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## Research

Charlotta Turner's research is about analytical chemistry for a sustainable development. Turner's research group "the Green Technology Group" investigates the fundamental properties of green solvents, eg. supercritical carbon dioxide, subcritical water and carbon dioxide-expanded liquids, for use in extraction and separation methods. Research projects often deal with the extraction and analysis of valuable substances in residual products from the food, forest, agricultural and marine industries.

## Employment

### Professor

Centre for Analysis and Synthesis  
Lund University  
Lund, Sweden  
2015 Sept 21 → present

### Vice dean

Faculty of Science  
Lund University  
Lund, Sweden  
2023 Dec 18 → present

### Assistant professor

Uppsala universitet, Institutionen för kemi, BMC  
Sweden  
2004 Jan 1 → 2009 Jan 1

### Postdoc

USDA ARS Plant Gene Expression Center  
Albany, United States  
2001 Jan 1 → 2004 Jan 1

## **Research outputs**

**Investigating the quality of extraction and quantification of bioactive compounds in berries through liquid chromatography and multivariate curve resolution**

Gondo, T. F., Huang, F., Marungruang, N., Heyman Lindén, L. & Turner, C., 2024 Aug 15, In: *Analytical and Bioanalytical Chemistry*. 416, p. 5387-5400 14 p.

**A Complementary Multitechnique Approach to Assess the Bias in Molecular Weight Determination of Lignin by Derivatization-Free Gel Permeation Chromatography**

Papp, D., Carlström, G., Nylander, T., Sandahl, M. & Turner, C., 2024 Jul 2, In: *Analytical Chemistry*. 96, 26, p. 10612-10619 8 p.

**Examining functional group-dependent effects on the ionization of lignin monomers using supercritical fluid chromatography/electrospray ionization mass spectrometry**

Prothmann, J., Molins-Delgado, D., Braune, A., Sandahl, M., Turner, C. & Spégel, P., 2024 Jul, In: *Analytical and Bioanalytical Chemistry*. 416, 18, p. 4007-4014 8 p.

**Optimization of coal desulfurization method by sub/supercritical fluid extraction with binary mixtures of carbon dioxide and ethyl lactate as a solvent**

Nermark, F. M., Lindblad, R., Mapolelo, M. M., Sandahl, M., Wendt, O. F. & Turner, C., 2024 Jun, In: *Green Analytical Chemistry*. 9, 100111.

**Analysis of vitamin D and its metabolites in biological samples – Part I: Optimization and comparison of UHPSFC-MS/MS and UHPLC-MS/MS methods**

Pilařová, V., Socas-Rodríguez, B., Nováková, L., Essén, S., Holm, C., Turner, C. & Sandahl, M., 2024 Apr 15, In: *Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences*. 1237, 124087.

**Analysis of vitamin D and its metabolites in biological samples – Part II: Optimization of a sample preparation method for liver tissue**

Pilařová, V., Socas-Rodríguez, B., Nováková, L., Holm, C., Sandahl, M. & Turner, C., 2024 Apr 15, In: *Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences*. 1237, 124088.

**Extractability, selectivity, and comprehensiveness in supercritical fluid extraction of seaweed using ternary mixtures of carbon dioxide, ethanol, and water**

Gondo, T. F., Jönsson, M., Karlsson, E. N., Sandahl, M. & Turner, C., 2023 Sept 13, In: *Journal of chromatography. A*. 1706, p. 464267 13 p.

**Native lignin extraction from soft- and hardwood by green and benign sub/supercritical fluid extraction methodologies**

Nardella, F., Prothmann, J., Sandahl, M., Spégel, P., Ribechini, E. & Turner, C., 2023 Jul, In: *RSC Advances*. 13, 32, p. 21945-21953 9 p.

**Research and education in analytical chemistry — industrial and academic perspectives from a survey conducted in Sweden**

Bergquist, J., Emmer, Å., Farbrot, A. & Turner, C., 2023, In: *Analytical and Bioanalytical Chemistry*. 415, 12, p. 2151-2161 11 p.

**Single-Standard Quantification Strategy for Lignin Dimers by Supercritical Fluid Chromatography with Charged Aerosol Detection**

Papp, D., Rukkijakan, T., Lebedeva, D., Nylander, T., Sandahl, M., Samec, J. S. M. & Turner, C., 2022 Dec, In: *Analytical Chemistry*. 95, 2, p. 1436-1445

**Desulfurization of Morupule Coal with Subcritical Aqueous Ethanol Extraction**

Nermark, F. M., Mapolelo, M. M., Darkwa, J., Wendt, O. F. & Turner, C., 2022 Nov, In: *ChemistryOpen*. 11, 11, e202200046.

**A review of green solvent extraction techniques and their use in antibiotic residue analysis**

Khataei, M. M., Epi, S. B. H., Lood, R., Spégel, P., Yamini, Y. & Turner, C., 2022 Feb 5, In: *Journal of Pharmaceutical and Biomedical Analysis*. 209, 114487.

**Simultaneous Determination of Vitamin D and Its Hydroxylated and Esterified Metabolites by Ultrahigh-Performance Supercritical Fluid Chromatography-Tandem Mass Spectrometry**  
Socas-Rodríguez, B., Pilařová, V., Sandahl, M., Holm, C. & Turner, C., 2022 Feb, In: *Analytical Chemistry*. 94, 7, p. 3065-3073 9 p.

