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#### LIST OF ABBREVIATIONS AND SYMBOLS

singlet S d doublet = t triplet quartet q= multiplet mdoublet of doublet dddt doublet of triplet broad singlet br s br d broad doublet gram g = nanometer nm mp melting point  $cm^{-1}$ reciprocol centimeter (wave number)  $\delta$ chemical shift relative to TMS =  $\boldsymbol{J}$ coupling constant  $[\alpha]_{\rm D}$ specific rotation =  $\lambda_{\text{max}}$ maximum wavelength absorption frequencies  $\nu$ molar extinction coefficient  $\varepsilon$ a value of mass divided by charge m/z°C degree celcius MHz Megahertz = ppm part per million concentration cIR Infrared UV Ultraviolet MS Mass Spectroscopy **EIMS Electron Impact Mass Spectroscopy** =

Nuclear Magnetic Resonance

**NMR** 

#### ABBREVIATIONS AND SYMBOLS (Continued)

1D NMR = One Dimensional Nuclear Magnetic Resonance

2D NMR = Two Dimensional Nuclear Magnetic Resonance

COSY = Correlation Spectroscopy

DEPT = Distortionless Enhancement by Polarization Transfer

HMBC = Heteronuclear Multiple Bond Correlation

HMQC = Heteronuclear Multiple Quantum Coherence

NOESY = Nuclear Overhauser Effect Spectroscopy

CC = Column Chromatography

QCC = Quick Column Chromatography

PLC = Preparative Thin Layer Chromatography

TMS = tetramethylsilane

CDCl<sub>3</sub> = deuterochloroform

 $CD_3OD$  = deuteromethanol