

Which matrix to choose, that is the question?

Anna Bodzon-Kulakowska, Przemysław Mielczarek, Piotr Suder

Different matrices for MSI

In different articles considering IMS methodology, we may find several matrices used for the positive and negative ion modes. Usually, matrix concentration and the kind of solvents are given without further consideration. In our study, we decided to use common (DHB and 9AA) and not as well-known matrices (Norharmane, NEDC) applied by SunCollect® system to optimize their deposition and compare their performance.

Conclusions:

- Optimization of the matrix deposition is a crucial step since different matrices demand different application settings. For example, for lipids, it is generally true that the more matrix layers (L), the higher peaks intensity, but fewer matrix layers are sufficient for small molecules like glucose.
- For the “wet interface matrix deposition method,” as SunCollect® the position of the spraying nozzle above the tissue surface might be crucial for measurement performance. Generally, for lipids, the high position of the nozzle is optimal, except for the Norharmane matrix, where a lower position is necessary.

