

## 9. Literatur

1. C. Ackermann, G.L. Flynn, C.J. van Wyk: *Percutaneous absorption of urea*; Int. J. Cosm. Sci. 7 (1985); 251-64
2. A. Agren, B. Nilsson, R. Sjobqvist, A. Brodin: *Penetration of organic compounds and ion pairs through nylon membranes*; Acta Pharm. Suec. 11 (1974); 523-32
3. I. Alberti, Y.N. Kalia, A. Naik, J.-D. Bonny, R.H. Guy: *In vivo assessment of enhanced topical delivery of terbinafine to human stratum corneum*; J. Control. Release 71 (2001); 319-27
4. J.A. Alkrad, Y. Mrestani, R.H.H. Neubert: *The release profiles of intact and enzymatically digested hyaluronic acid from semisolid formulations using multi-layer membrane system*; Eur. J. Pharm. Biopharm. 56 (2003); 37-41
5. C.N. Banwell, E.M. McCash: *Molekülspektroskopie*; München: R. Oldenbourg Verlag, 1999
6. B.W. Barry: *Structure, function, diseases, and topical treatment of human skin*; In: B.W. Barry: *Dermatological Formulations*; New York, Basel: Marcel Dekker, 1983, 1-48
7. B.W. Barry, A.R. Brace: *Permeation of oestrone, oestradiol, oestriol and dexamethasone across cellulose acetate membrane*, J Pharm. Pharmacol. 29 (1977); 397-400
8. B.W. Barry, H.G.M. Edwards, A.C. Williams: *Fourier transform Raman and Infrared vibrational study of human skin: assignment of spectral bands*; J. Raman Spectrosc. 23 (1992); 641-645
9. B.W. Barry, D.I. El Eini: *Influence of non-ionic surfactants on permeation of hydrocortisone, dexamethasone, testosterone and progesterone across cellulose acetate membrane*; J Pharm. Pharmacol. 28 (1976); 219-27
10. B. Bendas: *Untersuchungen zum Mechanismus der in vitro- Penetration lipophiler Arzneistoffe aus binären und ternären Vehikelsystemen in künstliche und natürliche Akzeptoren*; Dissertation, Martin-Luther-Universität Halle-Wittenberg (1993)
11. B. Bendas, U. Schmalfuß, R. Neubert: *Influence of propylene glycol as a cosolvent on mechanisms of drug transport from hydrogels*; Int. J. Pharm. 116 (1995); 19-30
12. E. Bien: *Biological effect and importance of inorganic and organic silicia compounds*; Pharmazie 26 (1971); 577-85
13. I.H. Blank: *Factors which influence the water content of the stratum corneum*; J. Invest. Dermatol. 18 (1952); 433-440
14. H.E. Bodde, I. van den Brink, H.K. Koerten, F.H.N. de Haan: *Visualization of in vitro percutaneous penetration mercuric chloride; transport through intercellular space versus cellular uptake through desmosomes*; J. Contr. Rel. 15 (1991); 227-236
15. H.E. Bodde, L.A.R.M. Pechthold, M.T.A. Subnel, F.H.N. de Haan: *Monitoring in vivo skin hydration by liposomes using infrared spectroscopy in conjunction with tape stripping*; Skin-Pharmacol. 9 (1996); 69-7

16. K. Bohnsack, I. Tausch, J. Gaßmüller, F. Rippke: *Wirksamkeit auf das Symptom „trockene Haut“ und Langverträglichkeit von Lazeran Lotion 10% Urea bei Patienten mit atopischem Ekzem*; Z. Hautkrankh. 72 (1997); 34-9
17. D. Bommannan, R.O. Potts, R.H. Guy: *Examination of stratum corneum barrier function in vivo by infrared spectroscopy*; J. Invest. Dermatol. 95 (1990); 403-408
18. M. Branagan, D.H. Chenery, S. Nicholson: *Use of Infrared Attenuated Total Reflectance Spectroscopy for the in vivo measurement of hydration level and silicone distribution in the stratum corneum following skin coverage by polymeric dressing*; Skin Pharmacol. Appl. Skin Physiol. 13 (2000); 157-64
19. L. Brancalion, M.P. Bamberg, N. Kollias: *Spectral differences between stratum corneum and sebaceous molecular components in the Mid-IR*; Appl. Spec. 54 (2000); 1175-1182
20. L. Brancalion, M.P. Bamberg, T. Sakamaki, N. Kollias: *Attenuated Total Reflection-Fourier Transform Infrared Spectroscopy as a possible method to investigate biophysical parameters of stratum corneum in vivo*; J. Invest. Dermatol. 116 (2001); 380-386
21. H. Brandt: *Bestimmung diffusionsspezifischer Parameter mit Hilfe der IR-ATR Spektroskopie*; Experimentelle Technik der Physik 33 (1985); 423-31
22. H. Brandt, K. Hemmelmann: *Zum Nachweis nichtlinearer Sorption an der Grenzfläche Polyethylen/ATR-Element bei der Diffusion von Ethylacetat in Polyethylenfilmen*; Experimentelle Technik der Physik 35 (1987); 349-58
23. P. Buchwald, N. Bodor: *A simple, predictive, structure-based skin permeability model*; J. Pharm. Pharmacol. 53 (2001); 1087-98
24. V. Buraphacheep, D.E. Wurster: *The use of Fourier Transform Infrared (FT-IR) spectroscopy to determine the diffusion coefficients of alcohols in polydimethylsiloxane*; Pharm. Res. 11 (1994); 561-565
25. A.S. Cantor: *Drug and excipient diffusion and solubility in acrylate adhesives measured by infrared-attenuated total reflectance (IR-ATR) spectroscopy*; J. Contr. Rel. 61 (1999); 219-31
26. R. Chambers, G.S. Reniy: *The structure of the cells in tissues as revealed by microdissection. I. The physical relationships of the cells in epithelia*; Am. J. Anat. 35 (1925); 385-402
27. S.C. Chattaraj, J. Swarbrick, I. Kanfer: *A simple diffusion cell to monitor drug release from semi-solid dosage forms*; Int. J. Pharm. 120 (1995); 119-24
28. D.S.L. Chow, I. Kaka, T.I. Wang: *Concentration-dependent enhancement of 1 dodecylazacycloheptan-2-one on the percutaneous penetration kinetics of triamcinolone acetonide*; J. Pharm. Sci. 73 (1984); 1794-1799
29. K.P. Chowdary, R.A. Naidu: *Transdermal diffusion of diclofenac sodium through CA membrane and abdominal skin*; Eastern Pharmacist 36 (1993); 137-40
30. M.J. Clancy, J. Corish, O.I. Corrigan: *A comparison of the effects of electrical current and penetration enhancers on the properties of human skin using FTIR and calorimetric DSC methods*; Int. J. Pharm. 105 (1994); 47-56

