References

[1] T. Aree, W. Saenger, P. Leibnitz, H. Hoier, *Carbohydr. Res.*, **315,** 199-205 (1999).

[2] T. Aree, I. Uson, B. Schulz, G. Reck, H. Hoier, G. M. Sheldrick, W. Saenger, *J. Am. Chem. Soc.*, **121,** 3321-3327 (1999).

[3] T. Aree, H. Hoier, B. Schulz, G. Reck, W. Saenger, *Angew. Chem. Int. Ed.*, **39,** 897-899 (2000).

[4] T. Aree, H. Hoier, B. Schulz, G. Reck, W. Saenger, *Carbohydr. Res.*, **328,** 399-407 (2000).

[5] T. Aree, Ph.D. Thesis: *X-ray crystallographic and neutron scattering studies on hydration dynamics and solubility of methylated cyclodextrins*; Freie Universität Berlin, Berlin, (2000).

[6] T. Aree, B. Schulz, G. Reck, *J. Inclusion Phenom. Macrocyclic Chem.*, **47,** 39-45 (2003).

[7] N. Balabai, B. Linton, A. Napper, S. Priyadarshy, A. P. Sukharevsky, D. H. Waldeck, *J. Phys. Chem. B*, **102,** 9617-9624 (1998).

[8] M. Bée, *Quasielastic Neutron Scattering;* Adam Hilger: Bristol, (1988).

[9] J. P. Behr, J. M. Lehn, *J. Am. Chem. Soc.*, **98,** 1743-1747 (1976).

[10] M.-C. Bellissent-Funel, L. Bosio and J. Teixeira, *J. Phys.: Condens. Matter,* **3,** 4065-4074 (1991).

[11] A. Bondi, *J. Phys. Chem.,* **68,** 441-451 (1964).

[12] C. J. Boulin, R. Kempf, A. Gabriel and M. H. J. Koch, *Nucl. Instrum. Meth. A*, **269,** 312-320 (1988).

[13] C. Branca, S. Magazu, G. Maisano, P. Migliardo, E. Tettamanti, *Physica B,* **291,** 180-189 (2000).

[14] C. Branca, S. Magazu, G. Maisano, M. T. F. Telling, *J. Phys. Chem. B*, **108,** 17069-17075 (2004).

[15] T. J. Buchanan, G. H. Haggis, J. B. Hasted, B. G. Robinson, *Proc. R. Soc. London, Ser. A,* **213,** 379-391 (1952).

[16] M. R. Caira, V. J. Griffith, L. R. Nassimbeni, B. van Oudtshoorn, *J. Chem. Soc., Perkin Trans.*, **2,** 2071-2072 (1994).

[17] V. Calandrini, A. Deriu, G. Onori, R. E. Lechner, J. Pieper, *Appl. Phys. A,* **74,** S1339-S1341 (2002).

[18] V. Calandrini, A. Deriu, G. Onori, R. E. Lechner, J. Pieper, *J. Chem. Phys.,* **120,** 4759-4767 (2004).

[19] CAPRI: the program written by M. Bée for grouping of the spectra from multidetectors of IN13, ILL.

[20] C. H. Cho, J. Urquidi, S. Singh, G. W. Robinson, *J. Phys. Chem. B*, **103,** 1991-1994 (1999).

