



PERSONAL DETAILS:

Name and Surname: Christian Marcus Pedersen
Date and Place of Birth: 11th of August 1980, Aalborg, Denmark

PUBLICATIONS / CITATIONS:

~130 Publications; H-index=31; 3517 citations (4/10-2023); >50 first/corresponding(*) authorships
ORCID: 0000-0003-4661-4895

CURRENT POSITION

2022- Associate professor to Full professor Promotion Programme in organic chemistry – UCPH
Head of Studies Medicinal Chemistry (appointed 2019)

PREVIOUS PROFESSIONAL APPOINTMENTS

2020-2022 Local Focal Point at UCPH (DHRTC / DTU Offshore)
2013-2022 Associate professor (lektor) in organic chemistry – University of Copenhagen
2013-2013 Adjunct (Assist. Prof.) University of Copenhagen
2009-2013 Senior post doc. – University of Copenhagen
2007-2008 Post doc. – University of Konstanz, Germany, Prof. Richard R. Schmidt
2006 1st February to 1st June: visitor in Prof. David Crich's group at University of Illinois at Chicago.
2004-2007 Ph. D. student. - Aarhus University, Bioorganic Chemistry Group, Prof. Mikael Bols
2003 Exchange Visitor at Technische Universität Wien.
2003 Projects with Boehringer-Ingelheim Austria and Prof. Peter Gärtner
1997-2008 Kempas Aps / Optiwood Aps: Advisor and chemist.

EDUCATION

2004-2007 Ph.D. student at Department of Chemistry at the University of Aarhus (28 Oct. 2007)
2002-2004 Enrolled in the master program at Department of Chemistry at the University of Aarhus
1999-2002 Bachelor student at Department of Chemistry at University of Aarhus.

RESEARCH INTERESTS

- *Carbohydrate chemistry*: Mechanistic studies using NMR, new methods and natural product synthesis.
- *Medicinal chemistry*: Projects with Prof. Ali Salanti (Cancer) and MD Anders Rehfeld (male contraceptives)
- *Biomass conversion*: Developing new methods for catalytic transformation of biomass.
- *Carbon-silicon chemistry*: Methods for introducing Si into the C-framework of. e.g. carbohydrates.

GRANTS - independent

- **DFF FTP** "From Waste to Value – Green Chemicals from biomass" (2.8 Mkr)
- **NNF NERD 2022** "Taming Cations in Natural Product Synthesis: Methods and Mechanisms" (13.7 Mkr, 2022)
- **DHRTC**: Self-enhancing chemicals: H₂S scavenging using biomass (2 Mkr, 2020 + extra)
- **DHRTC – Radical Innovation Jump Start Produced Water**: GAS SWEETENING using SUGARS: Biodegradable Capture and Release Multi functional Chemicals (0.25 Mkr, 2020)
- **DHRTC** – Local Focal Point at UCPH (budget 1 Mkr / year, 2020-).
- **DHRTC – Call for Radical Ideas 2019**: A Molecular Swiss Army Knife: Green Multi-Functional Sugars: Corrosion inhibitors, Wettability Modifiers and Scale Inhibitors (0.25 Mkr, 2019)
- **The Villum Foundation – The Experiment**: On/off micelles for organic synthesis (1.4 Mkr, 2018)
- **The Villum Foundation** for the project: Methods for incorporation of silicon in natural products – stereoelectronic and conformational effects in carbohydrates (1.5 Mkr, 2015)
- **Danish Research Council**: Synthesis of *S. pneumonia* Lipoteichoic acid type IV (2007).

Additional funding: NNF Pioneer Innovator 2 with Anders Rehfeld (0.6 Mkr to my group), EU funding from Prof. Salanti, EU funding with Gemma Solomon, Carlsberg Foundation for instruments (e.g. in situ IR, H-cube), FNU and FTP with M. Bols as PI.