**Biogeographical variation in antimicrobial resistance in rivers is influenced by agriculture and is spread through bacteriophages**

Andersson, T., Adell, A. D., Moreno-Switt, A. I., Spégl, P., Turner, C., Overballe-Petersen, S., Fuursted, K. & Lood, R., 2022, In: *Environmental Microbiology*. 24, 10, p. 4869-4884

**Separation of monomeric and dimeric phenolic compounds in lignosulphonate lignin on different stationary phases using ultrahigh-performance supercritical fluid chromatography**

Prothmann, J., Palmer, S., Turner, C. & Sandahl, M., 2021 Sept, In: *Journal of Chromatography A*. 1653, 462408.

**Investigating lignin-derived monomers and oligomers in low-molecular-weight fractions separated from depolymerized black liquor retentate by membrane filtration**

Li, K., Prothmann, J., Sandahl, M., Blomberg, S., Turner, C. & Hulteberg, C., 2021 May, In: *Molecules*. 26, 10, 2887.

**Multivariate optimization of a combined static and dynamic supercritical fluid extraction method for trace analysis of pesticides pollutants in organic honey**

Tolcha, T., Gemechu, T., Al-Hamimi, S., Megersa, N. & Turner, C., 2021 Apr 1, In: *Journal of Separation Science*. 44, 8, p. 1716-1726 11 p.

**Identification of Phlorotannins in the Brown Algae, *Saccharina latissima* and *Ascophyllum nodosum* by Ultra-High-Performance Liquid Chromatography Coupled to High-Resolution Tandem Mass Spectrometry**

Sardari, R. R. R., Prothmann, J., Gregersen, O., Turner, C. & Nordberg Karlsson, E., 2021 Jan, In: *Molecules* (Basel, Switzerland). 26, 1, 17 p., 43.

**Cross-national differences in consumer responses to savoury crackers containing blackcurrant pomace**

Reißner, A. M., Struck, S., Alba, K., Proserpio, C., Foschino, R., Turner, C., Hernando, I., Zahn, S. & Rohm, H., 2021, In: *International Journal of Food Science and Technology*. 56, 10, p. 5007-5016

**Measurement of relative static permittivity and solvatochromic parameters of binary and ternary CO<sub>2</sub>-expanded green solvents**

Cui, J., Norberg, M., Andersson, M., Klintberg, L., Sandahl, M., Cunico, L. P. & Turner, C., 2021, In: *Journal of Supercritical Fluids*. 171, 105196.

**Non-targeted analysis strategy for the identification of phenolic compounds in complex technical lignin samples**

Prothmann, J., Li, K., Hulteberg, C., Spégl, P., Sandahl, M. & Turner, C., 2020 Sept 7, In: *ChemSusChem*. 13, 17, p. 4605-4612 8 p.

**A Fast and Green Extraction Method for Berry Seed Lipid Extraction Using CO<sub>2</sub> Expanded Ethanol Combined with Sonication**

Al-Hamimi, S. & Turner, C., 2020 Apr, In: *European Journal of Lipid Science and Technology*. 122, 4, 1900283.

**Selective pressurized hot water extraction of nutritious macro-nutrients vs. micro-nutrients in *Moringa oleifera* leaves—a chemometric approach**

Nuapia, Y., Al-Hamimi, S., Matshediso, P. G., Cukrowska, E., Tutu, H., Turner, C. & Chimuka, L., 2020 Apr, In: *Analytical and Bioanalytical Chemistry*. 412, 11, p. 2495-2503 9 p.

**High density supercritical carbon dioxide for the extraction of pesticide residues in onion with multivariate response surface methodology**

Tolcha, T., Gemechu, T., Al-Hamimi, S., Megersa, N. & Turner, C., 2020 Feb 24, In: *Molecules*. 25, 4, 1012.

**Engineering the carotenoid biosynthetic pathway in *Rhodothermus marinus* for lycopene production**

Kristjansdottir, T., Ron, E. Y. C., Molins-Delgado, D., Fridjonsson, O. H., Turner, C., Bjorndottir, S. H., Gudmundsson, S., van Niel, E. W. J., Karlsson, E. N. & Hreggvidsson, G. O., 2020, In: Metabolic Engineering Communications. 11, e00140.

**Enhanced distribution kinetics in liquid-liquid extraction by CO<sub>2</sub>-expanded solvents**

Cunico, L. P., Sun, M., Rui, Y., Ghirmai, S., Enekvist, M., Lundegard, S., Sandahl, M. & Turner, C., 2020, In: Journal of Supercritical Fluids. 163, 104874.

**Recent advances in the analysis of vitamin D and its metabolites in food matrices**

Socas-Rodríguez, B., Sandahl, M., Holm, C. & Turner, C., 2020, In: separations. 7, 2, 27 p., 36.

**Solubility and Thermal Degradation of Quercetin in CO<sub>2</sub>-Expanded Liquids**

Cunico, L. P., Cobo, A. M., Al-Hamimi, S. & Turner, C., 2020, In: Molecules (Basel, Switzerland). 25, 23, 5582.

