

Publications

Refereed Publications

Sklavounos, E., M. Iakovlev, S. Survase, S. Gouveia, D. Moldes, M. A. Sanroman and A. van Heiningen, "Comparison of two conditioning schemes for detoxifying SO₂-ethanol-water hydrolysate from lignocellulosics for ABE fermentation", *Nordic Pulp & Paper Research Journal* (2014), 29(3), 370-382

Yamamoto, M., M. Iakovlev, A. van Heiningen, The effect of chemical and physical characteristics of spruce SEW pulps on enzymatic hydrolysis. *Cellulose*, 21(5), 3395-3407 (2014)

Yamamoto, M., T. Niskanen, M. Iakovlev, H. Ojamo and A. van Heiningen, "The effect of bark on sulfur dioxide-ethanol-water fractionation and enzymatic hydrolysis of forest biomass", *Bioresource Technology* 167, 390-397 (2014)

Yamamoto, M., M Iakovlev, S. Bankar, M. S. Tunc, A. van Heiningen, Enzymatic hydrolysis of hardwood and softwood harvest residue fibers released by sulfur dioxide-ethanol-water fractionation, *Bioresource Technology* 167, 530-538 (2014)

Jafari, V., H. Sixta and A. van Heiningen, Multistage oxygen delignification of high-kappa pine kraft pulp with peroxymonosulfuric acid (Px), *Holzforschung* 2014; 68(5): 497-504

Sklavounos, E., Iakovlev, M., Survase, S., Gouveia, S., Moldes, D., Sanromán, M., A., van Heiningen, A., (2014), Comparison of two conditioning schemes for detoxifying SO₂-ethanol-water hydrolysate from lignocellulosics for ABE fermentation, *Nordic Pulp & Paper Research Journal*, 29(3), 370-382 (2014)

Farzaneh, A., T. Richards, E. Sklavounos, A van Heiningen, "A Kinetic study of CO₂ and steam gasification of char from lignin produced in the SEW process", *BioResources*, 9(2), 3052-3063 (2014)

Iakovlev, M., X. You, A. van Heiningen, H. Sixta, "SO₂-ethanol-water (SEW) fractionation process: production of dissolving pulp from spruce", *Cellulose*, 21(3), 1419-1429 (2014)

Morales, L. O., M. Iakovlev, R. Martin-Sampedro, J. Rahikainen, J. Laine, A. van Heiningen, O. J. Rojas, "Effects of residual lignin and heteropolysaccharides on the bioconversion of softwood lignocellulose nanofibrils obtained by SO₂-ethanol-water fractionation", *Bioresource Technology*, 161, 55-62 (2014)

Tunc, M. S., Chheda, E. van der Heide, J. Morris, A van Heiningen, "Pretreatment of hardwood chips via autohydrolysis supported by acetic and formic acid", *Holzforschung*, 68(4), 401-409 (2014)

Jafari, V., H. Sixta, A. van Heiningen, "Kinetics of Oxygen Delignification of High-Kappa Pulp in a Continuous Flow-Through Reactor", *Industrial & Engineering Chemistry Research*, 53(20), 8385-8394 (2014)

Yamamoto, M., M. Iakovlev, A. van Heiningen, "Kinetics of SO₂-ethanol-water (SEW) fractionation of hardwood and softwood biomass", *Bioresource Technology* (2014), 155, 307-313 (2014)

Jafari, V., S. R. Labafzadeh, A. King, I. Kilpelainen, H. Sixta, A. van Heiningen, "Oxygen delignification of conventional and high alkali cooked softwood Kraft pulps, and study of the residual lignin structure", *RSC Advances*, 4(34), 17469-17477 (2014)

Horhammer, H. S., T. H. Treasure, R. W. Gonzalez, A. R. P. van Heiningen, "Larch Biorefinery: Technical and Economic Evaluation", *Industrial & Engineering Chemistry Research*, 53(3), 1206-1213 (2014)

Iakovlev, M., X. You, A. van Heiningen, H. Sixta, "SO₂-ethanol-water (SEW) fractionation of spruce: kinetics and conditions for paper and viscose-grade dissolving pulps", *RSC Advances*, 4(4), 1938-1950 (2014)

