

Uncovering the psychoactivity of a cannabinoid from liverworts associated with a legal high

Introducer : 潘家軒 Adviser : 鄭沐政 老師 Date : 2019/04/22

Marijuana, which can also be called as Cannabis, is used for medical treatment; moreover, some people take in marijuana as entertainment. The main ingredient of marijuana is tetrahydrocannabinol (abbreviation for THC). In 1994, Pharmacist found a compound in liverwort *Radula* genus, bibenzyl(-)-cis-perrottetinene(cis-PET), which has the similar structure and pharmacodynamic effect as THC.

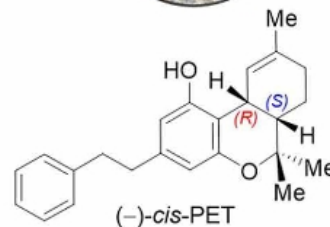
Because of the lack of pharmacological data, this paper shows how cis-PET affects upon our brain; furthermore, the paper also makes comparison of cis-PET with its diastereoisomer, trans-PET, and THC.

The experiment was made in two ways, one was having pharmacy inject into a lab rat, then analysis the change of various hormone vivo; the other way is to characterize the in vitro of PET and THC.

Both of these pharmacies cause hypothermia, catalepsy, hypolocomotion, and analgesia (collectively called tetrad in paper). The main results of the experiment is the different efficiency for prostaglandin effect. We can anticipate that PET can be used



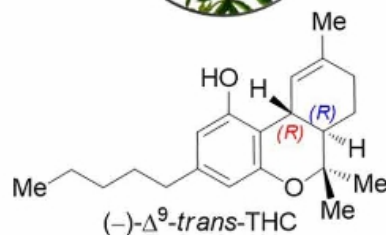
Radula perrottetii



not only in medical but also in our daily life



Cannabis sativa



Main reference :

1. Cullman, H.Becker, Prenylated bibenzyls from the liverwort *Radula laxiramea*. *Z.Naturforsch.*54, 147–150 (1999).
2. K.A.Parker, T.Iqbal, New approaches to the synthesis of vitamin D metabolites. 2. Effect of some substituents on stereochemistry in the intramolecular cycloadditions of nonatrienes. *J.Org. Chem.*52, 4369–4377 (1987).
3. M.Toyota, T.Kinugawa, Y.Asakawa, Bibenzyl cannabinoid and bisbibenzyl derivative from the liverwort *Radula perrottetii*. *Phytochemistry*37, 859–862 (1994).