

## List of Publications

April 2021

### **Publications in Scientific Journals**

74. P. D. Fischer, E. Papadopoulos, J. M. Dempersmier, Z.-F. Wang, R. P. Nowak, K. A. Donovan, J. Kalabathula, C. Gorgulla, P. P. M. Junghanns, E. Kabha, N. Dimitrakakis, O. I. Petrov, C. Mitsiades, C. Ducho, V. Gelev, E. S. Fischer, G. Wagner, H. Arthanari; A biphenyl inhibitor of eIF4E targeting an internal binding site enables the design of cell-permeable PROTAC-degraders; *Eur. J. Med. Chem.* **2021**, *accepted*.
73. K. Voos, E. Schönauer, A. Alhayek, J. Haupenthal, A. Andreas, R. Müller, R. W. Hartmann, H. Brandstetter, A. K. H. Hirsch, C. Ducho; Phosphonate as Stable Zinc-binding Group for Inhibitors of Clostridial Collagenase H (ColH) as Pathoblocker Agents; *ChemMedChem* **2021**, *early view*. (DOI: 10.1002/cmdc.202000994)
72. M. Hawner, C. Ducho; Cellular Targeting of Oligonucleotides by Conjugation with Small Molecules; *Molecules* **2020**, *25*, 5963. (Review)
71. G. Niro, S. C. Weck, C. Ducho; Merging Natural Products: Muraymycin-Sansanmycin Hybrid Structures as Novel Scaffold for Potential Antibacterial Agents; *Chem. Eur. J.* **2020**, *26*, 16875-16887.
70. M. Wojtyniak, B. Schmidtgal, P. Kirsch, C. Ducho; Towards Zwitterionic Oligonucleotides with Improved Properties: the NAA/LNA-Gapmer Approach; *ChemBioChem* **2020**, *21*, 3234-3243. (Cover Feature)
69. Z. Cui, J. Overbay, X. Wang, X. Liu, Y. Zhang, M. Bhardwaj, A. Lemke, D. Wiegmann, G. Niro, J. S. Thorson, C. Ducho, S. G. Van Lanen; Pyridoxal-5'-phosphate-dependent alkyl transfer in nucleoside antibiotic biosynthesis; *Nat. Chem. Biol.* **2020**, *16*, 904-911.
68. K. Leyerer, S. Koppermann, C. Ducho; Unexpected Seven-Membered Ring Formation for Muraymycin-Type Nucleoside-Peptide Antibiotics; *Molbank* **2020**, *2020*, M1122.

67. A. Saady, M. Wojtyniak, E. Varon, V. Böttner, N. Kinor, Y. Shav-Tal, C. Ducho, B. Fischer; Specific, Sensitive, and Quantitative Detection of HER-2 mRNA Breast Cancer Marker by Fluorescent Light-Up Hybridization Probes; *Bioconjugate Chem.* **2020**, *31*, 1188-1198.
66. A. Saady, N. Steinman, M. Wojtyniak, C. Ducho, B. Fischer; Synthesis of 2'-deoxyuridine modified with 3,5-difluoro-4-methoxybenzylidene imidazolinone (DFMBI) derivative for incorporation into oligonucleotide probes for detection of HER2 breast cancer marker; *Curr. Protoc. Nucleic Acid Chem.* **2020**, *80*, e104.
65. A. Heib, G. Niro, S. Weck, S. Koppermann, C. Ducho; Muraymycin Nucleoside Antibiotics: Structure-Activity Relationship for Variations in the Nucleoside Unit; *Molecules* **2020**, *25*, 22.
64. K. Leyerer, S. Koppermann, C. Ducho; Solid Phase-Supported Synthesis of Muraymycin Analogues; *Eur. J. Org. Chem.* **2019**, 7420-7431. (Front Cover)
63. A. Saady, V. Böttner, M. Meng, E. Varon, Y. Shav-Tal, C. Ducho, B. Fischer; An oligonucleotide probe incorporating the chromophore of green fluorescent protein is useful for the detection of HER-2 mRNA breast cancer marker; *Eur. J. Med. Chem.* **2019**, *173*, 99-106.
62. R. Linder, C. Ducho; Unified Synthesis of Densely Functionalized Amino Acid Building Blocks for the Preparation of Caprazamycin Nucleoside Antibiotics; *Eur. J. Org. Chem.* **2019**, 1523-1534.
61. D. Wiegmann, S. Koppermann, C. Ducho; Aminoribosylated Analogues of Muraymycin Nucleoside Antibiotics; *Molecules* **2018**, *23*, 3085.
60. M. Meng, B. Schmidtgal, C. Ducho; Enhanced Stability of DNA Oligonucleotides with Partially Zwitterionic Backbone Structures in Biological Media; *Molecules* **2018**, *23*, 2941.
59. A. P. Spork, S. Koppermann, S. Schier (née Wohnig), R. Linder, C. Ducho; Analogues of Muraymycin Nucleoside Antibiotics with Epimeric Uridine-Derived Core Structures; *Molecules* **2018**, *23*, 2868.
58. Z. Cui, X. Liu, J. Overbay, W. Cai, X. Wang, A. Lemke, D. Wiegmann, G. Niro, J. S. Thorson, C. Ducho, S. G. Van Lanen; Enzymatic Synthesis of the Ribosylated Glycyl-Uridine Disaccharide Core of Peptidyl Nucleoside Antibiotics; *J. Org. Chem.* **2018**, *83*, 7239-7249.
57. Z. Cui, X.-C. Wang, X. Liu, A. Lemke, S. Koppermann, C. Ducho, J. Rohr, J. S. Thorson, S. G. Van Lanen; Self-Resistance During Muraymycin Biosynthesis: A

- Complementary Nucleotidyltransferase and Phosphotransferase with Identical Modification Sites and Distinct Temporal Order; *Antimicrob. Agents Chemother.* **2018**, *62*, e00193-18.
56. M. Meng, C. Ducho; Oligonucleotide analogues with cationic backbone linkages; *Beilstein J. Org. Chem.* **2018**, *14*, 1293-1308. (Review)
55. Z. Cui, X. Wang, S. Koppermann, J. S. Thorson, C. Ducho, S. G. Van Lanen; Antibacterial Muraymycins from Mutant Strains of *Streptomyces* sp. NRRL 30471; *J. Nat. Prod.* **2018**, *81*, 942-948.
54. L. Elsharkawy, R. El-Sakhawy, M. Abdel-Halim, K. Lee, G. Piazza, C. Ducho, R. W. Hartmann, A. Abadi; Design and Synthesis of Novel Annulated Thienopyrimidines as Phosphodiesterase 5 (PDE5) Inhibitors; *Arch. Pharm. Chem. Life Sci.* **2018**, *351*, e1800018.
53. S. Koppermann, Z. Cui, P. D. Fischer, X. Wang, J. Ludwig, J. S. Thorson, S. G. Van Lanen, C. Ducho; Insights into the Target Interaction of Naturally Occurring Muraymycin Nucleoside Antibiotics; *ChemMedChem* **2018**, *13*, 779-784. (Cover Feature)
52. Y. Huang, X. Liu, Z. Cui, D. Wiegmann, G. Niro, C. Ducho, Y. Song, Z. Yang, S. G. Van Lanen; Pyridoxal-5'-phosphate as an oxygenase cofactor: Discovery of a carboxamide-forming,  $\alpha$ -amino acid monooxygenase-decarboxylase; *Proc. Natl. Acad. Sci. USA* **2018**, *115*, 974-979.
51. D. Wiegmann, A. P. Spork, G. Niro, C. Ducho; Ribosylation of an Acid-Labile Glycosyl Acceptor as a Potential Key Step for the Synthesis of Nucleoside Antibiotics; *Synlett* **2018**, *29*, 440-446.
50. B. Schmidtgal, A. Kuepper, M. Meng, T. N. Grossmann, C. Ducho; Oligonucleotides with Cationic Backbone and Their Hybridization with DNA: Interplay of Base Pairing and Electrostatic Attraction; *Chem. Eur. J.* **2018**, *24*, 1544-1553. (selected as 'Hot Paper')
49. E. Schönauer, A. M. Kany, J. Hauptenthal, K. Hüsecken, I. J. Hoppe, K. Voos, S. Yahiaoui, B. Elsässer, C. Ducho, H. Brandstetter, R. W. Hartmann; Discovery of a Potent Inhibitor Class with High Selectivity toward Clostridial Collagenases; *J. Am. Chem. Soc.* **2017**, *139*, 12696-12703.
48. S. Wohnig, A. P. Spork, S. Koppermann, G. Mieskes, N. Gisch, R. Jahn, C. Ducho; Total Synthesis of Dansylated Park's Nucleotide for High-Throughput MraY Assays; *Chem. Eur. J.* **2016**, *22*, 17813-17819.