ADWARDS

- **Danish Carbohydrate Chemistry Society** 2022 Prize for “Creativity in Carbohydrate Chemistry”
- **China Association for Instrumental Analysis (CAIA)**: Second Class, The first accomplisher. Number of the certification : 2017-2-008 (2017)
- **Chinese Academy of Sciences (CAS)**: Awarded professorship under the CAS President’s International Fellowship Initiative (PIFI) twice (2015 and 2018)
- **Shanxi Province**: Invited foreign technology and management talent (2015)
- **Roche Continents** (2008)

ADDITIONAL AKADEMIC QUALIFICATIONS

- Invited to review scientific paper (~once a week) for leading journals: Nature, SCIENCE, Nature Chem., Nature Comm., JACS, Angew. Chem., Chem Sci., Org. Lett., JOC, Chemistry Eur. J., etc. As well as more specialized journals within biomass conversion and carbohydrate chemistry.
- Speaker at conferences (1-3 times a year).
- Chairing PhD defenses at KU (~twice a year), PhD opponent in EU and DK (2-3 times a year), censor on M.Sc, B.Sc. and regular exams in DK.

INTERNATIONAL RELATIONS

- Collaboration with the CAS institute of coal chemistry in Taiyuan, China (Prof. Y. Qiao and Y.-X. Wang).
- Dr. Alois Kindler BASF Renewable Resources
- Strong network in the carbohydrate community in EU and abroad.
- Hosting or co-hosting international organic chemists as part for the seminar series.

TEACHING / SUPERVISING

- Lecturing in “Applied spectroscopy” (7.5 ECTS, NMR, MS)
- Course responsible for:
 - “Organisk kemi i naturvidenskab” (15 ECTS) ~**250 students**
 - “Carbohydrate chemistry” (7.5 ECTS; Ph.D. course)
- Safety course for master students and staff – twice a year.
- Supervised 8 PhD students (4 graduated) and two PDs; Co-supervised 7 PhD students and 5 PDs.
- Currently the group consists of 2 PD, 4 PhD, 3 MSc, bachelor/project students.

BOARDS, COMMISSIONS and APPOINTMENTS; 2013-:

- Co-host of the “European Symposium on Organic Chemistry 2025” (ESOC 2025)
- UCPH Medicinal Chemistry Center (co-founder, board member 2020-)
- “Fagkyndigt råd medicinskemiuddannelserne” (Formand 2020-)
- Local Focal Point DHRTC (2020-2022)
- ”Studienævn for Fysik, Kemi og Nanoscience ved SCIENCE fakultet” (2020-).
- Undervisningsudvalget Kemisk Institut (2020-)
- Head of Studies Medicinal Chemistry (2019-) (+ additional boards/commission related to this)
- New medicinal chemistry education commission (2018-)
- Bachelor 2020 commission (2018-2019)
- Member of the board, The Danish Chemical Society: Organic Chemistry Section (2014-2020)
- “Arbejds miljøudvalg” Department of Chemistry, KU (2014-2022)
- International coordinator at Department of Chemistry, KU (2013-16)

LIST OF PER REVIEW PUBLICATIONS 2005-:

1. “Highly efficient production and purification of fructose via glucose isomerization by calcium chloride and triethylamine” Z. Guo, **C.M. Pedersen**, H. Chang, Y. Wang, Y. Qiao *Green Chem.* **2023** (advanced article)
2. “CO₂ complexation with cyclodextrins” C. H. Jessen, J. Bendix, T. Brock-Nannested, H.N. Bordallo, M.J. Pedersen, **C.M. Pedersen**, M. Bols *Beilstein JOC* **2023**, *19*, 1021-1027
3. “Methane capture with α -cyclodextrins” C.H. Jessen, J. Bendix, T. Brock-Nannested, H.N. Bordallo, M.J. Pedersen, **C.M. Pedersen**, M. Bols *New J. Chem.* **2023**, *47*, 14624-14629
4. “Switchable product selectivity in dehydration of N-acetyl-d-glucosamine promoted by choline chloride-based deep eutectic solvents” C.M. Pedersen, *NN iScience*, **2023** (accepted)
5. “Furfural residues derived nitrogen-sulfur co-doped sheet-like carbon: an excellent electrode for dual carbon Lithium-Ion capacitors” X. Guo, Y. Qiao, Z. Yi, **C.M. Pedersen**, Y. Wang, X. Tian, P. Han *Green Energy & Environment* **2023** (<https://doi.org/10.1016/j.gee.2023.05.007>)
6. “Substrate Specific Closed-loop Optimization of Carbohydrate Protective Group Chemistry Using Bayesian Optimization and Transfer Learning” N.V. Faurshou, R. Taaning, **C.M. Pedersen** *Chem. Sci.* **2023**, *14*, 6319-6329
7. “Self-Promoted N-Glycosylation: Extended Substrate Scope and Substituent Effects” B.R. Kristensen, C.M. Pedersen *Eur. J. Org. Chem.* **2023**, *26*, e2023002
8. “Understanding the interaction mechanism of carbazole/anthracene with N,N-dimethylformamide: NMR study substantiate carbazole separation” H. Cao, M. Dou, Z. Lyu, Y. Wang, **C.M. Pedersen**, Y. Qiao *Ind. Chem. Mat.* **2023**, *1*, 240-246
9. “Glycosyl Formates: Glycosylations with Neighboring-Group Participation” L. Yang, **C.M. Pedersen*** *Molecules* **2022**, *27*, 6244
10. “Mechanism of the dehydration of N-acetyl-d-glucosamine into N-containing platform molecule 3-acetamido-5-acetylfuran: NMR study” Z. Guo, C. Chen, J. Zhao, X. Guo, L. Jia, P. Liu, **C.M. Pedersen**, X. Hou, Y. Qiao, Y. Wang. *Mol. Liquids* **2022**, *365*, 120219
11. “Ring system-based conformational switches and their applications in sensing and liposomal drug delivery” H. Su, **C.M. Pedersen*** *SYNTHESIS* **2022**, *54*, 4895-4906
12. “Vessel effects in organic chemical reactions; a century-old, overlooked phenomenon” M.M. Nielsen, **C.M. Pedersen*** *Chem. Sci.* **2022**, *13*, 6181-6196
13. “Catalytic conversion of d-glucose into lactic acid with Ba(OH)₂ as a base catalyst: mechanistic insight by NMR techniques” Y. Zhao, R. Liu, **C.M. Pedersen**, Z. Zhang, Z. Guo, H. Chang, Y. Qiao, Y. Wang *Mol. Liquids* **2022**, *357*, 119074
14. “NMR Diffusion Analysis of Catalytic Conversion Mixtures from Lignocellulose Biomass Using PSYCHE-iDOSY” Q. Zhao, **C.M. Pedersen**, J. Wang; R. Liu, Y. Zhang, X. Yan, Z. Zhang, X. Hou, Y. Wang *Green Energy & Environment* **2022** (in press, online)
15. “Lupeol and pristimerin do not inhibit activation of the human sperm CatSper Ca(2+)-channel” A. Rehfeld, **C.M. Pedersen*** *F1000Research* **2022** (doi: 10.12688/f1000research.109279.1. eCollection 2022.)
16. “Slow glycosylations: Activation of trichloroacetimidates under mild conditions using lithium salts and the role of counterions” N. Korber, **C.M. Pedersen*** *Carbohydr. Res.* **2022**, *511*, 108497
17. “Stereoselective O-Glycosylations by Pyrylium Salt Organocatalysis” M.M. Nielsen, T. Holmstrøm, **C.M. Pedersen*** *Angew. Chem. Int. Ed.* **2022** (Accepted – **Hot Paper**)
18. “Silylated Sugars – Synthesis and Properties” M. Bols, T.G. Frihed, M.J. Pedersen, **C.M. Pedersen*** *SYNLETT* **2022**, *33*, 415-428
19. “Interactions between PAMAM-NH₂ and 6-mercaptopurine: qualitative and quantitative NMR studies” *Chem. Asian J.* **2021**, *16*, 3658-3663

