

A) Peer reviewed journals & book chapters (151)

151. M. Baljozović, S. Karmakar, A. L. Fernandes Cauduro, M. Shyam Sundar, M. Lozano, M. Kumar, D. Soler Polo, A. K. Schmid, A. V. Bedekar, P. Jelinek,* K.-H. Ernst*
Adsorption-induced surface magnetism. *ACS Nano* **2025** (*submitted*)
<https://arxiv.org/pdf/2510.03897>
150. D. Rothhardt, M.-L. Pan, C. Wäckerlin, H. J. Hug, Y.-T. Wu*, K.-H. Ernst,* M. Baljozović*
Radical-based on-surface chemistry of non-planar aromatics into non-benzenoid nanographenes
Angew. Chem. Int. Ed. **64** (**2025**) (*submitted*)
149. K.-H. Ernst, Two-dimensional crystallization of pentagonal symmetric molecules
Structural Chemistry (**2025**) (<https://doi.org/10.1007/s11224-025-02584-6>)
148. Y. Liu, J. Duan, Y. Ran, L. Qiao, X. Peng, Ji Li, P. Xiao, D. Wang*, W. Jiang,* K.-H. Ernst,*
W. Xiao,* Y. Yao*
Bismuth benzene *Nature* (**2025**) (*in revision*)
147. F. Frezza, A. Sánchez-Grande, S. Canola,* C. Nacci, J. Klívar, P. Mutombo, Q. Chen, J. M. Gómez-Fernandez, C. Sánchez-Sánchez, J. Berger, K.-H. Ernst, I. G. Stará, J. Á. Martín-Gago, I. Starý,* L. Grill,* P. Jelinek*
Photogeneration and visualization of a surface-stabilized dinitrene
Angew. Chem. Int. Ed. **64** (**2025**), e202502640; *Angew. Chem.* **2025**, 137 e202502640
146. E. Isufi Neziri, C. Hensky, H. Q. Le, D. Radillo Ochoa, A. Cebrat, M. Parschau, K.-H. Ernst*, C. Wäckerlin*, Two-dimensional metalorganic ferromagnets
Advanced Science **12** (**2025**) 2415266/1–7
145. J. Voigt, K. Martin, M. Baljozović, C. Wäckerlin, N. Avarvari,* K.-H. Ernst*
An aperiodic chiral tiling by topological molecular self-assembly
Nature Communications **16** (**2025**) 83/1–9
144. M. Baljozović,* J. Pijeat, S. Campidelli,* K.-H. Ernst*
Planar and Curved π -Extended Porphyrins by On-Surface Cyclodehydrogenation
J. Am. Chem. Soc. **146** (**2024**) 34600–34608
143. K.-H. Ernst,* The stereochemistry of 1,4-dicarboxylic acids on Cu(110): sergeants & soldiers, surface explosions and chiral reconstructions
Surface Science **749** (**2024**) 122569
142. K.-H. Ernst,* Helicenes on Surfaces: Stereospecific On-Surface Chemistry, Single Enantiomorphism and Electron Spin-Selectivity
Chirality **36** (**2024**) e23706/1–11
141. F. Frezza, A. Sánchez-Grande,* S. Canola, A. Lamancová, P. Mutombo, Q. Chen, C. Wäckerlin, K.-H. Ernst, M. Muntwiler, N. Zema, M. Di Giovannantonio,* D. Nachtigallová, P. Jelinek*
Controlling On-Surface Photoactivity: The Impact of π -Conjugation in Anhydride-Functionalized Molecules on a Semiconductor Surface
Angew. Chem. Int. Ed. **63** (**2024**), e202405983; *Angew. Chem.* **2024**, 136, e202405983 (1 of 8)
140. M. R. Safari,* F. Matthes, V. Caciuc, N. Atodiresei, C. M. Schneider, K.-H. Ernst,* D. Bürgler,*
Enantioselective adsorption on magnetic surfaces
Adv. Mater. **36** (**2024**) 202308666/1–8
139. J. Voigt, M. Hasan, C. Wäckerlin, A. V. Karnik*, K.-H. Ernst*
Switching the on-surface orientation of oxygen-functionalized helicene
Chirality **36** (**2024**) e236427/1–8
138. A. Pinar Solé, J. Klívar, M. Šámal, I. G. Stará, I. Starý, J. Mendieta, K.-H. Ernst, P. Jelinek, O. Stetsovych,* On-surface synthesis of helicene polymers.
Chem. Eur. J. **30** (**2024**) e202304127/1–7
137. M. R. Safari,* F. Matthes, C. M. Schneider, K.-H. Ernst,* D. Bürgler,*
Spin-Selective Electron Transport Through Single Chiral Molecules
Small **20** (**2024**) 2308233/1–7