[21] C. T. Chudley, R. J. Elliott, *Proc. Phys. Soc.*, **77,** 353-361 (1961).
[22] A. W. Coleman and I. Nicolis, N. Keller and J. P. Dalbiez, *J. Inclusion Phenom. Mol. Recognit. Chem.*, **13,** 139-143 (1992).
[23] DAVE software package. NIST Center for Nuclear Research http://www.ncnr.nist.gov/dave
[24] J. Ding, T. Steiner, V. Zabel, B. E. Hingerty, S. A. Mason, W. Saenger, *J. Am. Chem. Soc.*, **113,** 8081-8089 (1991).
[25] T. Dippel, Ph.D. Thesis: *Zur Kenntnis der Protonenleitfähigkeit in wasserhaltigen Systemen;* Max-Planck-Institut, Stuttgart, (1991).
[26] P. A. Egelstaff, *Introduction to the Liquid State;* Oxford pp. 118-132 (1967).
[27] A. Einstein, *Ann. Phys. Lpz.*, **17,** 549-560 (1905).
[28] A. Faraone, C. Branca, S. Magazu, G. Maisano, H. D. Middendorf, P. Migliardo, V. Villari, *Physica B*, **276-278,** 524-525 (2000).
[29] M. Feeney, C. Brown, A. Tsai, D. Neumann, P. G. Debenedetti, *J. Phys. Chem. B,* **105,** 7799-7804 (2001).
[30] B. A. Fedorov, O. B. Ptitsyn and L. A. Voronin, *J. Appl. Cryst.*, **7,** 181-186 (1974).
[31] L. A. Feigin and D. I. Svergun, *Structure Analysis by Small-angle X-ray and Neutron Scattering;* New York: Plenum Press, (1987).
[32] FITMO-M is a modification of the FITMO (NEAT software package) by A. K.
[33] J. L. Finney, A. K. Soper, J. Z. Turner, *Pure & Appl. Chem.,* **65,** 2521-2526 (1993).
[34] J. Fitter, B. Rufflé, R. E. Lechner, FITMO: NEAT software package (1999).
[35] G. R. Fleming, *Chemical Applications of Ultrafast Spectroscopy;* Oxford: New York, (1986).
[36] J. Frank, J. F. Holzwarth and W. Saenger, *Langmuir* **18,** 5974-5976 (2002).
[37] D. French, M. L. Levine, J. H. Pazur, and E. Norberg, *J. Am. Chem. Soc.*, **71,** 353-356 (1949).
[38] B. Frick, M. Gonzalez, *Physica B*, **301,** 8-19 (2001).
[39] G. G. Gaitano, W. Brown, G. J. Tardajos, *J. Phys. Chem. B*, **101,** 710-719 (1997).
[40] S. A. Galema, H. Hoiland, *J. Phys. Chem.,* **95,** 5321-5326 (1991).
[41] Y. Georgalis, J. Schüler, P. Umbach and W. Saenger, *J. Am. Chem. Soc.*, **117,** 9314-9322 (1995).
[42] N. Guex, M. C. Peitsch, *Electrophoresis*, **18,** 2714-2723 (1997).
http://www.expasy.ch/spdbv/
[43] B. Guo, S. Kao, H. McDonald, A. Asanov, L. L. Combs, W. W. Wilson, *J. Cryst. Growth*, **196,** 424-433 (1999).
[44] B. Halle, *Phil. Trans. R. Soc. Lond. B.,* **359,** 1207-1224 (2004).
[45] K. Harata, in *Inclusion Compounds*, vol. 5, ed. J. L. Atwood, J. E. D. Davies, and D. D. MacNicol, (Oxford, 1991) pp. 311-344.
[46] J. M. H. Harvey, M. C. R. Symons, *J. Solution Chem.,* **7,** 571-586 (1978).