20. "Self-Promoted Glycosylation for the Synthesis of β -N-Glycosyl Sulfonyl Amides" P. Mala, **C.M. Pedersen*** *Eur. J. Org. Chem.* **2021**, 5685-5689
21. "Protecting Carbohydrates with Ethers, Acetals and Orthoesters under Basic Conditions" L. Yang, **C.M. Pedersen*** *Org. Biol. Chem.* **2021**, 19, 7598-7601
22. "Characterization of the acidity and basicity of green solvents by NMR techniques" K. Shi, **C.M. Pedersen**, H. Chang, J. Shi, Y. Wang, Y. Qiao *Mag. Res. Lett.* **2021**, 2, 81-88
23. "Self-Promoted Stereoselective Glycosylations – Past, Present, Future" N.V. Faurischou, **C.M. Pedersen*** *The Chem. Rec.* , **2021**, 21, 3063-3075
24. "D-Glucose Isomerization with PAMAM Dendrimers as Environmentally Friendly Catalysts" Z. Guo, **C.M. Pedersen**, P. Wang, M. Ma, Y. Zhao, Y. Qiao, Y. Wang *J. Agric. Food Chem.* **2021**, 69, 17, 5105-5112
25. "Utilizing 3D DOSY NMR in the characterization of organic compounds in coal chemical wastewater" H. Ma, **C.M. Pedersen**, Q. Zhao, S. Jia, B. Yuan, X. Hou, Y. Wang *Magn. Reson. Lett.* **2021**, 2, 69-79
26. "Pure shift NMR: Application of 1D PSYCHE and 1D TOCSY-PSYCHE Techniques for Directly Analyzing the Mixtures from Biomass-derived Platform Compound Hydrogenation/hydrogenolysis" Q. Zhao, H. Ma, **C.M. Pedersen**, M. Dou, Y. Qiao, X. Hou, Y. Qi, Y. Wang *ACS Sus. Chem. Ing.* **2021** 9, 2456-2464
27. "Reactivity, Selectivity and Synthesis of 4-C-Silylated Glycosyl Donors and 4-Deoxy Analogues" M.J. Pedersen, **C.M. Pedersen*** *Angew. Chem. Int. Ed.* **2021** 60 2689-2693
28. "Carbohydrate Derived Metal Chelator-Triggered Lipids for Liposomal Drug Delivery" T. Holmstrøm, M. G. Malle, S. Wu, K.J. Jensen, N.S. Hatzakis, **C.M. Pedersen*** *Chem. Eur. J.* **2021**, 27, 6017-6922 (in-side cover)
29. "Easy access to a carbohydrate-based template for stimuli-responsive surfactants" T. Holmstrøm, D. Raydan, **C.M. Pedersen*** *Beilstein J. Org. Chem.* **2020** 16, 2788-2794
30. "Conformational lock of glycosyl donors using cyclic carbamates." J.M. Villameriel, **C.M. Pedersen*** *Eur. JOC* **2020**, 41, 6459-6467
31. "Synthesis and Glycosylation Properties of C6-silylated Ido- and Gluco-pyranosyl donors" I. Álvarez, **C. M. Pedersen*** *Eur JOC*, **2020**, 4621-4634
32. "Enzyme Catalyzed Regioselective Acetylation of Functionalized Glycosides" T. Holmstrøm, **C. M. Pedersen*** *Eur. JOC* **2020**, 4612-4615
33. "Chemoselectivity in Self-Promoted Glycosylation: N- versus O-Glycosylation." **VIP paper** A. Pinna, **C. M. Pedersen*** *Eur. JOC* **2020**, 3914-3917
34. "Ternary deep eutectic solvents catalyzed d-glucosamine self-condensation to deoxyfructosazine: NMR study" P. Liu, **C.M. Pedersen**, J. Zhang, R. Liu, Z. Zhang, X. Hou, Y. Wang *Green Energy & Environment*, **2020**, <https://doi.org/10.1016/j.gee.2020.04.010>.
35. "Catalytic and Atom Economic Glycosylation using Glycosyl Formates and Cheap Metal Salts." L. Yang, C.H. Hammelev, **C.M. Pedersen*** *CHEMSUSCHEM* **2020**, 13, 3166-3171
36. "Scalable Synthesis of Hydroxymethyl alkylfuranoates as Stable 2,5-Furandicarboxylic acid Precursors" M.J. Pedersen, A. Jurys, **C.M. Pedersen*** *Green Chem.* **2020** 22, 2399-2402
37. "Mechanistic study on the conversion of d-fructose into deoxyfructosazine: Insights from NMR and DFT study" L. Jia, Y. Qiao, **C. M. Pedersen**, S. Jia, H. Ma, Z. Zhang, Y. Wang, X. Hou *Chem. Eng. Sci.* **2020**, 214, 115444
38. "Development and characterisation of mouse monoclonal antibodies specific for Clostridiodes (Clostridium) difficile lipoteichoic acid" C. Cairns, H. van Faassen, F. St. Michael, A. Aubry, K. Henry , M. Rossotti, S. Logan, G. Hussack, N. Gisch, W. Hogendorf, **C. Pedersen**, A. Cox *ACS Chemical Biology* **2020**,15, 1050–1058