47. F. Gräf, B. Vukosavljevic, J.-P. Michel, M. Wirth, O. Ries, C. De Rossi, M. Windbergs, V. Rosilio, C. Ducho, S. Gordon, C.-M. Lehr; The bacterial cell envelope as delimiter of anti-infective bioavailability - An *in vitro* permeation model of the Gram-negative bacterial inner membrane; *J. Controlled Release* **2016**, *243*, 214-224.
46. S. Koppermann, C. Ducho; Naturstoffe bei der Arbeit: strukturelle Einblicke in die Inhibition des bakteriellen Membranproteins MraY; *Angew. Chem.* **2016**, *128*, 11896-11898; Natural Products at Work: Structural Insights into Inhibition of the Bacterial Membrane Protein MraY; *Angew. Chem. Int. Ed.* **2016**, *55*, 11722-11724. (Highlight article)
45. D. Wiegmann, S. Koppermann, M. Wirth, G. Niro, K. Leyerer, C. Ducho; Muraymycin nucleoside-peptide antibiotics: uridine-derived natural products as lead structures for the development of novel antibacterial agents; *Beilstein J. Org. Chem.* **2016**, *12*, 769-795. (Review)
44. A. Lemke, C. Ducho; Synthesis of Deuterium-Labelled 3-Hydroxy-L-arginine: Comparative Studies on Different Protecting-Group Strategies; *Eur. J. Org. Chem.* **2016**, 87-98.
43. C. Ducho; Enzymatically Cleavable siRNA Prodrugs: a New Paradigm for the Intracellular Delivery of RNA-Based Therapeutics; *ChemMedChem* **2015**, *10*, 1625-1627. (Highlight article)
42. W. Cai, A. Goswami, Z. Yang, X. Liu, K. D. Green, S. Barnard-Britson, S. Baba, M. Funabashi, K. Nonaka, M. Sunkara, A. J. Morris, A. P. Spork, C. Ducho, S. Garneau-Tsodikova, J. S. Thorson, S. G. Van Lanen; The Biosynthesis of Capuramycin-Type Antibiotics: Identification of the A-102395 Biosynthetic Gene Cluster, Mechanism of Self-Resistance, and Formation of Uridine-5'-Carboxamide; *J. Biol. Chem.* **2015**, *290*, 13710-13724.
41. O. Ries, C. Carnarius, C. Steinem, C. Ducho; Membrane-interacting properties of the functionalised fatty acid moiety of muraymycin antibiotics; *Med. Chem. Commun.* **2015**, *6*, 879-886.
40. B. Schmidtgall, C. Höbartner, C. Ducho; NAA-modified DNA oligonucleotides with zwitterionic backbones: stereoselective synthesis of A-T phosphoramidite building blocks; *Beilstein J. Org. Chem.* **2015**, *11*, 50-60.

39. B. Schmidtgall, A. P. Spork, F. Wachowius, C. Höbartner, C. Ducho; Synthesis and properties of DNA oligonucleotides with a zwitterionic backbone structure; *Chem. Commun.* **2014**, *50*, 13742-13745.
38. M. T. Rodolisa, A. Mihalyi, C. Ducho, K. Eitel, B. Gust, R. J. M. Goss, T. D. H. Bugg; Mechanism of action of the uridyl peptide antibiotics: an unexpected link to a protein-protein interaction site in translocase *MraY*; *Chem. Commun.* **2014**, *50*, 13023-13025.
37. A. P. Spork, M. Büschleb, O. Ries, D. Wiegmann, S. Boettcher, A. Mihalyi, T. D. H. Bugg, C. Ducho; Lead Structures for New Antibacterials: Stereocontrolled Synthesis of a Bioactive Muraymycin Analogue; *Chem. Eur. J.* **2014**, *20*, 15292-15297.
36. O. Ries, M. Büschleb, M. Granitzka, D. Stalke, C. Ducho; Amino acid motifs in natural products: synthesis of *O*-acylated derivatives of (2*S*,3*S*)-3-hydroxyleucine; *Beilstein J. Org. Chem.* **2014**, *10*, 1135-1142.
35. M. Funabashi, S. Baba, T. Takatsu, M. Kizuka, Y. Ohata, M. Tanaka, K. Nonaka, A. P. Spork, C. Ducho, W.-C. L. Chen, S. G. Van Lanen; Structure-Based Gene Targeting Discovery of Sphaerimicin, a Bacterial Translocase I Inhibitor; *Angew. Chem.* **2013**, *125*, 11821-11825; *Angew. Chem. Int. Ed.* **2013**, *52*, 11607-11611.
34. A. P. Spork, C. Ducho; Stereocontrolled Synthesis of 5'- and 6'-Epimeric Analogues of Muraymycin Nucleoside Antibiotics; *Synlett* **2013**, *24*, 343-346.
33. W. Meiser, M. Buback, O. Ries, C. Ducho, A. Sidoruk; EPR-Study into cross-termination and fragmentation of the RAFT model system phenylethyl-phenylethyl dithiobenzoate; *Macromol. Chem. Phys.* **2013**, *214*, 924-933.
32. O. Ries, M. Granitzka, D. Stalke, C. Ducho; Concise Synthesis and X-ray Crystal Structure of *N*-Benzyl-2-(pyrimidin-4'-ylamino)-thiazole-4-carboxamide ('Thiazovivin'), a Small-Molecule Tool for Stem Cell Research; *Synth. Commun.* **2013**, *43*, 2876-2882.
31. R. B. Hamed, J. R. Gomez-Castellanos, L. Henry, C. Ducho, M. A. McDonough, C. J. Schofield; The enzymes of  $\beta$ -lactam biosynthesis; *Nat. Prod. Rep.* **2013**, *30*, 21-107. (Review, Front Cover)
30. S. Barnard-Britson, X. Chi, K. Nonaka, A. P. Spork, N. Tibrewal, A. Goswami, P. Pahari, C. Ducho, J. Rohr, S. G. Van Lanen; Amalgamation of Nucleosides and

