

**Extended features are now available on the G1946A LC/MSD (Agilent Technologies Inc.) previously only available to the “B” revision of the instrument.**

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**Abstract:** Recent improvements in the G1946B 1100 LC/MSD mass spectrometer system (Agilent Technologies Inc. Palo Alto California) have made the utility of the already popular benchtop mass spec system even more useful. However, **for some older “A” version instruments these features have remained unavailable from the manufacturer.** A third party, CSS Analytical Company, Inc. (Shawnee Kansas) has made this valuable “Upgrade Opportunity” available to all G1946A, revision “A” models.

**Discussion:** The improvements in the G1946B LCMSD address two of the most pressing problems an analyst faces, the need for more experiments on a sample that may be in limited supply and the need to perform these experiments on more samples with higher throughput. The “B Version” upgrades to hardware and data acquisition features address these needs in the following manner. The analyst can use up to 4 channels of acquisition on a single chromatographic analysis. Each channel is the equivalent of a single chromatographic separation on the G1946A.

Examples of typical experiments an analyst might use to maximize throughput and minimize sample use are explained next.

**Application:** Acquire both positive and negative ion signals in a single run. In the past, this required that the analyst perform two separate chromatographic separations or double the time required and double the sample consumed. This mode is of course limited by the ability of the chromatographic conditions to give both positive ions and negative ions.

Acquire both a low fragmentor signal for molecular weight information and a high fragmentor signal for structural information in a signal run. In the past, this also required that the analyst perform two separate chromatographic separations or double the time required and double the sample consumed.

Acquire a positive signal in both the low and high fragmentor state along with a negative signal for both the low and high fragmentor state in a single

run. In the past, this required that the analyst perform four separate chromatographic separations or quadruple the time required and quadruple the sample consumed. This mode, in addition to the above limitation that the chromatographic conditions to give both positive ions and negative ions also may need a reasonable peak width for the peaks.

Finally, other experiments that are allowed are to acquire both a scan signal for screening and a SIM signal on a particular set of ions thereby maximizing the sensitivity for those ions, again in a single run. This mode was in many cases simply not possible with the G1946A since many SIM analyses are done with only enough sample for a single injection.

***If you are interested in performing these types of experiments on your G1946A LCMSD then contact:***

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