**Evaluation of sequential processing for the extraction of lipids, starch and proteins from wheat bran**

Sardari, R., Sutiono, S., Azeem, H. A., Galbe, M., Larsson, M., Turner, C. & Nordberg Karlsson, E., 2019 Nov 28, In: Frontiers in Bioengineering and Biotechnology. 7, 413

**Membrane filtration of alkali-depolymerised kraft lignin for biological conversion**

Abdelaziz, O. Y., Ravi, K., Nöbel, M., Tunå, P., Turner, C. & Hulteberg, C. P., 2019 Sept 1, In: Bioresource Technology Reports. 7, 100250.

**Oxidative Depolymerisation of Lignosulphonate Lignin into Low-Molecular-Weight Products with Cu–Mn/δ-Al<sub>2</sub>O<sub>3</sub>**

Abdelaziz, O. Y., Meier, S., Prothmann, J., Turner, C., Riisager, A. & Hulteberg, C. P., 2019 Mar 5, In: Topics in Catalysis. 62, p. 639–648 10 p.

**A sustainable approach for the extraction of cholesterol-lowering compounds from an olive by-product based on CO<sub>2</sub>-expanded ethyl acetate**

Vásquez-Villanueva, R., Plaza, M., García, M. C., Turner, C. & Marina, M. L., 2019, In: Analytical and Bioanalytical Chemistry. 411, 22, p. 5885-5896

**Composition and physicochemical properties of dried berry pomace**

Reißner, A. M., Al-Hamimi, S., Quiles, A., Schmidt, C., Struck, S., Hernando, I., Turner, C. & Rohm, H., 2019, In: Journal of the Science of Food and Agriculture. 99, 3, p. 1284-1293

**Dynamic extraction coupled on-line to liquid chromatography with a parallel sampling interface—a proof of concept for monitoring extraction kinetics**

Sun, M., Al-hamimi, S., Sandahl, M. & Turner, C., 2019, In: Analytical and Bioanalytical Chemistry. 411, 16, p. 3675-3683

**Preparation and Analysis of Polar Hawthorn Berry Extracts, Industrial Application in Poultry Processing**

Kubovics, M., Al-Hamimi, S., Huszár, G., Komka, K., Turner, C. & Székely, E., 2019, In: Periodica Polytechnica Chemical Engineering. 63, 2, p. 348-356 9 p., 1.

**Signal enhancement in supercritical fluid chromatography-diode-array detection with multiple injection**

Sun, M., Turner, C. & Sandahl, M., 2019, In: Journal of Separation Science. 42, 24, p. 3727-3737

**Ultrahigh-pressure supercritical fluid extraction and chromatography of *Moringa oleifera* and *Moringa peregrina* seed lipids**

Belo, Y. N., Al-Hamimi, S., Chimuka, L. & Turner, C., 2019, In: Analytical and Bioanalytical Chemistry. 411, 16, p. 3685-3693

**University game – cheaters edition**

Turner, C., 2019, 1 p.

**Superamphiphobic coatings based on liquid-core microcapsules with engineered capsule walls and functionality**  
Nordenström, M., Riazanova, A. V., Järn, M., Paulraj, T., Turner, C., Ström, V., Olsson, R. T. & Svagan, A. J., 2018 Dec 1 , In: *Scientific Reports.* 8, 1, 3647.

**Dynamic pH determination at high pressure of aqueous additive mixtures in contact with dense CO<sub>2</sub>**  
Andersson, M., Rodriguez-Meizoso, I., Turner, C., Hjort, K. & Klintberg, L., 2018 Jun 1, In: *Journal of Supercritical Fluids.* 136, p. 95-101 7 p.

**Screening of stationary phase selectivities for global lipid profiling by ultrahigh performance supercritical fluid chromatography**

Al Hamimi, S., Sandahl, M., Armeni, M., Turner, C. & Spégel, P., 2018 May 4, In: *Journal of Chromatography A.* 1548, p. 76-82 7 p.

**Black pepper-based beverage induced appetite-suppressing effects without altering postprandial glycaemia, gut and thyroid hormones or gastrointestinal well-being: A randomized crossover study in healthy subjects**

Zanzer, Y. C., Plaza, M., Dougkas, A., Turner, C. & Östman, E., 2018 May 1, In: *Food and Function.* 9, 5, p. 2774-2786 13 p.

**Probiotic fruit beverages with different polyphenol profiles attenuated early insulin response**

Xu, J., Jönsson, T., Plaza, M., Håkansson, Å., Antonsson, M., Ahrén, I. L., Turner, C., Spégel, P. & Granfeldt, Y., 2018 Feb 27, In: *Nutrition Journal.* 17, 1, 34.

**Structure dependent antioxidant capacity of phlorotannins from Icelandic Fucus vesiculosus by UHPLC-DAD-ECD-QTOFMS**

Hermund, D. B., Plaza, M., Turner, C., Jónsdóttir, R., Kristinsson, H. G., Jacobsen, C. & Nielsen, K. F., 2018 Feb 1, In: *Food Chemistry.* 240, p. 904-909 6 p.

**Analytical chemistry for a sustainable society – trends and implications**

Bergquist, J. & Turner, C., 2018, In: *Analytical and Bioanalytical Chemistry.* 410, 14, p. 3235-3237

**Characterization of carotenoids in Rhodothermus marinus**

Ron, E., Plaza, M., Kristjansdóttir, T., Sardari, R., Björnsdóttir, S., Guðmundsson, S., Hreggvidsson, G. O., Turner, C., van Niel, E. & Nordberg Karlsson, E., 2018, In: *MicrobiologyOpen.* 7, 1, e00536.