- Amino Acids in Antibiotic Biosynthesis: Discovery of an L-Threonine:Uridine-5'-Aldehyde Transaldolase; *J. Am. Chem. Soc.* **2012**, *134*, 18514-18517.
29. M. Büschleb, M. Granitzka, D. Stalke, C. Ducho; A biomimetic domino reaction for the concise synthesis of capreomycin and epicapreomycin; *Amino Acids* **2012**, *43*, 2313-2328.
28. R. B. Hamed, L. Henry, J. R. Gomez-Castellanos, J. Mecinović, C. Ducho, J. L. Sorensen, T. D. W. Claridge, C. J. Schofield; Crotonase Catalysis Enables Flexible Production of Functionalized Prolines and Carbapenams; *J. Am. Chem. Soc.* **2012**, *134*, 471-479.
27. A. P. Spork, D. Wiegmann, M. Granitzka, D. Stalke, C. Ducho; Stereoselective Synthesis of Uridine-Derived Nucleosyl Amino Acids; *J. Org. Chem.* **2011**, *76*, 10083-10098.
26. C. Ducho; Ein Kaleidoskop der zeitgenössischen Organischen Chemie: die 46ste Bürgenstock-Konferenz; *Angew. Chem.* **2011**, *123*, 6829-6832; A Kaleidoscope of Contemporary Organic Chemistry: the 46th Bürgenstock Conference; *Angew. Chem. Int. Ed.* **2011**, *50*, 6697-6700. (Meeting Review)
25. O. Ries, A. Ochmann, C. Ducho; Synthesis of *N*-Alkyl-*N*-hydroxy-guanidines: A Comparative Study Using Different Protecting Group Strategies; *Synthesis* **2011**, 2357-2368. (Feature Article)
24. R. B. Hamed, J. R. Gomez-Castellanos, A. Thalhammer, D. Harding, C. Ducho, T. D. W. Claridge, C. J. Schofield; Stereoselective C-C bond formation catalysed by engineered carboxymethylproline synthases; *Nat. Chem.* **2011**, *3*, 365-371.
23. C. Ducho; Konvergenz führt zum Erfolg: Totalsynthese des komplexen nicht-ribosomalen Peptids Polytheonamid B; *Angew. Chem.* **2010**, *122*, 5156-5158; Convergence Leads to Success: Total Synthesis of the Complex Nonribosomal Peptide Polytheonamide B; *Angew. Chem. Int. Ed.* **2010**, *49*, 5034-5036. (Highlight article)
22. A. P. Spork, S. Koppermann, B. Dittrich, R. Herbst-Irmer, C. Ducho; Efficient synthesis of the core structure of muraymycin and caprazamycin nucleoside antibiotics based on a stereochemically revised sulfur ylide reaction; *Tetrahedron: Asymmetry* **2010**, *21*, 763-766.
21. A. P. Spork, C. Ducho; Novel 5'-deoxy nucleosyl amino acid scaffolds for the synthesis of muraymycin analogues; *Org. Biomol. Chem.* **2010**, *8*, 2323-2326.

20. R. B. Hamed, J. Mecinović, C. Ducho, T. D. W. Claridge, C. J. Schofield; Carboxymethylproline synthase catalysed syntheses of functionalised *N*-heterocycles; *Chem. Commun.* **2010**, *46*, 1413-1415.
19. A. Lemke, M. Büschleb, C. Ducho; Concise synthesis of both diastereomers of 3-hydroxy-L-arginine; *Tetrahedron* **2010**, *66*, 208-214. (Front Cover)
18. A. P. Spork, S. Koppermann, C. Ducho; Improved Convergent Synthesis of 5'-*epi*-Analogues of Muraymycin Nucleoside Antibiotics; *Synlett* **2009**, 2503-2507.
17. C. Ducho, R. B. Hamed, E. T. Batchelar, J. L. Sorensen, B. Odell, C. J. Schofield; Synthesis of regio- and stereoselectively deuterium-labelled derivatives of L-glutamate semialdehyde for studies on carbapenem biosynthesis; *Org. Biomol. Chem.* **2009**, *7*, 2770-2779.
16. C. Meier, N. Gisch, C. Ducho, J. Balzarini; *CycloSal*igenyl-di-d4TMP: Highly Loaded *CycloSal*-pronucleotides that Release Two Equivalents of Nucleotides and Leaving One Masking Unit; *Antiviral Res.* **2009**, *82*, A61.
15. E. T. Batchelar, R. B. Hamed, C. Ducho, T. D. W. Claridge, M. J. Edelmann, B. Kessler, C. J. Schofield; Thioester Hydrolysis and C-C Bond Formation by Carboxymethylproline Synthase from the Crotonase Superfamily; *Angew. Chem.* **2008**, *120*, 9462-9465; *Angew. Chem. Int. Ed.* **2008**, *47*, 9322-9325.
14. C. Ducho, U. Görbig, S. Jessel, N. Gisch, J. Balzarini, C. Meier; Bis-*cycloSal*-d4T-monophosphates: Drugs That Deliver Two Molecules of Bioactive Nucleotides; *J. Med. Chem.* **2007**, *50*, 1335-1346.
13. C. Meier, C. Ducho, H. Jessen, D. Vukadinovic-Tenter, J. Balzarini; Second generation *cycloSal*-d4TMP pronucleotides bearing esterase-cleavable sites - the "trapping"-concept; *Eur. J. Org. Chem.* **2006**, 197-206.
12. C. Ducho, S. Jessel, N. Gisch, J. Balzarini, C. Meier; Novel *cycloSal* Nucleotides with Reduced Inhibitory Potency towards Human Butyrylcholinesterase; *Nucleosides Nucleotides* **2005**, *24*, 519-522.
11. C. Meier, C. Ducho, H. Jessen, J. Balzarini; Esterase-cleavable *cycloSal*-pronucleotides - the trapping concept; *Coll. Symp. Series* **2005**, *7*, 105-113.
10. C. Meier, C. Ducho, H. J. Jessen, J. Balzarini; Novel "lock-in" modified *cycloSal* nucleotides (II): Application of the AM- and the POM-group; *Antiviral Res.* **2005**, *65*, A27.

9. C. Meier, C. Ducho, U. Görbig, R. Esnouf, J. Balzarini; Interaction of *cycloSal*-Pronucleotides with Cholinesterases from Different Origins. A Structure-Activity Relationship; *J. Med. Chem.* **2004**, *47*, 2839-2852.
8. C. Meier, C. Ducho, J. Balzarini; Are cholinesterases inhibited by *cycloSal* nucleotides?; *Antiviral Res.* **2004**, *62*, A85.
7. C. Ducho, S. Wendicke, U. Görbig, J. Balzarini, C. Meier; 3,5-Di-(*tert*-butyl)-6-fluoro-*cycloSal*-d4TMP - a pronucleotide with a considerably improved masking group; *Eur. J. Org. Chem.* **2003**, 4786-4791.
6. C. Ducho, J. Balzarini, C. Meier; Non-inhibition of Acetylcholinesterase by *cycloSal* Nucleotides; *Nucleosides Nucleotides* **2003**, *22*, 841-843.
5. C. Ducho, J. Balzarini, C. Meier; Interaction of Cholinesterases with *cycloSal* Nucleotides; *Antiviral Res.* **2003**, *57*, A54.
4. C. Meier, J. Renze, C. Ducho, J. Balzarini; *cycloSal*-d4TMP Pronucleotides - Structural Variations, Mechanistic Insights and Antiviral Activity; *Curr. Top. Med. Chem.* **2002**, *2*, 1111-1121. (Review)
3. C. Ducho, J. Balzarini, L. Naesens, E. De Clercq, C. Meier; Aryl-substituted and Benzo-annulated *cycloSal*-derivatives of 2',3'-Dideoxy-2',3'-didehydrothymidine Monophosphate - Correlation of Structure, Hydrolysis Properties and Anti-HIV Activity; *Antiviral Chem. Chemother.* **2002**, *13*, 129-141.
2. J. Renze, M. Plath, C. Ducho, J. Balzarini, E. De Clercq, C. Meier; Benzyl-functionalized *cycloSal*-d4T Monophosphates; *Nucleosides Nucleotides* **2001**, *20*, 931-934.
1. J. Renze, M. Plath, C. Ducho, J. Balzarini, E. De Clercq, C. Meier; Hydrolysis Behaviour of Benzyl-functionalized *cycloSal*-d4TMPs; *Antiviral Res.* **2001**, *50*, A47.