136. M. Baljodzić, B. Arnoldi, S. Grass, J. Lacour, M. Aeschlimann, B. Stadtmüller, K.-H. Ernst* Spin- and angle-resolved photoemission spectroscopy study of heptahelicene layers on Cu(111) surfaces. *J. Chem. Phys.* 159 (2023) 044701/1–8
135. J. Voigt, K. Martin, E. Neziri, M. Baljodzić, C. Wäckerlin, N. Avarvari, K.-H. Ernst* Highly Stereospecific On-Surface Dimerization into Bishelices: Topochemical Ullmann Coupling of Bromohelicene on Au(111) *Chem. Eur. J.* 29 (2023) e202300134
134. F. Frezza, A. Sánchez-Grande,* M. Ondráček, M. Vondráček, Q. Chen, O. Stetsovych, V. Villalobos, C. Sánchez-Sánchez, K.-H. Ernst, J. A. Martín-Gago,* J. Honolka,* P. Jelínek* Epitaxial growth and characterization of SnSe phases on Au(111) *J. Phys.: Condens. Matter* 35 (2023) 335001
133. G. Srivastava, P. Štacko, J. I. Mendieta-Moreno, S. Edalatmanesh, J. C. M. Kistemaker, G. H. Heideman, J. I. Mendieta-Moreno, L. Zoppi, M. Parschau, B. L. Feringa,* K.-H. Ernst* Driving a 3rd Generation Molecular Motor with Electrons Across a Surface *ACS Nano* 17 (2023) 3931–3938
132. M. R. Safari,* F. Matthes, K.-H. Ernst, D. E. Bürgler,* C. M. Schneider Deposition of Chiral Heptahelicene Molecules on Ferromagnetic Co and Fe Thin-Film Substrates *Nanomaterials* 12 (2022) 3281/1–18
131. B. Irzibat, J. Berger, A. Cebrat, J. I. Mendieta-Moreno, M. Shyam Sundar, A. V. Bedekar, K.-H. Ernst* Conglomerate Aggregation of 7,12,17-Trioxa[11]helicene into Homochiral Two-Dimensional Crystals on the Cu(100) Surface *Helv. Chimica Acta* 105 (2022) e202200114
130. M. Baljodzić, A. F. Cauduro, J. Seibel, A. Mairena, S. Grass, J. Lacour, A. Schmid, K.-H. Ernst* Growth dynamics and electron reflectivity in ultrathin films of chiral heptahelicene on metal (100) surfaces studied by spin-polarized low energy electron microscopy *Phys. Status Solidi B* 258 (2021) 2100263/1–8
129. B. Irzibat, A. Cebrat, M. Baljodzić, K. Martin, M. Parschau, N. Avarvari, K.-H. Ernst* Stereospecific On-Surface Cyclodehydrogenation of Bishelices: Preservation of Handedness from Helical to Planar Chirality *Chem. Eur. J.* 27 (2021) 13523–13526
128. J. Voigt, M. Roy, M. Baljodzić, C. Wäckerlin, Y. Coquerel, M. Gingras, K.-H. Ernst* Unbalanced 2D Chiral Crystallization of Pentahelicene Propellers and Their Planarization into Nanographenes *Chem. Eur. J.* 27 (2021) 10251–10254
127. C. Wäckerlin,* K.-H. Ernst* Autocatalytic Surface Explosion Chemistry of 2D Metal-Organic Frameworks *J. Phys. Chem. C* 125 (2021) 13343–13349
126. B. Irzibat, J. Berger, J. I. Mendieta-Moreno, M. Shyam Sundar, A. V. Bedekar, K.-H. Ernst* Transition from Homochiral Clusters to Racemate Monolayers During 2D Crystallization of Trioxa[11]helicene on Ag(100) *ChemPhysChem* 22 (2021) 293–296
125. C. Wäckerlin, A. Gallardo, A. Mairena, M. Baljodzić, A. Cahlík, A. Antalík, J. Brabec, L. Veis, D. Nachtigallová, P. Jelínek, K.-H. Ernst* On-Surface Hydrogenation of Buckybowls: From Curved Aromatic Molecules to Planar Non-Kekulé Aromatic Hydrocarbons *ACS Nano* 14 (2020) 16735–16742
124. H. Chen, L. Tao, D. Wang, Z.-Y. Wu, J.-L. Zhang, S. Gao, W. Xiao, S. Du,* K.-H. Ernst,* H.-J. Gao* Stereoselective on-surface cyclodehydrofluorization of a tetraphenylporphyrin and homochiral self-assembly *Angew. Chem. Int. Ed.* 59 (2020) 17413–17416; *Angew. Chem.* 132 (2020) 17566–17569

123. J. Seibel, M. Parschau, K.-H. Ernst*
Double layer crystallization of heptahelicene on noble metal surfaces
Chirality 32 (2020) 975–980
122. A. Mairena, J. Mendieta, O. Stetsovych, A. Terfort, I. G. Stará, I. Starý, P. Jelínek, K.-H. Ernst*
Heterochiral recognition among functionalized heptahelices on noble metal surfaces
Chem. Comm. 55 (2019) 10595–10598
121. A. Mairena, L. Zoppi, S. Lampart, K. K. Baldrige, J. S. Siegel, K.-H. Ernst*
Fivefold Symmetry and 2D Crystallization: Self-Assembly of the Buckybowl
Pentaindenocorannulene on a Cu(100) Surface
Chem. Eur. J. 25 (2019) 11555–11559
120. J. Li, S. Lampart, J. Siegel, K.-H. Ernst, C. Wäckerlin*
Graphene grown from flat and bowl shaped polycyclic aromatic hydrocarbons on Cu(111)
ChemPhysChem 20 (2019) 2354–2359
119. C. Karageorgaki, P. Mutombo, P. Jelinek, K.-H. Ernst*
A Chiral Surface From Achiral Ingredients: Modification of Cu(110) With Phthalic Acid
J. Phys. Chem. C 123 (2019) 9121–9127
118. C. Karageorgaki, P. Mutombo, K.-H. Ernst*
On the Interaction of Chiral and Achiral Dimethylsuccinic Acid Diastereomers With a Cu(110) Surface, *J. Phys. Chem. C* 123 (2019) 2329–2335
117. A. Mairena, M. Baljovic, M. Kaweck, K. Grenader, M. Wienke, K. Martin, L. Bernard, N. Avarvari, A. Terfort, K.-H. Ernst,* C. Wäckerlin*
The fate of bromine after temperature induced dehydrogenation of on-surface synthesized bisheptahelicene
Chem. Sci. 10 (2019) 2998–3004
116. A. Mairena, C. Wäckerlin, M. Wienke, K. Grenader, A. Terfort, K.-H. Ernst*
Diastereoselective Ullmann Coupling to Bishelices by Surface Topochemistry
J. Am. Chem. Soc. 140 (2018) 15186–15189
115. A. Mairena, M. Parschau, J. Seibel, M. Wienke, D. Rentsch, A. Terfort, K.-H. Ernst*
Diastereoselective self-assembly of bisheptahelicene on Cu(111)
Chem. Comm. 54 (2018) 8757–8760
114. J. Li, K. Martin, N. Avarvari, C. Wäckerlin,* K.-H. Ernst*
Spontaneous resolution of on-surface synthesized trishelices
Chem. Comm. 54 (2018) 7948–7945
113. K.-H. Ernst
On the density of racemic and homochiral crystals: Wallach, Liebisch and Sommerfeld in Göttingen
CHIMIA 72 (2018) 399–403
112. A. Mairena, M. Wienke, K. Martin, N. Avarvari, A. Terfort, K.-H. Ernst,* C. Wäckerlin,*
Stereoselective autocatalytic surface explosion chemistry of polycyclic aromatic hydrocarbons
J. Am. Chem. Soc. 140 (2018) 7705–7709
111. A. J. Gellman*, K.-H. Ernst*
Chiral autocatalysis and mirror symmetry breaking
Catal. Lett. 148 (2018) 1610–1621
110. H.-L. Lu, Y. Cao, J. Qi, A. Bakker, C. A. Strassert, X. Lin, K.-H. Ernst, S.-X. Du,* H. Fuchs, H.-J. Gao*, Modification of the potential landscape of molecular rotors on Au(111) by the presence of an STM tip. *Nano Letters* 18 (2018) 4704–4709
109. H. Ueba, M. Parschau, D. Passerone, K.-H. Ernst*
Action spectroscopy associated with inelastic two-electron tunneling of a single molecule: Propene on Cu(211)
Surf. Science 678 (2018) 206–214

