

## 1A. Referee judged Articles from FSSG (from 2010)

- A55)** *Characterization of adsorption processes in analytical liquid–solid chromatography.* T. Fornstedt. Journal of Chromatography A (2010) 1217, 792-812.
- A56)** *Investigation of the adsorption behaviour of glycine peptides on 12% cross-linked agarose gel media.* Xiaou Zhang, J. Samuelsson, J.-C. Janson, Changhai Wang, Zhiguo Suc, Ming Guc, T. Fornstedt. Journal of Chromatography A (2010) 1217, 1916-1925.
- A57)** *Injection profiles in liquid chromatography. I. A fundamental investigation* Samuelsson, J., Edström, L., Forssén, P., and Fornstedt, T. Journal of Chromatography A (2010) 1217(26), 4306-4312.
- A58)** *Improvement in the generation of adsorption isotherm data in the elution by characteristic points method-the ECP-slope approach.* Samuelsson, J., Undin, T., Törnroona, A., and Fornstedt, T. Journal of Chromatography A, (2010) 1217(46), 7215-7221.
- A59)** *Deformations of overloaded bands under pH-stable conditions in reversed phase chromatography.* Edström, L., Samuelsson, J., and Fornstedt, T. Journal of Chromatography A, (2011) 1218(15), 1966-1973.
- A60)** *A systematic investigation of algorithm impact in preparative chromatography with experimental verifications* Enmark, M., Arnell, R., Forssén, P., Samuelsson, J., Kaczmarski, K., and Fornstedt, T. Journal of Chromatography A, (2011) 1218(5), 662-672.
- A61)** *Three different approaches for the clarification of the interactions between lipoproteins and chondroitin-6-sulfate.* Lipponen K, Stege PW, Cilpa G, Samuelsson J, Fornstedt T, Riekkola M-L. Analytical Chemistry (2011) 83(15):6040 – 6046.
- A62)** *Polyethylene glycol-stabilized lipid disks as model membranes in interaction studies based on electrokinetic capillary chromatography and quartz crystal microbalance* Vainikka, K., Reijmar, K., Yohannes, G., Samuelsson, J., Edwards, K., Jussila, M., Riekkola, M.-L. Analytical Biochemistry (2011) 414 (1), 117-124.
- A63)** *Injection profiles in liquid chromatography II: Predicting accurate injection-profiles for computer-assisted preparative optimizations.* Forssén P, Edström L, Samuelsson J, Fornstedt T. Journal of Chromatography A (2011);1218(34):5794 – 5800.
- A64)** *Expanding the elution by characteristic point method for determination of various types of adsorption isotherms.* Samuelsson J, Undin T, Fornstedt T. Journal of Chromatography A (2011);1218(24):3737 - 3742.
- A65)** *Characterization of an unusual adsorption behavior of racemic methyl-mandelate on a tris-(3,5-dimethylphenyl) carbamoyl cellulose chiral stationary phase* Martin Enmark, J. Samuelsson, T. Undin, T. Fornstedt Journal of Chromatography A (2011) 1218(38), 6688-6696.
- A66)** *Optimizing the extraction, separation and quantification of tricyclic antidepressant drugs in human plasma with CE-ESI-TOF-MS using cationic coated capillaries.* Elhamili, A., Samuelsson, J., Bergquist, J. & Wetterhall, M. (2011). Electrophoresis, 32(6-7), 647-658.
- A67)** *Why ultra high performance liquid chromatography produces more tailing peaks than high performance liquid chromatography, why it does not matter and how it can be addressed* P. P.sson, P. Forssen, Lena Edström, Farzad Samie, Stephen Tatterton, Adrian Clarke, T. Fornstedt, Journal of Chromatography A (2011) 1218(39) 6914-6921.
- A68)** *Highlighting Important Parameters Often Neglected in Numerical Optimization of Preparative Chromatography* J. Samuelsson, Martin Enmark, P. Forssén, T. Fornstedt, Chemical Engineering & Technology (2012) 35 (Issue 1) 149 – 156.
- A69)** *Enantioseparation of Omeprazole - Effect of Different Packing Particle Size on Productivity* Martin Enmark, J. Samuelsson, P. Forssén, T. Fornstedt, Journal of Chromatography A (2012) 1240, 123-131.
- A70)** *Optimization Strategies accounting for the Additive in Preparative Chiral Liquid Chromatography* P. Forssén, Lena Edström, Michael Lämmerhofer, J. Samuelsson, Anders Karlsson, Wolfgang Lindner, T. Fornstedt. Journal of Chromatography A (2012) 1269, 279-286.