## Patents

1. Isis Innovation, C. J. Schofield, R. B. Hamed, E. Batchelar, C. Ducho; Methods for preparing substituted *N*-heterocyclic rings, especially *trans*-carboxymethyl-proline derivatives and analogs, via enzymatically carbon-carbon bond formation reaction in the presence of a crotonase superfamily protein or a homolog or variant for use in the synthesis of antibiotics; *PCT Int. Appl.* **2010**, WO 2010046713.



## Oral Presentations and Lectures

81. Oligonucleotides with partially zwitterionic and cationic backbone structures; Advances in Chemical Biology, Online, **2021**.
80. With or without Phosphate: New Linkage Motifs for Oligonucleotide Analogues; Phosphorus Chemistry Seminar, Online, **2020**.
79. Towards nucleoside-derived antibiotics; Colloquium of the University of Lincoln, Lincoln, UK, **2019**.
78. Towards nucleoside-derived antibiotics; Emil-Fischer-Colloquium of the Friedrich-Alexander-University Erlangen, Erlangen, Germany, **2019**.
77. Towards nucleoside-derived antibiotics; Colloquium of the Dana-Farber Cancer Institute, Boston/MA, USA, **2019**.
76. Towards novel potential antibiotics; Colloquium of the Goethe-University Frankfurt, Frankfurt, Germany, **2019**.
75. Nucleosid-Derivate als antibiotische Wirkstoff-Kandidaten; DPhG-Colloquium of the Albert-Ludwigs-University Freiburg, Freiburg, Germany, **2018**.
74. Antibiotics and oligonucleotides; Workshop "Synthesis for Biology and Medicine", Kaiserslautern, Germany, **2018**.
73. Nucleoside antibiotics as antibacterial agents; DPhG Annual Meeting (DPhG-Jahrestagung), Hamburg, Germany, **2018**.
72. Nucleoside antibiotics targeting bacterial peptidoglycan biosynthesis; 23rd International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, San Diego, USA, **2018**.
71. Nucleosid-Analoga als antibakterielle Wirkstoff-Kandidaten; GDCh-Colloquium of the Hochschule Aalen, Aalen, Germany, **2018**.
70. Targeting the bacterial translocase MraY; Meeting "Target Discovery using Chemical Probes", Oxford, UK, **2018**.
69. Towards nucleoside-derived antibiotics; Frontiers in Medicinal Chemistry, Jena, Germany, **2018**.
68. Towards nucleoside-derived antibiotics; Advances in Chemical Biology, Frankfurt, Germany, **2018**.
67. Towards nucleoside-derived antibiotics; VIII. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Mainz, Germany, **2017**.

66. Synthetic and biological studies on naturally occurring nucleoside antibiotics; 13th Conference on Iminium Salts (Tagung über Iminiumsalze, IMSAT-13), Goslar, Germany, **2017**.
65. Towards Nucleoside-Derived Antibiotics: Inhibitors of the Bacterial Translocase *MraY*; GDCh Scientific Forum (GDCh-Wissenschaftsforum), Berlin, Germany, **2017**. (Poster Short Talk)
64. Towards Nucleoside-Derived Antibiotics: Inhibitors of the Bacterial Translocase *MraY*; Gordon Research Conference on Nucleosides, Nucleotides and Oligonucleotides, Newport/RI, USA, **2017**. (Poster Talk)
63. Towards nucleoside-derived antibiotics; Colloquium of the University of Münster, Münster, Germany, **2017**.
62. From nucleoside-derived antibiotics to novel oligonucleotide modifications; Colloquium of the University of Southern Denmark, Odense, Denmark, **2017**.
61. Inhibitors of the bacterial translocase *MraY* as potential novel antibiotics; DPhG Annual Meeting (DPhG-Jahrestagung), Munich, Germany, **2016**.
60. Hemmstoffe der Zellwand-Biosynthese als Antibiotika: neue Varianten eines etablierten Ansatzes; DPhG-Colloquium of the University of Hamburg, Hamburg, Germany, **2016**.
59. Nucleosid-Aminosäure-Hybride: von antibiotisch aktiven Naturstoffen zu modifizierten Oligonucleotiden; GDCh-Colloquium of the TU Bergakademie Freiberg, Freiberg, Germany, **2016**.
58. Nucleoside-amino acid hybrids: from antibioticly active natural products to modified oligonucleotides; Organic Chemistry Colloquium of the TU Berlin, Berlin, Germany, **2016**.
57. Muraymycin-derived nucleoside-peptide antibiotics: potential lead structures for novel antibacterial agents; Chemistry Colloquium of the University of Malaga, Malaga, Spain, **2015**.
56. Structure-activity relationship studies on muraymycin nucleoside-peptide antibiotics; 2nd European Conference on Natural Products, Frankfurt, Germany, **2015**.
55. Muraymycin Nucleoside Antibiotics as Lead Structures for Novel Antibacterial Agents; Chinese-German Frontiers of Science Symposium (SINOGFOS) of the Alexander-von-Humboldt-Stiftung, Potsdam, Germany, **2015**. (Poster Flash Talk)

54. Von antibiotischen Wirkstoffen zu modifizierten Nucleinsäuren; Inaugural Lecture at Saarland University, Saarbrücken, Germany, **2015**.
53. Bacterial translocase as a potential target for novel antibiotics; COST-Meeting "Mining the Chemical Proteome: Target Discovery Using Chemical Probes and their Application in Medicine and Biology", Oxford, UK, **2015**.
52. Von antibiotischen Wirkstoffen zu Rückgrat-modifizierten Oligonucleotiden; Organic Chemistry Colloquium of the University of Bonn, Bonn, Germany, **2015**.
51. Von antibiotischen Wirkstoffen zu Rückgrat-modifizierten Oligonucleotiden; GDCh-Colloquium of the University of Osnabrück, Osnabrück, Germany, **2015**.
50. Warum brauchen wir neue Antibiotika?; Evening Lecture at the Summer Academy of the Studienstiftung des deutschen Volkes, La Colle-sur-Loup, France, **2014**.
49. Keine Angst vor komplexen Leitstrukturen: Translocase-Inhibitoren als neue potenzielle Antibiotika; Tag der Pharmazie, Saarbrücken, Germany, **2014**.
48. Towards Novel Antibacterial Agents: Synthetic and Biological Studies on Muraymycin Nucleoside Antibiotics; Chinese-German Frontiers of Science Symposium (SINOGFOS) of the Alexander-von-Humboldt-Stiftung, Kunming, China, **2014**. (Poster Flash Talk)
47. Struktur-Aktivitäts-Untersuchungen zu Nucleosid-Peptid-Antibiotika vom Muraymycin-Typ; Organic Chemistry Colloquium of the TU Braunschweig, Braunschweig, Germany, **2013**.
46. Towards novel antibacterial agents; 2. Scientific Meeting Paderborn - Le Mans, Paderborn, Germany, **2013**.
45. Synthesis and Properties of Modified DNA Oligonucleotides with a Zwitterionic Backbone Structure; VI. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Greifswald, Germany, **2013**.
44. Synthetic and Structure-Activity Relationship Studies on Muraymycin Nucleoside-Peptide Antibiotics; GDCh Scientific Forum (GDCh-Wissenschaftsforum), Darmstadt, Germany, **2013**. (Poster Short Talk)
43. Towards Novel Antibacterial Agents: Synthetic and Functional Studies on Muraymycin Nucleoside Antibiotics; Chinese-German Frontiers of Science Symposium (SINOGFOS) of the Alexander-von-Humboldt-Stiftung, Merseburg, Germany, **2013**. (Poster Flash Talk)