108. A. Rieger, C. Sax, T. Bauert, C. Wäckerlin, K.-H. Ernst*
Chiral molecules adsorbed on a solid surface: tartaric acid diastereomers and their surface explosion on Cu(111).
Chirality 30 (2018) 369–377
107. B. Kahr,* A. T. Martin, K.-H. Ernst
On the chiroptical properties of racemic crystals
Chirality 30 (2018) 378–382
106. M. Kettner, V. V. Maslyuk, D. Nürenberg, J. Seibel, R. Gutierrez, G. Cuniberti, K.-H. Ernst,*
H. Zacharias*
Helicity dependent electron spin filtering by helicene molecular monolayers
J. Phys. Chem. Lett. 9 (2018) 2025–2030
105. L. Zoppi, Q. Stöckl, A. Mairena, O. Allemann, J. S. Siegel, K. K. Baldrige, K.-H. Ernst*
Pauli repulsion versus van der Waals: interaction of indenocorannulene with a Cu(111) surface
J. Phys. Chem. B 122 (2018) 871–877
104. K.-H. Ernst
Physical Aspects of Ultrathin Chiral Films. In: Wandelt, K., (Ed.) *Encyclopedia of Interfacial Chemistry: Surface Science and Electrochemistry*, vol. 3, (2018) pp 277–283
103. A. Rieger, S. Schnidrig, B. Probst, K.-H. Ernst, C. Wäckerlin*
Identification of on-surface reaction mechanism by targeted metalation
J. Phys. Chem. C 121 (2017) 27521–27527
102. A. Rieger, S. Schnidrig, B. Probst, K.-H. Ernst, C. Wäckerlin*
Ranking the stability of transition-metal complexes by on-surface atom exchange
J. Phys. Chem. Lett. 8 (2017) 6193–6198
101. Q. Stöckl, T.-C. Wu, A. Mairena, Y. T. Wu,* K.-H. Ernst*
Erecting buckybowls onto their edge: self-assembly of terphenylcorannulene on the Cu(111) surface
Faraday Discussions 204 (2017) 429–437
100. J. Li, C. Wäckerlin,* S. Schnidrig, E. Joliat, R. Alberto, K.-H. Ernst*
On-surface metalation and 2D self-assembly of porphyrin molecules on Cu(111)
Helv. Chimica Acta 100 (2017) e1600278
99. A. Mairena, L. Zoppi, J. Seibel, A. F. Tröster, K. Grenader, M. Parschau, A. Terfort, K.-H. Ernst*
Heterochiral to homochiral transition in pentahelicene 2D crystallization induced by second-layer nucleation
ACS Nano 11 (2017) 865–871
98. K.-H. Ernst
On the validity of calling Wallach's rule Wallach's rule
Isr. J. Chem. 57 (2017) 24–30
97. C. Wäckerlin, J. Li, A. Mairena, K. Martin, N. Avarvari, K.-H. Ernst*
Surface-assisted diastereoselective Ullmann coupling to bishelices
Chem. Comm. 52 (2016) 12694–12697
96. K.-H. Ernst
Stereochemical recognition of helices on metal surfaces
Acc. Chem. Res. 49 (2016) 1182–1190
95. K.-H. Ernst
Chirality at surfaces, in *Surface and Interface Science*, K. Wandelt (Ed.)
Vol. 6: Solid-Gas Interfaces II, Wiley & Sons, Weinheim, 2016 Chapter 42, pp. 695–748
94. Q. S. Stöckl, Y.-C. Hsieh, A. Mairena, Y.-T. Wu,* K.-H. Ernst*
Aggregation of C₇₀-fragment buckybowls on surfaces: π -H and π - π bonding in bowl up-side-down ensembles
J. Am. Chem. Soc. 138 (2016) 6111–6114

