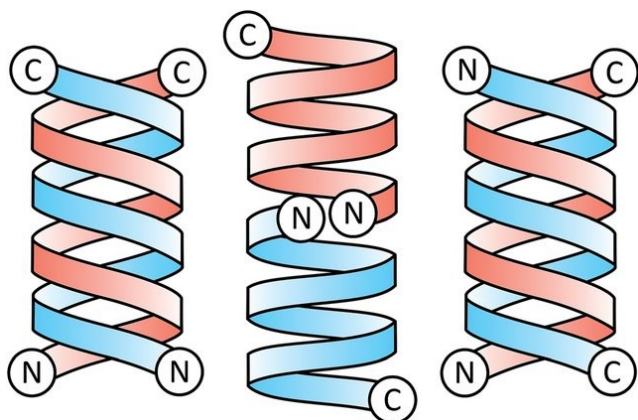


PhotoSynapt— Product Data Sheet



Schematics of different conformational states of Gramicidin dimers

MS Vision has developed and marketed technology for high mass and native mass spectrometry applications since 20 years. The High mass QTOF and Native Synapt have been developed and optimized over the years to support all kinds of biologic analyses.

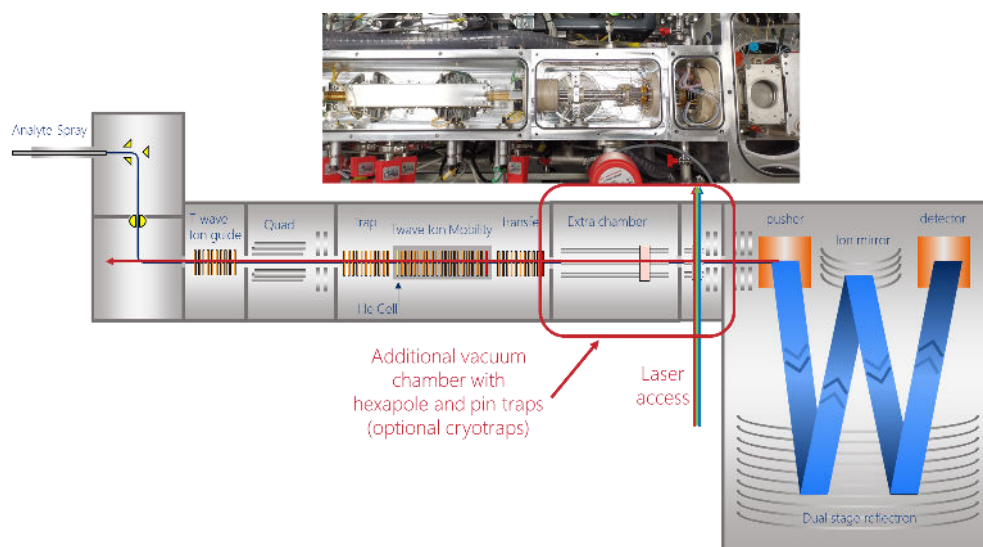
The next evolution step is now the PhotoSynapt, which combines ion mobility separation and mass spectrometry with optical spectroscopy.

The system is designed to separate different conformational states e.g. of oligomers in aggregation studies such as Alzheimers research and to conduct optical spectroscopy on them as well as to fragment them by photon driven fragmentation techniques such as UVPD or IRMPD. Ask us for further details!

