## Imaging mass spectrometry

We are developing imaging mass spectrometric methods, mainly based on desorption electrospray ionization (DESI), however we're also interested in novel imaging approaches. The chief objective of our imaging activities is the implementation of MS-based histology. Since histological methods are generally based on the recognition of morphological patterns, chemical analysis offers obvious advantages on this field. Although DESI-MS imaging of tissues yields useful distribution data practically only for lipid species, the resulting lipid pattern shows good correlation with various features of the tissue sample. Universal histological specificity of imaging data has already been shown, however recent results strongly suggest that even subtle differences (e.g. mutation in an abundant receptor protein) cause measurable differences in the phospholipid distribution.





m/z 657.5164



m/z 737.5302 SC (16:0)+Cl⁻



m/z 810.5214 PS (38:4)-H+



m/z 742.5323 PE (18:1/18:1)-H<sup>+</sup>



red: m/z 810.5214, PS (38:4)-H<sup>+</sup> green : m/z 742.5323, PE (18:1/18:1)-H<sup>+</sup>