93. D. Kong, J. Zhu, K.-H. Ernst*
Low-temperature dissociation of CO₂ on a Ni/CeO₂(111)/Ru(0001) model catalyst
J. Phys. Chem. C 120 (2016) 5980–5987
92. W. Xiao, K.-H. Ernst, K. Palotas, Y. Zhang, E. Bruyer, L. Peng, T. Greber, W. A. Hofer, L. T. Scott, R. Fasel*
Microscopic origin of chiral shape induction in achiral crystals
Nature Chemistry 8 (2016) 326–330
90. M. Parschau, K.-H. Ernst*
Disappearing enantiomorphs: single handedness in racemate crystals
Angew. Chem. Int. Ed. 54 (2015) 14422–14426; *Angew. Chem.* 127 (2015) 14630–14634
89. J. Seibel, M. Parschau, K.-H. Ernst*
From homochiral clusters to racemate crystals: Viable nuclei in 2D chiral crystallization
J. Am. Chem. Soc. 137 (2015) 7970–7973
88. K.-H. Ernst,* S. Baumann, C. P. Lutz, J. Seibel, L. Zoppi, A. J. Heinrich
Pasteur's experiment performed at the nanoscale: manual separation of chiral molecules – one by one
Nano Letters 15 (2015) 5388–5392
87. J. Seibel, L. Zoppi, K.-H. Ernst*
2D conglomerate crystallization of heptahelicene
Chem. Comm. 50 (2014) 8751–8753
86. J. Seibel, M. Parschau, K.-H. Ernst*
Two-dimensional crystallization of enantiopure and racemic heptahelicene
J. Phys. Chem. C 118 (2014) 29135–29141
85. K. Yang, L. Liu, L. Zhang, W. Xiao, X. Fei, H. Chen, S. Du, K.-H. Ernst,* H.-J. Gao*
Reversible achiral-to-chiral switching of single Mn-phthalocyanine molecules by thermal hydrogenation and inelastic electron tunneling dehydrogenation
ACS Nano 8 (2014) 2246–2251
84. C. Karageorgaki, D. Passerone, K.-H. Ernst*
Chiral reconstruction of Cu(110) after adsorption of fumaric acid
Surf. Science 629 (2014) 75–80
83. K.-H. Ernst,
Stereochemistry of 2D molecular crystallization
CHIMIA 68 (2014) 49–53
82. Q. Stöckl, D. Bandera, C. S. Kaplan, K.-H. Ernst*, J. S. Siegel*
Gear-meshed tiling of surfaces with molecular pentagonal stars
J. Am. Chem. Soc. 136 (2014) 606–609
81. C. Karageorgaki, K.-H. Ernst*
A metal surface with chiral memory
Chem. Comm. 50 (2014) 1814–1816
80. T. Bauert, L. Zoppi, G. Koller, J. S. Siegel, K. Baldrige,* K.-H. Ernst*
Quadruple anionic buckybowls by solid-state chemistry of corannulene and cesium
J. Am. Chem. Soc. 135 (2013) 12857–12860 (highlighted in *Nature Chemistry*, Oct. 2013)
79. J. Seibel, O. Allemann, J. S. Siegel, K.-H. Ernst*
Chiral conflict among different helicenes suppresses formation of one enantiomorph in 2D crystallization
J. Am. Chem. Soc. 135 (2013) 7434–7437
see also the correction of Acknowledgements: *J. Am. Chem. Soc.* 141 (2019) 6108–6108
78. K.-H. Ernst
Molecular chirality in surface science
Surf. Science 613 (2013) 1–5

77. L. Zoppi, T. Bauert, J. S. Siegel, K. K. Baldridge, K.-H. Ernst*
Pentagonal tiling with buckybowls: Pentamethylcorannulene on Cu(111)
Phys. Chem. Chem. Phys. 14 (2012) 13365–13369
76. K.-H. Ernst,
Molecular chirality at surfaces,
Phys. Stat. Sol. B 249 (2012) 2057–2088
75. T. Kudernac, N. Ruangsapichat, M. Parschau, B. Maciá, N. Katsonis, S. R. Harutyunyan,*
K.-H. Ernst,* B. L. Feringa*
Electrically driven directional motion of a four-wheeled molecule on a metal surface
Nature 479 (2011) 208–211; *News & Views by Paul Weiss: Nature* 479 (2011) 187
74. K.-H. Ernst,* F. R. W. P. Wild, O. Blacque, H. Berke*
Alfred Werner's coordination chemistry: New insights from old samples
Angew. Chem. Int. Ed. 50 (2011) 10780–10787; Alfred Werners Koordinations Chemie: neue Erkenntnisse aus alten Proben, *Angew. Chem.* 123 (2011) 10970–10977
73. T. Bauert, L. Zoppi, G. Koller, A. Garcia, K. K. Baldridge, K.-H. Ernst*
Large interface dipole moments without charge transfer: buckybowls on metal surfaces
J. Phys. Chem. Lett. 2 (2011) 2805–2809
72. T. Bauert, K. K. Baldridge,* J. S. Siegel,* K.-H. Ernst*
Surface-assisted bowl-in-bowl stacking of nonplanar aromatic hydrocarbons
Chem. Comm. 47 (2011) 7995–7997
71. M. Parschau, K.-H. Rieder, H. J. Hug, K.-H. Ernst*
Single-molecule chemistry and analysis: mode-specific dehydrogenation of adsorbed propene by inelastic electron tunneling
J. Am. Chem. Soc. 133 (2011) 5689–5691
70. C. Roth, K.-H. Ernst*
Surface explosion decomposition chemistry of malic acid on Cu(110)
Top. Catal. 54 (2011) 1378–1383
69. K.-H. Ernst,* H. Berke*
Optical activity and Alfred Werner's coordination theory
Chirality 23 (2011) 187–189
68. C. Roth, M. Parschau, K.-H. Ernst*
Chiral reconstruction of a metal surface by adsorption of racemic malic acid
ChemPhysChem 12 (2011) 1572–1577
67. C. Roth, D. Passerone, L. Merz, M. Parschau, K.-H. Ernst*
Adsorption and two-dimensional self-assembly of malic acid on Cu(110)
J. Phys. Chem. C 115 (2011) 1240–1247
66. C. Roth, D. Passerone, K.-H. Ernst*
Pasteur's quasiracemates in 2D: chiral conflict between structurally different enantiomers induces single-handed enantiomorphism
Chem. Comm. 46 (2010) 8645–8647
65. K.-H. Ernst
Intermediate structures in 2D molecular self-assembly
Front. Phys. China 5 (2010) 340–346
64. M. Parschau, H. J. Hug, K.-H. Rieder, K.-H. Ernst*
Hopping, turning and flipping of single molecules during lateral manipulation with a scanning tunneling microscope
Surf. Interface Anal. 42 (2010) 1629–1633
63. L. Merz, K.-H. Ernst*
Unification of the matrix notation in molecular surface science
Surface Sci. 604 (2010) 1049–1054

