

References

Description

References

- Abbott, A. P., Bell, T. J., Handa, S., & Stoddart, B. (2006). Cationic functionalisation of cellulose using a choline based ionic liquid analogue. *Green Chemistry*, 8, 784?786.
- Abdul Khalil, H. P. S., Bhat, A. H., & Ireneana Yusra, A. F. (2012). Green composites from sustainable cellulose nanofibrils : A review. *Carbohydrate Polymers*, 87, 963?979
- Abitbol, T., Rivkin, A., Cao, Y., Nevo, Y., Abraham, E., Ben-Shalom, T., ... Shoseyov, O. (2016). Nanocellulose, a tiny fiber with huge applications. *Current Opinion in Biotechnology*, 39, 76?88.
- Adenekan, K., & Hutton-Prager, B. (2019). Sticky hydrophobic behavior of cellulose substrates impregnated with alkyl ketene dimer (AKD) via sub- and supercritical carbon dioxide. *Colloids and Surfaces A : Physicochemical and Engineering Aspects*, 560, 154?163.
- Aduba, D. C., An, S.-S., Selders, G. S., Wang, J., Yeudall, W. A., Bowlin, G. L., ... Yang, H. (2016). Fabrication, characterization, and in vitro evaluation of silver-containing arabinoxylan foams as antimicrobial wound dressing. *Journal of Biomedical Materials Research Part A*, 104, 2456?2465.
- Ajit Kumar Varma, Arun Bal, Harish Kumar, Rajesh Kesav, & Sandhya Nair. (2006). Efficacy of Polyurethane Foam Dressing in Debrided Diabetic Lower Limb Wounds. *Wounds Research*, 18, 300?306.
- A. Kenar, J., J. Eller, F., C. Felker, F., A. Jackson, M., & F. Fanta, G. (2014). Starch aerogel beads obtained from inclusion complexes prepared from high amylose starch and sodium palmitate. *Green Chemistry*, 16, 1921?1930.
- Alexandrescu, L., Syverud, K., Gatti, A., & Chinga-Carrasco, G. (2013). Cytotoxicity tests of cellulose nanofibril-based structures. *Cellulose*, 20, 1765?1775.
- Alvarado, N., Romero, J., Torres, A., López de Dicastillo, C., Rojas, A., Galotto, M. J., & Guarda, A. (2018). Supercritical impregnation of thymol in poly(lactic acid) filled with electrospun poly(vinyl alcohol)-cellulose nanocrystals nanofibers : Development an active food packaging material. *Journal of Food Engineering*, 217, 1?10.
- Amin, M., Abadi, A. G., Ahmad, N., Katas, H., & Jamal, J. (2012). Bacterial cellulose film coating as drug delivery system : Physicochemical, thermal and drug release properties. *Sains Malaysiana*, 41, 561–568.
- Aminayi, P., & Abidi, N. (2015). Ultra-oleophobic cotton fabric prepared using molecular and nanoparticle vapor deposition methods. *Surface and Coatings Technology*, 276, 636?644.
- Anastas, P. T., & Warner, J. C. (1998). *Green Chemistry : Theory and Practice*. Oxford University Press : New York, p. 30.
- Anjum, S., Arora, A., Alam, M. S., & Gupta, B. (2016). Development of antimicrobial and scar preventive chitosan hydrogel wound dressings. *International Journal of Pharmaceutics*, 508, 92?101.
- Araújo, M., Viveiros, R., Philippart, A., Miola, M., Doumett, S., Baldi, G., ... Verné, E. (2017). Bioactivity, mechanical properties and drug delivery ability of bioactive glass-ceramic scaffolds coated with a natural-derived polymer. *Materials Science and Engineering : C*, 77, 342?351.
- Ávila Ramírez, J. A., Fortunati, E., Kenny, J. M., Torre, L., & Foresti, M. L. (2017). Simple citric

- acid-catalyzed surface esterification of cellulose nanocrystals. *Carbohydrate Polymers*, 157, 1358?1364.
- Azzam, F., Heux, L., Putaux, J.-L., & Jean, B. (2010). Preparation By Grafting Onto, Characterization, and Properties of Thermally Responsive Polymer-Decorated Cellulose Nanocrystals. *Biomacromolecules*, 11, 3652?3659.
 - Bacakova, L., Pajorova, J., Bacakova, M., Skogberg, A., Kallio, P., Kolarova, K., & Svorcik, V. (2019). Versatile Application of Nanocellulose : From Industry to Skin Tissue Engineering and Wound Healing. *Nanomaterials*, 9, 164.
 - Bachu, S. (2003). Screening and ranking sedimentary basins for sequestration of CO₂ in geological media in response to climate change. *Environmental Geology*, 277?289.
 - Barazzouk, S., & Daneault, C. (2012). Tryptophan-based peptides grafted onto oxidized nanocellulose. *Cellulose*, 19, 481?493.
 - Bardet, R., Belgacem, N., & Bras, J. (2015). Flexibility and Color Monitoring of Cellulose Nanocrystal Iridescent Solid Films Using Anionic or Neutral Polymers. *ACS Applied Materials & Interfaces*, 7, 4010?4018.
 - Barrett, E. P., Joyner, L. G., & Halenda, P. P. (1951). The Determination of Pore Volume and Area Distributions in Porous Substances. I. Computations from Nitrogen Isotherms. *Journal of the American Chemical Society*, 73, 373?380.
 - Barros, A. A., Oliveira, C., Reis, R. L., Lima, E., & Duarte, A. R. C. (2015). Ketoprofen-eluting biodegradable ureteral stents by CO₂ impregnation : In vitro study. *International Journal of Pharmaceutics*, 495, 651?659.
 - Bassanetti, I., Carcelli, M., Buschini, A., Montalbano, S., Leonardi, G., Pelagatti, P., ... Rogolino, D. (2017). Investigation of antibacterial activity of new classes of essential oils derivatives. *Food Control*, 73, 606?612.
 - Basu, A., Heitz, K., Strømme, M., Welch, K., & Ferraz, N. (2018). Ion-crosslinked wood-derived nanocellulose hydrogels with tunable antibacterial properties : Candidate materials for advanced wound care applications. *Carbohydrate Polymers*, 181, 345?350.
 - Basu, A., Lindh, J., Ålander, E., Strømme, M., & Ferraz, N. (2017). On the use of ion-crosslinked nanocellulose hydrogels for wound healing solutions : Physicochemical properties and application-oriented biocompatibility studies. *Carbohydrate Polymers*, 174, 299?308.
 - Belbekhouche, S., Bras, J., Siqueira, G., Chappéy, C., Lebrun, L., Khelifi, B., ... Dufresne, A. (2011). Water sorption behavior and gas barrier properties of cellulose whiskers and microfibrils films. *Carbohydrate Polymers*, 83, 1740?1748.
 - Benítez, A. J., & Walther, A. (2017). Cellulose nanofibril nanopapers and bioinspired nanocomposites : A review to understand the mechanical property space. *Journal of Materials Chemistry A*, 5, 16003?16024.
 - Benkaddour, A., Jradi, K., Robert, S., & Daneault, C. (2013). Study of the Effect of Grafting Method on Surface Polarity of Tempo-Oxidized Nanocellulose Using Polycaprolactone as the Modifying Compound : Esterification versus Click-Chemistry. *Nanomaterials*, 3, 638?654.
 - Berlizot, S., Molina-Boisseau, S., Nishiyama, Y., & Heux, L. (2009). Gas-Phase Surface Esterification of Cellulose Microfibrils and Whiskers. *Biomacromolecules*, 10, 2144?2151.
 - Bernhardt, A., Wehrl, M., Paul, B., Hochmuth, T., Schumacher, M., Schütz, K., & Gelinsky, M. (2015). Improved Sterilization of Sensitive Biomaterials with Supercritical Carbon Dioxide at Low Temperature. *PLoS ONE*, 10. <https://doi.org/10.1371/journal.pone.0129205>
 - Bessa, L. J., Fazii, P., Giulio, M. D., & Cellini, L. (2015). Bacterial isolates from infected wounds and their antibiotic susceptibility pattern : Some remarks about wound infection. *International Wound Journal*, 12, 47?52.

- Bhat, A. H., Dasan, Y. K., Khan, I., & Jawaid, M. (2017). Cellulosic Biocomposites : Potential Materials for Future. In M. Jawaid, M. S. Salit, & O. Y. Alothman (Éds.), *Green Biocomposites : Design and Applications* (p. 69?100). Cham : Springer International Publishing.
- Bilalov, T. R., Zakharov, A. A., Jaddoa, A. A., Gumerov, F. M., & Neindre, B. L. (2017). Treatment of different types of cotton fabrics by ammonium palmitate in a supercritical CO₂ environment. *The Journal of Supercritical Fluids*, 130, 47?55.
- Blackwell, M. (2011). The Fungi : 1, 2, 3 ... 5.1 million species ? *American Journal of Botany*, 98, 426?438.
- Blair, J. M. A., Webber, M. A., Baylay, A. J., Ogbolu, D. O., & Piddock, L. J. V. (2015). Molecular mechanisms of antibiotic resistance. *Nature Reviews Microbiology*, 13, 42?51.
- Bouledjoudja, A., Masmoudi, Y., Sergent, M., Trivedi, V., Meniai, A., & Badens, E. (2016). Drug loading of foldable commercial intraocular lenses using supercritical impregnation. *International Journal of Pharmaceutics*, 500, 85?99.
- Braga, M. E. M., Pato, M. T. V., Gil, M. H., Duarte, C. M. M., & de Sousa, H. C. (2008). Supercritical solvent impregnation of ophthalmic drugs on chitosan derivatives. 13.
- Brett, D. (2008). A Review of Collagen and Collagen-based Wound Dressings. *Wounds : A Compendium of Clinical Research and Practice*, 20, 347?356.
- Brochier Salon, M.-C., Abdelmouleh, M., Boufi, S., Belgacem, M. N., & Gandini, A. (2005). Silane adsorption onto cellulose fibers : Hydrolysis and condensation reactions. *Journal of Colloid and Interface Science*, 289, 249?261.
- Brockman, A. C., & Hubbe, M. A. (2017). Charge reversal system with cationized cellulose nanocrystals to promote dewatering of a cellulosic fiber suspension. *Cellulose*, 24, 4821?4830.
- Brunauer, S., Emmett, P. H., & Teller, E. (1938). Adsorption of Gases in Multimolecular Layers. *Journal of the American Chemical Society*, 60, 309?319.
- Buchtová, N., & Budtova, T. (2016). Cellulose aero-, cryo- and xerogels : Towards understanding of morphology control. *Cellulose*, 23, 2585?2595.
- Budtova, T. (2019). Cellulose II aerogels : A review. *Cellulose*, 26, 81?121.
- Bueno, A., Selmer, I., S.P, R., Gurikov, P., Lölsberg, W., Weinrich, D., ... Smirnova, I. (2018). First Evidence of Solvent Spillage under Subcritical Conditions in Aerogel Production. *Industrial & Engineering Chemistry Research*, 57, 8698?8707.
- Buesch, C., Smith, S. W., Eschbach, P., Conley, J. F., & Simonsen, J. (2016). The Microstructure of Cellulose Nanocrystal Aerogels as Revealed by Transmission Electron Microscope Tomography. *Biomacromolecules*, 17, 2956?2962.
- Cai, J., Kimura, S., Wada, M., Kuga, S., & Zhang, L. (2008). Cellulose Aerogels from Aqueous Alkali Hydroxide?Urea Solution. *ChemSusChem*, 1, 149?154.
- Cai, R., Hu, M., Zhang, Y., Niu, C., Yue, T., Yuan, Y., & Wang, Z. (2019). Antifungal activity and mechanism of citral, limonene and eugenol against *Zygosaccharomyces rouxii*. *LWT*, 106, 50?56.
- Caldeira, E., Piskin, E., Granadeiro, L., Silva, F., & Gouveia, I. C. (2013). Biofunctionalization of cellulosic fibres with L-cysteine : Assessment of antibacterial properties and mechanism of action against *Staphylococcus aureus* and *Klebsiella pneumoniae*. *Journal of Biotechnology*, 168, 426?435.
- Camarero-Espinosa, S., Rothen-Rutishauser, B., Johan Foster, E., & Weder, C. (2016). Articular cartilage : From formation to tissue engineering. *Biomaterials Science*, 4, 734?767.
- Camy, S., Montanari, S., Rattaz, A., Vignon, M., & Condoret, J.-S. (2009). Oxidation of cellulose in pressurized carbon dioxide. *The Journal of Supercritical Fluids*, 51, 188?196.
- Cao, Y., Zavaterri, P., Youngblood, J., Moon, R., & Weiss, J. (2015). The influence of cellulose nanocrystal additions on the performance of cement paste. *Cement and Concrete Composites*,

56, 73?83.

