

Publications

Refereed Publications

35. Abigail S. Engelberth, M. Clayton Wheeler, G. Peter van Walsum, 2018. Techno-Economic Comparison of Three Scenarios for Upgrading a Hemicellulose-rich Pre-pulping Extract to Mixed-Alcohols. Accepted for publication in *BioFPR*, July, 2018.
34. Praveen Sappati, Balunkeswar Nayak, Peter van Walsum, Owen Thomas Mulrey, 2018. Combined effects of seasonal variation and drying methods on the physico-chemical properties and antioxidant activity of sugar kelp (*Saccharina latissima*). Published online in: *J. Applied Phycology*, Aug 16, 2018. DOI 10.1007/s10811-018-1596-x
33. Aymn Abdulrahman, Byung-Hwan Um, G. Peter van Walsum. 2018. Acetic Acid Removal from Pre-Pulping Wood Extract with Recovery and Recycling of Extraction Solvents. Published on line in *Applied Biochemistry and Biotechnology*, July 2, 2018. DOI: 10.1007/s12010-018-2826-z
32. W. Brett Barclay, Anna Moh, M. Clayton Wheeler, G. Peter van Walsum, 2017. Hydrolysis of Cellulose and Glucose using Recyclable α -Hydroxysulfonic acids. *Industrial and Engineering Chemistry Research* 56 (44):12529 – 12537. DOI: 10.1021/acs.iecr.7b03355
31. Praveen Kumar Sappati, Balunkeswar Nayak, G. Peter van Walsum. 2017. Effect of glass transition on the shrinkage of Sugar Kelp (*Saccharina latissima*) during hot air convective drying. *J. Food Engineering*, v 210, p 50-61, Oct. 2017 DOI:10.1016/j.jfoodeng.2017.04.018
30. Rakhi Baddam, G. Peter van Walsum. 2017. Acidogenic digestion of pre-pulping extracts for production of fuels and bioproducts via carboxylate platform processing. *Applied Biochemistry and Biotechnology*, 182(3), 1076-1094 DOI 10.1007/s12010-016-2383-2
29. Hee Sun Kwon, Jo Hong Moon, Uen Do Lee, Jeong Jun-Yoon, G. Peter van Walsum, Byung Hwan Um, 2016. Fractionation and gasification of black liquor derived from kraft pulping. *Journal of Industrial and Engineering Chemistry*, pp. 122-129 DOI: 10.1016/j.jiec.2015.10.044
28. Scott J. Eaton, Sedat H. Beis, Bruce G. Bunting, Stephen W. Fitzpatrick, G. Peter van Walsum Hemant P. Pendse, and M. Clayton Wheeler. 2013. Characterization and Combustion of Crude Thermal Deoxygenation Oils Derived From Hydrolyzed Woody Biomass. *Energy and Fuels* 27,5246-5252 DOI.org/10.1021/ef4007033
27. Byung-Hwan Um, G. Peter van Walsum. 2012. Effect of pretreatment severity on accumulation of major degradation products from dilute acid pretreated corn stover and subsequent inhibition of enzymatic hydrolysis of cellulose. *Applied Biochemistry and Biotechnology*, 168, Issue 2, Page 406-420 DOI: 10.1007/s12010-012-9784-7

