, W., Fait, M., Schlögl, R., Dynamic surface behaviour of VPO catalysts under reactive and non-reactive gas compositions: an in situ XAS study, *Appl. Surf. Sci.* **230**, (1-4) **2004**, 272-282.
656. Grünert, W., Schlögl, R., Photoelectron Spectroscopy of Zeolites, Springer Verlag, Heidelberg, **2004**, p.
657. Bluhm, H., Hävecker, M., Knop-Gericke, A., Teschner, D., Kleimenov, E., Bukhtiyarov, V. I., Ogletree, D. F., Salmeron, M., Schlögl, R., Methanol oxidation on a copper catalyst investigated using in situ X-ray photoelectron spectroscopy, *J. Phys. Chem. B* **108**, (14340) **2004**, 14347.
658. Baker, R. T. K., Rodriguez, N., Mastalir, Á., Wild, U., Schlögl, R., Wootsch, A., Paál, Z., Pt/Graphite Nanofiber catalysts of Various Structure: Characterization and Catalytic Properties, *J. Phys. Chem. B* **108**, (38) **2004**, 14348-14355.
659. Abd Hamid, S. B., Schlögl, R., Fecht, H. J., Werner, M. Impact of Nanoscience on Heterogeneous Catalysis, Vol. Wiley-VCH Verlag, Weinheim, **2004**, pp. 139-150.

2003

660. Wang, D., Su, D. S., Schlögl, R., Crystallographic shear defect in molybdenum oxides: structure and TEM of molybdenum sub-oxides Mo₁₈O₅₂ and Mo₈O₂₃ *Cryst. Res. Technol.* **38**, (2) **2003**, 153-159.
661. Wang, D., Penner, S., Su, D. S., Rupprechter, G., Hayek, K., Schlögl, R., SiO₂ Supported Pt Particles Studied by Electron Microscopy, *Materials Chemistry and Physics* **81**, (2-3) **2003**, 341-344.

662. Wang, D., Penner, S., Su, D. S., Rupprechter, G., Hayek, K., Schlögl, R., Silicide formation on a Pt/SiO₂ model catalyst studied by TEM, EELS, and EDXS, *J. Catal.* 219, **2003**, 434-441.
663. Su, D. S., Zandbergen, H. W., Tiemeijer, P. C., Kothleitner, G., Hävecker, M., Hébert, C., Knop-Gericke, A., Freitag, B. H., Hofer, F., Schlögl, R., High resolution EELS using monochromator and high performance spectrometer: comparison of V₂O₅ ELNES with NEXAFS and band structure calculations, *Micron* 34, (3-5) **2003**, 235-238.
664. Su, D. S., Hébert, C., Willinger, M., Schlögl, R., Anisotropy and collection angle dependence of the oxygen K ELNES in V₂O₅: a band-structure calculation study, *Micron* 34, (3-5) **2003**, 227-233.
665. Shekhah, O., Ranke, W., Schüle, A., Kolios, G., Schlögl, R., Styrolsynthese: hoher Umsatz über unpromotierten Eisenoxidkatalysatoren unter praktischen Arbeitsbedingungen, *Angew. Chem.* 115, (46) **2003**, 5938-5941.
666. Shekhah, O., Ranke, W., Schüle, A., Kolios, G., Schlögl, R., Styrene Synthesis: High Conversion over Unpromoted Iron Oxide Catalysts under Practical Working Conditions, *Angew. Chem. Int. Ed.* 42, (46 /46) **2003**, 5760-5763.
667. Schwieger, W., Gravenhorst, O., Selvam, T., Rössner, F., Schlögl, R., Su, D. S., Mabande, G. T. P., Preparation of highly loaded platinum nanoparticles on silica by intercalation of [Pt(NH₃)₄]²⁺ ions into layered sodium silicate ilerite, *Coll. Polym. Sci.* 281, (6) **2003**, 584-588.
668. Schur, M., Bems, B., Dassenoy, A., Kassatkine, I., Urban, J., Wilmer, H., Hinrichsen, O., Muhler, M., Schlögl, R., Continuous Coprecipitation of Catalysts in a Micromixer: Nanostructured Cu/ZnO Composite for the Synthesis of Methanol, *Angew. Chem. Int. Ed.* 42, (32) **2003**, 3815-3817.
669. Schur, M., Bems, B., Dassenoy, A., Kassatkine, I., Urban, J., Wilmer, H., Hinrichsen, O., Muhler, M., Schlögl, R., Kontinuierliche Cofällung von Katalysatoren in einem Mikromischer: nanostrukturierte Cu/ZnO Komposite für die Methanolsynthese *Angew. Chem.* 115, (32) **2003**, 3945-3947.
670. Schlögl, R., Katalytische Ammoniaksynthese-Eine "unendliche Geschichte"?, *Angew. Chem.* 115, (18) **2003**, 2050-2055.
671. Schlögl, R., Aktueller Forschungsschwerpunkt: Wie funktioniert ein heterogener

- Katalysator?, *Jahrbuch der Max-Planck-Gesellschaft 2002* **2003**, 468-478.
672. Schlögl, R., (Glasgow, UK) 2003, pp. 108-120.
673. Schlögl, R., *Catalysis from A to Z. A Concise Encyclopedia*, Wiley-VCh, Weinheim, **2003**, p.
674. Schlögl, R. Electronic publishing, Vol. Max-Planck-Forum 6 (Ed. Max-Planck-Gesellschaft), München, **2003**, pp. 131-137.
675. Schlögl, R., Multifunctionality of catalytically active sites and their detection - Preface, *Top. Catal.* 23, (1-4) **2003**, 2-3.
676. Schlögl, R., Catalytic synthesis of ammonia - A "never-ending story"? [Review], *Angew. Chem. Int. Ed.* 42, (18) **2003**, 2004-2008.
677. Pinna, N., Willinger, M., Weiss, K., Urban, J., Schlögl, R., Local structure of nanoscopic materials: V₂O₅ nanorods and nanowires, *Nano Letters* 3, (8) **2003**, 1131-1134.
678. Pinna, N., Wild, U., Urban, J., Schlögl, R., Divanadium pentoxide nanorods, *Adv. Mater.* 15, (4) **2003**, 329-331.
679. Penner, S., Rupprechter, G., Sauer, H., Su, D. S., Tessadri, R., Podloucky, R., Schlögl, R., Hayek, K., Pt/ceria thin film model catalysts after high-temperature reduction: a (HR)TEM study, *Vacuum* 71, (1-2) **2003**, 71-76.
680. Mayer, R. W., Melzer, M., Hävecker, M., Knop-Gericke, A., Urban, J., Freund, H. J., Schlögl, R., Comparison of oxidized polycrystalline copper foil with small deposited copper clusters on their behavior in the ammonia oxidation: an investigation by means of in situ NEXAFS spectroscopy in the soft X-ray range, *Catal. Lett.* 86, (4) **2003**, 245-250.
681. Lopez-Sanches, J. A., Griesel, L., Bartley, J. K., Wells, R. P. K., Lisowski, A., Su, D., Schlögl, R., Volta, J. C., Hutchings, G. J., High temperature preparation of vanadium phosphate catalysts using water as solvent, *Phys. Chem. Chem. Phys.* 5, (16) **2003**, 3525-3533.
682. Kryukova, G. N., Zenkovets, G. A., Pfänder, N., Su, D. S., Schlögl, R., Synthesis and Characterization of the Titanium Doped Nanostructural V₂O₅. *J. Mater. Sci.* A343, (1-2) **2003**, 8-12.
683. Knobl, S., Zenkovets, G. A., Kryukova, G. N., Ovsitser, O., Niemeyer, D., Schlögl, R., Mestl, G., The synthesis and structure of a single-phase, nanocrystalline MoVW mixed-oxide catalyst of the Mo₅O₁₄ type, *J. Catal.* 215, (2) **2003**, 177-187.

684. Knobl, S., Zenkovets, G. A., Kryukova, G. N., Maksimovskaya, R. I., Vasenin, N. T., Niemeyer, D., Schlögl, R., Nanoclusters as Precursors to $(\text{MoVW})_5\text{O}_{14}$: In situ and chemical characterisation of the systems of a single phase oxidation catalyst, *Phys. Chem. Chem. Phys.* 23, (5) **2003**, 5343-5348.
685. Kharlamov, A., Ushkalov, L. N., Su, D. S., Ayub, I., Schlögl, R., Investigation of the Morphology of Vanadyl Pyrophosphate $((\text{VO})_2\text{P}_2\text{O}_7)$ and its Precursor $(\text{VOHPO}_4 \cdot 0.5\text{H}_2\text{O})$ by Scanning and Transmission Electron Microscopies, *Reports of the National Academy of Sciences of Ukraine* 2, **2003**, 94-102.
686. Katzke, H., Schlögl, R., General structural relationships between rutile-type VO_2 and the Magnéli-phases $\text{V}_n\text{O}_{2n-1}$. *Z. Kristallogr.* 218, (6) **2003**, 432-439.
687. Katzke, H., Schlögl, R., Mechanism of the morphotropic transformation between the rutile and corundum structural types, *Acta Crystall. B* 59, (4) **2003**, 456-462.
688. Kaichev, V. V., Bukhtiyarov, V. I., Hävecker, M., Knop-Gericke, A., Schlögl, R., The nature of electrophilic and nucleophilic oxygen adsorbed on silver, *Kinetics and Catalysis* 44, (3) **2003**, 432-440.
689. Joseph, Y., Besnard, I., Rosenberger, M., Guse, B., Nothofer, H. G., Wessels, J. M., Wild, U., Knop-Gericke, A., Su, D. S., Schlögl, R., Yasuda, A., Vossmeier, T., Self-assembled Gold Nanoparticle/Alkanedithiol Films: Preparation, Electron Microscopy, XPS-Analysis, Charge Transport, and Vapor-Sensing Properties, *J. Phys. Chem. B* 107, (30) **2003**, 7406-7413.
690. Jentoft, F., Klokishner, S., Kröhnert, J., Melsheimer, J., Ressler, T., Timpe, O., Wienold, J., Schlögl, R., The Structure of Molybdenum-Heteropoly-Acids under Conditions of Gas Phase Selective Oxidation Catalysis: A Multi-Method in-situ Study, *Appl. Catal. A: General* 256, **2003**, 291-317.
691. Jakob, E., Rothe, D., Schlögl, R., Su, D. S., Müller, J. O., Nießner, R., Adelheim, C., Messerer, A., Pöschl, U., Müllen, K., Simpson, C., Tomovic, Z., Dieselruß: Mikrostruktur und Oxidationskinetik, *VDI-Berichte* 593, (2) **2003**, 19-45.
692. Hävecker, M., Mayer, R. W., Knop-Gericke, A., Bluhm, H., Kleimenov, E., Lisowski, A., Su, D. S., Follath, R., Requejo, F. G., Ogletree, D. F., Salmeron, M., Lopez-Sanches, J. A., Bartley, J. K., Hutchings, G. J., Schlögl, R., In situ investigation of the nature of the active surface of a vanadyl pyrophosphate catalyst during n-butane oxidation to maleic

- anhydride, *J. Phys. Chem. B* **107**, (19) **2003**, 4587-4596.
693. Doyle, A. M., Rupprechter, G., Pfänder, N., Schlögl, R., Kirschhock, C. E. A., Martens, J. A., Freund, H.-J., Ultra-thin zeolite films prepared by spin-coating Silicalite-1 precursor solutions *Chem. Phys. Lett.* **382**, (3-4) **2003**, 404-409.
694. Bukhtiyarov, V. I., Hävecker, M., Kaichev, V. V., Knop-Gericke, A., Mayer, R. W., Schlögl, R., Atomic oxygen species on silver: Photoelectron spectroscopy and x-ray absorption studies, *Phys. Rev. B* **67**, **2003**, 235422.
695. Bluhm, H., Hävecker, M., Knop-Gericke, A., Teschner, D., Kleimenov, E., Bukhtiyarov, V. I., Ogletree, D. F., Salmeron, M., Schlögl, R., In situ X-ray photoelectron spectroscopy of the methanol oxidation on copper, *BESSY Annual Report 2002* **2003**, 229-232.
696. Bluhm, H., Hävecker, M., Kleimenov, E., Knop-Gericke, A., Liskowski, A., Schlögl, R., Su, D. S., In situ surface analysis in selective oxidation catalysis: n-butane conversion over VPP, *Top. Catal.* **23**, (1-4) **2003**, 99-107.
697. Bems, B., Schur, M., Dassenoy, A., Junkes, H., Herein, D., Schlögl, R., Relations Between Synthesis and Microstructural Properties of Copper/Zinc Hydrocarbonates, *Chem. Eur. J.* **9**, **2003**, 2039-2052.
698. Ayub, I., Su, D., Willinger, M., Kharlamov, A., Ushkalov, L., Zazhigalov, V. A., Kirilova, N., Schlögl, R., Tribomechanical Modification of Bi Promoted Vanadyl Phosphate Systems 1: An Improved Catalyst and Insight Into Structure-function Relationship, *Phys. Chem. Chem. Phys.* **5**, (5) **2003**, 970-978.
699. Ahmad, R., Melsheimer, J., Jentoft, F. C., Schlögl, R., Isomerization of n-butane and of n-pentane in the presence of sulfated zirconia: formation of surface deposits investigated by in situ UV-vis diffuse reflectance spectroscopy, *J. Catal.* **218**, (2) **2003**, 365-374.
700. Abd Hamid, S. B., Othman, N. D., Abdullah, N., Timpe, O., Knobl, S., Niemeyer, D., Wagner, J., Su, D., Schlögl, R., Structurally complex molybdenum oxide model catalysts for the selective oxidation of propene, *Top. Catal.* **24**, (1-4) **2003**, 87-95.

2002

701. Wölk, H. J., Hoffmann, B., Mestl, G., Schlögl, R., Experimental Archaeology: Investigations on the Copper-Aluminum-Silicon-Oxygen System, *J. Am. Ceram. Soc.* **85**, (7) **2002**, 1876-1878.
702. Wieske, M., Su, D. S., Beckmann, F., Schlögl, R., Electron-Beam-Induced Structural Variations of Divanadium Pentoxide (V_2O_5) at Liquid Helium Temperature, *Catal. Lett.* **81**, (1-2) **2002**, 43-47.
703. Vinogradov, A. S., Preobrajenski, A. B., Krasnikov, S. A., Chassé, T., Szargan, R., Knop-Gericke, A., Schlögl, R., Bressler, P., X-ray Absorption Evidence for the Back-Donation in Iron Cyanide Complexes, *Surf. Rev. Lett.* **9**, (1) **2002**, 359-364.
704. Uchida, Y., Mestl, G., Ovsitser, O., Jäger, J., Blume, A., Schlögl, R., Molybdenum Oxide Based Partial Oxidation Catalyst. 4. TEM Identification of a New Oxygen-Reduced Phase Formed During Acrolein Partial Oxidation Under Reducing Conditions, *J. Mol. Catal. A: Chemical* **187**, (2) **2002**, 247-257.
705. Su, D. S., Schlögl, R., Thermal decomposition of divanadium pentoxide V_2O_5 : Towards a nano-crystalline V_2O_3 phase, *Catal. Lett.* **83**, (3-4) **2002**, 115-119.
706. Schlögl, R., Schüth, F., Sing, K., Weitkamp, J. Surface Composition and Structure of Active Carbons, Vol. Wiley-VCH, Weinheim, **2002**, pp. 1863-1900.
707. Savinova, E., Scheybal, A., Danckwerts, M., Wild, U., Pettinger, B., Doblhofer, K., Schlögl, R., Ertl, G., Structure and dynamics of the interface between a Ag single crystal electrode and an aqueous electrolyte, *Faraday Discuss.* **121**, **2002**, 181-198.
708. Roddatis, V. V., Su, D. S., Jentoft, F. C., Schlögl, R., Temperature- and Electron-Beam-Induced Crystallization of Zirconia Thin Films Deposited from Aqueous Medium: A TEM Study, *Philosophical Magazine A - Physics of Condensed Matter Defects & Mechanical Properties* **82**, (15) **2002**, 2825-2839.
709. Roddatis, V. V., Su, D. S., Beckmann, E., Jentoft, F. C., Braun, U., Kröhnert, J., Schlögl, R., The Structure of Thin Zirconia Films Obtained by Self-Assembled Monolayer Mediated Deposition: TEM and HREM Study, *Surf. Coat. Technol.* **151**, **2002**, 63-66.
710. Roddatis, V. V., Kuznetsov, V. L., Butenko, Y. V., Su, D. S., Schlögl, R., Transformation of Diamond Nanoparticles into Carbon Onions Under Electron Irradiation, *Phys. Chem. Chem. Phys.* **4**, (10) **2002**, 1964-1967.
711. Ressler, T., Girgsdies, F., Schlögl, R., MPG-Verbundprojekt: Nanochemie für eine

