

List of Publications of Dr. Daniel Varon Silva

Publications in peer-reviewed journals

1. Malik A., Seeberger P. H., Brezesinski G., Varón Silva D., Zwitterionic character and lipid composition determine the behaviour of GPI fragments in monolayers. *ChemPhysChem* **2021**, 22 (8), S. 757 – 763.
2. Shanina E., Siebs E., Zhang H., Varón Silva D., Joachim I., Titz A., and Rademacher C., Protein-observed 19F NMR of LecA from *Pseudomonas aeruginosa*, *Glycobiology* **2021**, 31, 159-165, DOI: 10.1093/glycob/cwaa057.
3. Vogt M.S., Schmitz G.F., Varón Silva D., Mösch H.U. and Essen L.O., Structural base for the transfer of GPI-anchored glycoproteins into fungal cell walls, *Proc. Natl. Acad. Sci. USA* **2020**, 117, 22061-22067.
4. Roller R. F., Malik A., Carillo M. A., Garg M., Rella A., Raulf M. K., Lepenies B., Seeberger P. H., and Varon Silva, D. Semi-Synthesis of Functional Glycosylphosphatidylinositol-Anchored Proteins, *Angew. Chem. Int. Ed.* **2020**, 59, 12035-12040, DOI: 10.1002/anie.202002479
5. Ruprecht C., Bartetzko M. P., Senf D., Lakhina A., Smith P. J., Soto M. J., Oh H., Yang J.-Y., Chapla D., Varon Silva D., Clausen M. H., Hahn M. G., Moremen K. W., Urbanowicz B. R., and Pfrengle F., A Glycan Array-Based Assay for the Identification and Characterization of Plant Glycosyltransferases, *Angew. Chem. Int. Ed.* **2020**, 59, 12493-12498, DOI: 10.1002/anie.202003105.
6. Echeverri, D., Garg, M., Varón Silva, D., and Orozco, J. Phosphoglycan-sensitized platform for specific detection of anti-glycan IgG and IgM antibodies in serum, *Talanta* **2020**, 217, 121117.
7. Malik A., Steinbeis F., Carillo M. A., Seeberger P. H., Lepenies B., and Varon Silva D., Immunological Evaluation of Synthetic Glycosylphosphatidylinositol Glycoconjugates as Vaccine Candidates against Malaria, *ACS Chem. Biol.* **2020**, 15, 171-178, DOI: 10.1021/acscchembio.9b00739.
8. Pinzon Martin S., Seeberger P. H., and Varon Silva D., Mucins and Pathogenic Mucin-Like Molecules are Immunomodulators During Infection and Targets for Diagnostics and Vaccines, *Front. Chem.* **2019**, 7, 710.
9. Garg M., Stern D., Gross U., Seeberger P. H., Seeber F., and Varon Silva D., Detection of Anti-Toxoplasma gondii Antibodies in Human Sera using Synthetic Glycosylphosphatidylinositol Glycans on a Bead-Based Multiplex Assay, *Anal. Chem.* **2019**, 91, 17, 11215-11222.
10. Lopez-Garcia P., Goktas M., Bergues-Pupo A. E., Koksich B., Varon Silva D., and Blank K. G. Structural Determinants of Coiled Coil Mechanics, *Phys. Chem. Chem. Phys.* **2019**, 21, 9145-9149.
11. Ribot J. C., Neres R., Zuzarte-Luis V., Gomes A. Q., Mancio-Silva L., Mensurado S., Pinto-Neves D., Santos M. M., Carvalho T., Landry J. J. M., Rolo E. A., Malik A., Varon Silva D., Mota M. M., Silva-Santos B., and Pamplona A. γ,δ -T Cells Promote IFN-gamma-dependent *Plasmodium* Pathogenesis upon Liver-Stage Infection, *Proc. Natl. Acad. Sci. USA* **2019**, 116, 9979-9988.
12. Martini F., Eckmair B., Stefanic S., Jin C., Garg M., Yan S., Jimenez-Castells C., Hykollari A., Neupert C., Venco L., Varon Silva D., Wilson I. B. H., and Paschinger K. Highly modified and immunoactive N-glycans of the canine heartworm, *Nat. Commun.* **2019**, 10, 75.
13. Lama S. M. G., Schmidt J., Malik A., Walczak R., Varon Silva D., Volkel A., and Oschatz, M., Modification of Salt-Templated Carbon Surface Chemistry for Efficient Oxidation of Glucose with Supported Gold Catalysts, *ChemCatChem* **2018**, 10, 2458-2465.
14. Grube, M.; Bo-Young, L.; Garg, M.; Michel, D.; Malik, A.; Vilotijevic, I.; Seeberger, P. H.; Varón Silva, D.: Synthesis of Galactosylated Glycosylphosphatidylinositols Derivatives from *Trypanosoma brucei*. *Chem. Eur. J.* **2018**, 24, 3271-3282.
15. Hinneburg H., Hofmann J., Struwe W. B., Thader A., Altmann F., Varón Silva D., Seeberger P. H., Pagel K. and Kolarich D., Distinguishing N-acetylneuraminic acid linkage isomers on glycopeptides by ion mobility-mass spectrometry, *Chem. Commun.* **2016**, 52, 4381-4, DOI: 10.1039/C6CC01114D.