31. J. Coates: *Classical methods of quantitative analysis*; In: J.M. Chalmers, P.R. Griffiths: *Handbook of vibrational spectroscopy. Volume 3. Sample characterization and spectral data processing*; Chichester: Wiley, 2002, 2235-2257
32. J.P. Conzen: *Multivariate Kalibration-Ein praktischer Leitfaden zur Methodenentwicklung in der quantitativen Analytik*; Leipzig: Bruker Optik GmbH, 2001
33. J. Crank: *The mathematics of diffusion*; Oxford: Clarendon Press, 1994
34. E. Cronin, R.B. Stoughton: *Percutaneous absorption: regional variations and the effect of hydration and epidermal stripping*; Br. J. Dermatol. 74 (1962); 265-72
35. S.E. Cross, W.J. Pugh, J. Hadgraft, M.S. Roberts: *Probing the effect of vehicles on topical delivery: understanding the basic relationship between solvent and solute penetration using silicone membranes*; Pharm. Res. 18 (2001); 999-1005
36. M. Denda: *Influence of dry environment on epidermal function*; J. Dermatol. Sci. 24, Suppl. 1 (2000); 22-28
37. M. Denda, T. Tsuchiya, P.M. Elias, K.R. Feingold: *Stress alters cutaneous permeability barrier homeostasis*; Am. J. Physiol. 278 (2000); 367-72
38. M. Denda, T. Tsuchiya, J. Hosoi, J. Koyama: *Immobilisation-induced and crowded environment-induced stress delay barrier recovery in murine skin*; Br. J. Dermatol. 90 (1989); 777-82
39. M. Dias, A. Farinha, E. Faustino, J. Hadgraft, J. Pais, C. Toscano: *Topical delivery of caffeine from some commercial formulations*; Int. J. Pharm. 182 (1999); 41-47
40. M. Dias, J. Hadgraft, S.L. Raghavan, J. Tetteh: *The effect of solvent on permeant diffusion through membranes studied using ATR-FTIR and chemometric data analysis*; J. Pharm. Sci 93 (2004); 186-96
41. M. Dias, S.L. Raghavan, J. Hadgraft: *ATR-FTIR spectroscopic investigations on the effect of solvents on the permeation of benzoic acid and salicylic acid through silicone membranes*; Int. J. Pharm. 216 (2001); 51-59
42. D.T. Downing, M.E. Stewart, P.W. Wertz, S.W. Colton 6<sup>TH</sup>, J.S. Strauss: *Skin lipids*; Comp. Biochem. Physiol. B 76 (1983); 673-678
43. P.M. Elias: *The stratum corneum revisited*; J. Dermatol. 23 (1993); 756-58
44. P.M. Elias, E.R. Cooper, A. Korc, B.E. Brown: *Percutaneous transport in relation to stratum corneum structure and lipid composition*; J. Invest. Dermatol. 76 (1981); 297-301
45. Europäisches Arzneibuch, 4. Auflage 2004: Deutscher Apothekerverlag, Stuttgart
46. J.Y. Fang, K.C. Sung, K.H. Lin, C.L. Fang: *Transdermal iontophoretic delivery of diclofenac sodium from various polymer formulations: in vitro and in vivo studies*; Int. J. Pharm. 178 (1999); 83-92
47. J.Y. Fang, K.C. Sung, J.J. Wang, C.C. Chu, T.K. Chen: *The effects of iontophoresis and electroporation on transdermal delivery of buprenorphine from solutions and hydrogels*; J. Pharm. Pharmacol. 54 (2002); 1329-37

48. K.C. Farinas, L. Doh, S. Venkatraman, R.O. Potts: *Characterisation of solute diffusion in a polymer using ATR-FTIR spectroscopy and bulk transport techniques*; *Macromolecules* 27 (1994); 5220-22
49. A. Farinha, C. Toscano, R. Campos, A. Bica, J. Hadgraft: *Permeation of naproxen from saturated solutions and commercial formulations through synthetic membranes*; *Drug Dev Ind Pharm.* 2003 (29); 489-94
50. R.J. Feldman, H.I. Maibach: *Regional variations in percutaneous penetration of C14 cortisol in man*; *J. Invest. Dermatol.* 48 (1967); 181-95
51. M.M. Feldstein, I.M. Raigorodskii, A.I. Iordanskii, J. Hadgraft: *Modeling of percutaneous drug transport in vitro using skin-imitating carbosil membrane*; *J. Control. Release* 52 (1998); 25-40
52. G.L. Flynn: *Mechanism of percutaneous absorption from physicochemical evidence. In: R.L. Bronaugh, H. I. Maibach: Percutaneous absorption. Mechanisms, methodology, drug delivery*; New York: Marcel Dekker, 1985, 17-42
53. G.L. Flynn, T.J. Roseman: *Membrane diffusion. II. Influence of physical adsorption on molecular flux through heterogeneous dimethylpolysiloxane barriers*; *J Pharm Sci.* 60 (1971); 1788-96
54. B. Forslind: *A domain mosaic model of the skin barrier*; *Acta Derm. Venerol.* 74 (1994); 1-6
55. B. Forslind, S. Engström, J. Engblom, L. Norlen: *A novel approach to the understanding of human skin barrier function*; *J. Dermatol. Sci.* 14 (1997); 115-25
56. T.J. Franz: *Absorption of amorolfine through human nail*; *Dermatology* 184, Suppl. 1 (1992); 18-20
57. T.J. Franz: *Percutaneous absorption. On the relevance of in vitro data*; *J. Invest. Dermatol.* 64 (1975); 190-95
58. T.J. Franz, P.A. Lehman: *The skin as a barrier: structure and Function*; In: A.F. Kydonieus, J.J. Wille: *Biochemical modulation of skin reactions. Transdermals, topicals, cosmetics*; Boca Raton: CRC Press, 2000, 15-33
59. W. Fürst, R. Neubert, H. Richter, L. Reppel: *Arzneimittelpermeation durch künstliche Lipoidmembranen; 11. Mitteilung: Unterschiedliche Membrantypen zur Anwendung in Permeationsmodellen*; *Pharmazie* 35, H.2 (1980); 120-21
60. W. Fürst, R. Neubert, R. Wildner, G. Beyrich, C. Bendas: *Eine neue Versuchsanordnung zur in-vitro-Beurteilung der Wirkstoffresorption aus topischen Arzneiformen*; *Pharmazie* 42 (1987); 659-65
61. S.D. Gagnon: *1,2-Epoxyde polymers, propylene oxide and higher 1,2-epoxyde polymers*; In J.I. Kroschwitz: *Encyclopedia of Polymer Science and Engineering*; New York: Wiley, 273-307
62. E.R. Garrett, P.B. Chemburkar: *Evaluation, control, and prediction of drug diffusion through polymeric membranes. I. Methods and reproducibility of steady-state diffusion studies*; *J. Pharm. Sci.* 57 (1968); 944-8