42. Synthesis of muraymycin nucleoside-peptide antibiotics and their analogues; 11th German Peptide Symposium, Munich, Germany, **2013**.
41. Nucleosid-Peptid-Antibiotika vom Muraymycin-Typ - Leitstrukturen für neue antimikrobielle Wirkstoffe?; University of Hamburg, Hamburg, Germany, **2013**.
40. Targeting Bacterial Cell Wall Biosynthesis: Muraymycin Nucleoside Antibiotics as Inhibitors of MraY; Colloquium of the SFB 766, Tübingen, Germany, **2013**.
39. Auf dem Weg zu neuen antibiotischen Wirkstoffen; Meeting "Ergebnisse des Leopoldina-Förderprogramms VII" of the Deutsche Akademie der Naturforscher Leopoldina, Halle/Saale, Germany, **2012**.
38. Nucleosid-Aminosäure-Hybride als Struktur motive für Naturstoff-Analoga und modifizierte Oligonucleotide; Organic Chemistry Colloquium of the University of Stuttgart, Stuttgart, Germany, **2012**.
37. Raffiniert modifiziert - Von Naturstoff-Analoga und strukturell veränderten Nucleinsäuren; Inaugural Lecture at the University of Paderborn, Paderborn, Germany, **2012**.
36. Nucleosid-Antibiotika vom Muraymycin-Typ - Leitstrukturen für neue antimikrobielle Wirkstoffe?; Saarland University, Saarbrücken, Germany, **2012**.
35. Nucleoside-amino acid hybrids as structural motifs for natural product analogues and modified oligonucleotides; Chemistry Colloquium of the TU Dortmund, Dortmund, Germany, **2012**.
34. Nucleosid-Aminosäure-Hybride als Struktur motive für Naturstoff-Analoga und modifizierte Oligonucleotide; Organic Chemistry Colloquium of the Karlsruhe Institute of Technology, Karlsruhe, Germany, **2011**.
33. Structural insights into protein-ligand-membrane interactions for the bacterial membrane protein MraY: synthesis and application of chemical probes; 2nd Symposium of the SFB 803, Göttingen, Germany, **2011**.
32. Von der Natur inspirierte unnatürliche Modifikation der natürlichen Struktur von DNA-Oligonucleotiden; Young Scientists Conference on Bioorganic Chemistry (Nachwuchswissenschaftler-Tagung Bioorganische Chemie), Karlsruhe, Germany, **2011**.
31. Von Nucleosid-Antibiotika zu modifizierten Oligonucleotiden; Chemistry Colloquium of the Justus-Liebig-University Gießen, Gießen, Germany, **2011**.
30. Von Nucleosid-Antibiotika zu modifizierten Oligonucleotiden; University of Bayreuth, Bayreuth, Germany, **2011**.

29. From muraymycin nucleoside antibiotics to modified oligonucleotides; German-Austrian-French-Hungarian-Italian Conference in Organic and Biomolecular Chemistry (GAFHI) 2011, Goslar, Germany, **2011**.
28. Von Nucleosid-Antibiotika zu modifizierten Oligonucleotiden; Humboldt-University of Berlin, Berlin, Germany, **2011**.
27. Von Nucleosid-Antibiotika zu modifizierten Oligonucleotiden; German Chemistry Lecturers Conference (Chemiedozententagung), Mainz, Germany, **2011**.
26. Synthetic studies on muraymycin nucleoside lipopeptide antibiotics; 10th German Peptide Symposium, Berlin, Germany, **2011**.
25. From muraymycin nucleoside antibiotics to modified oligonucleotide structures; Imperial College, London, UK, **2011**.
24. Von Nucleosid-Antibiotika zu modifizierten Oligonucleotiden; Eberhard-Karls-University Tübingen, Tübingen, Germany, **2011**.
23. Von Nucleosid-Antibiotika zu modifizierten Oligonucleotiden; GDCh-Colloquium of the Georg-August-University Göttingen (Christmas colloquium), Göttingen, Germany, **2010**.
22. From muraymycin nucleoside antibiotics to modified oligonucleotide structures; Workshop Bioinspired Chemistry, Göttingen, Germany, **2010**.
21. Von Nucleosid-Antibiotika zu modifizierten Oligonucleotiden; GDCh-Colloquium of the University of Hamburg, Hamburg, Germany, **2010**.
20. Muraymycin-Type Nucleoside Antibiotics - Lead Structures for Future Antimicrobial Agents?; Japanese-German Frontiers of Science Symposium (JaGFOS) of the Alexander von Humboldt Foundation, Potsdam, Germany, **2010**. (Poster Flash Talk)
19. Structural insights into protein-ligand-membrane interactions for the bacterial membrane protein MraY: synthesis and application of chemical probes; 1st Symposium of the SFB 803, Göttingen, Germany, **2010**.
18. Nucleosid-Antibiotika vom Muraymycin-Typ - Leitstrukturen für künftige antimikrobielle Agentien?; University of Paderborn, Paderborn, Germany, **2010**.
17. Nucleosid-Antibiotika vom Muraymycin-Typ - Leitstrukturen für künftige antimikrobielle Agentien?; German Chemistry Lecturers Conference (Chemie-dozententagung), Gießen, Germany, **2010**.

16. Muraymycin-Type Nucleoside Antibiotics - Lead Structures for Future Antimicrobial Agents?; The 1st Joint Symposium for Chemistry Faculties of Göttingen University and Nanjing University; Nanjing, China, **2009**.
15. Nucleosid-Antibiotika vom Muraymycin-Typ - Arbeiten zur Synthese und Biosynthese; Young Scientists Conference on Bioorganic Chemistry (Nachwuchswissenschaftler-Tagung Bioorganische Chemie), Hannover, Germany, **2009**.
14. Muraymycin-Type Nucleoside Antibiotics - Lead Structures for Future Antimicrobial Agents?; 3rd Göttingen Chemistry Forum, Göttingen, Germany, **2009**.
13. Einblicke in die Wirkstofffabrik der Natur - Zur Biosynthese von Carbapenem-Antibiotika; Meeting "Ergebnisse des Leopoldina-Förderprogramms VI" of the Deutsche Akademie der Naturforscher Leopoldina, Halle/Saale, Germany, **2008**.
12. Nucleosid-Antibiotika vom Muraymycin-Typ - Leitstrukturen für künftige antimikrobielle Agentien?; Young Scientists Conference on Bioorganic Chemistry (Nachwuchswissenschaftler-Tagung Bioorganische Chemie), Konstanz, Germany, **2008**.
11. Einblicke in die Wirkstofffabrik der Natur - Zur Biosynthese von Carbapenem-Antibiotika; Young Scientists Conference on Bioorganic Chemistry (Nachwuchswissenschaftler-Tagung Bioorganische Chemie), Dortmund, Germany, **2007**.
10. Arbeiten zur Biosynthese von Carbapenem-Antibiotika; German Chemistry Lecturers Conference (Chemiedozententagung), Halle/Saale, Germany, **2007**. (upon invitation of the Deutsche Akademie der Naturforscher Leopoldina)
9. Arbeiten zur Biosynthese von Carbapenem-Antibiotika; Georg-August-University Göttingen, Göttingen, Germany, **2007**.
8. Arbeiten zur Biosynthese von Carbapenem-Antibiotika; University of Hamburg, Hamburg, Germany, **2006**.
7. *cycloSal* Pronucleotides - Chemical Trojan Horses with Antiviral Activity; Chemical Biology Meeting of the University of Oxford, Oxford, UK, **2006**.
6. *cycloSal*-Nucleotide - Ansätze zur Optimierung eines Wirkstoffsystems; Award Ceremony of the Department of Chemistry of the University of Hamburg,

