MS Scheme for Complex Protein Samples (i.e. 3-5 or more); fractionations by SCX or 2D PAGE are carried out by the customer, only the C18 RP runs are carried out by the core.

1) Strait LCMS analysis on C18 RP column with 1 hr gradient.
2) ID-PAGE followed by 1D LCMS runs on 7-14 fractions making up the entire lane. [in this case dark bands should be separated from lighter areas that contain lesser amounts of protein.]
3) MuDPIT; *multidimensional protein identification technologies* [strong cationic separation of peptides or proteins followed by analysis of the final fractions on a C18 RP column with 1hr gradient.]
4) Gas-phase fractionation (i.e. same sample is injected a number of times and run with a focused mass range that increases with each injection allowing for a more in depth analysis of each complex fraction.)

MS Scheme for Purified (semi-purified proteins, i.e. IP/ID-PAGE or 2D-PAGE)

IP – 1) 70% goes for 1D-PAGE in-gel digestion (MALDI-Tof/Tof)
2) optionally, 30% goes for in-solution digestion (LC/MS)

2D PAGE (in-gel digestion yields ~20µL of solution)

1) MALDI-Tof/Tof (top 10 ions are fractionated in MS/MS)
   [MASCOT score i.e. > 100 – done, <100 got on to #2]
2) Concentrate samples with focus chip, or zip tip
   [MASCOT score i.e. > 100 – done, <100 got on to #3]
3) A 10 µL injection is separated and run by LC/MS