62. N. Jiang, Y. Wang, Q. Liu, Y. Zhang, K.-H. Ernst,* H.-J. Gao*
Polymorphism and chiral expression in 2D subphthalocyanine crystals
Phys. Chem. Chem. Phys. 12 (2010) 1318–1322
61. H. Cun, Y. Wang, B. Yang, S. Du, Y. Wang, K.-H. Ernst,* H.-J. Gao*
Homochiral recognition among organic molecules on copper(110)
Langmuir 26 (2010) 3402–3406
60. K.-H. Ernst
Amplification of chirality at solid surfaces
Orig. Life Evol. Biosphere 40 (2010) 41–50
59. B. Yang, Y. Wang, H. Cun, S. Du, M. Xu, Y. Wang, K.-H. Ernst,* H.-J. Gao*
Direct observation of enantiospecific substitution in chiral molecular monolayers
J. Am. Chem. Soc. 132 (2010) 10440–10444
58. M. Parschau, U. Ellerbeck, K.-H. Ernst*
Chirality transfer by epitaxial mismatch in multilayered homochiral molecular films
Colloids and Surfaces A: Physicochem. Eng. Aspects 354 (2010) 240–245
57. L. Merz, T. Bauert, M. Parschau, G. Koller, J. S. Siegel, K.-H. Ernst*
Polymorph selection in 2D crystals by phase transition blocking
Chem. Comm. (2009) 5871–5873
56. L. Merz, M. Parschau, J. S. Siegel,* K.-H. Ernst*
Condensation of fivefold-symmetric molecules in two dimensions
CHIMIA 63 (2009) 214–216
55. T. Bauert, L. Merz, D. Bandera, M. Parschau, J. S. Siegel,* K.-H. Ernst*
Building 2D crystals from fivefold-symmetric molecules
J. Am. Chem. Soc. 131 (2009) 3460–3461
54. M. Parschau, D. Passerone, K.-H. Rieder, H. J. Hug, K.-H. Ernst*
Switching the chirality of single adsorbates, *Angew. Chem. Int. Ed.* 48 (2009) 4065–4069;
Umwandlung der absoluten Konfiguration einzelner Adsorbatkomplexe,
Angew. Chem. 121 (2009) 4125–4129
53. L. Merz, M. Parschau, L. Zoppi, K. K. Baldrige, J. S. Siegel, K.-H. Ernst*
Reversible phase transitions in a buckybowll monolayer
Angew. Chem. Int. Ed. 48 (2009) 1966–1969; *Reversible Phasenübergänge in Buckybowl*
Monoschichten, *Angew. Chem.* 121 (2009) 2000–2003
52. K.-H. Ernst
Aspects of molecular chirality at metal surfaces
Zeitschrift für Physikalische Chemie 223 (2009) 37–51
51. K.-H. Ernst
Expression and amplification of chirality in two-dimensional molecular crystals
CHIMIA 62 (2008) 471–475
50. M. Parschau, R. Fasel, K.-H. Ernst*
Coverage and enantiomeric excess dependent enantiomorphism in two-dimensional molecular crystals
Cryst. Growth Des. 8 (2008) 1890–1896
49. K.-H. Ernst
Amplification in two-dimensional molecular lattices
Curr. Opin. Coll. Interf. Sci. 13 (2008) 54–59

48. M. Parschau, R. Fasel*, K.-H. Ernst*, O. Gröning, L. Brandenberger, R. Schillinger, T. Greber, A. Seitsonen, Y.-T. Wu, J. S. Siegel
Buckybowls on metal surfaces: Symmetry mismatch and enantiomorphism of corannulene on Cu(110), *Angew. Chem. Int. Ed.* **46** (2007) 8258–8261;
Korbformige Kohlenwasserstoffe auf Metalloberflächen: Symmetrieunverträglichkeit und Enantiomorphie von Corannulen auf Cu(110), *Angew. Chem.* **119** (2007) 8406–8409
47. B. Behzadi, D. Ferri, A. Baiker, K.-H. Ernst*
Adsorption mode of cinchonidine on Au(111)
Appl. Surf. Sci. **253** (2007) 3480–3484
46. D. Ferri, B. Behzadi, P. Kappenberger, R. Hauert, K.-H. Ernst, A. Baiker*
Probing the interface in vapor-deposited bimetallic Pt–Au and Pd–Au films by CO adsorption from the liquid phase
Langmuir **23** (2007) 1203–1208
45. B. Behzadi, A. Vargas, D. Ferri, K.-H. Ernst, A. Baiker*
Cinchonidine adsorption on gold and gold-containing bimetallic platinum metal surfaces: An attenuated total reflection infrared and density functional theory study
J. Phys. Chem. B **110** (2006) 17082–17089
44. M. Parschau, B. Behzadi, S. Romer, K.-H. Ernst*
Stereoisomeric influence on two-dimensional lattice structure: Achiral *meso*-tartaric acid versus chiral tartaric acid
Surf. Interface Anal. **38** (2006) 1607–1610
43. K.-H. Ernst
Supramolecular surface chirality
Top. Curr. Chem. **265** (2006) 209–252; Vol.: “Supramolecular Chirality”,
D. Reinhoudt, M. Crego Calama (Eds.), Springer, Heidelberg
42. R. Fasel, M. Parschau, K.-H. Ernst*
Amplification of chirality in two-dimensional enantiomorphous lattices
Nature **439** (2006) 449–452
41. S. Ramachandran, K.-H. Ernst, G. Bachand, V. Vogel, H. Hess*
Selective loading of kinesin-powered molecular shuttles and its application to biosensing: streptavidin/biotin assembly and protein cargo
Small **2** (2006) 330–334
40. M. Parschau, T. Kampen, K.-H. Ernst*
Homochirality in monolayers of achiral *meso*-tartaric acid
Chem. Phys. Lett. **407** (2005) 433–437
39. S. Romer, B. Behzadi, R. Fasel, K.-H. Ernst*
Homochiral conglomerates and racemic crystals in two dimensions: tartaric acid on Cu(110)
Chem. Eur. J. **11** (2005) 4149–4154
38. H. Hess,* J. Clemmens, R. Doot, C. Brunner, S. Luna, K.-H. Ernst, V. Vogel
Molecular self-assembly of “nanowires” and “nanospools” using active transport
Nano Letters **5** (2005) 629–633
37. M. Parschau, S. Romer, K.-H. Ernst*
Induction of homochirality in achiral enantiomorphous monolayers
J. Am. Chem. Soc. **126** (2004) 15398–15399
36. C. Brunner, K.-H. Ernst, H. Hess,* V. Vogel
Lifetime of biomolecules in polymer-based hybrid nanodevices
Nanotechnology **15** (2004) S540–S548
35. B. Behzadi, S. Romer, R. Fasel, K.-H. Ernst*
Chiral recognition in surface explosion
J. Am. Chem. Soc. **126** (2004) 9176–9177