Sklavounos, E., M. Iakovlev, S. Survase, T. Granstrom, A. van Heiningen, "Oil palm empty fruit bunch to biofuels and chemicals via SO₂-ethanol-water fractionation and ABE fermentation", *Bioresource Technology*, 147, 102-109 (2013)

Tunc, M. S., J. Chheda, E. van der Heide, J. Morris, A. van Heiningen, "Two-stage fractionation of hardwoods", *BioResources*, 8(3), 4380-4395 (2013)

Tunc, M. S., J. Chheda, E. van der Heide, J. Morris, A. van Heiningen, "Two-Stage Fractionation and Fiber Production of Lignocellulosic Biomass for Liquid Fuels and Chemicals", *Industrial & Engineering Chemistry Research*, 52(36), 13209-13216 (2013)

Sixta, H., M. Iakovlev, L. Testova, A. Roselli, M. Hummel, M. Borrega, A. van Heiningen, C. Froschauer, H. Schottenberger, "Novel concepts of dissolving pulp production", *Cellulose*, 20:1547-1561 (2013)

Shrikant A. Survase, Adriaan van Heiningen and Tom Granstrom, "Wood pulp as an immobilization matrix for the continuous production of isopropanol and butanol", *Journal of Industrial Microbiology & Biotechnology*, 40(2), 209-215 (2013)

Patil, R., J. M. Genco, H. Pendse and A. van Heiningen, "Cleavage of acetyl groups from northeast hardwood for acetic acid production in kraft pulp mills", *Tappi Journal*, 12(2), 57-67 (2013)

Sklavounos, E., M. Iakovlev and A. van Heiningen, "Study on Conditioning of SO₂-Ethanol-Water Spent Liquor from Spruce Chips/Softwood Biomass for ABE Fermentation", *Industrial & Engineering Chemistry Research*, 52(11), 4351-4359 (2013)

Survase, S. A., E. Sklavounos, A. van Heiningen and T. Granstrom, "Market refused vegetables as a supplement for improved acetone-butanol-ethanol production by *Clostridium acetobutylicum* DSM 792", *Industrial Crops and Products*, 45, 349-354 (2013)

Jurgens, G., S. Survase, O. Berezina, E. Sklavounos, J. Linnekoski, A. Kurkijaervi, M. Vaekevae, A. van Heiningen and T. Granstrom, "Butanol production from lignocellulosics", *Biotechnology Letters*, 34(8), 1415-1434 (2012)

Horhammer, H., O. Berezina, E. Hiltunen, T. Granstrom and A. van Heiningen, "Semi-bleached paper and fermentation products from a larch biorefinery", *Tappi Journal*, 11(10), 31-39 (2012)

Horhammer, H. S and A. R. van Heiningen, "A larch biorefinery: influence of washing and PS charge on pre-extraction PSAQ pulping", *BioResources*, 7(3), 3539-3554 (2012)

Survase, S. A., A. van Heiningen and T. Granstrom, "Continuous bio-catalytic conversion of sugar mixture to acetone-butanol-ethanol by immobilized *Clostridium acetobutylicum* DSM 792", *Applied Microbiology and Biotechnology*, 93(6), 2309-2316 (2012)

Iakovlev, M. and A. van Heiningen, "Efficient Fractionation of Spruce by SO₂-Ethanol-Water Treatment: Closed Mass Balances for Carbohydrates and Sulfur", *ChemSusChem*, 5(8), 1625-1637, S1625/1-S1625/4 (2012)

German Jurgens, Shrikant Survase, Oxana Berezina, Evangelos Sklavounos, Juha Linnekoski, Antti Kurkijarvi, Minna Vakeva, Adriaan van Heiningen, Tom Granstrom. Butanol production from lignocellulosics. *Biotechnology Letters*, DOI 10.1007/s10529-012-0926-3 (2012)

van Heiningen, A. and Y. Ji, Southern Pine Oxygen Delignified Pulps Produced in a Berty Throughflow Reactor; How to Obtain the Highest Degree of Delignification while Maintaining Pulp Yield and Quality, *Tappi Journal*, 11(3), 9-18(2012)