- A71)** *Evaluation of a Combined Linear-Nonlinear Approach for Column Characterization using Modern Alkaline-Stable Columns as Model.* T. Undin, J. Samuelsson, A. Törnecrona, T. Fornstedt. *Journal of Separation Science* (2013) 36 (Issue 11) 1753-1761.
- A72)** Fast Estimation of Adsorption Isotherm Parameters in Gradient Elution Preparative LC I: The Single Component Case. D. Åsberg, M. Leško, M. Enmark, J. Samuelsson, K. Kaczmarek, T. Fornstedt. *Journal of Chromatography A* (2013) 1299, 64-70.
- A73)** Relative Importance of Column and Adsorption Parameters on the Productivity in Preparative Liquid Chromatography. I: Investigation of a chiral separation system. P. Forssén, J. Samuelsson, T. Fornstedt. *Journal of Chromatography A* (2013) 1299, 58-63.
- A74)** Determination of adsorption isotherms in supercritical fluid chromatography. M. Enmark, P. Forssén, J. Samuelsson, T. Fornstedt. *Journal of Chromatography A* (2013) 1312, 124-133.
- A75)** Fast Estimation of Adsorption Isotherm Parameters in Gradient Elution Preparative LC II: The Competitive Case. D. Åsberg, M. Leško, M. Enmark, J. Samuelsson, K. Kaczmarek, T. Fornstedt. *Journal of Chromatography A* (2013) 1314, 70-76.
- A76)** Enhanced interpretation of adsorption data generated by liquid chromatography and by modern biosensors. V Agmo Hernández, J Samuelsson, P Forssén, T Fornstedt. *Journal of Chromatography A* (2013) 1317, 22-31.
- A77)** Sample conditions to avoid pH distortion in RP-LC. J Samuelsson, P Forssén, T Fornstedt. *Journal of separation science* (2013) 36 (Issue 23), 3769-3775.
- A78)** Three complementary techniques for the clarification of temperature effect on low-density lipoprotein–chondroitin-6-sulfate interaction. G. Cilpa-Karhu, K. Lipponen, J. Samuelsson, K. Öörni, T. Fornstedt, M-L. Riekkola. *Analytical biochemistry* (2013) 443 (2), 139-147.
- A79)** Analytical Method Development in the Quality by Design Framework. D. Åsberg, A. Karlsson, J. Samuelsson, K. Kaczmarek, T. Fornstedt. *Am. Lab.* 46 (2014) 12–15.
- A80)** Method transfer from high-pressure liquid chromatography to ultra-high-pressure liquid chromatography. I. A thermodynamic perspective. D. Åsberg, M. Leško, J. Samuelsson, K. Kaczmarek, T. Fornstedt. *J. Chromatogr. A.* 1362 (2014) 206–217.
- A81)** Investigation of plateau methods for adsorption isotherm determination in supercritical fluid chromatography. M. Enmark, J. Samuelsson, E. Forss, P. Forssén, T. Fornstedt. *J. Chromatogr. A.* 1354 (2014) 129–138.
- A82)** Evaluation of co-solvent fraction, pressure and temperature effects in analytical and preparative supercritical fluid chromatography. D. Åsberg, M. Enmark, J. Samuelsson, T. Fornstedt, *Journal of Chromatography A* 1374 (2014) 254-260.
- A83)** The Effect of Temperature, Pressure and Co-Solvent on a Chiral Supercritical Fluid Chromatography Separation M. Enmark, D. Åsberg, J. Samuelsson. *T. Fornstedt, Chromatogr. Today.* 7 (2014) 14–17.
- A84)** Relative importance of column and adsorption parameters on the productivity in preparative liquid chromatography II: Investigation of separation systems with competitive Langmuir adsorption isotherms. P. Forssén, J. Samuelsson, T. Fornstedt. *J. Chromatogr. A.* 1347 (2014) 72–79.
- A85)** Regeneration of a silica monolithic rod column using harsh methods followed by firm thermodynamic and kinetic validation. J. Samuelsson, A. Cavazzini, R.A. Shalliker, T. Fornstedt. *J. Sep. Sci.* 37 (2014) 906–911.
- A86)** Solvent strategies for loading and release in mesoporous silica. A. Hillerström, M. Andersson, J. Samuelsson, J. Van Stam. *Colloids and Interface Science Communications* 3 (2014) 5-8.
- A87)** Contrasting selectivity between HPLC and SFC using phenyl-type stationary phases: A study on linear polynuclear aromatic hydrocarbons, C.M. Vera, D. Shock, G.R. Dennis, J. Samuelsson, M. Enmark, T. Fornstedt, et al., *Microchem. J.* 119 (2015) 40–43.

