# Chiral Separations on a new commercially available immobilized cellulose column, CHIRALPAK®IB

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***The CHIRALPAK® IB column is the second in a series of immobilized polysaccharide CSPs. It is found to be stable to, and useful with, a wide variety of mobile phases.***

Coated polysaccharide based chiral stationary phases (CSPs) are the world-wide standard for analytical and preparative chiral chromatography. The main limitation is their inability to tolerate a range of solvents. Immobilized amylose tris (3,5)-dimethylphenyl carbamate, recently introduced as CHIRALPAK® IA, overcomes this limitation. The immobilization technology is now extended to cellulose tris (3,5)-dimethylphenyl carbamate on 5 µM silica, resulting in the new chiral stationary phase, CHIRALPAK IB.

## Results:

CHIRALPAK IB columns were exposed to a variety of solvents including THF, DMF, ethyl acetate, MTBE, $CH_2Cl_2$ and $CH_3Cl$. No loss in performance was observed. A more demanding study was conducted in which a column was subjected to a one week washing with ethyl acetate containing 0.5% trifluoroacetic acid at 50°C. Again, no loss in column performance was observed.

The new CHIRALPAK IB column performs well with standard mobile phases with only a slight reduction in retention as compared to coated phases. Use of non-conventional mobile phases was found to extend the range of applications for this new column. Figures 1-3 demonstrate successful chiral separations obtained using three non-conventional mobile phases.

## Conclusion:

Method development studies indicate that the CHIRALPAK IB column, with the expanded range of solvent use, further extends the application range of Chiral Technologies' immobilized CSPs. Additional studies are ongoing.

Figure 1. Separation of 2,3-O-benzylidene threitol on CHIRALPAK IB using a 52.5/45/2.5 mixture of $CH_3Cl$/hexane/ethanol as the mobile phase.

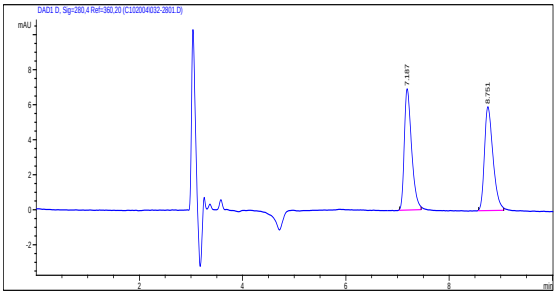


Figure 2. Separation of metalaxyl using a 3/7 mixture of THF/hexane as the mobile phase.

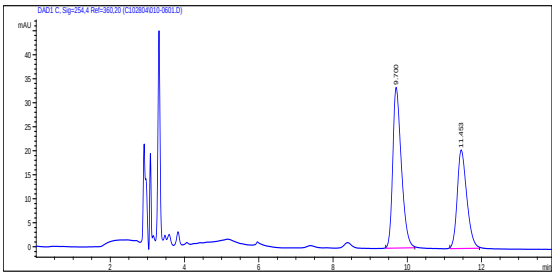
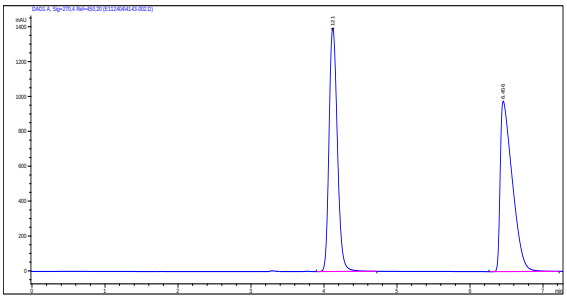


Figure 3. Separation of oxyprenolol using a 95/5/0.1 mix of MTBE/ethanol/ethylenediamine as the mobile phase.



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