How can sample concentration have an effect on peak shape in HPLC – FAQ

Injecting a very high concentration sample can result in lower retention and distortion in peak shape in **Aqueous Normal Phase** ANP or Reversed Phase RP HPLC.

The following study examined three concentrations (3mg/mL, 0.3mg/mL, and 0.06mg/mL) of venlafaxine using the same ANP method. The effects of “overloading” the column are clearly observed in the 3mg/mL injection. The 0.3mg/mL Injection is better but still displays slightly lower retention than the 0.06mg/mL injection.

Injection volume is important and should be considered in the method as well.

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