Saeed, A., M. S. Jahan, H. Li, Z. Liu, Y. Ni, A. van Heiningen, Mass balances of components dissolved in the pre-hydrolysis liquor of kraft-based dissolving pulp production process from Canadian hardwoods, *Biomass and Bioenergy*, 39(4), 14-19 (2012)

Iakovlev, M., A. van Heiningen, Kinetics of fractionation by SO₂-Ethanol-Water (SEW) treatment: understanding the deconstruction of spruce wood chips. *RSC Advances*, 2, 3057-3068 (2012)

Iakovlev, M.; van Heiningen, A. Efficient fractionation of spruce by SO₂-Ethanol-Water (SEW) treatment: closed mass balances for carbohydrates and sulfur. *ChemSUSChem* **2012**, 5, 1625-1637. DOI: 10.1002/cssc.201100600 (2012)

Mukkamala, S., M. C. Wheeler, A. R. P. van Heiningen, and W. J. DeSisto, "Formate-Assisted Fast Pyrolysis of Lignin", *Energy & Fuels*, 26(2), 1380-1384 (2012)

Case, Paige A., Adriaan R. P. van Heiningen and M. Clayton Wheeler, "Liquid hydrocarbon fuels from cellulosic feedstocks *via* thermal deoxygenation of levulinic acid and formic acid salt mixtures", *Green Chemistry*, 14 (1), 85 – 89 (2012)

Survase, S. van Heiningen, A., Granström, T., Continuous bio-catalytic conversion of sugar mixture to acetone-butanol-ethanol by immobilized *Clostridium acetobutylicum* DSM 792, *Appl. Microb. Biotechnol.*, 93(6), 2309-2316 (2012)

Ban, W., X. Chen, G. Andrews and A. van Heiningen, Influence of hemicelluloses pre-extraction and re-adsorption on pulp physical strength II. Beatability and strength study, *Cellulose Chemistry and Technology*, 45(9-10), 633-641 (2011)

Survase, S., Sklavounos, E., Jurgens, G., van Heiningen, A., Granström, T., Continuous Acetone-Butanol-Ethanol fermentation using SO₂-ethanol-water spent liquor from spruce, *Bioresource Technology*, 102(23), 10996-11002 (2011)

Survase, S., Jurgens, G., van Heiningen, A., Granström, T., Continuous production of isopropanol and butanol using *Clostridium beijerinckii* DSM 6423, *Appl. Microb. Biotechnol.* vol. 91, 5, 1305-1313 (2011)

Minna Yamamoto, M., M. Iakovlev and A. van Heiningen, "Total mass balances of SO₂-ethanol-water (SEW) fractionation of forest biomass", *Holzforschung*, 65 (4), pp. 559–565 (2011)

Sklavounos, E., M. Iakovlev, M. Yamamoto, L. Terasvuori, G. Jurgens, T. Granstrom and A. van Heiningen, "Conditioning of SO₂-ethanol-water spent liquor from spruce for the production of chemicals by ABE fermentation", *Holzforschung*, 65 (4), pp. 551–558 (2011)

Horhammer, H., S. Walton and A. van Heiningen, "A larch based biorefinery: pre-extraction and extract fermentation to lactic acid, *Holzforschung*", 65 (4), pp. 491–496 (2011)

Saeed, Abrar; Fatehi, Pedram; Ni, Yonghao; van Heiningen, Adriaan, Impact of furfural on the sugar analysis of pre-hydrolysis liquor of kraft-based dissolving pulp production process using the HPAEC technique, *BioResources*, 6(2), 1707-1718 (2011)

Lawoko, Martin; van Heiningen, Adriaan R.P. , Fractionation and Characterization of Completely Dissolved Ball Milled Hardwood , *Journal of Wood Chemistry and Technology*, 31(3), 183-203 (2011)

Ban, Weiping; Van Heiningen, Adriaan. Adsorption of hemicellulose extracts from hardwood onto cellulosic fibers. I. Effects of adsorption and optimization factors. *Cellulose Chemistry and Technology*, 45(1-2), 57-65 (2011)

