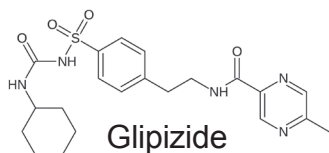
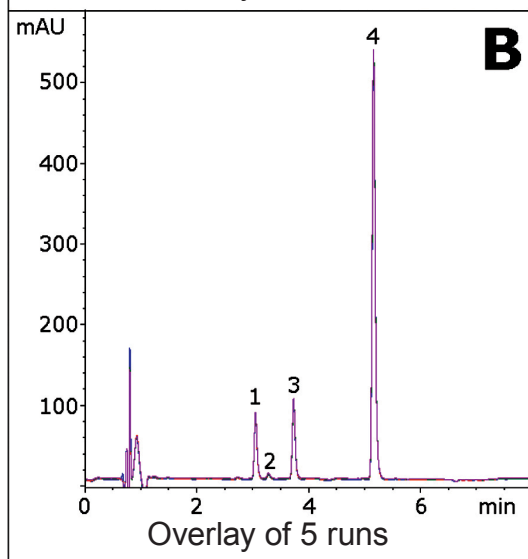
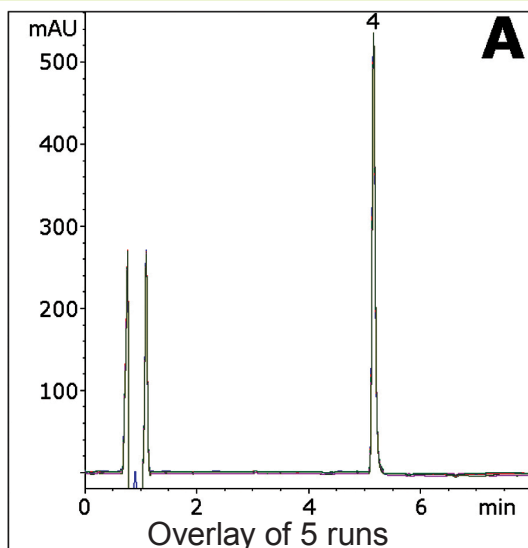


Forced Degradation of Glipizide

Separation of API from acid degradation products



Note: Glipizide is an anti-diabetic sulfonylurea drug, sold under the trade name Glucotrol®.

Method Conditions

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

Catalog No.: 40018-75P

Dimensions: 4.6 x 75 mm

Mobile Phase: A: DI H₂O / 0.1% formic acid

B: Acetonitrile / 0.1% formic acid

Gradient:	time (min.)	%B
	0	15
	6	70
	7	15

Injection vol.: 10µL

Flow rate: 1.0 mL/min

Detection: UV 225 nm

Samples: Fig. A (Non-degraded): 0.1 mg/mL glipizide in methanol diluent.

Fig. B (Acid degradation): 0.1 mg/mL glipizide in 50/50 methanol/1 N HCl diluent. Sample was heated at 85°C for 1 hr.

Peaks: 1. Degradant
2. Degradant
3. Degradant
4. Glipizide

t₀: 0.9 min

Discussion

This method illustrates the capabilities of the Cogent Bidentate C18 column to separate several glipizide degradants that are formed under acidic conditions. Excellent separation is obtained as well as sharp, symmetric peak shapes for each compound.

The retention times show good repeatability as well, as demonstrated in the Figure overlays. Also, the mobile phase solvents are LC-MS compatible, which expands the potential applications of the method. Finally, gradient equilibration is fast and requires only 1 column volume.