

**Comparative high-performance liquid chromatography enantioseparations on polysaccharide based chiral stationary phases prepared by coating totally porous and core-shell silica particles**

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This presentation reports comparative high-performance liquid chromatographic separations of enantiomers with chiral stationary phases (CSPs) prepared by coating cellulose tris(4-chloro-3-methylphenylcarbamate) on totally porous and on core-shell type silica of comparable particle diameter. Several interesting observations were made: 1) The selectivity of separation was higher on core-shell type CSP compared to totally porous CSP at comparable content of chiral selector (polysaccharide derivative); 2) Much flatter dependence of plate height on the mobile phase flow rate was observed for columns packed with CSP prepared with core-shell silica compared to the ones packed with CSPs prepared with totally porous particles; 3) At low mobile phase flow rates core-shell CSP provided lower resolving ability compared to a commercially available CSP having four times higher content of chiral selector along with higher retention of chiral analytes. However, at high flow rates core-shell type CSP performed similarly or better than the commercial column in regards of plate count (N) and peak resolution (Rs) per column length and within a given total analysis time. The advantage of CSP prepared with core-shell silica is obvious from the viewpoint of plate numbers and resolution calculated per unit time (i.e. speed of analysis).