

Publications **Manfred Kriechbaum** (1985-2018)

Markhulia, J., Kekutia, S., Mitskevich, N., Mikelashvili, V., Saneblidze, L., Leladze, N., Jabua, Z., Sacarescu, L., **Kriechbaum, M.**, Almásy, L.

Synthesis and in vivo investigation of therapeutic effect of magnetite nanofluids in mouse prostate cancer model

(2018) Digest Journal of Nanomaterials and Biostructures, 13 (4), pp. 1081-1090.

Lehofer, B., Golub, M., Kornmueller, K., **Kriechbaum, M.**, Martinez, N., Nagy, G., Kohlbrecher, J., Amenitsch, H., Peters, J., Prassl, R.

High Hydrostatic Pressure Induces a Lipid Phase Transition and Molecular Rearrangements in Low-Density Lipoprotein Nanoparticles

(2018) Particle and Particle Systems Characterization, 35 (9), art. no. 1800149 (1-13).

Patrick, M., Zahid, N.I., **Kriechbaum, M.**, Hashim, R.

Guerbet glycolipids from mannose: liquid crystals properties

(2018) Liquid Crystals, pp. 1-17. Article in Press.

Schafzahl, L., Ehmann, H., **Kriechbaum, M.**, Sattelkow, J., Ganner, T., Plank, H., Wilkening, M., Freunberger, S.A.

Long-Chain Li and Na Alkyl Carbonates as Solid Electrolyte Interphase Components: Structure, Ion Transport, and Mechanical Properties

(2018) Chemistry of Materials, 30 (10), pp. 3338-3345.

Dudás, Z., Fagadar-Cosma, E., Len, A., Románszki, L., Almásy, L., Vlad-Oros, B., Dascalu, D., Krajnc, A., **Kriechbaum, M.**, Kuncser, A.

Improved optical and morphological properties of vinyl-substituted hybrid silica materials incorporating a Zn-metalloporphyrin

(2018) Materials, 11 (4), art. no. 565, .

Cabeza, O., Segade, L., Domínguez-Pérez, M., Rilo, E., Ausín, D., Martinelli, A., Yaghini, N., Gollas, B., **Kriechbaum, M.**, Russina, O., Triolo, A., López-Lago, E., Varela, L.M.

Mesostructure and physical properties of aqueous mixtures of the ionic liquid 1-ethyl-3-methyl imidazolium octyl sulfate doped with divalent sulfate salts in the liquid and the mesomorphic states

(2018) Physical Chemistry Chemical Physics, 20 (13), pp. 8724-8736.

Planchette, C., Mercuri, A., Arcangeli, L., **Kriechbaum, M.**, Laggner, P.

Self-emulsification of Lipidic Drug Delivery System in Pure Water and in Concentrated Glycerol Solution

(2017) AAPS PharmSciTech, 18 (8), pp. 3053-3063.

Lioffi, A.S., Ntountaniotis, D., Kellici, T.F., Chatziathanasiadou, M.V., Megariotis, G., Mania, M., Becker-Baldus, J., **Kriechbaum, M.**, Krajnc, A., Christodoulou, E., Glaubitz, C., Rappolt, M., Amenitsch, H., Mali, G., Theodorou, D.N., Valsami, G., Pitsikalis, M., Iatrou, H., Tzakos, A.G., Mavromoustakos, T.

Exploring the interactions of irbesartan and irbesartan–2-hydroxypropyl- β -cyclodextrin complex with model membranes

(2017) Biochimica et Biophysica Acta - Biomembranes, 1859 (6), pp. 1089-1098.

Aghazadeh Meshgi, M., **Kriechbaum, M.**, Biswas, S., Holmes, J.D., Marschner, C.

Synthesis of indium nanoparticles at ambient temperature; simultaneous phase transfer and ripening

(2016) Journal of Nanoparticle Research, 18 (12), art. no. 363, .

Kulkarni, C.V., Yagmur, A., Steinhart, M., **Kriechbaum, M.**, Rappolt, M.

Effects of High Pressure on Internally Self-Assembled Lipid Nanoparticles: A Synchrotron Small-Angle X-ray Scattering (SAXS) Study

(2016) Langmuir, 32 (45), pp. 11907-11917.