- Cao, Z., Luo, X., Zhang, H., Fu, Z., Shen, Z., Cai, N., ... Yu, F. (2016). A facile and green strategy for the preparation of porous chitosan-coated cellulose composite membranes for potential applications as wound dressing. *Cellulose*, 23, 1349?1361.
- Capron, I., & Cathala, B. (2013). Surfactant-Free High Internal Phase Emulsions Stabilized by Cellulose Nanocrystals. *Biomacromolecules*, 14, 291?296.
- Carpenter, A. W., de Lannoy, C.-F., & Wiesner, M. R. (2015). Cellulose Nanomaterials in Water Treatment Technologies. *Environmental Science & Technology*, 49, 5277?5287.
- Cervin, N. T., Aulin, C., Larsson, P. T., & Wågberg, L. (2012). Ultra porous nanocellulose aerogels as separation medium for mixtures of oil/water liquids. *Cellulose*, 19, 401?410.
- Champeau, M., Thomassin, J.-M., Tassaing, T., & Jérôme, C. (2015). Drug loading of polymer implants by supercritical CO₂ assisted impregnation : A review. *Journal of Controlled Release*, 209, 248?259.
- Chantereau, G., Brown, N., Dourges, M.-A., Freire, C. S. R., Silvestre, A. J. D., Sebe, G., & Coma, V. (2019). Silylation of bacterial cellulose to design membranes with intrinsic anti-bacterial properties. *Carbohydrate Polymers*, 220, 71?78.
- Chauve, G., Fraschini, C., & Jean, B. (2014). Separation of Cellulose Nanocrystals. In K. Oksman, A. P. Mathew, A. Bismarck, O. Rojas, & M. Sain, *Materials and Energy* (Vol. 5, p. 73?87). Singapore : WORLD SCIENTIFIC.
- Chawla, P. R., Bajaj, I. B., Survase, S. A., & Singhal, R. S. (2009). Microbial Cellulose : Fermentative Production and Applications. 19.
- Chen, L., Lai, C., Marchewka, R., M. Berry, R., & C. Tam, K. (2016). Use of CdS quantum dot-functionalized cellulose nanocrystal films for anti-counterfeiting applications. *Nanoscale*, 8, 13288?13296.
- Chen, Y., Niu, M., Yuan, S., & Teng, H. (2013). Durable antimicrobial finishing of cellulose with QSA silicone by supercritical adsorption. *Applied Surface Science*, 264, 171?175.
- Chen, Y., Zhang, Q., Ma, Y., & Han, Q. (2018). Surface-oriented fluorinated pyridinium silicone with enhanced antibacterial activity on cotton via supercritical impregnation. *Cellulose*, 25, 1499?1511.
- Cheng, F., Liu, C., Wei, X., Yan, T., Li, H., He, J., & Huang, Y. (2017). Preparation and Characterization of 2,2,6,6-Tetramethylpiperidine-1-oxyl (TEMPO)-Oxidized Cellulose Nanocrystal/Alginate Biodegradable Composite Dressing for Hemostasis Applications. *ACS Sustainable Chemistry & Engineering*, 5, 3819?3828.
- Cheng, Q., Ye, D., Chang, C., & Zhang, L. (2017). Facile fabrication of superhydrophilic membranes consisted of fibrous tunicate cellulose nanocrystals for highly efficient oil/water separation. *Journal of Membrane Science*, 525, 1?8.
- Chindawong, C., & Johannsmann, D. (2014). An anisotropic ink based on crystalline nanocellulose : Potential applications in security printing. *Journal of Applied Polymer Science*, 131. <https://doi.org/10.1002/app.41063>
- Ching, Y. C., Ershad Ali, Md., Abdullah, L. C., Choo, K. W., Kuan, Y. C., Julaihi, S. J., ... Liou, N.-S. (2016). Rheological properties of cellulose nanocrystal-embedded polymer composites : A review. *Cellulose*, 23, 1011?1030.
- Chu, G., Qu, D., Zussman, E., & Xu, Y. (2017). Ice-Assisted Assembly of Liquid Crystalline Cellulose Nanocrystals for Preparing Anisotropic Aerogels with Ordered Structures. *Chemistry of Materials*, 29, 3980?3988.
- Ciftci, D., Ubeyitogullari, A., Huerta, R. R., Ciftci, O. N., Flores, R. A., & Saldaña, M. D. A. (2017). Lupin hull cellulose nanofiber aerogel preparation by supercritical CO₂ and freeze drying. The

- Journal of Supercritical Fluids, 127, 137?145.
- CNRS. (2017). Risques biologiques. Les cahiers de prévention, 88.
 - Costa, V. P., Braga, M. E. M., Duarte, C. M. M., Alvarez-Lorenzo, C., Concheiro, A., & Gil, M. H. (2010). Anti-glaucoma drug-loaded contact lenses prepared using supercritical solvent impregnation. 9.
 - Courtenay, J. C., Deneke, C., Lanzoni, E. M., Costa, C. A., Bae, Y., Scott, J. L., & Sharma, R. I. (2018). Modulating cell response on cellulose surfaces ; tunable attachment and scaffold mechanics. Cellulose, 25, 925?940.
 - Cunha, A. G., Mougel, J.-B., Cathala, B., Berglund, L. A., & Capron, I. (2014). Preparation of Double Pickering Emulsions Stabilized by Chemically Tailored Nanocelluloses. Langmuir, 30, 9327?9335.
 - da Silva, C. V., Pereira, V. J., Costa, G. M. N., Cabral-Albuquerque, E. C. M., Vieira de Melo, S. A. B., de Sousa, H. C., ... Braga, M. E. M. (2018). Supercritical solvent impregnation/deposition of spilanthol-enriched extracts into a commercial collagen/cellulose-based wound dressing. The Journal of Supercritical Fluids, 133, 503?511.
 - Dabiri, G., Damstetter, E., & Phillips, T. (2016). Choosing a Wound Dressing Based on Common Wound Characteristics. Advances in Wound Care, 5, 32?41.
 - Daltrey, D. C., Rhodes, B., & Chattwood, J. G. (1981). Investigation into the microbial flora of healing and non-healing decubitus ulcers. Journal of Clinical Pathology, 34, 701?705.
 - Davis, N. J., & Flitsch, S. L. (1993). Selective oxidation of monosaccharide derivatives to uronic acids. Tetrahedron Letters, 34, 1181?1184.
 - De France, K. J., Hoare, T., & Cranston, E. D. (2017). Review of Hydrogels and Aerogels Containing Nanocellulose. Chemistry of Materials, 29, 4609?4631.
 - Desmaisons, J., Boutonnet, E., Rueff, M., Dufresne, A., & Bras, J. (2017). A new quality index for benchmarking of different cellulose nanofibrils. Carbohydrate Polymers, 174, 318?329.
 - Dias, I. J., Trajano, E. R. I. S., Castro, R. D., Ferreira, G. L. S., Medeiros, H. C. M., & Gomes, D. Q. C. (2017). Antifungal activity of linalool in cases of *Candida* spp. Isolated from individuals with oral candidiasis. Brazilian Journal of Biology, 78, 368?374.
 - Díez, I., Eronen, P., Österberg, M., Linder, M. B., Ikkala, O., & Ras, R. H. A. (2011). Functionalization of Nanofibrillated Cellulose with Silver Nanoclusters : Fluorescence and Antibacterial Activity. Macromolecular Bioscience, 11, 1185?1191.
 - Dimic-Misic, K., Gane, P. A. C., & Paltakari, J. (2013). Micro- and Nanofibrillated Cellulose as a Rheology Modifier Additive in CMC-Containing Pigment-Coating Formulations. Industrial & Engineering Chemistry Research, 52, 16066?16083.
 - Dong, S., Cho, H. J., Lee, Y. W., & Roman, M. (2014). Synthesis and Cellular Uptake of Folic Acid-Conjugated Cellulose Nanocrystals for Cancer Targeting. Biomacromolecules, 15, 1560?1567.
 - Donius, A. E., Liu, A., Berglund, L. A., & Wegst, U. G. K. (2014). Superior mechanical performance of highly porous, anisotropic nanocellulose–montmorillonite aerogels prepared by freeze casting. Journal of the Mechanical Behavior of Biomedical Materials, 37, 88?99.
 - Dragostin, O. M., Samal, S. K., Dash, M., Lupascu, F., Panzariu, A., Tuchilus, C., ... Profire, L. (2016). New antimicrobial chitosan derivatives for wound dressing applications. Carbohydrate Polymers, 141, 28?40.
 - Dumanli, A. G., van der Kooij, H. M., Kamita, G., Reisner, E., Baumberg, J. J., Steiner, U., & Vignolini, S. (2014). Digital Color in Cellulose Nanocrystal Films. ACS Applied Materials & Interfaces, 6, 12302?12306.
 - Durand, H. (2019). Functionalization of cellulose nanofibrils for the development of biobased