- zukünftige Automobiltechnik, *Journal Arbeit* 2, (1) **2002**, 45-45.
712. Raymundo-Pinero, E., Carzorla-Amorós, D., Linares-Solano, A., Find, J., Wild, U., Schlögl, R., Structural Characterisation of N-Containing Activated Carbon Fibres Prepared from a Low Softening Point Petroleum Pitch and a Melamine Resin Source, *Carbon* 40, (4) **2002**, 597-608.
713. Pham-Huu, C., Keller, N., Roddatis, V. V., Mestl, G., Schlögl, R., Ledoux, M. J., Large Scale Synthesis of Carbon Nanofibers by Catalytic Decomposition of Ethane on Nickel Nanoclusters Decorating Carbon Nanotubes, *Phys. Chem. Chem. Phys.* 4, (3) **2002**, 514-521.
714. Penner, S., Wang, D., Su, D. S., Rupprechter, G., Podloucky, R., Schlögl, R., Hayek, K., Platinum Nanocrystals Supported by Silica, Alumina and Ceria: Metal-Support Interaction Due to High-Temperature Reduction in Hydrogen, *Surf. Sci.* 532-535, **2002**, 276-280.
715. Ovsitser, O., Uchida, Y., Mestl, G., Weinberg, G., Blume, A., Schlögl, R., Molybdenum Oxide Based Partial Oxidation Catalyst: 3. Structural Changes of a MoVW Mixed Oxide Catalyst During Activation and Relation to Catalytic Performance in Acrolein Oxidation, *J. Mol. Catal. A: Chemical* 185, (1-2) **2002**, 291-303.
716. Melzer, M., Urban, J., Sack-Kongehl, H., Weiss, K., Freund, H. J., Schlögl, R., Preparation of Vanadium and Vanadium Oxide Clusters by Means of Inert Gas Aggregation, *Catal. Lett.* 81, (3-4) **2002**, 219-221.
717. Melsheimer, J., Kröhnert, J., Ahmad, R., Klokishner, S., Jentoft, F. C., Mestl, G., Schlögl, R., UV/Vis/Near-IR Spectroscopic Characteristics of $H_{4-x}Cs_xPVMo_{11}O_{40}$ ($x = 0,2$) Catalyst Under Different Temperatures and Gas Atmospheres, *Phys. Chem. Chem. Phys.* 4, (11) **2002**, 2398-2408.
718. Lopez-Sanches, J. A., Bartley, J., Burrows, A., Kiely, C. J., Hävecker, M., Schlögl, R., Volta, J. C., Poliakoff, M., Hutchings, G. J., Effects of cobalt additive on amorphous vanadium phosphate catalysts prepared using precipitation with supercritical CO_2 as an antisolvent, *New Journal of Chemistry* 26, (12) **2002**, 1811-1816.
719. Linke, D., Wolf, D., Baerns, M., Timpe, O., Schlögl, R., Zeyss, S., Dingerdissen, U., Catalytic Partial Oxidation of Ethane to Acetic Acid over $Mo_1V_{0.25}Nb_{0.12}Pd_{0.0005}O_x$. Part I: Catalyst Performance and Reaction Mechanism, *J. Catal.* 205, (1) **2002**, 16-31.

720. Kothleitner, G., Hofer, F., Su, D. S., Schlögl, R., Freitag, B. H., Tiemeijer, P. C., Comparative ELNES measurements on selected transition metal oxides on a new high energy-resolution spectrometer/monochromator TEM, *Microsc. Microanal.* **8**, (2) **2002**.
721. Klokishner, S., Melsheimer, J., Ahmad, R., Jentoft, F. C., Mestl, G., Schlögl, R., Influence of the Dehydration Effects on the Optical Spectra of $H_4PVMo_{11}O_{40}$ in the Visible and Near Infrared Range: Intra- and Intercenter Optical Transitions in the V-Mo-Cluster, *Spectrochim. Acta, Part A* **58**, (1) **2002**, 1-15.
722. Ketteler, G., Ranke, W., Schlögl, R., Potassium-Promoted Iron Oxide Model Catalyst Films for the Dehydrogenation of Ethylbenzene: An Example for Complex Model Systems, *J. Catal.* **212**, (1) **2002**, 104-111.
723. Keller, N., Maksimova, N. I., Roddatis, V. V., Schur, M., Mestl, G., Butenko, Y. V., Kuznetsov, V. L., Schlögl, R., The Catalytic Use of Onion-like Carbon Materials: The Styrene Synthesis / (Zwiebelförmige Kohlenstoffe als Katalysatoren in der Styrolsynthese durch oxidative Dehydrierung von Ethylbenzol), *Angew. Chem. Int. Ed./ Angew.Chem.* **41** / (114), (11) **2002**, 1885-1888.
724. Hutchings, G. J., Lopez-Sanchez, J. A., Bartley, J. K., Webster, J. M., Burrows, A., Carley, A. F., Rhodes, C., Hävecker, M., Knop-Gericke, A., Mayer, R. W., Schlögl, R., Amorphous Vanadium Phosphate Catalysts Prepared Using Precipitation with Supercritical CO_2 as Antisolvent, *J. Catal.* **208**, (1) **2002**, 197-210.
725. Hutchings, G. J., Che, M., Schlögl, R., Baerns, M., Preface, *Top. Catal.* **21**, (1-3) **2002**, 1-10.
726. Hébert, C., Willinger, M., Dangsheng, S., Pongratz, P., Schattschneider, P., Schlögl, R., Oxygen K-edge in Vanadium Oxides: Simulations and Experiments, *Eur. Phys. J. B* **28**, (4) **2002**, 407-414.
727. Hävecker, M., Mayer, R. W., Knop-Gericke, A., Schlögl, R., Heterogeneous Catalysis: Surface Structures in a High Pressure Environment, *BESSY Highlights 2001* **2002**, 10-11.
728. Hävecker, M., Knop-Gericke, A., Mayer, R. W., Fait, M., Bluhm, H., Schlögl, R., Influence of the Geometric Structure on the V L 3 Near Edge X-ray Absorption Fine Structure From Vanadium Phosphorous Oxide Catalysts, *J. Electron Spectrosc. Relat. Phenom.* **125**, (2) **2002**, 79-87.
729. Coelfen, H., Schnablegger, H., Fischer, A., Jentoft, F. C., Weinberg, G., Schlögl, R.,

Particle Growth Kinetics in Zirconium Sulfate Aqueous Solutions Followed by Dynamic Light Scattering and Analytical Ultracentrifugation - Implications for Thin Film Deposition, *Langmuir* 18, (9) **2002**, 3500-3509.

2001

730. Wölk, H. J., Steinhauer, B., Weinberg, G., Mestl, G., Schlögl, R., Copper - Morphology and Selective Partial Oxidation, *Chemie Ingenieur Technik* 73, (6) **2001**, 666.
731. Vinogradov, A. S., Preobrajenski, A. B., Krasnikov, S. A., Knop-Gericke, A., Bressler, P., Chass, T., Szargan, R., Schlögl, R., Ligand Effect on Fe 2p Core Excitations in Iron Compounds, *BESSY Annual Report 2000* **2001**, 160.
732. Vinogradov, A. S., Preobrajenski, A. B., Knop-Gericke, A., Molodtsov, S. L., Krasnikov, S. A., Nekipelov, S. V., Szargan, R., Hävecker, M., Schlögl, R., Observation of Back-Donation in 3d Metal Cyanide Complexes Through N K Absorption Spectra, *J. Electron Spectrosc. Relat. Phenom.* 114-116, **2001**, 813-818.
733. Tokarz-Sobieraj, R., Hermann, K., Witko, M., Blume, A., Mestl, G., Schlögl, R., Properties of Oxygen Sites at the MoO₃(010) Surface: Density Functional Theory Cluster Studies and Photoemission Experiments, *Surf. Sci.* 489, (1-3) **2001**, 107-125.
734. Su, D. S., Wieske, M., Beckmann, E., Blume, A., Mestl, G., Schlögl, R., Electron-Beam-Induced Reduction of V₂O₅ Studied by Analytical Electron Microscopy, *Catal. Lett.* 75, (1-2) **2001**, 81-86.
735. Su, D. S., Roddatis, V. V., Willinger, M., Weinberg, G., Kitzelmann, E., Schlögl, R., Knözinger, H., Tribochemical Modification of the Microstructure of V₂O₅. *Catal. Lett.* 74, (3-4) **2001**, 169-175.
736. Shaikhutdinov, S. K., Savinova, E., Scheybal, A., Doblhofer, K., Schlögl, R., Ex situ scanning tunneling microscopy study of under-potential oxidation of a Ag(111) electrode in an alkaline electrolyte, *J. Electroanal. Chem.* 500, (1-2) **2001**, 208-212.
737. Schlögl, R., Zecchina, A., In situ characterization of catalytically active surfaces - Papers presented at the Eurocat IV Congress - Rimini, Italy - 5-10 September 1999 - Preface, *Top. Catal.* 15, **2001**, 1-1.

738. Schlögl, R., Knop-Gericke, A., Hävecker, M., Wild, U., Frickel, D., Ressler, T., Jentoft, R. E., Wienold, J., Blume, A., Mestl, G., Timpe, O., Uchida, Y., In situ Analysis of Metal-Oxide Systems Used for Selective Oxidation Catalysis: How Essential is Chemical Complexity?, *Top. Catal.* 15, (2-4) **2001**, 219-228.
739. Schlögl, R., Theory in Heterogeneous Catalysis; an Experimentalist's View, *CATTECH* 5, (3) **2001**, 146-170.
740. Schlögl, R., Science is No Sports, *Bunsen-Magazin* 2, **2001**, 29.
741. Schlögl, R., The Function of Copper as Catalyst for Selective Oxidation, SECAT, Alicante, **2001**, p. 23-25.
742. Schedel-Niedrig, T., Hävecker, M., Knop, G., Reinke, P., Schlögl, R., Lux-Steiner, M. C., In situ X-ray Absorption Spectroscopy in the Soft Energy Range: Novel Prospects for the Chemical Characterization of Solid State Surfaces at High Pressure and High Temperature, *Proc. of the Material Research Society Symposium* 678, **2001**, 8.3.1-8.3.7.
743. Rodriguez, N. M., Anderson, P. E., Wootsch, A., Wild, U., Schlögl, R., Paál, Z., XPS, EM and Catalytic Studies of the Accumulation of Carbon on Pt Black, *J. Catal.* 197, (2) **2001**, 365-377.
744. Roddatis, V. V., Su, D. S., Kuhrs, C., Ranke, W., Schlögl, R., Transmission Electron Microscopy Investigations of Fe₃O₄ Films Grown on (111) Pt Substrates, *Thin Solid Films* 396, (1-2) **2001**, 78-83.
745. Paál, Z., Wootsch, A., Matusek, K., Wild, U., Schlögl, R., Intentional Carbonization of Pt Black: a Model Spectroscopic and Catalytic Study, *Catal. Today* 65, (1) **2001**, 13-18.
746. Paál, Z., Wild, U., Wootsch, A., Find, J., Schlögl, R., Surface and Bulk Structural Response of Pt Black upon Its Hydrogen Treatment and Catalytic Reaction with n-Hexane, *Phys. Chem. Chem. Phys.* 3, (11) **2001**, 2148-2155.
747. Paál, Z., Wild, U., Schlögl, R., Interaction of Ethylene and Hydrogen with a Commercial Pd Black: Carbon Accumulation and Possible Adsorbate-Induced Rearrangement, *Phys. Chem. Chem. Phys.* 3, (21) **2001**, 4644-4649.
748. Ovsitser, O., Blume, A., Uchida, Y., Mestl, G., Schlögl, R., Activation of a Mo-V-W-O Catalyst - Correlation of Catalytic Performance in the Acrolein Oxidation and Structural Changes of the Catalyst, *Chemie Ingenieur Technik* 73, **2001**, 691-692.
749. Mestl, G., Maksimova, N. I., Keller, N., Roddatis, V. V., Schlögl, R.,

- Kohlenstoffnanofilamente in der heterogenen Katalyse: eine technische Anwendung für neue Kohlenstoffmaterialien?, *Angew. Chem.* 113, (11) **2001**, 2122-2125.
750. Mestl, G., Maksimova, N. I., Keller, N., Roddatis, V. V., Schlögl, R., Carbon Nanofilaments in Heterogeneous Catalysis: An Industrial Application for New Carbon Materials?, *Angew. Chem. Int. Ed.* 40, (11) **2001**, 2066-2068.
751. Mestl, G., Ilkenhans, T., Spielbauer, D., Dieterle, M., Kröhnert, J., Jentoft, F., Knözinger, H., Schlögl, R., Thermally and Chemically Induced Structural Transformations of Keggin-type Heteropoly Acid Catalysts, *Appl. Catal. A: General* 210, (1-2) **2001**, 13-34.
752. Mayer, R. W., Hävecker, M., Knop-Gericke, A., Schlögl, R., Investigation of Ammonia Oxidation over Copper with in situ NEXAFS in the Soft X-ray Range: Influence of Pressure on the Catalyst Performance, *Catal. Lett.* 74, (3-4) **2001**, 115-119.
753. Mayer, R. W., Hävecker, M., Knop-Gericke, A., Schlögl, R., Investigation of the Ammonia Oxidation over Copper with in situ NEXAFS in the Soft X-ray Range, *BESSY Annual Report 2001* **2001**, 167-168.
754. Maksimova, N., Mestl, G., Schlögl, R., Froment, G. F., Waugh, K. C., Catalytic Activity of Carbon Nanotubes and Other Carbon Materials for Oxidative Dehydrogenation of Ethylbenzene to Styrene, Elsevier Science, Amsterdam, **2001**, p. 383-389.
755. Lee, J. K., Melsheimer, J., Berndt, S., Mestl, G., Schlögl, R., Köhler, K., Transient Responses of the Local Electronic and Geometric Structures of Vanado-Molybdo-Phosphate Catalysts $H_{3+n}PVnMo_{12-n}O_{40}$ in Selective Oxidation, *Appl. Catal. A: General* 214, (1) **2001**, 125-148.
756. Kuhrs, C., Arita, Y., Weiss, W., Ranke, W., Schlögl, R., Understanding Heterogeneous Catalysis on an Atomic Scale: A Combined Surface Science and Reactivity Investigation for the Dehydrogenation of Ethylbenzene over Iron Oxide Catalysts, *Top. Catal.* 14, (1-4) **2001**, 111-123.
757. Knop-Gericke, A., Hävecker, M., Schedel, N., Schlögl, R., Characterisation of Active Phases of a Copper Catalyst for Methanol Oxidation under Reaction Conditions: An in situ X-ray Absorption Spectroscopy Study in the Soft Energy Range, *Top. Catal.* 15, (1) **2001**, 27-34.
758. Ketteler, G., Weiss, W., Ranke, W., Schlögl, R., Bulk and Surface Phases of Iron Oxides in Oxygen and Water Atmosphere at Low Pressure, *Phys. Chem. Chem. Phys.* 3, (6)

2001, 1114-1122.

759. Joseph, Y., Ketteler, G., Kuhrs, C., Ranke, W., Weiss, W., Schlögl, R., On the Preparation and Composition of Potassium Promoted Iron Oxide Model Catalyst Films, *Phys. Chem. Chem. Phys.* **3**, (18) **2001**, 4141-4153.
760. Jentoft, R. E., Hahn, A. H. P., Jentoft, F. C., Schlögl, R., Ressler, T., In situ Cell for Measuring X-ray Absorption Spectra of Powder Catalysts in the Fluorescence Mode, *HASYLAB Annual Report* **2001**, 1.
761. Ichikawa, M., Breyse, M., Schlögl, R., Nano-Structured Materials and their Catalytic Functions - Selected Papers from the 10th CRC International Symposium, Sapporo, Japan, Dec. 4-7, 1999 - Preface, *Catal. Today* **66**, (1-4) **2001**, 1.
762. Günter, M. M., Ressler, T., Bems, B., Büscher, C., Genger, T., Hinrichsen, O., Muhler, M., Schlögl, R., Implication of the Microstructure of Binary Cu/ZnO Catalysts for their Catalytic Activity in Methanol Synthesis, *Catal. Lett.* **71**, (1-2) **2001**, 37-44.
763. Günter, M. M., Bems, B., Schlögl, R., Ressler, T., In Situ Studies on the Structure of Copper Oxide / Zinc Oxide Catalysts, *J. Synchrotron Rad.* **8**, (2) **2001**, 619-621.
764. Eichhöfer, A., Beckmann, E., Fenske, D., Herein, D., Krautscheid, H., Schlögl, R., Synthesis, Structure, and Thermal Behavior of $[\text{Cu}_{70}\text{Se}_{35}(\text{PEt}_2\text{Ph})_{24}]$, *Israel J. Chem.* **41**, (1) **2001**, 31-37.
765. Dieterle, M., Mestl, G., Jäger, J., Uchida, Y., Hibst, H., Schlögl, R., Mixed Molybdenum Oxide Based Partial Oxidation Catalyst 2. Combined X-Ray Diffraction, Electron Microscopy and Raman Investigation of the Phase Stability of $(\text{MoVW})_5\text{O}_{14}$ -Type Oxides, *J. Mol. Catal. A: Chemical* **174**, (1-2) **2001**, 169-185.
766. Bukhtiyarov, V. I., Hävecker, M., Kaichev, V. V., Knop-Gericke, A., Mayer, R. W., Schlögl, R., X-ray Absorption and Photoemission Studies of the Active Oxygen Ethylene Epoxidation over Silver, *Catal. Lett.* **74**, (3-4) **2001**, 121-125.
767. Bukhtiyarov, V. I., Hävecker, M., Kaichev, V. V., Knop-Gericke, A., Mayer, R. W., Schlögl, R., Combined Application of XANES and XPS to Study Oxygen Species on Ag Foil, *Nucl. Instr. Meth. Phys. Res. A* **470**, (1-2) **2001**, 302-305.
768. Böttger, I., Pettinger, B., Schedel-Niedrig, T., Knop-Gericke, A., Schlögl, R., Froment, G. F., Waugh, G. C., Self Sustained Oscillations Over Copper in the Catalytic Oxidation of Methanol, Elsevier Science, Amsterdam, **2001**, p. 57-70.

