

MSACL Troubleshooting Abstract Format Example

Title: Deteriorating Peak Shape in the System Suitability Test

Note: Your Abstract 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.

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.