

Effect of Buffer and Chemistry of Column Stationary Phase on Resolution of Neutral Compounds

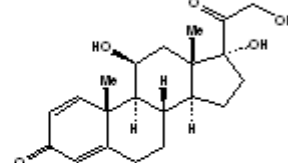
<https://sielc.com/Application-Effect-of-Buffer-and-Chemistry-of-Column-Stationary-Phase-on-Resolution-of-Neutral-Compounds>

Chromatogram

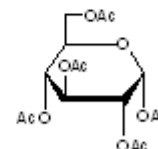
Columns	MeCN – 35% AmAc 30 mM pH 3.5	MeCN – 35% TFA 0.1%	MeCN – 35% AmFm 30 mM pH 3.0
Primesep P	$T_1 = 3.1$ min $T_2 = 3.8$ min $R_s = 3.9$	$T_1 = 3.5$ min $T_2 = 5.5$ min $R_s = 9.5$	$T_1 = 3.2$ min $T_2 = 4.2$ min $R_s = 5.5$
Primesep 200	$T_1 = 4.5$ min $T_2 = 4.5$ min $R_s = 0$	$T_1 = 4.8$ min $T_2 = 5.3$ min $R_s = 1.6$	$T_1 = 4.6$ min $T_2 = 5.3$ min $R_s = 1.1$
Primesep 100	$T_1 = 3.7$ min $T_2 = 4.4$ min $R_s = 2.8$	$T_1 = 4.3$ min $T_2 = 6.0$ min $R_s = 6.6$	$T_1 = 3.8$ min $T_2 = 4.5$ min $R_s = 3.1$
Primesep C	$T_1 = 4.3$ min $T_2 = 4.5$ min $R_s = 0.7$	$T_1 = 4.5$ min $T_2 = 5.2$ min $R_s = 2.3$	$T_1 = 4.6$ min $T_2 = 5.2$ min $R_s = 2.5$
Primesep B2	$T_1 = 4.3$ min $T_2 = 4.7$ min $R_s = 1.5$	$T_1 = 4.2$ min $T_2 = 5.1$ min $R_s = 4.4$	$T_1 = 4.6$ min $T_2 = 5.3$ min $R_s = 2.7$
Primesep D	$T_1 = 4.2$ min $T_2 = 4.4$ min $R_s = 0.7$	$T_1 = 4.5$ min $T_2 = 4.9$ min $R_s = 1.2$	$T_1 = 4.5$ min $T_2 = 4.9$ min $R_s = 1.56$

Column size: 150 x 4.6 mm
Flow rate: 1.0 mL/min
Detection: ELSD

1. Prednisolone



2. D-Glucose Pentaacetate



Description

In this application, 6 various mixed-mode phases were screened for separation of two neutral compounds. Experiments were conducted on four cation-exchange mixed-mode HPLC columns (Primesep P, Primesep 200, Primesep 100, and Primesep C) and two anion-exchange mixed-mode columns (Primesep D and Primesep B2). All phases showed different selectivity towards HPLC separation of prednisolone and glucose pentaacetate. Application shows that mixed-mode chromatography is a valuable tool in separation of neutral compounds by reversed-phase mechanism. Compounds were monitored by ELSD.