- A88)** Modern Supercritical Fluid Chromatography — Possibilities and Pitfalls. T. Fornstedt, R.E. Majors, LC-GC Europe vol 28 Issue 8, 1 August 2015, Pages 445-450 (This article is also published in LC-GC North America (vol 33 Issue 3, march 2015 + IN LC-GC Asia (<http://www.chromatographyonline.com/>))
- A89)** A preliminary study on the selectivity of linear polynuclear aromatic hydrocarbons in SFC using phenyl-type stationary phases. C.M. Vera, D Shock, G.R. Dennis, J. Samuelsson, M. Enmark, T. Fornstedt, R. A. Shalliker, *Microchem. J.* 121 (2015) 136-140.
- A90)** A closer study of peak distortions in supercritical fluid chromatography as generated by the injection . M. Enmark, D. Åsberg, A. Shalliker, J. Samuelsson, T. Fornstedt. *J. Chromatogr. A* 1400(2015) 131-139.
- A91)** Method transfer from high-pressure liquid chromatography to ultra-high-pressure liquid chromatography: II: Temperature and pressure effects. D. Åsberg, J. Samuelsson, M. Leško, A. Cavazzini, K. Kaczmarek, T. Fornstedt. *J. Chromatogr. A* 1401(2015) 52-59.
- A92)** Partial filling affinity capillary electrophoresis including adsorption energy distribution calculations-towards reliable and feasible biomolecular interaction studies. J. Witos, J. Samuelsson, G. Cilpa-Karhu, J. Metso, M. Jauhiainen, M.-L. Riekkola, *Analyst* 140(2015) 3175-3182.
- A93)** Exogenous factors contributing to column bed heterogeneity Part 1: Consequences of 'air' injections in liquid chromatography. J. Samuelsson, T. Fornstedt, A. Shalliker. *J. Chromatogr. A* 1406 (2015) 186-191.
- A94)** A model free method for estimation of complicated adsorption isotherms in liquid chromatography. P. Forssén, T. Fornstedt. *J. Chromatogr. A* 1409 (2015) 108-115.
- A95)** Choice of Model for Estimation of Adsorption Isotherm Parameters in Gradient Elution Preparative Liquid Chromatography. Marek Leško, Dennis Åsberg, Martin Enmark, Jörgen Samuelsson, Torgny Fornstedt, Krzysztof Kaczmarek. *Chromatographia* 78 (2015) 1293-1297.
- A96)** Introduction to “Fundamental challenges and opportunities for preparative supercritical fluid chromatography by G. Guiochon, A. Tarafder [J. Chromatogr. A 1218 (2011) 1037–1114]” Torgny Fornstedt. *J. Chromatogr.* (2015). doi:10.1016/j.chroma.2015.11.009
- A97)** Evaluation of scale-up from analytical to preparative supercritical fluid chromatography. Martin Enmark, Dennis Åsberg, Hanna Leek, Kristina Öhlén, Magnus Klarqvist, Jörgen Samuelsson, Torgny Fornstedt. *J. Chromatogr. A* 1425 (2015) 280-286.
- A98)** Sample introduction for high performance separations. R Andrew Shalliker, Jörgen Samuelsson, Torgny Fornstedt. *TrAC Trends in Analytical Chemistry* (2016). DOI: 10.1016/j.trac.2016.01.004
- A99)** System peaks and their impact in liquid chromatography. Torgny Fornstedt, Patrik Forssén, Douglas Westerlund. T. Fornstedt, P. Forssén, D. Westerlund. *TrAC Trends in Analytical Chemistry* (2016). DOI: 10.1016/j.trac.2016.01.008.
- A100)** Evaluation and analysis of environmentally sustainable methodologies for extraction of betulin from birch bark with a focus on industrial feasibility, Mikael E. Fridén, Firas Jumaah, Christer Gustavsson, Martin Enmark, Torgny Fornstedt, Charlotta Turner, Per J. R. Sjöberg, Jörgen Samuelsson. *Green Chem* 18 (2016) 516-523.
- A101)** A closer study of methanol adsorption and its impact on solute retentions in supercritical fluid chromatography, Emelie Glenne, Kristina Öhlén, Hanna Leek, Magnus Klarqvist, Jörgen Samuelsson, Torgny Fornstedt, *Journal of Chromatography A* (2016). doi:10.1016/j.chroma.2016.03.006.

## **2A. Referee judged LECTURES at international conferences (from 2005)**

- L9)** **HPLC 2005 in Stockholm** (29th International symposium on High Performance Liquid Phase Separations and related Techniques): A new rapid method for accurate determination of competitive adsorption isotherms: the inverse method on a plateau (IMP) Robert Arnell, Patrik Forssén and Torgny Fornstedt. A Young scientist lecture given by Robert Arnell.
- L10)** **HPLC 2006 in San Francisco** (30th International symposium on High Performance Liquid Phase Separations and related Techniques) (L-0103) Thermodynamic Characterization of New Generation Alkaline-Stable C18 Columns: Why Do Basic Solutes Show Better Performance At Alkaline pH? Torgny Fornstedt and Jörgen Samuelsson, Brett Stanley, André Franz, Uppsala University.

