

Title: Deteriorating Peak Shape in the System Suitability Test

Abstract Summary : Example

We ran into problem where our System Suitability Test was acceptable initially, but peak shape deteriorated during the run on one of two LC streams. We hypothesized that an LC problem was the culprit. We ruled out bad plumbing, leaks and suspected guard or column degradation. We transferred the column to another LC and peak shape was still poor. We reversed the column and applied a strong solvent (95:5 Acetonitrile:H₂O) wash for 30 min to waste. The column was reconnected to the original LC and the SST repeated. Peak shape is back to normal. The column regeneration worked.

Note: *You do not need to have solution to your problem. In fact, it is encouraged to submit troubleshooting problems where the issue has not been resolved. Just make sure you include all of the details. 😊*

Abstract Detail : Example / Template

1. Problem

The system suitability test (SST) is acceptable at the beginning of the run but peak shape deteriorates during the run on one of two LC streams.

2. Method Information

- 250uL Serum extracted with Supported Liquid Extraction (SLE), Methyl tert-butyl ether (MTBE)
- Shimadzu LC – MPX (2 streams).
- SCIEX API5000
- MP-A: 2mM Ammonium Acetate in H₂O
- MP-B: 2mM Ammonium Acetate in MeOH
- 10 min gradient LC program, 0.35 mL/min flow rate
- Column: 100 x 3 mm, 2.6µm C18, with guard cartridge
- Column oven 55 °C
- Injection volume 50 µL
- Quantitative SRM acquisition

3. Troubleshooting Steps

LC problem is most likely. We ruled out bad plumbing, leaks and suspected guard or column degradation. We transferred the column to another LC and peak shape was still poor. We reversed the column and applied a strong solvent (95:5 Acetonitrile:H₂O) wash for 30 min to waste.

4. Outcome

The column was reconnected to the original LC and the SST repeated. Peak shape is back to normal. The column regeneration worked.

Note: *Your Abstract Detail can be longer than this, just make sure it includes the four topic headings shown above, (1) Problem, (2) Method Information, (3) Troubleshooting Steps, (4) Outcome.*