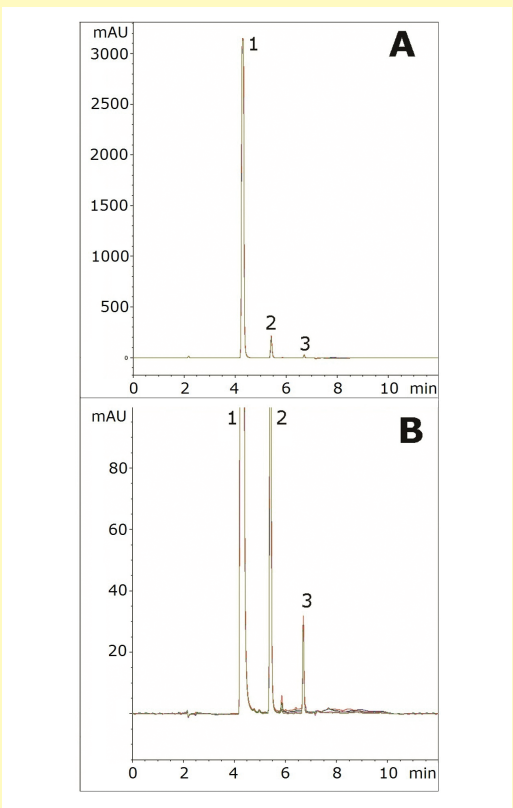
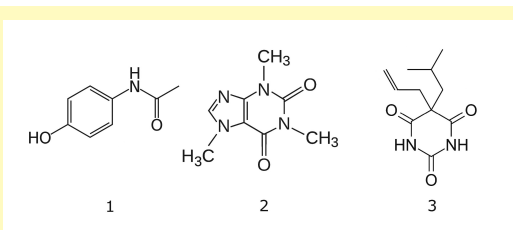


Fioricet®/Esgic®

Gradient separation of Acetaminophen, Caffeine, and Butalbital



Notes: Fioricet®/Esgic® is a combination of acetaminophen, caffeine, and butalbital. It is used to treat tension headaches, muscle contraction headaches, and migraines.

Method Conditions

Column: Cogent Bidentate C18™, 4µm, 100Å
Catalog No.: 40018-15P
Dimensions: 4.6 x 150 mm
Solvents: A: DI water + 0.1% formic acid
 B: 97% acetonitrile/ 3% DI water/ 0.1% formic acid
Gradient:

time (min.)	%B
0	10
6	70
7	10

Injection Vol.: 10 µL
Flow Rate: 0.8 mL/min
Temperature: 35 °C
Detection: UV 240 nm
Sample: **Stock Solution:** Fioricet® tablet was ground, added to 10 mL volumetric flask and diluted with 50/50 Solvent A/Solvent B mixture. The flask was vortexed 5 min and a portion of the solution was filtered with a 0.45 µm nylon syringe filter.
Working Solution: 10 µL of the stock was diluted with 990 µL of 50/50 Solvent A/ Solvent B mixture.
Peaks:
 1. Acetaminophen
 2. Caffeine
 3. Butalbital
t₀: 2.2 min

Discussion

The method shown uses a Bidentate C18™ column with a simple reversed phase gradient 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.

Cat. No.	Description
40018-15P	Cogent Bidentate C18™ HPLC Column, 100A, 4µm, 4.6mm x 150mm