- medical devices. Université Grenoble Alpes, Grenoble.
- Elazzouzi-Hafraoui, S., Nishiyama, Y., Putaux, J.-L., Heux, L., Dubreuil, F., & Rochas, C. (2008). The Shape and Size Distribution of Crystalline Nanoparticles Prepared by Acid Hydrolysis of Native Cellulose. *Biomacromolecules*, 9, 57?65.
 - Erol, S., Altinparlak, U., Akcay, M. N., Celebi, F., & Parlak, M. (2004). Changes of microbial flora and wound colonization in burned patients. *Burns*, 30, 357?361.
 - Esa, F., Tasirin, S. M., & Rahman, N. A. (2014). Overview of Bacterial Cellulose Production and Application. *Agriculture and Agricultural Science Procedia*, 2, 113?119.
 - Espino-Pérez, E., Bras, J., Almeida, G., Relkin, P., Belgacem, N., Plessis, C., & Domenek, S. (2016). Cellulose nanocrystal surface functionalization for the controlled sorption of water and organic vapours. *Cellulose*, 23, 2955?2970.
 - Espino-Pérez, E., Bras, J., Ducruet, V., Guinault, A., Dufresne, A., & Domenek, S. (2013). Influence of chemical surface modification of cellulose nanowhiskers on thermal, mechanical, and barrier properties of poly(lactide) based bionanocomposites. *European Polymer Journal*, 49, 3144?3154.
 - Eyley, S., & Thielemans, W. (2014). Surface modification of cellulose nanocrystals. *Nanoscale*, 6, 7764?7779.
 - Fanovich, M. A., Ivanovic, J., Zizovic, I., Misic, D., & Jaeger, P. (2016). Functionalization of polycaprolactone/hydroxyapatite scaffolds with Usnea lethariiformis extract by using supercritical CO₂. *Materials Science and Engineering : C*, 58, 204?212.
 - Fernandez Cid, M. V., van Spronsen, J., van der Kraan, M., Veugelers, W. J. T., Woerlee, G. F., & Witkamp, G. J. (2007). A significant approach to dye cotton in supercritical carbon dioxide with fluorotriazine reactive dyes. *The Journal of Supercritical Fluids*, 40, 477?484.
 - Fernández-Ponce, M. T., Medina-Ruiz, E., Casas, L., Mantell, C., & Martínez de la Ossa-Fernández, E. J. (2018). Development of cotton fabric impregnated with antioxidant mango polyphenols by means of supercritical fluids. *The Journal of Supercritical Fluids*, 140, 310?319.
 - Ferrer, A., Pal, L., & Hubbe, M. (2017). Nanocellulose in packaging : Advances in barrier layer technologies. *Industrial Crops and Products*, 95, 574?582.
 - Filpponen, I., & Argyropoulos, D. S. (2010). Regular Linking of Cellulose Nanocrystals via Click Chemistry : Synthesis and Formation of Cellulose Nanoplatelet Gels. *Biomacromolecules*, 11, 1060?1066.
 - Finger, S., Wiegand, C., Buschmann, H.-J., & Hipler, U.-C. (2013). Antibacterial properties of cyclodextrin?antiseptics-complexes determined by microplate laser nephelometry and ATP bioluminescence assay. *International Journal of Pharmaceutics*, 452, 188?193.
 - Fleck, C. A., & Simman, R. (2011). Modern Collagen Wound Dressings : Function and Purpose. *The Journal of the American College of Certified Wound Specialists*, 2, 50?54.
 - Foster, E. J., Moon, R. J., Agarwal, U. P., Bortner, M. J., Bras, J., Camarero-Espinosa, S., ... Youngblood, J. (2018). Current characterization methods for cellulose nanomaterials. *Chemical Society Reviews*, 47, 2609?2679.
 - Fujisawa, S., Okita, Y., Fukuzumi, H., Saito, T., & Isogai, A. (2011). Preparation and characterization of TEMPO-oxidized cellulose nanofibril films with free carboxyl groups. *Carbohydrate Polymers*, 84, 579?583.
 - Fukuzumi, H., Saito, T., Iwata, T., Kumamoto, Y., & Isogai, A. (2009). Transparent and High Gas Barrier Films of Cellulose Nanofibers Prepared by TEMPO-Mediated Oxidation. *Biomacromolecules*, 10, 162?165.
 - Fumagalli, M., Ouhab, D., Boisseau, S. M., & Heux, L. (2013). Versatile Gas-Phase Reactions for Surface to Bulk Esterification of Cellulose Microfibrils Aerogels. *Biomacromolecules*, 14,

3246?3255.

- Fumagalli, M., Sanchez, F., Molina Boisseau, S., & Heux, L. (2013). Gas-phase esterification of cellulose nanocrystal aerogels for colloidal dispersion in apolar solvents. *Soft Matter*, 9, 11309?11317.
- Fumagalli, M., Sanchez, F., Molina-Boisseau, S., & Heux, L. (2015). Surface-restricted modification of nanocellulose aerogels in gas-phase esterification by di-functional fatty acid reagents. *Cellulose*, 22, 1451?1457.
- Furno, F., Morley, K. S., Wong, B., Sharp, B. L., Arnold, P. L., Howdle, S. M., ... Reid, H. J. (2004). Silver nanoparticles and polymeric medical devices : A new approach to prevention of infection ? *The Journal of Antimicrobial Chemotherapy*, 54, 1019?1024.
- Gandini, A., & Belgacem, M. N. (2011). 1—Modifying cellulose fiber surfaces in the manufacture of natural fiber composites. In N. E. Zafeiropoulos (Ed.), *Interface Engineering of Natural Fibre Composites for Maximum Performance* (p. 3?42). Woodhead Publishing.
- García-González, C.A., Alnaief, M., & Smirnova, I. (2011). Polysaccharide-based aerogels—Promising biodegradable carriers for drug delivery systems. *Carbohydrate Polymers*, 86, 1425?1438.
- García-González, Carlos A., Barros, J., Rey-Rico, A., Redondo, P., Gómez-Amoza, J. L., Concheiro, A., ... Monteiro, F. J. (2018). Antimicrobial Properties and Osteogenicity of Vancomycin-Loaded Synthetic Scaffolds Obtained by Supercritical Foaming. *ACS Applied Materials & Interfaces*, 10, 3349?3360.
- Geng, B., Wang, H., Wu, S., Ru, J., Tong, C., Chen, Y., ... Liu, X. (2017). Surface-Tailored Nanocellulose Aerogels with Thiol-Functional Moieties for Highly Efficient and Selective Removal of Hg(II) Ions from Water. *ACS Sustainable Chemistry & Engineering*, 5, 11715?11726.
- George, J., & Sabapathi, S. (2015). Cellulose nanocrystals : Synthesis, functional properties, and applications. *Nanotechnology, Science and Applications*, 45.
- Gibas, I., & Janik, H. (2010). REVIEW : SYNTHETIC POLYMER HYDROGELS FOR BIOMEDICAL APPLICATIONS. *Chemistry and Chemical Technology*, 4, 8.
- Gibbons, S. (2008). Phytochemicals for Bacterial Resistance—Strengths, Weaknesses and Opportunities. *Planta Medica*, 74, 594?602.
- Gibson, L. J., & Ashby, M. F. (1999). *Cellular Solids : Structure and Properties*. Cambridge : Cambridge University Press.
- Gicquel, E., Martin, C., Gauthier, Q., Engström, J., Abbattista, C., Carlmark, A., ... Bras, J. (2019). Tailoring Rheological Properties of Thermoresponsive Hydrogels through Block Copolymer Adsorption to Cellulose Nanocrystals. *Biomacromolecules*.
<https://doi.org/10.1021/acs.biomac.9b00327>
- Gittard, S. D., Hojo, D., Hyde, G. K., Scarel, G., Narayan, R. J., & Parsons, G. N. (2010). Antifungal Textiles Formed Using Silver Deposition in Supercritical Carbon Dioxide. *Journal of Materials Engineering and Performance*, 19, 368?373.
- Gjødsbøl, K., Christensen, J. J., Karlsmark, T., Jørgensen, B., Klein, B. M., & Krogfelt, K. A. (2006). Multiple bacterial species reside in chronic wounds : A longitudinal study. *International Wound Journal*, 3, 225?231.
- Goussé, C., Chanzy, H., Cerrada, M. L., & Fleury, E. (2004). Surface silylation of cellulose microfibrils : Preparation and rheological properties. *Polymer*, 45, 1569?1575.
- Gram, C. (1884). The differential staining of Schizomycetes in tissue sections and in dried preparations. *Fortschritte der Medicin*, 2, 185?189.
- Grishkewich, N., Mohammed, N., Tang, J., & Tam, K. C. (2017). Recent advances in the application of cellulose nanocrystals. *Current Opinion in Colloid & Interface Science*, 29, 32?45.

- Gristina, A. G., Naylor, P. T., & Myrvik, Q. (1989). The Race for the Surface : Microbes, Tissue Cells, and Biomaterials. Molecular Mechanisms of Microbial Adhesion, 177?211.
- Guggenheim, M., Zbinden, R., Handschin, A. E., Gohritz, A., Altintas, M. A., & Giovanoli, P. (2009). Changes in bacterial isolates from burn wounds and their antibiograms : A 20-year study (1986–2005). Burns, 35, 553?560.
- Guidetti, G., Atifi, S., Vignolini, S., & Hamad, W. Y. (2016). Flexible Photonic Cellulose Nanocrystal Films. Advanced Materials, 28, 10042?10047.
- Guo, J., Fang, W., Welle, A., Feng, W., Filpponen, I., Rojas, O. J., & Levkin, P. A. (2016). Superhydrophobic and Slippery Lubricant-Infused Flexible Transparent Nanocellulose Films by Photoinduced Thiol-Ene Functionalization. ACS Applied Materials & Interfaces, 8, 34115?34122.
- Gupta, S., Martoïa, F., Orgéas, L., & Dumont, P. (2018). Ice-Templated Porous Nanocellulose-Based Materials : Current Progress and Opportunities for Materials Engineering. Applied Sciences, 8, 2463.
- Habibi, Y. (2014). Key advances in the chemical modification of nanocelluloses. Chem. Soc. Rev., 43, 1519?1542.
- Habibi, Y., Chanzy, H., & Vignon, M. R. (2006). TEMPO-mediated surface oxidation of cellulose whiskers. Cellulose, 13, 679?687.
- Habibi, Y., & Dufresne, A. (2008). Highly Filled Bionanocomposites from Functionalized Polysaccharide Nanocrystals. Biomacromolecules, 9, 1974?1980.
- Habibi, Y., Goffin, A.-L., Schiltz, N., Duquesne, E., Dubois, P., & Dufresne, A. (2008). Bionanocomposites based on poly(?-caprolactone)-grafted cellulose nanocrystals by ring-opening polymerization. 18, 5002?5010.
- Habibi, Y., Lucia, L. A., & Rojas, O. J. (2010). Cellulose Nanocrystals : Chemistry, Self-Assembly, and Applications. Chemical Reviews, 110, 3479?3500.
- Haimer, E., Wendland, M., Schlüter, K., Frankenfeld, K., Miethe, P., Potthast, A., ... Liebner, F. (2010). Loading of Bacterial Cellulose Aerogels with Bioactive Compounds by Antisolvent Precipitation with Supercritical Carbon Dioxide. Macromolecular Symposia, 294, 64?74.
- Han, Y., Zhang, X., Wu, X., & Lu, C. (2015). Flame Retardant, Heat Insulating Cellulose Aerogels from Waste Cotton Fabrics by in Situ Formation of Magnesium Hydroxide Nanoparticles in Cellulose Gel Nanostructures. ACS Sustainable Chemistry & Engineering, 3, 1853?1859.
- Harrisson, S., Drisko, G. L., Malmström, E., Hult, A., & Wooley, K. L. (2011). Hybrid Rigid/Soft and Biologic/Synthetic Materials : Polymers Grafted onto Cellulose Microcrystals. Biomacromolecules, 12, 1214?1223.
- Hasani, M., Cranston, E. D., Westman, G., & Gray, D. G. (2008). Cationic surface functionalization of cellulose nanocrystals. 4, 2238?2244.
- Hawksworth, D. L., & Lücking, R. (2017). Fungal Diversity Revisited : 2.2 to 3.8 Million Species. Microbiology Spectrum, 5. <https://doi.org/10.1128/microbiolspec.FUNK-0052-2016>
- Heath, L., & Thielemans, W. (2010). Cellulose nanowhisker aerogels. Green Chemistry, 12, 1448.
- Hendrix, W. A. (2001). Progress in Supercritical Co2Dyeing. Journal of Industrial Textiles, 31, 43?56.
- Henriksson, M., Henriksson, G., Berglund, L. A., & Lindström, T. (2007). An environmentally friendly method for enzyme-assisted preparation of microfibrillated cellulose (MFC) nanofibers. European Polymer Journal, 43, 3434?3441.
- Henriksson, Marielle, Berglund, L. A., Isaksson, P., Lindström, T., & Nishino, T. (2008). Cellulose Nanopaper Structures of High Toughness. Biomacromolecules, 9, 1579?1585.
- Herdegen, V., Felix, A., Haseneder, R., Repke, J.-U., Leppchen-Fröhlich, K., Prade, I., & Meyer, M. (2014). Sterilization of Medical Products from Collagen by Means of Supercritical CO 2.

Chemical Engineering & Technology, 37, 1891?1895.