Hodzic, A., **Kriechbaum, M.**, Schrank, S., Reiter, F.

Monitoring of pentoxifylline thermal behavior by novel simultaneous laboratory small and wide X-ray scattering (SWAXS) and Differential Scanning Calorimetry (DSC)

(2016) PLoS ONE, 11 (7), art. no. e0159840, .

Malanovic, N., Leber, R., Schmuck, M., **Kriechbaum, M.**, Cordfunke, R.A., Drijfhout, J.W., De Breij, A., Nibbering, P.H., Kolb, D., Lohner, K.

Phospholipid-driven differences determine the action of the synthetic antimicrobial peptide OP-145 on Gram-positive bacterial and mammalian membrane model systems

(2015) Biochimica et Biophysica Acta - Biomembranes, 1848 (10), pp. 2437-2447.

Glanzer, S., Pulido, S.A., Tutz, S., Wagner, G.E., **Kriechbaum, M.**, Gubensäk, N., Trifunovic, J., Dorn, M., Fabian, W.M.F., Novak, P., Reidl, J., Zangger, K.

Structural and functional implications of the interaction between macrolide antibiotics and bile acids

(2015) Chemistry - A European Journal, 21 (11), pp. 4350-4358.

Wohlmuth, D., Epp, V., Bottke, P., Hanzu, I., Bitschnau, B., Letofsky-Papst, I., **Kriechbaum, M.**, Amenitsch, H., Hofer, F., Wilkening, M.

Order vs. disorder - A huge increase in ionic conductivity of nanocrystalline LiAlO₂ embedded in an amorphous-like matrix of lithium aluminate

(2014) *Journal of Materials Chemistry A*, 2 (47), pp. 20295-20306.

De, S., Haman Bayari, S., Türkeş, T., Mergen, Y.O., Çelik, O., Bütün, V., Sargon, M.F., Kocatepe, N., **Kriechbaum, M.**

Structural characterization of a variety of spider silks from Turkey using different biophysical techniques

(2011) *Spectroscopy*, 25 (3-4), pp. 155-167.

Utkan, G., Sayar, F., Batat, P., Ide, S., **Kriechbaum, M.**, Pişkin, E.

Synthesis and characterization of nanomagnetite particles and their polymer coated forms

(2011) *Journal of Colloid and Interface Science*, 353 (2), pp. 372-379.

Yagmur, A., **Kriechbaum, M.**, Amenitsch, H., Steinhart, M., Laggner, P., Rappolt, M.

Effects of pressure and temperature on the self-assembled fully hydrated nanostructures of monoolein-oil systems

(2010) *Langmuir*, 26 (2), pp. 1177-1185.

Filek, M., Gzyl-Malcher, B., Zembala, M., Bednarska, E., Laggner, P., **Kriechbaum, M.**

Effect of selenium on characteristics of rape chloroplasts modified by cadmium

(2010) *Journal of Plant Physiology*, 167 (1), pp. 28-33.

Prassl, R., Pregetter, M., Amenitsch, H., **Kriechbaum, M.**, Schwarzenbacher, R., Chapman, J.M., Laggner, P.

Low density lipoproteins as circulating fast temperature sensors

(2008) *PLoS ONE*, 3 (12), art. no. e4079, .

Filek, M., Zembala, M., Dudek, A., Laggner, P., **Kriechbaum, M.**

Electric and structural studies of hormone interaction with chloroplast envelope membranes isolated from vegetative and generative rape

(2007) *Journal of Plant Physiology*, 164 (7), pp. 861-867.

Mannock, D. A., Collins, M.D., **Kriechbaum, M.**, Harper, P.E., Gruner, S.M., McElhane, R.N.

The thermo-tropic phase behaviour and phase structure of a homologous series of racemic β -D-galactosyl dialkylglycerols studied by differential scanning calorimetry and X-ray diffraction

(2007) *Chemistry and Physics of Lipids*, 148 (1), pp. 26-50.

Laggner, P., Strobl, M., Jocham, P., Abuja, P.M., **Kriechbaum, M.**

In-situ SAXS on transformations of mesoporous and nanostructured solids

(2006) *Studies in Surface Science and Catalysis*, 160, pp. 661-665.

