A Treatise on the Alchemical Method of Isomerization of Tetrahydrocannabinol, and the Extraction and Purification Thereof

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Disclaimer

I am not a trained chemist. You probably aren't, either. I am not responsible for your actions, and you are not responsible for mine.

Overview and Theory

The threefold object of this procedure is to extract from the vegetative material of the cannabis plant a crude oil, to further purify this extract, and finally, to rotate the molecules into their most pharmacologically active form, the delta-9 isomer of THC. In the first step, the inert plant material that remains is calcined (alcohol burned away and ashes cooked over low heat) so that the Salt component of the plant is left behind. In the final step, an acid is used to perform the actual molecule rotation (isomerization), and the Salt (ashes) from the first step is added. This accomplishes two things: The acid remaining in the solution is neutralized, and the Salt is once more reunited with the Essence of the plant to produce a true alchemical Manifestation.

Whatever your opinion of alchemy and belief, or lack thereof, in its validity as a scientific discipline, the process I offer here for your use is tried and true. If all safety precautions are taken and you invest patience and care in your efforts, the procedures are quite safe, and the results well worth the time and energy.

For further reading on the subject of alchemy:

Atwood
A Suggestive Inquiry into the Hermetic Mastery, 1850

Hitchcock
Remarks on Alchemy and the Alchemists, Boston, 1857

Waite
Lives of the Alchemystical Philosophers, London, 1888
The Occult Sciences, London, 1891

Bacon
Mirror of Alchemy, 1597

S. le Doux
Dictionnaire Hermetique, 1695

Langlet de fresnoy
Histoire de la Philosophie Hermetique, 1792
Theatrum Chemicum, 1662

Valentine
Triumphal Chariot of Antimony, 1656

Redgrove
Alchemy Ancient and Modern

Figuier
L'Alchimie et les Alchimistes, Paris, 1857

Gold, D.
Cannabis Alchemy, date unknown

Why Bother Doing All This?

Cannabis has been used for thousands of years as one of the mildest, safest, and most effective substances available for use in both recreational and social relaxation, and as an organic treatment of many medical conditions. However, when any plant material is burned, harmful smoke is produced containing carbon monoxide and many other carcinogenic and toxic compounds such as benzopyrene, benzanthracene, the nitrosamines (also found in bacon), hydrogen cyanide, nitric oxides, acetaldehyde, toluene and phenol.

The female flowering tops of cannabis have been shown to contain less than one-third the total "tars" than equivalent amounts of tobacco. and of twenty-nine areas of the lung, only the large air passageway is irritated more by cannabis than by tobacco. Cannabis also has a positive or neutral effect on most other areas of the lung, and most of its negative impact upon the respiratory system in general can be eliminated by use of a pipe which filters the smoke through water before inhalation. However, there are still many times when a person either cannot, or does not wish to, smoke. One example can be found in the fact that cannabis can be excellent therapy, both medically and emotionally, for persons with HIV, yet inhaling cannabis smoke increases the risk of a fatal infection in the lungs, especially when the cannabis has been improperly cured and dried and aspergillus fungus is present (note that this fungus poses little or no health risk to persons with normally functioning immune systems). The ingestion of purified THC is a much safer alternative in such cases, having no effect whatsoever on the lungs if taken orally and negligible effects on the lungs when vaporized and inhaled. Despite its current verboten status in society at large, enough people have chosen to use cannabis for one reason or another that I feel this information will find an appreciative audience.

Keep in mind that when THC is ingested through pyrolysis (burning and smoking), only half of it is assimilated and used by the body. Ingesting (eating/drinking) the hemp in a form that the gastrointestinal tract can best deal with results in more THC being absorbed, but this has the possibility of unknown effects via decarboxylation. In addition, it is difficult to precisely gauge dosages when ingesting THC directly without the benefit of experience. With vaporization, that THC which would have been burned and wasted becomes available for whatever its intended effects. This is of great economic advantage, given hemp's current artificially inflated market price. Also, the smoker may easily titrate the doses (that is, easily self-administer them, at whatever speed is best) until the desired effect is precisely achieved.

Finally, remember that this is a *VERY* time-consuming process. Make sure you can either stay awake for as long as it takes, or have friends to work in shifts. Obviously, the more solvent you have to boil off, the longer it will take. Always assume it will take longer than you think. It's best to not rush around, to ensure that you can take all the time you need to work on this at the slow, steady pace it requires. It's not strictly necessary to do all the stages immediately following each other -- you can take breaks in between stages -- but it helps to keep your mind focused.