Yoon, Sung-Hoon, Tunc, Mehmet Sefik, van Heiningen, Adriaan, "Near-Neutral Pre-extraction of Hemicelluloses and Subsequent Kraft Pulping of Southern Mixed Hardwoods", *Tappi Journal*, 10(1), 7-15 (2011)

Iakovlev, M. and A. van Heiningen, "SO₂-ethanol-water (SEW) pulping: I. Lignin determination in pulps and liquors. *Journal of wood chemistry and technology*, 31(3), 233-249 (2011)

Iakovlev, M. and A. van Heiningen, "SO₂-ethanol-water (SEW) pulping: II. Kinetics for spruce, beech and wheat straw. *Journal of wood chemistry and technology*, 31(3), 250-266 (2011)

Tunc, M. S. and Adriaan R. P. van Heiningen, "Characterization and molecular weight distribution of carbohydrates isolated from the autohydrolysis extract of mixed southern hardwoods", *Carbohydrate Polymers*, 83(1), 8-13 (2011)

Iakovlev, M., E. Hiltunen and A. van Heiningen, "Paper technical potential of spruce SO₂-Ethanol-Water (SEW) pulp compared to kraft pulp", *Nordic Pulp & Paper Research Journal*, 25(4), 428-433 (2010)

Hurley, K. D., B. G. Frederick, W. J. DeSisto, A R.P. van Heiningen, M. C. Wheeler, "Catalytic reaction characterization using micromachined nanocalorimeters", *Applied Catalysis A: General* 390, 84–93 (2010)

Walton, S. L., D. Hutto, J. M. Genco, G. P. van Walsum and A. R. P. van Heiningen, "Pre-Extraction of Hemicelluloses from Hardwood Chips Using an Alkaline Wood Pulping Solution Followed by Kraft Pulping of the Extracted Wood Chips", *Industrial & Engineering Chemistry Research*, 49(24), 12638-12645 (2010)

Schwartz, T. J., A. R. P. van Heiningen and M. C. Wheeler, "Energy Densification of Levulinic Acid by Thermal Deoxygenation", *Green Chemistry*, 12(8), 1353-1356 (2010)

Beis, S.H.; Mukkamala, S.; Hill, N.; Joseph, J.; Baker, C.; Jensen, B.; Stemmler, E.A.; Wheeler, M.C.; Frederick, B.G.; van Heiningen, A.; Berg, A.G.; DeSisto, W.J., "Fast Pyrolysis of Lignins," *Bioresources*, 5(3), 1408-1424(2010)

Chen, X., M. Lawoko, and A. van Heiningen, "Kinetics and Mechanism of Autohydrolysis of hardwoods, *Bioresource Technology*, 101(20), 7812-7819 (2010)

Alves, E. F., S. K. Bose, R. C. Francis, J. L. Colodette, M. Iakovlev and A. van Heiningen, "Carbohydrate composition of eucalyptus, bagasse and bamboo by a combination of methods", *Carbohydrate Polymers*, 82(4), 1097–1101 (2010)

Kamppi, R., H. Horhammer, A. Leponiemi and A. van Heiningen, "Pre-extraction and PSAQ Pulping of Siberian Larch", *Nordic Pulp & Paper Research Journal*, 25(2), 243-248 (2010). (*Awarded by SPCI as Best article published in Nordic Pulp and Paper Research Journal 2010*)

Walton S. L, Bischoff K. M., A. R. P. van Heiningen, and G. P. van Walsum, "Production of lactic acid from hemicellulose extracts by *Bacillus coagulans* MXL-9, *J. of Industrial Microbiology & Biotechnology*, 37(8), 823-30 (2010)

Walton, S., A. van Heiningen and P. van Walsum, "Inhibition Effects on Fermentation of Hardwood Extracted Hemicelluloses by Acetic Acid and Sodium", *Bioresource Technology* 101(6), 1935-1940 (2010)