769. Atamny, F., Bürgi, T., Schlögl, R., Baiker, A., Scanning Tunneling Microscopy Image Contrast of Monolayer Platinum on Graphite, *Surf. Sci.* 475, (1-3) **2001**, 140-148.

2000-1979

770. Zemlyanov, D. Y., Weinberg, G., Wild, U., Schlögl, R., Formation of a Liquid Film AgNO₃ on a Silver Surface, *Catal. Lett.* 64, (2-4) **2000**, 113-118.

771. Zemlyanov, D. Y., Schlögl, R., Effect of Oxygen on NO Adsorption on the Ag(111) Surface: Evidence for a NO₃ Ads Species, *Surf. Sci.* 470, (1-2) **2000**, L20-L24.

772. Yang, J., Sanchez-Cortezon, E., Pfänder, N., Wild, U., Mestl, G., Find, J., Schlögl, R., Reaction of NO with Carbonaceous Materials: 3. Influence of the Structure of Carbonaceous Materials on their Reactivity towards NO, *Carbon* 38, (14) **2000**, 2029-2039.

773. Yang, J., Herein, D., Mestl, G., Schlögl, R., Find, J., Reaction of NO with Carbonaceous Materials: 1. Reaction and Adsorption of NO on Ashless Carbon Black, *Carbon* 38, (5) **2000**, 715-727.

774. Yang, J., Herein, D., Mestl, G., Schlögl, R., Find, J., Reaction of NO with Carbonaceous Materials: 2. Effect of Oxygen on the Reaction of NO with Ashless Carbon Black, *Carbon* 38, (5) **2000**, 729-740.

775. Wölk, H.-J., Scheffler, A., Mestl, G., Schlögl, R. Investigation of the selective partial oxidation of methanol and the oxidative coupling of methane over copper catalysts, Vol. 130 Eds.: Corma, A., Melo, F. V., Mendioroz, S. and Fierro, J. L. G.), Elsevier Science B. V., **2000**, pp. 3537-3542.

776. Wild, U., Teschner, D., Schlögl, R., Paál, Z., Surface Composition and Possible Rearrangement of Disperse Pt and Rh Catalysts: Does the Presence of Carbon and Oxygen Contribute to Different Catalytic Properties?, *Catal. Lett.* 67, (2-4) **2000**, 93-98.

777. Weiss, W., Schlögl, R., An Integrated Surface Science Approach Towards Metal Oxide Catalysis, *Top. Catal.* 13, (1-2) **2000**, 75-90.

778. Vinogradov, A. S., Preobrajenski, A. B., Knop-Gericke, A., Molodtsov, S. L., Krasnikov, S. A., Nekipelov, S. V., Szargan, R., Hävecker, M., Schlögl, R., Ligand Core Excitations

- as a Probe of the Back-Donation in 3d Metal Cyanide Complexes, *BESSY Annual Report 1999* **2000**, 238-239.
779. Shaikhutdinov, S. K., Weiss, W., Schlögl, R., Interaction of Potassium with Fe₃O₄(111) at Elevated Temperatures, *Appl. Surf. Sci.* 161, (3-4) **2000**, 497-507.
780. Schlögl, R., Changing the Structures of Research - The Perspective of an Active Scientist, *Max Planck Forum, Innovative Structures in Basic Research* 5, **2000**, 161-171.
781. Schedel-Niedrig, T., Neisius, T., Böttger, I., Kitzelmann, E., Weinberg, G., Demuth, D., Schlögl, R., Copper (Sub)Oxide Formation: A Surface Sensitive Characterization of Model Catalysts, *Phys. Chem. Chem. Phys.* 2, **2000**, 2407-2417.
782. Schedel-Niedrig, T., Hävecker, M., Knop, G., Schlögl, R., Partial Methanol Oxidation over Copper: Active Sites Observed by means of in-situ X-Ray Absorption Spectroscopy, *Phys. Chem. Chem. Phys.* 2, (15) **2000**, 3473-3481.
783. Schaefer, J. A., Schlögl, R., Stutzmann, M., Aims and Purpose of the 216th WE-Heraeus Seminar, *physica status solidi A* 177, (1) **2000**, 3.
784. Savinova, E. R., Zemlyanov, D., Pettinger, B., Scheybal, A., Schlögl, R., Doblhofer, K., On the Mechanism of Ag(111) sub-monolayer Oxidation: A Combined Electrochemical, In-Situ SERS and Ex-Situ XPS Study, *Electrochimica Acta* 46, (2-3) **2000**, 175-183.
785. Sanchez-Cortezon, E., Dieterle, M., Uchida, Y., Schur, M., Mestl, G., Schlögl, R., EuroCarbon 2000 **2000**.
786. Rühle, T., Timpe, O., Pfänder, N., Schlögl, R., Tribochemische Aktivierung von Eisenoxid für die Reduktion von NO mit CO: Wie Gitterbaufehler die katalytische Aktivität beeinflussen können, *Angew. Chem.* 112, (23) **2000**, 4551-4554.
787. Rühle, T., Timpe, O., Pfänder, N., Schlögl, R., Tribochemical Activation of Iron Oxide for the Reduction of NO with CO: How Lattice Defects can Influence the Catalytic Activity, *Angew. Chem. Int. Ed.* 39, (23) **2000**, 4379-4382.
788. Ressler, T., Timpe, O., Neisius, T., Find, J., Mestl, G., Dieterle, M., Schlögl, R., Time-Resolved XAS Investigation of the Reduction / Oxidation of MoO_{3-x}. *J. Catal.* 191, (1) **2000**, 75-85.
789. Quirós, C., Prieto, P., Fernandez, A., Elizalde, E., Mornt, C., Schlögl, R., Spillecke, O., Sanz, J. M., Bonding and Morphology Study of Carbon Nitride Films Obtained by Dual Ion Beam Sputtering, *J. Vac. Sci. Technol. A* 18, (2) **2000**, 515-523.

790. Polli, A. D., Wagner, T., Fischer, A., Weinberg, G., Jentoft, F. C., Schlögl, R., Rühle, M., Structural Characterization of ZrO₂ Thin Films Produced via Self-Assembled Monolayer-Mediated Deposition from Aqueous Dispersions, *Thin Solid Films* 379, (1-2) **2000**, 122-127.
791. Nepijko, S. A., Hofmeister, H., Sack-Kongehl, H., Schlögl, R., Multiply Twinned Particles Beyond the Icosahedron, *J. Crystal Growth* 213, (1-2) **2000**, 129-134.
792. Mestl, G., Linsmeier, C., Gottschall, R., Dieterle, M., Find, J., Herein, D., Jäger, J., Uchida, Y., Schlögl, R., Molybdenum Oxide Based Partial Oxidation Catalyst: 1. Thermally Induced Oxygen Deficiency, Elemental and Structural Heterogeneity and the Relation to Catalytic Performance, *J. Mol. Catal. A: Chemical* 162, **2000**, 455-484.
793. Maksimova, N., Roddativ, V. V., Mestl, G., Ledoux, M., Schlögl, R., Oxidative Dehydrogenation of Ethylbenzene to Styrene Over Carbonaceous Materials, *Eurasian ChemTech Journal* 2, **2000**, 231-236.
794. Lee, J. K., Russo, V., Melsheimer, J., Köhler, K., Schlögl, R., Genesis of V⁴⁺ in Heteropoly Compounds Cs_xH_{4-x} PVMo₁₁O₄₀ During Thermal Treatment, Rehydration and Oxidation of Methanol Studied by EPR Spectroscopy, *Phys. Chem. Chem. Phys.* 2, (13) **2000**, 2977-2983.
795. Knop-Gericke, A., Hävecker, M., Schedel, N., Schlögl, R., High-Pressure Low-Energy XAS: A New Tool for Probing Reacting Surfaces of Heterogeneous Catalysts, *Top. Catal.* 10, (3-4) **2000**, 187-198.
796. Knop-Gericke, A., Hävecker, M., Schedel, N., Schlögl, R., Probing the Electronic Structure of an Active Catalyst Surface under High Pressure Reaction Conditions: the Oxidation of Methanol over Copper, *Catal. Lett.* 66, (4) **2000**, 215-220.
797. Kanzow, H., Ding, A., Nissen, J., Sauer, H., Belz, T., Schlögl, R., Formation of Chains of Graphitic Nanoparticles by Heating Fullerene Blacks Covered with Thin Metal Films, *Phys. Chem. Chem. Phys.* 2, (12) **2000**, 2765-2771.
798. Joseph, Y., Wühn, M., Niklewski, A., Ranke, W., Weiss, W., Wöll, C., Schlögl, R., Interaction of Ethylbenzene and Styrene with Iron Oxide Model Catalyst Films Adsorbed at Low Coverages: A NEXAFS Study, *Phys. Chem. Chem. Phys.* 2, (22) **2000**, 5314-5319.
799. Jentoft, R. E., Hahn, A. H. P., Jentoft, F. C., Schlögl, R., Ressler, T., Mn and Zr K Edge

- In Situ XAS Measurements of Promoted Sulfated Zirconia Catalysts, *HASYLAB Annual Report 1*, **2000**, 803-804.
800. Jentoft, F. C., Fischer, A., Weinberg, G., Wild, U., Schlögl, R., Melo, F. V., Nanocrystalline Thin Films as a Model System for Sulfated Zirconia, Elsevier, Amsterdam, **2000**, p. 209-214.
801. Hävecker, M., Schedel-Niedrig, T., Knop-Gericke, A., Schlögl, R., In situ X-Ray Absorption Investigation on Active Copper Catalysts for Methanol Oxidation, *BESSY Annual Report 1999* **2000**, 418-420.
802. Hävecker, M., Knop-Gericke, A., Schedel, N., Schlögl, R., About the Role of Oxide Phases in the Methanol Oxidation, *BESSY Annual Report 1999* **2000**, 286-287.
803. Hartl, M., Spandl, B., Wölk, H. J., Behrens, P., Hartl, H., Schlögl, R., XAFS-Investigation of CuO-based Engobes - The System CuO-Al₂O₃-SiO₂ at Temperatures from 850°C-1150°C, *HASYLAB Annual Report* **2000**, 1.
804. Günther, W., Pfänder, N., Weinberg, G., Liedtke, R., Nissen, J., Schlögl, R., Morphology and Texture of Nanocrystalline Copper Prepared Electrochemically from Oxides, *J. Mater. Sci.* **35**, (16) **2000**, 3963-3975.
805. Find, J., Paál, Z., Schlögl, R., Wild, U., An Attempt to Bridge the Pressure and Material Gap with a Disperse Model Catalyst for Low-Temperature Alkane Reforming, *Catal. Lett.* **65**, (1-3) **2000**, 19-23.
806. Find, J., Paál, Z., Sauer, H., Schlögl, R., Wild, U., Wootsch, A., Melo, F. V., Structures, Surface State and Catalytic Properties of a Model Pt Catalyst, Elsevier, Amsterdam, **2000**, p. 2291-2296.
807. Bürgi, T., Atamny, F., Schlögl, R., Baiker, A., Adsorption of Ethyl Pyruvate on Pt(111) Studied by XPS and UPS, *J. Phys. Chem. B* **104**, (25) **2000**, 5953-5960.
808. Bürgi, T., Atamny, F., Knop-Gericke, A., Hävecker, M., Schedel-Niedrig, T., Schlögl, R., Baiker, A., Adsorption Mode of Ethyl Pyruvate on Platinum: An In Situ XANES Study, *Catal. Lett.* **66**, (3) **2000**, 109-112.
809. Bürgi, T., Atamny, F., Knop-Gericke, A., Hävecker, M., Schedel-Niedrig, T., Schlögl, R., Baiker, A., Adsorption Mode of Ethyl Pyruvate on Platinum: An in situ XANES Study, *BESSY Annual Report 1999* **2000**, 347-349.
810. Bukhtiyarov, V. I., Hävecker, M., Knop-Gericke, A., Mayer, R. W., Schlögl, R., XANES

- Study of Oxygen Species Absorbed on Silver, *BESSY Annual Report 1999* **2000**, 251-253.
811. Bukhtiyarov, V. I., Hävecker, M., Kaichev, V. V., Knop-Gericke, A., Mayer, R. W., Schlögl, R., The Nature of Atomic Oxygen Species on Silver: Photoelectron spectroscopy and X-ray Absorption Studies, *Phys. Rev. B* 67, (23) **2000**, 235422-235421-235422-235412.
812. Böttger, I., Schedel-Niedrig, T., Timpe, O., Gottschall, R., Hävecker, M., Ressler, T., Schlögl, R., Catalytic Methanol Oxidation over Copper: Observation of Reaction-Induced Nanoscale Restructuring by Means of In Situ Time-Resolved X-ray Absorption Spectroscopy, *Chem. Eur. J.* 6, (10) **2000**, 1870-1876.
813. Atamny, F., Fässler, F. T., Baiker, A., Schlögl, R., On the Imaging Mechanism of Monatomic Steps in Graphite, *Appl. Phys. A* 71, (4) **2000**, 441-447.
814. Zemlin, F., Beckmann, E., Charl., K. P., Schatz, M., Schlögl, R., Solid Nitrogen: Electron Microscopy and Beams Damage Quantification at 4 K, *Ultramicroscopy* 80, (3) **1999**, 153-161.
815. Uchida, Y., Spillecke, O., Lehmpfuhl, G., Preusser, A., Weiss, K., Schlögl, R., Determination of the Mean Absorption Potential of Si for Electrons by Energy Loss Spectroscopy, *Cryst. Res. Technol.* 34, (1) **1999**, 103-113.
816. Schlögl, R., Wohin entwickelt sich das wissenschaftliche Informationswesen? Erfahrungen und Erkenntnisse aus der Max-Planck-Gesellschaft, *Physikalische Blätter* 55, (11) **1999**, 3.
817. Savinova, E., Zemlyanov, D., Scheybal, A., Schlögl, R., Doblhofer, K., Ex-situ XPS Study of the Interface between Ag(111) Electrode and an Alkaline Electrolyte. 2. Structure of the Double Layer, *Langmuir* 15, (19) **1999**, 6552-6556.
818. Savinova, E., Zemlyanov, D., Scheybal, A., Schedel-Niedrig, T., Doblhofer, K., Schlögl, R., Ex-situ XPS Study of the Interface between Ag(111) Electrode and an Alkaline Electrolyte. 1. Influence of the Electrode Potential on the Adsorption of Oxygen Species, *Langmuir* 15, (19) **1999**, 6546-6551.
819. Sanchez, E., Yang, Y., Find, J., Braun, T., Schoonmaker, R., Belz, T., Sauer, H., Spillecke, O., Uchida, Y., Schlögl, R., Elemental Carbon as Catalytic Material: Recent Trends and Perspectives, Kodansha Ltd., Tokyo, **1999**, p. 317-326.