**Comprehensive on-line two-dimensional liquid chromatography × supercritical fluid chromatography with trapping column-assisted modulation for depolymerised lignin analysis**

Sun, M., Sandahl, M. & Turner, C., 2018, In: *Journal of Chromatography A.* 1541, p. 21-30

**Continuous multicomponent quantification during supercritical fluid extraction applied to microalgae using in-line UV/Vis absorption spectroscopy and on-line evaporative light scattering detection**

Abrahamsson, V., Jumaah, F. & Turner, C., 2018, In: *Journal of Supercritical Fluids.* 131, p. 157-165 9 p.

**Identification of lignin oligomers in Kraft lignin using ultra-high-performance liquid chromatography/high-resolution multiple-stage tandem mass spectrometry (UHPLC/HRMS<sup>n</sup>)**

Prothmann, J., Spégel, P., Sandahl, M. & Turner, C., 2018, In: *Analytical and Bioanalytical Chemistry.* 410, 29, p. 7803-7814 12 p.

**Multicomponent inverse modeling of supercritical fluid extraction of carotenoids, chlorophyll A, ergosterol and lipids from microalgae**

Abrahamsson, V., Cunico, L. P., Andersson, N., Nilsson, B. & Turner, C., 2018, In: *Journal of Supercritical Fluids.* 139, p. 53-61

**Oxidative Depolymerisation of Lignosulphonate Lignin into Low-Molecular-Weight Products: A Catalyst Screening Study**  
Abdelaziz, O., Meier, S., Turner, C., Riisager, A. & Hulteberg, C., 2018.

**Ultra-high-performance supercritical fluid chromatography with quadrupole-time-of-flight mass spectrometry (UHPSFC/QTOF-MS) for analysis of lignin-derived monomeric compounds in processed lignin samples**  
Prothmann, J., Sun, M., Spégl, P., Sandahl, M. & Turner, C., 2017 Dec, In: *Analytical and Bioanalytical Chemistry*. 409, 30, p. 7049-7061

**Density Measurements of CO<sub>2</sub>-Expanded Liquids**  
Cunico, L. P. & Turner, C., 2017 Oct 12, In: *Journal of Chemical and Engineering Data*. 62, 10, p. 3525-3533 9 p.

**Rapid and Green Separation of Mono- and Diesters of Monochloropropanediols by Ultrahigh Performance Supercritical Fluid Chromatography-Mass Spectrometry Using Neat Carbon Dioxide as a Mobile Phase**  
Jumaah, F., Jełdrkiewicz, R., Gromadzka, J., Namieśnik, J., Essén, S., Turner, C. & Sandahl, M., 2017 Sept 20, In: *Journal of Agricultural and Food Chemistry*. 65, 37, p. 8220-8228 9 p.

**Polyphenol-rich spice-based beverages modulated postprandial early glycaemia, appetite and PYY after breakfast challenge in healthy subjects: A randomized, single blind, crossover study**  
Cindya Zanzer, Y., Plaza, M., Dougkas, A., Turner, C., Björck, I. & Östman, E., 2017 Aug 1, In: *Journal of Functional Foods*. 35, p. 574-583 10 p.

**Green and Efficient Extraction Method to Determine Polyphenols in Cocoa and Cocoa Products**  
Plaza, M., Oliveira, D., Nilsson, A. & Turner, C., 2017 Aug, In: *Food Analytical Methods*. 10, 8, p. 2677-2691

**Green solvents: A solution of air pollution and climatic changes**  
Turner, C. & Wang, J., 2017 Jun 1, In: *Current Opinion in Green and Sustainable Chemistry*. 5, p. ii-iii

**Alterations in the plasma metabolite profile associated with improved hepatic function and glycemia in mice fed lingonberry supplemented high-fat diets**  
Alhamimi, S., HEYMAN, L., Plaza, M., Turner, C., Berger, K. & Spégl, P., 2017 Mar 1, In: *Molecular Nutrition and Food Research*. 61, 3, 1600442.

**Experimental measurements and modeling of curcumin solubility in CO<sub>2</sub>-expanded ethanol**  
Cunico, L. P., Acosta, M. C. & Turner, C., 2017, In: *Journal of Supercritical Fluids*. p. 381-388

**Green Solvents Screening for the Fractionation of LignoBoost Lignin**  
Abdelaziz, O., Prothmann, J., Turner, C. & Hulteberg, C., 2017.

**Pressurized Hot Water Extraction of Bioactives**  
Plaza, M. & Turner, C., 2017, In: *Comprehensive Analytical Chemistry*. 76, p. 53-82

**Characterization of antioxidant polyphenols from *Myrciaria jaboticaba* peel and their effects on glucose metabolism and antioxidant status: A pilot clinical study**  
Plaza, M., Batista, Â. G., Cazarin, C. B. B., Sandahl, M., Turner, C., Östman, E. & Maróstica Júnior, M. R., 2016 Nov 15, In: *Food Chemistry*. 211, p. 185-197 13 p.

**Biological valorization of low molecular weight lignin**  
Abdelaziz, O. Y., Brink, D. P., Prothmann, J., Ravi, K., Sun, M., Garcia Hidalgo, J., Sandahl, M., Hulteberg, C. P., Turner, C., Lidén, G. & Gorwa-Grauslund, M. F., 2016 Oct 6, In: *Biotechnology Advances*. 34, 8, p. 1318–1346 29 p.