- Hoeng, F., Denneulin, A., & Bras, J. (2016). Use of nanocellulose in printed electronics : A review. *Nanoscale*, 8, 13131?13154.
- Hoepfner, S., Ratke, L., & Milow, B. (2008). Synthesis and characterisation of nanofibrillar cellulose aerogels. *Cellulose*, 15, 121?129.
- Huang, J.-L., Li, C.-J., & G. Gray, D. (2014). Functionalization of cellulose nanocrystal films via “thiol–ene” click reaction. *RSC Advances*, 4, 6965?6969.
- Hubbe, M. A., Ferrer, A., Tyagi, P., Yin, Y., Salas, C., Pal, L., & Rojas, O. J. (2017). Nanocellulose in Thin Films, Coatings, and Plies for Packaging Applications : A Review. *BioResources*, 12. <https://doi.org/10.15376/biores.12.1.2143-2233>
- Isogai, A., Saito, T., & Fukuzumi, H. (2011). TEMPO-oxidized cellulose nanofibers. *Nanoscale*, 3, 71?85.
- Jaxel, J., Fontaine, L., Krenke, T., Hansmann, C., & Liebner, F. (2019). Bio-inspired conformational lipophilization of wood for scCO₂-assisted colouring with disperse dyes. *The Journal of Supercritical Fluids*, 147, 116?125.
- Jeschke, M. G., Sandmann, G., Schubert, T., & Klein, D. (2005). Effect of oxidized regenerated cellulose/collagen matrix on dermal and epidermal healing and growth factors in an acute wound. *Wound Repair and Regeneration*, 13, 324?331.
- Jiang, F., & Hsieh, Y.-L. (2014). Assembling and Redispersibility of Rice Straw Nanocellulose : Effect of tert -Butanol. *ACS Applied Materials & Interfaces*, 6, 20075?20084.
- Jiménez-Saelices, C., Seantier, B., Cathala, B., & Grohens, Y. (2017a). Effect of freeze-drying parameters on the microstructure and thermal insulating properties of nanofibrillated cellulose aerogels. *Journal of Sol-Gel Science and Technology*, 84, 475?485.
- Jiménez-Saelices, C., Seantier, B., Cathala, B., & Grohens, Y. (2017b). Spray freeze-dried nanofibrillated cellulose aerogels with thermal superinsulating properties. *Carbohydrate Polymers*, 157, 105?113.
- Jin, H., Nishiyama, Y., Wada, M., & Kuga, S. (2004). Nanofibrillar cellulose aerogels. *Colloids and Surfaces A : Physicochemical and Engineering Aspects*, 240, 63?67.
- Johansson, L.-S., Tammelin, T., M. Campbell, J., Setälä, H., & Österberg, M. (2011). Experimental evidence on medium driven cellulose surface adaptation demonstrated using nanofibrillated cellulose. *Soft Matter*, 7, 10917?10924.
- Jorfi, M., & Foster, E. J. (2015). Recent advances in nanocellulose for biomedical applications. *Journal of Applied Polymer Science*, 132, n/a-n/a.
- Jung, Y. H., Chang, T.-H., Zhang, H., Yao, C., Zheng, Q., Yang, V. W., ... Ma, Z. (2015). High-performance green flexible electronics based on biodegradable cellulose nanofibril paper. *Nature Communications*, 6, 7170.
- Kabiri, R., & Namazi, H. (2014). Surface grafting of reduced graphene oxide using nanocrystalline cellulose via click reaction. *Journal of Nanoparticle Research*, 16, 2474.
- Kalan, L., & Grice, E. A. (2018). Fungi in the Wound Microbiome. *Advances in Wound Care*, 7, 247?255.
- Kalemba, D., & Kunicka, A. (2003). Antibacterial and Antifungal Properties of Essential Oils. *Current Medicinal Chemistry*, 10, 913?829.
- Kang, H., Liu, R., & Huang, Y. (2013). Cellulose derivatives and graft copolymers as blocks for functional materials. *Polymer International*, 62, 338?344.
- Kapoor, G., Saigal, S., & Elongavan, A. (2017). Action and resistance mechanisms of antibiotics : A guide for clinicians. *Journal of Anaesthesiology, Clinical Pharmacology*, 33, 300?305.
- Karim, Z., Claudpierre, S., Grahn, M., Oksman, K., & Mathew, A. P. (2016). Nanocellulose based

- functional membranes for water cleaning : Tailoring of mechanical properties, porosity and metal ion capture. *Journal of Membrane Science*, 514, 418?428.
- Kasraian, K., & DeLuca, P. P. (1995). Thermal Analysis of the Tertiary Butyl Alcohol-Water System and Its Implications on Freeze-Drying. *Pharmaceutical Research*, 12, 484?490.
 - Kavoosi, G., Dadfar, S. M. M., & Purfard, A. M. (2013). Mechanical, Physical, Antioxidant, and Antimicrobial Properties of Gelatin Films Incorporated with Thymol for Potential Use as Nano Wound Dressing. *Journal of Food Science*, 78, E244?E250.
 - Kedzior, S. A., Zoppe, J. O., Berry, R. M., & Cranston, E. D. (2018). Recent advances and an industrial perspective of cellulose nanocrystal functionalization through polymer grafting. *Current Opinion in Solid State and Materials Science*. <https://doi.org/10.1016/j.cossms.2018.11.005>
 - Khanjanzadeh, H., Behrooz, R., Bahramifar, N., Gindl-Altmutter, W., Bacher, M., Edler, M., & Griesser, T. (2018). Surface chemical functionalization of cellulose nanocrystals by 3-aminopropyltriethoxysilane. *International Journal of Biological Macromolecules*, 106, 1288?1296.
 - Kim, H., Youn, J. R., & Song, Y. S. (2018). Eco-friendly flame retardant nanocrystalline cellulose prepared via silylation. *Nanotechnology*, 29, 455702.
 - Kim, J.-H., Lee, D., Lee, Y.-H., Chen, W., & Lee, S.-Y. (2018). Nanocellulose for Energy Storage Systems : Beyond the Limits of Synthetic Materials. *Advanced Materials*, 0, 1804826.
 - Kimura, S., & Itoh, T. (1996). New cellulose synthesizing complexes (terminal complexes) involved in animal cellulose biosynthesis in the tunicate *Metandrocarpa uedai*. *Protoplasma*, 194, 151?163.
 - Kistler, S. S. (1932). Coherent Expanded-Aerogels. *The Journal of Physical Chemistry*, 16, 52?64.
 - Klemm, D., Cranston, E. D., Fischer, D., Gama, M., Kedzior, S. A., Kralisch, D., ... Rauchfuß, F. (2018). Nanocellulose as a natural source for groundbreaking applications in materials science : Today's state. *Materials Today*, 21, 720?748.
 - Klemm, D., Kramer, F., Moritz, S., Lindström, T., Ankerfors, M., Gray, D., & Dorris, A. (2011). Nanocelluloses : A New Family of Nature-Based Materials. *Angewandte Chemie International Edition*, 50, 5438?5466.
 - Kobayashi, Y., Saito, T., & Isogai, A. (2014). Aerogels with 3D Ordered Nanofiber Skeletons of Liquid-Crystalline Nanocellulose Derivatives as Tough and Transparent Insulators. *Angewandte Chemie International Edition*, 53, 10394?10397.
 - Kolakovic, R., Laaksonen, T., Peltonen, L., Laukkanen, A., & Hirvonen, J. (2012). Spray-dried nanofibrillar cellulose microparticles for sustained drug release. *International Journal of Pharmaceutics*, 430, 47?55.
 - Kolakovic, R., Peltonen, L., Laukkanen, A., Hirvonen, J., & Laaksonen, T. (2012). Nanofibrillar cellulose films for controlled drug delivery. *European Journal of Pharmaceutics and Biopharmaceutics*, 82, 308?315.
 - Körber, A., Schmid, E. N., Buer, J., Klode, J., Schadendorf, D., & Dissemond, J. (2010). Bacterial colonization of chronic leg ulcers : Current results compared with data 5 years ago in a specialized dermatology department. *Journal of the European Academy of Dermatology and Venereology*, 24, 1017?1025.
 - Kordikowski, A., Schenk, A. P., Van Nielen, R. M., & Peters, C. J. (1995). Volume expansions and vapor-liquid equilibria of binary mixtures of a variety of polar solvents and certain near-critical solvents. *The Journal of Supercritical Fluids*, 8, 205?216.
 - Korhonen, J. T., Hiekkataipale, P., Malm, J., Karppinen, M., Ikkala, O., & Ras, R. H. A. (2011). Inorganic Hollow Nanotube Aerogels by Atomic Layer Deposition onto Native Nanocellulose Templates. *ACS Nano*, 5, 1967?1974.
 - Kumar, S. S. D., Rajendran, N. K., Hourelid, N. N., & Abrahamse, H. (2018). Recent advances on

- silver nanoparticle and biopolymer-based biomaterials for wound healing applications. International Journal of Biological Macromolecules, 115, 165?175.
- Larsson, E., Sanchez, C. C., Porsch, C., Karabulut, E., Wågberg, L., & Carlmark, A. (2013). Thermo-responsive nanofibrillated cellulose by polyelectrolyte adsorption. European Polymer Journal, 49, 2689?2696.
 - Lavoine, N., Desloges, I., Dufresne, A., & Bras, J. (2012a). Microfibrillated cellulose – Its barrier properties and applications in cellulosic materials : A review. Carbohydrate Polymers, 90, 735?764.
 - Lavoine, N., Desloges, I., Dufresne, A., & Bras, J. (2012b). Microfibrillated cellulose – Its barrier properties and applications in cellulosic materials : A review. Carbohydrate Polymers, 90, 735?764.
 - Lavoine, N., Tabary, N., Desloges, I., Martel, B., & Bras, J. (2014). Controlled release of chlorhexidine digluconate using beta-cyclodextrin and microfibrillated cellulose. Colloids and Surfaces B-Biointerfaces, 121, 196?205.
 - Lee, K.-Y., Aitomäki, Y., Berglund, L. A., Oksman, K., & Bismarck, A. (2014). On the use of nanocellulose as reinforcement in polymer matrix composites. Composites Science and Technology, 105, 15?27.
 - Lewis, K. M., Spazierer, D., Urban, M. D., Lin, L., Redl, H., & Goppelt, A. (2013). Comparison of regenerated and non-regenerated oxidized cellulose hemostatic agents. European Surgery, 45, 213?220.
 - L. Hatton, F., Engström, J., Forsling, J., Malmström, E., & Carlmark, A. (2017). Biomimetic adsorption of zwitterionic-xyloglucan block copolymers to CNF : Towards tailored super-absorbing cellulose materials. RSC Advances, 7, 14947?14958.
 - Li, F., Biagioni, P., Bollani, M., Maccagnan, A., & Piergiovanni, L. (2013). Multi-functional coating of cellulose nanocrystals for flexible packaging applications. Cellulose, 20, 2491?2504.
 - Li, H., Fu, S., Peng, L., & Zhan, H. (2012). Surface modification of cellulose fibers with layer-by-layer self-assembly of lignosulfonate and polyelectrolyte : Effects on fibers wetting properties and paper strength. Cellulose, 19, 533?546.
 - Li, P., Sirviö, J. A., Haapala, A., & Liimatainen, H. (2017). Cellulose Nanofibrils from Nonderivatizing Urea-Based Deep Eutectic Solvent Pretreatments. ACS Applied Materials & Interfaces, 9, 2846?2855.
 - Li, S., Bashline, L., Lei, L., & Gu, Y. (2014). Cellulose Synthesis and Its Regulation. The Arabidopsis Book / American Society of Plant Biologists, 12. <https://doi.org/10.1199/tab.0169>
 - Li, W. L., Lu, K., & Walz, J. Y. (2012). Freeze casting of porous materials : Review of critical factors in microstructure evolution. International Materials Reviews, 57, 37?60.
 - Li, W., Zhou, J., & Xu, Y. (2015). Study of the in vitro cytotoxicity testing of medical devices. Biomedical Reports, 3, 617?620.
 - Lin, N., & Dufresne, A. (2014). Nanocellulose in biomedicine : Current status and future prospect. European Polymer Journal, 59, 302?325.
 - Lin, N., Gèze, A., Wouessidjewe, D., Huang, J., & Dufresne, A. (2016). Biocompatible Double-Membrane Hydrogels from Cationic Cellulose Nanocrystals and Anionic Alginate as Complexing Drugs Codelivery. ACS Applied Materials & Interfaces, 8, 6880?6889.
 - Lin, N., Huang, J., & Dufresne, A. (2012). Preparation, properties and applications of polysaccharide nanocrystals in advanced functional nanomaterials : A review. Nanoscale, 4, 3274.
 - Lindman, B., Karlström, G., & Stigsson, L. (2010). On the mechanism of dissolution of cellulose. Journal of Molecular Liquids, 156, 76?81.