16. Hinneburg H., Stavenhagen K., Schweiger-Hufnagel U., Pengelley S., Jabs W., Seeberger P. H., Varón Silva, D., Wuhler M., and Kolaric, D., The Art of Destruction: Optimizing Collision Energies in Quadrupole-Time of Flight (Q-TOF) Instruments for Glycopeptide-Based Glycoproteomics, *J. Am. Soc. Mass Spectrom.* **2016**, *27*, 507-519.
17. Lee B. Y., Seeberger P. H. and Varón Silva D., "Synthesis of glycosylphosphatidylinositol (GPI)-anchor glycolipids bearing unsaturated lipids." *Chem. Commun.* **2016**, *52*(8): 1586-1589.
18. Goetze S., Reinhardt A., Geissner A., Azzouz N., Tsai Y.-H., Kurucz R., Varón Silva D., and Seeberger P. H., Investigation of the protective properties of glycosylphosphatidyl-inositol-based vaccine candidates in a *Toxoplasma gondii* mouse challenge model, *Glycobiology* **2015**, *25*, 984-991.
19. Hanashima S., Gotze S., Liu Y., Ikeda A., Kojima-Aikawa K., Taniguchi N., Varón Silva D., Feizi T., Seeberger P. H., and Yamaguchi Y. Defining the Interaction of Human Soluble Lectin ZG16p and Mycobacterial Phosphatidylinositol Mannosides, *Chembiochem* **2015**, *16*, 1502-1511.
20. Manzano-Lopez J., Perez-Linero A. M., Aguilera-Romero A., Martin M. E.; Okano T., Varón Silva D., Seeberger P.H., Riezman H.; Funato K., Goder V., Wellinger R. E., and Muñiz M.; COPII Coat Composition Is Actively Regulated by Luminal Cargo Maturation, *Curr. Biol.* **2015**, *25*, 152-162
21. Götze S., Azzouz N., Tsai Y.-H., Groß U., Reinhardt A., Anish C., Seeberger P.H., Varón Silva D., Diagnosis of toxoplasmosis using a synthetic glycosylphosphatidylinositol glycan, *Angew. Chem. Int. Ed.*, **2014**, *53*, 13701-13705
22. Stefaniu C., Vilotijevic I., Santer M., Brezesinski G., Seeberger P.H., Varón Silva D., Versatility of a Glycosylphosphatidylinositol Fragment in Forming Highly Ordered Polymorphs, *Langmuir* **2014**, *30*, 5185-5192
23. Stefaniu C., Vilotijevic I., Brezesinski G., Seeberger P.H., Varón Silva D., Comparative Structural Study in Monolayers of GPI Fragments and Their Binary Mixtures, *Phys. Chem. Chem. Phys.*, **2014**, *16*, 9259-9265
24. Tsai Y.-H., Gotze S., Vilotijevic I., Grube M., Varón Silva D., Seeberger P. H., A general and convergent synthesis of diverse glycosylphosphatidylinositol glycolipids. *Chem. Sci.* **2013**, *4*, 468-481.
25. Arda A., Blasco P., Varón Silva D., Schubert V., Andre S., Bruix M., Canada F. J., Gabius H. J., Unverzagt C. and Jimenez-Barbero J., Molecular recognition of complex-type biantennary N-glycans by protein receptors: a three-dimensional view on epitope selection by NMR. *J. Am. Chem. Soc.* **2013**, *135*, 2667-75.
26. Stavenhagen K., Hinneburg H., Thaysen-Andersen M., Hartmann L., Varón Silva D., Fuchser J., Kaspar S., Rapp E., Seeberger P. H. and Kolarich D., Quantitative mapping of glycoprotein micro-heterogeneity and macro-heterogeneity: an evaluation of mass spectrometry signal strengths using synthetic peptides and glycopeptides. *J. Mass Spectrom.* **2013**, *48*, 627-639
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29. Stefaniu C., Vilotijevic I., Santer M., Varón Silva D., Brezesinski G., Seeberger PH. Subgel Phase Structure in Monolayers of Glycosylphosphatidylinositol Glycolipids. *Angew. Chem. Int. Ed.* **2012**, *51*, 12874-8.
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35. Gourdine J.P., Cioci G., Miguet L., Unverzagt C., Varón Silva D., Varrot A., Gautier C., Juliette E. and Imberty A., High Affinity Interaction between a Bivalve C-type Lectin and a Biantennary Complex-type N-Glycan Revealed by Crystallography and Microcalorimetry, *J. Biol. Chem.* **2008**, 283, 30112-30120.
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Book chapters

