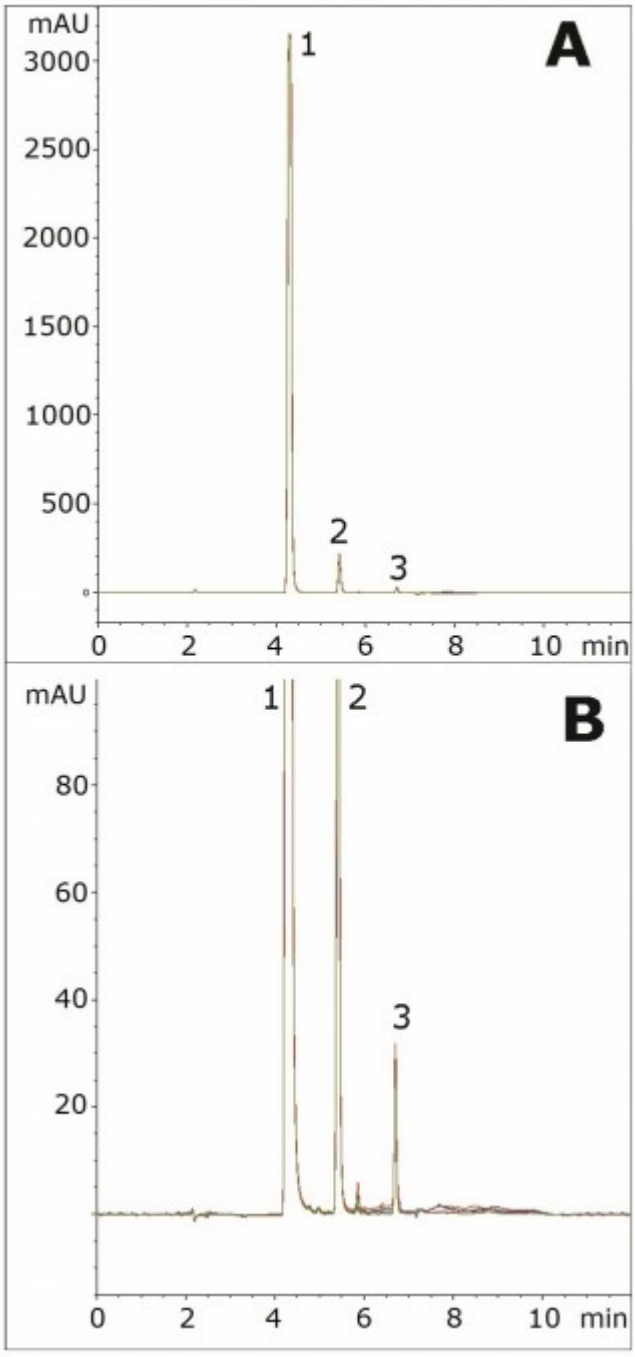
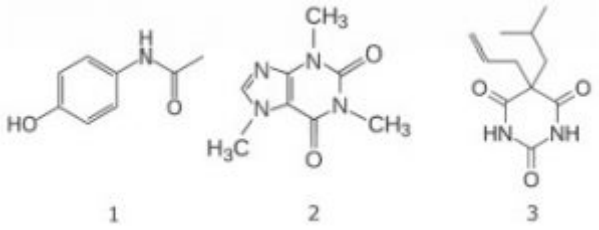
Fioricet Analyzed with HPLC – AppNote

Gradient Separation of Acetaminophen, Caffeine, and Butalbital

In this Method, a simple Reversed Phase gradient is used to separate the three components of a Fioricet tablet. *Figure A* shows the five-run overlay obtained from the gradient. *Figure B* shows a "zoomed in view" so that the Butalbital Peak can be seen clearly.





Peaks:

1. Acetaminophen
2. Caffeine
3. Butalbital

Method Condtions

Column: Cogent Bidentate C18™, 4µm, 100Å

Catalog No.: 40018-15P

Dimensions: 4.6 x 150mm

Mobile Phase:

A: DI Water / 0.1% Formic Acid

B: 97% Acetonitrile / 3% DI Water / 0.1% Formic Acid

Gradient:

Time *(minutes)*	%B
0	10
6	70
7	10

Temperature: 35˚C

Injection vol.: 10µL

Flow rate: 0.8mL / minute

Detection: UV @ 240nm

Sample Preparation:

Stock Solution: Fioricet tablet was ground, added to 10mL volumetric flask and diluted with 50:50 Solvent A / Solvent B mixture. The flask was vortexed 5 minutes and a portion of the solution was filtered with a 0.45µm Nylon Syringe Filter.

Working Solution: 10µL of the stock was diluted with 990µL of 50:50 Solvent A / Solvent B mixture.

t_0: 2.2 minutes

Note: *Fioricet/Esgic is a combination of Acetaminophen, Caffeine, and Butalbital. It is used to treat tension headaches, muscle contraction headaches, and migraines.*

Attachment

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