- Liu, X., Chen, J., Sun, P., Liu, Z.-W., & Liu, Z.-T. (2010). Grafting modification of ramie fibers with poly(2,2,2-trifluoroethyl methacrylate) via reversible addition–fragmentation chain transfer (RAFT) polymerization in supercritical carbon dioxide. *Reactive and Functional Polymers*, 70, 972?979.
- Ljungberg, N., Bonini, C., Bortolussi, F., Boisson, C., Heux, L., & Cavaillé. (2005). New Nanocomposite Materials Reinforced with Cellulose Whiskers in Atactic Polypropylene : Effect of Surface and Dispersion Characteristics. *Biomacromolecules*, 6, 2732?2739.
- Lönnberg, H., Larsson, K., Lindström, T., Hult, A., & Malmström, E. (2011). Synthesis of Polycaprolactone-Grafted Microfibrillated Cellulose for Use in Novel Bionanocomposites?Influence of the Graft Length on the Mechanical Properties. *ACS Applied Materials & Interfaces*, 3, 1426?1433.
- Loste, E., Fraile, J., Fanovich, M. A., Woerlee, G. F., & Domingo, C. (2004). Anhydrous Supercritical Carbon Dioxide Method for the Controlled Silanization of Inorganic Nanoparticles. *Advanced Materials*, 16, 739?744.
- Lozhechnikova, A., Dax, D., Vartiainen, J., Willför, S., Xu, C., & Österberg, M. (2014). Modification of nanofibrillated cellulose using amphiphilic block-structured galactoglucomannans. *Carbohydrate Polymers*, 110, 163?172.
- Luan, J., Wu, J., Zheng, Y., Song, W., Wang, G., Guo, J., & Ding, X. (2012). Impregnation of silver sulfadiazine into bacterial cellulose for antimicrobial and biocompatible wound dressing. *Biomedical Materials*, 7, 065006.
- Lumia, G. (2002). Utilisation du CO supercritique comme solvant de substitution. Ed. Techniques Ingénieur.
- Madigan, M. T., Martinko, J. M., & Brock, T. D. (2007). *Brock biologie des micro-organismes*. Paris : Pearson Education France.
- Madsen, S. M., Westh, H., Danielsen, L., & Rosdahl, V. T. (1996). Bacterial colonization and healing of venous leg ulcers. *APMIS*, 104, 895?899.
- Magi, G., Marini, E., & Facinelli, B. (2015). Antimicrobial activity of essential oils and carvacrol, and synergy of carvacrol and erythromycin, against clinical, erythromycin-resistant Group A Streptococci. *Frontiers in Microbiology*, 6. <https://doi.org/10.3389/fmicb.2015.00165>
- Malkov, G. S., & Fisher, E. R. (2010). Pulsed Plasma Enhanced Chemical Vapor Deposition of Poly(allyl alcohol) onto Natural Fibers. *Plasma Processes and Polymers*, 7, 695?707.
- Mano, V., Chimenti, S., Ruggeri, G., Pereira, F. V., & de Paula, E. L. (2017). P(CL-b-LLA) diblock copolymers grafting onto cellulosic nanocrystals. *Polymer Bulletin*, 74, 3673?3688.
- Marchese, A., Barbieri, R., Coppo, E., Orhan, I. E., Daglia, M., Nabavi, S. F., ... Ajami, M. (2017). Antimicrobial activity of eugenol and essential oils containing eugenol : A mechanistic viewpoint. *Critical Reviews in Microbiology*, 43, 668?689.
- Marchese, A., Orhan, I. E., Daglia, M., Barbieri, R., Di Lorenzo, A., Nabavi, S. F., ... Nabavi, S. M. (2016). Antibacterial and antifungal activities of thymol : A brief review of the literature. *Food Chemistry*, 210, 402?414.
- Mariano, M., Kissi, N. E., & Dufresne, A. (2014). Cellulose nanocrystals and related nanocomposites : Review of some properties and challenges. *Journal of Polymer Science Part B : Polymer Physics*, 52, 791?806.
- Martin, C. (2015). *Films multicouches à base de nanocristaux de cellulose : Relation entre structure et propriétés mécaniques et/ou optiques (Université Grenoble Alpes)*. Université Grenoble Alpes.
- Martins, N. C. T., Freire, C. S. R., Pinto, R. J. B., Fernandes, S. C. M., Pascoal Neto, C., Silvestre, A. J. D., ... Trindade, T. (2012). Electrostatic assembly of Ag nanoparticles onto nanofibrillated cellulose for antibacterial paper products. *Cellulose*, 19, 1425?1436.

- Martoïa, F., Cochereau, T., Dumont, P. J. J., Orgéas, L., Terrien, M., & Belgacem, M. N. (2016). Cellulose nanofibril foams : Links between ice-templating conditions, microstructures and mechanical properties. *Materials & Design*, 104, 376?391.
- Mascheroni, E., Rampazzo, R., Ortenzi, M. A., Piva, G., Bonetti, S., & Piergiovanni, L. (2016). Comparison of cellulose nanocrystals obtained by sulfuric acid hydrolysis and ammonium persulfate, to be used as coating on flexible food-packaging materials. *Cellulose*, 23, 779?793.
- Mashkour, M., Afra, E., Resalati, H., & Mashkour, M. (2015). Moderate surface acetylation of nanofibrillated cellulose for the improvement of paper strength and barrier properties. *RSC Advances*, 5, 60179?60187.
- Mayol, L., De Stefano, D., Campani, V., De Falco, F., Ferrari, E., Cencetti, C., ... De Rosa, G. (2014). Design and characterization of a chitosan physical gel promoting wound healing in mice. *Journal of Materials Science : Materials in Medicine*, 25, 1483?1493.
- Michalska-Sionkowska, M., Walczak, M., & Sionkowska, A. (2017). Antimicrobial activity of collagen material with thymol addition for potential application as wound dressing. *Polymer Testing*, 63, 360?366.
- Miettunen, K., Vapaavuori, J., Tiihonen, A., Poskela, A., Lahtinen, P., Halme, J., & Lund, P. (2014). Nanocellulose aerogel membranes for optimal electrolyte filling in dye solar cells. *Nano Energy*, 8, 95?102.
- Milovanovic, S., Stamenic, M., Markovic, D., Ivanovic, J., & Zizovic, I. (2015). Supercritical impregnation of cellulose acetate with thymol. *The Journal of Supercritical Fluids*, 97, 107?115.
- Milovanovic, S., Stamenic, M., Markovic, D., Radetic, M., & Zizovic, I. (2013). Solubility of thymol in supercritical carbon dioxide and its impregnation on cotton gauze. *The Journal of Supercritical Fluids*, 84, 173?181.
- Missoum, K., Belgacem, M. N., Barnes, J.-P., Brochier-Salon, M.-C., & Bras, J. (2012). Nanofibrillated cellulose surface grafting in ionic liquid. *Soft Matter*, 8, 8338.
- Missoum, K., Bras, J., & Belgacem, N. (2016). Patent No WO2015011364 (A2). Institut Polytechnique de Grenoble.
- Missoum, K., Sadocco, P., Causio, J., Belgacem, M. N., & Bras, J. (2014). Antibacterial activity and biodegradability assessment of chemically grafted nanofibrillated cellulose. *Materials Science & Engineering C-Materials for Biological Applications*, 45, 477?483.
- Montanari, S., Roumani, M., Heux, L., & Vignon, M. R. (2005). Topochemistry of Carboxylated Cellulose Nanocrystals Resulting from TEMPO-Mediated Oxidation. *Macromolecules*, 38, 1665?1671.
- Mulyadi, A., & Deng, Y. (2016). Surface modification of cellulose nanofibrils by maleated styrene block copolymer and their composite reinforcement application. *Cellulose*, 23, 519?528.
- Munier, P., Gordeyeva, K., Bergström, L., & Fall, A. B. (2016). Directional Freezing of Nanocellulose Dispersions Aligns the Rod-Like Particles and Produces Low-Density and Robust Particle Networks. *Biomacromolecules*, 17, 1875?1881.
- Najib, N., & Christodoulatos, C. (2019). Removal of arsenic using functionalized cellulose nanofibrils from aqueous solutions. *Journal of Hazardous Materials*, 367, 256?266.
- Napavichayanun, S., Amornsudthiwat, P., Pienpinijtham, P., & Aramwit, P. (2015). Interaction and effectiveness of antimicrobials along with healing-promoting agents in a novel biocellulose wound dressing. *Materials Science and Engineering : C*, 55, 95?104.
- Naseri, N., Deepa, B., Mathew, A. P., Oksman, K., & Girandon, L. (2016). Nanocellulose-Based Interpenetrating Polymer Network (IPN) Hydrogels for Cartilage Applications. *Biomacromolecules*, 17, 3714?3723.
- Navarro, J. R. G., & Bergström, L. (2014). Labelling of N-hydroxysuccinimide-modified rhodamine