**Ultra-high performance supercritical fluid chromatography of lignin-derived phenols from alkaline cupric oxide oxidation**  
Sun, M., Lidén, G., Sandahl, M. & Turner, C., 2016 Aug 1, In: *Journal of Separation Science*. 39, 16, p. 3123-3129 7 p.

**A fast and sensitive method for the separation of carotenoids using ultra-high performance supercritical fluid chromatography-mass spectrometry**  
Jumaah, F., Plaza, M., Abrahamsson, V., Turner, C. & Sandahl, M., 2016 Aug, In: *Analytical and Bioanalytical Chemistry*. 408, 21, p. 5883–5894 12 p.

**Berry pomace - A review of processing and chemical analysis of its polyphenols**

Struck, S., Plaza, M., Turner, C. & Rohm, H., 2016 Jun 1, In: International Journal of Food Science and Technology. 51, 6 , p. 1305-1318 14 p.

**Carbon Dioxide Expanded Ethanol Extraction: Solubility and Extraction Kinetics of  $\alpha$ -Pinene and cis-Verbenol**

Alhamimi, S., Abellan Mayoral, A., Cunico, L. & Turner, C., 2016 May 3, In: Analytical Chemistry. 88, 8, p. 4336-4345

**Method development in inverse modeling applied to supercritical fluid extraction of lipids**

Abrahamsson, V., Andersson, N., Nilsson, B. & Turner, C., 2016 May 1, In: Journal of Supercritical Fluids. 111, p. 14-27 14 p.

**Lingonberries alter the gut microbiota and prevent low-grade inflammation in high-fat diet fed mice**

Heyman Lindén, L., Kotowska, D., Sand, E., Mikael, B., Plaza, M., Turner, C., Holm, C., Fåk, F. & Berger, K., 2016 Apr 27 , In: Food & Nutrition Research. 60, 29993.

**A rapid method for the separation of vitamin D and its metabolites by ultra-high performance supercritical fluid chromatography-mass spectrometry.**

Jumaah, F., Larsson, S., Essén, S., Cunico, L., Holm, C., Turner, C. & Sandahl, M., 2016, In: Journal of chromatography. A. 1440, p. 191-200 10 p.

**Pressurized liquid extraction and liquid chromatography-mass spectrometry analysis of phenolic oligomers from lignin samples**

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**From supercritical carbon dioxide to gas expanded liquids in extraction and chromatography of lipids**

Turner, C., 2015 Dec 1, In: Lipid Technology. 27, 12, p. 275-277 3 p.

**Adding Value to Fruit Processing Waste: Innovative Ways to Incorporate Fibers from Berry Pomace in Baked and Extruded Cereal-based Foods-A SUSFOOD Project**

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**Development of a Semicontinuous Spray Process for the Production of Superhydrophobic Coatings from Supercritical Carbon Dioxide Solutions**

Olin, P., Hyll, C., Ovaskainen, L., Ruda, M., Schmidt, O., Turner, C. & Wagberg, L., 2015, In: Industrial & Engineering Chemistry Research. 54, 3, p. 1059-1067

**Fast determination of intact glucosinolates in broccoli leaf by pressurized liquid extraction and ultra high performance liquid chromatography coupled to quadrupole time-of-flight mass spectrometry**

Ares, A. M., Bernal, J., Nozal, M. J., Turner, C. & Plaza, M., 2015, In: Food Research International. 76, p. 498-505

**High catechins/low caffeine powder from green tea leaves by pressurized liquid extraction and supercritical antisolvent precipitation**

Villanueva Bermejo, D., Ibanez, E., Reglero, G., Turner, C., Fornari, T. & Rodriguez Meizoso, I., 2015, In: Separation and Purification Technology. 148, p. 49-56

**Pressurized hot water extraction of bioactives**

Plaza, M. & Turner, C., 2015, In: Trac. Trends in Analytical Chemistry. 71, p. 39-54

**Supercritical Fluid Extraction and Chromatography of Lipids in Bilberry.**

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**Supercritical fluid extraction of lipids from linseed with on-line evaporative light scattering detection.**  
Abrahamsson, V., Rodriguez Meizoso, I. & Turner, C., 2015, In: *Analytica Chimica Acta*. 853, p. 320-327

**Evaluation of Oxidation Stability of Refined Mineral Oil Enriched with Carotenoids from Carrot Using Supercritical Carbon Dioxide Extraction**  
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**Substituent Effects on in Vitro Antioxidizing Properties, Stability, and Solubility in Flavonoids**  
Plaza, M., Pozzo, T., Liu, J., Gulshan Kazi, Z., Turner, C. & Nordberg Karlsson, E., 2014, In: *Journal of Agricultural and Food Chemistry*. 62, 15, p. 3321-3333

**Superhydrophobic polymeric coatings produced by rapid expansion of supercritical solutions combined with electrostatic deposition (RESS-ED)**  
Ovaskainen, L., Chigome, S., Birkin, N. A., Howdle, S. M., Torto, N., Wagberg, L. & Turner, C., 2014, In: *Journal of Supercritical Fluids*. 95, p. 610-617

**An on-line method for pressurized hot water extraction and enzymatic hydrolysis of quercetin glucosides from onions.**  
Lindahl, S., Liu, J., Khan, S., Nordberg Karlsson, E. & Turner, C., 2013, In: *Analytica Chimica Acta*. 785, p. 50-59

**A Novel Molecularly Imprinted Polymer for the Selective Removal of Chlorophyll from Heavily Pigmented Green Plant Extracts prior to Instrumental Analysis**  
Batlokwa, B. S., Mokgadi, J., Majors, R., Turner, C. & Torto, N., 2013, In: *Journal of Chemistry*. 540240.