63. E.R. Garrett, P.B. Chemburkar: *Evaluation, control, and prediction of drug diffusion through polymeric membranes. II. Diffusion of aminophenones through silastic membranes: a test of the pH-partition hypothesis*; J. Pharm. Sci. 57 (1968a); 949-59
64. E.R. Garrett, P.B. Chemburkar: *Evaluation, control, and prediction of drug diffusion through polymeric membranes 3. Diffusion of barbiturates, phenylalkylamines, dextromethorphan, progesterone, and other drugs*; J. Pharm. Sci. 57 (1968b); 1401-9
65. K.M. Gelotte, R.T. Lostritto: *Solvent interaction with polydimethylsiloxane membranes and its effects on benzocaine solubility and diffusion*; Pharm. Res. 7 (1990) 523-529
66. A.D. Glinos, G.N. Bardi, K.C. Dermitzaki, S.A. Perez, M.J. Talieri: *Cytokinetic and cytotoxic effects of urea on Hela cells in suspension cultures*; JNCI 71 (1983); 1211-19
67. M. Gniedecka, O.F. Nielsen, D.H. Christensen, H.C. Wulf: *Structure of water, proteins, and lipids in intact human skin, hair and nail*; J. Invest. Dermatol. 110 (1998); 393-398
68. C.Y. Goates, K. Knutson: *Enhanced permeation of polar compounds through human epidermis. I. Permeability and membrane structural changes in the presence of short chain alcohols*; Biochim. Biophys. Acta 1195 (1994); 169-79
69. G.M. Golden, D.B. Guzek, A.H. Kennedy, J.E. McKie, R.O. Potts: *Stratum corneum lipid phase transitions and water barrier properties*; Biochemistry 27 (1987); 2382-88
70. B. Grewal, A. Naik, J. Irwin: *Drug, vehicle and enhancer interactions in percutaneous transport: simultaneous analysis by ATR-IR spectroscopy*; Int. Symp. Control. Release Bioact. Mater. 25 (1998); 569-570
71. P. Griffiths: *Beer's law*; In: J.M. Chalmers, P.R. Griffiths: *Handbook of vibrational spectroscopy. Volume 3. Sample characterization and spectral data processing*; Chichester: Wiley, 2002, 2225-34
72. G. Grubauer, K.R. Feingold, P.M. Elias: *Relationship of epidermal lipogenesis to cutaneous barrier function*; J. Lipid Res. 28 (1992); 746-52
73. H. Günzler, H.M. Heise: *IR-Spektroskopie - Eine Einführung*; Weinheim: VCH, 2002
74. D. Hadži, J. Kidrič, Ž.V. Knezevic, B. Barlič: *The normal coordinate analysis of urea, thiourea, selenourea, and their isotropic analogues in the solid phase and in solution*; Spectrochim. Acta 32A (1976); 693-704
75. M. Haftek, M.-H. Teillon, D. Schmitt: *Stratum corneum, corneodesmosomes and ex vivo percutaneous penetration*; Microsc. Res. Tech. 43 (1998); 242-9
76. I. Hagemann, E. Proksch: *Topical treatment by urea reduces epidermal hyperproliferation and induces differentiation in psoriasis*; Acta Derm. Venerol. (Stockh.) 76 (1996); 353-6
77. B.D. Hanh: *Anwendung von nichtinvasiven spektroskopischen Methoden zur Optimierung der Wirkstoffpenetration aus Suspensionen*; Dissertation, Martin-Luther-Universität Halle-Wittenberg (2001)

78. B.D. Hanh, R.H.H. Neubert, S. Wartewig: *Investigation of drug release from suspension using FTIR-ATR technique: part I. Determination of effective diffusion coefficient of drugs*; Int. J. Pharm. 204 (2000a); 145-50
79. B.D. Hanh, R.H.H. Neubert, S. Wartewig: *Investigation of drug release from suspensions using FTIR-ATR technique: part II. Determination of dissolution coefficient of drugs*; Int. J. Pharm. 204 (2000b), 151-58
80. M. Haria, H.M. Bryson: *Amorolfine - a review of its pharmacological properties and therapeutic potential in the treatment of onychomycosis and other superficial fungal infections*; Drugs 49 (1995); 103-20
81. N.J. Harrick: *Study of physics and chemistry of surfaces from frustrated total internal reflections*; Phys. Rev. Lett. 4 (1960); 224-226
82. S.M. Harrison, B.W. Barry, P.H. Dugard: *The effects of freezing human skin permeability*; J. Pharm. Pharmacol. 36 (1984); 261-62
83. J.E. Harrison, A.C. Watkinson, D.M. Green, J. Hadgraft, K. Brain: *The relative effect of Azone<sup>®</sup> and Transcutol<sup>®</sup> on permeant diffusivity and solubility in human stratum corneum*; Pharm. Res. 13 (1996); 542-46
84. W. Hartmann, Bruker Optik GmbH, Leipzig, persönliche Mitteilung, 22.10.2003
85. T. Hasegawa: *Principal component regression and partial least squares modeling*; In: J.M. Chalmers, P.R. Griffiths: *Handbook of vibrational spectroscopy. Volume 3. Sample characterization and spectral data processing*; Chichester: Wiley, 2002, 2293-2312
86. T. Hatanaka, E. Manabe, K. Sugibayashi, Y. Morimoto: *An application of the hydrodynamic pore theory to percutaneous absorption of drugs*; Pharm. Res. 11 (1994); 654-58
87. T. Hatanaka, M. Shimoyama, K. Sugibayashi, Y. Morimoto: *Effect of vehicle on the skin permeability of drugs: polyethylene glycol 400-water and ethanol-water binary solvents*; J. Control. Release. 23 (1993); 247-60
88. M. Helmdach, A. Thielwitz, Eva-Maria Röpke, H. Gollnick: *Age and sex variation in lipid composition of human fingernail plates*; Skin Pharmacol. Appl. Physiol 13 (2000); 111-19
89. K. Hemmelmann, H. Brandt: *ATR-spektroskopische Untersuchungen des Diffusions- und Sorptionsverhaltens von Polyethylenfilmen für verschiedene Flüssigkeiten*; Experimentelle Technik der Physik 34 (1986); 439-46
90. M. Hesse, H. Meier, B. Zeh: *Spektroskopische Methoden in der organischen Chemie*; Stuttgart: Georg Thieme Verlag, 1995
91. N. Higo, A. Naik, D.B. Bommannan, R.O. Potts, R.H. Guy: *Validation of reflectance infrared spectroscopy as a quantitative method to measure percutaneous absorption in vivo*; Pharm. Res. 10 (1993); 1500-06
92. W. Horsch, W. Fürst, A. Zerbe, I. Finke, K. Winter, H. Richter: *Beiträge zur Arzneistoffliberation aus Suspensionssalben, 12. Mitteilung: Zur Eignung einiger künstlicher hydrophober Membranen für Liberationsuntersuchungen*; Pharmazie 36 (1981); 24-28