- Hamburg, Germany, **2005**. (on the occasion of the award won for the doctoral thesis)
5. *cycloSal* Pronucleotides - Chemical Trojan Horses with Antiviral Activity; Roche Symposium for Leading Chemists of the Next Decade, Roche research site, Basel, Switzerland, **2004**.
  4. *cycloSal* Pronucleotides - Chemical Trojan Horses with Antiviral Activity; Northeastern Student Chemistry Research Conference (NSCRC) of the Young Chemists Committee of the Northeastern Section of the American Chemical Society (ACS), Boston/MA, USA, **2004**.
  3. *cycloSal* Pronucleotides - Chemical Trojan Horses with Antiviral Activity; Euregionale, International Conference of the Young Chemists Committee (Jungchemikerforum, JCF) of the German Chemical Society (GDCh), Dresden, Germany, **2003**. (First prize for oral presentation in the section "life sciences")
  2. Aryl-substituierte und Benzo-anellierte *cycloSal*-Nucleotide; Award Ceremony of the Department of Chemistry of the University of Hamburg, Hamburg, Germany, **2002**. (on the occasion of the award won for the Diploma thesis)
  1. Synthesis of Novel Antivirally Active Pronucleotides Employing the *cycloSal* Concept; Young Scientists Conference on Organic Synthesis (YSCOS), St. Petersburg, Russia, **2002**.

### Poster Presentations at Scientific Conferences

106. S. Lauterbach, J. Haupenthal, A. K. H. Hirsch, C. Ducho; Pseudouridimycin (PUM) and Its Derivatives as Potential New Antibiotics; *Frontiers in Medicinal Chemistry*, Online, **2021**.
105. C. Rohrbacher, C. Ducho; Towards Novel Hybrid Nucleoside Antibiotics: Muraymycin-Streptomycin Conjugates; *Frontiers in Medicinal Chemistry*, Online, **2021**.
104. S. Weck, G. Niro, J. Meiers, C. Ducho; Studies on the Biological Properties of Nucleoside Antibiotics and their Analogues; *Frontiers in Medicinal Chemistry*, Online, **2021**.
103. J. Konstantinović, C. Kaya, K. Voos, I. Walter, S. Yahiaoui, A. Kany, A. Alhayek, A. Sikandar, J. Köhnke, J. Haupenthal, C. Ducho, R. W. Hartmann, A. K. H. Hirsch; Discovery of Submicromolar Inhibitors of the Virulence Factor LasB from

- Pseudomonas aeruginosa* using Rational Design; *Frontiers in Medicinal Chemistry*, Online, **2021**.
102. R. K. Fathalla, W. Fröhner, C. Ducho, M. Engel; Towards new inhibitors of the bacterial enzyme MurA; *Advances in Chemical Biology*, Online, **2021**.
  101. S. C. Weck, G. Niro, J. Meiers, C. Ducho; Studies on the biological properties of nucleoside antibiotics and their analogues; *Advances in Chemical Biology*, Online, **2021**.
  100. M. Meng, B. Schmidtgall, C. Ducho; Oligonucleotides with Partially Zwitterionic Backbone Structures; IX. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Saarbrücken, Germany, **2019**.
  99. S. Lauterbach, J. Hauptenthal, A. K. H. Hirsch, C. Ducho; Pseudouridimycin (PUM) and its derivatives as potential new antibiotics; IX. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Saarbrücken, Germany, **2019**.
  98. S. C. Weck, J. Meiers, D. Wiegmann, C. Ducho; Studies on the cellular uptake of nucleoside antibiotics; IX. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Saarbrücken, Germany, **2019**.
  97. C. Rohrbacher, S. Weck, C. Ducho; Towards novel hybrid nucleoside antibiotics: muraymycin-streptomycin conjugates; IX. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Saarbrücken, Germany, **2019**.
  96. A. Heib, G. Niro, K. Leyerer, C. Ducho; Synthesis of muraymycin analogues with variations in the nucleoside moiety; IX. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Saarbrücken, Germany, **2019**.
  95. A. Saady, V. Böttner, M. Meng, E. Varon, Y. Shav-Tal, C. Ducho, B. Fischer; Oligonucleotide Probe Incorporating the Chromophore of Green Fluorescent Protein is Useful for the Detection of HER-2 Breast Cancer Marker; IX. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Saarbrücken, Germany, **2019**.
  94. K. Voos, A. M. Kany, E. Schönauer, J. Hauptenthal, S. Yahiaoui, H. Brandstetter, R. W. Hartmann, A. K. H. Hirsch, C. Ducho; New pathoblockers: highly potent and selective inhibitors of Clostridial collagenases; DPhG Annual Meeting (DPhG-Jahrestagung), Heidelberg, Germany, **2019**.



93. S. Lauterbach, J. Hauptenthal, A. K. H. Hirsch, C. Ducho; Pseudouridimycin (PUM) and its derivatives as potential new antibiotics; DPhG Annual Meeting (DPhG-Jahrestagung), Heidelberg, Germany, **2019**.
92. S. C. Weck, G. Niro, J. Meiers, C. Ducho; Studies on the cellular uptake of nucleoside antibiotics; DPhG Annual Meeting (DPhG-Jahrestagung), Heidelberg, Germany, **2019**.
91. C. Rohrbacher, C. Ducho; Towards novel hybrid nucleoside antibiotics: muraymycin-streptomycin conjugates; DPhG Annual Meeting (DPhG-Jahrestagung), Heidelberg, Germany, **2019**.
90. A. Heib, G. Niro, K. Leyerer, C. Ducho; Synthesis of muraymycin analogues with variations in the nucleoside moiety; DPhG Annual Meeting (DPhG-Jahrestagung), Heidelberg, Germany, **2019**.
89. C. Ducho, V. Böttner; Towards Oligonucleotide Prodrugs; Gordon Research Conference on Nucleosides, Nucleotides and Oligonucleotides, Newport/RI, USA, **2019**.
88. M. Meng, B. Schmidtgall, A. Kuepper, T. Grossmann, C. Ducho; Oligonucleotides with partially zwitterionic and cationic backbone structures; Gordon Research Conference on Nucleosides, Nucleotides and Oligonucleotides, Newport/RI, USA, **2019**.
87. P. D. Fischer, M. Wirth, S. G. Van Lanen, H. Arthanari, C. Ducho; Insights into protein-protein and protein-inhibitor interaction profiles of bacterial translocase I (MraY); Gordon Research Conference on Nucleosides, Nucleotides and Oligonucleotides, Newport/RI, USA, **2019**.
86. V. Böttner, C. Ducho; Studies on backbone-modified oligonucleotides as prodrugs; IV. Graduate student seminar (Doktorandenseminar) of the DNG, Bad Herrenalb, Germany, **2018**.
85. V. Böttner, C. Ducho; Studies on backbone-modified oligonucleotides as prodrugs; 23rd International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, San Diego, USA, **2018**.
84. M. Meng, B. Schmidtgall, A. Kuepper, T. Grossmann, C. Ducho; Oligonucleotides with partially zwitterionic and cationic backbone structures; 23rd International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, San Diego, USA, **2018**.