820. Niesen, T. P., De Guire, M. R., Bill, J., Aldinger, F., Rühle, M., Fischer, A., Jentoft, F. C., Schlögl, R., Atomic Force Microscopic Studies of Oxide Thin Films on Organic Self-Assembled Monolayers, *J. Mater. Res.* 14, (6) **1999**, 2464-2475.
821. Nepijko, S. A., Klimenkov, M., Adelt, M., Kühlenbeck, H., Schlögl, R., Freund, H. J., Structural Investigation of Palladium Clusters on γ -AlO₃ (110)/NiAl(110) with Transmission Electron Spectroscopy, *Langmuir* 15, (16) **1999**, 5309-5313.
822. Nagy, A. J., Mestl, G., Schlögl, R., The Role of Sub-Surface Oxygen in the Silver-Catalyzed, Oxidative Coupling of Methane, *J. Catal.* 188, (1) **1999**, 58-68.
823. Nagy, A. J., Mestl, G., Herein, D., Weinberg, G., Kitzelmann, E., Schlögl, R., The Correlation of Subsurface Oxygen Diffusion with Variations of Silver Morphology in the Silver-Oxygen System, *J. Catal.* 182, (2) **1999**, 417-429.
824. Melsheimer, J., Mahmoud, S. S., Mestl, G., Schlögl, R., In situ UV-Vis Diffuse Reflectance Spectroscopy of Reduction-Reoxidation of Heteropoly Compounds by Methanol and Ethanol: A Correlation between Spectroscopic and Catalytic Data, *Catal. Lett.* 60, (3) **1999**, 103-111.
825. Mayer, J. W., Hävecker, M., Knop-Gericke, A., Schlögl, R., In situ XAS in the soft X-ray range: Ammonia oxidation over copper, *BESSY Annual Report 1999* **1999**, 306-307.
826. Kanzow, H., Ding, A., Sauer, H., Belz, T., Schlögl, R., Chains of Carbon Nanoparticles from the Interaction of Fullerenes with Thin Metal Films, *AIP Conf.Proc.* 486, (1) **1999**, 205-208.
827. Jentoft, F. C., Weinberg, G., Wild, U., Schlögl, R., Wakai, F., Photoelectron Spectroscopy as a Tool for Studying Ceramic Interfaces: A Tutorial, Wiley-VCH, Weinheim, **1999**, p. 175-187.
828. Jäger, C., Henning, T., Schlögl, R., Spillecke, O., Spectral Properties of Carbon Black, *J. Non-Cryst. Solids* 258, (1-3) **1999**, 161-179.
829. Grote, H., Bohmeyer, W., Kornejew, P., Reiner, H. D., Fussmann, G., Schlögl, R., Weinberg, G., Wu, C. H., Chemical Sputtering Yields of Carbon Based Materials at High Ion Flux Densities, *J. Nucl. Mater.* 266-269, **1999**, 1059-1064.
830. Fischer, A., Jentoft, F. C., Weinberg, G., Schlögl, R., Niesen, T. P., Bill, J., Aldinger, F., De Guire, M. R., Rühle, M., Characterization of Thin Films Containing Zirconium, Oxygen, and Sulfur by Scanning Electron and Atomic Force Microscopy, *J. Mater. Res.*

- 14, (9) **1999**, 3725-3733.
831. Find, J., Herein, D., Uchida, Y., Schlögl, R., A New Three-Dimensional Structural Model for the CuCl₂ Graphite Intercalation Compound, *Carbon* 37, (9) **1999**, 1431-1441.
832. Bems, B., Jentoft, F. C., Schlögl, R., Photoinduced Decomposition of Nitrate in the Presence of Titania and Humic Acids, *Appl. Catal. B: Environmental* 20, (2) **1999**, 155-163.
833. Bao, X., Wild, U., Muhler, M., Pettinger, B., Schlögl, R., Ertl, G., Coadsorption of Nitric Oxide and Oxygen on Ag(110) Surface, *Surf. Sci.* 425, (2-3) **1999**, 224-232.
834. Atamny, F., Spillecke, O., Schlögl, R., On the STM Imaging Contrast of Graphite: Towards a "True" Atomic Resolution, *Phys. Chem. Chem. Phys.* 1, (17) **1999**, 4113-4122.
835. Artelt, S., Creutzenberg, O., Kock, H., Levsen, K., Nachtigall, D., Heinrich, U., Rühle, T., Schlögl, R., Bioavailability of Fine Dispersed Platinum as Emitted from Automotive Catalytic Converters: A Model Study, *The Science of the Total Environment* 228, (2-3) **1999**, 219-242.
836. Zscherpel, D., Ranke, W., Weiss, W., Schlögl, R., Energetics and Kinetics of Ethylbenzene Adsorption on Epitaxial FeO(111) and Fe₃O₄(111) Films Studied by Thermal Desorption and Photoelectron Spectroscopy, *J. Chem. Phys.* 108, (22) **1998**, 9506-9515.
837. Zemlyanov, D. Y., Savinova, E., Scheybal, A., Doblhofer, K., Schlögl, R., XPS Observation of OH-Groups Incorporated in an Ag(111) Electrode, *Surf. Sci.* 418, (2) **1998**, 441-456.
838. Zemlyanov, D. Y., Nagy, A., Schlögl, R., The Reaction of Silver with NO/O₂, *Appl. Surf. Sci.* 133, (3) **1998**, 171-183.
839. Zemlyanov, D. Y., Hornung, A., Weinberg, G., Wild, U., Schlögl, R., Interaction of Silver with a NO/O₂ Mixture: A Combined X-ray Photoelectron Spectroscopy and Scanning Electron Microscopy Study, *Langmuir* 14, (12) **1998**, 3242-3248.
840. Wichtendahl, R., Fink, R., Kühlenbeck, H., Preikszas, D., Rose, H., Spehr, R., Hartel, P., Engel, W., Schlögl, R., Freund, H. J., Bradshaw, A. M., Lilienkamp, G., Schmidt, T., Bauer, E., Benner, G., Umbach, E., SMART: An Aberration-Corrected XPEEM/LEEM with Energy Filter, *Surf. Rev. Lett.* 5, (6) **1998**, 1249-1256.

841. Weiss, W., Zscherpel, D., Schlögl, R., On the Nature of the Active Site for the Ethylbenzene Dehydrogenation over Iron Oxide Catalysts, *Catal. Lett.* **52**, (3-4) **1998**, 215-220.
842. Weiss, W., Schedel-Niedrig, T., Schlögl, R., Strategies for Catalyst Development: Possibilities of the "Rational Approach" Illustrated with Partial Oxidation Reactions, *Proc. of the DGMK-Conference "Selective Oxidations in Petrochemistry"* **1998**, 81-93.
843. Weiss, W., Ritter, M., Zscherpel, D., Swoboda, M., Schlögl, R., Multicomponent Surface Analysis System Combined with High Pressure Reaction Cells for Studying Metal Oxide Model Catalysts, *J. Vac. Sci. Technol. A* **16**, (1) **1998**, 21-29.
844. Wang, X. G., Weiss, W., Shaikhutdinov, S. K., Ritter, M., Petersen, M., Wagner, F., Schlögl, R., Scheffler, M., The Hematite (α -Fe₂O₃)(0001) Surface: Evidence for Domains of Distinct Chemistry, *Phys. Rev. Lett.* **81**, (5) **1998**, 1038-1041.
845. Uchida, Y., Bao, X., Weiss, K., Schlögl, R., Ertl, G., Oxygen-Induced Restructuring of Au(111) Observed by Reflection Electron Microscopy, *Surf. Sci.* **401**, (3) **1998**, 469-475.
846. Schlögl, R., XXXI. Jahrestreffen Deutscher Katalytiker in Leipzig, *Summary of 17 Presentations of the Department Inorganic Chemistry* **1998**, 1.
847. Schlögl, R., Kombinatorische Chemie in der heterogenen Katalyse: Ein neuer wissenschaftlicher Ansatz oder "des Kaisers neue Kleider"?, *Angew. Chem.* **110**, (17) **1998**, 2463-2470.
848. Schlögl, R., Combinatorial Chemistry in Heterogeneous Catalysis: A New Scientific Approach or "The King's New Clothes"?, *Angew. Chem. Int. Ed.* **37**, (17) **1998**, 2333-2336.
849. Schlögl, R., Trendberichte Physikalische Chemie, *Nachrichten aus Chemie und Technik* **1998**, 1.
850. Sangerhause, H., Koppe, J., Lausch, H., Hävecker, M., Knop-Gericke, A., Schedel-Niedrig, T., Schlögl, R., Surface Characterization of Fully Metallic Alloy Catalysts by In-Situ X-Ray absorption Spectroscopy, *BESSY Annual Report* **1998**, 263-264.
851. Nepijko, S. A., Klimenkov, M., Kuhlbeck, H., Zemlyanov, D., Herein, D., Schlögl, R., Freund, H. J., TEM Study of Tantalum Clusters on Al₂O₃/NiAl(110), *Surf. Sci.* **412/413**, **1998**, 192-201.
852. Nagy, A. J., Mestl, G., Weinberg, G., Kitzelmann, E., Schlögl, R., Kohlpaintner, C., The

- Morphological Modification of Electrolytic Silver During the OCM Reaction and its Effect on Catalysis, German Society for Petroleum and Coal Science and Technology, Hamburg-Reinbek, **1998**, p. 73-81.
853. Nagy, A., Mestl, G., Weinberg, G., Schlögl, R., The Role of Catalyst Morphology on the Kinetics of Partial Oxidation Reactions over Electrolytic Silver, *CD-Rom Publication, Chisa '98, Prag* **1998**.
854. Nagy, A., Mestl, G., Rühle, T., Weinberg, G., Schlögl, R., The Dynamic Behaviour of Electrolytic Silver During the Formaldehyde Synthesis Reaction, *J. Catal.* 179, (2) **1998**, 548-559.
855. Mestl, G., Adam, S., Timpe, O., Wild, U., Bensch, W., Schlögl, R., Maggi, R., On the Effect of Cadmium Acetate in the Preparation of Heterogeneous Palladium(0) Catalysts, Elsevier, Amsterdam, **1998**, p. 109-119.
856. Mack, S., Baumann, H., Werner, H., Schlögl, R., Comparison of the Gas Release at a Hydrophobic and a Hydrophilic Direct Bonding Interface, Electrochem. Soc. Inc., New Jersey, **1998**, p. 299-306.
857. Kucherov, A. V., Karge, H. G., Schlögl, R., Quantitative ESR Study of the CuH-ZSM-5 System: Influence of Preparation and Pretreatment Techniques on the Valence State of Copper, *Microporous Mesoporous Mater.* 25, (1-3) **1998**, 7-14.
858. Howie, A., Schlögl, R., Editorial Overview: What Compromises with Reality are needed for Real Space Images?, *Current Opinion in Solid State & Materials Science* 3, (4) **1998**, 327-339.
859. Hävecker, M., Knop-Gericke, A., Schedel, N., Schlögl, R., High-Pressure Soft X-ray Absorption Spectroscopy: A Contribution to Overcoming the "Pressure Gap" in the Study of Heterogeneous Catalytic Processes, *Angew. Chem. Int. Ed.* 37, (13-14) **1998**, 1939-1942.
860. Günter, M. M., Herein, D., Schumacher, R., Weinberg, G., Schlögl, R., Microstructure and Bulk Reactivity of the Nonevaporable Getter $Zr_{57}V_{36}Fe_7$ *J. Vac. Sci. Technol. A* 16, (6) **1998**, 3526-3535.
861. Engel, W., Degenhardt, R., Bradshaw, A. M., Erlebach, W., Ihmann, K., Kuhlenbeck, H., Wichtendahl, R., Freund, H. J., Schlögl, R., Preikszas, D., Rose, H., Spehr, R., Hartel, P., Fink, R., Weiss, M. R., Umbach, E., Lilienkamp, G., Schmidt, T., Bauer, E., Benner, G.,

- Concept and Design of the SMART Spectromicroscope at BESSY II, Springer Verlag, Berlin-Heidelberg, **1998**, p. 55-66.
862. Berndt, S., Herein, D., Zemlin, F., Beckmann, E., Weinberg, G., Schütze, J., Mestl, G., Schlögl, R., A New Unifying Structural Model of Heteropolymolybdate Salts: Microstructure and Thermal Stability of a Series of Molecular Oxides, *Ber. Bunsen-Ges. Phys. Chem.* 102, (5) **1998**, 763-774.
863. Belz, T., Bauer, A., Find, J., Günter, M., Herein, D., Möckel, H., Pfänder, N., Sauer, H., Schulz, G., Schütze, J., Timpe, O., Wild, U., Schlögl, R., Structural and Chemical Characterization of N-Doped Fullerenic Nanocarbons, *Carbon* 36, (5-6) **1998**, 731-741.
864. Bassi, D., Tosi, P., Schlögl, R., Ion-Molecule-Reaction Mass-Spectrometer for On-Line Gas Analysis, *J. Vac. Sci. Technol. A* 16, (1) **1998**, 114-122.
865. Adam, S., Bauer, A., Timpe, O., Wild, U., Mestl, G., Bensch, W., Schlögl, R., The Origin of the Positive Effect of Adding Cadmium Acetate for the Action of Supported Palladium Catalysts, *Chem. Eur. J.* 4, (8) **1998**, 1458-1469.
866. Zscherpel, D., Weiss, W., Schlögl, R., Adsorption and Dehydrogenation of Ethylbenzene on Ultrathin Iron Oxide Model Catalyst Films, *Surf. Sci.* 382, **1997**, 326-335.
867. Wrabetz, S., Guntow, U., Schlögl, R., Karge, H. G., Chon, H., Ihm, K., Uh, Y. S., Preparation and Characterization of Ru-Exchanged NaY Zeolite: An Infrared Study of CO Adsorption at Low Temperatures, Elsevier Science, **1997**, p. 583-590.
868. Wohlers, M., Werner, H., Belz, T., Rühle, T., Schlögl, R., C₆₀: A Host Lattice for the Intercalation of Oxygen?, *Microchimica Acta* 125, (1-4) **1997**, 401-406.
869. Wohlers, M., Bauer, A., Schlögl, R., Oxidation of Fullerene Materials, *Microchimica Acta* 14, **1997**, 267-270.
870. Wild, U., Pfänder, N., Schlögl, R., Species Analysis of Automotive Carbon Particles: The Application of XPS for Integral Analysis of Filter Samples, *Fresenius J. Anal. Chem.* 357, (4) **1997**, 420-428.
871. Werner, H., Timpe, O., Herein, D., Uchida, Y., Pfänder, N., Wild, U., Schlögl, R., Relevance of a Glassy Nanocrystalline State of Mo₄VO₁₄ for its Action as Selective Oxidation Catalyst, *Catal. Lett.* 44, (3-4) **1997**, 153-163.
872. Werner, H., Herein, D., Schulz, G., Wild, U., Schlögl, R., Reaction Pathways in Methanol Oxidation: Kinetic Oscillations in the Copper/Oxygen System, *Catal. Lett.* 49,

- (1-2) **1997**, 109-119.
873. Weinberg, G., Beran, B., Muhler, M., Schlögl, R., Dent, A., Rayment, T., The Micromorphology of the Activated Iron Catalyst used for Ammonia Synthesis, *Appl. Catal. A: General* **163**, (1-2) **1997**, 83-99.
874. Sheú, S. P., Karge, H. G., Schlögl, R., Characterization of Activated States of Ruthenium-Containing Zeolite NaHY, *J. Catal.* **168**, (2) **1997**, 278-291.
875. Schulte, J., Böhm, M. C., Schedel-Niedrig, T., Schlögl, R., Electronic Structure of Polymerized C₆₀ Phases, *Ber. Bunsen-Ges. Phys. Chem.* **101**, (10) **1997**, 1531-1543.
876. Schlögl, R., Ertl, G., Knözinger, H., Weitkamp, J. Fused Catalyst, Vol. 4.1 VCH Verlagsgesellschaft, Weinheim, **1997**, pp. 54-64.
877. Schlögl, R. Ammonia Synthesis, Vol. Eds.: Ertl, G., Knözinger, H. and Weitkamp, J.), VCH Verlagsgesellschaft, Weinheim, **1997**, pp. 1697-1748.
878. Schlögl, R. Carbons, Vol. Eds.: Ertl, G., Knözinger, H. and Weitkamp, J.), VCH Verlagsgesellschaft, Weinheim, **1997**, pp. 138-191.
879. Schedel-Niedrig, T., Böhm, M. C., Werner, H., Schlögl, R., Electronic Structure of Barium Doped C₆₀ *Phys. Rev. B* **55**, (20) **1997**, 13542-13556.
880. Schedel-Niedrig, T., Bao, X., Muhler, M., Schlögl, R., Surface-Embedded Oxygen: Electronic Structure of Ag(111) and Cu(poly) Oxidised at Atmospheric Pressure, *Ber. Bunsen-Ges. Phys. Chem.* **101**, (7) **1997**, 994-1006.
881. Rühle, T., Schneider, H., Find, J., Herein, D., Pfänder, N., Wild, U., Schlögl, R., Nachtigall, D., Artelt, S., Heinrich, U., Preparation and Characterization of Pt/Al₂O₃ Aerosols Precursors as Model Pt-Emissions from Catalytic Converters, *Appl. Catal. B: Environmental* **14**, (1-2) **1997**, 69-84.
882. Rapoport, D. H., Vogel, W., Cölfen, H., Schlögl, R., Ligand-Stabilized Metal Clusters: Reinvestigation of the Structure of "Au₅₅[P(C₆H₅)₃]₁₂Cl₆", *J. Phys. Chem. B* **101**, (21) **1997**, 4175-4183.
883. Paál, Z., Muhler, M., Schlögl, R., Platinum Black by XPS, *Surf. Sci. Spectra* **4**, (2) **1997**, 119-124.
884. Nowitzke, G., Wohlers, M., Braun, T., Schlögl, R., Wortmann, G., Local Structure of Ru in RuC₆₀ and Ru-Fullerene Black Compounds, *J. Physique IV* **7**, (C2) **1997**, 945-946.
885. Melsheimer, J., Schlögl, R., Identification of Reaction Products of Mild Oxidation of H₂S

- in Solution and in Solid State by UV-VIS Spectroscopy, *Fresenius J. Anal. Chem.* 357, (4) **1997**, 397-400.
886. Melsheimer, J., Schlögl, R., On the Sequence of Events in H₂S Oxidation Reactions, *Ber. Bunsen-Ges. Phys. Chem.* 101, (4) **1997**, 733-740.
887. Melsheimer, J., Böhm, M. C., Lee, J. K., Schlögl, R., Adsorption and Selective Oxidation of H₂S on Alumina Powders: In-situ UV-VIS Studies in a Differential Reactor, *Ber. Bunsen-Ges. Phys. Chem.* 101, (4) **1997**, 726-732.
888. Mack, S., Baumann, H., Gösele, U., Werner, H., Schlögl, R., Analysis of Bonding Related Gas Enclosure in Micromachined Cavities Sealed by Silicon Wafer Bonding, *J. Electrochem. Soc.* 144, (3) **1997**, 1106-1110.
889. Liebsch, T., Hentges, R., Rüdell, A., Viehhaus, J., Becker, U., Schlögl, R., Evidence for Oscillations in the C₇₀ Valence Photoionization Cross Sections, *Chem. Phys. Lett.* 279, **1997**, 197-202.
890. Knop-Gericke, A., Guerlin, T., Hävecker, M., Schedel-Niedrig, T., Schlögl, R., Investigation of the Oxygen K-X-Ray Absorption Near-Edge Structures of Oxidized Silver, *BESSY Annual Report* **1997**, 319-320.
891. Klimenkov, M., Nepijko, S., Kühlenbeck, H., Bäumer, M., Schlögl, R., Freund, H. J., The Structure of Pt-Aggregates on a Supported Thin Aluminum Oxide Film in Comparison with Unsupported Alumina: A Transmission Electron Microscopy Study, *Surf. Sci.* 391, **1997**, 27-36.
892. Kanowski, M., Vieth, H. M., Lüders, K., Buntkowsky, G., Belz, T., Werner, H., Wohlers, M., Schlögl, R., The Structure of Fullerene Black and the Incorporation of C₆₀ Investigated by ¹³C NMR, *Carbon* 35, (5) **1997**, 685-695.
893. Junges, U., Schüth, F., Schmid, G., Uchida, Y., Schlögl, R., Synthesis and Characterisation of Catalysts Based on Ligand-Stabilized Clusters Incorporated in Mesoporous Oxides, *Ber. Bunsen-Ges. Phys. Chem.* 101, (11) **1997**, 1631-1634.
894. Jess, P., Hubler, U., Lang, H. P., Güntherodt, H., Werner, H., Schlögl, R., Lüders, K., Energy Gap Determination on Polycrystalline Rb₂CsC₆₀ by Scanning Tunneling Spectroscopy, *J. Phys. Chem. Solids* 58, (11) **1997**, 1803-1805.
895. Herzog, B., Wohlers, M., Schlögl, R., An In-Situ DRIFTS Study of the Active Phase of the Heteropoly Acid Catalyst H₄[PVMo₁₁O₄₀] in Oxidation Reactions, *Microchimica*

Acta **14**, **1997**, 703-704.