- B on cellulose nanofibrils by the amidation reaction. *RSC Adv.*, 4, 60757?60761.
- Navarro, J. R. G., Wennmalm, S., Godfrey, J., Breitholtz, M., & Edlund, U. (2016). Luminescent Nanocellulose Platform : From Controlled Graft Block Copolymerization to Biomarker Sensing. *Biomacromolecules*, 17, 1101?1109.
 - Nechyporchuk, O., Belgacem, M. N., & Bras, J. (2016). Production of cellulose nanofibrils : A review of recent advances. *Industrial Crops and Products*, 93, 2?25.
 - Nechyporchuk, O., Pignon, F., & Belgacem, M. N. (2015). Morphological properties of nanofibrillated cellulose produced using wet grinding as an ultimate fibrillation process. *Journal of Materials Science*, 50, 531?541.
 - Nemoto, J., Saito, T., & Isogai, A. (2015). Simple Freeze-Drying Procedure for Producing Nanocellulose Aerogel-Containing, High-Performance Air Filters. *ACS Applied Materials & Interfaces*, 7, 19809?19815.
 - Nguyen, S. T., Feng, J., Ng, S. K., Wong, J. P. W., Tan, V. B. C., & Duong, H. M. (2014). Advanced thermal insulation and absorption properties of recycled cellulose aerogels. *Colloids and Surfaces A : Physicochemical and Engineering Aspects*, 445, 128?134.
 - Ni, X., Wang, J., Yue, Y., Cheng, W., Wang, D., & Han, G. (2018). Enhanced Antibacterial Performance and Cytocompatibility of Silver Nanoparticles Stabilized by Cellulose Nanocrystal Grafted with Chito-Oligosaccharides. *Materials*, 11. <https://doi.org/10.3390/ma11081339>
 - Nickerson, R. F., & Habrle, J. A. (1947). Cellulose Intercrystalline Structure. *Industrial & Engineering Chemistry*, 39, 1507?1512.
 - Niiyama, H., & Kuroyanagi, Y. (2014). Development of novel wound dressing composed of hyaluronic acid and collagen sponge containing epidermal growth factor and vitamin C derivative. *Journal of Artificial Organs*, 17, 81?87.
 - Nishino, T., Kotera, M., Suetsugu, M., Murakami, H., & Urushihara, Y. (2011). Acetylation of plant cellulose fiber in supercritical carbon dioxide. *Polymer*, 52, 830?836.
 - Oksman, K., Aitomäki, Y., Mathew, A. P., Siqueira, G., Zhou, Q., Butylina, S., ... Hooshmand, S. (2016). Review of the recent developments in cellulose nanocomposite processing. *Composites Part A : Applied Science and Manufacturing*, 83, 2?18.
 - Okuda, K., Sekida, S., Yoshinaga, S., & Suetomo, Y. (2004). Cellulose-synthesizing complexes in some chromophyte algae. *Cellulose*, 11, 365?376.
 - Olszewska, A., Eronen, P., Johansson, L.-S., Malho, J.-M., Ankerfors, M., Lindström, T., ... Österberg, M. (2011). The behaviour of cationic NanoFibrillar Cellulose in aqueous media. *Cellulose*, 18, 1213.
 - Ong, K. J., Shatkin, J. A., Nelson, K., Ede, J. D., & Retsina, T. (2017). Establishing the safety of novel bio-based cellulose nanomaterials for commercialization. *Nanolmpact*, 6, 19?29.
 - Osong, S. H., Norgren, S., & Engstrand, P. (2016). Processing of wood-based microfibrillated cellulose and nanofibrillated cellulose, and applications relating to papermaking : A review. *Cellulose*, 23, 93?123.
 - O'Sullivan, A. C. (1997). Cellulose : The structure slowly unravels. *Cellulose*, 4, 35.
 - Pääkkö, M., Ankerfors, M., Kosonen, H., Nykänen, A., Ahola, S., Österberg, M., ... Lindström, T. (2007). Enzymatic Hydrolysis Combined with Mechanical Shearing and High-Pressure Homogenization for Nanoscale Cellulose Fibrils and Strong Gels. *Biomacromolecules*, 8, 1934?1941.
 - Park, H.-S., Pham, C., Paul, E., Padiglione, A., Lo, C., & Cleland, H. (2017). Early pathogenic colonisers of acute burn wounds : A retrospective review. *Burns*, 43, 1757?1765.
 - Pasquini, D., Teixeira, E. de M., Curvelo, A. A. da S., Belgacem, M. N., & Dufresne, A. (2008). Surface esterification of cellulose fibres : Processing and characterisation of low-density

- polyethylene/cellulose fibres composites. Composites Science and Technology, 68, 193?201.
- Pasternack, R. M., Rivillon Amy, S., & Chabal, Y. J. (2008). Attachment of 3-(Aminopropyl)triethoxysilane on Silicon Oxide Surfaces : Dependence on Solution Temperature. Langmuir, 24, 12963?12971.
 - Payen, A. (1838). Mémoire sur la composition du tissu propre des plantes et du ligneux. (Memoir on the composition of the tissue of plants and of woody [material]). Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences, 7, 1052?1056.
 - Peach, J., & Eastoe, J. (2014). Supercritical carbon dioxide : A solvent like no other. Beilstein Journal of Organic Chemistry, 10, 1878?1895.
 - Peng, B. L., Dhar, N., Liu, H. L., & Tam, K. C. (2011). Chemistry and applications of nanocrystalline cellulose and its derivatives : A nanotechnology perspective. The Canadian Journal of Chemical Engineering, 89, 1191?1206.
 - Pereira, R., Carvalho, A., Vaz, D. C., Gil, M. H., Mendes, A., & Bárto, P. (2013). Development of novel alginate based hydrogel films for wound healing applications. International Journal of Biological Macromolecules, 52, 221?230.
 - Pérez-Madrigal, M. M., Edo, M. G., & Alemán, C. (2016). Powering the future : Application of cellulose-based materials for supercapacitors. Green Chemistry, 18, 5930?5956.
 - Pérez-Recalde, M., Ruiz Arias, I. E., & Hermida, É. B. (2018). Could essential oils enhance biopolymers performance for wound healing ? A systematic review. Phytomedicine, 38, 57?65.
 - Perrut, M. (2012). Sterilization and virus inactivation by supercritical fluids (a review). The Journal of Supercritical Fluids, 66, 359?371.
 - Peterson, J. W. (1996). Bacterial Pathogenesis. In S. Baron (Éd.), Medical Microbiology (4th éd.). Galveston (TX) : University of Texas Medical Branch at Galveston.
 - Phanthong, P., Guan, G., Karnjanakom, S., Hao, X., Wang, Z., Kusakabe, K., & Abudula, A. (2016). Amphiphobic nanocellulose-modified paper : Fabrication and evaluation. RSC Advances, 6, 13328?13334.
 - Pilehvar-Soltanahmadi, Y., Dadashpour, M., Mohajeri, A., Fattahi, A., Sheervalilou, R., & Zarghami, N. (2018). An Overview on Application of Natural Substances Incorporated with Electrospun Nanofibrous Scaffolds to Development of Innovative Wound Dressings. Mini Reviews in Medicinal Chemistry, 18, 414?427.
 - Pircher, N., Carbajal, L., Schimper, C., Bacher, M., Rennhofer, H., Nedelec, J.-M., ... Liebner, F. (2016). Impact of selected solvent systems on the pore and solid structure of cellulose aerogels. Cellulose, 23, 1949?1966.
 - Pircher, N., Fischhuber, D., Carbajal, L., Strauß, C., Nedelec, J.-M., Kasper, C., ... Liebner, F. (2015). Preparation and Reinforcement of Dual-Porous Biocompatible Cellulose Scaffolds for Tissue Engineering. Macromolecular Materials and Engineering, 300, 911?924.
 - Pommerville, J. C. (2007). Alcamo's fundamentals of microbiology. Sudbury, Mass. : Jones and Bartlett Publishers.
 - Pötzinger, Y., Rabel, M., Ahrem, H., Thamm, J., Klemm, D., & Fischer, D. (2018). Polyelectrolyte layer assembly of bacterial nanocellulose whiskers with plasmid DNA as biocompatible non-viral gene delivery system. Cellulose, 25, 1939?1960.
 - Powell, L. C., Khan, S., Chinga-Carrasco, G., Wright, C. J., Hill, K. E., & Thomas, D. W. (2016). An investigation of *Pseudomonas aeruginosa* biofilm growth on novel nanocellulose fibre dressings. Carbohydrate Polymers, 137, 191?197.
 - Prabhu, S., & Poulose, E. K. (2012). Silver nanoparticles : Mechanism of antimicrobial action, synthesis, medical applications, and toxicity effects. International Nano Letters, 2, 32.
 - Qing, W., Wang, Y., Wang, Y., Zhao, D., Liu, X., & Zhu, J. (2016). The modified nanocrystalline

- cellulose for hydrophobic drug delivery. *Applied Surface Science*, 366, 404?409.
- Rai, M., Yadav, A., & Gade, A. (2009). Silver nanoparticles as a new generation of antimicrobials. *Biotechnology Advances*, 27, 76?83.
 - Rånby, B. G. (1951). Fibrous macromolecular systems. Cellulose and muscle. The colloidal properties of cellulose micelles. *Discuss. Faraday Soc.*, 11, 158?164.
 - Rashad, A., Mustafa, K., Heggset, E. B., & Syverud, K. (2017). Cytocompatibility of Wood-Derived Cellulose Nanofibril Hydrogels with Different Surface Chemistry. *Biomacromolecules*, 18, 1238?1248.
 - Rashad, A., Suliman, S., Mustafa, M., Pedersen, T. Ø., Campodoni, E., Sandri, M., ... Mustafa, K. (2019). Inflammatory responses and tissue reactions to wood-Based nanocellulose scaffolds. *Materials Science and Engineering : C*, 97, 208?221.
 - Rattaz, A., Mishra, S. P., Chabot, B., & Daneault, C. (2011). Cellulose nanofibres by sonocatalysed-TEMPO-oxidation. *Cellulose*, 18, 585.
 - Reid, M. S., Villalobos, M., & Cranston, E. D. (2017). Benchmarking Cellulose Nanocrystals : From the Laboratory to Industrial Production. *Langmuir*, 33, 1583?1598.
 - Reverdy, C., Belgacem, N., Moghaddam, M. S., Sundin, M., Swerin, A., & Bras, J. (2018). One-step superhydrophobic coating using hydrophobized cellulose nanofibrils. *Colloids and Surfaces A : Physicochemical and Engineering Aspects*, 544, 152?158.
 - Revol, J.-F., Bradford, H., Giasson, J., Marchessault, R. H., & Gray, D. G. (1992). Helicoidal self-ordering of cellulose microfibrils in aqueous suspension. *International Journal of Biological Macromolecules*, 14, 170?172.
 - Rodionova, G., Hoff, B., Lenes, M., Eriksen, Ø., & Gregersen, Ø. (2013). Gas-phase esterification of microfibrillated cellulose (MFC) films. *Cellulose*, 20, 1167?1174.
 - Rodionova, G., Lenes, M., Eriksen, Ø., & Gregersen, Ø. (2011). Surface chemical modification of microfibrillated cellulose : Improvement of barrier properties for packaging applications. *Cellulose*, 18, 127?134.
 - Rol, F., Belgacem, M. N., Gandini, A., & Bras, J. (2019). Recent advances in surface-modified cellulose nanofibrils. *Progress in Polymer Science*, 88, 241?264.
 - Romic, M. D., Klaric, M. S., Lovric, J., Pepic, I., Cetina-Cizmek, B., Filipovic-Grcic, J., & Hafner, A. (2016). Melatonin-loaded chitosan/Pluronic (R) F127 microspheres as in situ forming hydrogel : An innovative antimicrobial wound dressing. *European Journal of Pharmaceutics and Biopharmaceutics*, 107, 67?79.
 - Rudaz, C., Courson, R., Bonnet, L., Calas-Etienne, S., Sallée, H., & Budtova, T. (2014). Aeropectin : Fully Biomass-Based Mechanically Strong and Thermal Superinsulating Aerogel. *Biomacromolecules*, 15, 2188?2195.
 - Russler, A., Wieland, M., Bacher, M., Henniges, U., Miethe, P., Liebner, F., ... Rosenau, T. (2012). AKD-Modification of bacterial cellulose aerogels in supercritical CO₂. *Cellulose*, 19, 1337?1349.
 - Ryan, K. J., Ray, C. G., Ahmad, N., Drew, W. L., & Plorde, J. J. (2009). *Sherris Medical Microbiology*, Fifth Edition. McGraw Hill Professional.
 - Sacui, I. A., Nieuwendaal, R. C., Burnett, D. J., Stranick, S. J., Jorfi, M., Weder, C., ... Gilman, J. W. (2014). Comparison of the Properties of Cellulose Nanocrystals and Cellulose Nanofibrils Isolated from Bacteria, Tunicate, and Wood Processed Using Acid, Enzymatic, Mechanical, and Oxidative Methods. *ACS Applied Materials & Interfaces*, 6, 6127?6138.
 - Sahana, T. G., & Rekha, P. D. (2018). Biopolymers : Applications in wound healing and skin tissue engineering. *Molecular Biology Reports*, 45, 2857?2867.
 - ?ahin, ?, Özbak?r, Y., ?önü, Z., Ulker, Z., & Erkey, C. (2017). Kinetics of Supercritical Drying of

Gels. Gels, 4, 3.