93. S.Y. Hou, G.L. Flynn: *Influences of 1-dodecylazacycloheptan-2-one on permeation of membranes by weak electrolytes: 1. Theoretical analysis of weak electrolyte diffusion through membranes and studies involving silicone rubber membranes*; J. Pharm. Sci 86 (1997); 85-91
94. W. Horsch, B. Wolf, U. Ahnadt: *Einfluß von Harnstoff auf die Freisetzung von Prednisolon aus L/W- und W/L-Emulsionssalben bei reduzierter Arzneistoffkonzentration*; Pharmazie 39 (1984); 431-432
95. B. Idson: *Hydratation and percutaneous absorption*; Curr. Probl. Dermatol. 7 (1978);132-41
96. M. Iervolino, S.L. Raghavan, J. Hadgraft: *Membrane penetration enhancement of ibuprofen using supersaturation*; Int. J. Pharm. 198 (2000), 229-38
97. A.L. Iordanski, M.M. Feldstein, V.S. Markin, J. Hadgraft, N.A. Plate: *Modeling of the drug delivery from a hydrophilic transdermal therapeutic system across polymer membrane*; Eur. J. Pharm. Biopharm. 49 (2000); 287-93
98. W.E. Jetzer, A.S. Huq, N.F. Ho, G.L. Flynn, N. Duraiswamy, L. Condie Jr: *Permeation of mouse skin and silicone rubber membranes by phenols: relationship to in vitro partitioning*; J. Pharm. Sci 75 (1986); 1098-103
99. R. Jiang, H.A. Benson, S.E. Cross, M.S. Roberts: *In vitro human epidermal and polyethylene membrane penetration and retention of the sunscreen benzophenone-3 from a range of solvents*; Pharm. Res. 15 (1998); 1863-1868
100. M.E. Johnson, D. Blankschein, R. Langer: *Evaluation of solute permeation through the stratum corneum: Lateral bilayer diffusion as the primary transport mechanism*; J. Pharm. Sci. 86 (1997); 1162-72
101. T.N. Julian, G.M. Zentner: *Ultrasonically mediated solute permeation through polymer barriers*; J. Pharm. Pharmacol. 38 (1986); 871-877
102. Y.N. Kalia, I. Alberti, N. Sekkat, C. Curdy, A. Naik, R.H. Guy: *Normalization of Stratum Corneum barrier function and transepidermal water loss in vivo*; Pharm. Res. 17 (2000); 1148-1150
103. Y.N. Kalia, F. Pirot, R.H. Guy: *Homogeneous transport in a heterogeneous membrane: water diffusion across stratum corneum in vivo*; Biophys. J 71 (1996); 2692-2700
104. M. Kampp: *The diffusion permeability of some artificial and some capillary membranes related to the free diffusion coefficients of the probe molecules*; Capillary permeability: the transfer of molecules and ions between capillary, Alfred Benzon Symposium, 1970, Copenhagen, Munksgaard
105. M.T. Knorst: *Charakterisierung und Optimierung der Liberation und Penetration des Harnstoffs aus halbfesten Formulierungen*; Dissertation, Martin-Luther-Universität Halle-Wittenberg (1997)
106. M.T. Knorst, R. Neubert, W. Wohlrab: *Release of urea from semisolid formulations using a multilayer membrane system*; Drug Dev. Ind. Pharm. 23 (1997); 259-63
107. W. Kutzelnigg, R. Mecke: *Die Schwingungsspektren des Harnstoff-Moleküls, des Harnstoff-Kristalls und des Wirtsgitters der Harnstoff-Einschlußverbindungen*; Z. Elektrochem. 65 (1961); 109-119

108. A.F. Kydonieus, J.J. Wille, G.F. Murphy: *Fundamental concepts in transdermal delivery of drugs*; In: A.F. Kydonieus, J.W. Wille: *Biochemical modulation of skin reactions. Transdermals, topicals, cosmetics*; Boca Raton: CRC Press, 2000, 1-14
109. M.A. Lampe, A.L. Burlingame, J. Whitney, M.L. Williams, B.E. Brown, E. Roitman, Elias: *Human stratum corneum lipids: characterization and regional variations*; J. Lipid Res. 24 (1983); 120-130
110. W.Q. Liang, R. V. Petersen, S. W. Kim: *Drug permeation through polymer-skin membranes*; Acta Pharm. Tech. 31 (1985); 210-14
111. J. Liaw, C.Y. Lin: *Evaluation of poly(ethylene oxide)-poly(propylene oxide)-poly(ethylene oxide) (PEO-PPO-PEO) gels as a release vehicle for percutaneous fentanyl*; J. Contr. Rel. 68 (2000); 273-282
112. B.C. Lippold: *Biopharmazie*; Wissenschaftliche Verlagsgesellschaft: Stuttgart, 1984
113. B.C. Lippold, H. Baerbel, F.J. Lichey: *Drug transport through lipophilic polymer membranes. I Membrane permeabilities*; Acta Pharm. Technol. 30 (1984); 56-67
114. M. Loden, A.C. Andersson, M. Lindberg: *The effect of two urea-containing creams on dry, eczematous skin in atopic patients. II. Adverse effects*; J. Dermatol. Treatment 10 (1999); 171-5
115. L.G. Longsworth: *Temperature dependence of diffusion in aqueous solution*; J. Phys. Chem. 58 (1954); 770- 73
116. Y.Q. Lu, M.R. Yalamnchili, J.D. Miller: *FT-IR internal reflection spectroscopy using regular polygonal internal reflection elements*; Appl. Spectrosc. 52 (1998); 851-854
117. G.W. van Lucassen, G.N.A. Veen, J.A.J. Jansen: *Band analysis of hydrated human skin stratum corneum attenuated total reflectance Fourier transform infrared spectra in vivo*; J. Biomed. Opt. 3 (1998); 267-280
118. Y. Maitani, K. Shimada, T. Nagali: *l-Menthol, oleic acid and lauricidin in absorption enhancement of free and sodium salt of diclofenac using ethanol treated silicone membrane as model for skin*, Chem. Pharm. Bull. 44 (1996); 403-8
119. V.H. Mak, R.O. Potts, R.H. Guy: *Oleic Acid concentration and effect in human stratum corneum: non-invasive determination by Attenuated Total Reflectance Infrared Spectroscopy in vivo*; J. Control. Release 12 (1990); 67-75
120. V.H. Mak, R.O. Potts, R.H. Guy: *Percutaneous penetration enhancement in vivo measured by attenuated total reflectance infrared spectroscopy*; Pharm. Res. 7 (1990); 835-41
121. E.M. Manabe, S. Numajiri, K. Sugibayashi, Y. Morimoto: *Analysis of skin permeation-enhancing mechanism of iontophoresis using hydrodynamic pore theory*, J. Control. Release 66 (2000)149-158
122. A. Marchionini, W. Hausknecht: *Säuremantel der Haut und Bakterienabwehr*; Klin. Wochenschr. 17 (1938); 663-66