Filek, M., Gzyl, B., Laggner, P., **Kriechbaum, M.**

Effect of indole-3-acetic acid on surface properties of the wheat plastid lipids

(2005) *Journal of Plant Physiology*, 162 (3), pp. 245-252.

Dogsa, I., **Kriechbaum, M.**, Stopar, D., Laggner, P.

Structure of bacterial extracellular polymeric substances at different pH values as determined by SAXS

(2005) *Biophysical Journal*, 89 (4), pp. 2711-2720.

Rappolt, M., Amenitsch, H., Strancar, J., Teixeira, C.V., **Kriechbaum, M.**, Pabst, G., Majerowicz, M., Laggner, P.

Phospholipid mesophases at solid interfaces: In-situ X-ray diffraction and spin-label studies

(2004) *Advances in Colloid and Interface Science*, 111 (1-2 SPEC. ISS.), pp. 63-77.

Beneš, L., Zima, V.I., Melánová, K., Steinhart, M., **Kriechbaum, M.**, Amenitsch, H., Bernstorff, S.

In situ high pressure phase transition of alcohol intercalated zirconium phosphate observed by synchrotron X-ray scattering

(2004) *Journal of Physics and Chemistry of Solids*, 65 (2-3), pp. 615-618.

Vass, Sz., Pleštil, J., Laggner, P., Gilányi, T., Borbély, S., **Kriechbaum, M.**, Jákli, Gy., Décsy, Z., Abuja, P.M.

Models of Micellar Structure Tested by SANS and SAXS (from a Kratky Camera) in Cesium Dodecyl Sulfate Solution

(2003) *Journal of Physical Chemistry B*, 107 (46), pp. 12752-12761.

Laggner, P., Filek, M., Szechynska-Hebda, M., **Kriechbaum, M.**

X-ray structure investigations of winter wheat membrane systems. II. Effect of phytohormones on structural properties of mixed phospholipid-sterols membranes

(2003) *Plant Science*, 165 (1), pp. 271-275.

Laggner, P., Filek, M., Marcinska, I., Szechyńska-Hebda, M., **Kriechbaum, M.**

X-ray structure investigations of winter wheat membrane systems. I. Influence of phytohormones on phospholipid orientation in non- and embryogenic cells

(2003) *Plant Science*, 165 (1), pp. 265-270.

Lo Celso, F., Triolo, A., Triolo, F., Thiyagarajan, P., Amenitsch, H., Steinhart, M., **Kriechbaum, M.**, DeSimone, J.M., Triolo, R.

A combined small-angle neutron and X-ray scattering study of block copolymers micellisation in supercritical carbon dioxide

(2003) *Journal of Applied Crystallography*, 36 (3 I), pp. 660-663.

Imberg, A., Evertsson, H., Stilbs, P., **Kriechbaum, M.**, Engström, S.

On the self-assembly of monoolein in mixtures of water and a polar aprotic solvent

(2003) *Journal of Physical Chemistry B*, 107 (10), pp. 2311-2318.

Rappolt, M., Fernández Vidal, M., **Kriechbaum, M.**, Steinhart, M., Amenitsch, H., Bernstorff, S., Laggner, P.

Structural, dynamic and mechanical properties of POPC at low cholesterol concentration studied in pressure/temperature space

(2003) *European Biophysics Journal*, 31 (8), pp. 575-585.

Lo Celso, F., Triolo, A., Triolo, F., Donato, D.I., Steinhart, M., **Kriechbaum, M.**, Amenitsch, H., Triolo, R.

SAXS investigation on aggregation phenomena in supercritical CO₂

(2002) *European Physical Journal E*, 8 (3), pp. 311-314.

Hammel, M., **Kriechbaum, M.**, Gries, A., Kostner, G.M., Laggner, P., Prassl, R.

Solution structure of human and bovine β 2-glycoprotein I revealed by small-angle X-ray scattering

(2002) *Journal of Molecular Biology*, 321 (1), pp. 85-97.

Lewis, R.N.A.H., Winter, I., **Kriechbaum, M.**, Lohner, K., McElhaney, R.N.

Studies of the structure and organization of cationic lipid bilayer membranes: Calorimetric, spectroscopic, and X-ray diffraction studies of linear saturated P-O-ethyl phosphatidylcholines

(2001) *Biophysical Journal*, 80 (3), pp. 1329-1342.

