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Scope and application of a commercial chiral anion-exchange LC stationary phase with 'hydro-organic' mobile phases

Nadia Jawaid and **W John Lough**
University of Sunderland, UK

Much of the work on chiral stationary phases based on immobilized quinine and quinidine moieties has involved the analysis of derivatised amino acids and the use of a polar organic, or more recently super-critical fluid, mobile phase. However, because of an interest in the resolution of acidic chiral drugs with 'reversed-phase' mobile phases and the study of the enzymatic hydrolysis of mandelic esters in aqueous buffers with added organic solvent, carbamate-based chiral anion-exchange LC stationary phases based on the pseudoenantiomers cinchona alkaloids, quinidine (QD) (8R, 9S) and quinine (QN) (8S, 9R), were fully evaluated using hydro – organic mobile phases that would be more conventionally used in ion-exchange LC. The aim of the study was to further explore the effect of experimental variables on retention, selectivity and resolution for the LC of chiral acidic drugs and related compounds on commercially-available carbamate-based chiral anion-exchange LC stationary phases based on the pseudoenantiomers cinchona alkaloids, quinidine (QD) (8R, 9S) and quinine (QN) (8S, 9R), when using hydro – organic (i.e. polar organic solvents mixed with aqueous buffers) as would be used under 'reversed-phase' LC conditions) mobile phases. In doing so, a secondary aim was to build knowledge on the full scope of conditions that might be suitable for separating the enantiomers of mandelic acid and its substituted analogues using hydro – organic mobile phases on these CSP.

Biography

Nadia Jawaid did MSc Drug Discovery and Development from University of Sunderland, UK with Distinction and Doctor of Pharmacy (PharmD) from University of the Punjab, Pakistan. She is a registered Pharmacist with the Punjab Pharmacy Council, Pakistan. She was involved in two research projects during MSc. The major research project titled: "Scope and Application of a Commercial Chiral Anion-Exchange Liquid Chromatography stationary phase with 'Hydro-Organic' Mobile Phases". It was also presented as a poster in ISC 2014, 30th International Symposium on Chromatography in Salzburg, Austria. She also presented on "Development of Analytical Methodology for Quality Control of a Methanol Extract of Centella asiatica".

nadiajawaid70@gmail.com

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