896. Herein, D., Werner, H., Schedel-Niedrig, T., Neisius, T., Nagy, A., Berndt, S., Schlögl, R., The Selective Oxidation of Methanol: A Comparison of the Mode of Action of Metal and Oxide Catalysts, Elsevier Science B. V., Amsterdam, **1997**, p. 103-122.
897. Herein, D., Braun, T., Schlögl, R., On the Nature of the So-Called Iron-Graphite, *Carbon* **35**, (1) **1997**, 17-29.
898. Fink, R., Weiss, M. R., Umbach, E., Preikszas, D., Rose, H., Spehr, R., Hartel, P., Engel, W., Degenhardt, R., Wichtendahl, R., Kuhlenbeck, H., Erlebach, W., Ihmann, K., Schlögl, R., Freund, H. J., Bradshaw, A. M., Lilienkamp, G., Schmidt, T., Bauer, E., Benner, G., SMART - A Planned Ultrahigh-Resolution Spectroscopy for BESSY II, *J. Electron Spectrosc. Relat. Phenom.* **84**, (1-3) **1997**, 231-250.
899. Braun, T., Wohlers, M., Belz, T., Schlögl, R., Fullerene-Based Ruthenium Catalysts: A Novel Approach for Anchoring Metal to Carbonaceous Supports. Part II: Hydrogenation Activity, *Catal. Lett.* **43**, (3-4) **1997**, 175-180.
900. Braun, T., Wohlers, M., Belz, T., Nowitzke, G., Wortmann, G., Uchida, Y., Pfänder, N., Schlögl, R., Fullerene Based Ruthenium Catalysts: A Novel Approach for Anchoring Metal to Carbonaceous Supports Part I: Structure, *Catal. Lett.* **43**, (3-4) **1997**, 167-173.
901. Böhm, M. C., Schulte, J., Schütt, J., Schedel-Niedrig, T., Werner, H., Schlögl, R., $Ba_x C_{60}$ Fullerides: π Electronic Peculiarities of the C_{60} Molecule and their Consequences for the Solid State, *International Journal of Quantum Chemistry* **65**, **1997**, 333-373.
902. Böhm, M. C., Schulte, J., Schlögl, R., An ab initio Study of the C_{60} Particle-Hole Pair C_{60}^{12+} and C_{60}^{12-} . *Z. Naturforsch.* **52a**, **1997**, 331-334.
903. Belz, T., Find, J., Herein, D., Pfänder, N., Rühle, T., Werner, H., Wohlers, M., Schlögl, R., On the Production of Different Carbon Forms by Electric Arc Graphite Evaporation, *Ber. Bunsen-Ges. Phys. Chem.* **101**, (4) **1997**, 712-725.
904. Atamny, F., Baiker, A., Schlögl, R., Atomic Resolution of Defects in Graphite Studied by STM, *Fresenius J. Anal. Chem.* **358**, (1-2) **1997**, 344-348.
905. Wohlers, M., Werner, H., Herein, D., Schedel-Niedrig, T., Bauer, A., Schlögl, R., Reaction of C_{60} and C_{70} with Molecular Oxygen, *Synth. Met.* **77**, **1996**, 299-302.
906. Wohlers, M., Herzog, B., Belz, T., Bauer, A., Braun, T., Rühle, T., Schlögl, R., Ruthenium- C_{60} Compounds: Properties and Catalytic Potential, *Synth. Met.* **77**, (1-3)

- 1996**, 55-58.
907. Wohlers, M., Bauer, A., Rühle, T., Neitzel, F., Werner, H., Schlögl, R., The Dark Reaction of C₆₀ and of C₇₀ with Molecular Oxygen at Atmospheric Pressure and Temperatures between 300 K and 800 K, *Fullerene Science and Technology* **4**, (4) **1996**, 781-812.
908. Wohlers, M., Bauer, A., Belz, T., Rühle, T., Schedel-Niedrig, T., Schlögl, R., The Mechanism of Oxidation of Fullerenes with Molecular Oxygen, ACS Symposium Series, **1996**, p. 108-112.
909. Sparr, G., Laube, F., Link, A., Steglich, F., Baenitz, M., Lüders, K., Werner, H., Schlögl, R., Pressure Dependence of Superconductivity in Ba₄C₆₀. *J. Low Temp. Phys.* **105**, (5/6) **1996**, 1703-1708.
910. Schubert, H., Guntow, U., Hofmann, K., Schlögl, R., Performance and Application Potential of Ion-Molecule Reaction Mass Spectroscopy (IMR-MS) in the Analysis of Complex Gas Mixtures, *Fresenius J. Anal. Chem.* **356**, (2) **1996**, 127-137.
911. Schlögl, R., Rühle, T., Untersuchungen von Partikelemissionen von Platin aus Automobilabgaskatalysatoren mit Photoelektronen-Spektroskopie (Präparation und Charakterisierung von Pt/Al₂O₃-Systemen als Modell für aerosolförmige Emissionen aus Automobilkatalysatoren), GSF-Forschungszentrum für Umwelt und Gesundheit GmbH, Hannover, **1996**, p. 1-112.
912. Schlögl, R., Belz, T., Characterization of Fullerene Soots and Carbon Arc Electrode Deposits, *Synth. Met.* **77**, (1-3) **1996**, 223-226.
913. Schlögl, R., The Application of Surface Physics in Catalysis Science: Understanding Heterogeneous Catalysts for Partial Oxidation, Springer, Berlin, **1996**, p. 293-320.
914. Schedel-Niedrig, T., Francz, G., Kania, P., Oelhafen, P., Schlögl, R., Electronic Structure of the H-Plasma Annealed (100) Textured CVD Diamond Surface, *BESSY Annual Report* **1996**, 291-293.
915. Pues, R., Baenitz, M., Heinze, M., Kanowski, M., Lüders, K., Belz, T., Schlögl, R., Fullerenruß: NMR - Untersuchungen und Transporteigenschaften, VDI-Technologiezentrum Physikalische Technologien, Düsseldorf, **1996**, p. 91-94.
916. Pfänder, N., Weinberg, G., Wild, U., Schlögl, R., Weiterentwicklung und Erprobung eines Immissionsmeáverfahrens zur spezifischen Erfassung von Ruápartikeln, Teil III,

Umweltbundesamt, Berlin, **1996**, p. 66.

917. Nowitzke, G., Wortmann, G., Werner, H., Schlögl, R., EXAFS Study of Local Structure at the Alkali Ions in Superconducting K_2RbC_{60} , K_2CsC_{60} , Rb_2CsC_{60} , and Rb_3C_{60} *Phys. Rev. B* **54**, (18) **1996**, 13230-13241.
918. Nowitzke, G., Wohlers, M., Herein, D., Braun, T., Belz, T., Schlögl, R., Wortmann, G., Local Structure of Metal Particles (M=Ru, Pt) in M- C_{60} and M-Fullerene Black Systems, VDI-Technologiezentrum Physikalische Technologien, **1996**, p. 95-98.
919. Neisius, T., Schedel-Niedrig, T., Schlögl, R., Selective Oxidation of Methanol: Investigation of the Electronic Structure of the Selective Oxygen Species on Cu(111), *BESSY Annual Report* **1996**, 366-367.
920. Nachtigall, D., Kock, H., Artelt, S., Levsen, K., Wunsch, G., Rühle, T., Schlögl, R., Platinum Solubility of a Substance Designed As a Model for Emissions of Automobile Catalytic Converters, *Fresenius J. Anal. Chem.* **354**, (5-6) **1996**, 742-746.
921. Loose, G., Schlögl, R., Die chemische Struktur von Platinemission aus Dreivegekatalysatoren. Untersuchung von Partikelemissionen von Platin aus Automobilkatalysatoren mit Photoelektronenspektroskopie, *Verbundvorhaben Edelmetallemission* **1996**, 1-10.
922. Kraus, M., Sindlinger, H., Werner, H., Schlögl, R., Thommen, V., Lang, H. P., Güntherodt, H. J., Lüders, K., DC-Magnetization Studies on Superconducting, *J. Phys. Chem. Solids* **57**, (6-8) **1996**, 999-1003.
923. Knop, A., Langlais, V., Braun, T., Belz, T., Schedel-Niedrig, T., Schlögl, R., Spectroscopic Study of Different Carbon Forms Prepared by Electric Arc Graphite Evaporation, *BESSY Annual Report* **1996**, 452-453.
924. Kanowski, M., Werner, H., Schlögl, R., Vieth, H. M., Lüders, K., ^{87}Rb NMR Investigations on Binary and Ternary Fullerene compounds: Rb_3C_{60} , K_2RbC_{60} and Rb_2CsC_{60} . *Appl. Magn. Reson.* **11**, (2) **1996**, 285-292.
925. Jess, P., Hubler, U., Lang, H. P., Güntherodt, H. J., Lüders, K., Werner, H., Schlögl, R., A Scanning Tunneling Spectroscopy Study on Polycrystalline Rb_2CsC_{60} at 4.5 K, World Scientific, **1996**, p. 426-429.
926. Ilkenhans, T., Siegert, H., Schlögl, R., The Mechanism of the Synthesis in Connection with Assignments for a Solid Reaction Cycle of the HPA Catalyst During Catalytic

- Reactions, *Catal. Today* 32, (1-4) **1996**, 337-347.
927. Herzog, B., Herein, D., Schlögl, R., In Situ X-Ray Powder Diffraction Analysis of the Microstructure of Activated Iron Catalysts for Ammonia Synthesis, *Appl. Catal. A: General* 141, (1-2) **1996**, 71-104.
928. Hertle, H., Schubert, H., Rühle, T., Wohlers, M., Schlögl, R., Kopplung thermoanalytischer Methoden mit IMR-MS, *Labor Praxis* 8./9., **1996**, 48-50.
929. Herein, D., Nagy, A., Schubert, H., Weinberg, G., Kitzelmann, E., Schlögl, R., The Reaction of Molecular Oxygen with Silver at Technical Catalytic Conditions: Bulk Structural Consequences of a Gas-Solid Interface Reaction, *Zeitschrift für Physikalische Chemie* 197, **1996**, 67-96.
930. Herein, D., Find, J., Herzog, B., Kollmann, H., Schmidt, R., Schlögl, R., On the Relation between Structure and Reactivity in the Carbon Oxygen Reaction, ACS Symposium Series, **1996**, p. 148-154.
931. Heinze, M., Baenitz, M., Lüders, K., Werner, H., Schlögl, R., Upper Critical Field Study of Alkali-Metal and Ba-Doped Fullerenes, *Synth. Met.* 77, (1-3) **1996**, 23-25.
932. Grushko, Y. S., Belz, T., Rühle, T., Uchida, Y., Werner, H., Wohlers, M., Schlögl, R., Smirnov, B. I., Kinetics of Gas Phase Oxidation of Carbon Arc Cathode Deposits, World Scientific, Kirchberg, **1996**, p. 53-59.
933. Francz, G., Kania, P., Oelhafen, P., Schedel-Niedrig, T., Schlögl, R., Wild, U., Valence-Band Photoemission of the H-Plasma annealed (100) textured CVD Diamond Surface, *Surf. Sci.* 365, (3) **1996**, 825-830.
934. Braun, T., Wohlers, M., Belz, T., Schlögl, R., Ruthenium Fullerene Compounds: Structure and Catalytic Properties, World Scientific, **1996**, p. 622-625.
935. Böhm, M. C., Schulte, J., Schlögl, R., Solid State Electronic Structure of Potassium Graphite Intercalation Compounds; the Systems KC_{24} and KC_8 . *phys. stat. sol.(b)* 196, (1) **1996**, 131-144.
936. Böhm, M. C., Schedel-Niedrig, T., Werner, H., Schlögl, R., Schulte, J., Schütt, J., Electronic Structure of C_{60} Fragments in Alkali- and Alkaline-Earth-Doped Fullerides, *Z. Naturforsch. A* 51, (4) **1996**, 283-298.
937. Böhm, M. C., Schedel-Niedrig, T., Werner, H., Schlögl, R., Schulte, J., Solid State Electronic Structure of Ba_3C_{60} - A Model Approach, *Solid State Commun.* 98, (5) **1996**,

463-468.

938. Böhm, M. C., Schedel-Niedrig, T., Werner, H., Schlögl, R., Schulte, J., The Solid State Electronic Structure of Ba₅C₆₀. *Solid State Commun.* 99, (8) **1996**, 577-582.
939. Belz, T., Schlögl, R., Diagnostics of Fullerene-Generating Plasmas by Optical Emission Spectroscopy, World Scientific, **1996**, p. 45-48.
940. Belz, T., Bauer, A., Baenitz, M., Braun, T., Find, F., Grushko, Y., Heinze, M., Herein, D., Kanowski, M., Lüders, K., Pfänder, N., Pues, R., Rühle, T., Uchida, Y., Werner, H., Wohlers, M., Schlögl, R., Struktur und Transporteigenschaften von Fullerenen und seinen Derivaten, VDI-Technologiezentrum Physikalische Technologien, Düsseldorf, **1996**, p. 43-46.
941. Bao, X., Muhler, M., Schedel-Niedrig, T., Schlögl, R., The Interaction of Oxygen with Silver at High Temperature and Atmospheric Pressure: A Spectroscopic and Structural Analysis of a Strongly Bound Surface Species, *Phys. Rev. B* 54, (3) **1996**, 2249-2262.
942. Baerns, M., Schlögl, R., Foreword: Selective Oxidation by Heterogeneous Catalysis, *Catal. Today* 32, (1-4) **1996**, R7.
943. Wohlers, M., Werner, H., Herein, D., Schedel-Niedrig, T., Schlögl, R., Kuzmany, H., Fink, J., Mehring, M., Roth, S., Reaction of C₇₀ with Molecular Oxygen, World Scientific, **1995**, p. 163-166.
944. Werner, H., Herein, D., Schedel-Niedrig, T., Schlögl, R., New Developments in the Characterization of Heterogeneous Catalysis, *German Jap. Symp. on Present and Forthcoming Trends in Catal.*, Aachen **1995**, 1.
945. Schubert, H., Tegtmeier, U., Herein, D., Bao, X., Muhler, M., Schlögl, R., On the Relation between Catalytic Performance and Microstructure of Polycrystalline Silver in the Partial Oxidation of Methanol, *Catal. Lett.* 33, (3-4) **1995**, 305-319.
946. Schubert, H., Guntow, U., Hofmann, K., Schlögl, R., Performance and Application Potential of Ion-Molecule Reaction Mass Spectrometry (IMR-MS) in the Analysis of Complex Gas Mixtures, Forschungsvereinigung Verbrennungskraftmaschinen e. V., Frankfurt a. M., **1995**, p. 1.
947. Schlögl, R., Max-Planck-Gesellschaft, Jahrbuch Berlin/Anorganische Chemie, *Jahrbuch der MPG* **1995**, 1.
948. Schedel-Niedrig, T., Weiss, W., Schlögl, R., Electronic Structure of Ultrathin Ordered