Puschig, P., Ambrosch-Draxl, C., Heimerl, G., Zojer, E., Resel, R., Leising, G., **Kriechbaum, M.**, Graupner, W.
Pressure studies on the intermolecular interactions in biphenyl
(2001) *Synthetic Metals*, 116 (1-3), pp. 327-331.

Staudegger, E., Prenner, E.J., **Kriechbaum, M.**, Degovics, G., Lewis, R.N.A.H., McElhaney, R.N., Lohner, K.
X-ray studies on the interaction of the antimicrobial peptide gramicidin S with microbial lipid extracts: Evidence for cubic phase formation
(2000) *Biochimica et Biophysica Acta - Biomembranes*, 1468 (1-2), pp. 213-230.

Resel, R., Leising, G., Markart, P., **Kriechbaum, M.**, Smith, R., Gin, D.
Structural properties of polymerised lyotropic liquid crystals phases of 3,4,5-tris(ω -acryloxyalkoxy)benzoate salts
(2000) *Macromolecular Chemistry and Physics*, 201 (11), pp. 1128-1133.

Rappolt, M., Pabst, G., Rapp, G., **Kriechbaum, M.**, Amenitsch, H., Krenn, C., Bernstorff, S., Laggner, P.
New evidence for gel-liquid crystalline phase coexistence in the ripple phase of phosphatidylcholines
(2000) *European Biophysics Journal*, 29 (2), pp. 125-133.

Resel, R., Theissl, U., Gadermaier, C., Zojer, E., **Kriechbaum, M.**, Amenitsch, H., Gin, D., Smith, R., Leising, G.
The H₂-phase of the lyotropic liquid crystal sodium 3,4,5-tris(ω -acryloyloxyundecyloxy)benzoate
(2000) *Liquid Crystals*, 27 (3), pp. 407-411.

Lohner, K., Staudegger, E., Prenner, E.J., Lewis, R.N.A.H., **Kriechbaum, M.**, Degovics, G., McElhaney, R.N.
Effect of staphylococcal δ -lysin on the thermotropic phase behavior and vesicle morphology of dimyristoylphosphatidylcholine lipid bilayer model membranes. Differential scanning calorimetric, ³¹P nuclear magnetic resonance and Fourier transform infrared spectroscopic, and X-ray diffraction studies
(1999) *Biochemistry*, 38 (50), pp. 16514-16528.

Amenitsch, H., Bernstorff, S., **Kriechbaum, M.**, Lombardo, D., Mioc, H., Pabst, G., Rappolt, M., Laggner, P.
The small-angle X-ray scattering beamline at ELETTRA: A new powerful station for fast structural investigations on complex fluids with synchrotron radiation
(1999) *Nuovo Cimento della Societa Italiana di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics*, 20 (12 SUPPL.), pp. 2181-2190.

Ågren, P., Lindén, M., Rosenholm, J.B., Schwarzenbacher, R., **Kriechbaum, M.**, Amenitsch, H., Laggner, P., Blanchard, J., Schüth, F.

Kinetics of Cosurfactant-Surfactant-Silicate Phase Behavior. 1. Short-Chain Alcohols

(1999) *Journal of Physical Chemistry B*, 103 (29), pp. 5943-5948.

Bóta, A., Drucker, T., **Kriechbaum, M.**, Pálfia, Z., Réz, G.

Layer formations of dipalmitoylphosphatidylcholine liposomes in the pretransition range

(1999) *Langmuir*, 15 (9), pp. 3101-3108.

Pregetter, M., Prassl, R., Schuster, B., **Kriechbaum, M.**, Nigon, F., Chapman, J., Laggner, P.

Microphase separation in low density lipoproteins. Evidence for a fluid triglyceride core below the lipid melting transition

(1999) *Journal of Biological Chemistry*, 274 (3), pp. 1334-1341.

Laggner, P., Amenitsch, H., **Kriechbaum, M.**, Pabst, G., Rappolt, M.

Trapping of short-lived intermediates in phospholipid phase transitions: The L* α phase

(1999) *Faraday Discussions*, 111, pp. 31-40.