[47] L. van Hove, *Phys. Rev.*, **95,** 249-262 (1954).
[48] T. Iijima, T. Uemura, S. Tsuzuku, J. Komiyama, *J. Polym. Sci., Part B: Polym. Phys.,* **16,** 793-802 (1978).
[49] ILL home page: http://www.ill.fr/index_sc.html
[50] List of "Solid-state Structures of Cyclodextrins, Cyclodextrin Inclusion Complexes, and Related Compounds" maintained by PD Dr. S. Immel, TU Darmstadt: http://csi.chemie.tu-darmstadt.de/ak/immel/structures/cyclodextrins/index.html
[51] M. Inhat, A. Szabo, D. A. I. Goring, *J. Chem. Soc. A.,* 1500-1503 (1968).
[52] INX for IN5: the program for the correction of TOF spectra, J. Ollivier, ILL.
[53] D. W. Jennings, R. W. Rousseau, *Carbohydr. Res.*, **273,** 243-248 (1995).
[54] D. J. Jobe, R. E. Verrall, V. C. Reinsborough, *Can. J. Chem.,* **68,** 2131-2136 (1990).
[55] M. J. Jozwiakowski, K. A. Connors, *Carbohydr. Res.*, **143,** 51-59 (1985).
[56] U. Keiderling, *Appl. Phys. A*, **74,** s1455-s1457 (2002).
[57] M. H. J. Koch, P. Vachette and D. I. Svergun, *Q. Rev. Biophys.*, **36,** 147-227 (2003).
[58] P. V. Konarev, V. V. Volkov, A. V. Sokolova, M. H. J. Koch and D. I. Svergun, *J. Appl. Cryst.*, **36,** 1277-1282 (2003).
[59] J. Kowalewski, G. Widmalm, *J. Phys. Chem.,* **98,** 28-34 (1994).
[60] A. Kusmin, R. E. Lechner and W. Saenger, in *Quasi-Elastic Neutron Scattering Conference 2006 (QENS2006)*; Eds. Sokol, P. E., Kaiser, H., Baxter, D., Pynn, R., Bossev, D., Leuschner, M., (Mater. Res. Soc., Warrendale, PA, 2007) pp. 37-44.
[61] A. Kusmin, R. E. Lechner, W. Saenger and H. N. Bordallo and D. Leitner, H. Oschkinat, in preparation. PFG-NMR measurements were performed by D. Leitner.
[62] A. Kusmin, R. E. Lechner, M. Kammel, W. Saenger, planned to be submitted in April 2007.
[63] S. Lättig, Ph.D. Thesis: *FTIR-Spektroskopische Untersuchungen zur Hydrathülle von methylierten Cyclodextrinen;* Freie Universität Berlin, Berlin, (2006).
[64] R. E. Lechner, *Mass Transport in Solids;* Plenum Press: New York, pp. 169-226 (1983).
[65] R. E. Lechner and C. Riekel, in *Springer tracts in modern physics;* Springer-Verlag Berlin, **101,** 1-84 (1983).
[66] R. E. Lechner, *Physica B,* **180-181,** 973-977 (1992).
[67] R. E. Lechner, R. Melzer, J. Fitter, *Physica B*, **226,** 86-91 (1996).
[68] R. E. Lechner, *Physica B*, **301,** 83-93 (2001).
[69] R. E. Lechner, J. Pieper, A. Buchsteiner, T. Hauß and N. A. Dencher, in *Quasi-Elastic Neutron Scattering Conference 2006 (QENS2006)*; Eds. Sokol, P. E., Kaiser, H., Baxter, D., Pynn, R., Bossev, D., Leuschner, M., (Mater. Res. Soc., Warrendale, PA, 2007) pp. 63-71.
[70] F. W. Lichtenthaler and S. Immel, *Liebigs Ann. Chem.,* 27-37 (1996).
[71] F. W. Lichtenthaler and S. Immel, *Starch/Stärke,* **48,** 145-154 (1996).
[72] W. Linert, P. Margl, F. Renz, *Chem. Phys.,* **161,** 327-338 (1992).

[73] S. Longeville and R. E. Lechner, *Physica B,* **276-278,** 183-184 (2000).
[74] S. Longeville, W. Doster, G. Kali, *Chem. Phys.*, **292,** 413-424 (2003).
[75] L. G. Longsworth, *J. Phys. Chem.,* **58,** 770-773 (1954).
[76] S. W. Lovesey, *Theory of Neutron scattering from Condensed Matter;* Oxford Science Publications (1984).
[77] S. Maccarrone, S. Magazu, F. Migliardo, F. M. Mondio, *Physica B*, **350,** e615–e618 (2004).
[78] S. Magazu, R. E. Lechner, S. Longeville, G. Maisano, D. Majolino, P. Migliardo, U. Wanderlingh, *Physica B*, **276-278,** 475-476 (2000).
[79] S. Magazu, V. Villari, P. Migliardo, G. Maisano, M. T. F. Telling, H. D. Middendorf, *Physica B,* **301,** 130-133 (2001).
[80] S. Magazu, F. Migliardo, M. T. F. Telling, *J. Phys. Chem. B*, **110,** 1020-1025 (2006).
[81] A. Meyer, R. M. Dimeo, P. M. Gehring, D. A. Neumann, *Rev. Sci. Instrum.*, **74,** 2759-2777 (2003).
[82] F. Migliardo, S. Magazu, P. Migliardo, *Physica B*, **301,** 141-144 (2001).
[83] F. Migliardo, C. Branca, S. Magazu, P. Migliardo, S. Coppolino, A. Villari, N. Micali, *Physica A,* **304,** 294-298 (2002).
[84] R. Mills, *J. Phys. Chem.,* **77,** 685-688 (1973).
[85] K. Miyajima, M. Sawada, M. Nakagaki, *Bull. Chem. Soc. Jpn.,* **56,** 3556-3560 (1983).
[86] K. Miyajima, T. Mukai, M. Nakagaki, M. Otagiri, K. Uekama, *Bull. Chem. Soc. Jpn.,* **59,** 643-644 (1986).
[87] K. Mizoguchi, Y. Hori, Y. Tominaga, *J. Chem. Phys.* **97,** 1961-1968 (1992).
[88] C. Mondelli, L. Alianelli, M. Bee, A. Deriu, F. Natali, A. Paciaroni, C. Pfister, *Appl. Phys. A*, **74,** s1505-s1507 (2002).
[89] J. J. Müller, *J. Appl. Cryst.*, **16,** 74-82 (1983).
[90] J. J. Müller, P. W. Schmidt, G. Damaschun, G. Walter, *J. Appl. Cryst.*, **13,** 280-283 (1980).
[91] K. J. Naidoo, J. Y-J Chen, J. L. M. Jansson, G. Widmalm, A. Maliniak, *J. Phys. Chem. B*, **108,** 4236-4238 (2004).
[92] Y. Nakata, K. Amitani, T. Norisuye, S. Kitamura, *Biopolymers,* **69,** 508-516 (2003).
[93] G. W. Neilson, P. E. Mason, S. Ramos, D. Sullivan, *Philos. Trans. R. Soc. London, Ser. A,* **359,** 1575-1591 (2001).
[94] M. Okazaki, K. Kuwata, *J. Phys. Chem.*, **88,** 4181-4184 (1984).
[95] J. Ollivier, M. Plazanet, H. Schober, J. C. Cook, *Physica B,* **350,** 173-177 (2004).
[96] M. L. Origlia-Luster, T. G. Call, E. M. Woolley, *J. Chem. Thermodyn.*, **33,** 1587-1596 (2001).
[97] D. Orthaber, A. Bergmann and O. Glatter, *J. Appl. Cryst.*, **33,** 218-225 (2000).
[98] L. Paduano, R. Sartorio, V. Vitagliano, L. Costantino, *J. Solution Chem.*, **19,** 31-39 (1990).
[99] G. Porod, *Monatsh. Chem.*, **103,** 395-405 (1972).