26. Byung-Hwan Um, Benjamin Friedman and G. Peter van Walsum. 2011. Conditioning Hardwood-derived Pre-Pulping Extracts for use in Fermentation through Removal and Recovery of Acetic Acid using Trioctylphosphine Oxide (TOPO). *Holzforschung*, **65**, 51-58. DOI 10.1515/hf.2010.115
25. Sara Walton, G. Peter van Walsum, Adriaan van Heiningen. 2010. Pre-Extraction of Hemicelluloses from Hardwood Chips Using an Alkaline Wood Pulping Solution Followed by Kraft Pulping of the Extracted Wood Chips. *Ind. Eng. Chem. Res.*, 49 (24), pp 12638–12645. DOI: 10.1021/ie100848p
24. Rong Xing, Ayyagari.V. Subrahmanyam, Hakan Olcay, Wei Qi, Michael F. Malone, G. Peter van Walsum, Hemant Pendse, and George W. Huber. 2010. Production of Jet and Diesel Fuel Range Alkanes from Waste Hemicellulose-derived Aqueous Solutions. *Green Chemistry* **12**, 1933-1946. DOI: 10.1039/C0GC00263A
23. Bowen Du, Lekh N. Sharma, Christopher Becker, Shou-Feng Chen, Richard A. Mowery, G. Peter van Walsum, C. Kevin Chambliss. 2010. Effect of Varying Feedstock-Pretreatment Chemistry Combinations on the Production of Potentially Inhibitory Degradation Products in Biomass Hydrolysates. *Biotechnology and Bioengineering*, **107** (3) 430-440. DOI: 10.1002/bit.22829
22. Walton, Sara L., Bischoff, Kenneth M., van Heiningen, Adriaan R. P., van Walsum, G. Peter. 2010. Production of Lactic Acid from Hemicellulose Extracts. *Journal of Industrial Microbiology and Biotechnology* **37**: 823-830. DOI 10.1007/s10295-010-0727-4
21. Um, Byung-Hwan, van Walsum, G. Peter. 2010. Mass Balance on the Pulping Extraction of Northeast Mixed Hardwood using High Performance Liquid Chromatography and High Performance Anion Exchange Chromatography. *Bioresource Technology* **101**, 15: 5978-5987 DOI: 10.1016/j.biortech.2010.03.004
20. Um , Byung-Hwan and G. Peter van Walsum. 2010. Evaluation of Enzyme Mixtures in Releasing Fermentable Sugars from Pre-Pulping Extract of Mixed Northeast Hardwoods. *Applied Biochemistry and Biotechnology* **161**, 1: 432-437. DOI: 10.1007/s12010-009-8887-2
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18. Sara Walton, G. Peter van Walsum, Adriaan van Heiningen, Fermentation of Near-Neutral pH Extracted Hemicellulose Derived from Northern Hardwood. 2009. Proceedings (Peer-reviewed) of the 8th World Congress on Chemical Engineering. Montreal, August 23-27. DOI: 10.1.1.427.7620
17. Um, Byung-Hwan, van Walsum, G. Peter. 2009. Acid Hydrolysis of Hemicellulose in Green Liquor Pre-Pulping Extract of Mixed Northern Hardwoods. *Applied Biochemistry and Biotechnology*, **153**, 1: 127-139. DOI: 10.1007/s12010-009-8561-8

16. Blackman, Erin, D., van Walsum, G. Peter. 2009. Production of Renewable Fuels and Bioproducts and Reduction of Phosphate Pollution Through the Lime Pretreatment and Acidogenic Digestion of Dairy Manure. *Environmental Progress & Sustainable Energy* **28**:1 April 121-133. DOI: 10.1002/bit.22829
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13. G. Peter van Walsum, Maurilio Garcia-Gil, Shou-Feng Chen, Kevin Chambliss., 2007. Effect of Dissolved Carbon Dioxide on Accumulation of Organic Acids in Liquid Hot Water Pretreated Biomass Hydrolysates. *Applied Biochemistry and Biotechnology*, **137-140**:301-311. DOI: 10.1007/s12010-007-9060-4.
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5. G. Peter van Walsum, 2001. Severity Function Describing the Hydrolysis of Xylan using Carbonic Acid. *Applied Biochemistry and Biotechnology*. **91-93**:317-329. DOI: 10.1385/ABAB:91-93:1-9:317
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3. G. Peter van Walsum, Lee R. Lynd, 1998. Allocation of ATP to Synthesis of Cells and Hydrolytic Enzymes in Cellulosic Fermentative Microorganisms: Bioenergetics, Kinetics, and Bioprocessing. *Biotechnology and Bioengineering*, **58**: 2-3, 316-320. DOI: 10.1002/(SICI)1097-0290(19980420)58:2/3<316::AID-BIT31>3.0.CO;2-7
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1. G. Peter van Walsum, David G. Cooper 1993. Self-Cycling Fermentation (SCF) in a Stirred Tank Reactor. *Biotechnology and Bioengineering* **42**: 1175-1180 DOI: 10.1002/bit.260421007

BOOK CHAPTERS

3. G. Peter van Walsum, M. Clay Wheeler. Biofuel production. Chapter 9 in: Wood-Based Energy in the Northern Forests. Michael Jacobson and Daniel Ciolkosz eds. Springer Science and Business Media. 2013. DOI: 10.1007/978-1-4614-9478-2
2. G. Peter van Walsum. Separation and purification of lignocellulose hydrolysates. Pp. 513-527 In: Separation and Purification Technologies in Biorefineries. Shri Ramaswamy, B.V. Ramarao, Hua-jiang Huang, eds. Wiley and Sons, inc. 2013. DOI: 10.1002/9781118493441
1. Abigail S. Engelberth and G. Peter van Walsum. Adding value to the integrated forest biorefinery with co-products from hemicellulose-rich pre-pulping extract. Pp. 287-306. In: Biorefinery Co-Products: Phytochemicals, Primary Metabolites and Value-added Biomass Processing. D. Julie Carrier, Shri Ramaswamy, Chantal Bergeron, eds. Wiley and Sons, inc. 2012. DOI: 10.1002/9780470976692