38. Malik A., Seeberger P.H. and Varón Silva D., (2021) Recent Advances in the Chemical Synthesis of Carbohydrates and Glycoconjugates. In *Advances in Biochemical Engineering/Biotechnology*, Editors: Rapp E. & Reichl U., Springer, **2021**, *In press*
39. Garg M., Seeberger P.H. and Varón Silva D., (2016) Glycosylphosphatidylinositols: Occurrence, Synthesis, and Properties. In: Reedijk, J. (Ed.) *Elsevier Reference Module in Chemistry, Molecular Sciences and Chemical Engineering*. Waltham, MA: Elsevier. 20-Oct-16 doi: 10.1016/B978-0-12-409547-2.11657-9
40. Kurucz R., Seeberger P.H. and Varón Silva D., Glycosylphosphatidylinositols in Malaria - GPI biosynthesis and GPI-derived proteins, *In Encyclopedia of Malaria*, Ed. Hommel M. & Kremsner P. Springer Ed. (2014), DOI: 10.1007/978-1-4614-8757-9_22-1
41. Vilotijevic I., Götze S., Seeberger P.H. and Varón Silva D., Chemical Synthesis of GPI Anchors and GPI-Anchored Molecules, *In: Modern Methods in Carbohydrate Chemistry*, Ed. Werz D. & Vidal S., Wiley-VCH Verlag, Weinheim, **2014**, pp 335-372
42. Liu X., Varón Silva D., Kamena F. and Seeberger P.H., GPI-Based Malarial Vaccine: Past, Present, and Future. In *The Enzymes*. Volume 26, Chapter 11, Edited by: Academic Press; **2009**, 229-245.

Patents

43. Tsai Y.-H., Götze S., Azzouz N., S., Seeberger P. H. and Varón Silva D., EP2690104/WO2014016317, Synthesis of diverse glycosylphosphatidylinositol glycans from *Toxoplasma gondii* and their application as vaccines and diagnostics for Toxoplasmosis, **2014**.