123. A. Margarida, L. Tralhão, A.C. Watkinson, K.R. Brain, J. Hadgraft, N.A. Armstrong: *Use of ATR-FTIR spectroscopy to study the diffusion of ethanol through glycerogelatin films*; Pharm. Res. 12 (1995), 572-73
124. H. Mark: *Quantitative spectroscopic calibration*; In: J.M. Chalmers, P.R. Griffiths: *Handbook of vibrational spectroscopy. Volume 3. Sample characterization and spectral data processing*; Chichester: Wiley, 2002, 2258-2275
125. G.K. Menon, P.M. Elias: *Morphologic basis for a pore-pathway in mammalian stratum corneum*; Skin Pharmacol. 10 (1997); 235-46
126. G. Menon, R. Ghadially: *Morphology of lipid alteration in the epidermis: a review*; Microsc. Res. Tech. 37 (1997); 180-92
127. D. Mertin, B. Lippold: *In-vitro permeability of the human nail and of a keratin membrane from bovine hooves: influence of the partition coefficient octanol/water and the water solubility of drugs on their permeability and maximum flux*; J. Pharm. Pharmacol. 49 (1997a); 30-34
128. D. Mertin, B. Lippold: *In-vitro permeability of the human nail and of a keratin membrane from bovine hooves: penetration of chloramphenicol from lipophilic vehicles and a nail lacquer*; J. Pharm. Pharmacol. 49 (1997b); 241-45
129. D. Mertin, B. Lippold: *In-vitro permeability of the human nail and of a keratin membrane from bovine hooves: prediction of the penetration rate of antimycotics through the nail plate and their efficiency*; J. Pharm. Pharmacol. 49 (1997c); 866-72
130. K.D. McCarley, A.L. Bunge: *Absorption into silicone rubber membranes from powders and aqueous solutions*; Int. J. Pharm. 250 (2003); 169-80
131. E. van der Merwe, C. Ackermann: *Physical changes in hydrated skin*; Int. J. Cosm. Sci. 9 (1987); 237-47
132. A.S. Michaels, S.K. Chandrasekaran, J.E. Shaw: *Drug permeation through human skin: theory and in vitro experimental measurement*; Am. Inst. Chem. Eng. J. 21 (1975); 985-996
133. S. Mitragotri: *Modeling skin permeability to hydrophilic and hydrophobic solutes based on four permeation pathways*; J. Contr. Rel. 86 (2003); 69-92
134. K. Moser, K. Kriwet, C. Froehlich, A. Naik, Y.N. Kalia, R.H. Guy: *Permeation enhancement of a highly lipophilic drug using supersaturated systems*; J. Pharm. Sci. 90 (2001); 607-16
135. D.A. Mountz, R.F. Storey, K.A. Mauritz : *Measurement of diffusion coefficient for water transport through poly(styrene-b-isobutylene-b-styrene)ionomers by ATR-IR-spectroscopy*; Am. Chem. Soc. Polym. Prepr. 42 (2001); 77-78
136. K.H. Müller, J. Kreuter: *Enhanced transport of nanoparticle associated drugs through natural and artificial membranes-a general phenomenon?*; Int. J. Pharm. 178 (1999); 23-32
137. K.H. Müller, C. Pflugshaupt: *Harnstoff in der Dermatologie*; Hautarzt 40, Suppl. IX (1989); 1-19

138. C.K. Mülling, H.H. Bragula, S. Reese, K.D. Budras, W. Steinberg: *How structure in bovine hoof epidermis are influenced by nutritional factors*; Anat. Histol. Embryol. 28 (1999); 103-108
139. N. Nardviriyakul, D.E. Wurster, M.D. Donovan: *Determination of diffusion coefficients of sodium p-Aminosalicylate in sheep nasal mucosae and dialysis membranes by Fourier Transform Infrared Horizontal Attenuated Total Reflectance Spectroscopy*; J. Pharm. Sci 86 (1997); 19-25
140. M. Nakano, N. Kohri, Y. Arakawa, T. Arita: *The permeation of benzodiazepines through synthetic membranes*; Chem. Pharm. Bull. 27 (1979); 573-7
141. O. Necas, A. Svoboda: *Effect of urea on the plasma membrane particles in yeast cells and protoplasts*; Protoplasma 77 (1973); 453-466
142. M.K. Nemanic, P.M. Elias: *In situ precipitation: a novel cytochemical technique for visualization of permeability pathways in mammalian stratum corneum*; J. Histochem. Cytochem. 28 (1980); 573-578
143. R. Neubert, C. Bendas, W. Wohlrab, B. Gienau, W. Fürst: *A multilayer membrane system for modelling drug penetration into skin*; Int. J. Pharm. 75 (1991); 89-94
144. R. Neubert, W. Wohlrab: *In vitro methods for the biopharmaceutical evaluation of topical formulations*; Acta Pharm. Technol. 36 (1990); 197-206
145. R. Neubert, W. Wohlrab, C. Bendas: *Modelling of drug penetration into human skin using a multilayer membrane system*; Skin Pharmacol. 8 (1995), 119-29
146. W. Noll: *Chemie und Technologie der Silikone*; Verlag Chemie, Weinheim (1968)
147. S. Nolting: *Harnstofftherapie bei Mykosen*; Hautarzt, Suppl. IX (1989), 76-77
148. S. Nolting, C. Seebacher: *Ciclopiroxolamin – Wegweiser topischer Mykose-Therapie*; Jena: Universitätsverlag, 1993, 46-68
149. L. Norlén: *Skin barrier formation: The membrane folding model*; J. Invest. Dermatol. 117 (2001); 823-829
150. L. Norlén: *Skin barrier structure and function: The single gel phase model*; J. Invest. Dermatol. 117 (2001); 830-836
151. L. Norlén, I. Nicander, B.L. Rozell, S. Ollmar, B. Forslind: *Inter- and intra-individual differences in human stratum corneum lipid content related to physical parameters of skin barrier function in vivo*; J. Invest. Dermatol. 112 (1999); 72-77
152. G.F. Odland: *Structure of the skin*; In: L.A. Goldsmith (Ed.): *Physiology, biochemistry, and molecular biology of the skin*; Oxford: Oxford University Press, 2.Ed., 1991, 205-235
153. D.C. Patel, J.L. Fox, W.I. Higuchi: *Physical model approach in the study of the transport of alkylamines across a silicone rubber membrane in a 2 chamber diffusion cell*; J. Pharm. Sci 73 (1984); 1028-34
154. K.D. Peck, A.H. Ghanem, W.I. Higuchi: *The effect of temperature upon the permeation of polar and ionic solutes through human epidermal membrane*; J. Pharm. Sci. 84 (1995); 975-82

