

Measuring methods available and examples of their applications

TOCSY (TOtal Correlation Spectroscopy)

The TOCSY experiment is similar to the COSY experiment, in that cross peaks of coupled protons are observed. However, cross peaks are observed not only for nuclei which are directly coupled, but also between nuclei which are connected by a chain of couplings.

The gradient enhanced 2D TOCSY experiment allows to obtain a 2D TOCSY spectrum with a single scan per t_1 increment provided that the S/N ratio is adequate. The main advantage of such approach is the large reduction in the total acquisition time compared with a conventional [2D TOCSY experiment](#). The TOCSY experiment permits to correlate all protons resonances belonging to the same spin system via the homonuclear J_{HH} coupling constants.

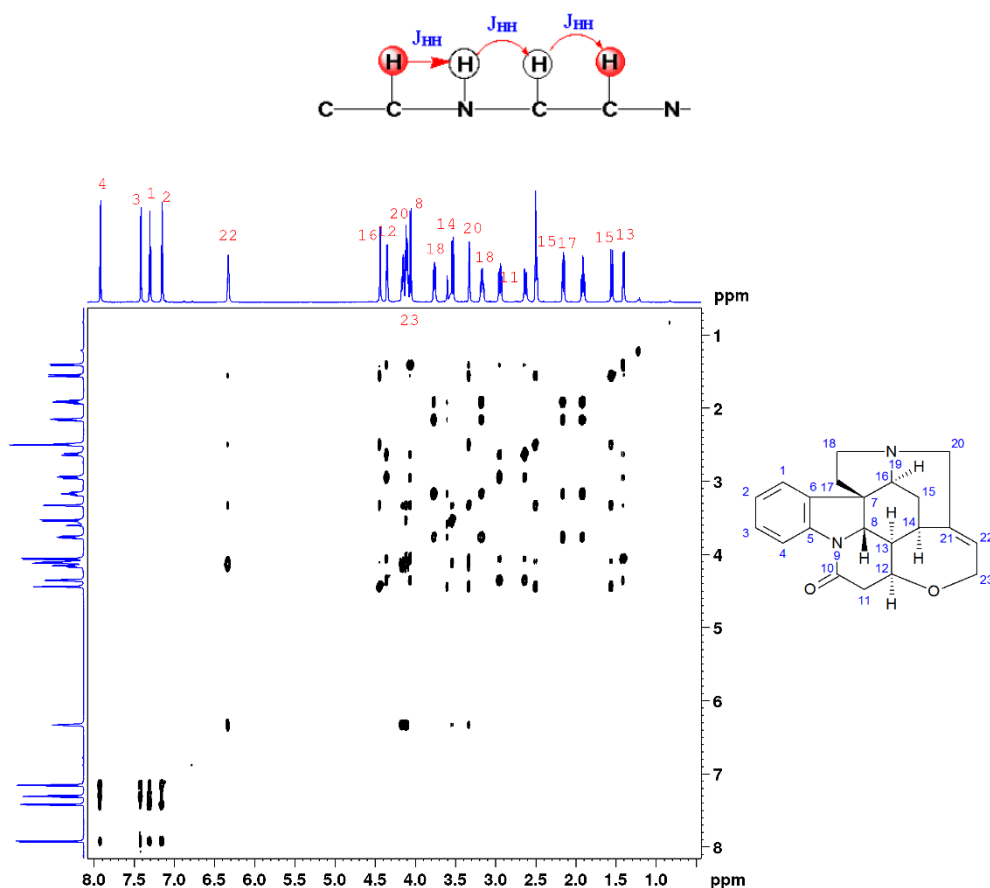


Fig. 1. Strychnine nitrate in DMSO- d_6 , 2D – TOCSY, Spectrometer: AVANCE III HD 700, Probehead: 5 mm Inverse Broadband with z-gradients, Experiment time: 76 min