- L11) HPLC 2006 in San Francisco** (30th International symposium on High Performance Liquid Phase Separations and related Techniques): (L-1702) Modelling of Extreme Band Deformations in Chiral Preparative LC. Robert Arnell, Patrik Forssén, Torgny Fornstedt, Uppsala University.
- L12) PREP 2006 in Baltimore** (19th International Symposium on Preparative & Process Chromatography) (L-217) Tunable band deformations in chiral preparative LC: A methodology to increase productivity. Robert Arnell, Patrik Forssén and Torgny Fornstedt, Uppsala University.
- L13) PREP 2006 in Baltimore** (19th International Symposium on Preparative & Process Chromatography) (L-217) (L-222) Why do basic organic solutes have better capacity and peak performance at alkaline pH? Jörgen Samuelsson and Torgny Fornstedt, Uppsala University.
- L14) Analysdagarna in Gothenburg 2006.** Thermodynamic Characterization of New Generation Alkaline-Stable C18 Columns: Why do basic solutes show better performance at alkaline pH? Jörgen Samuelsson and Torgny Fornstedt
- L15) SPICA: in Innsbruck 2006** (11th International Symposium on Preparative and Industrial Chromatography and Allied Techniques) Adjustable Band deformations using modern preparative chiral stationary phases by T. Fornstedt, R. Arnell, P. Forssén, Uppsala University/S.
- L16) Enantiosep 2007 in Ferrara, Italy** (Symposium-Workshop on Analytical and Preparative Enantioseparation). Plateau Methods in LC – Retrospective and Future Aspects by Torgny Fornstedt.
- L17) HPLC 2007 in Ghent** (31th International symposium on High Performance Liquid Phase Separations and related Techniques) (Keynote L-06.02) Chromatographic surprises – the Tracer-Pulse Experience. Torgny Fornstedt, Jörgen Samuelsson, Robert Arnell.
- L18) PREP 2007 in Baltimore** (20th International Symposium on Preparative & Process Chromatography) Effects of sample-eluent pH mismatch in preparative liquid chromatography by Jörgen Samuelsson and Torgny Fornstedt, Uppsala University.
- L19) HPLC 2008 in Baltimore** (32th International symposium on High Performance Liquid Phase Separations and related Techniques) (Keynote L-104) Measurement of Reliable Equilibrium Data: Guidelines to Avoid the Common Pitfalls. Torgny Fornstedt, Jörgen Samuelsson, Robert Arnell, Patrik Forssén.
- L20) SPICA 2008 in Zurich** (12<sup>th</sup> International Symposium on Preparative and Industrial Chromatography and Allied Techniques) (1071) Utilisation of Peak Shape Tuning to Optimize Preparative Batch Chromatography. T. Fornstedt, P. Forssén, R. Arnell, M. Kaspereit and A. Seidel-Morgenstern
- L21) SPICA 2008 in Zurich** (12<sup>th</sup> International Symposium on Preparative and Industrial Chromatography and Allied Techniques) (1054) Theoretical Analysis of Continuous Chromatography with Adsorbing Additives. M. Kaspereit, R. Arnell, P. Forssén, A. Seidel-Morgenstern, T. Fornstedt and A. Kienle.
- L22) CHIRALITY 2008 in Geneva** (ISCD-20, 20<sup>th</sup> International Symposium on Chirality) (O10-1) Adsorption Behavior of a Quinidine Carbamate Based Chiral Stationary Phase: the Role of the Additive. Robert Arnell, Patrik Forssén, Torgny Fornstedt, Michael Lämmerhofer, Wolfgang Lindner.
- L23) PREP 2008 in San Jose** (21th International Symposium on Preparative & Process Chromatography) Impact of an Error in the Column Hold-up Time in Adsorption Isotherm Determinations – How to Obtain Excellent Predictions of Elution Profiles with an Arbitrary Chosen Porosity. Torgny Fornstedt, Jörgen Samuelsson, Peter Sajonz.
- L24) Analysdagarna 16-18 June 2008, Göteborg, Sweden.** Combining theory and practice for a deeper understanding of the separation process – The explanation of bizarre band profiles and their usefulness as an example (L16) Torgny Fornstedt, Jörgen Samuelsson (L16).
- L25) HPLC 2009 in Dresden** (34th International symposium on High Performance Liquid Phase Separations and related Techniques). Fundamental aspects of separation. A new method for rapid and accurate in-depth characterization of modern analytical and preparative phase systems. Torgny Fornstedt and Jörgen Samuelsson.
- L26) SPICA 2010** 13th Symposium on Preparative and Industrial Chromatography and Allied Techniques 2010 in Stockholm Computer Assisted Optimization of Pharmaceutical Purification - The Impact of Algorithms

and Experimental Approach 2010. Martin Enmark, Robert Arnell, Patrik Forssén, Jörgen Samuelsson, Krzysztof Kaczmarski, Torgny Fornstedt.