Leising, G., Resel, R., Markart, P., **Kriechbaum, M.**, Laggner, P., Smith, R., Gin, D.

Structural properties of nanocomposite materials based on a lyotropic liquid crystal

(1999) *Synthetic Metals*, 102 (1-3), pp. 1254-1255.

Steinhart, M., **Kriechbaum, M.**, Pressl, K., Amenitsch, H., Laggner, P., Bernstorff, S.

High-pressure instrument for small- and wide-angle x-ray scattering. II. Time-resolved experiments

(1999) *Review of Scientific Instruments*, 70 (2), pp. 1540-1545.

Bóta, A., **Kriechbaum, M.**

Prehistory in the pretransition range of dipalmitoylphosphatidylcholine/water system

(1998) *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 141 (3), pp. 441-448.

Schwarzenbacher, R., **Kriechbaum, M.**, Amenitsch, H., Laggner, P.

Characterization of the nanostructures in liquid crystalline mesophases present in the ternary system brij-35/dibutyl ether/H₂O by small- and wide-angle X-ray scattering

(1998) Journal of Physical Chemistry B, 102(45), pp. 9161-9167.

Forstner, M., Müller, A., Rognan, D., **Kriechbaum, M.**, Wallimann, T.

Mutation of cis-proline 207 in mitochondrial creatine kinase to alanine leads to increased acid stability

(1998) Protein Engineering, 11 (7), pp. 563-568.

Amenitsch, H., Rappolt, M., **Kriechbaum, M.**, Mio, H., Laggner, P., Bernstorff, S.

First performance assessment of the small-angle X-ray scattering beamline at ELETTRA

(1998) Journal of Synchrotron Radiation, 5 (3), pp. 506-508.

Forstner, M., **Kriechbaum, M.**, Laggner, P., Wallimann, T.

Structural changes of creatine kinase upon substrate binding

(1998) Biophysical Journal, 75 (2), pp. 1016-1023.

Bóta, A., **Kriechbaum, M.**, Laggner, P.

Traditional states in the pretransition range ($L\beta'$ - $P\beta'$) of fully hydrated dipalmitoylphosphatidylcholine systems

(1997) ACH - Models in Chemistry, 134 (2-3), pp. 299-315.

Degovics, G., Latal, A., Prenner, E., **Kriechbaum, M.**, Lohner, K.

Structure and thermotropic behaviour of mixed choline phospholipid model membranes

(1997) Journal of Applied Crystallography, 30 (5 PART 2), pp. 776-780.

Amenitsch, H., Bernstorff, S., **Kriechbaum, M.**, Lombardo, D., Mio, H., Rappolt, M., Laggner, P.

Performance and first results of the ELETTRA high-flux beamline for small-angle X-ray scattering

(1997) Journal of Applied Crystallography, 30 (5 PART 2), pp. 872-876.

Pressl, K., **Kriechbaum, M.**, Steinhart, M., Laggner, P.

High pressure cell for small- and wide-angle x-ray scattering

(1997) Review of Scientific Instruments, 68 (12), pp. 4588-4592.

Laggner, P., **Kriechbaum, M.**

Small-angle X-ray scattering under extreme conditions of temperature, pressure, and time

(1996) Proceedings of SPIE - The International Society for Optical Engineering, 3095, pp. 17-34.

Forstner, M., **Kriechbaum, M.**, Laggner, P., Wallimann, T.

Changes of creatine kinase structure upon ligand binding as seen by small-angle scattering

(1996) Journal of Molecular Structure, 383 (1-3), pp. 217-222.

Kriechbaum, M., Laggner, P.

States of phase transitions in biological structures

(1996) Progress in Surface Science, 51 (3), pp. 233-261.

Erramilli, Shyamsunder, Osterberg, Frederik, Gruner, Sol M., Tate, Mark W., **Kriechbaum, M.**

Time-resolved x-ray studies of pressure-jump-induced topological transitions in biological membranes

(1995) Proceedings of SPIE - The International Society for Optical Engineering, 2521, pp. 188-196.

Gadomski, A., Łuczka, J., **Kriechbaum, M.**, Laggner, P., Jamnik, A.

Diffusion-migration concept applied to growth and structure formation in model biomembranes

(1995) Physics Letters A, 203 (5-6), pp. 367-372.

