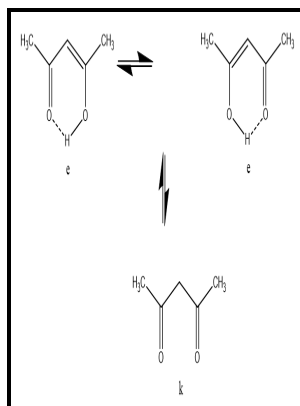


# 13C NMR spectroscopy - methods and applications in organic chemistry

Verlag Chemie - Organic Spectroscopy: Principles and Applications



Description: -

- Nuclear magnetic resonance spectroscopy.

Carbon -- Isotopes -- Spectra. 13C NMR spectroscopy - methods and applications in organic chemistry

- Monographs in modern chemistry -- 513C NMR spectroscopy - methods and applications in organic chemistry

Notes: Includes bibliographical references and indexes.

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## 13.12: DEPT <sup>13</sup>C NMR Spectroscopy

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## 13.12: DEPT <sup>13</sup>C NMR Spectroscopy

At a magnetic-field strength of 1.

### Application of Spectroscopic Methods in Molecular Structure Determination

Rapid chemical exchange of magnetic nuclei is not the only way that spin-coupling interactions can be averaged to zero. However, before proceeding further it is extremely important that you be able to identify the number and kind of nonequivalent protons in a given structure, and therefore the number of chemical shifts to expect. Specifically, in 2003, the retention of spin polarization in solution following low-temperature DNP in the solid state was successfully demonstrated, a process termed dissolution DNP.

## 13.12: DEPT <sup>13</sup>C NMR Spectroscopy

For the magnets used in NMR, the value is in the radio frequency, or RF, range. But it is one which helps to modify the strength of the applied magnetic field.

## 13.12: DEPT <sup>13</sup>C NMR Spectroscopy

The spectral sensitivity is more pronounced in <sup>1</sup>H NMR due to the high natural abundance and higher gyromagnetic ratio of hydrogen relative to <sup>13</sup>C. Unless otherwise noted, LibreTexts content is licensed by.

High

Electromagnetic radiation with a frequency of about 60 megahertz MHz can supply the energy needed to convert the lower energy state to the higher one.

### **NMR Spectroscopy Principle, Instrumentation and Applications**

An infrared spectrophotometer is an instrument that passes infrared light through an organic molecule and produces a spectrum that contains a plot of the amount of light transmitted on the vertical axis against the wavelength of on the horizontal axis.

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