Number of Data Points in 2D Experiment

- Resolution in $F_1$ is Determined by Number of $t_1$ Values Sampled
  - Each $t_1$ Value is a Complete 1D Experiment
  - $t_1$ is Increased Before Each 1D Experiment
  - Time Required for the Whole Experiment is Proportional to the Number of $t_1$ Values Sampled
- Bruker Parameter $td(F_1)$ is Number of $t_1$ Values
  - 128 is a Quick Experiment
  - 512 is Good
  - 750 is Deluxe: Best $F_1$ Resolution
- Number of Data Points in $t_2$ is Larger
- Sampling of $t_2$ Data Points is Real Time FID
- Typical 2048 Data Points (Real + Imaginary)
- In HSQC the Acquisition Time ($aq$) Must be Limited:
  - 220 ms (0.22 s) Maximum $t_2$ Acquisition Time
  - $^{13}$C Decoupling Uses Lots of Power and Heats Probe
  - $td = 2 \times swh \times aq$: Every Change in $sw$ Changes $aq$
  - $aq$ Is Proportional to $td$, So Divide $td(F_2)$ by Two to Reduce $aq$ By a Factor of Two
- Experiment Time is Proportional to Number of Scans
  - Bruker Parameter $ns$: For Each $t_1$ Value one FID of $ns$ Scans is Acquired