39. "Vessel Effect in C–F Bond Activation Prompts Revised Mechanism and Reveals an Autocatalytic Glycosylation" M.M. Nielsen Y. Qiao Y. Wang **C.M. Pedersen*** *Eur. J. Org. Chem.* **2020**, 140-144
40. "α-Selective Glycosylations using Glycosyl N-(ortho-Methoxyphenyl)trifluoroacetimidates" K. Kowalska, **C.M. Pedersen*** *Org. Biol. Chem.* **2020**, 18, 1918-1925
41. "Palladium(0)-Catalyzed Rearrangement of Allylic Esters" B.M. Jessen, J.M. Onozabal, **C.M. Pedersen**, A. Sølvhøj, E. Taarning, R. Madsen *Chem. Select* **2020**, 5, 2559-2563
42. "Conformationally Switchable Glycosyl Donors" T. Holmstrøm, **C. M. Pedersen*** *J. Org. Chem.* **2019**, 84, 13242-13251
43. "Self-promoted and stereospecific formation of N-glycosides" M. M. Nielsen, P. Mala, E. Balduresson, **C. M. Pedersen*** *Chem. Sci.* **2019**, 10, 5299-5307
44. "NMR analysis of the Fischer-Tropsch process water: combination of 1D selective gradient TOCSY, 2D DOSY and qNMR" H. Ma, **C. M. Pedersen**, Q. Zhao, Z. Lyu, H. Chang, Y. Qiao, X. Hou, Y. Wang *Anal. Chim. Acta* **2019**, 1066, 21-27
45. "Interaction between environmental contaminant PFOA and PAMAM in water: 19F and 1H NMR studies" C. Ning, H. Ma, **C.M. Pedersen**, H. Chang, Y. Wang, Y. Qiao *Mol. Liq.* **2019**, 283, 45-50
46. "Synthesis of α-D-GalpN₃-(1-3)-D-GalpN₃: α- and 3-O-Selectivity Using 3,4-Diol Acceptors" E. Glibstrup, **C.M. Pedersen*** *Beilstein J. Org. Chem.* **2018**, 14, 2805-2811
47. "Conformational distortion using a molecular lever: Galactoside derivatives" M. Häner, C. H. Hammelev, **C. M. Pedersen*** *Eur. J. Org. Chem.* **2018**, 40, 5532-5537
48. "NMR studies of the tautomer distributions of D-fructose in lower alcohols/DMSO-d₆" K. Shi, **C. M. Pedersen**, Z. Guo, Y. Li, H. Zheng, Y. Qiao, Y. Wang *J. Mol. Liq.* 2018 (DOI: 10.1016/j.molliq.2018.09.067)
49. "Catalytic Glycosylation in Oligosaccharide Synthesis" M.M. Nielsen and **C.M. Pedersen*** *Chem. Rev.* **2018**, 118, 8285-8358
50. "DESS: green solvents and catalysts for the preparation of pyrazine derivatives by self-condensation of D-glucosamine" Wu, M.; Ma, H.; Ma, Z.; Jin, Y.; Chen, C.; Guo, X.; Qiao, Y.; **Pedersen, C.**; Hou, X.; Wang, Y. *ACS Sus. Chem. Eng.* **2018**, 6, 9434-9441
51. "Ca²⁺-Assisted DOSYNMR: An Unexpected Tool for Anomeric Identification for D-Glucopyranose" C. Ning, W. Ge, Z. Lyu, D. Luo, K. Shi, **C.M. Pedersen**, M.M. Nielsen, Y. Qiao, Y. Wang *ChemistrySelect* **2018**, 3, 3943-3947
52. "Isomeric distribution of monosaccharides in deep eutectic solvents: NMR study" M. Wu, W. Zhou, **C.M. Pedersen**, H. Ma, Y. Qiao, X. Guo, X. Hou, Y. Wang *J. Mol. Liq.* **2018**, 255, 244-249
53. "Combination of DOSY and 1D selective gradient TOCSY: versatile NMR tools for identify the mixtures from glycerol hydrogenolysis reaction" C. Li, J. Shan, X. Yan, D. Xiang, F. Yue, Y.-X. Wang, Z. Lyu, **C.M. Pedersen**, Y. Qiao *FPT* **2018**, 171, 117-123
54. "NMR Studies of Stock Process Water and Reaction Pathways in Hydrothermal Carbonization of Furfural Residue" Y. Feng, **C.M. Pedersen**, X. Yan, Y. Liu, D. Xiang, C. Ning, Y. Wang, Y. Qiao *Green Energy & Environment*, **2018**, 3, 163-171
55. "Graphene oxide: a novel acid catalyst for the synthesis of 2,5-dimethyl-N-phenyl pyrrole by the Paal-Knorr condensation" C.-Y. Chen, X.-Y. Guo, G.-Q. Lu, **C. M. Pedersen**, Y. Qiao, W.-L. Hou Y.-X. Wang *New Carbon Mat.* **2017**, 32, 160-167
56. "Valorization of Furfural Residue by Hydrothermal Carbonization: Processing Optimization, Chemical and Structural Characterization" F. Yue, J. Zhang, **C.M. Pedersen**, Y. Wang, T. Zhao, P. Wang, Y. Liu, G. Qian, Y. Qiao *ChemistrySelect* **2017**, 2, 583-590
57. "Product Distribution Control for Glucosamine Condensation: NMR Investigation Substantiated by Density-Functional Calculations" L. Jia, Z. Zhang, Y. Qiao, **C.M. Pedersen**, H. Ge, Z. Wei, T. Deng, J. Ren, X. Liu, Y.-X. Wang, X. Hou, *Ind. Eng. Chem. Res.* **2017**, 56, 2925-2934