**Anti-browsing effects of birch bark extract on fallow deer**  
Bergvall, U. A., Co, M., Bergstrom, R., Sjoberg, P. J. R., Waldeback, M. & Turner, C., 2013, In: *European Journal of Forest Research*. 132, 5-6, p. 717-725

**Bioresource utilisation by sustainable technologies in new value-added biorefinery concepts - two case studies from food and forest industry**  
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**Disputation vid universitetet – en teater i fyra akter**  
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**Extraction and Neoformation of Antioxidant Compounds by Pressurized Hot Water Extraction from Apple Byproducts**  
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**Molecular imprinted polymer for solid-phase extraction of flavonol aglycones from *Moringa oleifera* extracts**  
Pakade, V., Cukrowska, E., Lindahl, S., Turner, C. & Chimuka, L., 2013, In: *Journal of Separation Science*. 36, 3, p. 548-555

**Professorsinstallation i Lund**  
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**Publication ethics on paper and in reality**

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**Sustainable analytical chemistry-more than just being green**

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**Towards superhydrophobic coatings made by non-fluorinated polymers sprayed from a supercritical solution**

Ovaskainen, L., Rodriguez Meizoso, I., Birkin, N. A., Howdle, S. M., Gedde, U., Wagberg, L. & Turner, C., 2013, In: Journal of Supercritical Fluids. 77, p. 134-141

**Sustainable resource technology (SURETECH)**

Karlsson, E. N. & Turner, C., 2012 Jan 1, p. 323-324. 2 p.

**Degradation effects in the extraction of antioxidants from birch bark using water at elevated temperature and pressure**

Co, M., Zettersten, C., Nyholm, L., Sjoberg, P. J. R. & Turner, C., 2012, In: Analytica Chimica Acta. 716, p. 40-48

**Determination of carotenoids in microalgae using supercritical fluid extraction and chromatography.**

Abrahamsson, V., Rodriguez Meizoso, I. & Turner, C., 2012, In: Journal of chromatography. A. 1250, p. 63-68

**Extraction of Antioxidants from Spruce (*Picea abies*) Bark using Eco-friendly Solvents**

Co, M., Fagerlund, A., Engman, L., Sunnerheim, K., Sjoberg, P. J. R. & Turner, C., 2012, In: Phytochemical Analysis. 23, 1, p. 1-11

**Immobilization of thermostable beta-glucosidase variants on acrylic supports for biocatalytic processes in hot water**

Khan, S., Lindahl, S., Turner, C. & Nordberg Karlsson, E., 2012, In: Journal of Molecular Catalysis B: Enzymatic. 80, p. 28-38

**In situ Raman spectroscopy for the evaluation of solubility in supercritical carbon dioxide mixtures**

Rodriguez Meizoso, I., Lazor, P. & Turner, C., 2012, In: Journal of Supercritical Fluids. 65, p. 87-92

**Investigation of different particle sizes on superhydrophobic surfaces made by rapid expansion of supercritical solution with in situ laser diffraction (RESS-LD)**

Werner, O. & Turner, C., 2012, In: Journal of Supercritical Fluids. 67, p. 53-59

**Life cycle assessment of green pilot-scale extraction processes to obtain potent antioxidants from rosemary leaves**

Rodriguez Meizoso, I., Castro-Puyana, M., Börjesson, P., Mendiola, J. A., Turner, C. & Ibanez, E., 2012, In: Journal of Supercritical Fluids. 72, p. 205-212

**Molecularly imprinted polymers targeting quercetin in high-temperature aqueous solutions**

Pakade, V., Lindahl, S., Chimuka, L. & Turner, C., 2012, In: Journal of Chromatography A. 1230, p. 15-23

**Phase-behavior of alkyl ketene dimer (AKD) in supercritical carbon dioxide. The implications of using different solubility measurement methods**

Rodriguez Meizoso, I., Werner, O., Quan, C., Knez, Z. & Turner, C., 2012, In: Journal of Supercritical Fluids. 61, p. 25-33

**Pressurised hot water extraction with on-line particle formation by supercritical fluid technology**

Andersson, J. M., Lindahl, S., Turner, C. & Rodriguez Meizoso, I., 2012, In: Food Chemistry. 134, 4, p. 1724-1731

**Pressurized hot ethanol extraction of carotenoids from carrot by-products.**

Mustafa, A., Trevino, L. M. & Turner, C., 2012, In: Molecules. 17, 2, p. 1809-1818

**Aglycone specificity of *Thermotoga neapolitana* beta-glucosidase 1A modified by mutagenesis, leading to increased catalytic efficiency in quercetin-3-glucoside hydrolysis**

Khan, S., Pozzo, T., Megyeri, M., Lindahl, S., Sundin, A., Turner, C. & Nordberg Karlsson, E., 2011, In: BMC Biochemistry. 12

**Electrospun Nanofibers Sorbents for Pre-Concentration of 1,1-dichloro-2,2 bis-(4-chlorophenyl)ethylene with Subsequent Desorption by Pressurized Hot Water Extraction**