- Iron Oxide Films Grown on Pt(111), *Phys. Rev. B* 52, (24) **1995**, 17449-17460.
949. Schedel-Niedrig, T., Herein, D., Werner, H., Wohlers, M., Schlögl, R., Francz, G., Kania, P., Oelhafen, P., Wild, C., X-Ray Absorption Study of (100) Textured CVD Diamond, *Europhys. Lett.* 31, (8) **1995**, 461-466.
950. Schedel-Niedrig, T., Bao, X., Muhler, M., Schlögl, R., Electronic Structure of the Oxidized Ag(111) Surface: High Temperature and High Pressure, John Wiley & Sons, New York, **1995**, p. 89-92.
951. Paál, Z., Xu, X. L., Paál-Lukács, J., Vogel, W., Muhler, M., Schlögl, R., Pt-Black Catalysts Sintered at Different Temperatures: Surface Analysis and Activity in Reactions of n-Hexane, *J. Catal.* 152, (2) **1995**, 252-263.
952. Nowitzke, G., Wortmann, G., Werner, H., Schlögl, R., EXFAS Studies of Superconducting A_2BC_{60} Compounds, *Physica B* 208, 209, **1995**, 273-274.
953. Noack, K., Rehren, C., Zbinden, H., Schlögl, R., Modification of the Catalytic Hydrogenation Activity of Glassy Pd_8Si_{19} -Surface Analysis by ISS and XPS, *Langmuir* 11, (6) **1995**, 2018-2030.
954. Mestl, G., Herzog, B., Schlögl, R., Tesche, B., Knözinger, H., Mechanically Activated MoO_3 . I. Particle Size, Crystallinity, and Morphology, *Langmuir* 11, (8) **1995**, 3027-3034.
955. Kraus, M., Kanowski, M., Baenitz, M., Werner, H., Schlögl, R., Scheidt, E. W., Vieth, H. M., Lüders, K., Superconductivity in Ba Intercalated C_{60} *Fullerene Science and Technology* 3, (2) **1995**, 115-125.
956. Kanowski, M., Werner, H., Schlögl, R., Vieth, H. M., Lüders, K., ^{13}C MAS NMR Investigations of Alkali Doped C_{60} . *Appl. Magn. Reson.* 8, (1) **1995**, 173-180.
957. Kanowski, M., Vieth, H. M., Lüders, K., Werner, H., Schlögl, R., Some Aspects of the Intercalation of Alkali Ions into C_{60} : A ^{13}C NMR Observation, World Scientific, **1995**, p. 436-439.
958. Itchkawitz, B. S., Long, J. P., Schedel-Niedrig, T., Kabler, M. N., Bradshaw, A. M., Schlögl, R., Hunter, W., Photoemission and C1s Near-Edge Absorption from Photopolymerized C_{60} Films, *Chem. Phys. Lett.* 243, (3-4) **1995**, 211-216.
959. Itchkawitz, B. S., Long, J. P., Schedel-Niedrig, T., Hunter, W. R., Schlögl, R., Bradshaw, A. M., Keil, M., Time Resolved Photoemission from Excitons in C_{60} Films, World

- Scientific, **1995**, p. 2057-2060.
960. Ilkenhans, T., Herzog, B., Braun, T., Schlögl, R., The Nature of the Active Phase in the Heteropolyacid Catalyst $H_4PVMo_{11}O_{40} \times 32 H_2O$ Used for the Selective Oxidation of Isobutyric Acid . *J. Catal.* 153, (2) **1995**, 275-292.
961. Guntow, U., Rosowski, F., Muhler, M., Ertl, G., Schlögl, R., The Preparation of Stable Ru Metal Clusters in Zeolite Y Used as Catalyst for Ammonia Synthesis, Elsevier, **1995**, p. 217-226.
962. Göbel, U., Atamny, F., Bensch, W., Fester, A., Schubert, H., Schlögl, R., Quantitative Aspects of the Desorption of Copper from the Silicon-(100)-Surface, *Fresenius J. Anal. Chem.* 353, (3-4) **1995**, 320-323.
963. Belz, T., Schlögl, R., Kuzmany, H., Fink, J., Mehring, M., Roth, S., Optical Emission Studies of Electric Arc Carbon Evaporation Plasmas, World Scientific Publishing Co. Pte. Ltd., Singapore, **1995**, p. 23-26.
964. Bao, X., Muhler, M., Schlögl, R., Ertl, G., Oxidative Coupling of Methane on Silver Catalysts, *Catal. Lett.* 32, (1-2) **1995**, 185-194.
965. Bao, X., Muhler, M., Pettinger, B., Uchida, Y., Lehmpfuhl, G., Schlögl, R., Ertl, G., The Effect of Water on the Formation of Strongly Bound Oxygen of Silver Surfaces, *Catal. Lett.* 32, (1-2) **1995**, 171-183.
966. Baenitz, M., Heinze, M., Lüders, K., Werner, H., Schlögl, R., Weiden, M., Sparn, G., Steglich, F., Superconductivity of Ba Doped C_{60} -Susceptibility Results and Upper Critical Field, *Solid State Commun.* 96, (8) **1995**, 539-544.
967. Baenitz, M., Heinze, M., Lüders, K., Werner, H., Schlögl, R., Superconducting Properties of Alkali-Metal- and Ba-Doped C_{60} . World Scientific, **1995**, p. 436-439.
968. Wortmann, G., Grushko, Y. S., Bolotov, A., Bychkov, E. A., Werner, H., Schlögl, R., ^{129}I -Mössbauer and X-Ray Diffraction Studies of the Iodine-Fullerene Compound $C_{60}(I_2)_{\sim 2}$, *Mol. Cryst. Liq. Cryst. A* 245, **1994**, 313-320.
969. Werner, H., Wohlers, M., Belz, T., Schlögl, R., Synthesis and Characterization of Transition Metal Fullerides, *Mol. Cryst. Liq. Cryst. A* 245, **1994**, 295-300.
970. Werner, H., Schedel-Niedrig, T., Wohlers, M., Herein, D., Herzog, B., Schlögl, R., Keil, M., Bradshaw, A., Kirschner, J., Reaction of Molecular Oxygen with C_{60} : Spectroscopic Studies, *J. Chem. Soc. Faraday Trans.* 90, (3) **1994**, 403-409.

971. Wellenbüscher, J., Rosowski, F., Klengler, U., Muhler, M., Ertl, G., Guntow, U., Schlögl, R., The Application of Ru-Exchanged Zeolite NaY in Ammonia Synthesis, Elsevier, **1994**, p. 941-948.
972. Wellenbüscher, J., Muhler, M., Mahdi, W., Sauerlandt, U., Schütze, J., Ertl, G., Schlögl, R., Ruthenium Supported on Zeolite A: Preparation and Characterization of a Stable Catalyst for Ammonia Synthesis, *Catal. Lett.* **25**, **1994**, 61-74.
973. Thomas, J. M., Schlögl, R., Rationally Designed Inorganic Catalysts for Environmental Compatible Technologies, *Angew. Chem.* **106**, (3) **1994**, 316-319.
974. Tegtmeier, U., Jockel, H., Weiss, H. P., Schlögl, R., Ionen-Molekül-Reaktions-Massenspektrometrie, *Forschung Frankfurt Entw.Projekt, Messe-Exponate der Uni Frankfurt* **1994**, 31-38.
975. Schütze, J., Mahdi, W., Herzog, B., Schlögl, R., On the Structure of the Activated Iron Catalyst for Ammonia Synthesis, *Top. Catal.* **1**, (3-4) **1994**, 195-214.
976. Schubert, H., Tegtmeier, U., Schlögl, R., On the Mechanism of the Selective Oxidation of Methanol Over Elemental Silver, *Catal. Lett.* **28**, (2-4) **1994**, 383-395.
977. Schlögl, R., Tegtmeier, U., Hertle, H., Rauch, W., Ionen-Molekül-Reaktions-Massenspektrometrie (IMR-MS) als Methode zur schnellen on-line Optimierung katalytischer Prozesse, *Chemie Anlagen Verfahren (CAV)* **1994**, 96-98.
978. Schlögl, R., Blöcker, J., Hofmann, K., Herein, D., Braun, T., Herzog, B., Bokern, D., Wohlers, M., Werner, H., Belz, T., Kurt, H., Henschke, B., Atamny, F., Schubert, H., Troyer, C.-. Contribution to the Conference CARBON 94, Granada, *Proc. of Carbon 94 Granada/Spain (Summary of 7 Presentations)*, **1994**, 474.
979. Schlögl, R., Graphite-A Unique Host Lattice, Kluwer Academic Publishers Netherlands, **1994**, p. 83-176.
980. Schlögl, R., Zum Mechanismus der Oxidation von Kohlenstoff mit Sauerstoff, *Chemie in unserer Zeit* **28**, (4) **1994**, 166-179.
981. Rühle, T., Timpe, O., Schlögl, R., Heterogeneous Catalytic Oxidation of S(IV) to S(VI) by Molecular Oxygen: The Rapid Activity Determination as an Analytical Application, *Fresenius J. Anal. Chem.* **348**, **1994**, 771-772.
982. Rauch, W., Tegtmeier, U., Schlögl, R., Ionen-Molekül-Reaktions-Massenspektrometrie (IMRS-MS), *GIT Spektroskopie* **38**, (2) **1994**, 93-98.

983. Pettinger, B., Bao, X., Wilcock, I., Muhler, M., Schlögl, R., Ertl, G., Thermal Decomposition of Silver Oxide Monitored by Raman Spectroscopy: From AgO Units to Oxygen Atoms Chemisorbed on the Silver Surface, *Angew. Chem. Int. Ed.* **33**, (1) **1994**, 85-86.
984. Nowitzke, G., Dumschat, J., Röhler, J., Wortmann, G., Werner, H., Schlögl, R., X-Ray Absorption Study of the Local Structure at Potassium and Rubidium in $K_{3-x}Rb_xC_{60}$. *Mol. Cryst. Liq. Cryst. A* **245**, **1994**, 321-326.
985. Kraus, M., Baenitz, M., Werner, H., Schlögl, R., Thommen, V., Güntherodt, H. J., Lüders, K., Superconducting Intercalated Fullerenes-Preparation Routes and Properties, *Mol. Cryst. Liq. Cryst. A* **245**, **1994**, 339-344.
986. Kanowski, M., Buntkowsky, G., Werner, H., Wohlers, M., Schlögl, R., Vieth, H. M., Lüders, K., ^{13}C NMR Investigations of Fullerene Black, *Mol. Cryst. Liq. Cryst. A* **245**, **1994**, 271-275.
987. Hucho, C., Kraus, M., Maurer, D., Müller, V., Werner, H., Wohlers, M., Schlögl, R., Elastic Properties of Fullerenes, *Mol. Cryst. Liq. Cryst. A* **245**, **1994**, 277-282.
988. Herzog, B., Ilkenhans, T., Schlögl, R., On the Crystal Structure of Heterogeneous Catalysts at Reaction-Conditions: 'In-Situ' X-Ray Powder Diffraction, *Fresenius J. Anal. Chem.* **349**, **1994**, 247-249.
989. Herzog, B., Braun, T., Schäfer, J., Güdütuna, S., Schlögl, R., Leuschner, U., New Insights in the Composition of Black Pigment Investigations in Human Black Pigment Stones, *Gastroenterology* **106**, (4) **1994**, A341.
990. Herzog, B., Bokern, D., Braun, T., Schlögl, R., On the Oxidation of Graphite: An "In-Situ" XRD-Study, *Materials Sci. Forum* **166-169**, **1994**, 517-522.
991. Herein, D., Braun, T., Schlögl, R., The Structure of Transition Metal Graphite Compounds: Iron- and Ruthenium-Graphite, *Mol. Cryst. Liq. Cryst. A* **245**, **1994**, 189-194.
992. Henschke, B., Schubert, H., Blöcker, J., Atamny, F., Schlögl, R., Mechanistic Aspects of the Reaction between Carbon and Oxygen, *Thermochim. Acta* **234**, **1994**, 53-83.
993. Grünert, W., Muhler, M., Schröder, K. P., Sauer, J., Schlögl, R., Investigations of Zeolites by Photoelectron and Ion Scattering Spectroscopy. 2. A New Interpretation of XPS Binding Energy Shifts in Zeolites, *J. Phys. Chem.* **98**, (42) **1994**, 10920-10929.

994. Bensch, W., Werner, H., Bartl, H., Schlögl, R., Single-Crystal Structure of C₆₀ at 300 K / Evidence for the Presence of Oxygen in a Statically Disordered Model, *J. Chem. Soc. Faraday Trans.* 90, (18) **1994**, 2791-2797.
995. Belz, T., Werner, H., Zemlin, F., Klengler, U., Wesemann, M., Tesche, B., Zeitler, E., Reller, A., Schlögl, R., On the Mechanism of Fullerene Formation, *Angew. Chem. Int. Ed.* 33, (18) **1994**, 1866-1869.
996. Baenitz, M., Straube, E., Kraus, M., Werner, H., Schlögl, R., Lüders, K., AC Susceptibility Investigations of Superconducting Doped Fullerenes A_xC₆₀. *Mol. Cryst. Liq. Cryst. A* 245, **1994**, 327-332.
997. Baenitz, M., Heinze, M., Straube, E., Werner, H., Schlögl, R., Thommen, V., Güntherodt, H. J., Lüders, K., Inter- and intragrain AC response of the granular superconductors K₃C₆₀ and Rb₃C₆₀. *Physica C* 228, (1-2) **1994**, 181-189.
998. Baenitz, M., Heinze, M., Lüders, K., Werner, H., Schlögl, R., Superconductivity of Rb₂CsC₆₀: AC Response and Upper Critical Field, *Solid State Commun.* 91, (5) **1994**, 337-340.
999. Baenitz, M., Heinze, M., Lüders, K., Werner, H., Schlögl, R., Comparative Study of Superconducting K₂CsC₆₀, Rb₃C₆₀ and Rb₂CsC₆₀. *Physica C* 235-240, (Part 4) **1994**, 2503-2504.
1000. Baenitz, M., Heinze, M., Lüders, K., Werner, H., Schlögl, R., Susceptibility Study of Site Selective Doped Fullerenes K₂RbC₆₀, Rb₃C₆₀, K₂CsC₆₀, and Rb₂CsC₆₀. *Mater. Res. Soc.* 349, **1994**, 301-306.
1001. Wortmann, G., Freund, J., Nowitzke, G., Werner, H., Schlögl, R., X-Ray Absorption Study of Iodine-Doped C₆₀. Springer Series in Solid State Sciences, **1993**, p. 492.
1002. Werner, H., Wohlers, M., Herein, D., Bublak, D., Blöcker, J., Schlögl, R., Fullerene Black - Soot or Something New?, *Fullerene Science and Technology* 1, (2) **1993**, 199-219.
1003. Werner, H., Wohlers, M., Bublak, D., Blöcker, J., Schlögl, R., Interaction of Molecular Oxygen with Solid C₆₀ *Fullerene Science and Technology* 1, (4) **1993**, 457-474.
1004. Werner, H., Wohlers, M., Bublak, D., Belz, T., Bensch, W., Schlögl, R., Chemical and Structural Aspects of the Interaction between C₆₀ and Molecular Oxygen, Springer Series in Solid State Sciences, **1993**, p. 16-38.

1005. Timpe, O., Schlögl, R., Catalytic Oxidation of Sulfurous Acid by Molecular Oxygen, *Ber. Bunsen-Ges. Phys. Chem.* 97, (9) **1993**, 1076-1085.
1006. Tegtmeier, U., Weiss, H. P., Schlögl, R., Gas Analysis by IMR-MS: A Comparison to Conventional Mass Spectrometry, *Fresenius J. Anal. Chem.* 347, **1993**, 263-268.
1007. Schmalz, M., Viola, F., Schöllhorn, R., Schlögl, R., Fermi Level Pinning in Transition Metal Chalcogenides by Electrochemical Copper Intercalation in Potassium Tetrathiocuprate (I), *Mat. Res. Bull.* 28, **1993**, 1311-1318.
1008. Schlögl, R., Heterogene Katalyse-immer noch Kunst oder schon Wissenschaft, *Angew. Chem.* 105, (3) **1993**, 402-405.
1009. Páal, Z., Muhler, M., Schlögl, R., The Possible Interpretation of XP Spectra of Pt Catalysts in the Oxidized and Sulfided State, *J. Catal.* 143, **1993**, 318-321.
1010. Lang, H. P., Thommen-Geiser, V., Bolm, C., Felder, M., Frommer, J., Wiesendanger, R., Werner, H., Schlögl, R., Zahab, A., Bernier, P., Gerth, G., Anselmetti, D., Güntherodt, H. J., Determination of C₆₀/C₇₀ Ratios in Fullerene Mixtures and Film Characterization by Scanning Tunneling Microscopy, *Appl. Phys. A* 56, **1993**, 197-205.
1011. Kraus, M., Baenitz, M., Kanowski, M., Straube, E., Scheidt, E. W., Gärtner, S., Vieth, H. M., Werner, H., Schlögl, R., Krätschmer, W., Lüders, K., Superconductivity of C₆₀ Compounds, *Appl. Superconductivity* 1, (7-9) **1993**, 901-911.
1012. Korányi, T. I., Schikorra, M., Páal, Z., Schlögl, R., Schütze, J., Wesemann, M., Surface State, Composition and Catalytic Activity of Slightly Sulfided Co-Mo/Al₂O₃ Catalysts Pretreated at Different Temperatures, *Appl. Surf. Sci.* 68, **1993**, 307-317.
1013. Herzog, B., Bensch, W., Ilkenhans, T., Schlögl, R., Deutsch, N., Single Crystal and Powder Diffraction Studies of the Structure of Heteropolymolybdophosphoric Acid Catalysts, *Catal. Lett.* 20, **1993**, 203-219.
1014. Grünert, W., Schlögl, R., Karge, H. G., Photoelectron and Ion Scattering Spectroscopy of Zeolites under Reduced Surface-Charge Conditions, *Surf. Interface Anal.* 20, (7) **1993**, 603-606.
1015. Grünert, W., Schlögl, R., Karge, G. H., Investigations of Zeolites by Photoelectron and Ion Scattering Spectroscopy. 1. New Applications of Surface Spectroscopic Methods to Zeolites by a High-Temperature Measurement Technique, *J. Phys. Chem.* 97, **1993**, 8638-8646.