Tunc, M. S., M. Lawoko and A. van Heiningen," Understanding the Limitations of Removal of Hemicelluloses during Autohydrolysis of a Mixture of Southern Hardwoods", *BioResources*, 5(1), 356-371 (2010)

Li, H., A. Saeed, S. Jahan, Y. Ni and A. van Heiningen, "Hemicellulose Removal from Hardwood Chips in the Pre-Hydrolysis Step of the Kraft-Based Dissolving Pulp Production Process", *Journal of Wood Chemistry and Technology*, 30(1), 48–60 (2010)

Yoon, S.-H. and A. van Heiningen, "Green liquor extraction of hemicelluloses from southern pine in an Integrated Forest Biorefinery", *Journal of Industrial and Engineering Chemistry*, 16(1), 74-80(2010)

Mao, H., J.M. Genco, A. van Heiningen and H. Pendse, "Kraft Mill Biorefinery to Produce Acetic Acid and Ethanol: Technical Economic Analysis", *BioResources*, 5(2), 525-544 (2010)

DeSisto, W. J., N. Hill, S. H. Beis, S. Mukkamala, J. Joseph, C. Baker, T.-H. Ong, E. A. Stemmler, M. C. Wheeler, B. G. Frederick and A. van Heiningen, "Fast Pyrolysis of Pine Sawdust in a Fluidized Bed Reactor", *Energy & Fuels*, 24, 2642-2651 (2010)

Rakkolainen, M., M. Iakovlev, A-L. Terasvuori, E. Sklavounos, G. Jurgens, T. B. Granstrom and A. Van Heiningen, "SO₂-Ethanol-Water Fractionation of Forest Biomass and Implications for Biofuel Production by ABE Fermentation", *Cellulose Chemistry and Technology*, 44(4-6), 139-145 (2010)

Lawoko, M., S. Deshpande and A. R. P. van Heiningen, "Pre-hydrolysis of the Phenyl Glycosidic Bond in a Model Compound", *Lenzinger Berichte*, 87, 77-87 (2009)

Ji, Y., E. Vanska and A. van Heiningen, "Rate Determining Step and Kinetics of Oxygen Delignification", *Pulp and Paper Canada*, 110(3), 29-35, 2009

Iakovlev, M., T. Paakkonen and A. van Heiningen, "Kinetics of SO₂-Ethanol-Water Pulping of Spruce", *Holzforschung*, 63(6), 779-784 (2009)

Yun Ji, E. Vanska and A. van Heiningen, "New Kinetics and Mechanisms of Oxygen Delignification Observed in a Continuous Stirred Tank Reactor", *Holzforschung*, Vol. 63, 264-271 (2009)

R. H. Mills, D.J. Gardner and A.R.P. van Heiningen "Inverse Gas Chromatography for Determining the Dispersive Surface Free Energy and Acid-Base Interactions of Sheet Molding Compound-Part B 14 Ligno-Cellulosic Fiber Types for Possible Composite Reinforcement, *Journal of Applied Polymer Science* (2009)

Tunc, M. S. and A.R.P. van Heiningen, "Autohydrolysis of Mixed Southern Hardwoods: Effect of P-Factor", *Nordic Pulp and Paper Research Journal*, 24(1), 42-47 (2009)

Paredes, J.J., R. Mills, S.M. Shaler, D.J. Gardner and A. van Heiningen, "Surface Characterization of Red Maple Strands after Hot Water Extraction", *Wood and Fiber Science*, 41(1), 38-50 (2009)

Ryan H. Mills, Rory Jara, Douglas J. Gardner, and A. van Heiningen, "Inverse Gas Chromatography for Determining the Surface Free Energy and Acid-Base Chemical Characteristics of a Water Extracted Hardwood (*Acer rubrum*)", *Journal of Wood Chemistry and Technology*, 29: 11-23 (2009)

Paredes, J.J., Jara, R., van Heiningen, A., and S.M. Shaler, "Influence of Hot Water Extraction on Physical and Mechanical Behavior of OSB, *Forest Prod. J.*, 58(12), 56-62 (2008)