- L27) Analysdagarna 2010** in Uppsala A systematic investigation on the accuracy of computer simulations for optical isomers in industrial settings 2010. Martin Enmark, Patrik Forssén, Jörgen Samuelsson, Krzysztof Kaczmarski, Torgny Fornstedt.
- L28) Analysdagarna 2010** in Uppsala, Sweden. Determination of adsorption processes in modern chromatographic systems - Characterization, illustrations and guidelines how to avoid common pitfalls 2010. Torgny Fornstedt, Jörgen Samuelsson.
- L29) Analysdagarna 2010** in Uppsala, Sweden. Deeper characterization of new hybrid silica phases - A combined experimental and theoretical approach. Torgny Undin, Jörgen Samuelsson, Anders Törnrcrona.
- L30) HPLC 2010 in Philadelphia** 35th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2010 in Boston. A New Approach for Characterization of Adsorption Processes in Analytical Chromatographic Systems by Combining Linear and Nonlinear Methods. Torgny Undin, Jörgen Samuelsson, Patrik Pettersson, Anders Törnrcrona, Johan Ekeroth, Torgny Fornstedt (L01-18)
- L31) PREP 2010 in Philadelphia** 23th International Symposium on Preparative and Process Chromatography 2010 in Philadelphia. A Novel Optimization Strategy for Incorporating of Additives in the Modeling Aimed at Improved Process Optimization 2010. Torgny Fornstedt, Lena Edström, Michael Lämmerhofer, Wolfgang Lindner, Patrik Forssén (L-301).
- L32) HPLC 2011 in Budapest** 36th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2011 in Budapest Congress and World Trade Center. Session: Fundamental aspects of separations: Honouring Georges Guiochon, *Visualization of Chromatographic Surprises - The Helfferich Paradox Revisited* Jörgen Samuelsson, Torgny Fornstedt (L-64).
- L33) HPLC 2011 in Budapest** 36th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2011 in Budapest Congress and World Trade Center. Csaba Horváth Young Scientist Award Nominee *A Deeper Understanding of a Complex Adsorption Behavior in a Common Chiral, Separation System* Martin Enmark, Jörgen Samuelsson, Torgny Fornstedt (L83)
- L34) PREP 2011 in Boston** 24th International Symposium on Preparative and Process Chromatography 2010 in Philadelphia. *Preparative Separation of Chiral Pharmaceutical Compounds - The Effects of Packing Particle Size, Pressure Limit and Column Geometry on Productivity and Solvent Consumption*. Torgny Fornstedt, Martin Enmark, Jörgen Samuelsson, Patrik Forssén.
- L35) PREP 2012 in Boston** 25th International Symposium, Exhibit & Workshops on Preparative & Process , Boston, USA. *A Holistic View on Optimization of Preparative Liquid Chromatography – Importance of Column Properties and Design*. Jörgen Samuelsson, Patrik Forssén, Martin Enmark, Joakim Höglblom..
- L36) Analysdagarna 2012** in Uppsala Sweden. *Modeling of Overloaded Gradient Elution in Reversed-Phase Liquid Chromatography*. Dennis Åsberg, Martin Enmark, Jörgen Samuelsson, Torgny Fornstedt.
- L37) HPLC 2012 in Anaheim 38th International Symposium on High Performance Liquid Phase Separations and Related Techniques**. *Deeper Insights in Retention Mechanisms and Molecular Interactions through Improved Methods for Generating and Evaluation Adsorption Data*. Torgny Fornstedt; Jörgen Samuelsson; Patrik Forssén
- L38) SPICA 2012** 14th Symposium on Preparative and Industrial Chromatography and Allied Techniques 2012 in Brussels, Belgium. , *Characterization of adsorption in SFC: An evaluation of methods used in LC*. Martin Enmark, Jörgen Samuelsson, Joakim Höglblom, Patrik Forssén, Torgny Fornstedt.
- L39) SFC 2012** 6th International Conference on Packed Column SFC, Brussels, Belgium, , *Adsorption Isotherm Determination for Reliable Phase System Characterization in SFC – Challenges and Pitfalls*. M. Enmark, J. Samuelsson, J. Höglblom, P. Forssén, T. Fornstedt.
- L40) HPLC 2013 39th International Symposium on High Performance Liquid Phase Separations and Related Techniques. Amsterdam, the Netherlands**. A New Procedure for Predictions of Overloaded Profiles in Gradient Elution Torgny Fornstedt Dennis Åsberg Marek Lesko Martin Enmark Patrik Forssén Jörgen Samuelsson Krzysztof Kaczmarski (Keynote)

- L41) PREP 2013 in Boston** 26th International Symposium, Exhibit & Workshops on Preparative & Process Chromatography , Boston, USA. L-316 Using Modern SFC Instruments for Adsorption Characterization Torgny Fornstedt, Martin Enmark, Jörgen Samuelsson
- L42) Balaton 9<sup>th</sup> International Symposium on High-Performance Separations 2013** Reliable determination of adsorption isotherms in supercritical fluid chromatography, Fornstedt\* T., Enmark M., Forssén P., Samuelsson J.
- L43) HPLC 2013 Hobart 40<sup>th</sup> International Symposium on High Performance Liquid Phase Separations and Related Techniques 2013 in Hobart, Tasmania, Australia.** Adsorption Isotherm Determination in Supercritical Fluid Chromatography – Pitfalls and Possibilities. Torgny Fornstedt Martin Enmark Jörgen Samuelsson (Keynote)
- L44) HPLC 2013 Hobart 40<sup>th</sup> International Symposium on High Performance Liquid Phase Separations and Related Techniques 2013 in Hobart, Tasmania, Australia.** *A new approach for the elucidation of biological interactions by capillary electrophoresis.* Marja-Liisa Riekkola, Katriina Lipponen, Sari Tähhä, Eetu Kari, Geraldine Cilpa, Jörgen Samuelsson, Torgny Fornstedt, Katariina Öörni (Keynote)
- L45) Analysdagarna 22<sup>nd</sup> 2014 in Stockholm: NOSS 7th Symposium** – Advances in Separation Science. Towards More Reliable and Predictable Analytical & Preparative Supercritical Fluid Chromatography. Torgny Fornstedt, Martin Enmark, Jörgen Samuelsson, Erik Forss, Dennis Åsberg, Patrik Forssén.
- L46) Analysdagarna 22<sup>nd</sup> 2014 in Stockholm:** Analytical Quality by Design on a Firmer Theoretical Basis. Jörgen Samuelsson, Dennis Åsberg, Susanne Olsson, Mikael Nilsson, Anders Karlsson, Torgny Fornstedt.
- L47) HPLC 2014 41th International Symposium on High Performance Liquid Phase Separations and Related Techniques. Amsterdam, the Netherlands.** Towards Reliable Supercritical Fluid Chromatography. Torgny Fornstedt, Martin Enmark, Jörgen Samuelsson, Erik Forss, Patrik Forssén (Keynote)
- L48) HPLC 2014 41th International Symposium on High Performance Liquid Phase Separations and Related Techniques. Amsterdam, the Netherlands.** Analytical Method Transfer Using the Quality by Design Framework: HPLC to UHPLC. Dennis Åsberg, Jörgen Samuelsson, Susanne Olsson, Mikael Nilsson, Anders Karlsson and Torgny Fornstedt.
- L49) PREP 2014 in Boston** 27th International Symposium, Exhibit & Workshops on Preparative & Process Chromatography, Boston, USA. Scalability and Adsorption Behavior in Chiral Supercritical Fluid Chromatography. Martin Enmark, Dennis Åsberg, Jörgen Samuelsson, Magnus Klarqvist, Hanna Nelander, Torgny Fornstedt.
- L50) SPICA 2014** 15th Symposium on Preparative and Industrial Chromatography and Allied Techniques 2014 in Switzerland, Basel. Reliable scale-up from analytical to large scale instrumentation in chiral supercritical fluid chromatography. Martin Enmark, Dennis Åsberg, Jörgen Samuelsson, Hanna Nelander, Kristina Öhlén, Magnus Klarqvist, Torgny Fornstedt.
- L51) SFC 2014** International Conference on Packed Column SFC, in Switzerland, Basel , Predictable Supercritical Fluid Chromatography– Impact of Variations in Operational Parameters with Focus on Chiral Separations. Martin Enmark, Dennis Åsberg, Jörgen Samuelsson and Torgny Fornstedt
- L52) NATIONELLA LIFE SCIENCE DAGEN 2014** Astra Zeneca och andra Case: Exempel på lyckade life sciencesamarbeten mellan akademi och industri av Torgny Fornstedt <http://www.trippus.se/eventus/userfiles/53738.pdf>
- L53) HPLC 2015 42th International Symposium on High Performance Liquid Phase Separations and Related Techniques.** Geneva, Switzerland. Visualization and explaining serious deformations in Supercritical Fluid Chromatography due to the very injection principle. Torgny Fornstedt, Martin Enmark, Jörgen Samuelsson, Dennis Åsberg, Patrik Forssén, Andrew Shalliker.(Keynote).
- L54) HPLC 2015 42th International Symposium on High Performance Liquid Phase Separations and Related Techniques.** Geneva, Switzerland Deeper Scientific Understanding and Continuous Improvement of Regulatory Approved Analytical Methods. Jörgen Samuelsson, Dennis Åsberg, Anders Karlsson, Torgny Fornstedt