Gadomski, A., **Kriechbaum, M.**, Laggner, P.

Scaling concept applied to the defect formation caused by interactions between melittin and phosphatidylcholine (PC) model membranes

(1994) Il Nuovo Cimento D, 16 (9), pp. 1551-1557.

Gadomski, A., **Kriechbaum, M.**, Łuczka, J.

On anomalous diffusion of fractal clusters under certain realistic physical conditions

(1994) Il Nuovo Cimento D, 16 (8), pp. 1265-1270.

Kriechbaum, M., Degovics, G., Laggner, P., Tritthart, J.

Investigations on cement pastes by small-angle X-ray scattering and BET: The relevance of fractal geometry

(1994) Advances in Cement Research, 6 (23), pp. 93-101.

Österberg, F., **Kriechbaum, M.**, Polcyn, A., Skita, V., Tate, M.W., So, P.T.C., Gruner, S.M., Erramilli, S.

Pressure induced hydration dynamics of membranes

(1994) Physical Review Letters, 72 (18), pp. 2967-2970.

Zipper, P., **Kriechbaum, M.**, Durchschlag, H.

Small-angle X-ray scattering studies on the polydispersity of iron micelles in ferritin

(1993) Journal De Physique. IV : JP, 3 (8), pp. 245-248.

Zipper, P., **Kriechbaum, M.**, Durchschlag, H.

Small-angle x-ray scattering studies on the polydispersity of iron micelles in ferritin

(1993) Progress in Colloid & Polymer Science, 93, pp. 376-377.

Pleštil, J., Ilavský, M., Pospíšil, H., Hlavatá, D., Ostanevich, Yu.M., Degovics, G., **Kriechbaum, M.**, Laggner, P.

SAXS, SANS and photoelasticity of poly(N,N-diethylacrylamide) networks: 1. Structure changes after temperature jumps

(1993) Polymer, 34 (23), pp. 4846-4851.

Laggner, P., **Kriechbaum, M.**, Rapp, G.

Structural intermediates in phospholipid phase transitions

(1991) Journal of Applied Crystallography, 24 (pt 5), pp. 836-842.

Laggner, P., **Kriechbaum, M.**

Phospholipid phase transitions: kinetics and structural mechanisms

(1991) Chemistry and Physics of Lipids, 57 (2-3), pp. 121-145.

Laggner, P., **Kriechbaum, M.**, Rapp, G., Hendrix, J.

Structural pathways and short-lived intermediates in phospholipid phase-transitions. Millisecond synchrotron x-ray diffraction studies

(1990) Progress in Colloid and Polymer Science, 81, pp. 268-269.

Kriechbaum, M., Laggner, P., Rapp, G.

Fast time-resolved X-ray diffraction for studying laser T-jump-induced phase transitions

(1990) Nuclear Inst. and Methods in Physics Research, A, 291 (1-2), pp. 41-45.

Kriechbaum, M., Rapp, G., Hendrix, J., Laggner, P.

Millisecond time-resolved x-ray diffraction on liquid-crystalline phase transitions using infrared laser T-jump technique and synchrotron radiation

(1989) Review of Scientific Instruments, 60 (7), pp. 2541-2544.

Kriechbaum, M., Wolfbeis, O.S., Koller, E.

Evaluation of critical micelle concentrations of non-ionic detergents using new superpolar lipid probes

(1987) *Chemistry and Physics of Lipids*, 44 (1), pp. 19-29.

Zipper, P., **Kriechbaum, M.**, Wilfing, R., Durchschlag, H.

The influence of additives on the X-ray induced aggregation of malate synthase monitoring of the aggregation process in situ by time-resolved small-angle X-ray scattering

(1986) *Monatshefte für Chemie Chemical Monthly*, 117 (5), pp. 557-572.

Zipper, P., Wilfing, R., **Kriechbaum, M.**, Durchschlag, H.

A Small-Angle X-Ray Scattering Study on Pre-Irradiated Malate Synthase. The Influence of Formate, Superoxide Dismutase, and Catalase on the X-Ray Induced Aggregation of the Enzyme

(1985) *Zeitschrift für Naturforschung - Section C Journal of Biosciences*, 40 (5-6), pp. 364-372.
