

Abstract

This Thesis was focused on the structural analysis employing nuclear magnetic resonance (NMR) of unknown natural substances, which were isolated at the Department of Pharmaceutical Botany and Ecology from the plants *Berberis vulgaris* L., *Fumaria officinalis* L. and *Nerine bowdenii* W. Watson. For this purpose, 1D (^1H NMR, ^{13}C NMR) and 2D (gCOSY, gHSQC, gHMBC, NOESY, ...) NMR spectra were measured and interpreted. Isotopic induced effect was optimized for the determination of the constitutional isomers. To distinguish the possible stereoisomers Mosher method, chiral shift reagent, nuclear Overhauser effect, indirect spin-spin coupling and circular dichroism were used. The structures of forty-five alkaloids were determined including their absolute configuration. Ten of them have not been yet mentioned in the literature before.