



Is TFA or formic acid better as an acidic mobile phase additive for Cogent TYPE-C columns - FAQ

Suggestion: Whether you choose formic acid or trifluoroacetic acid (*TFA*) as your mobile phase additive for optimal results will depend on several factors.

TFA, in most concentrations is incompatible with some detection methods such as mass spectrometry and should be used with caution in those instances

However, it does have some ion-pairing characteristics and is therefore useful in cases where peak tailing is known to be caused by amine interaction with residual silanol groups on the stationary phase or other native negative charges. Formic acid will help with amine peak tailing as well though by keeping silanols neutral.

Peak tailing due to amines is often not problematic with Cogent TYPE-C™ silica (*TC*) columns because the stationary phase surface contains mostly Si-H rather than Silanol Si-OH groups as the surface functional group.

On the other hand, the choice of either formic acid or TFA even at low concentrations is not critical for many instances where the analytes do not have significantly ionizable groups. There are many other commonly used mobile phase additives as well, and the selection of the appropriate additive in any case should consider the effects of the additive on the analytes, stationary phase, system, etc.

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