34. R. Fasel, J. Wider, C. Quitmann, K.-H. Ernst,* T. Greber
Determination of the absolute chirality of adsorbed molecules
Angew. Chem. Int. Ed. 43 (2004) 2853–2856;
Bestimmung der absoluten Konfiguration adsorbierter Moleküle
Angew. Chem. 116 (2004) 2913.
33. K.-H. Ernst,* M. Parschau, R. Fasel
Differences in two-dimensional crystal structures: racemic and enantiopure heptahelicene on Cu(111)
e-J. Surf. Sci. & Nanotech. 2 (2004) 136–140
32. K.-H. Ernst,* B. Oral
On the chemistry at the Si,Ti-doped a-C:H/TiC interface
Thin Solid Films 446 (2004) 72–77
31. T. Bürgi, A. Urakawa, B. Behzadi, K.-H. Ernst, A. Baiker
The absolute configuration of heptahelicene: a VCD spectroscopy study
New Journal of Chemistry 28 (2004) 332–334
30. R. Fasel, M. Parschau, K.-H. Ernst*
Chirality transfer from single molecules into self-assembled monolayers
Angew. Chem. Int. Ed. 42 (2003) 5178–5181;
Chirality transfer from single molecules into self-assembled monolayers
Angewandte Chemie 115 (2003) 5336,
reviewed as: Organic films with a twist, M. Ward, *Nature* 426 (2003) 615, News & Views
29. K.-H. Ernst
Self-organization of chiral molecules at surfaces
Book chapter in *Recent Research Developments in Chemistry* 1, S. G. Pandalai (Ed.)
Research Signpost, Kerala, India, 2003, pp 1-13.
28. K.-H. Ernst,* Y. Kuster, R. Fasel, C. F. McFadden, U. Ellerbeck
Adsorption of helical aromatic molecules: heptahelicene on Ni(111)
Surf. Science 530 (2003) 195–202
27. M. Belkin, T. Kulakov, K.-H. Ernst, S. H. Han, Y.-R. Shen*
Resonant sum-frequency generation in chiral liquids
Optical Materials 21 (2002) 1–5
26. K.-H. Ernst,* M. Neuber, M. Grunze, U. Ellerbeck
A NEXAFS study of chiral P-heptahelicene adsorbed on Ni(100)
J. Am. Chem. Soc. 123 (2001) 493–495
25. K.-H. Ernst,* Y. Kuster, R. Fasel, M. Müller, U. Ellerbeck
Two-dimensional separation of heptahelicene enantiomers on Cu(111)
Chirality 13 (2001) 675–678
24. R. Fasel, A. Cossy, K.-H. Ernst,* F. Baumberger, T. Greber, J. Osterwalder
Orientation of chiral heptahelicene C₃₀H₁₈ on copper surfaces: a photoelectron diffraction study
J. Chem. Phys. 115 (2001) 1020–1027
23. M. Belkin, T. Kulakov, K.-H. Ernst, L. Yan, Y.-R. Shen*
Sum-frequency vibrational spectroscopy on chiral liquids: a novel technique to probe molecular chirality
Phys. Rev. Lett. 85 (2000) 4474–4477
22. K.-H. Ernst,* D. Schlatterbeck, K. Christmann
Adsorption of carbon dioxide on Cu(110) and on hydrogen and oxygen covered Cu(110) surfaces
Phys. Chem. Chem. Phys. 1 (1999) 4105–4112
21. N. R. Urban, K.-H. Ernst, S. Bernasconi
Addition of sulphur to organic matter during early diagenesis of lake sediments
Geochimica et Cosmochimica Acta 63 (1999) 837–853