- L55)** PREP 2015, 28th International Symposium on Preparative and Process Chromatography. Combining Theory and Practice for a deeper understanding of the Separation Process. Torgny Fornstedt and Patrik Forssén
- L56)** PREP 2015, 28th International Symposium on Preparative and Process Chromatography. Guidelines for reliable scale-up in preparative supercritical fluid chromatography. Martin Enmark, Dennis Åsberg, Jörgen Samuelsson, Andrew Shalliker, Torgny Fornstedt
- L57)** ITP2015/NoSSS2015, August 30th – September 3rd, Helsinki, Finland. KN-6: Deeper scientific understanding of regulatory approved analytical methods with the quality by design approach. Dennis Åsberg, Jörgen Samuelsson, Anders Karlsson, Patrik Forssén, Torgny Fornstedt

## **2B. Referee judged POSTERS at international conferences (since the start at Karlstad University in the summer of 2010)**

- P30) HPLC 2010 in Philadelphia** 35th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2010 in Boston. Peak Deformations of Basic Compounds in Reversed Phase Chromatography Under pH-stable conditions. Lena Edström, Jörgen Samuelsson, Torgny Fornstedt (P-2426-T).
- P31) SFC 2010 in Stockholm** 4th International Conference on Packed Column SFC (SFC) 2010 in Stockholm. Computer assisted optimization in preparative SFC, Challenges, Pitfalls and Solutions. Martin Enmark, Patrik Forssén, Torgny Fornstedt, Olle Gyllenhaal.
- P32) HPLC 2011 in Budapest** 36th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2011 in Budapest Congress and World Trade Center. Characterization of the Adsorption of Racemic Methyl Mandelate on Tris-(3,5-dimethylphenyl)carbamoyl Cellulose Chiral Stationary Phase Martin Enmark, Jörgen Samuelsson, Torgny Fornstedt (P2-S-818-TH)
- P33) HPLC 2011 in Budapest** 36th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2011 in Budapest Congress and World Trade Center. Recent Developments on the Elution by Characteristic Points Method for Rapid and Accurate Determination of Adsorption Isotherms. Jörgen Samuelsson and Torgny Fornstedt (P2-S-833-WE).
- P34) HPLC 2011 in Budapest** 36th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2011 in Budapest Congress and World Trade Center. The Tracer – Pulse Experience – “reviling the Invisible Iceberg” Torgny Fornstedt, Jörgen Samuelsson (P2-S-837-WE).
- P35) PREP 2011 in Boston** 24th International Symposium on Preparative and Process Chromatography. Preparative Separation of Omeprazole: Predictions of the Optimal Experimental Conditions by Computer Simulations. Martin Enmark, Jörgen Samuelsson, Patrik Forssen, Torgny Fornstedt. The Poster received the Award “Best Poster Honorary Mentions” (see <http://www.prepsymposium.org/poster-compete.html>)
- P36) PREP 2011 in Boston** 24th International Symposium on Preparative and Process Chromatography. A Deeper Investigation of Strange Preparative Band Shapes of a Simple Racemic Solute on tris-(3, 5-dimethylphenyl)carbamoyl Cellulose as Chiral Stationary Phase. Martin Enmark, Jörgen Samuelsson, Torgny Undin, Torgny Fornstedt.
- P37) PREP 2011 in Boston** 24th International Symposium on Preparative and Process Chromatography. Some Operational Conditions Often Neglected in Numerical Optimization of Preparative Chromatography. Jörgen Samuelsson, Martin Enmark, Patrik Forssen, Torgny Fornstedt.
- P38) PREP 2011 in Boston** 24th International Symposium on Preparative and Process Chromatography. Recent Experimental and Methodological Improvements on the Elution by Characteristic Points Method for Rapid Characterization of Preparative Phases. Jörgen Samuelsson, Torgny Undin Torgny Fornstedt.
- P39) Analysdagarna 2012** in Uppsala Sweden. “A Thermodynamic and Kinetic Study of an Unusual Adsorption behavior-Methyl Mandelate on Commercially Available Tris-(3,5- Dimethylphenyl)carbamoyl Cellulose Chiral Stationary Phase.” Martin Enmark, Jörgen Samuelsson, Torgny Fornstedt.
- P40) HPLC 2012 in Anaheim USA** 38th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2012: *Why UHPLC Produces More Tailing Peaks Than HPLC, Why It Does Not Matter and How It Can Be Addressed*. Patrik Petersson, Patrik Forssén, Lena Edström, Farzad Samie, Stephen Tatterton, Adrian Clarke, Torgny Fornstedt.