58. "On the nature of electronic effect of multiple hydroxyl groups in the 6-membered ring – the effects are additive but steric hindrance play a role too" **C.M. Pedersen***, M. Bols, *Org. Biomol. Chem.* **2017**, *15*, 1154-1173
59. "Glycosyl Fluorides as Intermediates in the BF₃·OEt₂ Promoted Glycosylation with Trichloroacetimidates" M.M. Nielsen, B.A. Stougaard, M. Bols, E. Glibstrup, **C.M. Pedersen*** *Eur. JOC* **2017**, 1281-1284
60. "Catalytic stereospecific O-glycosylation" K. Kowalska, **C.M. Pedersen*** *Chem. Commun.* **2017**, *53*, 2040-2043
61. "Silyl protective groups influencing reactivity and selectivity in glycosylations" M. Bols, **C.M. Pedersen*** *Beilstein JOC* **2017**, *13*, 93-105
62. "Rhamnosylation: The solvent is the Solution" H. Elferink, **C. M. Pedersen*** *Eur. J. Org. Chem.* **2017**, 53-59
63. "Mechanism of the Self-condensation of GlcNH₂: Insights from in Situ NMR Spectroscopy and DFT Study" L. Jia, X. Liu, Y. Qiao, **C.M. Pedersen**, Z. Zhang, H. Ge, Z. Wei, Y. Chen, X. Wen, X. Hou, Y.X. Wang *Applied Catalysis B: Environmental* **2017**, *202*, 420-429
64. "Conformationally superarmed S-ethyl glycosyl donors as effective building blocks for chemoselective oligosaccharide synthesis in one pot" M. Bandara, J.P. Yasomanee, N.P. Rath, **C.M. Pedersen***, M. Bols,* A.V. Demchenko* *Org. Biomol. Chem.* **2017**, *15*, 559-563
65. "NMR insights into the unexpected interaction of SnCl₄ with D-glucosamine and its effect on 5-HMF preparation in ZnCl₂ molten salt hydrate medium" C. Chen, W. Ge, L. Jia, **C.M. Pedersen**, Y. Qiao, S. Jia, X. Guo, Y. Wang, X. Hou *ChemistrySelect* **2016**, *1*, 6540-6545
66. "Scalable Synthesis of Anomerically Pure Orthogonal Protected GlcN₃ and GalN₃ from D-Glucosamine" E. Glibstrup, **C.M. Pedersen*** *Org. Lett.* **2016**, *18*, 4424-4427
67. "Glycosylation Intermediates Studied by Low Temperature ¹H- and ¹⁹F-DOSY NMR: New Insight into the Activation of Trichloroacetimidates." Y. Qiao, W. Ge, L. Jia, X. Hou, Y. Wang, **C.M. Pedersen*** *Chem. Commun.* **2016**, *52*, 11418-11421
68. "Mechanism study of Cr(III) immobilization in the process of Cr(VI) removal by Huolinhe lignite" T.-T. Zhao, W.-Z. Ge, F. Yue, Y.-X. Wang, **C.M. Pedersen**, F.-G. Zeng, Y. Qiao *Fuel Processing Technology* **2016**, *152*, 375-380
69. "NMR study of the hydrolysis and dehydration of inulin in water: Comparison of the catalytic effect of Lewis acid SnCl₄ and Brønsted acid HCl" Y. Qiao, **C.M. Pedersen**, D. Huang, W. Ge, M. Wu, C. Chen, S. Jia, Y.-X. Wang, W. Hou *ACS Sustainable Chemistry & Engineering* **2016**, *4*, 3327-3333
70. "C-H Functionalization of Carbohydrates" T.G. Frihed, M. Bols, **C.M. Pedersen*** *Eur. J. Org. Chem.* **2016**, *16*, 2740-2756
71. "DOSY NMR: A Versatile Analytical Chromatographic Tool for Lignocellulosic Biomass Conversion" W. Ge, J.H. Zhang, **C.M. Pedersen**, T. Zhao, F. Yue, C. Chen, P. Wang, Y. Wang, Y. Qiao *ACS Sustainable Chem. Eng.*, **2016**, *4*, 1193-1200
72. "Super Arming of a Glycosyl Donor Using a Molecular Lever" J. I. Olsen, K. Kowalska, **C.M. Pedersen*** and M. Bols* *Tetrahedron Lett.* **2016**, *57*, 35-38
73. "Pyrolysis of chitin biomass: TG-MS analysis and solid char residue characterization" Y. Qiao, S. Chen, Y. Liu, H. Sun, S. Jia, J. Shi, **C.M. Pedersen**, Y. Wang, X. Hou *Carbohydr. Polymers* **2015**, *130*, 163-170
74. "Glucosamine condensation catalysed by 1-ethyl-3-methylimidazolium acetate: mechanistic insight from NMR spectroscopy" L. Jia, **C.M. Pedersen**, Y. Qiao, T. Deng, P. Zuo, W. Ge, Z. Qin, X. Hou, Y. Wang *Physical Chemistry Chemical Physics* **2015**, *17*, 23173-23182
75. "β-Mannosylation with 4,6-benzylidene protected mannosyl donors without preactivation" M. Heuckendorff, P. S. Bols, C. Barry, T. G. Frihed, **C.M. Pedersen***, M. Bols* *Chem. Commun.* **2015**, *51*, 13283-13285