1016. Grünert, W., Sauerlandt, U., Schlögl, R., Karge, H., XPS Investigations of Lanthanum in Faujasite-Type Zeolites, *J. Phys. Chem.* 97, (7) **1993**, 1413-1419.
1017. Göbel, U., Bensch, W., Schlögl, R., The Desorption of Transition Metals from the Si(100) Surface, *Appl. Surf. Sci.* 70-71, **1993**, 313-317.
1018. Bensch, W., Schlögl, R., An X-Ray and Ultraviolet Photoemission Study of Vanadium Sulfides in the Series VS_{1.0}-VS_{1.60}, *J. Solid State Chem.* 107, **1993**, 43-57.
1019. Bao, X., Pettinger, B., Ertl, G., Schlögl, R., In-situ raman studies of ethylene oxidation at Ag(111) and Ag(110) under catalytic reaction conditions, *Ber. Bunsen-Ges. Phys. Chem.* 97, **1993**, 322-325.
1020. Bao, X., Muhler, M., Pettinger, B., Schlögl, R., Ertl, G., On the Nature of the Active State of Silver During Catalytic Oxidation of Methanol, *Catal. Lett.* 22, **1993**, 215-225.
1021. Bao, X., Barth, J. V., Lehmpfuhl, G., Schuster, R., Uchida, Y., Schlögl, R., Ertl, G., Oxygen-Induced Restructuring of Ag(111), *Surf. Sci.* 284, **1993**, 14-22.
1022. Baentz, M., Kraus, M., Gärtner, S., Vieth, H. M., Werner, H., Schlögl, R., Kanowski, M., Lüders, K., Superconducting Properties of Fullerenes Doped with Binary Thallium Alloys, Springer Series in Solid State Sciences, **1993**, p. 475-481.
1023. Baenitz, M., Straube, E., Gärtner, S., Werner, H., Lüders, K., Schlögl, R., AC Susceptibility and Upper Critical Fields in Rb₃C₆₀. *Fullerene Science and Technology* 1, **1993**, 177.
1024. Atamny, F., Kollmann, H., Bartl, H., Schlögl, R., The Microstructure of Nanocrystalline Carbon Allotropes: Application of STM to Loose Particles, *Ultramicroscopy* 48, **1993**, 281-289.
1025. Wiech, G., Langer, H., Simunek, A., Schlögl, R., Werner, H., CK-Emission Band of Solid C₆₀. *Solid State Commun.* 83, (9) **1992**, 731-733.
1026. Werner, H., Wesemann, M., Schlögl, R., Electronic Structure of C₆₀(I₂)_{1.88}: A Photoemission Study, *Europhys. Lett.* 20, (2) **1992**, 107-110.
1027. Werner, H., Herein, D., Blöcker, J., Henschke, B., Tegtmeyer, U., Schedel-Niedrig, T., Keil, M., Bradshaw, A., Schlögl, R., Spectroscopic and Chemical Characterization of "Fullerene Black", *Chem. Phys. Lett.* 134, (1-2) **1992**, 62-66.
1028. Werner, H., Göbel, U., Henschke, B., Bensch, W., Schlögl, R., Materialeigenschaften und Reinheit von C₆₀. *Angew. Chem.* 104, (7) **1992**, 909-911.

1029. Werner, H., Göbel, U., Henschke, B., Bensch, W., Schlögl, R., Material Properties and Purity of C₆₀. *Angew. Chem. Int. Ed.* 31, (7) **1992**, 867-870.
1030. Wellenbüscher, J., Sauerland, U., Mahdi, W., Ertl, G., Schlögl, R., Surface Characterization of Ruthenium-Exchanged Y-Zeolite Used in Ammonia Synthesis, *Surf. Interface Anal.* 18, **1992**, 650-654.
1031. Tesche, B., Schilling, T., Wesemann, M., Schlögl, R., Support Films for Catalytic Electron Microscopy, *Electronmicroscopy/ Proc. 10th European Congress on Elect.Microscopy* 2, **1992**, 1.
1032. Schlögl, R., Loose, G., Wesemann, M., Baiker, A., Oxidation of Carbon Monoxide over Palladium on Zirconia Prepared from Amorphous Pd-Zr Alloy / II. The Nature of the Active Surface, *J. Catal.* 137, **1992**, 139-157.
1033. Schlögl, R., Atamny, F., Wirth, W. J., Stephan, J., Topochemistry of Graphite Oxidation, *Ultramicroscopy* 42-44, **1992**, 660-667.
1034. Schlögl, R., 3. Electron Spectroscopy of Graphite Intercalation Compounds, Springer Series in Materials Science, **1992**, p. 1.
1035. Payer, A., Schmalz, M., Paulus, W., Schöllhorn, R., Schlögl, R., Ritter, C., Formation of Cu₃₂⁺ Clusters: Structure, Bonding, and Topotactic Reactivity of Chalcogen Spinels Cu_{1+y}Cr₂Se₃Br, *J. Solid State Chem.* 98, **1992**, 71-81.
1036. Paál, Z., Schlögl, R., Ertl, G., Photoelectron Spectroscopy of Polycrystalline Platinum Catalysts, *J. Chem. Soc. Faraday Trans.* 88, (8) **1992**, 1179-1189.
1037. Paál, Z., Schlögl, R., Ertl, G., The Surface State and Catalytic Properties of Pt Black after O₂-H₂ Cycles, *Catal. Lett.* 12, **1992**, 331-344.
1038. Paál, Z., Schlögl, R., XPS and UPS of Pt Catalysts of Different Preparation, *Surf. Interface Anal.* 19, **1992**, 524-528.
1039. Muhler, M., Schlögl, R., Ertl, G., The Nature of the Iron Based Catalyst for Dehydrogenation of Ethylbenzene to Styrene / 2: Surface Chemistry of the Active Phase, *J. Catal.* 138, **1992**, 413-444.
1040. Mahdi, W., Sauerlandt, U., Wellenbüscher, J., Schütze, J., Muhler, M., Ertl, G., Schlögl, R., Application of Ru Exchanged Zeolite-Y in Ammonia Synthesis, *Catal. Lett.* 14, **1992**, 339-348.
1041. Kraus, M., Baenitz, M., Gärtner, S., Vieth, H. M., Werner, H., Schlögl, R., Krätschmer,

- W., Kanowski, M., Lüders, K., Fullerenes Doped with Thallium Alloys, *Mat. Res. Soc. Symp.* 270, **1992**, 135-139.
1042. Herein, D., Werner, H., Schlögl, R., Disorder Phenomena in Donor- and Acceptor-GIC, *Proc. EPDIC-2, Enschede* **1992**.
1043. Herein, D., Henschke, B., Schlögl, R., Characterization of So-Called Iron-Graphite Compounds, *Beiträge zur Elektronmikroskop.Direktabb.Oberfl.* 25, **1992**, 169-172.
1044. Henschke, B., Atamny, F., Schlögl, R., Spectroscopic and Chemical Characterization of Carbon Black, BMFT/DGMK, Freiberg/Holzhausen, **1992**, p. 271.
1045. Göbel, U., Wesemann, M., Bensch, W., Schlögl, R., Analysis of Organic Contaminations on Si(100) by Thermal Desorption Spectroscopy, *Fresenius J. Anal. Chem.* 343, **1992**, 582-592.
1046. Blöcker, J. H., Atamny, F., Henschke, B., Schlögl, R., Schedel-Niedrig, T., Keil, M., Bradshaw, A. M., Mechanism of Carbon Oxidation, *Proc. Carbon 92, Internat. Carbin Conf. Essen* 157, **1992**.
1047. Blöcker, J., Werner, H., Herein, D., Schlögl, R., Schedel-Niedrig, T., Keil, M., Bradshaw, A. M., XANES Investigation of Stage 1 and Stage 2 Donor GIC with K and Cs at the Carbon K Edge, *Mat. Sci. Forum* 91-93, **1992**, 337-344.
1048. Bao, X., Lehmpfuhl, G., Weinberg, G., Schlögl, R., Ertl, G., Variation of the Morphology of Silver Surfaces by Thermal and Catalytic Etching, *J. Chem. Soc. Faraday Trans.* 88, (6) **1992**, 865-872.
1049. Atamny, F., Schlögl, R., STM Studies of Paracrystalline Carbon Black Powders, *Proc. Carbon 92, Internat. Carbin Conf. Essen* 157, **1992**.
1050. Atamny, F., Reller, A., Schlögl, R., Micromorphology of Carbon Black, *Carbon* **1992**, 1123-1126.
1051. Atamny, F., Bokern, D., Schlögl, R., Struktursensitivität der Graphitoxidation: Eine STM Untersuchung, BMFT/DGMK, Freiberg/Holzhausen, **1992**, p. 281-291.
1052. Atamny, F., Blöcker, J. H., Henschke, B., Schlögl, R., Schedel-Niedrig, T., Keil, M., Bradshaw, A. M., Application of X-Ray Absorption Spectroscopy to Carbon Materials, *Proc. Carbon 92, Internat. Carbin Conf. Essen* 157, **1992**.
1053. Atamny, F., Blöcker, J., Henschke, B., Schlögl, R., Schedel-Niedrig, T., Keil, M., Bradshaw, A. M., The Reaction of Oxygen with Graphite: X-Ray Absorption

- Spectroscopy of Carbonaceous Materials, *J. Phys. Chem.* 96, (11) **1992**, 4522.
1054. Atamny, F., Blöcker, J., Dübotzky, A., Kurt, H., Loose, G., Mahdi, W., Timpe, O., Schlögl, R., Surface Chemistry of Carbon: Activation of Molecular Oxygen, *Mol. Phys.* 76, (4) **1992**, 851-886.
1055. Stöhr, B., Boehm, H. P., Schlögl, R., Enhancement of the Catalytic Activity of Activated Carbons in Oxidation Reactions by Thermal Treatment with Ammonia or Hydrogen Cyanide and Observation of a Superoxide Species as a Possible Intermediate, *Carbon* 29, (6) **1991**, 707-720.
1056. Schmalz, M., Schöllhorn, R., Schlögl, R., d-Elektronendichte in formalen d⁰-Systemen aus der Multiplettaufspaltung im Photoelektronenspektrum von Permanganaten, *Angew. Chem.* 103, **1991**, 983.
1057. Schlögl, R., Jennings, R. J., Preparation and Activation of Technical Ammonia Synthesis Catalyst, Plenum, **1991**, p. 19-107.
1058. Rehren, C., Muhler, M., Bao, X., Schlögl, R., Ertl, G., The Interaction of Silver with Oxygen: An Investigation with Thermal Desorption and Photoelectron Spectroscopy, *Z. Phys. Chem.* 174, **1991**, 11-52.
1059. Rehren, C., Isaak, G., Schlögl, R., Ertl, G., Surface and Subsurface Products of the Interaction of O₂ with Ag under Catalytic Conditions, *Catal. Lett.* 11, **1991**, 253-266.
1060. Melsheimer, J., Guo, W., Ziegler, D., Wesemann, M., Schlögl, R., Methanation of Carbon Dioxide Over Ru/Titania at Room Temperature: Explorations for a Photoassisted Catalytic Reaction, *Catal. Lett.* 11, **1991**, 157-168.
1061. Mahdi, W., Schütze, J., Weinberg, G., Schoonmaker, R., Schlögl, R., Ertl, G., Microstructure of the Activated Industrial Ammonia Synthesis Catalyst, *Catal. Lett.* 11, **1991**, 19-31.
1062. Schlögl, R., Loose, G., Wesemann, M., On the Mechanism of the Oxidation of Graphite by Molecular Oxygen, *Solid State Ionics* 43, **1990**, 183-192.
1063. Payer, A., Schmalz, M., Schöllhorn, R., Schlögl, R., Ritter, C., Anion Valence Band Holes in the Copper Chalcogen Spinel CuCr₂x₄, *Mat. Res. Bull.* 25, **1990**, 515-522.
1064. Paál, Z., Loose, G., Weinberg, G., Rebholz, M., Schlögl, R., Selectivity of Hydrogen Chemisorption on Clean and Lead Modified Palladium Particles / A TPD and Photoemission Study, *Catal. Lett.* 6, **1990**, 301-316.

1065. Noack, K., Zbinden, H., Schlögl, R., Identification of the State of Palladium in Various Hydrogenation Catalysts by XPS, *Catal. Lett.* **4**, **1990**, 145-156.
1066. Muhler, M., Schütze, J., Wesemann, M., Rayment, T., Dent, A., Schlögl, R., Ertl, G., The Nature of the Iron Oxide-Based Catalyst for Dehydrogenation of Ethylbenzene to Styrene / 1: Solid State Chemistry and Bulk Characterization, *J. Catal.* **126**, **1990**, 339-360.
1067. Muhler, M., Paál, Z., Schlögl, R., XPS of platinum in Pt/SiO₂ (Europt-1): possibilities and limitations of the method, *Appl. Surf. Sci.* **47**, **1990**, 281-285.
1068. Baiker, A., Gasser, D., Lenzner, J., Reller, A., Schlögl, R., Oxidation of Carbon Monoxide over Palladium on Zirconia Prepared from Amorphous Pd-Zr Alloy, *J. Catal.* **126**, **1990**, 555-571.
1069. Wenzel, L., Arvantis, D., Schlögl, R., Muhler, M., Norman, D., Baberschke, K., Ertl, G., Rydberg and Multiple-Electron Excitations in X-Ray Photoabsorption Spectra of N₂ Adsorbed on Fe (111), *Phys. Rev. B* **40**, (9) **1989**, 6409-6412.
1070. Schlögl, R., Eickenbusch, H., Paulus, W., Schöllhorn, R., Copper Valency and Anion p Band Holes in the Perovskite Superconductor YBa₂Cu₃O₇ *Mat. Res. Bull.* **24**, **1989**, 181-189.
1071. Schlögl, R., Alkali Metals in Heterogeneous Catalysis, Elsevier Science Publishers B. V. / Amsterdam, **1989**, p. 347-377.
1072. Paál, Z., Zimmer, H., Günter, J. R., Schlögl, R., Muhler, M., Sintering of Platinum-Black in Hydrogen: Morphology and Catalytic Activity, *J. Catal.* **119**, **1989**, 146-160.
1073. Nickl, M., Schlögl, R., Baiker, A., Knözinger, H., Ertl, G., Preparation and Characterization of a Model System for the Study of Monolayers and Multilayers of Vanadia Supported on Titania, *Catal. Lett.* **3**, **1989**, 379-388.
1074. Muhler, M., Schlögl, R., Reller, A., Ertl, G., The Nature of the Active Phase of the Fe/K-Catalyst for Dehydrogenation of Ethylbenzene, *Catal. Lett.* **2**, **1989**, 201-210.
1075. Fuchs, D., Schlögl, R., Bradshaw, A. M., Barth, J., Johnson, R. L., Cardona, M., Ellipsometry of Graphite and the C₈K Intercalation Compound Between 5 and 30 eV, *Synth. Met.* **34**, **1989**, 417-421.
1076. Belz, T., Sanchez, E., Yang, J., Schoonmaker, R., Sauer, J., Find, J., Herein, D., Wortmann, G., Schlögl, R., Fullerenoid Nanocarbons: Application Potentials in Heterogeneous Reactions, *Proc. of the Electrochemical Society* **1989**, 8.

