

Delta Tips

NMDT_0063

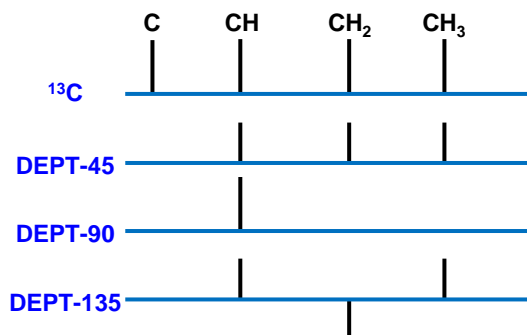
DEPT/INEPT Tool

NMR data processing software

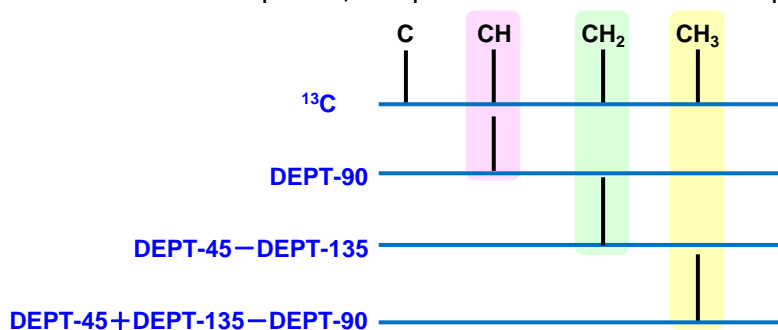
Delta
NMR Software
v5.0



The **DEPT/INEPT Tool** is used to extract three sub-spectra of CH, CH₂ and CH₃ signals from a series of DEPT (Distortionless Enhancement by Polarization Transfer) experiments. The DEPT experiment can be run as either DEPT-45, DEPT-90 and DEPT-135. The number corresponds to a flip angle of the ¹H selection pulse.

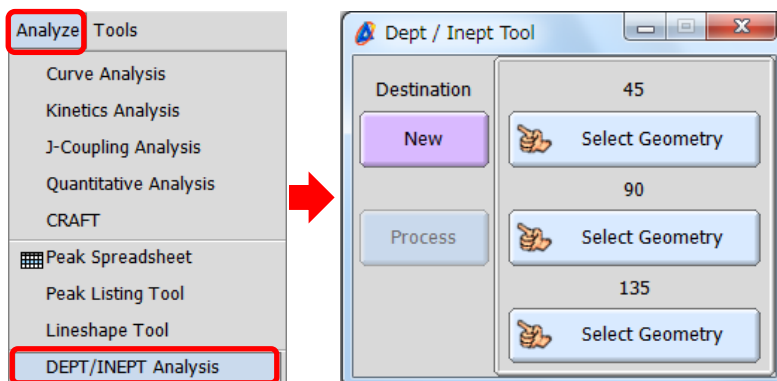


The DEPT-45 detects signals of all protonated carbons, i.e. CH, CH₂ and CH₃, with the same phase (sign). The DEPT-90 gives only CH peaks. The DEPT-135 gives signals of all protonated carbons, but CH and CH₃ signals are positive, while CH₂ peaks are negative. The signals of quaternary carbons are absent in all the DEPT spectra. By combining the DEPT-45, DEPT-90 and DEPT-135 spectra, it is possible to determine multiplicity of each carbon signal.



The **DEPT/INEPT Tool** automatically adds/subtracts DEPT spectra for your convenience.

- ① Open **DEPT-45**, **DEPT-90** and **DEPT-135** data.
- ② Select **Analyze – DEPT/INEPT Analysis** to open the **DEPT/INEPT Tool** window.