- P41) HPLC 2012 in Anaheim USA** 38th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2012: *Transposing Advanced LC Theory to Modern Biosensors - Estimation of Bio-Molecular Interactions and Drug-Protein Interactions by Transposing LC-Theory to Biosensors*. Jörgen Samuelsson; Torgny Fornstedt Karlstad University, Karlstad, Sweden
- P42) Analysdagarna 2012** in Uppsala Sweden. *HPLC Vs UHPLC - a Comparison of Peak Asymmetry and Plan to Step Forward Using Quality by Design (QbD) Related to Analytical Methods*. Fornstedt, Torgny, Patrik Peterson, Patrik Forssén, and Anders Karlsson
- P43) Analysdagarna 2012** in Uppsala Sweden. , Modeling of Overloaded Gradient Elution in Reversed-Phase Liquid Chromatography. Dennis Åsberg, Martin Enmark, Jörgen Samuelsson, Torgny Fornstedt.
- P44) SPICA 2012** 14th Symposium on Preparative and Industrial Chromatography and Allied Techniques 2012 in Brussels, Belgium.. The Importance of Overloading Studies in Method Development – A Case Study.” Fredriksson, Robert, Jörgen Samuelsson, and Kristina Hallman.
- P45) SPICA 2012** 14th Symposium on Preparative and Industrial Chromatography and Allied Techniques 2012 in Brussels, Belgium.. “A Holistic View on Optimization of Preparative Liquid Chromatography: The importance of Column Properties and Design” Torgny Fornstedt and Patrik Forssén.
- P46) SPICA 2012** 14th Symposium on Preparative and Industrial Chromatography and Allied Techniques 2012 in Brussels, Belgium.. “Technical and Economical Optimization of Chiral Batch Chromatography Processes” Jörgen Samuelsson, Marek Lesko, Martin Enmark, Joakim Höglom, Krzysztof Kaczmarek, Torgny Fornstedt.
- P47) SPICA 2012** 14th Symposium on Preparative and Industrial Chromatography and Allied Techniques 2012 in Brussels, Belgium. “Which Column Length and Particle Size should I select from an Economical and Technical Perspective? A Chiral Case Study” Jörgen Samuelsson, Marek Lesko, Martin Enmark, Joakim Höglom, Krzysztof Kaczmarek, Torgny Fornstedt.
- P48) PREP 2012 in Boston** 25th International Symposium, Exhibit & Workshops on Preparative & Process , Boston, USA *Modeling Competitive Adsorption Isotherms in Gradient Elution Nonlinear Reversed Phase Liquid Chromatography*. Dennis Åsberg, Martin Enmark, Jörgen Samuelsson, Torgny Fornstedt, Karlstad University, Karlstad, SWEDEN
- P49) HPLC 2013 39th International Symposium on High Performance Liquid Phase Separations and Related Techniques. Amsterdam, the Netherlands.** On the Reproducibility between Different Modern Supercritical Fluid Chromatographic Systems Martin Enmark, Jörgen Samuelsson, Torgny Fornstedt
- P50) HPLC 2013 Hobart 40<sup>th</sup> International Symposium on High Performance Liquid Phase Separations and Related Techniques 2013 in Hobart, Tasmania, Australia.** System Verification in Supercritical Fluid Chromatography Aimed at Adsorption Studies Torgny Fornstedt Martin Enmark Patrik Forssen Jörgen Samuelsson
- P51) HPLC 2014 41th International Symposium on High Performance Liquid Phase Separations and Related Techniques. Amsterdam, the Netherlands.** Approaches for Predictable Method Transfer in Analytical Quality by Design: from HPLC to UHPLC: Dennis Åsberg, Jörgen Samuelsson, Susanne Olsson, Mikael Nilsson, Anders Karlsson and Torgny Fornstedt
- P52) PREP 2014 in Boston** 26th International Symposium, Exhibit & Workshops on Preparative & Process Chromatography, Boston, USA. Impact of Parameter Variation in Supercritical Fluid Chromatography. Dennis Åsberg, Martin Enmark, Jörgen Samuelsson, Torgny Fornstedt
- P53) SFC 2014 International Conference on Packed Column SFC,** in Switzerland, Basel , Effects of variation in temperature, pressure and co-solvent in chiral Supercritical Fluid Chromatography, Martin Enmark, Dennis Åsberg, Jörgen Samuelsson and Torgny Fornstedt

