Blocked HPLC column from proteins from the sample matrix can be recovered - Tips & Suggestions

It is of crucial importance to always filter your samples prior to introduction to any HPLC instrument. Most samples will contain particulates and other matrix components that can cause blockages in the instrument and the column. In addition, some macromolecules such as proteins may need to be precipitated and removed during sample preparation so that they do not cause blockage problems as well. The following real-world example illustrates this:

As an example, several biological samples were being analyzed by HPLC using the Cogent Diamond Hydride™ HPLC column at a well known university. At one point, two old samples of unknown sample preparation were accidently injected without filtering. From this point on the column back pressure during the run was much higher and the column appeared to be blocked. When the samples were checked, it was discovered that they contained proteins which were not removed before the analysis. The Diamond Hydride column was regenerated very easily by washing with 90% DI water/10% methanol, overnight (flow: 0.2 mL/min). However, most columns may not be recoverable like this. The next morning column was restored to its original condition, and after removing the proteins from the old samples the analysis was completed.

Always remove un-dissolved particles from your samples before injecting them on to any HPLC column.

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