[100] S. Rauh, W. Knoche, *J. Chem. Soc.,.Faraday.Trans. 1.,* **81,** 2551-2559 (1985).

[101] A. C. F. Ribeiro, D. G. Leaist, M. A. Esteso, V. M. M. Lobo, A. J. M. Valente, C. I. A. V. Santos, AMTDPV Cabral, F. J. B. Veiga, *J. Chem. Eng. Data,* **51,** 1368-1371 (2006).

[102] F. Rieutord, *INX – Program for time-of-flight data reduction;* ILL (1990).

[103] J. L. Rousset, E. Duval, A. Boukenter, *J. Chem. Phys.* **92,** 2150-2154 (1990).

[104] R. S. Rowland and R. Taylor, *J. Phys. Chem.*, **100,** 7384-7391 (1996).

[105] B. Rufflé, J. Ollivier, S. Longeville, R. E. Lechner, *Nucl. Instrum. Meth. A,* **449,** 322-330 (2000).

[106] D. Russo, R. K. Murarka, G. Hura, E. Verschelli, J. R. D. Copley, T. Head-Gordon, *J. Phys. Chem. B*, **108,** 19885-19893 (2004).

[107] W. Saenger, *Angew. Chem. Int. Ed. Engl.,* **19,** 344-362 (1980).

[108] W. Saenger, J. Jacob, K. Gessler, T. Steiner, D. Hoffmann, H. Sanbe, K. Koizumi, S. M. Smith, T. Takaha, *Chem. Rev.*, **98,** 1787-1802 (1998).

[109] V. F. Sears, *Can. J. Phys.,* **45,** 237-254 (1967).

[110] V. F. Sears, *Adv. Phys.*, **24,** 1-45 (1975).

[111] H. Shiio, *J. Am. Chem. Soc.,* **80,** 70-73 (1958).

[112] K. S. Singwi, A. Sjoelander, *Phys. Rev.*, **119,** 863-871 (1960).

[113] T. Springer, *Springer tracts in modern physics* **64** Springer-Verlag (1972).

[114] E. B. Starikov, K. Braesicke, E. W. Knapp, W. Saenger, *Chem. Phys. Lett.*, **336,** 504-510 (2001).

[115] T. Steiner, W. Saenger, *Carbohyd. Res.*, **275,** 73-82 (1995).

[116] T. Steiner, W. Saenger, *Carbohydr. Res.,* **282,** 53-63 (1996).

[117] T. Steiner, F. Hirayama, W. Saenger, *Carbohydr. Res.,* **296,** 69-82 (1996).

[118] T. Steiner, W. Saenger, *Angew. Chem. Int. Ed.*, **37**, 3404-3407 (1998).

