Table 4. Summary of measurement quality objectives for six organic acids analysis by HPLC

Operation check	Frequency	Measurment Quality Objective (MQO)	Corrective action
Method Blank (MB)	Beginning of a sample queue; every 10 samples; and end of sample queue	<MDL	Repeat MB analysis until the MQO is met; if failure continues, investigate cause and correct.
Continuing Calibration Check (CCC) standards	Prior to sample analysis; every 10 samples; end of sample queue	85-115% of the recovery	Analyze another CCC, if MQO remains unmet, prepare fresh calibration standards and new calibration curve, and reanalyze samples if possible.
Lab duplicate samples	Every 20 samples through a sample queue	≤ 15 RPD	Analyze another set of duplicate samples. If the duplicates do not meet the precision MQO, the cause(s) should be identified and corrected, i.e., maintenance, recalibration and reanalysis of samples.
Matrix spike	Every 20 samples through a sample queue	80-120 % recovery	Analyze additional matrix spike samples and a spiked standard (LCS). If the LCS meets the MQO, but the matrix spike does not, flag the data and comment on a likely interference.
SS standard (2nd source)	Prior to sample analysis	85-115% of recovery	Analyze another SS standard along with a CCC. If the CCC meets the MQO while SS does not, prepare a fresh second source SS standard and reanalyze.