^{15}N-NMR Applications in Nitrones Chemistry

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NMR is an essential tool in organic synthesis. However such a powerful technique is completely underused since traditionally only ^{1}H and ^{13}C chemical shifts and correlations are measured.

In the nitrogen-containing-compounds chemistry, in particular functional groups, another useful nucleus (^{15}N) is able to report precious information in addition to classical ^{1}H and ^{13}C information. However published works so far generally exhort lists of ^{15}N chemical shifts which have no direct practical application.

Our research topic deals with the organic synthesis employing nitrones as building blocks[1] and we are interested in diverse approaches to the study of reactivity (experimental, theoretical calculations and spectroscopy). In the development of spectroscopic methods to characterize this functional group, we founded in ^{15}N-NMR a new source of valuable information (Figure 1), and in ^{1}H-^{15}N HMBC a fast and reliable method to measure ^{15}N chemical shifts.[2]

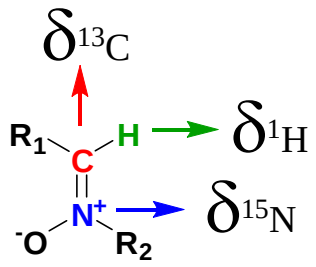

Figure 1

In this communication there will be discussed some of the practical applications of this data to routine work in nitrones chemistry (Characterization, identification, mixture analysis, study of reactions, etc.)

[1] Merino, P., en *Science of Synthesis*, Vol. 7; Padwa, A.; Bellus, D., Eds.; Georg Thieme Verlag: Stuttart, 2004, 511-580 [2] Delso, I.; Tejero, T. *Tetrahedron Lett*. 2007, *48*, 4101-4104

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