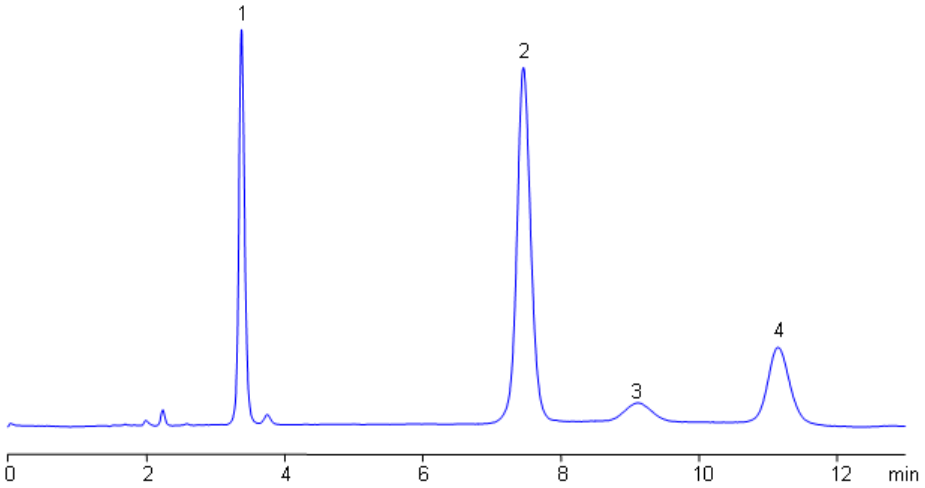
HPLC Separation of Drugs in Advil Allergy and Sinus

1. Pseudoephedrine
2. Chlorpheniramine
3. Maleate
4. Ibuprofen

Column:	**Obelisc R**
Size:	4.6 x 150 mm
Mobile phase:	MeCN –50%, AmFm pH 3.5 –20 mM
Flow:	1.0 mL/min
Detection:	UV 270 nm



Ibuprofen is in a group of drugs called non-steroidal anti-inflammatory drugs (NSAIDs). Ibuprofen works by reducing hormones that cause inflammation and pain in the body. Pseudoephedrine is a decongestant that shrinks blood vessels in the nasal passages. Dilated blood vessels can cause nasal congestion (stuffy nose). The combination of chlorpheniramine, ibuprofen, and pseudoephedrine is used to treat sneezing, itching, watery eyes, runny nose, stuffy nose, sinus congestion, cough, and pain or fever caused by the common cold or flu in common over-the-counter medication (Advil, NyQuil, Tylenol, etc.) Active ingredients of Advil Allergy and Sinus composition are separated by combination of reverse phase, cation-exchange and anion exchange mechanisms. Obelisc R mixed-mode column is used to separate pseudoephedrine (polar basic compound), chlorpheniramine (hydrophobic basic compound), ibuprofen (hydrophobic acidic compound) and maleic acid (counter-ion, hydrophilic acid compound). Method can be used for QC in production, impurity profiling and research and development. All compounds are well separated with high efficiency and good peak shape. Method uses ammonium formate buffer but other buffers can be used as well (ammonium acetate, sodium and ammonium phosphate) with corresponding detection technique – ELSD, LC/MS, and UV. Chlorpheniramine is an antihistamine that reduces the natural chemical histamine in the body. Histamine can produce symptoms of sneezing, itching, watery eyes, and runny nose.

SIELC has developed the Obelisc™ columns, which are mixed-mode and utilize Liquid Separation Cell technology (LiSC™). These cost-effective columns are the first of their kind to be commercially available and can replace multiple HPLC columns, including reversed-phase (RP), AQ-type reversed-phase, polar-embedded group RP columns, normal-phase, cation-exchange, anion-exchange, ion-exclusion, and HILIC (Hydrophilic Interaction Liquid Chromatography) columns. By controlling just three orthogonal method parameters - buffer concentration, buffer pH, and organic modifier concentration - users can adjust the column properties with pinpoint precision to separate complex mixtures.

AugustaChrom - Dr. Roland Kießwetter
Tel.: +49 821 599 783 70
Fax: +49 821 599 783 71
E-Mail: info@hplc-shop.de

Method Parameters

Detection	UV Detection

Quelle: https://sielc.com/Application-HPLC-Separation-of-Drugs-in-Advil-Allergy-and-Sinus

AugustaChrom - Dr. Roland Kießwetter
Tel.: +49 821 599 783 70
Fax: +49 821 599 783 71
E-Mail: info@hplc-shop.de