83. G. Niro, C. Ducho; Studies on the selectivity of nucleoside antibiotics; 23rd International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, San Diego, USA, **2018**. (Poster award)
82. K. Voos, A. M. Kany, E. Schönauer, J. Hauptenthal, H. Brandstetter, R. W. Hartmann, C. Ducho; Targeting clostridial virulence factors - towards selective inhibitors of collagenases; Meeting "Target Discovery using Chemical Probes", Oxford, UK, **2018**.
81. S. Koppermann, C. Ducho; Structure-Activity Relationship (SAR) Studies on Muraymycin Nucleoside-Peptide Antibiotics; Frontiers in Medicinal Chemistry, Jena, Germany, **2018**. (Poster award)
80. G. Niro, C. Ducho; Studies on the Selectivity of Nucleoside Antibiotics; DPhG Annual Meeting (DPhG-Jahrestagung), Saarbrücken, Germany, **2017**.
79. M. Meng, B. Schmidtgall, C. Ducho; Properties of DNA Oligonucleotides with a Partially Zwitterionic Backbone Structure; DPhG Annual Meeting (DPhG-Jahrestagung), Saarbrücken, Germany, **2017**.
78. R. Linder, C. Ducho; Synthetic Studies Towards Novel Analogues of Caprazamycin Nucleoside Antibiotics; DPhG Annual Meeting (DPhG-Jahrestagung), Saarbrücken, Germany, **2017**.
77. K. Leyerer, C. Ducho; Synthesis of Muraymycin Analogues for Structure-Activity Relationship Studies: Influence of the Peptide Moiety; DPhG Annual Meeting (DPhG-Jahrestagung), Saarbrücken, Germany, **2017**.
76. S. Koppermann, S. Wohnig, C. Ducho; Structure-Activity Relationship (SAR) Studies on Muraymycin Nucleoside-Peptide Antibiotics and their Analogues; DPhG Annual Meeting (DPhG-Jahrestagung), Saarbrücken, Germany, **2017**.
75. A. M. Kany, E. Schönauer, A. Sikandar, J. Hauptenthal, C. Maurer, S. Yahiaoui, K. Hüsecken, I. J. Hoppe, K. Voos, C. Ducho, J. Köhnke, H. Brandstetter, R. W. Hartmann; Development of Inhibitors Targeting Elastase (LasB) from *Pseudomonas aeruginosa* and Collagenase H (ColH) from *Clostridium histolyticum*; DPhG Annual Meeting (DPhG-Jahrestagung), Saarbrücken, Germany, **2017**.
74. V. Böttner, C. Ducho; Studies on Backbone-Modified Oligonucleotides as Prodrugs; DPhG Annual Meeting (DPhG-Jahrestagung), Saarbrücken, Germany, **2017**.

73. V. Böttner, C. Ducho; Studies on Backbone-Modified Oligonucleotides as Prodrugs; VIII. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Mainz, Germany, **2017**.
72. M. Meng, B. Schmidtgall, C. Ducho; Properties of DNA Oligonucleotides with a Partially Zwitterionic Backbone Structure; VIII. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Mainz, Germany, **2017**.
71. V. Böttner, C. Ducho; Studies on Backbone-Modified Oligonucleotides as Prodrugs; GDCh Scientific Forum (GDCh-Wissenschaftsforum), Berlin, Germany, **2017**.
70. C. Ducho, D. Wiegmann, K. Leyerer, S. Koppermann, S. Wohnig, J. Meiers; Towards Nucleoside-Derived Antibiotics: Inhibitors of the Bacterial Translocase MraY; GDCh Scientific Forum (GDCh-Wissenschaftsforum), Berlin, Germany, **2017**.
69. C. Ducho, D. Wiegmann, K. Leyerer, S. Koppermann, S. Wohnig, J. Meiers; Towards Nucleoside-Derived Antibiotics: Inhibitors of the Bacterial Translocase MraY; Gordon Research Conference on Nucleosides, Nucleotides and Oligonucleotides, Newport/RI, USA, **2017**.
68. T. Manz, C. Ducho; Nucleoside Antibiotics and Their Interaction with The Bacterial and Human Proteome; Meeting "Activity-based protein profiling and bio-orthogonal chemistry", Leiden, Netherlands, **2017**.
67. M. Meng, B. Schmidtgall, C. Ducho; Properties of DNA Oligonucleotides with a Partially Zwitterionic Backbone Structure; III. Graduate student seminar (Doktorandenseminar) of the DNG, Bad Herrenalb, Germany, **2016**.
66. D. Wiegmann, C. Ducho; Synthetic Studies on Aminoribosylated Muraymycin Nucleoside Antibiotics and their Analogues; 22nd International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Paris, France, **2016**.
65. K. Leyerer, C. Schütz, C. Ducho; Synthetic Access to Muraymycin Nucleoside Antibiotics: Novel Analogues for Structure-Activity Relationship Studies; 22nd International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Paris, France, **2016**.
64. S. Koppermann, A. P. Spork, S. Wohnig, C. Ducho; Structure-Activity Relationship (SAR) Studies on Muraymycin Nucleoside Antibiotics; 22nd International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Paris, France, **2016**.

63. R. Linder, C. Ducho; Synthetic Studies Towards Novel Analogues of Caprazamycin Nucleoside Antibiotics; 22nd International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Paris, France, **2016**.
62. C. Ducho, A. P. Spork, M. Büschleb, O. Ries, S. Wohnig, S. Koppermann; Synthetic and Biological Studies on Muraymycin Nucleoside Antibiotics; VII. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Berlin, Germany, **2015**.
61. C. Ducho, A. P. Spork, M. Büschleb, O. Ries, S. Wohnig, S. Koppermann; Synthetic and Biological Studies on Muraymycin Nucleoside Antibiotics; COST-Meeting "Design of Synthetic Chemical Probes: Tools and Strategies in Medicine & Chemical Biology", Istanbul, Turkey, **2015**.
60. C. Ducho, A. P. Spork, M. Büschleb, O. Ries, S. Wohnig, S. Koppermann; Synthetic and Biological Studies on Muraymycin Nucleoside Antibiotics; Gordon Research Conference on Nucleosides, Nucleotides and Oligonucleotides, Newport/RI, USA, **2015**.
59. C. Ducho, A. P. Spork, M. Büschleb, O. Ries, S. Wohnig, S. Koppermann; Muraymycin Nucleoside Antibiotics as Lead Structures for Novel Antibacterial Agents; Chinese-German Frontiers of Science Symposium (SINOGFOS) of the Alexander-von-Humboldt-Stiftung, Potsdam, Germany, **2015**.
58. S. Koppermann, A. P. Spork, S. Wohnig, C. Ducho; Structure-Activity Relationship (SAR) Studies on Muraymycin Nucleoside-Peptide Antibiotics; 12th German Peptide Symposium, Darmstadt, Germany, **2015**.
57. M. Wirth, O. Ries, C. Ducho; Synthesis of Derivatives and Analogues of (2S,3S)-3-Hydroxyleucine; 12th German Peptide Symposium, Darmstadt, Germany, **2015**.
56. K. Leyerer, A. P. Spork, M. Büschleb, C. Ducho; Synthesis of Novel Analogues of Muraymycin Nucleoside-Peptide Antibiotics; 12th German Peptide Symposium, Darmstadt, Germany, **2015**.
55. D. Wiegmann, C. Ducho; Synthetic Studies on Muraymycin Nucleoside Antibiotics and Their Analogues; 21st International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Poznan, Poland, **2014**.
54. K. Leyerer, A. P. Spork, M. Büschleb, C. Ducho; Synthesis of Novel Analogues of Muraymycin Nucleoside Antibiotics for Structure-Activity Relationship