Adeyemi, D., Mokgadi, J., Darkwa, J., Anyakora, C., Ukpo, G., Turner, C. & Torto, N., 2011, In: Chromatographia. 73, 9-10 , p. 1015-1020

**Pressurized liquid extraction as a green approach in food and herbal plants extraction: A review.**

Mustafa, A. & Turner, C., 2011, In: Analytica Chimica Acta. 703, 1, p. 8-18

Pressurized Hot Water Extraction of anthocyanins from red onion: A study on extraction and degradation rates

Petersson, E. V., Liu, J., Sjoberg, P. J. R., Danielsson, R. & Turner, C., 2010, In: Analytica Chimica Acta. 663, 1, p. 27-32

**Lipase-catalyzed reactions in organic and supercritical solvents: Application to fat-soluble vitamin determination in milk powder and infant formula**

Turner, C., Persson, M., Mathiasson, L., Adlercreutz, P. & King, J. W., 2001 Aug 7, In: Enzyme and Microbial Technology. 29, 2-3, p. 111-121 11 p.

**Determination of Fat-Soluble Vitamins in Foods Based on Supercritical Fluid Extraction**

Turner, C., 2000, Charlotta Turner and the Department of Analytical Chemistry, Lund University. 184 p.

## Prizes and Distinctions

**The Svante Arrhenius Award**

Turner, C. (Recipient), 2017

**The Herbert Dutton Award**

Turner, C. (Recipient), 2015

**Ingvar Carlsson Award**

Turner, C. (Recipient), 2006

**The Swedish King's 50th anniversary foundation award**

Turner, C. (Recipient), 2005 Mar 15

## Awards

**Miljövänlig superkritisk process för växttoljer**

Turner, C. (PI)

Swedish Foundation for Strategic Research, SSF: SEK2,500,000.00

2024/01/01 → 2027/12/31

## Projects

**Addressing the challenges of lignin oligomer analysis by liquid-based separation techniques**

Papp, D. (Research student), Turner, C. (Supervisor), Sandahl, M. (Assistant supervisor) & Nylander, T. (Assistant supervisor)

2019/08/19 → ...

**Advancing selectivity in extraction and analysis of bioactive compounds in seaweed and plant-based foods**

Gondo, T. F. (Researcher), Turner, C. (Researcher), Sandahl, M. (Researcher) & Nordberg Karlsson, E. (Researcher)

**Application of subcritical and supercritical fluids in coal extraction and analysis**

Nermark, F. (Researcher), Turner, C. (Supervisor), Wendt, O. (Assistant supervisor) & Mapolelo, M. (Assistant supervisor)  
2016/09/01 → ...

**High-resolution separation and detection methods targeting lignin**

Turner, C. (PI)  
Swedish Research Council

**Miljövänlig superkritisk process för växtoljor**

Turner, C. (PI)  
Swedish Foundation for Strategic Research, SSF  
2024/01/01 → 2027/12/31

**iENT: Neuroenvironmental toxicity: a new synergistic approach to quantify acute and chronic sublethal effects of commonly-used pesticides on insects**

Rigosi, E. (PI), Turner, C. (Col), Rundlöf, M. (Col), Herbertsson, L. (Col), O'carroll, D. (Col), Stensmyr, M. (Col), Spégel, P. (Col), Palmer, S. (Research student), Miegel, E. (Research student), Rönnau, S. (Research student), Davila, N. (Research student) & Fathi, M. (Research assistant)  
2022/01/01 → 2027/12/31

**ChemFreeGarden: Reducing chemicals in urban private gardens to promote biodiversity, health and ecosystem services**

Hansson, M. (Researcher), Molbert, N. (Researcher), Turner, C. (Researcher), Spégel, P. (Researcher), Molins Delgado, D. (Research assistant), Öckinger, E. (Researcher), van Praagh, M. (Researcher) & Alkan Olsson, J. (Researcher)  
2020/01/01 → 2026/12/31

**Quantitative fingerprinting of chemical contaminants in pollinating insects – Green unified chromatography and advanced detection techniques supported by machine learning**

Turner, C. (PI), Hansson, M. (Researcher), Rigosi, E. (Researcher), Rundlöf, M. (Researcher), Sandahl, M. (Researcher) & Spégel, P. (Researcher)  
FORMAS, The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning  
2023/01/01 → 2025/12/31

**L2BA - Lignin to BioAromatics**

Turner, C. (PI)  
Research Council of Norway  
2021/03/25 → 2024/09/30

**Savouring the sea: Production and consumption of future seaweed foods**

Jönsson, M. (Researcher), Turner, C. (Assistant supervisor), Nordberg Karlsson, E. (Supervisor) & Rayner, M. (Assistant supervisor)  
2019/08/01 → 2024/04/19

**Marine food resources for new markets**

Fredriksson, C. (PI), Säwe, F. (Researcher), Turner, C. (Researcher), Nordberg Karlsson, E. (Researcher), Jönsson, M. (Research student), Merkel, A. (Research student) & Gondo, T. F. (Research student)  
FORMAS, The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning  
2018/12/01 → 2022/11/30

**High value chemicals from lignin using biological processes**

Gorwa-Grauslund, M.-F. (PI), Lidén, G. (Col), Turner, C. (Col) & Hulteberg, C. (Researcher)  
2015/01/01 → 2020/12/31

**STEPS: STEPS – Sustainable Plastics and Transition Pathways, Phase 1**

Generosi, J. (Project coordinator), Hatti-Kaul, R. (PI), Pyo, S.-H. (Researcher), Zhang, B. (PI), Turner, C. (Researcher), Rodriguez Meizoso, I. (Researcher), Wallberg, O. (Researcher), Hulteberg, C. (Col), Diegel, O. (Researcher), Ristinmaa, M. (Researcher), Nilsson, L. J. (PI), Palm, E. (Research student), Ericsson, K. (Researcher), Hansen, T. (Col), Klintman, M. (Researcher), Stripple, J. (Researcher), Bauer, F. (Researcher), Madsen, S. (PI), Jannasch, P. (Researcher), Egan, N.