20. K.-H. Ernst,* M. Böhringer, C.F. McFadden, P. Hug, U. Müller, U. Ellerbeck
Nanostructured chiral surfaces
Nanotechnology 10 (1999) 355–361
19. E.-C. Plappert, K.-H. Dahmen, R. Hauert, K.-H. Ernst
Deposition of amorphous titanium oxide films using alkoxy(pyrazolylborate)titanium(IV) compounds
Adv. Mater. 11 (1999) 79–85, (*Chemical Vapor Deposition* 5 (1999) 79–85)
18. S.-W. Ha, R. Hauert, K.-H. Ernst,* E. Wintermantel
Surface analysis of chemically-etched and plasma treated polyetheretherketone (PEEK) for biomedical applications
Surface and Coatings Technology, 96 (1997) 293–299
17. B. Oral, K.-H. Ernst, C. J. Schmutz
Adhesion and structural changes of multi-layered and multi-doped a-C:H films during annealing
Diamond and Related Materials 5 (1996) 932–937
16. B. Oral, R. Hauert, U. Müller, K.-H. Ernst
Structural changes in doped a-C:H films during annealing
Diamond and Related Materials 4 (1995) 482–487
15. M. Ece, B. Oral, J. Patscheider, K.-H. Ernst
Effect of organic precursors on diamond nucleation on silicon
Diamond and Related Materials 4 (1995) 720–724
14. K.-H. Ernst,* E. Schwarz, K. Christmann
The interaction of hydrogen with a cobalt($10\bar{1}0$) surface
J. Chem. Phys. 101 (1994) 5388–5401
13. K.-H. Ernst,* J. Patscheider, R. Hauert, M. Tobler
XPS study of the a-C:H/Al₂O₃ interface
Surf. Interface Anal. 21 (1994) 32–37
12. K.-H. Ernst,* D. Grman, R. Hauert, E. Holländer
Fluorine-induced corrosion of aluminium microchip bond pads: an XPS and AES analysis
Surf. Interface Anal. 21 (1994) 691–696
11. D. Grman, K.-H. Ernst,* R. Hauert, E. Holländer
Investigating fluorine contamination of microchip bond pads caused by wafer storage
Microcontamination 12 (1994) 57 & 109 (cont.)
10. K.-H. Ernst, A. Ludvikson, R. Zhang, J. Yoshira, C.T. Campbell*
Growth model for metal films on oxide surfaces: Cu on ZnO(0001)-O
Phys. Rev. B. 47 (1993) 13782–13796
9. A. Ludvikson, K.-H. Ernst, R. Zhang, C.T. Campbell*
The chemisorption of CO on Cu films on ZnO(0001)-O
J. Catal. 141 (1993) 380–388
8. K.-H. Ernst, C. T. Campbell,* G. Moretti
Kinetics of the reverse water-gas shift reaction over Cu(110)
J. Catal. 134 (1992) 66–74
7. C. T. Campbell,* K.-H. Ernst
The forward and reverse water-gas shift reactions on model copper catalysts: kinetics and elementary steps, D. J. Dwyer, F. M. Hoffmann (ed.), *Surface Science of Catalysis: In Situ Probes and Reaction Kinetics*, ACS Symposium Series 482, Washington, DC 1992, p. 130
6. K.-H. Ernst, M. E. Domagala, C. T. Campbell,* G. Moretti
The titration of oxygen adatoms by hydrogen from the Cs-promoted Cu(110) surface
Surf. Science 259 (1991) 18–25

5. K.-H. Ernst, C. T. Campbell*
A reversal in dipole moment for adsorbed hydrocarbons on Pt(111) due to coadsorbed alkali
Surf. Science Lett. 259 (**1991**) L736–L738
4. H. Over, G. Kleinle, G. Ertl, W. Moritz, K.-H. Ernst, H. Wohlgemuth, K. Christmann, E. Schwarz
A LEED structural analysis of the Co(10 $\bar{1}$ 0) surface
Surf. Science Lett. 254 (**1991**) L469–L474
3. E. Schwarz, K.-H. Ernst, C. Gonser-Buntrock, M. Neuber, K. Christmann
Ordered oxygen phases on a Co(10 $\bar{1}$ 0) surface
Vacuum 41 (**1990**) 180–184
2. PhD-thesis: Die geometrischen und elektronischen Strukturen der Adsorbatphasen von Wasserstoff auf der Kobalt(10 $\bar{1}$ 0)-Oberfläche, Freie Universität Berlin, **1990**
Referees: 1) Prof. Dr. K. Christmann, 2) Prof. Dr. Gerhard Ertl (NL in Chemistry of 2007)
1. K.-H. Ernst, K. Christmann
The interaction of glycine with a platinum(111) surface
Surf. Science 224 (**1989**) 277–310

B) Perspectives, News & Views (5)

156. K.-H. Ernst
Small machines with great potential: The Chemistry Nobel Prize 2016
SPG Mitteilungen 51 (**2017**) 18–19
155. K.-H. Ernst
Handedness in flatland
Nature Chemistry 9 (**2017**) 195–196
154. K.-H. Ernst
Charged-molecule physics
ACS Nano 8 (**2014**) 5375–5379
153. K.-H. Ernst
A turn in the right direction
Nature Nanotechnology 8 (**2013**) 7–8
152. K.-H. Ernst
Chiralität in zwei Dimensionen
Nachrichten aus der Chemie 5 (**2006**) 504–509 (invited review article)

C) Conference Proceedings (17)

157. G. Srivastava, M. Parschau, L. Zoppi, K.-H. Ernst,* P. Stacko, B. L. Feringa
Driving molecular machines with electrons on surfaces: walkers and nanocars.
21st Symposium on Atomic, Cluster and Surface Physics 2018, Innsbruck University Press **2018**
158. K.-H. Ernst, J. Li, A. Mairena, C. Wäckerlin, K. Martin, N. Avarvari
Helical molecules at surfaces: selective chemistry and self-assembly
Atomic Level Characterization Conference (ALC '17), Kauai, Hawaii, USA,
JSPS 141 Activity report (**2017**) pp. 514-516.
159. Q. Stöckl, J. Seibel, A. Mairena, M. Parschau, K.-H. Ernst, et al.
Modifications of surfaces with non-planar hydrocarbons
XXth Symposium on Atomic, Cluster and Surface Physics 2016, J. Stohner, C. Yeretzian (Eds.),
pg. 56-59, Innsbruck University Press **2016**, ISBN 978-903122-04-8
160. K.-H. Ernst, Chiral molecular motors driven by electrons, Atomic Level Characterization (ALC '15)
Conference, Matsue, JP, JSPS 141 Activity report (**2015**)
161. K.-H. Ernst, Analyzing chiral recognition at surfaces. Atomic Level Characterization (ALC '13)
Conference, Hawaii, 2013, HI, JSPS 141 Activity report (**2013**) 2AA04/1-4.

