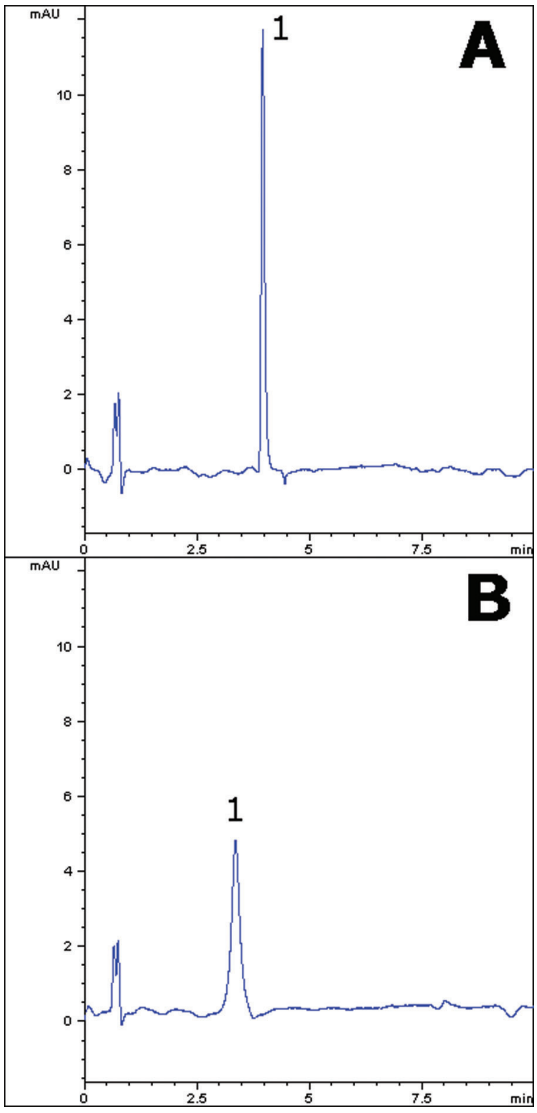
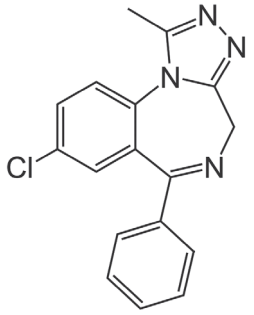
Alprazolam (Xanax®) Method Transfer

Use of 2.2µm high efficiency column





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Method Conditions

Column: Fig. A: **Cogent Diamond Hydride 2.ō™**, 2.2µm, 120Å
Fig. B: **Cogent Diamond Hydride™**, 4µm, 100Å

Catalog No.: Fig. A: 70200-05P-2; **Fig. B:** 70000-05P-2

Dimensions: 2.1 x 50 mm

Mobile Phase: A: DI H_2O / 0.1% formic acid (v/v)
B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:

time (min.)	%B
0	95
1	95
6	50
7	95

Post time: 3 min

Injection vol.: 0.2 µL

Flow rate: 0.3 mL/min

Detection: 254 nm

Sample: A 0.25mg strength generic Xanax® tablet was ground and added to a 5 mL volumetric flask. After diluting with 50% solvent A / 50% solvent B, it was sonicated for 10 min. A portion was filtered with a 0.45 µm nylon syringe filter (MicroSolv Tech Corp.).

Peak: 1. Alprazolam (API)

t_0: 0.6 min

Discussion

In this method transfer from a 4µm column to 2.2µm, higher efficiency is observed with the lower particle size column. This can be very useful for analyses requiring detection at low concentrations. The peak shape is very sharp on the 2.ō column (Fig. A) and is further sharpened with the use of a gradient. Furthermore, the method conditions are LC-MS compatible and could be applied to a variety of applications involving alprazolam analysis such as clinical assays of plasma extracts.

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