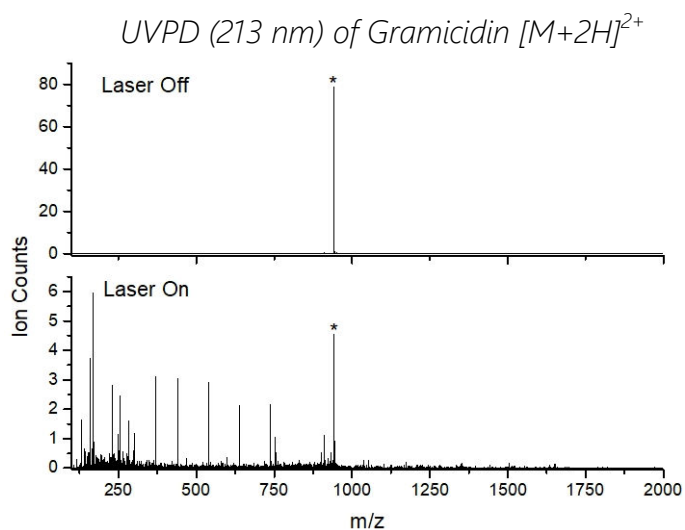
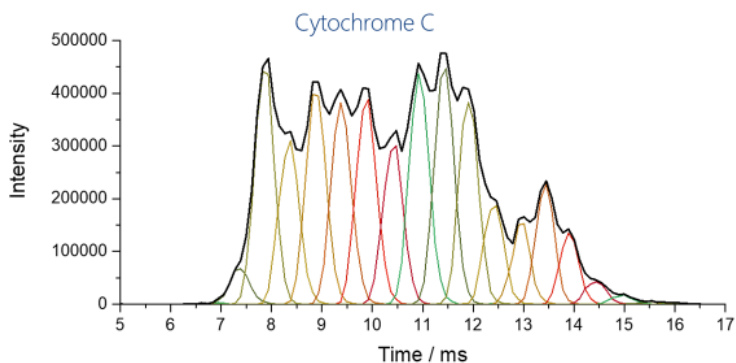
The PhotoSynapt is based on established Waters Synapt technology and can be upgraded from Synapt G2, G2-S and G2-Si. The upgrade comprises of modifications in the vacuum system by adding an additional vacuum chamber with hexapole transfer and pin traps as well as a laser access. The system is also enable to perform a drift-time based slicing to select specific conformers. The PhotoSynapt upgrade can also be combine with MS Vision's NativeSynapt high mass and native MS upgrade for the analysis of ultrahigh masses.

The additional vacuum chamber is integrated between the original Synapt's transfer cell and the orthogonal acceleration pusher cell. The upgrade includes also an optical access for any sort of laser for spectroscopy or spectroscopic activation.

Depending on the original quadrupole in the system (4k/8k/32k) the mass range allows to achieve precursor ion selection up to 32,000 Da.



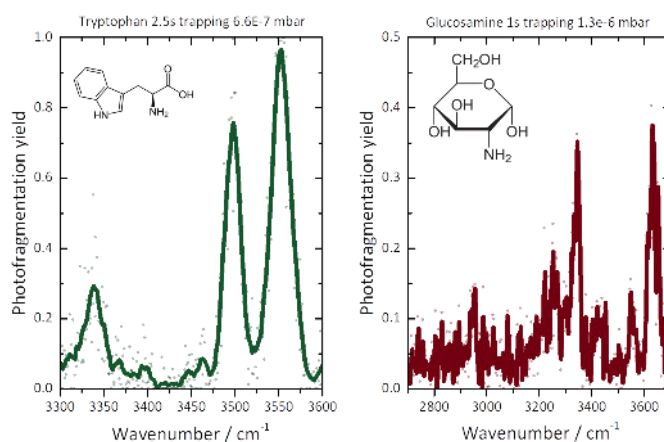
The PhotoSynapt utilizes time slicing of the ion mobility separated ion species to enable conformation selective spectroscopic and tandem mass spectrometric analysis. This allows the specific study of oligomers or different isomers or conformational states of the same molecule.



The laser can be chosen based on the intended application (usually the PhotoSynapt is delivered without a specific laser so that you have full flexibility on the laser source selection). Whether it is UV or IR — you decide what you need. Using ultraviolet lasers the trapped ions can not only be spectroscopically investigated but also fragmented using ultraviolet photo-dissociation (UVPD) as shown on the peptide Gramicidin. As you decide about the laser, you are not bound to low power diode-based UV lasers but more powerful lasers with significantly improved UVPD performance can be used instead.

With the selection of infrared lasers also the application of infrared multiphoton-dissociation or IRMPD is possible. The choice of lasers is yours!

The PhotoSynapt can also be additionally upgraded with the NativeSynapt features (ultrahigh mass quadrupole, higher collision energy, improved gas controls) to run optical spectroscopy and UVPD experiments on molecules and complexes up to the Megadalton mass range.



	Specification
Mass range	10-100,000 amu
Quad selection mass range	50-32,000 amu
Resolution	Up to 32,000 in high resolution mode
Collision energy	0-200V (optional 400V)
Detectable molecular weight	Up to >10 MDa
Optical activation methods	UV and IR spectroscopy, UVPD, IRMPD; dependant

FIND OUT MORE AT WWW.MSVISION.COM