Tunc, M. S. and A.R.P. van Heiningen, "Hemicellulose Extraction of Mixed Southern Hardwood with Water at 150 °C: Effect of Time", *Industrial & Engineering Chemistry Research*, 47(18), 7031-7037 (2008)

Tunc, M.S. and A.R.P. van Heiningen, "Hydrothermal Dissolution of Mixed Southern Hardwoods", *Holzforschung*, 62(5), 539-545 (2008)

Yoon, S-H and A. van Heiningen, "Kraft Pulping and Papermaking Properties of Hot-Water Pre-extracted Loblolly Pine in an Integrated Forest Products Biorefinery, *Tappi Journal*, 7(7), 22-27 (2008)

Sung-Hoon Yoon, Kimberley MacEwan, and Adriaan van Heiningen, "Hot-water Pre-extraction from Loblolly Pine (*Pinus Taeda*) in an Integrated Forest Products Biorefinery", *Tappi Journal*, 7(6), 27-32 (2008)

R. H. Mills, W. Tze, D.J. Gardner and A.R.P. van Heiningen, "Inverse Gas Chromatography for the Determination of the Dispersive Surface Free Energy and Acid-Base Interactions of a Sheet Molding Compound. I. Matrix Material and Glass", *Journal of Applied Polymer Science*, 109(6), 3519-3524 (2008)

H. Mao, J.M. Genco, S.-H. Yoon, A. van Heiningen and H. Pendse, "Technical Economic Evaluation of a Hardwood Biorefinery Using the "Near-Neutral" Hemicellulose Pre-Extraction Process", *Journal of Biobased Materials and Bioenergy*, vol. 2, 177-185, (2008)

R. Mills, D. Gardner and A. van Heiningen, "Impact of Hygrothermal Aging on the Dynamic Mechanical Properties of Sheet Molding Compound", *Journal Materials Science*, 42(23), 9822-9826 (2007)

Y. Ji, M. C. Wheeler and A. van Heiningen, "Oxygen Delignification Kinetics: CSTR and Batch Reactor Comparison", *AIChE Journal*, 53(10), 2681-2687 (2007)

Y. Ji and A. van Heiningen, "A new CSTR for Oxygen Delignification Mechanism and Kinetics Study", *Pulp and Paper Canada*, 108(5), 38-42 (2007)

Van Heiningen, A., "Converting a Kraft Pulp Mill into an Integrated Forest Biorefinery", *Pulp and Paper Canada*, 107(6), 38-43 (2006)

Chen, X. and A. Van Heiningen, "Direct Causticization Kinetics of Kraft Black Liquor by Titanates during Low Temperature Gasification", *JPPS*, 32(4):245-251 (2006)

Krothapalli, D. K., J. M. Genco and A. van Heiningen, "Gas Liquid Mass Transfer in Laboratory Oxygen Delignification Reactors", *JPPS*, 32(2), 53-58 (2006)

Shen, Y., D.W. Bousfield, A. van Heiningen and D. Donigan, "Linkage between Coating Adsorption Uniformity and Print Mottle", *Journal of Pulp and Paper Science*, 31(3), 105-108 (2005)

Räsänen, E., A.R.P van Heiningen, P. Koukkari, R. Pajarre and A. Reijo, "Modeling Displacement Flow and Ionic Equilibria in Pulp Beds. Part 1. Laboratory Experiments", *Paperi ja Puu*, 86(4), 279-282, 284-88 (2004)

Van Heiningen, A., Y. Gao and M.S. Tunc, "A New pulp Yield Prediction Method Applied to Kraft, Kraft-AQ, Polysulfide and PSAQ Pulping of Rock Maple", *J. Tianjin University of Science and Technology*, Vol. 19 (Supp), 317-323 (2004)

Van Heiningen, A., M.S. Tunc, Y. Gao and D. Da Silva Perez, "Relationship between Alkaline Pulp Yield and the Mass Fraction and Degree of Polymerization of Cellulose in the Pulp", *Journal of Pulp and Paper Science*, 30(8), 211-217 (2004)

Richards, T. and A. van Heiningen, "Development of a Fundamental Expression of the Delignification Rate for Acid Sulphite Pulping", *Journal of Pulp and Paper Science*, 30(10), 263-268 (2004)