Now, with all the formalities concluded, let's begin.

Initial Extraction

In a previous version of this file, I recommended ethyl alcohol as the menstruum (solvent) for the initial extraction. However, after further reading and experimentation, I now recommend acetone instead of alcohol. THC's solubility in acetone is, it would seem, much greater than with any other solvent (except for petroleum ether, which we use in stage 2 to purify this first-stage oil). The reason? Alcohols are too water soluble for the best possible purity, and too many other non-psychoactive materials remain in the finished oil. In the interest of brevity, and to save wear and tear on your obedient typist's fingers, it's your own responsibility when reading the following to substitute "acetone" wherever you see "alcohol" used.

Fill a large pot with water, and heat to boiling. Place in the water a glass jar filled with loosely packed, cleaned female flowers of cannabis. (Male flowers and even leaves may be used, but only if there is no other alternative.)

Add sufficient solvent to completely cover cannabis. Solvent may be any alcohol of 95% or greater purity (i.e., rubbing alcohol works), but ethyl alcohol is best, as it is non-toxic and will not harm you if you "screw up". My personal recommendation is either 99.99% laboratory alcohol, or, since this is damn difficult to acquire, Everclear 190 proof grain alcohol. 151 proof rum isn't the greatest, but if the others are too hard to acquire, this may be your only option.

MAKE SURE THAT THE SMALL GLASS JAR IS HELD IN PLACE SOMEHOW! Otherwise, when enough of the solvent boils away, the jar will be light enough that the water pressure will tip it over, and then you will be extremely unhappy (and possibly unlucky enough to witness a gigantic ball of flame lighting up your kitchen, and maybe even yourself). A set of rubber lab grips attached to a heavy base works nicely.

Place a watch glass over the top of the jar so that the alcohol will be constantly recirculated instead of boiling off, and keep water at a gentle boil for three to four hours. Let everything cool, and strain all liquid thoroughly from the plant fibers.

Place fibers in a cast iron skillet. Ignite the alcohol to burn it off, and while you continue with the extraction of the essence, keep a very low flame under the ashes of the fibers for one hour, stirring them occasionally. If you have an assistant, it's best to have them stir the ashes while you keep working with the essence.

To remove the alcohol, you need an accurate thermometer. Set up the system the same way as before, but this time, do not cover the jar. Place thermometer in jar and heat the essence to 220F. Keep a small mirror held over the jar. When the mirror stops fogging up -- i.e., no more steam -- enough of the water has boiled away. IMMEDIATELY turn off the heat and remove the jar from the hot water (don't forget to wear gloves!). This is crude extract, and can contain anywhere from 10 to 50 percent THC.

It's perfectly all right to use this oil any way you like. But you can do better.

Purification Stage

To further extract and purify the essence, petroleum ether must be used as the solvent. USE ONLY ELECTRIC HEAT WITH A QUICK SHUTOFF SWITCH, AND DON'T LET
OPEN FLAME ANYWHERE NEAR YOU! Petroleum ether is one of the most explosively flammable things in existence, so treat it accordingly -- keep the container in the freezer at all times unless you actually need some.

Dissolve the crude extract from the previous step in 5 times its own weight of ether, amd add to this volume an equal volume of water. Both the water and the ether must be as cold as possible. Close the holding container TIGHTLY, and gently shake up and down. Uncap to relieve pressure buildup, re-cap, and repeat until you're sick of it. Set it down somewhere cool and safe, where it won't get knocked or vibrated, and let it settle into layers. This will take about a half hour.

(The bottom layer consists of alcohol, water, tars, and minor resins. The next layer up is the emulsion layer, and the top layer is the ether extract which is holding the THC in suspension.)

Now you need to blow the bottom two layers into another container, which is easy to do if you set up the first container as a bong. Attach a tube to where the bowl would normally go and hang the other end in the sink. Very gently, blow into the tube where you would normally inhale. MAKE SURE THE BOTTOM END OF THE TUBE THAT EXTENDS DOWN INTO THE CONTAINER IS *ALL* THE WAY DOWN TO THE BOTTOM! Otherwise, you will blow all the good stuff into the sink, and you will be very unhappy. Just watch the water level, and don't blow too hard. Don't try to get every last drop; just get as much as you can without getting too close to the ether-THC layer.