- Saini, S., Belgacem, M. N., & Bras, J. (2017). Effect of variable aminoalkyl chains on chemical grafting of cellulose nanofiber and their antimicrobial activity. Materials Science and Engineering : C, 75, 760?768.
- Saini, S., Belgacem, M. N., Salon, M.-C. B., & Bras, J. (2016). Non leaching biomimetic antimicrobial surfaces via surface functionalisation of cellulose nanofibers with aminosilane. Cellulose, 23, 795?810.
- Saini, S., Belgacem, N., Mendes, J., Elegir, G., & Bras, J. (2015). Contact Antimicrobial Surface Obtained by Chemical Grafting of Microfibrillated Cellulose in Aqueous Solution Limiting Antibiotic Release. ACS Applied Materials & Interfaces, 7, 18076?18085.
- Saito, T., Hirota, M., Tamura, N., Kimura, S., Fukuzumi, H., Heux, L., & Isogai, A. (2009). Individualization of Nano-Sized Plant Cellulose Fibrils by Direct Surface Carboxylation Using TEMPO Catalyst under Neutral Conditions. Biomacromolecules, 10, 1992?1996.
- Saito, T., & Isogai, A. (2004). TEMPO-Mediated Oxidation of Native Cellulose. The Effect of Oxidation Conditions on Chemical and Crystal Structures of the Water-Insoluble Fractions. Biomacromolecules, 5, 1983?1989.
- Saito, T., Nishiyama, Y., Putaux, J.-L., Vignon, M., & Isogai, A. (2006). Homogeneous Suspensions of Individualized Microfibrils from TEMPO-Catalyzed Oxidation of Native Cellulose. Biomacromolecules, 7, 1687?1691.
- Salajková, M., Berglund, L. A., & Zhou, Q. (2012). Hydrophobic cellulose nanocrystals modified with quaternary ammonium salts. Journal of Materials Chemistry, 22, 19798.
- Sankar, R., Elango, S., Vadodaria, K. K., Thinakar, S., & Kulkarni, A. (2016). Preparation of nanospheres from oxidised cellulose nanofibrils via polyelectrolyte complexation. International Journal of Nanoparticles, 9, 28?40.
- Sanli, D., & Erkey, C. (2015). Silylation from supercritical carbon dioxide : A powerful technique for modification of surfaces. Journal of Materials Science, 50, 7159?7181.
- Sanz-Moral, L. M., Rueda, M., Mato, R., & Martín, Á. (2014). View cell investigation of silica aerogels during supercritical drying : Analysis of size variation and mass transfer mechanisms. The Journal of Supercritical Fluids, 92, 24?30.
- Saxena, I. M., & Brown, R. M. (2005). Cellulose Biosynthesis : Current Views and Evolving Concepts. Annals of Botany, 96, 9?21.
- Scherer, G. W. (2019). Stress and strain during supercritical drying. Journal of Sol-Gel Science and Technology, 90, 8?19.
- Scognamiglio, F., Blanchy, M., Borgogna, M., Travani, A., Donati, I., Bosmans, J. W. A. M., ... Marsich, E. (2017). Effects of supercritical carbon dioxide sterilization on polysaccharidic membranes for surgical applications. Carbohydrate Polymers, 173, 482?488.
- Sehaqui, H., Liu, A., Zhou, Q., & Berglund, L. A. (2010). Fast Preparation Procedure for Large, Flat Cellulose and Cellulose/Inorganic Nanopaper Structures. Biomacromolecules, 11, 2195?2198.
- Sehaqui, H., Salajková, M., Zhou, Q., & Berglund, L. A. (2010). Mechanical performance tailoring of tough ultra-high porosity foams prepared from cellulose I nanofiber suspensions. Soft Matter, 6, 1824.
- Sehaqui, H., Zhou, Q., & Berglund, L. A. (2011). High-porosity aerogels of high specific surface area prepared from nanofibrillated cellulose (NFC). Composites Science and Technology, 71, 1593?1599.
- Sehaqui, H., Zhou, Q., Ikkala, O., & Berglund, L. A. (2011). Strong and Tough Cellulose Nanopaper with High Specific Surface Area and Porosity. Biomacromolecules, 12, 3638?3644.

- Shah, C. B., Ma, M., & Hibbitt, D. A. (s. d.). Efficacy and Mode of Action of a New PHMB Impregnated Polyurethane Foam Dressing. 8.
- Shojaeiarani, J., Bajwa, D. S., & Hartman, K. (2019). Esterified cellulose nanocrystals as reinforcement in poly(lactic acid) nanocomposites. *Cellulose*, 26, 2349?2362.
- Singh, D., Kumar, T. R. S., Gupt, V. K., & Chaturvedi, P. (2012). Antimicrobial activity of some promising plant oils, molecules and formulations. *Indian Journal of Experimental Biology*, 50, 714?717.
- Singh, M., Kaushik, A., & Ahuja, D. (2016). Surface functionalization of nanofibrillated cellulose extracted from wheat straw : Effect of process parameters. *Carbohydrate Polymers*, 150, 48?56.
- Singla, R., Soni, S., Kulurkar, P. M., Kumari, A., S., M., Patial, V., ... Yadav, S. K. (2017). In situ functionalized nanobiocomposites dressings of bamboo cellulose nanocrystals and silver nanoparticles for accelerated wound healing. *Carbohydrate Polymers*, 155, 152?162.
- Siqueira, G., Bras, J., & Dufresne, A. (2010). New Process of Chemical Grafting of Cellulose Nanoparticles with a Long Chain Isocyanate. *Langmuir*, 26, 402?411.
- Siqueira, G., Tapin-Lingua, S., Bras, J., da Silva Perez, D., & Dufresne, A. (2010). Morphological investigation of nanoparticles obtained from combined mechanical shearing, and enzymatic and acid hydrolysis of sisal fibers. *Cellulose*, 17, 1147?1158.
- Siró, I., & Plackett, D. (2010). Microfibrillated cellulose and new nanocomposite materials : A review. *Cellulose*, 17, 459?494.
- Sirviö, J. A., & Visanko, M. (2017). Anionic wood nanofibers produced from unbleached mechanical pulp by highly efficient chemical modification. *Journal of Materials Chemistry A*, 5, 21828?21835.
- Skehan, P., Storeng, R., Scudiero, D., Monks, A., McMahon, J., Vistica, D., ... Boyd, M. R. (1990). New Colorimetric Cytotoxicity Assay for Anticancer-Drug Screening. *JNCI : Journal of the National Cancer Institute*, 82, 1107?1112.
- Smyth, M., Rader, C., Bras, J., & Foster, E. J. (2018). Characterization and mechanical properties of ultraviolet stimuli-responsive functionalized cellulose nanocrystal alginate composites. *Journal of Applied Polymer Science*, 135, 45857.
- Soares, G. C., Learmonth, D. A., Vallejo, M. C., Davila, S. P., González, P., Sousa, R. A., & Oliveira, A. L. (2019). Supercritical CO₂ technology : The next standard sterilization technique ? *Materials Science and Engineering : C*, 99, 520?540.
- Song, S. H., Seong, K. Y., Kim, J. E., Go, J., Koh, E. K., Sung, J. E., ... Hwang, D. Y. (2017). Effects of different cellulose membranes regenerated from *Styela clava* tunics on wound healing. *International Journal of Molecular Medicine*, 39, 1173?1187.
- Song, W., Lee, J.-K., Gong, M. S., Heo, K., Chung, W.-J., & Lee, B. Y. (2018). Cellulose Nanocrystal-Based Colored Thin Films for Colorimetric Detection of Aldehyde Gases. *ACS Applied Materials & Interfaces*, 10, 10353?10361.
- Spence, K. L., Venditti, R. A., Rojas, O. J., Habibi, Y., & Pawlak, J. J. (2010). The effect of chemical composition on microfibrillar cellulose films from wood pulps : Water interactions and physical properties for packaging applications. *Cellulose*, 17, 835?848.
- Springer, S., Zieger, M., Hippler, U. C., Lademann, J., Albrecht, V., Bueckle, R., ... Huck, V. (2019). Multiphotonic staging of chronic wounds and evaluation of sterile, optical transparent bacterial nanocellulose covering : A diagnostic window into human skin. *Skin Research and Technology*, 25, 68?78.
- Steffensen, S. L., Vestergaard, M. H., Groenning, M., Alm, M., Franzyk, H., & Nielsen, H. M. (2015). Sustained prevention of biofilm formation on a novel silicone matrix suitable for medical devices. *European Journal of Pharmaceutics and Biopharmaceutics : Official Journal of*

- Arbeitsgemeinschaft Fur Pharmazeutische Verfahrenstechnik e.V, 94, 305?311.
- Stenstad, P., Andresen, M., Tanem, B. S., & Stenius, P. (2008). Chemical surface modifications of microfibrillated cellulose. *Cellulose*, 15, 35?45.
 - Stergar, J., & Maver, U. (2016). Review of aerogel-based materials in biomedical applications. *Journal of Sol-Gel Science and Technology*, 77, 738?752.
 - Stone, Wright, Powell, & Devaraj. (2000). Healing at skin graft donor sites dressed with chitosan. *British journal of plastic surgery*, 53, 601?606.
 - Sulaeva, I., Henniges, U., Rosenau, T., & Potthast, A. (2015). Bacterial cellulose as a material for wound treatment : Properties and modifications. A review. *Biotechnology Advances*, 33, 1547?1571.
 - Sun, F., Nordli, H. R., Pukstad, B., Kristofer Gamstedt, E., & Chinga-Carrasco, G. (2017). Mechanical characteristics of nanocellulose-PEG bionanocomposite wound dressings in wet conditions. *Journal of the Mechanical Behavior of Biomedical Materials*, 69, 377?384.
 - Sun, X., Wu, Q., Ren, S., & Lei, T. (2015). Comparison of highly transparent all-cellulose nanopaper prepared using sulfuric acid and TEMPO-mediated oxidation methods. *Cellulose*, 22, 1123?1133.
 - Sun, Y. (2014). Supercritical fluid particle design for poorly water-soluble drugs (review). *Current Pharmaceutical Design*, 20, 349?368.
 - Syverud, K., & Stenius, P. (2008). Strength and barrier properties of MFC films. *Cellulose*, 16, 75.
 - Tan, C., Fung, B. M., Newman, J. K., & Vu, C. (2001). Organic Aerogels with Very High Impact Strength. *Advanced Materials*, 13, 644?646.
 - Tang, Y., Qiu, S., Wu, C., Miao, Q., & Zhao, K. (2016). Freeze cast fabrication of porous ceramics using tert-butyl alcohol–water crystals as template. *Journal of the European Ceramic Society*, 36, 1513?1518.
 - Tasset, S., Cathala, B., Bizot, H., & Capron, I. (2014). Versatile cellular foams derived from CNC-stabilized Pickering emulsions. *RSC Advances*, 4, 893?898.
 - Tavakolian, M., Okshevsky, M., van de Ven, T. G. M., & Tufenkji, N. (2018). Developing Antibacterial Nanocrystalline Cellulose Using Natural Antibacterial Agents. *ACS Applied Materials & Interfaces*, 10, 33827?33838.
 - Thielemans, W., R. Warbey, C., & A. Walsh, D. (2009). Permselective nanostructured membranes based on cellulose nanowhiskers. *Green Chemistry*, 11, 531?537.
 - Tian, C., Fu, S. Y., Meng, Q. J., & Lucia, L. A. (2016). New insights into the material chemistry of polycaprolactone-grafted cellulose nanofibrils/polyurethane nanocomposites. *Cellulose*, 23, 2457?2473.
 - Tingaut, P., Hauert, R., & Zimmermann, T. (2011). Highly efficient and straightforward functionalization of cellulose films with thiol-ene click chemistry. 21, 16066?16076.
 - Tingaut, P., Zimmermann, T., & Lopez-Suevos, F. (2010). Synthesis and Characterization of Bionanocomposites with Tunable Properties from Poly(lactic acid) and Acetylated Microfibrillated Cellulose. *Biomacromolecules*, 11, 454?464.
 - Torstensen, J. Ø., Liu, M., Jin, S.-A., Deng, L., Hawari, A. I., Syverud, K., ... Gregersen, Ø. W. (2018). Swelling and Free-Volume Characteristics of TEMPO-Oxidized Cellulose Nanofibril Films. *Biomacromolecules*, 19, 1016?1025.
 - Trache, D., Hussin, M. H., Haafiz, M. K. M., & Thakur, V. K. (2017). Recent progress in cellulose nanocrystals : Sources and production. *Nanoscale*, 9, 1763?1786.
 - Tran, A., Hamad, W. Y., & MacLachlan, M. J. (2018). Fabrication of Cellulose Nanocrystal Films through Differential Evaporation for Patterned Coatings. *ACS Applied Nano Materials*, 1, 3098?3104.

