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Sertraline Tablet Analyzed with HPLC – AppNote

Retention of Hydrophobic and Hydrophilic Analytes with Zoloft®

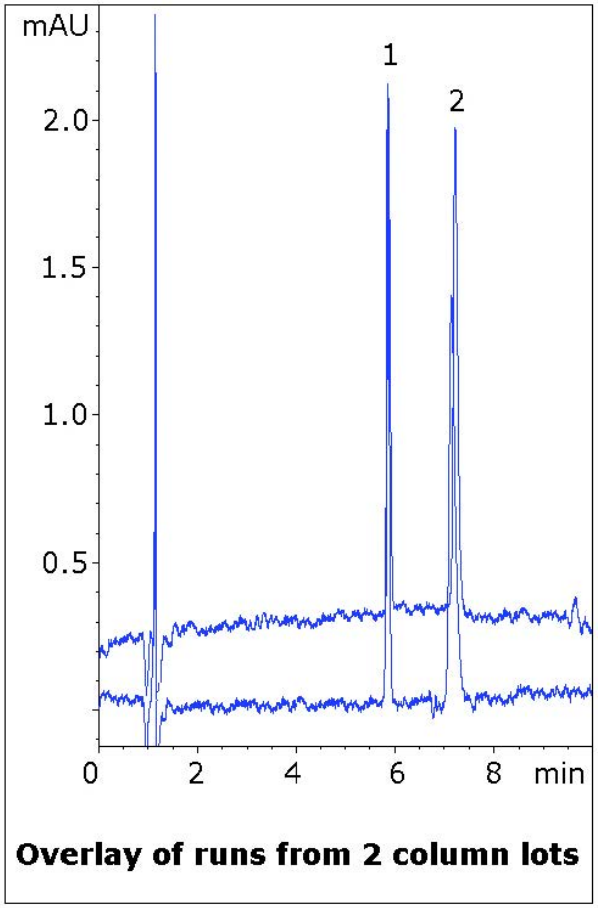
Sertraline has a logP of 2.9, but retains well when using Aqueous Normal Phase *(ANP)* HPLC. A polar test solute, Phenylglycine, was added to demonstrate how both nonpolar and polar compounds can be retained in the same Method. This would be important when looking for impurities or degradants in the formulation.

Furthermore, Sertraline's amine group can produce problematic tailing with some Reversed Phase columns, but the Peak Symmetry obtained with this Method is very good. Data from two column lots is presented to illustrate Method Robustness and lot-to-lot consistency.

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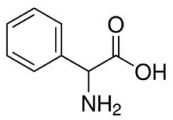
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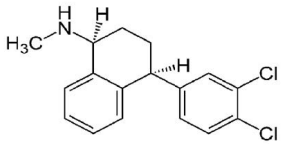
Overlay of runs from 2 column lots

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Phenylglycine



Sertraline

Peaks:

1. Phenylglycine
2. Sertraline

Method Conditions

Column: Cogent Diamond Hydride™, 4µm, 100Å
Catalog No.: 70000-7.5P
Dimensions: 4.6 x 75mm
Mobile Phase:
A: DI Water with 0.1% Formic Acid (v/v)
B: Acetonitrile with 0.1% Formic Acid (v/v)
Gradient:

Time *(minutes)*	%B
0	95

1	95
6	50
7	95

Post Time: 3 minutes
Injection vol.: 1µL
Flow rate: 1.0mL / minute
Detection: UV @ 254nm
Sample Preparation : 25mg strength Sertraline (Zoloft®) tablet was ground and added to a 25mL volumetric flask. A portion of 50:50 Solvent A / Solvent B diluent was added and the flask was sonicated 10 minutes. It was then diluted to mark and mixed. A portion was filtered with a 0.45µm Nylon Syringe Filter (MicroSolv Tech Corp.) and mixed 1:1 with a 1mg / mL Phenylglycine solution.
t_0: 0.9 minutes

Note: *Sertraline is a selective Serotonin reuptake inhibitor used to treat major depressive disorder. It is widely prescribed and sold as Zoloft® from Pfizer.*

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