- Studies; 21st International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Poznan, Poland, **2014**.
53. A. Lemke, A. P. Spork, K. Taupitz, C. Ducho; 'Synthetic Tool Kit' for Biosynthetic Studies on Muraymycin Nucleoside Antibiotics; 21st International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Poznan, Poland, **2014**.
  52. S. Wohnig, C. Ducho; Total Synthesis of Dansylated Park's Nucleotide for High Throughput MraY Assays; 21st International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Poznan, Poland, **2014**.
  51. C. Ducho, B. Schmidtgal, C. Höbartner; Synthesis and Properties of Modified DNA Oligonucleotides with a Zwitterionic Backbone Structure; 21st International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Poznan, Poland, **2014**.
  50. C. Ducho, A. P. Spork, M. Büschleb, O. Ries, S. Wohnig; Towards Novel Antibacterial Agents: Synthetic and Biological Studies on Muraymycin Nucleoside Antibiotics; Chinese-German Frontiers of Science Symposium (SINOGFOS) of the Alexander-von-Humboldt-Stiftung, Kunming, China, **2014**.
  49. C. Ducho, A. P. Spork, M. Büschleb, O. Ries, S. Wohnig, G. Mieskes, R. Jahn; Synthetic and Structure-Activity Relationship Studies on Muraymycin Nucleoside-Peptide Antibiotics; 1st European Conference on Natural Products, Frankfurt, Germany, **2013**.
  48. B. Schmidtgal, C. Höbartner, C. Ducho; The NAA Modification: Towards DNA Oligonucleotides with a Zwitterionic Backbone Structure; VI. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Greifswald, Germany, **2013**.
  47. D. Wiegmann, C. Ducho; Synthesis of Novel Analogues of Muraymycin Nucleoside Antibiotics; VI. Nucleic Acid Chemistry Meeting (Nucleinsäurechemie-Treffen), Greifswald, Germany, **2013**.
  46. C. Ducho, A. P. Spork, M. Büschleb, O. Ries, S. Wohnig, G. Mieskes, R. Jahn; Synthetic and Structure-Activity Relationship Studies on Muraymycin Nucleoside-Peptide Antibiotics; GDCh Scientific Forum (GDCh-Wissenschaftsforum), Darmstadt, Germany, **2013**.
  45. C. Ducho, B. Schmidtgal, C. Höbartner; Synthesis and Properties of Modified DNA Oligonucleotides with a Zwitterionic Backbone Structure; Gordon

- Research Conference on Nucleosides, Nucleotides and Oligonucleotides, Newport/RI, USA, **2013**.
44. C. Ducho, A. P. Spork, M. Büschleb, O. Ries; Towards Novel Antibacterial Agents: Synthetic and Functional Studies on Muraymycin Nucleoside Antibiotics; Chinese-German Frontiers of Science Symposium (SINOGFOS) of the Alexander-von-Humboldt-Stiftung, Merseburg, Deutschland, **2013**.
  43. B. Schmidtgall, C. Höbartner, C. Ducho; Synthesis and Properties of Modified DNA Oligonucleotides with a Zwitterionic Backbone Structure; 18. Lecture Conference ORCHEM 2012, Weimar, Germany, **2012**.
  42. A. P. Spork, M. Büschleb, O. Ries, C. Ducho; Stereoselective Synthesis of Nucleosyl Amino Acids for the Preparation of Muraymycin Nucleoside Antibiotics; 18. Lecture Conference ORCHEM 2012, Weimar, Germany, **2012**.
  41. C. Ducho, A. P. Spork, M. Büschleb, O. Ries; Synthetic Studies on Muraymycin Nucleoside Antibiotics; 18. Lecture Conference ORCHEM 2012, Weimar, Germany, **2012**.
  40. S. Wohnig, C. Ducho; A chemical synthesis of dansylated UDP-MurNAc-pentapeptide for high throughput MraY assays; 4th EuCheMS Chemistry Congress, Prague, Czech Republic, **2012**.
  39. A. Lemke, A. P. Spork, C. Ducho; The biosynthesis of muraymycins: synthesis of potential intermediates for studies on the assembly of complex natural products; 4th EuCheMS Chemistry Congress, Prague, Czech Republic, **2012**.
  38. B. Schmidtgall, C. Höbartner, C. Ducho; Synthesis and Properties of Modified DNA Oligonucleotides with a Zwitterionic Backbone Structure; 20th International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Montreal, Canada, **2012**.
  37. A. P. Spork, M. Büschleb, O. Ries, C. Ducho; Stereoselective Synthesis of Nucleosyl Amino Acids for the Preparation of Muraymycin Nucleoside Antibiotics; 20th International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Montreal, Canada, **2012**.
  36. C. Ducho, A. P. Spork, M. Büschleb, O. Ries; Synthetic Studies on Muraymycin Nucleoside Antibiotics; 20th International Roundtable on Nucleosides, Nucleotides and Nucleic Acids, Montreal, Canada, **2012**.
  35. A. Lemke, A. P. Spork, C. Ducho; The Biosynthesis of Muraymycins: Synthesis of Potential Intermediates for Studies on the Assembly of Complex Natural

- Products; Workshop of the Ph. D. program "Catalysis for Sustainable Synthesis" (CaSuS), Braunfels, Germany, **2012**.
34. A. Ochmann, M. Granitzka, C. Ducho, O. Ries; Synthesis of O-acylated 3-hydroxyleucine derivatives for the preparation of muraymycin nucleoside lipopeptide antibiotics; 2nd Symposium of the SFB 803, Göttingen, Germany, **2011**.
  33. C. Ducho, S. Koppermann, D. Wiegmann, A. P. Spork; Synthesis of nucleosyl amino acids and muraymycin analogues for the investigation of the bacterial membrane protein MraY; 2nd Symposium of the SFB 803, Göttingen, Germany, **2011**.
  32. B. Schmidtgall, F. Wachowius, C. Höbartner, C. Ducho; Synthesis and Properties of Modified DNA Oligonucleotides with a Zwitterionic Backbone; Hochschule trifft Industrie, Schlangenbad, Germany, **2011**.
  31. C. Ducho, B. Schmidtgall, A. Ochmann, F. Wachowius, C. Höbartner; Synthesis and Properties of Modified DNA Oligonucleotides with a Zwitterionic Backbone; Sixth Cambridge Symposium on Nucleic Acids Chemistry and Biology, Cambridge, UK, **2011**. (Poster award)
  30. C. Ducho, A. P. Spork, M. Büschleb, O. Ries; Synthetic Studies on Muraymycin Nucleoside Antibiotics; Gordon Research Conference on Nucleosides, Nucleotides and Oligonucleotides, Newport/RI, USA, **2011**.
  29. C. Ducho, A. P. Spork, M. Büschleb, O. Ries; Synthetic Studies on Muraymycin Nucleoside Antibiotics; 46th EUCHEM Conference on Stereochemistry ("Bürgenstock Conference"), Brunnen, Switzerland, **2011**.
  28. B. Schmidtgall, C. Höbartner, C. Ducho; Nucleosyl amino acids as building blocks for the synthesis of modified oligonucleotides; 10th German Peptide Symposium, Berlin, Germany, **2011**.
  27. M. Büschleb, F. Ting, C. Ducho; Novel approaches for the synthesis of the non-proteinogenic amino acid epicapreomycin; 10th German Peptide Symposium, Berlin, Germany, **2011**.
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