If you like, add more ether and water and repeat this stage. When it's purified enough for your taste, cook the ether extract in the double boiler at 104F to evaporate the ether, again making sure to hold the extract jar in place.

This being the next step up from crude, I guess you'd call this resulting sticky stuff "forty-weight", or something like that. And, as before, it's perfectly fine to stop here. Read on for the gory details on the final stage...because you know you can do better.

Isomerization

This stage rotates all the existing lesser cannabinoids and cannabinols into THC, and all the existing THC into the most active isomer, delta-9-THC. This step involves the use of sulfuric acid, so I shouldn't have to remind you to wear long rubber gloves, don't inhale its fumes, DON'T TREAT IT CASUALLY BECAUSE IT CAN EAT HOLES IN LOTS OF THINGS, INCLUDING YOU.

Dissolve the extract in 10 times its own weight in ether. SLOWLY, add one drop of sulfuric acid for each gram of extract, stirring with a glass rod. Heat as in the initial extraction, with the jar covered by a watchglass. Cook two hours, stirring occasionally, and allow to cool.

Mix the solution with an equal volume of cold water and one-half its volume of cold ether, and repeat the shaking and separation steps. Take extract and slowly add the calcined ash from the first extraction. Stir it all in, and run the solution through filter paper to strain the ash sediment out. Check for any remaining acid by adding a small pinch of sodium bicarbonate (baking soda). If the solution fizzes, keep adding bicarb very slowly until fizzing stops.

Add fresh water and ether, shake and separate. Cook at 104F until the ether is evaporated. Voila! You now have essence of cannabis, which can contain anywhere from 85 to 99 percent THC.

Expected Yield and Consumption Methods

In general, you can expect to produce about one ounce of oil per pound of cannabis. Depending on the potency of the individual plant, of course, this amount can vary greatly; however, the potency of the finished essence will always be of the highest possible.

To use the oil in cooking, thoroughly mix it into a fat or oil. Examples: sour cream, olive oil, milk. For best results, the resulting mixture should be GENTLY heated before adding it to the rest of the food. Example: mix oil with butter over low heat, and use as regular butter in cookies, etc.

To "vaporize" the oil, place it on a metal surface (tinfoil works, too). Heat the surface, and inhale the vapors through a tube. For best results, build a "vaporizer" machine with an enclosed area so as not to waste the vapors (plans can be found in back issues of _High Times_ magazine). Actually, it doesn't REALLY "vaporize" in the strict technical meaning of the word, but I'll assume noone cares about atmospheric pressures and such.

The oil can even be mixed with crude cannabis and smoked in a cigarette, and although half of the potency is lost due to the burning, it's still fun, and tastes wonderful. My preferred method of doing this is to use a long, thick needle and heat it with a lighter for about 3 seconds. Wait just a second before dipping it into the essence -- if it's too hot, the oil will vaporize on contact and be wasted. Don't dip it in too far at first until you get the hang of working with this stuff; it has a very unique consistency and behavior, and it sticks to damn near anything.

Lay a cigarette paper (preferably Modiano; these have the lowest content of "residue" materials) out flat, holding it down with your fingers at both sides. "Paste" the oil onto the paper with the needle, putting a nice, even coat over as large an area as you can get without smudging your fingers (leave a little unncoated space near each edge so you can roll it without getting your fingers covered in oil). Roll your cannabis in the paper as you would normally.

Before smoking the rolled cigarette, place in a LOW warm oven (100-125F) for five to ten minutes to melt the oil. This will not only distribute it more evenly by soaking into the cannabis, but the heat will bring the taste and potency to its peak potential. Smoke while still warm.

Dosage

For an average cannabis user who smokes perhaps once or twice per day, 3 or 4 drops of the essence, either eaten or vaporized, will be quite sufficient for an enjoyable "high" of four to five hours. For a novice user, 1 or 2 drops will usually be quite enough. Individual idiosyncrasies are always present, and no two people will need the same amount, nor will they be affected the same way. Some rare individuals may experience paranoia and psychotic reactions to cannabis, and such individuals would be well advised to discontinue its use. But on the whole, cannabis is a safe and enjoyable pleasure to be enjoyed in moderation, like anything pleasant in life, and truly lives up to its reputation as it has for thousands of years. DEA Judge Francis Young in September, 1988, called it "in its natural form, one of the safest therapeutically active substances known to man." May it continue to be enjoyed as long as life exists on Earth.