# SOLUBILITY OF CANNABINOIDS IN SUPERCRITICAL $CO_2$

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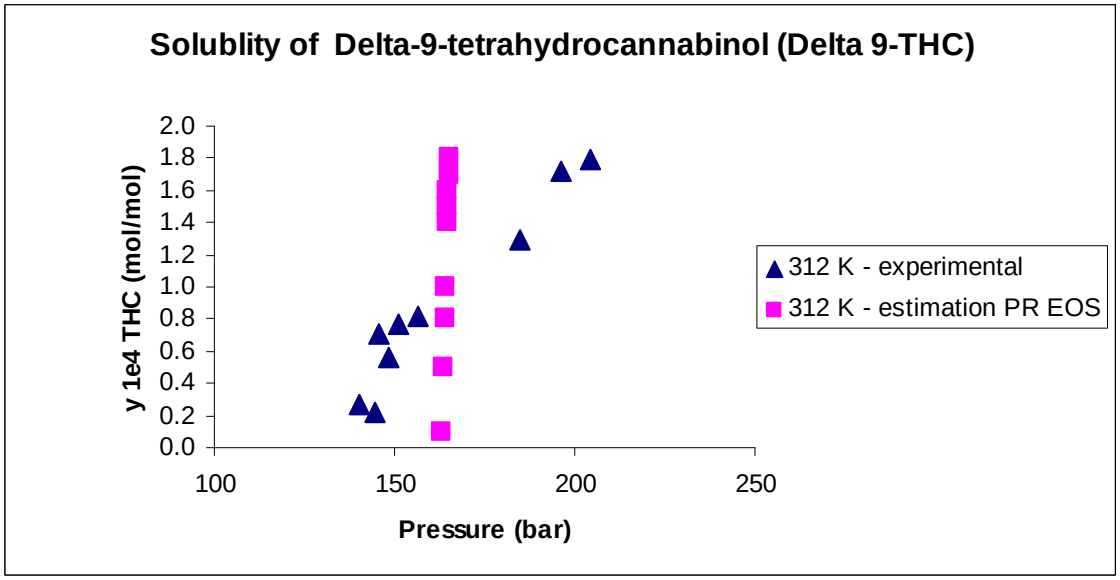
**Abstract**

Cannabis is one of the oldest medicinal plants known. At present, there is significant interest in cannabis and its medicinal uses. Cannabis contains more than 400 different ingredients, including 66 cannabinoids [1]. The poor availability of the various cannabinoids as pure compounds is an obstacle for the development of cannabinoid based drugs and for pharmacological and toxicological studies.
Supercritical $CO_2$ is an excellent medium for the isolation and separation of cannabinoids from cannabis. However, to be able to design such processes, data concerning the solubility of the cannabinoids in supercritical $CO_2$ are required.
The solubility data for various cannabinoids in $CO_2$ were determined in the pressure range from 90 to 200 bar at 303, 312 and 323 K. Furthermore, the results were modelled using the Peng-Robinson equation of state. [2] (For delta 9 tetrahydrocannabinol at 312 K cf. figure 1)
Based on these data, the correlation between the solubility and the molecular structure of the cannabinoids has been discussed.

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