162. M. Parschau, D. Passerone, H. J. Hug, K.-H. Rieder, K.-H. Ernst, Hopping, flipping, turning: inelastic electron tunneling action spectroscopy with single molecules, Atomic Level Characterization – ALC '09, Maui 2009, HI, JSPS 141 Activity report (**2009**) p 28-30
163. K.-H. Ernst,* R. Fasel, Y. Kuster
Supramolecular chiral films,
in Complex Mediums III: Beyond Linear Isotropic Dielectrics,
A. Lakhtakia, G. Dewar, M. W. McCall (eds.) *Proc. SPIE 4806* (**2002**) 248
164. S.-W. Ha, R. Hauert, K.-H. Ernst, E. Wintermantel,
XPS analysis of O₂-plasma treated polyetheretherketone (PEEK), American Chemical Society
Polymer Preprints, Division of Polymer Chemistry 38 (1), **1997**, pp. 1085-1086
165. M. A. Belkin, T. A. Kulakov, L. Yan, K.-H. Ernst, Y.-R. Shen,
Sum-frequency vibrational spectroscopy on molecular chirality
IEEE Nonlinear Optics: Materials, Fundamentals and Applications **2000**, pp. 21
166. M. Parschau, R. Fasel, K.-H. Ernst
Amplification of chirality: sergeant and soldiers at surfaces
in Atomic and Surface Physics and Related Topics, **2008**, p. 118;
Eds.: R. Beck, M. Drabbels, T. Rizzo, Innsbruck University Press, ISBN 978-3-902571-31-1
167. K.-H. Ernst,* C. F. McFadden, N. D. Spencer, M. Müller, U. Müller, U. Ellerbeck
Nanostructured chiral surfaces; in *Bianisotropics '97, International Conference and Workshop
on Electromagnetics of Complex Media Glasgow (UK), June 5-7, 1997*
168. K.-H. Ernst,* M. Böhringer, C.F. McFadden, P. Hug, U. Müller, U. Ellerbeck
Nanostructured chiral surfaces; Proceedings of the Sixth Foresight Conference on Molecular
Nanotechnology, 11.11. - 15.11. **1998**, Santa Clara, Californien, USA,
<http://www.foresight.org/Conferences/MNT6/Papers/Ernst/index.html>
169. K.-H. Ernst,* A. Cossy-Gantner, J. Paul, M. Neuber, O. Schmidt, U. Ellerbeck, M. Müller,
P. Mattrel, G. Schönhense, M. Grunze
X-ray photoabsorption and photoemission electron microscopy studies on chiral molecules with
circularly polarized light; Proceedings of the Swiss Light Source Workshop, PSI 1.8. - 5.8. **1998**,
Ascona, Switzerland
170. K.-H. Ernst,* R. Hauert
Problem solving for industry: examples from applied surface analysis
3rd Eurolab Symposium Proceedings: Testing and Analysis for Industrial
Competitiveness and Sustainable Development 1 (**1996**) 552
171. R. Hauert,* J. Patscheider, K.-H. Ernst, M. Tobler
Interface properties of a-C:H on Al and Al₂O₃
Proceedings of the Third International Symposium on Diamond Materials,
The Electrochemical Soc., Vol. 93-17, **1993**, Pennington , NJ
172. E. Holländer, D. Grman, R. Hauert, K.-H. Ernst
Fluorine contamination of aluminium bond pads in microenvironment caused by wafer storage,
Proc. of the 12th ISCC, Yokohama, 1994
173. M. A. Belkin, T. A. Kulakov, L. Yan, K.-H. Ernst, Y.-R. Shen
Sum-frequency vibrational spectroscopy on molecular chirality
*Nonlinear Optics: Materials, Fundamentals, and Applications, Technical Digest.
Postconference Edition. TOPS Vol.46 (2000) 21*
- D) Book reviews, editorials, and other (10)**
174. R. Fasel, M. Parschau, K.-H. Ernst
Exploring the mechanism of molecular chirality transfer via STM
PICO 8 2004 4-5 (Omicron Nanotechnology Newsletter)

175. K.-H. Ernst
Scanning probe microscopy beyond imaging
Angew. Chem. Int Ed. 46 (2007) 5469–5470, book review
176. K.-H. Ernst
Scanning probe microscopy beyond imaging
Angewandte Chemie 119 (2007) 5565, book review, German version
177. K.-H. Ernst
Expression and amplification of molecular chirality at metal surfaces,
Habilitationsschrift 2007, Universität Zürich
(reviewed by seven international referees)
178. K.-H. Ernst
On chirality and the universal asymmetry–reflections on image and mirror image
Chirality 20 (2008) 812, book review
179. K.-H. Ernst
Chirality at the Nanoscale
Chirality 22 (2010) 379, book review
180. K.-H. Ernst
30 Years Scanning Tunnelling Microscopy
CHIMIA 66 (2012) 6 (Editorial)
181. L. Bartels, K.-H. Ernst
From reciprocal space to real space in surface science
J. Phys.: Condens. Matter 24 (2012) 350201 (Editorial)
182. L. Bartels, K.-H. Ernst, H.-J. Gao, P. A. Thiel
Preface: Special Topic on Supramolecular Self-Assembly at Surfaces,
J. Chem. Phys. 142 (2015) 101501 (Editorial)
183. L. Bartels, S.-W. Hla, J. Manson, A. Baratoff, L. Grill, K.-H. Ernst
Karl-Heinz Rieder
Physics Today 70 (2017) 63–63
184. A. Baratoff, K.-H. Ernst, L. Grill, R. Koch
Nachruf (Obituary) auf Karl-Heinz Rieder
Physik Journal 16 (2017) Nachrufe 1
185. K.-H. Ernst
Nachruf (Obituary) auf Karl-Heinz Rieder
Empa Quarterly 3-2017
186. K.-H. Ernst
Conference report Chirality@The Nanoscale
CHIMIA 73 (2019) 1042–1043
187. K.-H. Ernst
Conference report XXII. Symposium on Atomic, Cluster and Surface Physics (SASP)
CHIMIA 74 (2020) 509–511
188. K.-H. Ernst
Cover profile article (in connection w/ paper # 126)
ChemPhysChem 22 (2021) 229–230
189. K.-H. Ernst
Conference report 40 Years of Surface Science and Nanotechnology - 40Nano
CHIMIA 78 (2024) 169–171