(Project communication officer), Nielsen, T. (Researcher), Holmberg, K. (Research assistant), Svantesson, A. (Research assistant), Hall, S. (Researcher), Mahmoud, S. (Researcher), Englund Örn, O. (Research student), Mankar, S. (Research student), Warlin, N. (Research student), Valsange, N. (Research student), Sanku, M. (Research student), Hasselbalch, J. (Researcher), Sjölin, M. (Research student), Hansen, T. (Researcher), Chen, L. (Research student), Nordin, A. (Researcher), Engqvist, J. (Research student), Garcia Gonzalez, N. (Researcher), Newson, W. R. (Researcher), Johansson, E. (Researcher), Kuktaite, R. (Researcher), Muneer, F. (Researcher), Nilsson , E. (Researcher), Guo, Z. (Researcher), Ahlgqvist, J. (Administrator) & Peric, S. (Administrator)  
MISTRA, Swedish foundation for strategic environmental research  
2016/09/01 → 2020/08/31

**Green solvents for selective extraction and two-dimensional chromatography of organic compounds in complex samples**  
Turner, C. (Researcher)  
2017/01/01 → 2019/12/31

#### AFC: ANTIDIABETIC FOOD CENTRE

Adlercreutz, P. (PI), Ahrén, I. L. (PI), Ahrné, S. (Researcher), Alhamimi, S. (Research student), Andersson, K. E. (Researcher), Andersson, K. E. (Research student), Månberger, A. (Researcher), Axling, U. (Researcher), Axling, U. (Research student), Bergenståhl, B. (Researcher), Berger, K. (PI), Björck, I. (PI), Bränning, C. (Research student), Bäckhed, F. (PI), Zanzer, Y. C. (Research student), Danielsson, A. (PI), Danielsson, B. (Research assistant), Degerman, E. (PI), Dejmek, P. (Researcher), Dey, E. (PI), Dougkas, A. (Researcher), Ekström, L. (Research student), Eliasson, A.-C. (PI), Fahlgren, C. (Research engineer), Falck, P. (PI), Falck, P. (Research student), Ghaffarzadegan, T. (Research student), Granfeldt, Y. (Researcher), Grey, C. (Researcher), Gunnerud, U. (Research student), Håkansson, Å. (Researcher), Håkansson, Å. (Research student), Hällénius, F. (Researcher), Hällénius, F. (PI), Haskå, L. (PI), Haskå, L. (Research student), Heimann, E. (Research student), Hellstrand, P. (Researcher), Heyman, L. (Research student), Holm Wallenberg, C. (PI), Holmén-Pålbrink, A.-K. (Research assistant), Holst, O. (Researcher), Immerstrand, T. (Research student), Immerzeel, P. (Researcher), Jakobsdottir, G. (Research student), Jeppsson, B. (Researcher), Johansson, E. (Research student), Johansson, M. (Project coordinator), Johansson, M. (Researcher), Johansson, M. (Research assistant), Johansson, U. (Researcher), Jones, H. (Researcher), Nordberg Karlsson, E. (Researcher), Kovatcheva-Datchary, P. (Researcher), Kulcinskaia, E. (Research student), Landin-Olsson, M. (Researcher), Linninge, C. (Researcher), Marefati, A. (Research student), Marungruang, N. (Research student), Molin, G. (PI), Nilsson, A. (PI), Nilsson, E. (Research engineer), Nilsson, U. (PI), Nyman, M. (PI), Ohlson, E. (Research assistant), Olsson, C. (Researcher), Öste, R. (PI), Östman, E. (PI), Persson, L. (Research engineer), Persson, S. (Researcher), Plaza, M. (Researcher), Prykhodko, O. (Researcher), Radeborg, K. (Researcher), Rayner, M. (PI), Rosén, L. (Research student), Sandahl, M. (Researcher), Sandberg, J. (Research student), Sjöö, M. (PI), Skog, K. (Researcher), Spéigel, P. (PI), Stålbrand, H. (Researcher), Sterner, O. (PI), Svensson, J. (Research student), Tareke, E. (PI), Tovar, J. (PI), Turner, C. (PI), Weström, B. (Researcher), Xu, J. (Research student) & Zhong, Y. (Research student)

2007/07/01 → 2018/01/31

#### Food components for prevention and treatment of obesity and type 2 diabetes - Physiological effects and molecular mechanisms

Berger, K. (PI), Axling, U. (Researcher), Hällénius, F. (PI), Turner, C. (PI), Spéigel, P. (PI), Alhamimi, S. (Research student), Adlercreutz, P. (PI), Heyman, L. (Researcher) & Holm Wallenberg, C. (PI)  
2010/01/01 → 2017/12/31