155. M.A. Pellett, A.C. Watkinson, J. Hadgraft, K.R. Brain: *Comparison of permeability data from traditional diffusion cells and ATR-FTIR spectroscopy. Part I. synthetic membranes*; Int. J. Pharm. 154 (1997a); 205-15
156. M.A. Pellett, A.C. Watkinson, J. Hadgraft, K.R. Brain: *Comparison of permeability data from traditional diffusion cells and ATR-FTIR spectroscopy. Part II determination of diffusional pathlengths in synthetic membranes and human stratum corneum*; Int. J. Pharm. 154 (1997b); 217-27
157. K. Phares, M. Cho, K. Johnson, J. Swarbrick: *Drug transport across nylon 610 films: influence of synthesis variables*; Pharm. Res. 12 (1995); 248-56
158. H. Podhaisky; Fachbereich Mathematik und Informatik, persönliche Mitteilung, 16.08.2004
159. A. Polak, M. Zaugg: *Amorolfine*; In: J. F. Ryley (ed.): *Chemotherapy of fungal disease (handbook of experimental pharmacology, Vol. 96)*; Berlin: Springer-Verlag, 1990, 505-521
160. R.O. Potts, M.L. Francoeur: *Lipid biophysics of water loss through the skin*; Proc. Natl. Acad. Sci. 87 (1990); 3871-73
161. R.O. Potts, M.L. Francoeur: *The influence of stratum corneum morphology on water permeability*; J. Invest. Dermatol. 96 (1991); 495-499
162. R.O. Potts, R.H. Guy: *Predicting skin permeability*; Pharm. Res. 9 (1992); 663- 669
163. R.O. Potts, D.B. Guzek, R.R. Harris, J.E. McKie: *A noninvasive in vivo technique to quantitatively measure water concentration of the stratum corneum using attenuated total reflectance infrared spectroscopy*; Arch. Dermatol. Res. 277 (1985); 489-495
164. E. Proksch: *Harnstoff in der Dermatologie*; MMP 4 (2000);110-115
165. M. Puschmann: *Experimentelle Untersuchungsergebnisse zur Juckreizlinderung, zur Hautfettung und zur Hautverträglichkeit einer harnstoff- und polidocanolhaltigen Zubereitung*; Akt. Dermatol. 18 (1992); 224-8
166. W.J. Pugh, M. Roberts, J. Hadgraft: *Epidermal permeability - penetrant structure relationships. Part 3. Effect of hydrogen bonding interactions and molecular size on diffusion across the stratum corneum*; Int. J. Pharm. 138 (1996); 149-165
167. W.J. Pugh, I.T. Degim, J. Hadgraft: *Epidermal permeability – penetrant structure relationships: 4. QSAR of permeant diffusion across human stratum corneum in terms of molecular weight, H-bonding and electronic charge*; Int. J. Pharm. 197 (2000); 203 - 211
168. M. Puschmann, K. Gogoll: *Verbesserung der Hautfeuchte und des Hautreliefs unter Harnstofftherapie*; Hautarzt 40, Suppl. IX (1989), 67-70
169. S.A. Quadripur, G. Horn, T. Höhler: *Zur Lokalwirksamkeit von Ciclopiroxolamin bei Nagelmykosen*; Arzneim. Forsch. 31 (1981); 1369-1372
170. S.L. Raghavan, A. Trividic, A.F. Davis, J. Hadgraft: *Effect of cellulose polymers on supersaturation and in vitro membrane transport of hydrocortisone acetate*; Int. J. Pharm. 193 (2000); 231-7

171. S.K. Rastogi, J. Singh: *Lipid extraction and transport of hydrophilic solutes through porcine epidermis*; Int. J. Pharm. 225 (2001); 75-82
172. H. Rattner: *Use of urea in handcreams*; Arch. Derm. Syph. 48 (1943); 47
173. W.G. Reifenrath, B. Lee, D.R. Wilson, T.S. Spencer: *A comparison of in vitro skin-penetration cells*; J. Pharm. Sci. 83 (1994); 1229-1233
174. L. Reppel, H. Richter, S. Schellin, K. Winter: *Neuartige Silikonkautschukmembranen für den Einsatz in der pharmazeutischen Forschung*; Plaste und Kautschuk 11 (1978); 668
175. H. Richter: *Modelluntersuchungen zum Stofftransport an Polydimethylsiloxan-kautschukmembranen*; Habilitationsarbeit, Martin-Luther-Universität Halle-Wittenberg (1985)
176. H. Richter: *Der Transport von Calciumionen am Membranmodell*; Pharmazie 47 (1992); 947-8
177. H. Richter: persönliche Mitteilung, 08.02.2002
178. H. Richter, P. Nuhn: *Untersuchung quartärer Ammoniumbasen als mögliche Chloridionophore am Membranmodell*; Pharmazie 44 (1989); 724-5
179. H. Richter, B. Morbitzer, R. Fink, K. Winter, W. Fürst: *Zur Bestimmung der Schichtdicke von künstlichen Membranen*; Pharmazie 33 (1978); 523-256
180. A. Ritter, R. Neubert, W. Fuerst: *Prednisolone preparations with zinc oxide-free and zinc oxide-containing bases*; Pharmazie 45 (1990); 798-9
181. J.E. Riviere, P.L. Williams: *Pharmacokinetic implication of changing blood flow in skin*; J. Pharm. Sci. 81, 601 (1992)
182. W. Robinson: *Use of urea to stimulate healing in chronic purulent wound*; AM. J. Surg. 33 (1936); 192
183. N.P.G. Roeges: *A guide to the complete interpretation of infrared spectra of organic structures*; Chichester: Wiley, 1994
184. B.Th. Rohde: *Harnstoff und Harnstoffkombination bei Psoriasis*; Hautarzt, Suppl. IX (1989); 74-75
185. C. Rosado, S.E. Cross, W.J. Pugh, M.S. Roberts, J. Hadgraft: *Effect of vehicle pretreatment on the flux, retention, and diffusion of topically applied penetrants in vitro*; Pharm. Res. 20 (2003); 1503 – 1507
186. S. Rothberg, R.G. Crouse, J.L. Lee: *Glycine-C<sup>14</sup> incorporation into the proteins of normal stratum corneum and the abnormal stratum corneum of psoriasis*; J. Invest. Dermatol. 37 (1961), 497-505
187. G. Rücker, M. Neugebauer, G.G. Willems: *Instrumentelle pharmazeutische Analytik*; Stuttgart: Wissenschaftliche Verlagsgesellschaft, 1992
188. C. Sammon, J. Yarwood, N. Everall: *A FTIR-ATR study of liquid diffusion processes in PET films: comparison of water simple alcohols*; Polymer 41 (2000); 2521-34
189. J. Sangster: *Octanol-water partition coefficients: fundamentals and physical chemistry*; Cinchester: Weinheim, 1997