1077. Wortmann, G., Krone, W., Kaindl, G., Schlögl, R., X-Ray Absorption Spectroscopy of ICI-Intercalated Graphite, *Synth. Met.* 23, **1988**, 139.
1078. Wortmann, G., Godler, F., Perscheid, B., Kaindl, G., Schlögl, R., Chemical and Microstructural Organization of Graphite Intercalated with SbCl₅ and SbF₅ from ¹²¹Sb-Mössbauer Spectroscopy, *Synth. Met.* 26, **1988**, 109-137.
1079. Schlögl, R., Tesche, B., Weinberg, G., Surface Analysis of Thin Carbon Films Used as Supports for Electron Microscopy, *Surf. Interface Anal.* 12, **1988**, 359-360.
1080. Schlögl, R., Schoonmaker, R. C., Muhler, M., Ertl, G., Bridging the 'Material Gap' Between Single Crystal Studies and Real Catalysis, *Catal. Lett.* 1, **1988**, 237-242.
1081. Schlögl, R., Boehm, H. P., Photochemical intercalation in graphite, *Synthetic Metals* 23, (1-4) **1988**, 407-413.
1082. Schlögl, R., Photoemission from GICS: Some Aspects of their Electronic and Ionic Structures, *Proc. Int. Colloqu. on Layered Compounds* **1988**, 237-244.
1083. Muhler, M., Schlögl, R., Ertl, G., Analysis of In Situ Prepared Surfaces of an Iron Oxide Based Dehydrogenation Catalyst, *Surf. Interface Anal.* 12, **1988**, 233-238.
1084. Muhler, M., Schlögl, R., Ertl, G., The Constitution of an Iron Oxide Based Catalyst for Dehydrogenation of Ethylbenzene, *Proc. 91th ICC Calgary* **1988**, 1758-1764.
1085. Kavanagh, A., Schlögl, R., The Morphology of Some Natural and Synthetic Graphites, *Carbon* 26, (1) **1988**, 23-32.
1086. Eisberg, R., Wiech, G., Schlögl, R., X-Ray Emission and Photoelectron Spectra of Donor- and Acceptor-Intercalation Compounds: Direct Observation of Intercalation-Induced Energy Shifts, *Solid State Commun.* 65, (7) **1988**, 705-708.
1087. Brydson, R., Williams, B. G., Sauer, H., Engel, W., Lindner, T., Muhler, M., Schlögl, R., Thomas, J. M., Zeitler, E., Electron Energy-loss Spectroscopy and the Crystal Chemistry of Rhodizite / Part 2 - Near Edge Structure, *J. Chem. Soc. Faraday Trans.* 84, (2) **1988**, 631-646.
1088. Schlögl, R., Wiesendanger, R., Baiker, A., Ammonia Synthesis over Supported Iron Catalyst Prepared from Amorphous Iron-Zirconium Precursor / II. Surface Morphological Changes during the Genesis of the Catalyst, *J. Catal.* 108, **1987**, 452-466.
1089. Schlögl, R., Noack, K., Zbinden, H., Reller, A., The Microstructure of Selective Palladium Hydrogenation Catalysts Supported on Calcium Carbonate and Modified by

- Lead (Lindlar Catalysts), Studied by Photoelectron Spectroscopy, thermogravimetry, X-Ray Diffraction and Electron Microscopy, *Helvetica Chimica Acta* 70, **1987**, 627-679.
1090. Schlögl, R., Indlekofer, G., Oelhafen, P., Mikropartikelemissionen von Verbrennungsmotoren mit Abgasreinigung- Röntgen-Photoelektronenspektroskopie in der Umweltanalytik, *Angew. Chem.* 99, (4) **1987**, 312-322.
1091. Schlögl, R., Geiser, V., Oelhafen, P., Güntherodt, H. J., Photoemission from C_8Rb and $C_4RbTl_{1.5}$: Effects of Ternarization in Donor Graphite Intercalates, *Phys. Rev. B* 35, (12) **1987**, 6414-6422.
1092. Schlögl, R., Bensch, W., A Photoemission Study of $Tl_xV_6S_8$: Evidence for a Low Temperature Phase Transition, *Journal of the Less Common Metals* 132, **1987**, 155-171.
1093. Schlögl, R., Modification of the Electronic Structure of Graphite by Intercalation, Chlorination and Ion Etching, *Surf. Sci.* 189-190, **1987**, 861-872.
1094. Muhler, M., Schlögl, R., Eder, S., Ertl, G., Design of a Continous Flow Microreactor Attached to a Surface Analysis System: First Results with an Iron Oxide Based Catalyst, *Surf. Sci.* 189-190, **1987**, 69-79.
1095. Eickenbusch, H., Paulus, W., Schöllhorn, R., Schlögl, R. H., Surface and Bulk Characteristics of the Single Phase Hight Tc Superconductors $Y_{1/3}Ba_{2/3}CuO_{3-n}$ *Mater. Res. Bull* 22, **1987**, 1505.
1096. Brunner, A. J., Bretscher, H., Lapka, R., Oelhafen, P., Schlögl, R., Güntherodt, H. J., The Electronic Structure of Glassy and Crystalline Cu-Te Alloys, *J. Phys. C: Solid State Phys.* 20, **1987**, 5233-5239.
1097. Boehm, H. P., Schlögl, R., More on the Reaction of C_8K with water / A Reply, *Carbon* 25, (25) **1987**, 583-588.
1098. Bensch, W., Schlögl, R., Characterization of Transition Metal Substituted Vanadium Chalcogenides with SEM and EDA, *Micron and Microscopia Acta* 18, (2) **1987**, 89-100.
1099. Baiker, A., Schlögl, R., Armbruster, E., Güntherodt, H. J., Ammonia Synthesis over Supported Iron Catalyst Prepared from Amorphous Iron-Zirconim Precursor / I. Bulk Structural and Surface Chemical Changes of Precursor during its Transition to the Active Catalyst, *J. Catal.* 107, **1987**, 221-231.
1100. Baiker, A., Baris, H., Schlögl, R., Ammonia Synthesis over Supported Iron Catalyst Prepared from Amorphous Iron-Zirconium Precursor / III. Mechanism of Nitrogen

- Adsorption and Ammonia Synthesis Kinetics, *J. Catal.* **108**, **1987**, 467-480.
1101. Wiesendanger, R., Schlögl, R., Ringger, M., Güntherodt, H. J., Kavanagh, A., The Micromorphology of Graphite Surfaces as Studied by SEM and the Novel Scanning Tunneling Microscope (STM), *Proc. Carbon '86, 4th Int. Carbon Conf./Baden-Baden 1986*, 207.
1102. Schlögl, R., Oelhafen, P., Güntherodt, H. J., Fergusson, E., Jones, W., Potassium Catalyzed Gassification of Graphite with Oxygen: An In-Situ Photoemission Study, *Proc. Carbon '86, 4th Int. Carbon Conf./Baden-Baden 1986*, 1.
1103. Schlögl, R., Oelhafen, P., Güntherodt, H. J., Chemisorption of CO and O₂ on Surfaces of Donor Graphite Intercalates, *Proc. Carbon '86, Int. Carbon Conf./Baden-Baden 1986*, 445.
1104. Schlögl, R., Oelhafen, P., Geiser, V., The Electronic Structure of First Stage Rubidium Thallium Graphite: A Photoemission Study, *Mater. Res. Soc.* **1986**, 1.
1105. Schlögl, R., Geiser, V., Oelhafen, P., Güntherodt, H. J., The Influence of the Local Chemical Composition on the Electronic Structure of Aluminium Chloride Graphite, *Proc. Carbon '86, 4th Int. Carbon Conf./Baden-Baden 1986*, 505.
1106. Schlögl, R., Geiser, V., Oelhafen, P., Güntherodt, H. J., How Ionic is Potassium Graphite?, *Proc. Carbon '86, 4th Int. Carbon Conf./Baden-Baden 1986*, 439.
1107. Ringger, M., Corb, B. W., Hidber, H. R., Schlögl, R., Wiesendanger, R., Stemmer, A., Rosenthaler, L., Brunner, A. J., Oelhafen, P. C., Güntherodt, H. J., STM Activity at the University of Basel, *IBM J. Res. Develop.* **30**, (5) **1986**, 500-507.
1108. Prietsch, M., Wortmann, G., Kaindl, G., Schlögl, R., Mössbauer Study of Stage-2 FeCl₃-Graphite, *Phys. Rev. B* **33**, (11) **1986**, 7451-7461.
1109. Krone, W., Wortmann, G., Kaindl, G., Schlögl, R., Intercalant Structure Determination of ICI-Graphite by X-Ray Absorption Spectroscopy, *Proc. 5th Int. Conf.* **1986**, 1.
1110. Eisberg, R., Josuks, P., Wiech, G., Schlögl, R., Angle-Dependent X-Ray Emission Bands of Potassium Intercalated Graphite, *Solid State Commun.* **60**, (10) **1986**, 827-830.
1111. Eisberg, R., Josuks, P., Schlögl, R., Wiech, G., X-Ray Emission Spectra and Electronic Structure of Potassium Intercalated Graphite, *Proc. Carbon '86, 4th Int. Carbon Conf./Baden-Baden 1986*, 1.
1112. Bensch, W., Schlögl, R., Amberger, E., An Fe⁵⁷ Mössbauer Study of Selected Binary and

Ternary Vanadium Sulfides, *Helvetica Chimica Acta* 69, **1986**, 35-43.

1113. Armbruster, E., Baiker, A., Güntherodt, H. J., Schlögl, R., Walz, B., Amorphous Metal Alloys as Precursors in Catalyst Preparation: Ammonia Synthesis Catalysts from Amorphous Ni-Zr Systems, *Preparation of Catalysts IV* **1986**, 389-400.
1114. Armbruster, E., Baiker, A., Baris, H., Güntherodt, H. J., Schlögl, R., Walz, B., Ammonia Synthesis Over a Novel Catalyst Prepared From an Amorphous Fe₉₁Zr₉ Precursor, *J. Chem. Soc. Chem. Commun.* **1986**, 299-301.
1115. Tomanek, D., Hauert, R., Oelhafen, P., Schlögl, R., Güntherodt, H. J., CO Dissociation on Ni-Zr Alloys Studied by Photoemission and Electronic Structure Calculations, *Surf. Sci.* 160, **1985**, L493-L500.
1116. Schlögl, R., Wrackmeyer, B., The System Potassium-Graphite / Methylborondibromide / Alkyne: Query about the Intermediacy of Methylborylene, *Polyhedron* 4, (5) **1985**, 885-892.
1117. Schlögl, R., Application of Amorphous Metals in Heterogenous Catalysis, *Rapidly Quenched Metals* **1985**, 1723-1727.
1118. Ringger, M., Hidber, H. R., Schlögl, R., Oelhafen, P., Güntherodt, H. J., Wandelt, K., Ertl, G., The Surface Topography of a Pd(100) Single Crystal and Glassy Pd₈₁Si₁₉ Studied by Scanning Tunneling Microscopy, Springer Verlag, **1985**, p. 48-53.
1119. Ringger, M., Hidber, H. R., Schlögl, R., Oelhafen, P., Güntherodt, H. J., Nanometer Lithography with the Scanning Tunneling Microscope, *Appl. Phys. Lett.* 46, (9) **1985**, 832-834.
1120. Rayment, T., Schlögl, R., Thomas, J. M., Ertl, G., Structure of the Ammonia Synthesis Catalyst, *Nature* 315, (6017) **1985**, 311-313.
1121. Nissen, H. U., Ishimasa, T., Schlögl, R., Reimann, R., Güntherodt, H. J., Nonperiodic Electron Microscopic Structure Images of Al-Mn, *Helvetica Physica Acta* 58, **1985**, 819-822.
1122. Hauert, R., Oelhafen, P., Schlögl, R., Güntherodt, H. J., CO Adsorption on Glassy Ni₆₄Zr₃₆ and Polycrystalline Ni₃Zr, *Rapidly Quenched Metals* **1985**, 1493-1496.
1123. Hauert, R., Oelhafen, P., Schlögl, R., Güntherodt, H. J., CO Chemisorption on Glassy Ni-Zr Alloys, *Solid State Communications* 55, (7) **1985**, 583-586.
1124. Güntherodt, H. J., Rudin, H., Oelhafen, P., Schlögl, R., Metallische Gläser: Ionen-,

- Elektronen- und Oberflächenstruktur, *Helvetica Physica Acta* 58, **1985**, 454-468.
1125. Baiker, A., Habegger, E., Schlögl, R., Intercalation of Graphite by Aluminium Chloride. Influence of Graphite Properties on Intercalation Rate, *Ber. Bunsen-Ges. Phys. Chem.* 89, **1985**, 530-538.
1126. Armbruster, E., Schlögl, R., Hauert, R., Oelhafen, P., Künzi, H. U., Güntherodt, H. J., Neue und verbesserte metallische Werkstoffe durch sehr rasches Abschrecken für die verschiedensten industriellen Anwendungen, *Material und Technik* 1, **1985**, 92-97.
1127. Schlögl, R., Jones, W., On the Structure and Properties of Iron Halide-Graphite Intercalates: A Comparison of the Reactivity of Free and Graphite-intercalated Iron(III) Chloride, *J. Chem. Soc. Dalton Trans.* **1984**, 1283-1292.
1128. Schlögl, R., Jones, W., The Influence of the Preparation Method on the Stability of Graphite Intercalation Compounds with Antimony Chloride in Air, *Journale de chimie physique* 81, (11) **1984**, 877-886.
1129. Schlögl, R., Jones, W., The Application of Reduction Products of Iron Chloride Intercalates: Catalysts for the Oxidation of SO₂ *Synth. Met.* 8, **1984**, 323-334.
1130. Schlögl, R., Boehm, H. P., The Reaction of Potassium-Graphite Intercalation Compounds with Tetrahydrofuran, *Carbon* 22, (4) **1984**, 341-349.
1131. Schlögl, R., Boehm, H. P., The Reaction of Potassium-Graphite Intercalation Compounds with Water, *Carbon* 22, (4) **1984**, 351-358.
1132. Schlögl, R., Boehm, H. P., Graphite Intercalation Compounds with Tin Tetrachloride, *Z. Naturforsch.* 39b, **1984**, 112-114.
1133. Schlögl, R., Boehm, H. P., Graphite Intercalation Compounds with Trimethyltin Chloride, *Z. Naturforsch.* 39b, **1984**, 788-790.
1134. Ringger, M., Hidber, H. R., Schlögl, R., Oelhafen, P., Güntherodt, H. J., Wandelt, K., Ertl, G., Vacuum Tunneling Applied to the Surface Topography of a (100) Surface, *Int. Conf. Low Temp. Phys.*, **1984**, p. 25-26.
1135. Rayment, T., Schlögl, R., Thomas, J. M., Low-Temperature X-Ray Powder Diffraction Studies of Antimony Pentachloride-Interalated Graphite, *Phys. Rev. B* 30, (2) **1984**, 1034-1037.
1136. Jones, W., Thomas, J. M., Tilak, D., Tennakoon, B., Schlögl, R., Diddams, P., Intercalates: Their Role in Heterogeneous Catalysis, *American Chem. Soc.*, **1984**, p. 1.

1137. Jones, W., Schlögl, R., Thomas, J. M., Efficient Conversion of Co + H₂ into Acetylene at Atmospheric Pressure using a Graphite-Based Catalyst, *J. Chem. Soc. Chem. Commun.* **1984**, 464-466.
1138. Ferguson, E., Schlögl, R., Jones, W., Gasification of Potassium-Intercalated and Impregnated Natural Graphites, *Fuel* 63, **1984**, 1048-1058.
1139. Thomas, J. M., Schlögl, R., Jones, W., Korgul, P., Observations on the Structure, Stability and Transformations of the Graphite: SbCl₅ Intercalate, *Carbon* 21, (4) **1983**, 409-414.
1140. Tennakoon, D. T. B., Schlögl, R., Rayment, T., Klinowski, J., Jones, W., Thomas, J. M., The Characterization of Clay-Organic Systems, *Clay Minerals* 18, **1983**, 357-371.
1141. Schlögl, R., Jones, W., Thomas, J. M., Monitoring the Course of Intercalation by Spectroscopic Means. Insertion of Gaseous SbCl₅ into Graphite, *J. Chem. Soc. Chem. Commun.* **1983**, 1330-1332.
1142. Schlögl, R., Jones, W., Boehm, H. P., The Structure and Stability of some Metal Halide Graphite Intercalates, *Synth. Met.* 7, **1983**, 133-140.
1143. Schlögl, R., Bowen, P., Millward, G. R., Jones, W., Boehm, H. P., Microstructure and Stability of Iron Chloride Graphites, *J. Chem. Soc. Faraday Trans.* 1, (79) **1983**, 1793-1818.
1144. Schlögl, R., Boehm, H. P., Influence of Crystalline Perfection and Surface Species on the X-Ray Photoelectron Spectra of Natural and Synthetic Graphites, *Carbon* 21, (4) **1983**, 345-358.
1145. Jones, W., Korgul, P., Schlögl, R., Thomas, J. M., The Microstructure, Molecular Constituents, and Stability of the Graphite-Antimony Pentachloride Intercalate, *J. Chem. Soc. Chem. Comm.* **1983**, 468-469.
1146. Ertl, G., Prigge, D., Schlögl, R., Weiss, M., Surface Characterization of Ammonia Synthesis Catalysts, *J. Catal.* 79, **1983**, 359-377.
1147. Clar, E., Robertson, J. M., Schlögl, R., Schmidt, A., Photoelectron Spectra of Polynuclear Aromatics / 6. Applications to Structural Elucidation: "Circumanthracene", *J. Am. Chem. Soc.* 103, (6) **1981**, 1320-1328.
1148. Bowen, P., Jones, W., Thomas, J. M., Schlögl, R., Boehm, H. P., Preparation and Characterization of New Intercalates Formed Between Graphite and Iron Carbonyl

Compounds, *J. Chem. Soc. Chem. Comm.* **1981**, 679-680.

1149. Bowen, P., Jones, W., Thomas, J. M., Schlögl, R., New Intercalates of Graphite: ^{119}Sn Mössbauer Spectroscopy and X-Ray Diffractometry of Lamellar Compounds Containing Me_3SnCl and SnCl_4 *J. Chem. Soc. Chem. Comm.* **1981**, 677.
1150. Thomas, J. M., Millward, G. R., Schlögl, R., Boehm, H. P., Direct Imaging of a Graphite Intercalate: Evidence of Interpenetration of 'Stages' in Graphite: Ferric Chloride, *Mat. Res. Bull.* 15, **1980**, 671-676.