## **2C. WORKSHOPS / SHORT COURSES given at International Conferences (from 2005)**

- W1) HPLC 2005 in Stockholm** (29th International symposium on High Performance Liquid Phase Separations and related Techniques) Workshop in “Basic theory and practice of retention and peak shapes in LC”. Instructors: Torgny Fornstedt, Robert Arnell and Jörgen Samuelsson, Uppsala University



- W2) HPLC 2005 in Stockholm** (29th International symposium on High Performance Liquid Phase Separations and related Techniques) Workshop in "Preparative Separations". Instructors: Robert Arnell and Attila Felinger.
- W3) Prep 2006 in Baltimore** (19th International Symposium on Preparative & Process Chromatography) Workshop 4: Protein Purification and Downstream Processing. Instructors: Jörgen Samuelsson and Torgny Fornstedt, Uppsala University.
- W4) Prep 2007 in Baltimore** (20th International Symposium on Preparative & Process Chromatography) Workshop 3: Protein Purification and Downstream Processing. Jörgen Samuelsson and Torgny Fornstedt, Uppsala University.
- W5) HPLC 2007 in Ghent, Belgium** (31th International symposium on High Performance Liquid Phase Separations and related Techniques). Workshop in "LC Theory for Practical Use". Instructors: Torgny Fornstedt and Jörgen Samuelsson, University of Uppsala, Sweden
- W6) HPLC 2008 in Baltimore** (32th International symposium on High Performance Liquid Phase Separations and related Techniques) Workshop 5 Full day "High Resolution and Throughput: Recent trends in Liquid Chromatography. Instructors: Torgny Fornstedt (Uppsala University), Mel Eurby (HICHROM) and Patrik Pettersson (AstraZeneca AB)
- W7) HPLC 2009 in Dresden** (34th International symposium on High Performance Liquid Phase Separations and related Techniques) Short Course 4. Current trends in liquid chromatography: Understanding the theory behind the practice. Instructors Torgny Fornstedt and Patrik Pettersson, Uppsala University and AstraZeneca AB
- W8) HPLC 2011 in Budapest:** 36th International Symposium on High Performance Liquid Phase Separations and Related Techniques 2011 in Budapest Congress and World Trade Center. Short Course #4 Current Trends in Liquid Chromatography: Understanding the Theory behind the Practice. Instructors: Torgny Fornstedt (Karlstad University), Alberto Cavazzini (Ferrara University), Jörgen Samuelsson (Karlstad University).

### 3. Books (from 2005)

- B1)** Torgny Fornstedt, Patrik Forssén and Jörgen Samuelsson, authors of Chapter 18 "*Modeling of Preparative Liquid Chromatography of Small Molecules*" in the book "*Liquid Chromatography: Fundamentals and Instrumentation*" (Handbooks in Separation Science series **2013**, 9780124158078), editors: Salvatore Fanali, Paul R. Haddad, Colin Poole, Peter Schoenmakers, David K. Lloyd.
- B2)** Basic HPLC Theory and Definitions: Retention, Thermodynamics, Selectivity, Zone Spreading, Kinetics, and Resolution. T. Fornstedt, P. Forssén, D. Westerlund. In J.L. Andersson, A. Berthod, V. Pino Estévez, (eds.) *Analytical Separation Science*. Wiley-VCH Verlag. DOI: 10.1002/9783527678129.assep001

### 4. Popular science articles / interviews (from 2004)

- 1) *HPLC under högttryck*. **Kemivärlden**, nr. 6, 2005, sidorna 32-34.
- 2) *Effektiva separationer i världsklass*. **Process Nordic**, nr 7, 2004, sidan 24.
- 3) *Bästa Avhandlingen om Bioanalys*. **Biotech Sweden**, 2005-10-12.
- 4) *Nya metoder för snabbare industriell bioteknik*. **Uppsalanytt**, 2004-09-24.
- 5) *Simulering ger Snabb Separering*. **Process Nordic**, nr 10, 2005.
- 6) *Paradoxen har avslöjats - Kromatografi är ingen färdig metod varken för preparativ separation eller analys*. Torgny Fornstedt i Uppsala rapporterar om sin forskning, som kan leda till effektivare metodik. **Kemivärlden**, nr. 7/8, 2006, sidorna 28-30.
- 7) *Datorn hjälper dig separera - Forskare på Karlstads universitet arbetar intensivt med att skapa datorprogram för att minska tidsåtgången i läkemedelsutveckling, när testpreparat ska renas fram i liten skala*. **Kemivärlden Biotech med Kemisk Tidskrift**, nr. 10, 2011.
- 8) *On the Road to Greener Purification*. **The Public Service Review: European Union**, issue 23, p. 522, <http://edition.pagesuite-professional.co.uk/launch.aspx?EID=364cc048-29d3-4b45-8e7c-b4c8f7c9cab0>
- 9) *Kromatografi: ju mindre desto bättre*. **Kemivärlden Biotech med Kemisk Tidskrift**, nr. 6 JUNI 2014. [http://ebook.mentorcommunications.se/KVB\\_nr\\_6\\_2014/#/1/](http://ebook.mentorcommunications.se/KVB_nr_6_2014/#/1/)