190. G. Scatchard, W.J. Hamer, S.E. Wood: *Isotonic solutions. I. The chemical potential of water in aqueous solutions of sodium chloride, potassium chloride, sulfuric acid, sucrose, urea and glycerol at 25°*, J. Am. Chem. Soc. 60 (1938); 3061-3070
191. H. Schaefer, A. Zesch, G. Stüttgen: *Skin permeability*; Berlin: Springer Verlag, 1982
192. H. Schaefer, G. Stüttgen, A. Zesch, W. Shalla, J. Gazith: *Quantitative determination of percutaneous absorption of radiolabelled drugs in vitro and in vivo by human skin*; Curr. Probl. Dermatol. 7 (1978); 80-94
193. R.J. Scheuplein: *Mechanism of percutaneous absorption: I. Routes of penetration and the influence of solubility*; J. Invest. Dermatol. 45 (1965); 334-346
194. R.J. Scheuplein, L. Morgan: „Bound-water“ in keratin membranes measured by a microbalance technique; Nature 214 (1969); 456-8
195. R.J. Scheuplein, I.H. Blank, G.J. Brauner, D.J. MacFarlane: *Percutaneous absorption of steroids*; J. Invest. Dermatol. 153 (1969); 63-70
196. R.J. Scheuplein, L. Ross: *Effects of surfactants and solvents on the permeability of epidermis*; J. Soc. Cosm. Chem. 21 (1970); 853-73
197. U. Schmalfuß: *Untersuchungen zur Modulation der Penetration eines hydrophilen Arzneistoffs aus Mikroemulsionssystemen in humane Haut unter ex vivo-Bedingungen*; Dissertation, Martin-Luther-Universität Halle-Wittenberg (1993)
198. U.W. Schnyder: *Harnstoff- und Harnstoffkombinationen bei Ichthyosen*; Hautarzt, Suppl. IX (1989), 51-57
199. F.P. Schwarb, G. Imanidis, E.W. Smith, J.M. Haigh, C. Surber: *Effect of concentration and degree of saturation of topical fluocinonide formulations on in vitro membrane transport and in vivo availability on human skin*; Pharm. Res. 16 (1999); 909-915
200. U.W. Schnyder: *Harnstoff und Harnstoffkombinationen bei Ichthyosen*; Hautarzt, Suppl. IX (1989), 51-57
201. Y. Shen, P. Wu: *Two-dimensional ATR-FTIR spectroscopic investigation on water diffusion in polypropylene film: water bending vibration*; J. Phys. Chem. B 107 (2003), 4224-26
202. B. Smith: *Infrared spectral interpretation-a systematic approach*; New York: CRC-Press, 1999
203. L.S. Sorell, A.S. Myerson: *Diffusivity of urea in concentrated, saturated and supersaturated solutions*; AIChE Journal 28 (1982); 772-79
204. J.E. Steward : *Infrared Absorption Spectra of urea, thiourea, and some thiourea-halide complexes*; J. Chem. Phys. 26 (1957); 248-254
205. W.S. Symers, T.S. Kirk: *Urea as bactericide and its application in the treatment of wounds*; Lancet 2 (1915); 1237
206. W. Schmidt: *Optische Spektroskopie*; VCH, Weinheim, 1994

207. D.S. Shaker, A.H. Ghanem, S.K. Li, K.S. Warner, F.M. Hashem, W.I. Higuchi: *Mechanistic studies of the effect of hydroxypropyl-beta-cyclodextrin on in vitro transdermal permeation of corticosterone through hairless mouse skin*; Int. J. Pharm. 253 (2003); 1-11
208. J.E. Steward: *Infrared Absorption Spectra of urea, thiourea, and some thiourea-halide complexes*; J. Chem. Phys. 26 (1957); 248-254
209. G. Swanbeck: *A new treatment of ichthyosis and other hyperkeratotic conditions*; Acta Derm. Venerol. (Stockh) 48 (1968); 123
210. G. Swanbeck: *Harnstoff als Monotherapie bei trockener Haut*; Hautarzt, Suppl. IX (1989); 42-43
211. G. Swanbeck, G. Rajka: *Antipruritic effect of urea solutions*; Acta Derm. Venerol. (Stockh) 50 (1970); 225-30
212. J. Swarbrick, G. Lee, J. Brom: *Drug permeation through human skin: I. Effect of storage conditions of skin*; J. Invest. Dermatol. 89 (1); 1982
213. M. Sznitowska, S. Janicki, A.C. Williams: *Intracellular or intercellular localization of the polar pathway of penetration across stratum corneum*; J. Pharm. Sci. 87 (1998); 1109-1114
214. Y. Takeuchi, H. Yasukawa, Y. Yamaoka, N. Takahashi, C. Tamura, Y. Morimoto, S. Fukushima, R.C. Vasavada: *Effects of oleic acid/propylene glycol on rat abdominal stratum corneum: lipid extraction and appearance of propylene glycol in the dermis measured by Fourier transform infrared/attenuated total reflectance (FT-IR/ATR) spectroscopy*; Chem. Pharm. Bull. 41 (1993); 1434-1437
215. A. Tezel, A. Sens, S. Mitragotri: *Description of transdermal transport of hydrophilic solutes during low-frequency sonophoresis based on a modified porous pathway model*; Pharm. Sci. 92 (2003); 381-93
216. E. Touitou, A. Lisette: *The permeation behavior of several membranes with potential use in the design of transdermal devices*; Pharmaceutica Acta Helveticae 60 (1985); 193-8
217. E. Touitou, V.M. Meidan, E. Horwitz: *Methods for quantitative determination of drug localized in the skin*; J. Contr. Rel. 56 (1998); 7-21
218. W. Vanscheidt: *Keratolytika und Keratoplastika. In: R. Niedner, J. Ziegenmeyer: Dermatika: Therapeutischer Einsatz, Pharmakologie und Pharmazie*; Wissenschaftliche Verlagsgesellschaft: Stuttgart, 1992, 129-133
219. A. Vijay, D.N. Sathyanarayana: *Ab initio study of the force field, geometry and vibrational assignment of urea*; J. Mol. Struct. 295 (1993); 245-258
220. R. Voigt: *Pharmazeutische Technologie*; Stuttgart: deutscher Apothekerverlag, 2000
221. J.C. Walkow, J.W. McGinity: *The Effect of physicochemical properties on the in-vitro diffusion of drug through synthetic membranes and pigskin I. Methyl salicylate*; Int. J. Pharm. 35 (1987a); 91-102
222. J.C. Walkow, J.W. McGinity: *The Effect of physicochemical properties on the in-vitro diffusion of drug through synthetic membranes and pigskin II. Salicylic acid*; Int. J. Pharm 35 (1987b) 103-110

