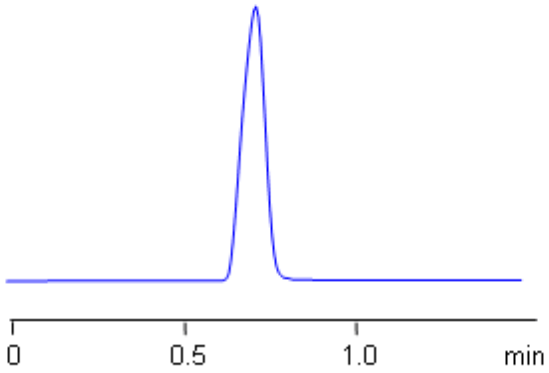
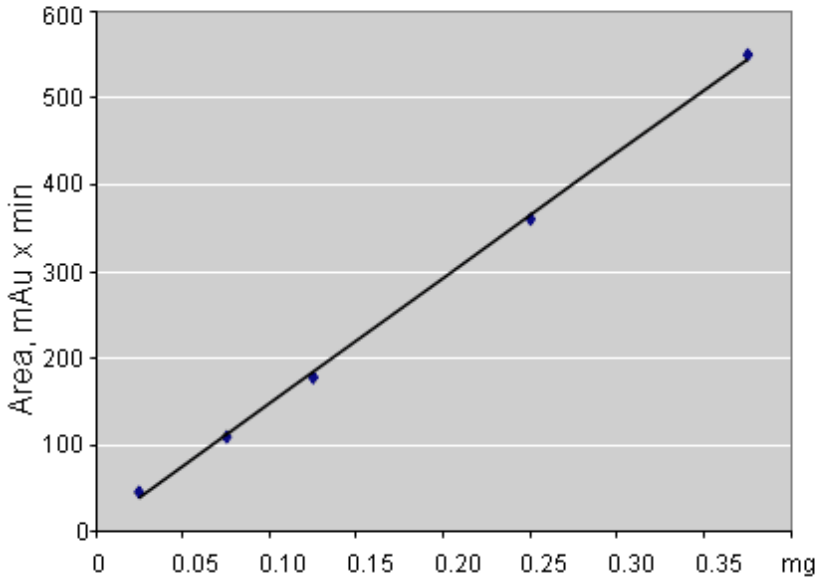
HPLC Derivatization and Quantitative Analysis of Glycerol

https://sielc.com/Application-HPLC-Derivatization-and-Quantitative-Analysis-of-Glycerol

Chromatogram





Column: **Primesep N**
Size: 4.6 x 50 mm
Flow: 1.0 mL/min
Mobile phase: MeCN/H_2O-80/20
Detection: UV 410 nm
Sample: 0.75 mL (0.05% solution glycerol/H_2O) with 1 mL Reagent A and 2.5 mL reagent B
Injection volume: 1 uL

Derivatization reagents:

Reagent A (Periodate reagent): 6.5 mg NaIO4 in 9 mL of water, add 1 mL acetic acid, mix and add 0.77 g ammonium acetate
Reagent B (Acetylacetone reagent): 0.25 mL of Acetylacetone to 24.75 mL of isopropanol, mix and store in the dark.

Procedure

Add 1 mL of **Reagent A** to hydrolysate and keep 5 min at room temperature.
Add 2.5 mL **Reagent B** , mix and keep 20 min

Description

Glycerol is a polyol hydrophilic compound which is used in pharmaceutical formulations. It is also a byproduct of biodisel production through transesterification. Glycerol has three hydroxyl groups, making it a very polar compound. Method using periodate/acetylacteone derivatization was developed using UV. Method is fast and shows good linearity within explored range of concentrations. This general HPLC approach can be used for precise quantitation of glycerol.