76. "A fluorescence study of isofagomine protonation in β -glucosidase" E. Lindback, B.W. Laursen, J.C.N. Poulsen, K. Kilså, **C.M. Pedersen**, M. Bols *Org. Biomol. Chem.* **2015**, *13*, 6562-6566
77. "Synthesis of L-Hexoses" T. Frihed, Bols, **C.M. Pedersen*** *Chem. Rev.* **2015**, *115*, 3615-3676
78. "Mechanisms of Glycosylation Reactions Studied by Low Temperature NMR" T. Frihed, M. Bols, **C.M. Pedersen*** *Chem. Rev.* **2015**, *115*, 4963-5013
79. "Exploring the relationship between conformation and pKa: Can a pKa value be used to determine the conformational equilibrium?" J. I. Olsen, **C.M. Pedersen***, M. Bols *Org. Biomol. Chem.* **2015**, *13*, 3116-3121
80. "In situ NMR spectroscopy: Inulin biomass conversion in ZnCl₂ molten salt hydrate medium—SnCl₄ addition controls product distribution" Y. Wang, **C.M. Pedersen**, Y. Qiao, T. Deng, J. Shi, X. Hou *Carbohydr. Polymers* **2015**, *115*, 439-443
81. "NMR Insights on the properties of ZnCl₂ Molten Salt Hydrate Medium through its Interaction with SnCl₄ and Fructose" Y. Qiao, **C.M. Pedersen**, Y. Wang, X. Hou *ACS Sus. Chem. & Eng.* **2014**, *2*, 2576-2581
82. "Synthesis of All Eight Stereoisomeric 6-Deoxy-L-Hexopyranosyl Donors – Trends in Using Stereoselective Reductions or Mitsunobu Epimerizations" T. G. Frihed, **C.M. Pedersen***, M. Bols* *Eur. JOC* **2014**, *35*, 7924
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PATENTS

Invention disclosure 2023: “Cheap and efficient synthesis of FDCA precursor circumventing HMF”

Inventor: C. M. Pedersen, A. Jurys

Invention disclosure 2021: “Gas-sweetening using sugars”

Inventor: Christian Marcus Pedersen

PCT application submitted 2018: PCT WO2019/170204 A1

Novel synthesis of precursors of 2,5-furandicarboxylic acid

Inventors: Martin Jæger Pedersen; Christian Marcus Pedersen

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