

Carr Group Papers on High Speed, Comprehensive Two-Dimensional Liquid Chromatography

2005

1. D. R. Stoll, and P.W. Carr, "Fast, Comprehensive Two-Dimensional HPLC Separation of Tryptic Peptides Based on High-Temperature HPLC," Communication, *J. Am. Chem. Soc.* **127**, 5034-35 (2005).

2006

2. S.E.G. Porter, D.R. Stoll, S.C. Rutan, P.W. Carr, and J.D. Cohen, "Analysis of Four-Way Two-Dimensional Liquid Chromatography-Diode Array Data: Application to Metabolomics," *Anal. Chem.* **78**, 5559-69 (2006).
3. D.R. Stoll, J.D. Cohen, and P.W. Carr, "Fast, Comprehensive Online Two-Dimensional High Performance Liquid Chromatography through the Use of High Temperature Ultra-Fast Gradient Elution Reversed-Phase Liquid Chromatography," *J. Chromatogr., A* **1122**, 123-37 (2006).

2007

4. D.R. Stoll, X. Li, X. Wang, P.W. Carr, S.E.G. Porter, and S.C. Rutan, "Fast, Comprehensive Two-Dimensional Liquid Chromatography," *J. Chromatogr., A* **1168**, 3-43 (2007). *Invited paper for first Editor's Choice issue.*

2008

5. D.R. Stoll, X. Wang, and P.W. Carr, "Comparison of the Practical Resolving Power of One- and Two-Dimensional High-Performance Liquid Chromatography Analysis of Metabolomic Samples," *Anal. Chem.* **80**, 268-78 (2008).
6. J.M. Davis, D.R. Stoll, and P.W. Carr, "Effect of First-Dimension Undersampling on Effective Peak Capacity in Comprehensive Two-Dimensional Separations," *Anal. Chem.* **80**, 461-73 (2008).
7. J.M. Davis, D.R. Stoll, and P.W. Carr, "Dependence of Effective Peak Capacity in Comprehensive Two-Dimensional Separations on the Distribution of Peak Capacity between the Two Dimensions," *Anal. Chem.* **80**, 8122-34 (2008).

2009

8. X. Li, D.R. Stoll, and P.W. Carr, Correspondence, "Equation for Peak Capacity Estimation in Two-Dimensional Liquid Chromatography," *Anal. Chem.* **81**, 845-50 (2009).
9. J.M. Davis and P.W. Carr, "Effective Saturation: A More Informative Metric for Comparing Peak Separation in One- and Two-Dimensional Separations," *Anal. Chem.* **81**, 1198-1207 (2009).
10. S.E. Reichenbach, P.W. Carr, D.R. Stoll, and Q. Tao, "Smart Templates for Peak Pattern Matching with Comprehensive Two-Dimensional Liquid Chromatography," *J. Chromatogr., A* **1216**, 3458-66 (2009).
11. S.E. Reichenbach, P.W. Carr, D.R. Stoll, and Q. Tao, "Smart Templates for Peak Pattern Matching with Comprehensive Two-Dimensional Liquid Chromatography," *J. Chromatogr., A* **1216(16)**, 3458-66 (2009).

2010

12. L.W. Potts, D.R. Stoll, X. Li, and P.W. Carr, "The Impact of Sampling Time on Peak Capacity and Analysis Speed in On-Line Comprehensive Two-Dimensional Liquid Chromatography." *J. Chromatog', A.* **1217(36)**, 5700-5709 A (2010),
13. D.F. Thekkudan, S.C. Rutan, and P.W. Carr, "A Study of the Precision and Accuracy of Peak Quantification in Comprehensive Two-Dimensional Liquid Chromatography in Time." *J. Chromatog', A.* **1217(26)**, 4313-4327.A (2010).
14. S.E. Reichenbach, X. Tian, Q. Tao, D.R. Stoll, and P.W. Carr, "Comprehensive Feature Analysis for Sample Classification with Comprehensive Two-Dimensional LC." *J. Sepn. Sci.* **33(10)**, 1365-1374 (2010).

2011

15. H. Gu, Y. Huang, and P.W. Carr, "Peak Capacity Optimization in Comprehensive Two Dimensional Liquid Chromatography: A Practical Approach." *J. Chromatogr. A* **1218(1)**, 64-73 (2011).
16. X. Li, and P.W. Carr, "Effects of First Dimension Eluent Composition in Two-Dimensional Liquid Chromatography." *J. Chromatogr. A* **1218(16)**, 2214-2221 (2011).
17. Y. Huang, H. Gu, M. Filgueira, and P.W. Carr, "An Experimental Study of Sampling Time Effects on the Resolving Power of On-Line Two-Dimensional High Performance Liquid Chromatography." *J. Chromatogr. A* **1218(20)**, 2984-2994 (2011).
18. J.M. Davis, S.C., Rutan, and P.W. Carr, "Relationship between Selectivity and Average Resolution in Comprehensive Two-Dimensional Separations with Spectroscopic Detection." *J. Chromatogr. A* **1218(34)**, 5819-5828 (2011).
19. H.P. Bailey, S.C. Rutan, and P.W. Carr, "Factors that Affect Quantification of Diode Array Data in Comprehensive Two-Dimensional Liquid Chromatography Using Chemometric Data Analysis." *J. Chromatogr. A* **1218(46)**, 8411-8422 (2011).
20. M.R. Filgueira, Y. Huang, K. Witt, C. Castells, and P.W. Carr, "Improving Peak Capacity in Fast Online Comprehensive Two-Dimensional Liquid Chromatography with Post- first-Dimension Flow Splitting," *Anal. Chem.* **83(24)**, 9531-9539 (2011).
21. H. Gu, Y. Huang, M. Filgueira, and P.W. Carr, "Effect of First Dimension Phase Selectivity in Online Comprehensive Two Dimensional Liquid Chromatography (LC x LC)." *J. Chromatogr. A* **1218(38)**, 6675-6687 (2011).

2012

22. P.W. Carr, J.M. Davis, S.C. Rutan, and D.R. Stoll, "Principles of Online Comprehensive Multidimensional Liquid Chromatography." *Advances in Chromatography*, **50**, 139-235 (2012).
23. C. Paek, Y. Huang, M. Filgueira, A.V. McCormick, and P.W. Carr, "Development of a Carbon Clad Core-Shell Silica for High Speed Two-Dimensional Liquid Chromatography." *J. Chromatogr. A* **1229**, 129-139 (2012).
24. M.R. Filgueira, C.B. Castells, and P.W. Carr, "A Simple Robust Orthogonal Background Correction Method for Two-Dimensional Liquid Chromatography." *Anal. Chem.*, **84 (15)**, 6747-6752 (2012),

25. R.C. Allen, M.G. John, S.C. Rutan, M.R. Filgueira, P.W. Carr, "Effect of background correction on peak detection and quantification in online comprehensive two-dimensional liquid chromatography using diode array detection" *J. Chromatogr. A*, 1254, 51-61 (2012),
26. S.R. Rutan, J.M. Davis and P.W. Carr, "Fractional coverage metrics based on ecological home range for calculation of the effective peak capacity in comprehensive two-dimensional separations", *J. Chromatogr. A*, 1255, 267-276 (2012),