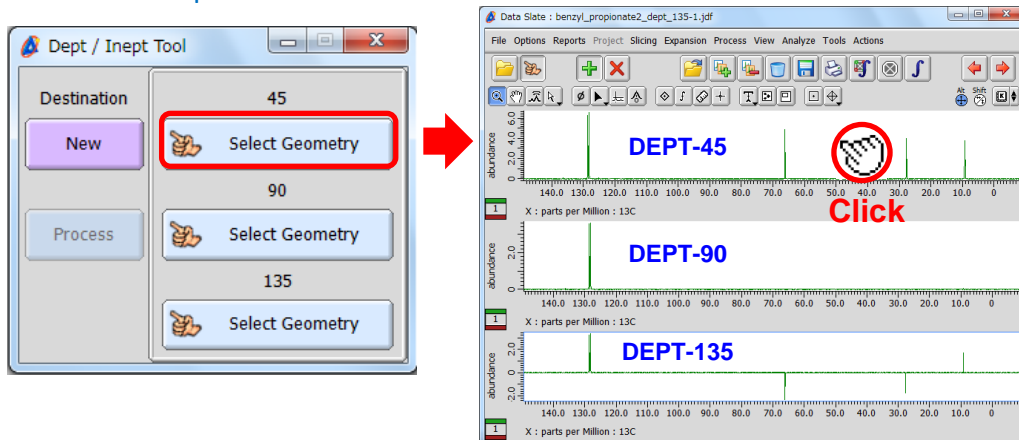




- ③ Click the  button in the **DEPT/INEPT Tool** window.

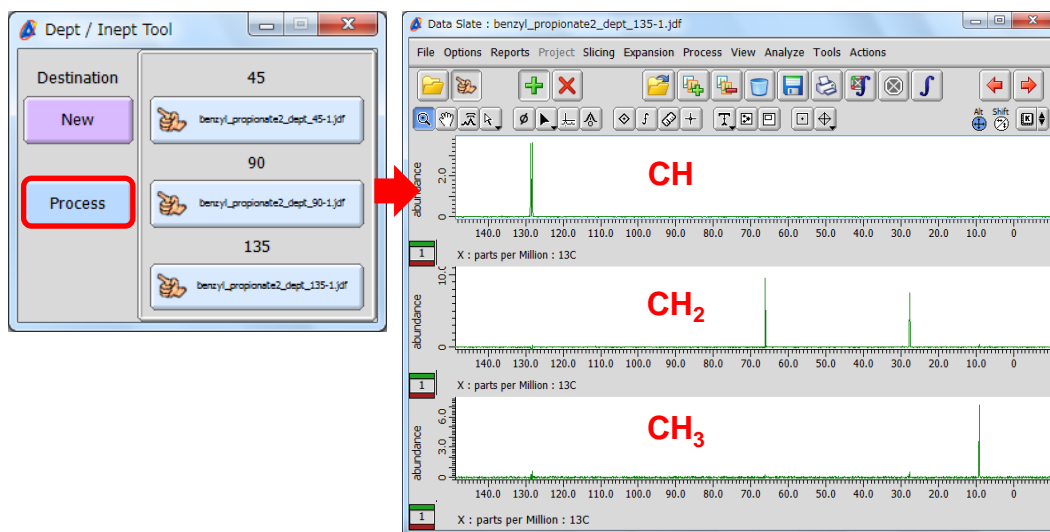
Note that the cursor has changed into the **Finger symbol** .

- ④ Select each DEPT spectrum with the cursor.



- ⑤ Click the  button in the **DEPT/INEPT Tool** window.

The result of DEPT spectra analysis has been shown in a new **Data Slate** window.



★ If you prefer to use your **Data Slate** window to display the result of the **DEPT/INEPT Tool** follow these steps:

- ⑥ Click the  button in the **DEPT/INEPT Tool** window.

The cursor has changed into the **Finger symbol** .

- ⑦ Click the **menu bar** in the **Data Slate** window.

- ⑧ Click the  button in the **DEPT/INEPT Tool** window.

The result of DEPT analysis has been displayed in your selected **Data Slate** window.

! The intensity of the DEPT signal is sensitive to the J_{CH} value variation. If your sample has rather large J_{CH} Δ , the CH, CH₂ and CH₃ sub-spectra may contain residual signals (artefacts).