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- (54) **Title:** HIGH CONFIDENCE COMPOUND IDENTIFICATION BY LIQUID CHROMATOGRAPHY-MASS SPECTROMETRY

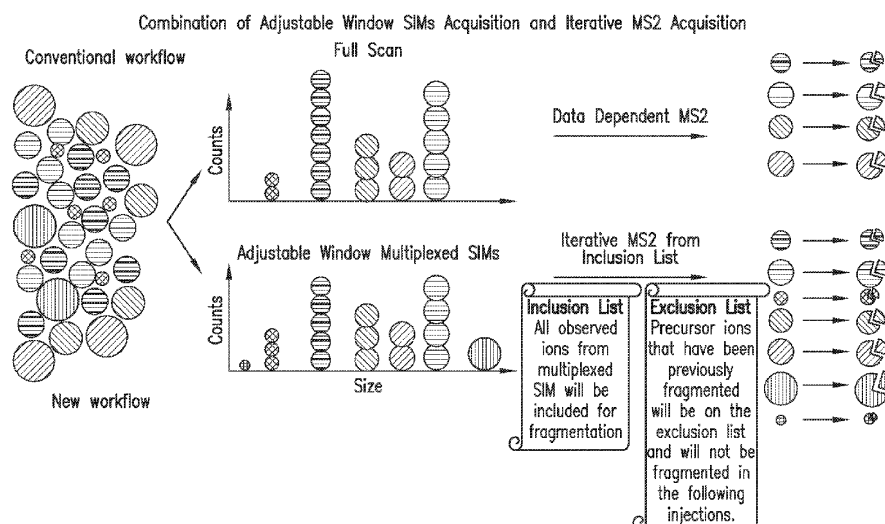


FIG.6

- (57) **Abstract:** Disclosed are methods for improving compound detection and characterization. Methods for characterizing a sample are disclosed. The methods can include providing a sample to a liquid chromatography system capable of sample separation to generate sample components; analyzing sample components by multiplexed targeted selected ion monitoring (SIM) to generate an inclusion list; and performing iterative mass spectral data-dependent acquisition (DDA) from the inclusion list, to identify individual sample components thereby characterizing the sample. In one example, multiplexed targeted SIMs and iterative MS2 DDA acquisition is used to increase robust compound identification for cell culture medium analysis.

[Continued on next page]

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**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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