- Tsekova, P. B., Spasova, M. G., Manolova, N. E., Markova, N. D., & Rashkov, I. B. (2017). Electrospun curcumin-loaded cellulose acetate/polyvinylpyrrolidone fibrous materials with complex architecture and antibacterial activity. *Materials Science and Engineering : C*, 73, 206?214.
- Turbak, A. F., Snyder, F. W., & Sandberg, K. R. (1983). Microfibrillated cellulose, a new cellulose product : Properties, uses, and commercial potential. *J. Appl. Polym. Sci. : Appl. Polym. Symp.* ; (United States), 37. Consulté à l'adresse <https://www.osti.gov/biblio/5062478>
- Turner, R. J. (2017). Metal?based antimicrobial strategies. *Microbial Biotechnology*, 10, 1062?1065.
- Turon, X., Rojas, O. J., & Deinhammer, R. S. (2008). Enzymatic Kinetics of Cellulose Hydrolysis : A QCM-D Study. *Langmuir*, 24, 3880?3887.
- Turtiainen, J., Hakala, T., Hakkarainen, T., & Karhukorpi, J. (2014). The Impact of Surgical Wound Bacterial Colonization on the Incidence of Surgical Site Infection After Lower Limb Vascular Surgery : A Prospective Observational Study. *European Journal of Vascular and Endovascular Surgery*, 47, 411?417.
- Valo, H., Arola, S., Laaksonen, P., Torkkeli, M., Peltonen, L., Linder, M. B., ... Laaksonen, T. (2013). Drug release from nanoparticles embedded in four different nanofibrillar cellulose aerogels. *European Journal of Pharmaceutical Sciences*, 50, 69?77.
- Van Dyke, M. C. C., Teixeira, M. M., & Barker, B. M. (2019). Fantastic yeasts and where to find them : The hidden diversity of dimorphic fungal pathogens. *Current Opinion in Microbiology*, 52, 55?63.
- Vasconcelos, N. G., Croda, J., & Simionatto, S. (2018). Antibacterial mechanisms of cinnamon and its constituents : A review. *Microbial Pathogenesis*, 120, 198?203.
- Vignon, M., Montanari, S., Samain, D., & Condoret, J.-S. (2006). Patent No WO/2006/018552. Consulté à l'adresse <https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2006018552>
- Vosmanska, V., Kolarova, K., Rimpelova, S., & Svorcik, V. (2014). Surface modification of oxidized cellulose haemostat by argon plasma treatment. *Cellulose*, 21, 2445?2456.
- Wang, J.-J., Yang, H.-C., Wu, M.-B., Zhang, X., & Xu, Z.-K. (2017). Nanofiltration membranes with cellulose nanocrystals as an interlayer for unprecedented performance. *Journal of Materials Chemistry A*, 5, 16289?16295.
- Wang, T.-W., Sun, J.-S., Wu, H.-C., Tsuang, Y.-H., Wang, W.-H., & Lin, F.-H. (2006). The effect of gelatin–chondroitin sulfate–hyaluronic acid skin substitute on wound healing in SCID mice. *Biomaterials*, 27, 5689?5697.
- Wang, X., Zhang, Y., Jiang, H., Song, Y., Zhou, Z., & Zhao, H. (2016). Fabrication and characterization of nano-cellulose aerogels via supercritical CO₂ drying technology. *Materials Letters*, 183, 179?182.
- Wang, Y., Wang, X., Xie, Y., & Zhang, K. (2018). Functional nanomaterials through esterification of cellulose : A review of chemistry and application. *Cellulose*, 25, 3703?3731.
- White, L. D., & Tripp, C. P. (2000). Reaction of (3-Aminopropyl)dimethylethoxysilane with Amine Catalysts on Silica Surfaces. *Journal of Colloid and Interface Science*, 232, 400?407.
- Wicklein, B., Kocjan, A., Salazar-Alvarez, G., Carosio, F., Camino, G., Antonietti, M., & Bergström, L. (2015). Thermally insulating and fire-retardant lightweight anisotropic foams based on nanocellulose and graphene oxide. *Nature Nanotechnology*, 10, 277?283.
- Wiegand, C., Abel, M., Ruth, P., Elsner, P., & Hippler, U.-C. (2015). In vitro assessment of the antimicrobial activity of wound dressings : Influence of the test method selected and impact of the pH. *Journal of Materials Science. Materials in Medicine*, 26. <https://doi.org/10.1007/s10856-014-5343-9>

- Wiegand, C., Heinze, T., & Hipler, U.-C. (2009). Comparative in vitro study on cytotoxicity, antimicrobial activity, and binding capacity for pathophysiological factors in chronic wounds of alginate and silver-containing alginate. *Wound Repair and Regeneration*, 17, 511?521.
- Wiegand, C., Moritz, S., Hessler, N., Kralisch, D., Wesarg, F., Mueller, F. A., ... Hipler, U.-C. (2015). Antimicrobial functionalization of bacterial nanocellulose by loading with polihexanide and povidone-iodine. *Journal of Materials Science-Materials in Medicine*, 26, 245.
- Willstätter, R., & Zechmeister, L. (1913). Zur Kenntnis der Hydrolyse von Cellulose I. *Berichte Der Deutschen Chemischen Gesellschaft*, 46, 2401?2412.
- Wolf, C., Maninger, J., Lederer, K., Frühwirth-Smounig, H., Gamse, T., & Marr, R. (2006). Stabilisation of crosslinked ultra-high molecular weight polyethylene (UHMW-PE)-acetabular components with ?-tocopherol. *Journal of Materials Science : Materials in Medicine*, 17, 1323?1331.
- Xia, G., Lang, X., Kong, M., Cheng, X., Liu, Y., Feng, C., & Chen, X. (2016). Surface fluid-swellable chitosan fiber as the wound dressing material. *Carbohydrate Polymers*, 136, 860?866.
- Xie, H., Chen, X., Shen, X., He, Y., Chen, W., Luo, Q., ... Li, K. (2018). Preparation of chitosan-collagen-alginate composite dressing and its promoting effects on wound healing. *International Journal of Biological Macromolecules*, 107, 93?104.
- Yadav, M. K., Chae, S.-W., Im, G. J., Chung, J.-W., & Song, J.-J. (2015). Eugenol : A Phyto-Compound Effective against Methicillin-Resistant and Methicillin-Sensitive *Staphylococcus aureus* Clinical Strain Biofilms. *PLOS ONE*, 10, e0119564.
- Yang, R., Aubrecht, K. B., Ma, H., Wang, R., Grubbs, R. B., Hsiao, B. S., & Chu, B. (2014). Thiol-modified cellulose nanofibrous composite membranes for chromium (VI) and lead (II) adsorption. *Polymer*, 55, 1167?1176.
- Yeo, J.-S., & Hwang, S.-H. (2015). Preparation and characteristics of polypropylene-graft-maleic anhydride anchored micro-fibriled cellulose : Its composites with polypropylene. *Journal of Adhesion Science and Technology*, 29, 185?194.
- Yeo, J.-S., Kim, O. Y., & Hwang, S.-H. (2017). The effect of chemical surface treatment on the fracture toughness of microfibrillated cellulose reinforced epoxy composites. *Journal of Industrial and Engineering Chemistry*, 45, 301?306.
- Yin, C., & Shen, X. (2007). Synthesis of cellulose carbamate by supercritical CO₂-assisted impregnation : Structure and rheological properties. *European Polymer Journal*, 43, 2111?2116.
- Young, K. D. (2007). Bacterial morphology : Why have different shapes ? *Current opinion in microbiology*, 10, 596?600.
- Yuan, H., Nishiyama, Y., & Kuga, S. (2005). Surface Esterification of Cellulose by Vapor-Phase Treatment With Trifluoroacetic Anhydride. *Cellulose*, 12, 543?549.
- Yuan, H., Nishiyama, Y., Wada, M., & Kuga, S. (2006). Surface Acylation of Cellulose Whiskers by Drying Aqueous Emulsion. *Biomacromolecules*, 7, 696?700.
- Zdanowicz, M. (2018). Deep eutectic solvents for polysaccharides processing. A review. *Carbohydrate Polymers*, 20.
- Zhang, F., Wu, W., Zhang, X., Meng, X., Tong, G., & Deng, Y. (2016). Temperature-sensitive poly-NIPAm modified cellulose nanofibril cryogel microspheres for controlled drug release. *Cellulose*, 23, 415?425.
- Zhang, X., Liu, M., Wang, H., Yan, N., Cai, Z., & Yu, Y. (2019). Ultralight, hydrophobic, anisotropic bamboo-derived cellulose nanofibrils aerogels with excellent shape recovery via freeze-casting. *Carbohydrate Polymers*, 208, 232?240.
- Zhang, Y., Yin, C., Zhang, Y., & Wu, H. (2013). Synthesis and Characterization of Cellulose Carbamate from Wood Pulp, Assisted by Supercritical Carbon Dioxide. *BioResources*, 8,

1398?1408.

- Zhang, Zhao, Chang, H., Xue, B., Zhang, S., Li, X., Wong, W.-K., ... Zhu, X. (2018). Near-infrared and visible dual emissive transparent nanopaper based on Yb(III)-carbon quantum dots grafted oxidized nanofibrillated cellulose for anti-counterfeiting applications. *Cellulose*, 25, 377?389.
- Zhang, Zheng, Sèbe, G., Rentsch, D., Zimmermann, T., & Tingaut, P. (2014). Ultralightweight and Flexible Silylated Nanocellulose Sponges for the Selective Removal of Oil from Water. *Chemistry of Materials*, 26, 2659?2668.
- Zheng, H., Xu, Y., Zhang, J., Xiong, X., Yan, J., & Zheng, L. (2017). An ecofriendly dyeing of wool with supercritical carbon dioxide fluid. *Journal of Cleaner Production*, 143, 269?277.
- Zheng, Q., Cai, Z., Ma, Z., & Gong, S. (2015). Cellulose Nanofibril/Reduced Graphene Oxide/Carbon Nanotube Hybrid Aerogels for Highly Flexible and All-Solid-State Supercapacitors. *ACS Applied Materials & Interfaces*, 7, 3263?3271.
- Zhou, S., Liu, P., Wang, M., Zhao, H., Yang, J., & Xu, F. (2016). Sustainable, Reusable, and Superhydrophobic Aerogels from Microfibrillated Cellulose for Highly Effective Oil/Water Separation. *ACS Sustainable Chemistry & Engineering*, 4, 6409?6416.
- Zhu, H., Fang, Z., Preston, C., Li, Y., & Hu, L. (2013). Transparent paper : Fabrications, properties, and device applications. *Energy & Environmental Science*, 7, 269?287.
- Zizovic, I., Senerovic, L., Moric, I., Adamovic, T., Jovanovic, M., Krusic, M. K., ... Milovanovic, S. (2018). Utilization of supercritical carbon dioxide in fabrication of cellulose acetate films with anti-biofilm effects against *Pseudomonas aeruginosa* and *Staphylococcus aureus*. *The Journal of Supercritical Fluids*, 140, 11?20.
- Zu, G., Shen, J., Zou, L., Wang, F., Wang, X., Zhang, Y., & Yao, X. (2016). Nanocellulose-derived highly porous carbon aerogels for supercapacitors. *Carbon*, 99, 203?211.