[119] P. Strunz, J. Saroun, U. Keiderling, A. Wiedenmann and R. Przenioslo, *J. Appl. Cryst.*, **33,** 829-833 (2000).

[120] H. B. Stuhrmann, A. Miller, *J. Appl. Cryst.,* **11,** 325-345 (1978).

[121] A. Suggett, S. Ablett, P. J. Lillford, *J. Solution Chem.,* **5,** 17-31 (1976).

[122] D. I. Svergun, S. Richard, M. H. J. Koch, Z. Sayers, S. Kuprin, G. Zaccai, *Proc. Natl. Acad. Sci. USA. Bophysics,* **95,** 2267-2272 (1998).

[123] D. I. Svergun and M. H. J. Koch, *Rep. Prog. Phys.*, **66,** 1735–1782 (2003).

[124] G. L. Squires, *Introduction to the Theory of Thermal neutron scattering;* Cambridge (1978).

[125] SQW-F: the translation of the original SQW program (Instutut-Laue-Langevin, France) written in C, into Fortran77 made by A.K.; SQW-F does essentially the same as SQW.

[126] J. Szejtli, *Cyclodextrins and Their Inclusion complexes;* Akademiai Kiado, Budapest (1982).

[127] J. Szejtli, *Cyclodextrin Technology*; Kluwer Academic Publisher, Dordrecht (1988).

[128] J. Szejtli, *Chem. Rev.*, **98,** 1743-1753 (1998).
[129] M. J. Tait, A. Suggett, F. Franks, S. Ablett, P. A. Quickenden, *J. Solution Chem.,* **1,** 131-151 (1972).
[130] C. Talon, L. J. Smith, J. W. Brady, B. A. Lewis, J. R. D. Copley, D. L. Price, M-L. Saboungi, *J. Phys. Chem. B*, **108,** 5120-5126 (2004).
[131] C. Tanford, *Protein. Sci.,* **6,** 1358-1366 (1997).
[132] J. Teixeira, M.-C. Bellissent-Funel, S. H. Chen and A. J. Dianoux, *Phys. Rev. A,* **31,** 1913-1917 (1985).
[133] T. O. Thomas, J. C. Leyte, *Mol. Phys.,* **91,** 715-723 (1997).
[134] Y. Tominaga, Y. Wang, A. Fujiwara, K. Mizoguchi, *J. Mol. Liq.*, **65-66,** 187-194 (1995).
[135] Y. Tominaga, A. Fujiwara, Y. Amo, *J. Phase Equilib.,* **144,** 323-330 (1998).
[136] Z. Tosner, S. N. Aski, J. Kowalewski, *J. Inclusion Phenom. Macrocyclic Chem.,* **55,** 59-70 (2006).
[137] G. Uccello-Barretta, C. Chiavacci, C. Bertucci, P. Salvadori, *Carbohydr. Res.*, **243,** 1-10 (1993).
[138] H. Uedaira, H. Uedaira, *J. Phys. Chem.*, **74,** 2211-2214 (1970).
[139] H. Uedaira, M. Ishimura, S. Tsuda, H. Uedaira, *Bull. Chem. Soc. Jpn.,* **63,** 3376-3379 (1990).
[140] K. Uekama, T. Irie, in *Cyclodextrins and their industrial Uses;* ed. D. Duchêne, Editions de Sante, Paris, pp. 395-439 (1987).
[141] T. Uemura, T. Moro, J. Komiyama, T. Iijima, *Macromolecules* **12,** 737-739 (1979).
[142] P. Umbach, Y. Georgalis and W. Saenger, *J. Am. Chem. Soc.*, **118,** 9314-9319 (1996).
[143] G. H. Vineyard, *Phys. Rev.,* **110,** 999-1010 (1958).
[144] J. H. Wang, *J. Am. Chem. Soc.,* **76,** 4755-4763 (1954).
[145] N. Wiedenhoff, J. N. J. J. Lammers, *Carbohydr. Res.*, **4,** 318-325 (1967).
[146] N. Wiedenhoff, J. N. J. J. Lammers, *Carbohydr. Res.*, **7,** 1-6 (1968).

Publications

A. Kusmin, R. E. Lechner and W. Saenger, in *Quasi-Elastic Neutron Scattering Conference 2006 (QENS2006)*; Eds. Sokol, P. E., Kaiser, H., Baxter, D., Pynn, R., Bossev, D., Leuschner, M.; (Mater. Res. Soc., Warrendale, PA, 2007) pp. 37-44.