Van Heiningen, A., D. Krothapalli, J. Genco and A. Justason, "A Chemical Reactor Analysis of Industrial Oxygen Delignification", *Pulp & Paper Canada*, 104(12), 96-101 (2003)

King, J.E. and A. R. P. van Heiningen, "Effect of Pulp Species and Pretreatment on the Rates of Delignification and Cellulose Degradation during Ozone Bleaching", *Pulp and Paper Canada*, 104(10), 38-42 (2003)

Van Heiningen, A. and S. Violette, "Selectivity Improvement during Oxygen Delignification by Adsorption of a Sugar-Based Polymer", *J. Pulp & Paper Sci.*, 29(2), 48-53 (2003)

Book Chapters

Madsen, Lynnette D. and Svedberg, Erik B. eds. *Materials Research for Manufacturing: An Industrial Perspective of Turning Materials into New Products*, American Process Inc.: Production of Low Cost Nanocellulose for Renewable, Advanced Materials Applications by Kim Nelson, Theodora Retsina, Mikhail Iakovlev, Adriaan van Heiningen, Yulin Deng, Jo Anne Shatkin, and Arie Mulyadi. (Springer) *in press*

Genco, J., A. R. P. van Heiningen and W. Miller, Oxygen Delignification, Chapter 2 in *The Bleaching of Pulp*, 5th Edition, P.W. Hart and A. W. Rudie, Editors, Tappi Press, p 9-49 (2012)

Adriaan van Heiningen, Joseph Genco, Sunghoon Yoon, Mehmet S. Tunc, Haixuan Zou, Jie Luo, Haibo Mao and Hemant Pendse, Integrated Forest Biorefineries – Near-Neutral Process, Chapter 17 in *Sustainable Production of Fuels, Chemicals, and Fibers from Forest Biomass*, Eds. Junyong (J. Y.) Zhu, Xiao Zhang, Xuejun (Jun) Pan, ACS Volume 1067, ISBN13: 9780841226432, DOI: 10.1021/bk-2011-1067, Publication Date (Web): July 11, 2011

Patents

Van Heiningen, A., H. Sixta, B-H. Um, P van Walsum, "Recovery of Acetic Acid from Wood Extracts", US Patent US 8,785,688 B2, July 22nd, 2014

Shaler, Stephen M.; Paredes, Juan J.; Van Heiningen, Adriaan Reinhard Pieter, "Composite from hemicellulose extracted wood with improved performance and reduced emissions", US. Pat. No. US-2011-0294925-A1, December 1st, 2011

Adriaan van Heiningen, Sung-Hoon Yoon, Haixuan Zou, Jianer Jiang and Gopal C. Goyal, "Process of Treating a Lignocellulosic Material with an Alkali Metal Borate Pre-Extraction Step", US Patent 7,943,009 B2, May 17, 2011

Adriaan, Reinhard Pieter van Heiningen, Sung-Hoon Yoon, Haixuan Zou, Jianer Jiang, and Gopal C. Goyal, "Process of Treating a Lignocellulosic Material with Hemicellulose Pre-Extraction and Hemicellulose Adsorption", US Patent 7,824,521 B2, November 2, 2010

Adriaan, Reinhard Pieter van Heiningen, Sung-Hoon Yoon, Haixuan Zou, Jianer Jiang, and Gopal C. Goyal, "Pre-extraction and Solvent Pulping of Lignocellulosic Material, US Patent 7,842,161 B2, November 30, 2010

Retsina, Theodora; Pylkkanen, Vesa; Van Heiningen, Adriaan, "Method for vapor phase pulping with alcohol and sulfur dioxide", U.S. Pat. Appl. Publ. (2009), 5pp. US 2009236060 A1 20090924

Van Heiningen, Adriaan; Sixta, Herbert; Um, Byung-Hwan; Van Walsum, Peter. Recovery of acetic acid from wood extracts. PCT Int. Appl. (2009), 17pp. WO 2009059228 A2 20090507 CAN 150:496610 AN 2009:549432