

The NMR Spectroscopy is known as magnetic resonance spectroscopy (MRS) or Nuclear magnetic resonance spectroscopy which is basically a spectrum or a technique to express local magnetic field around atomic nuclei.

Plant extracts are complex mixtures and it is difficult to detect the desired components within it. For that reason, plant extracts are basically isolated by the help of different extraction procedure to get better result with respect to desired components or molecules. The quality of plant extracts is mainly dependent on both the quantity of key components as well as absence of undesired residual materials like adulterants, residuals solvents and unrelated plant extract.

NMR spectroscopy is now defined as a powerful technique to detect and quantify components in complex mixtures like plant extracts and it help us to fast and high reproducible means for identity, purity, strength and composition verification; so it helpful in product assessment and quality control are detected in same spectrum. One dimensional proton spectrum require not more than 10 minutes for analysis and data generation..

In this report, we carried out the general procedure of both proton NMR as well as carbon NMR for detection of different spectrum which may be helpful for further detection of specific components from the same extract.

### **Materials and Methods**

Dried leaves powder thoroughly homogenized using a rotary mixing drum and thereafter stored at  $-80^{\circ}\text{C}$ . Approximately 200 mg of plant dust were extracted with the help of ultrasonic bath, for 20 min at a temperature of  $35^{\circ}\text{C}$ .

A number of solvent systems were evaluated for the maximum recoveries of different components in leaves powder. The extracts were sonicated for 20 min by rotation of six times.

Then the filtration of the materials is done with help of specific filter and supernatant was evaporated for drying with a speed-vac at normal temperature.

NMR Conditions: All materials were dissolved in 600ul DMSO-d<sub>6</sub>, vortexed for 1 min then sonicated for 5 min and vortexed for 1 min again and centrifuged at 13,200 rpm. After that a 5mm NMR tube has taken to transfer the supernatant. The NMR spectra ranges from 400 MHz to 600 MHz has been observed by using Bruker Avance III spectrometer. Spectra were acquired in 8 minutes per sample (32 scans).

### **Results**

Automated analysis of leaves powder extract realizes the presence of the different key components. The detail results are generated from the automated software and are attached in separate sheets. Though the results are not quantified properly, further analysis required for detection different components.