223. K.A. Walters, G.L. Flynn: *Permeability characteristics of the human nail plate*; Int. J. Cosmet. Sci. 5 (1983b); 231-46
224. K.A. Walters, G.L. Flynn, J.R. Marvel: *Physicochemical characterization of the human nail: Permeation pattern for water and the homologous alcohols and differences with respect to the stratum corneum*; J. Pharm. Pharmacol. 83 (1983); 28-33
225. K.A. Walters, G.L. Flynn, J.R. Marvel: *Physicochemical characterization of the human nail: Solvent effects on the permeation of homologous alcohols*; J. Pharm. Pharmacol. 37 (1985); 771-75
226. F.J. Wang, Y.Y. Zhang, X.Z. Zhang, X. Zhu, T.S. Chung, S. Moochhala: *Cellulose acetate membranes for transdermal delivery of scopolamine base*; Materials Science and Engineering C, C20 (2002); 93-100
227. R.R. Warner, Y.L. Boissy, N.A. Lilly, M.J. Spears, K. McKillop, J.L. Marshall, K.J. Stone: *Water disrupts stratum corneum lipid lamellae: damage is similar to surfactants*; J. Invest. Dermatol. 113 (1999); 960-66
228. A.C. Watkinson, H. Joubin, D.M. Green, K.R. Brain, J. Hadgraft: *The influence of vehicle on permeation from saturated solutions*; Int. J. Pharm. 121 (1995); 27-36
229. S. Wartewig: *IR and Raman Spectroscopy*; Weinheim: Wiley-VCH, 2003
230. R. Wepf: *Reviewing stratum corneum: corneocytes embrace each other*; FB Pharmazie, Halle/Saale, Vortrag, 03.11.2003
231. P.W. Wertz, D.T. Downing: *Epidermal lipids. In: L.A. Goldsmith (Ed.): Physiology, biochemistry, and molecular biology of the skin*; Oxford: Oxford University Press, 2.Ed., 1991, 205-235
232. J.W. Wiechers: *The barrier function of the skin in relation to percutaneous absorption of drugs*; Pharm. Weekbl. Sci. 11 (1989); 185-198
233. M.L. Williams, P.M. Elias: *The extracellular matrix of the stratum corneum: role of lipids in normal and pathological functions*; CRC Crit. Drug Carrier Syst. 3 (1987); 95-112
234. P. Wilks: *Process monitoring applications of multiple internal reflection spectroscopy. In: F.M Mirabella: Internal reflection spectroscopy, theory and applications*, New York: Dekker, 1993, 97-106
235. T. Winsor, G.E. Burch: *Differential roles of layers of human epigastric skin on diffusion rate of water*; Arch. Int. Med. 74 (1944); 428-436
236. W. Wohlrab, S. Schiepmann: *Untersuchungen zum Mechanismus der Harnstoffwirkung auf die Haut*; Arch. Dermatol. Res. 225 (1976); 23-30
237. W. Wohlrab, N. Hassler: *Penetrationskinetik von Harnstoff in die menschliche Haut*; Dermatol. Monatsschr. 167 (1981); 277-83
238. W. Wohlrab: *The influence of urea on the penetration kinetics of topically applied corticosteroids*; Acta Derm. Venerol. (Stockh) 64 (1984a); 94-98
239. W. Wohlrab: *Vehikelabhängigkeit der Harnstoff-Penetration in die menschliche Haut*; Dermatologica 169 (1984b); 53-59
240. W. Wohlrab: *Wiederfindungsrate von extern angewandten Glukokortikoiden auf der Haut*; Dermatol. Monatsschr. 172 (1986); 615-19

241. W. Wohlrab: *Der Einfluss von Harnstoff auf die Wasserbindungskapazität der menschlichen Hornschicht*; Dermatol. Monatsschr. 174 (1988); 622-627
242. W. Wohlrab: *Einfluss des Harnstoffgehaltes unterschiedlicher Emulsionen auf die Wasserbindungsfähigkeit der menschlichen Hornschicht*; Z. Hautkrankh. 72 (1991a); 34-9
243. W. Wohlrab: *Use and efficiency of urea in dermatological preparations*; J. Appl. Cosmetol. 9 (1991b); 1-7
244. W. Wohlrab: *Harnstoff-ein bewährter Wirkstoff in der Dermatologie und Kosmetik*; PZ 33 (1992); 9-15
245. W. Wohlrab: *Aufbau und Funktion der Haut*. In: R.H.H Neubert, W. Wohlrab, W. Marsch: *Dermatopharmazie. Vehikel-Wirkstoffe-Pharmakologie*; Stuttgart: WVG, 2001, 3-12
246. D.E. Wurster, V. Buraphacheep, J.M. Patel: *The determination of diffusion coefficients in semisolids by fourier transform infrared (FT-IR) spectroscopy*; Pharm. Res. 10 (1993); 616-20
247. Y. Yamaguchi, T. Usami, H. Natsume, A. Takao, Y. Nagase, K. Sugibayashi, Y. Morimoto: *Evaluation of skin permeability of drugs by newly prepared polymer membranes*; Chem. Pharm. Bull. 45 (1997); 537-41
248. F. Yamashita, H. Bando, Y. Koyama, S. Kitagawa, Y. Takakura, M. Hashida: *In vivo and in vitro analysis of skin penetration enhancement based on a two-layer diffusion model with polar and nonpolar routes in the stratum corneum*; Pharm. Res. 11 (1994); 185-82
249. Y. Yokomizo: *Effect of phosphatidylcholine on the percutaneous penetration of drugs through the dorsal skin of guinea pigs in vitro, and analysis of the molecular mechanism, using attenuated total reflectance-fourrier infrared (ATR-FTIR) spectroscopy*; J. Contr. Rel. 42 (1996); 246-262
250. Y. Yokomizo: *Effect of phosphatidylglycerol on the in vitro percutaneous drug penetration through the dorsal skin of guinea pigs, and analysis of the molecular mechanism, using (ATR-FTIR) spectroscopy*; Int. J. Pharm. 147 (1997); 219-231
251. G.M. Zentner, J.R. Cardinal, S.W. Kim: *Progestin permeation through polymer membranes II: diffusion studies on hydrogel membranes*; J. Pharm. Sci. 67 (1978); 1352-5
252. J. Ziegenmeyer: *Biopharmazeutische Aspekte bei der Anwendung von Dermatika*. In: R. Niedner, J. Ziegenmeyer: *Dermatika: Therapeutischer Einsatz, Pharmakologie und Pharmazie*. Stuttgart: Wissenschaftliche Verlagsgesellschaft, 1992, 243-307