Setting Up the 2D Spectral Window

- Resolution is Limited in Both Dimensions, but Especially in F₁ (Indirect) Dimension
  - 1D FID has 16,384 or 32,768 Data Points
  - F₂ FID of 2D Spectrum has 512 to 2048 Points
  - F₁ FID of 2D Spectrum has 128 to 750 Points
- “Wasted Space” in Spectral Window Must Be Eliminated
  - Include Only Peaks from Your Compound
  - ¹H Spectrum: Cut Out TMS and CHCl₃
  - ¹³C Spectrum: Cut Out Quaternary Carbons for HSQC
- Spectral Window is Narrowed in F₁ and F₂
- Bruker Parameters For Setting Up Spectral Window:
  - sw(F₂), sw(F₁): Spectral Width in ppm
  - o₁p: Center of Window in ppm (F₂)
  - o₂p or o₁p: Center of Window in ppm (F₁)
    - For Heteronuclear 2D: F₁ corresponds to o₂p
- Example: ¹H: 1.0 to 6.0 ppm; ¹³C: 20 to 140 ppm
  - sw(F₂): 5.0 ppm  o₁p: 3.5 ppm
  - sw(F₁): 120 ppm  o₂p: 80 ppm